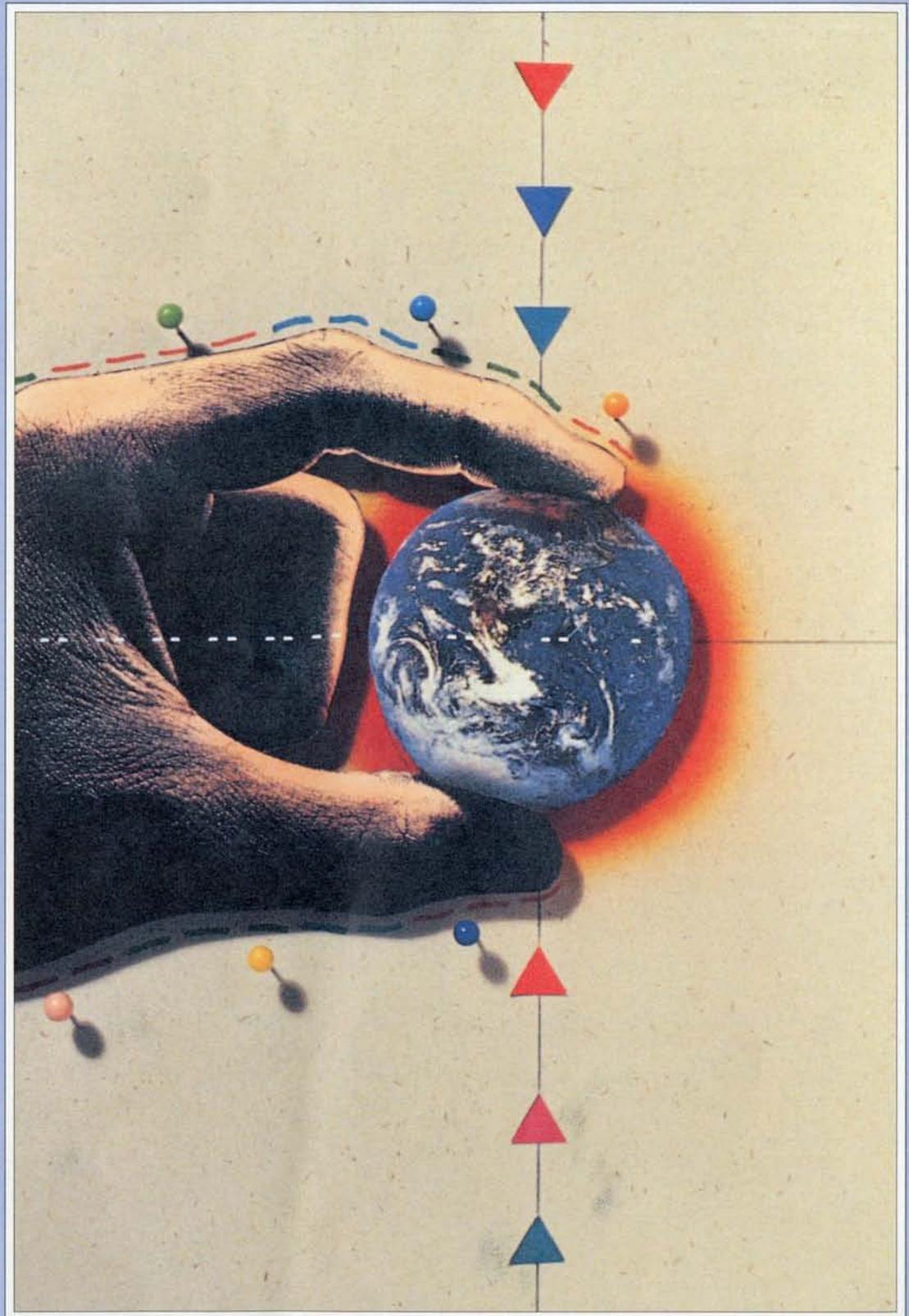


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# From Global to Local Thinking

"Think globally, act locally" is not just a popular bumper sticker; it has become a call to action that has captured the imagination of millions of people across the world. By affirming that "to make a difference", actions need not be grandiosely global, but can be humbly local, the slogan has become a rallying-cry for those advocating decentralization and power to the community.

Less obviously, the exhortation to "act locally" defines the limits of intelligent, sensible action: by omitting mention of global action, it grants at best a limited place for "acting globally". It urges us to resist the Promethean urge to be godlike and omnipresent — not simply because ordinary people do not have the power or institutional capacity to "act globally", but because it invites us (albeit implicitly) to view "global action" as a far fetched and dangerous fantasy.

But what of the injunction to "think globally"? In an age where people increasingly face shared predicaments and common threats, the relevance of "global thinking" to local action might seem self-evident: "local thinking" would appear unequal to the struggle against such global Goliaths as the World Bank and Coca-Cola. Instead of encouraging common action, its "parochialism" encourages each to look after his or her own — and "the devil take the hindmost". Hence the need for a "global consciousness" that will not only set the agenda for local action, but rally all behind that agenda.

But what does "thinking globally" actually mean? Whose interests does it serve? And by what justification should "local action" be made dependent upon, even subordinate to, "global thinking"?

## Shrinking the Earth

One can only think wisely about what one knows well. With the aid of satellites, modern humanity has at its disposal more information about the earth than any previous generation. We are invited to believe that, through such information, we can "know" the globe, in the same way that pre-modern people knew their village — and knowing it, engage in "global thinking" to manage it (see pp.170ff, this issue). Yet, as Wendell Berry has so persuasively argued, no person, however sophisticated, intelligent and well-informed, can ever "know" the earth. What we "know" through satellite imagery and the probings of science is not the earth but a statistical construct of "the earth": the length of its rivers, its "population", the acreage of its rangelands, the potential volume and location of its resources. Gazing at satellite pictures, we seem to have become blind to the immensity, grandeur and mystery of the earth and to our inability ever to *know* more than a minuscule part it. Even after farming in his native Kentucky for over 40 years, Berry confesses that he still has much to learn in order to "husband" his small acreage with thought and wisdom. If farmers, after a lifetime, are at pains to comprehend the workings of a few acres, what chance have the rest of us of acquiring any realistic comprehension of the workings of an entire planet?

## Fighting on the Enemy's Turf

Those who believe in local action but still "think globally" often tend to disregard this insight, insisting that a mass

movement united behind a common global programme is necessary to counter the global Goliaths. But "thinking globally", however well-intentioned, inevitably forces even the most committed local actors to fight on their enemies' turf. The dangers are threefold.

First, when local movements or initiatives lose the ground under their feet, moving their struggle into the enemy's territory — global arenas constructed by global thinking — they become minor players in the global game, doomed to lose their battles. The 1992 Earth Summit illustrates the problem. Motivated by global thinking, thousands of local groups flew across the world to Rio de Janeiro only to see their valuable initiatives transmogrified into nothing more than a footnote to a set of global agreements, conceived and now being implemented by the big and the powerful. By following the path of global solutions, the environmental movement lost its vitality and strength, uprooted out of the concrete spaces of men and women who act, and think, locally.

Second, by framing local efforts within the context of global thinking — transmitted internationally through electronic-mail, cable television and other networks — the issues become abstract, stripped of their context: the local is mobilized in the cause of a global agenda that is universal in appeal but devoid of local concerns. Hunger in Ethiopia, bloody civil wars in Somalia or former Yugoslavia, human rights violations in Mexico become the proper concerns of all good, non-parochial citizens, supposedly complementing their local efforts to reduce rubbish, homelessness or junk food in their own neighbourhoods. Informed, shaped and determined by this global frame of mind, even local actions become disembedded. Instead of combating globalism, they serve to underwrite the very global order that most global Samaritans imagine they are opposing.

Third, the global programmes and universal prescriptions laid down by global thinkers, like all ideas, are inevitably themselves *acted upon* — and local people are not the only actors. In being acted upon, they can (and frequently are) used to achieve ends that are the opposite of those intended. The concept of a universal set of human rights, for example, was first born in 18th-century Europe and came out of the struggles by individual men and women against abuses of oppressive European states. Today, appeals by the oppressed against human rights abuses are common to many local struggles around the world — and the existence of formal international agreements against torture and other abuses has added to the tools of resistance available to local peoples when confronted by forces more powerful than themselves.

But such tools can be double-edged: in the hands of global institutions and national governments, what may often be stressed is not the prohibition of oppression but the rights of the individual to those "goods" that governments and international agencies can supply — *education* (read "compulsory schooling", "national curricula", "nation-building"), *health* (read "medicalization") and *development* (read "extended bureaucratic power", "the enclosure of commons", "privatization") and so on. Notions of *individual* human rights may also be used to undermine cultures based on communal obligation, commitment and service — imposing new forms of oppression and paving the way for the highways, pesticides, garbage, junk foods and the global Goliaths that the

"global thinkers" of the environmental movement oppose. Even an abstract "right to self-determination" could in the hands of the powerful be used to justify a future Tianamen Square or a *Rainbow Warrior* sabotage mission.

## Solidarity

To make such a critique is emphatically not to step back from an active struggle to oppose all power abuses, both pre-modern or modern, in all their forms. Nor is it to argue for isolationism and a retreat from opposition to global forces of oppression — be they the World Bank, national governments or transnational corporations. The whole history of economic development, in its colonialist, socialist or capitalist forms, is a history of violent interventions by powerful forces "persuading" small communities into subjugation through the use of weapons, economic lures, "schooling" and the like. In resisting such forces, local people often need allies. But solidarity does not call for "global thinking": it calls for *support*, and such support is best given by those whose "local thinking" does not twist the humble satisfaction of belonging to the cosmos into the arrogance of pretending to know what is good for everyone.

Such active human solidarity is needed more than ever — the solidarity that comes through people who act *and* think locally, forging links to support, in whatever small way they can, the struggles of other local thinkers and actors who share their concerns, outlook and dilemmas. Growing coalitions of local thinker-activists are learning to counteract the damage of global thinking and action through a shared rejection of "global masterplans" and "universal solutions." The motivation for their shared "Nos" to specific intrusions into their own turf — whether a nuclear plant, a dam or a supermarket — and the arguments they use in opposition, are as various as the local settings that they are trying to protect. Yet when these shared "Nos" interweave into cross-cultural agreements or commitments, they retain their plurality, without falling into cultural relativism. They successfully oppose "globalism" through "radical pluralism".

This solidarity should not be mistaken for either global thinking or global action. For global thinking — whether married to local or to global action — carries no commitment to the pluralism inherent in local-scale thought and action. An extended commitment to local thought, in all its diversity and radical pluralism, is thus actively opposed to the arrogance, grandiosity and homogeneity of global thought: it emphatically denies that we all share a common destiny. True, it implies a clear perception that we are not talking of "them" — people who need our help — and "us" — the rich ones who can offer help. But that perception does not entail constructing an abstract "we" around any modern ideology. It means giving full sense to a "we" actively constructed through localized solidarity with local people. And it reveals global solutions for what they are: the specific visions and interests of a small group of people — visions that are thus necessarily parochial even when they are formulated in the interests of "humanity".

## Local Struggles

The local initiatives undertaken by local thinkers may seem too small to counteract the "global forces" now daily invading lives and environments. But Goliath did in fact meet his match in David. All global institutions have to make their transnational operations concrete through actions that are always and necessarily local: they cannot exist otherwise. It is at the grassroots that they can most wisely be opposed. For

it is the only level at which men and women can effectively struggle.

It is true that many of those marginalized by the development process are still struggling for a better stake in the skewed "global partnership" that characterizes modernity. But many others have abandoned such illusions. In doing so, they are re-discovering their own culturally-specific, alternative definitions of "a good life", feasible in their own local spaces. They are starting to protect themselves from the threats of modernity by rooting themselves more firmly in their soils, their local commons — cultural spaces that belong to them and to which they belong. They are not ignoring the global phenomena that continually intrude upon their lives, but delinking with ingenuity and effectiveness from the "global thinking", with its plans and proposals, that marginalizes them within the global economy.

Awareness of global institutions is certainly critical to the success of such local struggles — not least in order to distinguish between truly local phenomena and local incarnations of "global forces" — but such awareness should again not be confused with global thinking. If local people oppose a restaurant without being aware of the implications of it belonging to McDonalds, or challenge local police without a perception of what it means for the state to have the backing of the World Bank, they will probably fail to understand the full nature of their struggle. A knowledge of how global forces operate at the local level is thus a requisite to success. To share that information, and the experience of other local struggles, with those confronting similar problems, and to give and receive specific solidarity for that purpose, has indeed proved indispensable in many local struggles — as has the use of television networks and other global tools to publicise such struggles and garner support. In no way, however, does this form of transnational sharing transform local people into globalists.

The time has come to recognize, with Leopold Kohr (who died earlier this year), that the damaging nature of "global forces" lies, in part, in their size — and that, instead of trying to counteract them through government or civic controls matching their devastating scale, there is a need "to reduce the size of the body politic until [it becomes] once again a match for the limited talent available to the ordinary mortals of which even the most majestic governments are composed." In other words:

"instead of centralization or unification, let us have economic cantonization. Let us replace the oceanic dimension of integrated big powers and common markets by a dike system of inter-connected but highly self-sufficient local markets and small states in which economic fluctuations can be controlled, not because national or international leaders have Oxford or Yale degrees, but because the ripples of a pond, however animated, can never assume the scale of the huge swells passing through the united water masses of the open seas".

This is sound advice — not only for those who oppose GATT, the European Union, NAFTA or the World bank, but also for those involved in local struggles. For Kohr's vision cannot be constructed from the top down: it will not come about by building bigger and bigger dykes to stop the ocean's waves, or by "seizing power" in order to dismantle current institutions or to give them a different orientation. It will come about by acting, and *thinking*, locally.

Gustavo Esteva and Madhu Suri Prakash

Gustavo Esteva is a grassroots activist and deprofessionalized intellectual living in a small Indian community in the South of Mexico; Madhu Suri Prakash teaches at the Pennsylvania State University. A full version of this article, with references, is available from *The Ecologist*.

# Unfinished Business

## Bhopal Ten Years After

by

Ward Morehouse

*The tenth anniversary of the poisonous gas leak from the Union Carbide pesticide plant in Bhopal, which killed as many as 10,000 people, occurs on 3 December 1994. The perpetrators of the disaster, Union Carbide, with the compliance of the Indian government, still refuse to take responsibility for the accident and have paid only token amounts of compensation. The judicial systems of both the US and India have not delivered anything remotely resembling justice for the victims of the disaster, suggesting that powerful multinational companies are beyond the reach of international law. The disaster's anniversary offers an opportunity to make them accountable.*

It was around midnight on the night of 2 December 1984 in the central Indian city of Bhopal. Bano Bi was sewing clothes in her home, sitting next to the door:

"The children's father had just returned from a poetry concert. He came in and asked me, 'what are you burning that makes me choke?' And then it became quite unbearable. The children sleeping inside began to cough. I spread a mat outside and made the children sit on it. Outside we started coughing even more violently and became breathless. Then our landlord and my husband went out to see what was happening. They found out that some gas had leaked. Outside there were people shouting 'Run, run, run for your lives.'"

Unfortunately Bano Bi and her family could not run fast or far enough to escape the methyl isocyanate gas leaking from a nearby pesticide plant owned by the US company, Union Carbide. She and her husband were both hospitalized; he died a few weeks later, one of the unknown thousands killed by the incident that ranks with Chernobyl as the world's worst industrial disaster.

Bano Bi's suffering is far from over: she is still ill and is not entitled to any compensation for the death of her husband:

"[My husband] was always treated for gas related problems. He was never treated for tuberculosis. And yet, in his *post mortem* report, they mentioned that he died due to tuberculosis. He was medically examined for compensation but they never told us in which category he was put. And now they tell me that his death was not due to gas exposure, that I can not get the relief of 10,000 rupees [US\$330] which is given to the relatives of the dead.

I have pain in my chest and I get breathless when I walk. The doctors told me that I need to be operated on for ulcers in my stomach. They told me it would cost 10,000 rupees. I do not have so much money. All the jewelry that I had has been sold . . . How can I go for the operation? Also, I am afraid that if I die during the operation, there would be no one to look after my children."

Bano Bi's story is typical of many who were downwind of the Carbide plant at the time. Not only have they lost relatives and friends and their health, but for ten years they have been fighting an unfinished battle to acquire even a paltry amount of compensation. When the Bhopal disaster happened, it was a clear case of gross corporate irresponsibility; ten years on it has become a classic case of corporate impunity.

### Safety Last

Bhopal was not an accident. It was a disaster waiting to happen — a textbook case of corporate failure to meet even the most minimal standards of proper social performance with regard to human safety and the physical environment. Where there were choices to be made, the Carbide management opted to maximize profit and minimize loss, even though they knew they were playing with innocent people's lives and putting conventional criteria of economic performance before human safety.

It was the US company's management which specifically overrode the wishes of the managers of its Indian subsidiary, Union Carbide India Limited (UCIL) and insisted on storing methyl isocyanate (MIC), a key ingredient in pesticide manufacture, in large 15,000-gallon tanks rather than in smaller, less dangerous, individual containers used by other companies making similar products. It was in one of these large tanks — the one supposed to act as a backup for emergency transfers in case of damage to two other neighbouring storage tanks — that the runaway reaction which gassed the city of Bhopal started. This tank was filled to 75-87 per cent capacity, even though Union Carbide's operations manuals state that MIC storage tanks should never be filled more than half full to allow room for expansion. The liquid MIC in these tanks should have been stored at 0°C to minimize the possibility of a reaction, yet the storage tanks at the Bhopal plant were at ambient temperature, around 20°C, because the refrigeration unit for the tank had been disconnected — the freon gas in the refrigeration unit was being used elsewhere at the plant.

The safety systems that should have contained any such reaction were also inadequate. One of these, the vent gas

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scrubber, was supposed to "neutralize" any escaping gases; yet at the height of the disaster, MIC and its reaction products were flowing through the scrubber at more than 200 times its capacity. The flare tower — a device intended to "burn off" any escaping gases — was not equipped with a back-up ignition system. But even if it had been, the flare tower would not have had the capacity to handle such a huge volume of gases as escaped in Bhopal. Moreover, the flare tower was not working when the leak occurred because a faulty section of pipe had been removed and not replaced. Finally, the water spray system, which was supposed to deal with any gases that escaped through the vent gas scrubber and the flare tower, did not have enough water pressure to reach the point from which gas was escaping.



NOT EVERYONE AFFECTED BY THE CARBIDE GAS LEAK IN BHOPAL DIED.

Pablo Bartholomew/BGIA

*It was initially thought that the major impact of methyl isocyanate gas was on the eyes and lungs of those exposed, as this campaign poster from the Bhopal Group for Information and Action shows. It is now known, however, that the immune systems of victims' and other vital organs were also damaged.*

## Profit First

All these problems were known to Carbide management and engineers. They could have been corrected — but only at an increased cost of construction and operation of the facility.

Even the location of the plant was dictated by a preoccupation with cost-cutting. Although a sparsely populated site outside Bhopal, a city of some 800,000 people, had already been designated as an industrial area for hazardous facilities, Union Carbide insisted on building in 1979 the acutely hazardous MIC production and storage unit at an existing Union Carbide facility upwind from the city, mainly because it was cheaper to draw on the infrastructure of the existing facility.

Union Carbide's disregard for the safety and well-being of its workers and the surrounding community was also reflected in the company's personnel policies and procedures. Between 1980 and 1984, the work crew for the MIC unit was cut in half, from twelve to six workers, while the maintenance crew was reduced from six to two workers. The maintenance supervisor position had been eliminated from the work shift on duty at the time of the disaster. The effectiveness of plant personnel was also adversely affected by high rates of turnover, and several workers in key positions in the MIC unit were not properly trained to handle their responsibilities.

These problems were known to senior US Carbide management and cannot be blamed on its Indian subsidiary as the parent company tried to do. Indeed, the Bhopal plant had long been plagued with serious accidents involving severe injuries and at least one death. These accidents were reported to the US management and led to a safety audit in 1982 by a team sent from the United States. Carbide did little to see that the recommendations of this audit were carried out.

The company was also warned of the possibility of a runaway reaction involving a MIC storage tank three months prior to the Bhopal leak by its safety and health inspectors based in Institute,

West Virginia. Had the warnings in this report been heeded, and the suggested action plans implemented in Bhopal (including more frequent sampling of storage tanks for impurities), perhaps the Bhopal disaster could have been averted. But Union Carbide did not even send the report to the Bhopal plant.

The reasons for Union Carbide's disregard for safety are not difficult to divine. The Bhopal plant was losing money and the Indian market for the pesticides it was producing had not developed as Carbide had hoped it would. The US management had at one point decided to dismantle the plant in India and relocate four of the

units, including the MIC unit, to Mexico or Indonesia. The plan met with strong resistance from UCIL management and was therefore aborted.

## Tragedy Without End

Another factor that may account for Union Carbide's irresponsibility is the fact that almost all of those affected by the accident were poor, even by Indian standards, and hence powerless to lobby for better safety measures or sue the company in the event of an accident. The reason for this is simple: those who have a choice rarely live downwind of a dangerous industrial plant.

No one knows exactly how many people died or were injured in the accident. The Indian government acknowledges that 521,262 persons were "exposed" to the gas leak. Estimates range from the official figure of 1,754 dead and 200,000 injured, given by the government in its lawsuit against Union Carbide, to 15,000 dead and 300,000 injured, according to eyewitness accounts and local voluntary agencies. Circumstantial evidence based on the number of shrouds and the amount of cremation wood sold in the following weeks suggest that as many as 10,000 people may have died — a figure also put forward by a senior UNICEF official after a week-long investigation.

Some say that those who died are the lucky ones, since many survivors have continued to suffer severe physical and psychological pain and debilitation. It was initially thought that the major impact of MIC on human beings was on their eyes and lungs, and indeed tens of thousands of people have suffered lasting damage to these organs. But new medical evidence is surfacing which indicates still more serious long-term threats to human health. Other vital organs such as the kidney, spleen and liver have been damaged, as have the reproductive systems of women. There is also evidence of damage to the immune systems of those exposed to the gas, leaving them more susceptible to a wide range of diseases endemic among poor people in India, such as tuberculosis; and of genetic mutation affecting the offspring of those exposed. The International Medical Commission on Bhopal, composed of volunteer health professionals from all over the world, visited India in January 1994 and found,

## Public Relations and Sabotage

In response to Ward Morehouse's review of Jamie Cassels's book *The Uncertain Promise of Law: Lessons from Bhopal* (July/August 1994), *The Ecologist* received the following letter from Bud Geo Holman of law firm Kelley Drye & Warren:

"Let me set the record straight that Union Carbide, its lawyers and lawyers from the 'New York-based' firm that assists Carbide on Bhopal litigation (Kelley Drye & Warren) continue to be absolutely convinced that the terrible tragedy resulted from the deliberate actions of a disgruntled Indian employee at the plant. No Carbide or Kelley Drye & Warren lawyer ever told a Yale Law School audience otherwise. I gave a talk at Yale and made it clear that employee sabotage was, in fact, factually and legally well-based. For Mr Morehouse to state the opposite is outrageous and false. The only public relations ploys that deserve to be questioned are those that he and the so-called International Coalition for Justice in Bhopal have perpetuated for nearly 10 years."

Ward Morehouse writes in reply:

"At a session of the Yale Forum on International Law on 14 December 1989, I heard Paul Doyle, Mr Holman's colleague at Kelley Drye & Warren, concede under sharp questioning (not by myself) that what Mr Holman calls 'the deliberate actions of a disgruntled Indian employee' would not have any significant bearing on the legal determination of liability. If the sabotage theory had no legal merit, what was its purpose other than as a public relations ploy to make Carbide appear the victim, not the victimizer, and to divert attention from the real causes of the disaster in the careless design and operation of an extremely hazardous chemical facility?"

Mr Holman claims the sabotage theory is 'factually and legally well-based.' But according to Carbide's own safety manual, it would have taken 23 hours for water



T J Birdi

*An effigy of Warren Anderson, Union Carbide's chief executive at the time of the disaster, is burnt each year by victim and support groups on Bhopal's anniversary.*

deliberately introduced in the storage tank containing methyl isocyanate to produce a violent, runaway reaction. Yet this reaction had already started at the time Carbide says the water was added and was spewing lethal gases into the atmosphere and over the sleeping city of Bhopal an hour and a half later. This and other evidence which undermines the factual basis of the sabotage theory, including a denial by the alleged saboteur who says Carbide framed him, is published in *Bhopal: The Inside Story* by T R Chouhan and other former Carbide workers. In the book, the workers, the only direct eye-witnesses to the actual event, tell their side of the story.

Mr Holman knows full well that there are only two defences against strict liability: 'act of God' and 'act of stranger'. Neither applies to the Bhopal disaster. It is well established under case law that the act of an employee cannot be construed as an act of stranger. Furthermore, if Carbide's sabotage theory were to be taken seriously as the real explanation of what actually happened,

Carbide would become an accomplice after the fact in helping to conceal a felony by not revealing the name of the 'disgruntled employee' to the relevant authorities.

T R Chouhan writes: 'The most compelling evidence of the false claims of the sabotage theory is its abandonment by the officials of Carbide's Indian subsidiary in the Bhopal court which is hearing charges of culpable homicide against them for their role in the Bhopal disaster. Rajendra Singh, their chief lawyer, informed the court that the water did indeed enter tank E610 through the Relief Valve Vent Header (RVVH) as a consequence of the water washing being undertaken by plant personnel instructed to do so by their superiors. This explanation means that the water was *not* inducted in the tank by a water hose connected to the tank by a single disgruntled worker as the sabotage theory alleges.'"

along with corroborating evidence of damage to various vital organs and the body's immune system, disturbing evidence of neurological damage as well.

The effects of exposure to MIC have destroyed the ability of those affected to earn a living. In the past, most of them, like Bano Bi's husband, worked as casual labourers, but many can no longer sustain vigorous physical effort. However, instead of help and sympathy, the victims have more often than not been subjected to neglect, harassment and abuse.

### Responding to Tragedy

Since the explosion, more than 600,000 claims have been filed with the Indian government against Union Carbide (with at least another 100,000 claims still unregistered). The company has

fought tooth-and-nail to avoid paying anything more than a token amount of compensation — although on its own admission, it has spent about \$50 million on legal fees.

The first objective of the lawyers was to get the proceedings for compensation transferred from New York — where lawyers representing the claimants and the government of India on behalf of all the victims first filed claims in 1985 — to India. The company argued that the US courts were not the proper forum for the trial which should instead be held in Indian courts which, it claimed, were competent to decide the issue. After a year, the case was indeed transferred to India.

Once in India, Union Carbide switched its argument. It now claimed the Indian courts were not competent and at every opportunity insisted that the company's rights of due process were being violated. It appealed virtually every decision of the

trial court, even on minor procedural matters, not only to the High Court of Madhya Pradesh, the state in which Bhopal is located, but even to the Indian Supreme Court.

For example, when the Bhopal District Court ordered Union Carbide to pay interim relief of \$270 million, Carbide refused to obey and appealed to the Madhya Pradesh High Court. When the High Court upheld the lower court ruling, the company again refused to obey the order and appealed to the Indian Supreme Court. This process lasted more than a year. The company has also tried at different times to blame its Indian subsidiary, UCIL, or a "disgruntled worker". (See Box p.166.)

The litigation dragged on until February 1989 when unexpectedly the Indian government under Rajiv Gandhi agreed to a settlement "ordered" by the Indian Supreme Court of \$470 million. This sum, equivalent to only \$793 for each of the 592,000 who had then filed claims, was not even sufficient to cover healthcare and monitoring of the gas-exposed population, which had been conservatively estimated at \$600 million over the next 20 to 30 years. The settlement was so favourable for Union Carbide that its stock price rose \$2 a share on the New York Stock Exchange the day it was announced.

The settlement provoked widespread public indignation and was immediately challenged in court by victim groups, and subsequently, by a new Indian government under V P Singh. It was upheld in October 1991 by the Indian Supreme Court, but this court also reinstated criminal charges of culpable homicide first made in 1985 against Union Carbide Corporation, its Indian subsidiary and senior officials of both companies that had been quashed by the February 1989 settlement. These charges, if they are ever heard, now remain the only prospect of a proper attempt to assign responsibility for the disaster.

## Government Complicity

Union Carbide's delaying tactics and its attempts to "blame the victim" have been predictable, but their success has been due to a measure of complicity from the Indian government and the Madhya Pradesh State government. In part, this complicity stems from the fact that the Indian government recognizes that Carbide will never be made fully accountable for the damage it has caused. Indeed, the Indian Supreme Court has held that if the settlement money should prove insufficient, the Indian government should make up the difference. The government, therefore, has an interest in minimizing the financial impact of the disaster, demanding impossible types of medical evidence to substantiate claims, and approving only trivial awards so that the settlement money is not exhausted

There may, however, be other reasons for the Indian govern-

ment's reluctance to prosecute Union Carbide vigorously. The government's New Economic Policy is heavily influenced, if not imposed, by the World Bank and the IMF. It has also signed the new GATT agreement, which critics see as a naked power grab by multinationals to facilitate their access to Southern economies, thereby shoring up the North's domination of the international economy.

Thus, in the last few years, there has been a stampede of multinational companies to India through the open door provided by the Indian government. Companies such as Motorola, Hewlett Packard, General Electric, GM, 3M, Honeywell, Kodak, Cargill, DuPont, Mitsubishi, Sumitomo, C. Itoh, Marubeni, BASF, ICI, Asea Brown Boveri, Royal Dutch Shell, McDonalds, Pepsico and Coca-Cola, have rapidly increased their investments in India, buying up formerly state-run enterprises, or setting up new production facilities to take advantage of a highly-educated yet extremely cheap labour force. They are using India as a platform to produce cheap exports and to sell products to the wealthiest ten per cent of the Indian population, a market of nearly 100 million people, roughly equivalent to the population of Germany, Switzerland and The Netherlands combined. The only exception to this movement is Union Carbide, which, for obvious reasons, is trying to sever its last link with India by selling its shares in its Indian subsidiary, UCIL.

To prosecute and force a realistic settlement out of Un-

ion Carbide might not only deter multinationals from investing in India, but would also raise questions about the Indian government's policy of deregulation and undermining existing regulations in order to attract transnational corporations. Although the Bhopal disaster provided the government with a powerful opportunity to force multinational companies to implement stricter safety and environmental precautions, prohibitions against siting industrial facilities in ecologically sensitive zones have been eliminated, and protected areas are being "denotified" so that cement plants, oil refineries and dams can be built. According to Indian journalist Praful Bidwai:

"As far as environmental protection and management of hazards or disasters goes, no lessons [from Bhopal] have been learnt. Location policies for the chemical industries have not changed even one iota: Baroda, Patalganga, Lote Parashuram, Kalyani and other store houses of chemical poisons continue to be promoted, built and expanded. The promise of strict regulation of toxic chemicals and an outright ban on the worst of them remains largely unfulfilled."

In fact, the governments's vacillation and eventual capitulation on the question of compensation has given companies a free hand to forge their own policies. DuPont, for example, has written a clause into its proposal to build a nylon plant in Goa that absolves it from all liability in the event of an accident.



T. J. Birrell

*One of the largest survivors' groups, the Bhopal Gas Peedit Mahila Udyog Sangathan (Bhopal Gas Affected Women Workers Association) with some 14,000 members, soon learnt that they had not only to use the courts but also take to the streets in their attempts to obtain justice. At times, the protesters, women in particular, have been ruthlessly attacked and beaten by the police.*

## Unfinished Business

Not surprisingly, Bhopal has become a symbol of the disregard for human welfare and environment held by large companies in their drive for profit. Union Carbide's success in avoiding prosecution underscores the present reality that transnational companies are lawless monsters roaming the earth beyond the reach of any judicial system but dominating the global political economy. Bhopal has exposed the myth that these global giants — and Union Carbide is far from being the largest — are accountable to the governments of the countries in which they operate. Because of this myth, multinationals are not subject to human rights and other standards in international law which apply to nation states.

The tenth anniversary of the Bhopal disaster presents an opportunity to focus attention on efforts to curb such corporations' power, making them accountable to those whose lives are most directly affected by their actions. This struggle must begin with the empowerment of those who bear the greatest risks — the workers and communities surrounding hazardous facilities — which means effective political mobilization at the grassroots.

Indeed, the little positive treatment of those affected by the disaster has come about almost entirely as a result of the survivors' protests. Four of the victims' organizations — Bhopal Gas-Affected Women Workers Association; Poisonous Gas Disaster Struggle Front; Bhopal Gas-Affected Destitute Pensioners Struggle Front; Bhopal Gas-Affected Women Stationery Workers Union — have drawn up an 11-point list of demands for the tenth anniversary of the disaster. One of their demands is for the government of India to issue an extradition request for Warren Anderson, chief executive officer of Union Carbide at the time of the disaster, to face criminal proceedings in India. Union Carbide is at present hurriedly trying to evade jurisdiction of the criminal court in Bhopal by selling its shares in its Indian subsidiary under the guise of providing finance for a hospital for disaster victims in Bhopal. These shares are Union Carbide's last tangible asset in India; if it sells them all off, it will have severed all its connections with India.

National and international support of grassroots organizations is critically important. Bhopal support groups within India, especially in Delhi, have played an important part, as does the Bhopal Group for Information and Action in Bhopal itself. The International Coalition for Justice in Bhopal, a network of seven citizen activist groups based in Japan, Hong Kong, Malaysia, The Netherlands, Britain and the US, is one of the international links campaigning in support of the demands of the Bhopal victims. A number of international groups concerned with industrial pollution are calling for a "world day of action to fight toxics and corporate power" on the tenth anniversary of the disaster.

Not only do new standards of corporate ethical behaviour need to be set, but effective techniques and institutional mechanisms need to be developed to ensure that standards are actually met and violators promptly and meaningfully held to account.

The Permanent People's Tribunal on Industrial and Environmental Hazards and Human Rights in Rome has started this work. The tribunal concluded in October 1992 in Bhopal that, on the basis of testimony from victims, workers, experts and others, the fundamental human rights of the victims and their

rights under the Indian Constitution had been grossly violated by Union Carbide, the government of India and the government of Madhya Pradesh. The final session of the tribunal will be held in Britain just before the tenth anniversary.

In the United States, Union Carbide has become the focus of a movement to reassert citizen sovereignty over corporations by demanding that company charters should be rewritten to make them more directly answerable for their activities. Union Carbide, for instance, is incorporated in New York State, and New York's Business Corporation Law provides for dissolution when a corporation abuses its powers or acts "contrary to the public policy of the state". The law also calls for a jury trial in charter revocation cases, something Carbide strongly fought to deny its victims in Bhopal. A citizen petition is being drawn up

to demand that the State Attorney General take action to rewrite Carbide's charter under the laws he is elected to uphold. Several groups have also been busy preparing a large body of damning evidence against Union Carbide. For instance, Communities Concerned about Corporations has been documenting Union

Carbide's environmental record across the United States which it will present shortly before the tenth anniversary. The anniversary is also an opportunity to expose the myth that transnational corporations have "a pivotal role to play in Third World development", an action that will give vital support for the Bhopal victims' struggle for justice.

The words of the widow, Bano Bi, serve as a reminder that the people of Bhopal still have unfinished business:

"I believe that even if we have to starve, we must get the guilty officials of Union Carbide punished. They have killed someone's brother, someone's husband, someone's mother, someone's sister— how many tears can Union Carbide wipe? We will get Union Carbide punished. 'Till my last breath, I will not leave them."

The victims of the world's worst industrial disaster can never forget. We must not either. As Czech author Milan Kundera observed, "The struggle of people against power is the struggle of memory against forgetting."

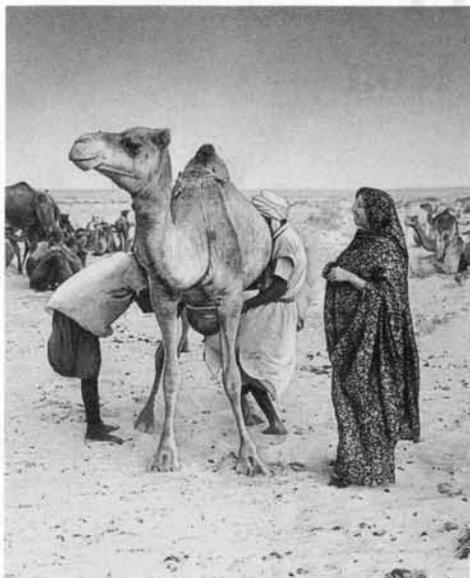
To support the demands of the Bhopal victims and for further information, contact Bhopal Group for Information and Action, 18/1 Nagar Nagam Colony, Berasia Road, Bhopal 462018, INDIA, or the International Coalition for Justice in Bhopal, Suite 3C, 777 United Nations Plaza, New York, NY 10017, USA, Fax: +1 (212) 972 9878.

A complete referenced version of this article is available from the editorial office of *The Ecologist*.

## Bibliography

1. Bidwai, P., "Bhopal: A Dismal Balance-Sheet," *The Economic Times*, 29 November 1993.
2. Chouhan, T.R. et al., *Bhopal: The Inside Story: Carbide Workers Speak Out on the World's Worst Industrial Disaster*, The Apex Press, New York and The Other India Press, Mapusa, Goa, 1994.
3. Morehouse, W. and Subramaniam, M.A., *The Bhopal Tragedy: What Really Happened and What it Means for American Workers and Communities at Risk*, Council on International and Public Affairs, New York, 1986.
4. *Voices from Bhopal*, Bhopal Group for Information and Action, Bhopal, March 1990.
5. *The Trade Union Report on Bhopal*, International Confederation of Free Trade Unions and International Federation of Chemical, Energy, and General Workers' Unions, Geneva and Brussels, July 1985

1993. NANCY ABEIDERRAHMANE (MAURITANIA)  
Pasteurising camel's milk in the desert.



1987. JOHAN REINHARD (PERU)  
Studying Andean mountain-top ceremonial sites.



1981. MILAN MIRKOVIC (AUSTRALIA)  
Cultivating the jojoba plant in the desert.



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THE ROLEX AWARDS FOR ENTERPRISE 1996

# The Blue Planet

## An Ambiguous Modern Icon

by

Wolfgang Sachs



*Photographs of the earth taken from space have had an unexpectedly significant and yet contradictory influence upon the development of "global consciousness". The image of the world as a small, discrete, living organism has led to "new age" and Gaia-based philosophies which view humanity as one strand in the web of nature. Yet the global image also distances humans from the earth, enabling a new role for the human race — that of observer, manager and planner of the "Blue Planet".*

The journey to the moon led to the discovery of the earth. When Neil Armstrong touched down in his landing-craft on 20 July 1969 on our closest celestial neighbour, he found only barrenness, emptiness and icy silence — until he turned around and looked backwards at the earth. Shimmering blue, it floated like a spherical jewel in pitch-black space. Continents and oceans shone with soft browns and a deep blue through the web of clouds enveloping the earth in a white veil.

Since those space missions and early moon landings transmitted the first picture of the earth rising in the moon's heavens back to our living rooms, "discovery" of the earth has become the essential revelation of US space flight. Amid the desolate expanses of the universe, the earth reveals itself to be the habitable and absolutely special star that is our home.

This view of the earth from space has also become a dominant contemporary image. It fronts weighty environmental reports, adorns T-shirts, endows television news with a global touch and leaps out of commercials. Like the Cross in earlier times, it is encountered everywhere. It has become an icon for our age. As German philosopher Peter Sloterdijk writes:

"The view from a satellite makes possible a Copernican revolution in outlook. For all earlier human beings, gazing up to the heavens was akin to a naive preliminary stage of a philosophical thinking beyond this world and a spontaneous elevation towards contemplation of infinity. Ever since the early sixties, an inverted astronomy has . . . come into being, looking down from space onto the earth rather than from the ground up into the skies".<sup>1</sup>

Wolfgang Sachs is at the Wuppertal Institute, Germany, and is editor of *The Development Dictionary* and *Global Ecology*, published by Zed Books.

### Photogenesis

For centuries, human beings attempted to gain a mental picture of the earth's shape and form. Two and a half thousand years ago, Pythagoras argued that the earth must be perfectly fashioned — and hence a sphere. Some 500 years later, Eratosthenes attempted to prove that assumption mathematically by comparing the sun's shadow in various places and calculating the earth's diameter with reasonable accuracy. Four hundred years ago, Portuguese sailor Ferdinand Magellan demonstrated the world's true magnitude by sailing around it. And in 1492, the first globe was fabricated under the direction of the Nuremberg merchant and explorer, Martin Behaim. Since then, models of the earth have become everyday objects at school and in the home, but they remain mere models. Nothing can obscure their origins on the drawing board.

Now, however, by way of satellite photographs, the earth has moved into the realm of visible things. It lies before our eyes — albeit mediated through photography. Yet, precisely because it is depicted through a photograph, it lays claim to an authenticity denied to others forms of representation — from paintings and sculptures to maps or models. For, as critic Susan Sontag writes, a photograph is not only an image but:

"also a trace . . . like a footprint or a death mask. While a painting . . . is never more than the stating of an interpretation, a photograph is never less than the registering of an emanation (light waves reflected by objects) — a material vestige of its subject in a way no painting can be".<sup>2</sup>

Captured through photography, the earth's form is no longer a scientific deduction but an obvious reality, accessible to its

inhabitants' senses. Previously, the planet's existence may have been an empirical certainty, but it possessed no empirical magnitude since the earth's gigantic mass exceeded anything that could be taken in at a single glance. Only through space photography did the earth truly become something "graspable".

## The Synoptic View

Viewed from space, however, the earth is not only graspable but completely monitorable. As Yaakov Jerome Garb comments: "We now possess, as the NASA control crew were fond of reminding us, the 'God's eye view' of the earth, where nothing is hidden."<sup>3</sup>

Height bestows a panorama. The higher one climbs, the fewer obstacles block the outlook; and the greater one's distance from the ground, the further the horizon moves into the distance. From a ring of satellites, a picture of the entire earth is available, a synopsis of the world that could not be more comprehensive. A single glance takes in more than ever before, and the overview of seas and continents reveals vast fields of interrelationships hitherto hidden from the human gaze. Cloud formations and carpets of algae, folds in the earth and patterns of settlement, together form structures within a higher order; geographically scattered phenomena are seen to be aspects of larger relationships.

The satellite's synoptic view is further enhanced by orbiting the earth. In the 90 minutes which the US space shuttle Columbia takes to circle the earth, the entire globe moves past far below; as the days pass, the orbit changes, gradually covering the earth's entire surface. There are no blind spots or unmapped areas — the satellite eyes are omnipresent and omniscient. With them, humanity seemingly has the ability to monitor every minor change in the planet's surface — and its life-giving sheath, the "biosphere".

## The Invention of the Biosphere

In September 1970, one year after the Blue Planet became a celebrated photo-object, *Scientific American* devoted an issue to "The Biosphere". Its introduction began:

"Photos of the earth show that it is blue-green in colour . . . The biosphere — that thin layer of air and water and soil and life, which is only ten miles thick, one four-hundredth of the earth's radius — now constitutes the background to man's uncertain history".

The publication concentrated on the large-scale, bio-geo-chemical cycles which shape interactions between the living and the non-living world: the circulations of energy, water, carbon, oxygen, nitrate and minerals, particularly in relation to the human production of food, energy and materials.

It was Russian scientist Vladimir I. Vernadsky, in his 1929 book *La Biosphère*, who first focused attention on relations between geo-chemical factors and biota, assigning life a paramount place in the overall process.<sup>4</sup> After the Second World War, the US biologist, G. Evelyn Hutchinson, linked Vernadsky's inspiration with eco-system theory.<sup>5</sup> He understood nature through the metaphor of a self-regulating machine, and stimulated investigation of the regulatory mechanisms responsible for a system's self-maintenance when subject to adverse external influences.<sup>6</sup>



Hulton Deutsch

The nave at Ely Cathedral

Viewing the earth from space grants a new perspective, entirely different from anything in the past. In medieval times, when people talked about the entire "world", they did not evoke in their listeners the image of the planet with its inhabitants, but instead the image of an earth overarched by several spheres or heavens in permanent revolution. Humanity's gaze was directed upwards to grasp the vaulting architecture of the cosmos. Although this "world" was immense, it was nevertheless finite and had a definite shape — to look up to the heavens was like looking up to a high vault. The contrast between this view and that of modernity is described by Yi Fu Tuan:

"The vertical cosmos of medieval man is dramatically symbolized by pointed arches, towers and spires that soar. The Gothic cathedral baffles modern man; a tourist with his camera may be impressed by the beauty of the nave with its aisles, transepts, radiating chapels and the span of the vaults. [However] should he seek a position to set up his camera, he will find there is no privileged position from which all these features may be seen. To see a Gothic interior properly one has to turn about and move one's head . . . The medieval cathedral was meant to be experienced: it was a dense text to be read with devout attention and not an architectural form merely to be seen. In fact, some figures and decorations could not be seen at all. They were made for the eyes of God."

During the past two decades, the concept of the biosphere has been further developed, particularly under the influence of the Gaia hypothesis.<sup>7</sup> This maintains that living organisms as a whole play the predominant part among the components which comprise the global eco-system. Traditionally, geo-physical and geo-chemical aspects (land, oceans, atmosphere) are seen to constitute limiting factors for the world of organisms; the Gaia hypothesis, however, insists that the overall activity of organisms regulates decisive characteristics of the lithosphere, the oceans and the atmosphere. To the extent that living

creatures control such factors as temperature on earth, oxygen in the atmosphere or the salinity of seas, they created during the course of evolution — and continue to create — an environment for themselves in which life can flourish. The earth does not simply have a biosphere; it is a biosphere. Without the planetary interaction of living creatures, neither individual forms of life nor the earth as we know it would exist. Our world would be desolate and empty like other planets.

James Lovelock was working for NASA in the 1960s when he picked up the scent of what he later formulated as the Gaia hypothesis.<sup>8</sup> His investigations of the possibility of life on other planets led, logically, to consideration of the conditions on earth. The space programme obliged scientists to view various planets within a unified comparative context while the space flights themselves achieved an extra-terrestrial perspective. As Lovelock remarks:

“The outstanding spin-off from space research is not new technology. The real bonus has been that for the first time in human history we have had a chance to look at the earth from space, and the information gained from seeing from the outside an azure-green planet in all its global beauty has given rise to a whole new set of questions and answers”.<sup>9</sup>

Since the biosphere is conceived as a system of interactive components where no single part can be adequately understood in isolation from the others, the sciences — and particularly the bio-sciences on one side and the geo-sciences on the other — are challenged to undertake greater integration.

It is not, therefore, surprising that for some years now, emanating from the United States, there has been a frenzy of new global geo-research initiatives: the National Science Foundation's “Global Geosciences” programme; The International Council of Scientific Unions' “International Geosphere-Biosphere Programme”; UNESCO's “Man and the Biosphere Programme”; and NASA's “Earth System Science” programme.<sup>10</sup> In Germany, too, the biosphere has become an object of extensive scientific research with establishment of the “Geo-Sciences” institute at Potsdam and the “Geotechnica” founding congress and trade fair at Cologne in September 1991.

These new institutions have arisen to provide a technical infrastructure for the new generation of instruments of exploration and the vast amounts of new data they produce. But they also reflect a growing belief that “the new science of the biosphere is necessary for our survival . . . Without a solid scientific foundation we can understand neither the individual nor the cumulative global effects of our local, regional and global actions”.<sup>11</sup>

## Sentimental Ecology

This concern for the planet's survival has emanated not initially from the scientific community but from an anxious public. It was novelist William Golding who, when taking a walk with Lovelock, hit on the idea of naming the living earth after Gaia, a Greek goddess and Earth Mother. This choice undoubtedly shaped public consciousness, leading to a rare instance of a scientific theorem being introduced to scientists by the public rather than slowly making its way from the laboratory into general consciousness.

The publication of the Gaia thesis in 1979 gave parts of the ecology movement, particularly in the US, a new, elevated objective. The detritus of industrial society was seen as threatening not just people living near Lake Erie or asthmatics in smog-ridden areas, but the entire planetary organism on which all life ultimately depends. “Save the Earth” would have been an absurdly comical battle-cry until the Blue Planet became a living organism, vulnerable to human assaults. It is unlikely that Earth Day 1970, the first national manifestation of the environmental movement in the US, would have been given that name without the satellite photo. By Earth Day 1990 (the second such occasion), the country was flooded with devotional motifs of the earth on pennants, posters, and postcards. One such poster bears the admonition, “Love Your Mother”. The earth has become an object of post-modern popular piety, a powerful symbol for a movement which



France Telecom Network Services

*Encircling the planet, telecommunications networks are advertised as allowing companies to access the entire world.*

insists on the whole taking precedence over the parts, and a yearned-for expression of collective rationality. The satellite photograph's visual demonstration of global finiteness gives credibility to the environmentalists' message that nature cannot be exploited indefinitely.

The globe also carves a cosy inner space out of the hostile universe. Its boundaries create a place, and that place creates belongingness. “Home” is the succinct message printed on many postcards depicting the Blue Planet. The unity of the human race is thus determined as a bio-physical fact, rather than being the result of efforts to understand each other's different cultures. Money flows and television news may also involve worldwide interconnections, but humanity's global interdependence is primarily and inescapably brought about by the shared life-giving sheath. Moreover, this new idea of global interdependence is no longer restricted to humanity, but now comprises all living creation. In earlier times, “nature” provided the background against which humanity stood out in terms of its common features; but now the universe comprises the backdrop against which the unity of nature — inclusive of humans — imposes itself. The demand that we should live in peace with nature is presented as rooted in the order of being.

However, "Gaia" evokes considerably more than rationality. It appeals to a search for ultimate validity and holiness. Lovelock himself opened the way:

"When I first saw Gaia in my mind, I felt as an astronaut must have done as he stood on the moon, gazing back at our home, the earth. The feeling strengthens as theory and evidence come in to confirm the thought that the earth may be a living organism. Thinking of the earth as alive makes it seem, on happy days, in the right places, as if the whole planet were celebrating a sacred ceremony . . . This is why, for me, Gaia is a religious as well as a scientific concept".<sup>12</sup>

Lovelock's outlook is shared by many people, particularly among an Anglo-Saxon public, who place their hopes in a holistic perspective uniting empiricism and ethics, science and religion. The earth, or more precisely the biosphere, becomes the object of veneration — rather than "god" or "humanity". The image of the Blue Planet becomes not only metaphorically, but literally, an icon to be worshipped. The following prayer comes from a New Age publication devoted to practices for meditation on Gaia:

"We ask for the presence of the spirit of Gaia and pray that the breath of life continues to caress this planet home. May we grow into true understanding—a deep understanding that inspires us to protect the tree on which we bloom, and the water, soil and atmosphere without which we have no existence . . . We ask for the presence of the spirit of Gaia to be with us here. To reveal to us all that we need to see, for our own highest good and for the highest good of all".<sup>13</sup>

## On The Wings of Management

But if human beings can no longer lay claim to privilege *within* the natural world, they may yet lay claim to privilege *outside* it. The view from space of the Blue Planet identifies humanity as but one strand in the complex swirling web of Gaia. But it is nonetheless humanity that achieves this identification; it is humans who take the photographs. The image of the Blue Planet is ambiguous, for in our position as the observed, we are humbled, but in our position as observers, we exalt ourselves.

Almost twenty years after *Scientific American* proclaimed the biosphere to be a new object of scientific research, the journal once again pointed the way to new shores. The cover of the September 1989 issue shows North America and Europe as seen from a satellite with the words "Managing Planet Earth" set above the outlines of continents and seas. The title essay begins:

"Our ability to look back on ourselves from outer space symbolizes the unique perspective we have on our environment and on where we are headed as a species. With this knowledge comes a responsibility . . . the responsibility to manage the human use of planet earth. It is as a global

species that we are transforming the planet. It is only as a global species — pooling our knowledge, coordinating our actions and sharing what the planet has to offer — that we may have any prospect for managing the planet's transformation along the pathways of sustainable development. Self-conscious, intelligent management of the earth is one of the great challenges facing humanity as it approaches the 21st century."

After the heroic phase of voyaging to the moon and other "manned" missions, space-flight technology is consolidating itself with services to manage the earth. Remote sensor technology turns satellites into heavenly "Environmental Spies in Space",<sup>14</sup> registering far-reaching changes in the planet's life-giving sheath, scanning the earth's surface to gather information hidden from people on the spot. Continuous and comprehensive surveillance of the earth from the periphery is likely to be improved in the next 10 to 20 years by NASA's Earth Observing System.<sup>15</sup>

Alongside NASA's "Mission to Planet Earth" programme stand France's SPOT venture and the European ERS-1 mission, which were also founded in anticipation of increased demand for earth observation. Since 1991 ERS-1 has been in an 800 kilometre high orbit passing over the North and South Poles, which takes the satellite around the globe 16 times a day with the earth turning away beneath, gradually offering its entire surface for scrutiny. The projected long-term objective is development of a "Global Resource Information Database" accessible from everywhere, which will allow "decision-makers" to appraise the environmental impact of their actions from the

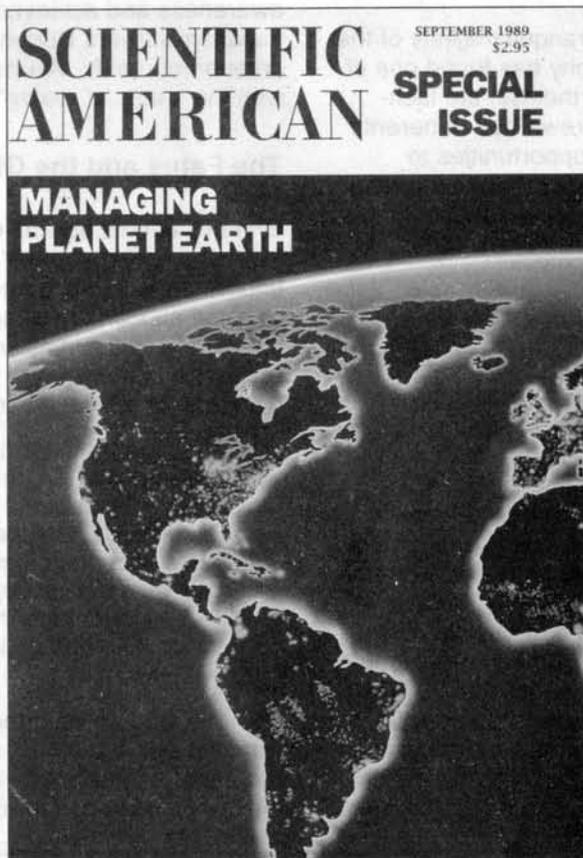
local to the planetary level.<sup>16</sup> It is not clear, however, to what extent these aspirations will be realised.

The viewpoint of a satellite on an ecological mission is both all-embracing and all-penetrating. The planet's natural covering stretches out beneath it and any region can be called up on a screen, utilizing three-dimensional computer graphics, and subjected to test assessments. Satellite eyes can map extensive felling of trees and desertification, clouds of poison and oil slicks, and even army manoeuvre areas. When linked with high-powered computers, they can supply an on-going flow of data with which scientists hope to produce models of complex natural phenomena such as ocean currents and changes in climate, and to predict the course and impact of human-induced catastrophes such as oil-spills. Like a patient under intensive care, the earth is now kept under continuous observation so that therapy can be rapidly applied before the planet expires.

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## Technocratic Ecology

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*The ambiguity of an image: in our position as observed, we are humbled; in our position as observers, we exalt ourselves.*

## The Blue Disk and the Pink Disk

Susan Sontag has observed: "Two attitudes underlie [the] presumption that anything in the world is material for the camera. One finds that there is beauty or at least interest in everything, seen with an acute enough eye . . . The other treats everything as the object of some present or future use, as matter for estimates, decisions and predictions. According to one attitude, there is nothing that should not be seen; according to the other, there is nothing that should not be recorded".

In the photographic image of the tranquil majesty of the earth, the aesthetic side of photography has found one of its most poignant expressions. Nevertheless, the technologies of the space age have also rewarded adherents of the more utilitarian view with new opportunities to explore and to record — in fact, to register more than the human eye could ever see — and in doing so both to alter our perceptions of reality and to introduce new forms of control.

### Visceral Realities

One example is infra-red photography, which, by recording the heat radiated from all objects — whether rocks, plants or buildings — enables images to be made of the invisible. First developed during the Second World War, "remote sensing" technologies have dominated satellite observation of the earth ever since the first use of a multi-spectral scanner in 1972. From a great height, it becomes possible to discover wide-ranging patterns of reality beneath the visible surface of the world of objects. For instance, wooded areas can be surveyed in terms of more than just the species of trees. Their temperature, chlorophyll content and humidity can be investigated as well — qualities which describe an abstract "biomass" rather than the physical existence of trees. These values appear as coloured areas on thematic maps or a computer screen

model of changing processes as evidence of a hitherto non-existent reality. The bio-geo-chemical states and flows that lie behind appearances become the true, "scientifically demonstrated" reality of the planet. What is decisive is probed reality, not sensed reality — a collage of millions of electro-magnetic measurements. These phantom images of the earth, reproduced millions of times over in photos and on TV screens, have gradually moved into public awareness and achieved an iconographic status. As historian Barbara Duden points out, "Seeing is no longer a criterion of reality. We have got used to attributing collages with the status of reality".

### The Fetus and the Globe

One of Duden's objects of research is the use of sound waves to reveal another unseen reality — the living, but unborn, fetus. This image, like the Blue Planet, has also become an icon of our age, providing opportunities for monitoring and surveillance not only of the unborn but also of the pregnant woman, the "fetal environment". "Seeing" the fetus, she writes, has led to the:

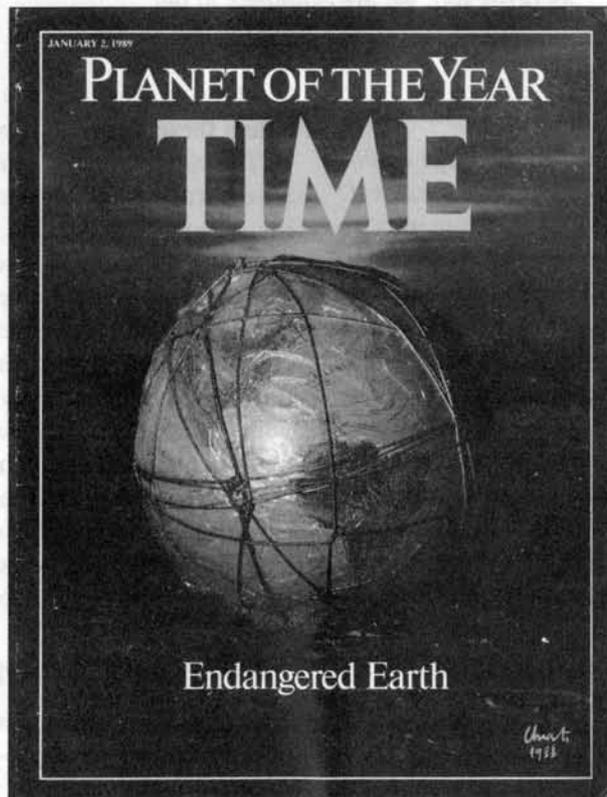
"invention of fetal norms and needs, and the pseudoscientific directives that ascribe the responsibility for the management of life — as defined for optimal measurement and supervision — to women . . . A woman's acceptance of this kind of fetus not only disembodies her perceptions but forces her into a nine-month clientage in which her 'scientifically' defined needs for help and counsel are addressed by professionals."

Until the modern age, the unborn was felt — and felt by women only — but never seen. But now, "forced to see, to represent, to imagine, we have a restricted sensorium for the invisible shapes inside us. The Enlightenment has

Far from wanting to reduce industrial society's overall impact on nature, such a policy seeks salvation in "state-of-the-art" remodeling and regulation of nature.

Shooting a satellite into space is perhaps the most radical way of establishing the distance from our world necessary for fantasies of large-scale planning. The image of the Blue Planet — so small and easily comprehensible — suggests that what has hitherto provided the preconditions for diverse forms of human existence may now be planned and managed as a single object.

In this unifying image, all traces of human reality disappear and only the permutations of the biosphere are to be seen. No traditions, no institutions, no history — the world has vanished into the earth. The planners' secret dream of their proposals for intervention not being



disturbed by the contradictory and contrary ideas of the people affected achieves fulfilment in the "planet as object". The social appears to be resolved into the biological.

Thus, the language of international debate becomes increasingly characterized by biological expressions. Human beings become "populations", quality of life degenerates into "survival" or "sustainability", and history stretches into "evolution". New words such as "biomass", "biodiversity", and "bioserves" betray the same inclination to see the planet and its dynamics as the prime point of reference.<sup>17</sup> These terms signify the ascendancy of the Blue Planet and its associated philosophy of biospheric utilitarianism.

It is under this influence that *Scientific American* raises questions such as these: "How much species diversity should be maintained in

removed from our bellies, as from our minds, any reality that is not perceived by the eye." The pictures which can now be made of those very first weeks after conception "assemble in visual form digital measurements of an object that cannot be perceived by the senses . . . Flesh is reduced to data".

### The Monitored Mother

The public proliferation of the image of the fetus — "the worldwide exposure of female privacy" — has strengthened the demand for administrative control of pregnant women, reinforcing the view that pregnancies can be classified, and that they imply risks, demand supervision, impose decisions and require a large bureaucratic apparatus to arrange one's passage through the maze. Thus ultrasound is now routine during pregnancy for women in the Western world. Its rapid spread is due to a number of factors:

"it produces income that stays in the doctor's office; the equipment manufacturers have made it attractive; it plays on the fantasy of patients for TV-like inside news; it promises information, certainty and control . . . The procedure does a lot of things it was not primarily designed to do. It multiplies diagnosis beyond therapeutic potentials, it affects tissues, it changes the juridical position of women, it creates new needs and jobs, it opens new alternatives in public health and it introduces new qualitative distinctions into pregnancies."



Outside the medical profession, it also strengthens the demand by "pro-life" groups that the fetus should be granted legal protection against its mother.

The procedures involved in making the fetus visible are also questionable from the perspective of their inevitable psychological results. What do they do to a woman's self-understanding? What does it do to a woman's sense of being alive "to have her insides registered by a demographer and then to have a graphic artists make the statistical abstraction real?" And it is not only the pregnant woman who is "affected by being discussed in the context of probabilities

and risks which, strictly speaking, make sense only for groups; her unborn is [also] transformed into a crumb of population."

"Life" has gained prominence over "nature" and in the 1990s finds "its principal visual expression in two complementary disks: on the one hand, the Blue Planet, on the other, the transparent pink zygote" — one representing *all* life, the other a life. It is not surprising, therefore, that the cover of Paul Ehrlich and Anne Ehrlich's apocalyptic book *The Population Explosion* combines both images to portray the "population crisis". The unborn is transmogrified into an endangered ecosystem — "a mere instance, a newhook, or an emblem to make a more general statement about endangered life."

Duden, B., *Disembodying Women: Perspectives on Pregnancy and the Unborn*, Harvard University Press, 1993.

the world? Should the size or the growth rate of the human population be curtailed? How much climate change is acceptable?" The journal puts it all in a nutshell: "Two central questions must be addressed: What kind of planet do we want? What kind of planet can we get?"

And it seems to be this perspective that the 1987 World Commission on Environment and Development — the Brundtland Report — puts forward in its global environment policy for the 1990s. In its first sentences, the Report celebrates the image of the Blue Planet twinkling as it floats amid the darkness of space, small and vulnerable. Then the Report goes on to state that "humanity's inability to fit its doings into [the] pattern [of the ecosystem] is changing planetary systems fundamentally". It concludes the paragraph with this imperative: "This new reality, from which there is no escape, must be recognized — and managed".<sup>18</sup>

This article is an edited version of "Der blaue Planet: Zur Zweideutigkeit einer modernen Ikone", translated by Tim Nevill. It first appeared in *Scheidewege*, 1993/94.

### Notes and References

1. Sloderdijk, P., *Versprechen auf Deutsch*, Suhrkamp, Frankfurt/M., 1990, p.57.
2. Sontag, S., *On Photography*, Farrar, Straus and Giroux, New York, 1989.
3. Garb, Y. J., "Perspective or Escape? Ecofeminist Musings on Contemporary

- Earth Imagery", in Diamond, I. and Orenstein, G. F. (eds.) *Reweaving the World: The Emergence of Ecofeminism*, Sierra Club Books, San Francisco, 1990, p.266.
4. Grinevald, J., "Sketch for a History of the Idea of the Biosphere" in Bunyard, P. and Goldsmith, E. (eds.), *Gaia, the Thesis, the Mechanisms and the Implications*, Wadebridge Ecological Centre, Camelford, 1988, pp.1-32.
5. See, for example, Tansley, A., "Classification of vegetation, or the concept of development", *Journal of Ecology*, 2, 2, 1920, pp.18,18b.
6. Sachs, W., "Nature as System: Preliminary Views on a Criticism of Ecology", *Scheidewege*, Vol. 21, 1991/92, pp.83-97.
7. Lovelock, J., *Gaia. A New Look on Life on Earth*, Oxford University Press, Oxford, 1979; Lovelock, J., *The Ages of Gaia*, W W Norton & Co., New York, 1988. See also Margulis, L. and Sagan, J., *Microcosmos*, Simon and Schuster, New York, 1986.
8. Lovelock, J., *Gaia. A New Look on Life on Earth*, op. cit. 7.
9. *Ibid.*, p.8.
10. For an overview, see Malone, T. F., "Mission to Planet Earth. Integrating Studies of Global Change", *Environment*, Vol. 28, 1986, No. 8, pp. 6-11, 39-41.
11. Botkin, D. B., "The Need for a Science of the Biosphere", *Interdisciplinary Science Reviews*, Vol. 10, 1985, p.267.
12. Lovelock, J., *The Ages of Gaia*, op. cit. 7, p.205.
13. Seed, J. et al., *Thinking Like a Mountain*, New Society Publishers, Philadelphia, 1988, p. 2.
14. The title theme of *Bild der Wissenschaft*, September 1990.
15. *The Economist*, 15 June 1991, p.23.
16. Gwynne, M. and Mooneyhan, W. D., "The Global Monitoring System and the Need for a Global Resource Database" in Botkin, D. et al. (eds.), *Changing the Global Environment*, Academic Press, San Diego, 1989, pp.243-256.
17. For a more detailed analysis, see Beney, G., "Gaia: The Globalitarian Temptation" in Sachs, W. (ed.), *Global Ecology: A New Arena of Political Conflicts*, Zed Books, London, 1993.
18. World Commission on Environment and Development, *Our Common Future*, Oxford University Press, Oxford, 1987, p.1.

# The Anti-Politics Machine

## "Development" and Bureaucratic Power in Lesotho

by

James Ferguson

with Larry Lohmann

*"Development" projects in Lesotho have consistently failed to achieve their stated objects, not least because they are based on a "construction" of the country that bears little relation to prevailing realities. They do, however, succeed in expanding the field of bureaucratic state power in people's everyday lives. Recognition that this often unintended consequence of "development" is its main achievement argues for a new politics of opposition.*

In the past two decades, Lesotho — a small landlocked nation of about 1.8 million people surrounded by South Africa, with a current Gross National Product (GNP) of US\$816 million — has received "development" assistance from 26 different countries, ranging from Australia, Cyprus and Ireland to Switzerland and Taiwan. Seventy-two international agencies and non- and quasi-governmental organizations, including CARE, Ford Foundation, the African Development Bank, the European Economic Community, the Overseas Development Institute, the International Labour Organization and the United Nations Development Programme, have also been actively involved in promoting a range of "development" programmes. In 1979, the country received some \$64 million in "official" development "assistance" — about \$49 for every man, woman and child in the country. Expatriate consultants and "experts" swarm in the capital city of Maseru, churning out plans, programmes and, most of all, paper, at an astonishing rate.

As in most other countries, the history of "development" projects in Lesotho is one of "almost unremitting failure to achieve their objectives".<sup>1</sup> Nor does the country appear to be of especially great economic or strategic importance. What, then, is this massive and persistent internationalist intervention all about?

### Constructing a "Developer's" Lesotho

To "move the money" they have been charged with spending, "development" agencies prefer to opt for standardized "development" packages. It thus suits the agencies to portray developing countries in terms that make them suitable targets for such packages. It is not surprising, therefore, that the "country profiles" on which the agencies base their interventions frequently bear little or no relation to economic and social realities.

In 1975, for example, the World Bank issued a report on Lesotho that was subsequently used to justify a series of major Bank loans to the country. One passage in the report — describing conditions in Lesotho at the time of its independence from

Britain in 1966 — encapsulates an image of Lesotho that fits well with the institutional needs of "development" agencies:

"Virtually untouched by modern economic development . . . Lesotho was, and still is, basically, a traditional subsistence peasant society. But rapid population growth resulting in extreme pressure on the land, deteriorating soil and declining agricultural yields led to a situation in which the country was no longer able to produce enough food for its people. Many able-bodied men were forced from the land in search of means to support their families, but the only employment opportunities [were] in neighbouring South Africa. At present, an estimated 60 per cent of the male labour force is away as migrant workers in South Africa . . . At independence, there was no economic infrastructure to speak of. Industries were virtually non-existent."<sup>2</sup>

### The Invention of "Isolation"

To a scholar of Lesotho, these assertions appear not only incorrect but outlandish. For one thing, the country has not been a "subsistence" society since at least the mid-1800s, having entered the twentieth century as a producer of "wheat, mealies, Kaffir corn [sic], wool, mohair, horses and cattle" for the South African market.<sup>3</sup> Nor were the local Basotho people isolated from the market. When they have had surpluses of crops or livestock, the people have always known how to go about selling them in local or regional markets. According to *The Oxford History of South Africa*:

"In 1837 the Sotho of Basutoland . . . had grain stored for four to eight years: in 1844 white farmers "flocked" to them to buy grain. During 1872 (after the loss of their most fertile land west of the Caledon) the Sotho exported 100,000 *muids* [185-lb bags] of grain . . . and in 1877 when the demand for grain on the diamond fields had fallen, 'large quantities' were held by producers and shopkeepers in Basutoland".<sup>4</sup>

Livestock auctions, meanwhile, have been held throughout the country since at least the 1950s, and animals from central Lesotho have been sold by the Basotho as far afield as South Africa for as long as anyone can remember. Far from being "untouched" by

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modern "development" at the time of independence, colonial rule had established a modern administration, airports, roads, schools, hospitals and markets for Western commodities.

The decline in agricultural surpluses, moreover, is neither recent nor, as the Bank suggests, due to "isolation" from the cash economy. More significant is the loss by the Basotho of most of their best agricultural land to encroaching Dutch settlers during a series of wars between 1840 and 1869. Nor is migration a recent response of a pristine and static "traditional" economy to "population pressure". As H. Ashton, the most eminent Western ethnographer of the Basuto, noted in 1952, "labour migration is . . . nearly as old as the Basuto's contact with Europeans"<sup>5</sup> — indeed, throughout the colonial period to the present, Lesotho has served as a labour reservoir exporting wage workers to South African mines, farms and industry.

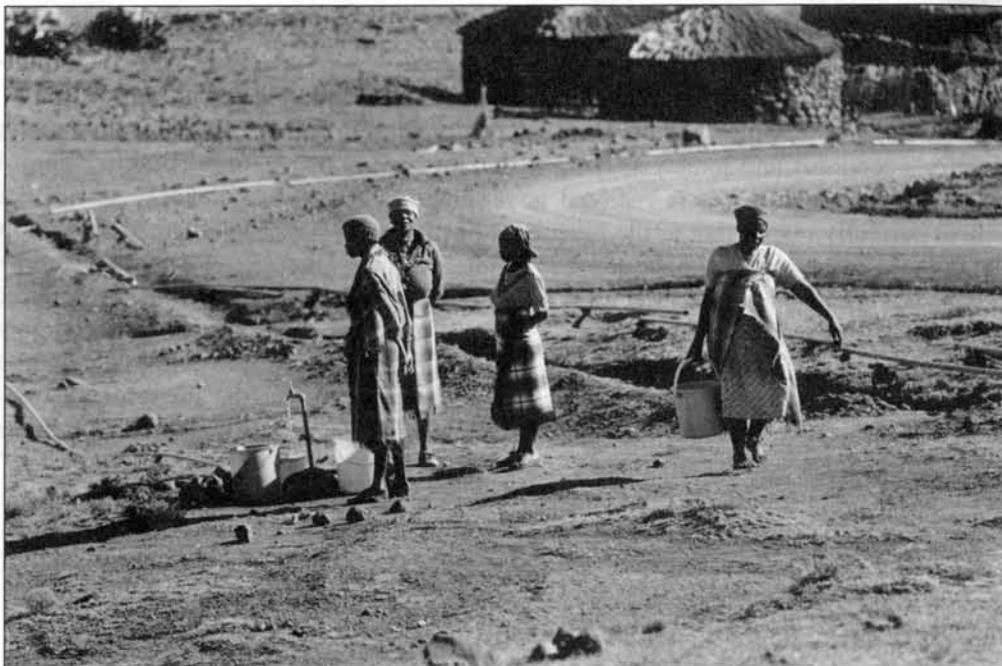
Large-scale labour migration, moreover, preceded the decline in agriculture by many years and may even have contributed to it. Even in years of very good crop production, from the 1870s on intermittently into the 1920s, workers left the country by the thousand for work. In the early stages, it seems, migration was not related to a need to make up for poor food production but to buy guns, clothing, cattle and other goods, and, from 1869, to pay taxes.

## Lesotho Reality

In fact, far from being the "traditional subsistence peasant society" described by the Bank, Lesotho comprises today what one writer describes as "a rural proletariat which scratches about on the land."<sup>6</sup>

Whilst the World Bank claims that "agriculture provides a livelihood for 85 per cent of the people",<sup>7</sup> the reality is that something in the order of 70 per cent of average rural household income is derived from wage labour in South Africa, while only six per cent comes from domestic crop production.<sup>8</sup> Similar myth-making pervades a joint FAO/World Bank report from 1975, which solemnly states that "about 70 per cent of [Lesotho's] GNP comes from the sale of pastoral products, mainly wool and mohair". A more conventional figure would be two or three per cent.<sup>9</sup>

Also false is the "development" literature's picture of Lesotho as a self-contained geographical entity whose relation with South Africa (its "rich neighbour") is one of accidental geographic juxtaposition rather than structural economic integration or political subordination, and whose poverty can be explained largely by the dearth of natural resources within its boundaries, together with the incompleteness with which they have been "developed". If the country is resource-poor, this is because most of the good Sotho land was taken by South Africa. Saying, as USAID does in a 1978 report, that "poverty in Lesotho is primarily resource-related" is like saying that the



Bruce Paton/Panos Picture

*Lesotho is a mountainous country. Only some 10 per cent of the land is arable, the rest suitable only for grazing livestock. About 95 per cent of the population live in rural areas, but more than 60 per cent of the male labour force and 10 per cent of the female labour force work in South Africa. This belies the description of Lesotho as a "traditional subsistence peasant society".*

South Bronx of New York City is poor because of its lack of natural resources and the fact that it contains more people than its land base can support.

## Rearranging Reality

A representation which acknowledged the extent of Lesotho's long-standing involvement in the "modern" capitalist economy of Southern Africa, however, would not provide a convincing justification for the "development" agencies to "introduce" roads, markets and credit. It would provide no grounds for believing that such "innovations" could bring about the "transformation" to a "developed", "modern" economy which would enable Lesotho's agricultural production to catch up with its burgeoning population and cut labour migration. Indeed, such a representation would tend to suggest that such measures for "opening up" the country and exposing it to the "cash economy" would have little impact, since Lesotho has not been isolated from the world economy for a very long time.

Acknowledging that Lesotho is a labour reserve for South African mining and industry rather than portraying it as an autonomous "national economy", moreover, would be to stress the importance of something which is inaccessible to a "development" planner in Lesotho. The World Bank mission to Lesotho is in no position to formulate programmes for changing or controlling the South African mining industry, and it has no disposition to involve itself in political challenges to the South African system of labour control. It is in an excellent position, however, to devise agricultural improvement projects, extension, credit and technical inputs, for the agriculture of Lesotho lies neatly within its jurisdiction, waiting to be "developed". For this reason, agricultural concerns tend to move centre stage and Lesotho is portrayed as a nation of "farmers", not wage labourers. At the same time, issues such as structural unemployment, influx control, low wages, political subjugation by South Africa, parasitic bureaucratic elites, and so on, simply disappear.

## Taking Politics out of "Development"

One striking feature of the "development" discourse on Lesotho is the way in which the "development" agencies present the country's economy and society as lying within the control of a neutral, unitary and effective national government, and thus almost perfectly responsive to the blueprints of planners. The state is seen as an impartial instrument for implementing plans and the government as a machine for providing social services and engineering growth.

"Development" is, moreover, seen as something that only comes about through government action; and lack of "development", by definition, is the result of government neglect. Thus, in the World Bank's view, whether Lesotho's GNP goes up or down is a simple function of the current five-year "development" plan being well-implemented or badly-implemented: it has nothing to do with whether or not the mineworkers who work in South Africa get a raise in any particular year. Agricultural production, similarly, is held to be low because of the "absence of agricultural development schemes" and, thus, local ignorance that "worthwhile things could be achieved on their land". In this way, an extraordinarily important place is reserved for policy and "development" planning.<sup>10</sup>

Excluded from the Bank's analysis are the political character of the state and its class basis, the uses of official positions and state power by the bureaucratic elite and other individuals, cliques and factions, and the advantages to them of bureaucratic "inefficiency" and corruption. The state represents "the people", and mention of the undemocratic nature of the ruling government or of political opposition is studiously avoided. The state is taken to have no interests except "development": where "bureaucracy" is seen as a problem, it is not a political matter, but the unfortunate result of poor organization or lack of training.

Political parties almost never appear in the discourse of the Bank and other "development" institutions, and the explicitly political role played by "development" institutions such as Village Development Committees (VDCs), which often serve as channels for the ruling Basotho National Party (BNP), is ignored or concealed. "The people" tend to appear as an undifferentiated mass, a collection of "individual farmers" and "decision makers", a concept which reduces political and structural causes of poverty to the level of individual "values", "attitudes" and "motivation". In this perspective, structural change is simply a matter of "educating" people, or even just convincing them to change their minds. When a project is sent out to "develop the farmers" and finds that "the farmers" are not much interested in farming, and, in fact, do not even consider themselves to be "farmers", it is thus easy for it to arrive at the conclusion that "the people" are mistaken, that they really are farmers and that they need only to be convinced that this is so for it to be so.

In fact, neither state bureaucracies nor the "development" projects associated with them are impartial, apolitical machines which exist only to provide social services and promote economic growth. In the case of the Canadian- and World Bank-supported Thaba-Tseka Development Project, an agricultural programme in Lesotho's central mountains, Sesotho-language documents distributed to villagers were found to have slogans of the ruling Basotho National Party (BNP) added at the end, although these did not appear in any of the English language versions. Public village meetings conducted by project staff

were peppered with political speeches, and often included addresses by a high-ranking police officer on the "security threat" posed by the opposition Basutoland Congress Party. Any money remaining after project costs had been repaid went to the BNP's Village Development Committees — leading one villager to note caustically, "It seems that politics is nowadays nicknamed 'development'."

Tellingly, when I interviewed the Canadian Coordinator of the Thaba-Tseka Project in 1983, he expressed what appeared to be a genuine ignorance of the political role played by VDCs. The project hired labour through the committees, he stated, because the government had told them to. "We can't afford to get involved with politics," he said. "If they say 'hire through the Committees,' I do it."

It seems likely that such apparent political naivete is not a ruse, but simply a low-level manifestation of the refusal to face local politics which, for institutional reasons, characterizes the entire "development" apparatus.

## Inevitable Failure

Because the picture of Lesotho constructed by the Bank and other "development" agencies bears so little resemblance to reality, it is hardly surprising that most "development" projects have "failed" even on their own terms. Thus after years of accusing local people of being "defeatist" or "not serious" about agriculture, and even implying that wage increases at South African mines were "a threat" to the determination of farmers to become "serious", Thaba-Tseka project experts had to concede that local people were right that little beside maize for local consumption was going to come out of their tiny mountain fields, and that greater investment in agriculture was not going to pay handsome rewards.<sup>11</sup>

Casting themselves in the role of politically-neutral artisans using "development" projects as tools to grab hold of and transform a portion of the country according to a pre-determined plan, "development" officials assumed that the projects were givens and all they had to do was "implement" them.

In the case of the Thaba-Tseka project, for example, planners assumed that it would be a relatively simple matter to devolve much of the decision-making to a newly constituted Thaba-Tseka district, in order to increase efficiency, enable the project to be in closer touch with the needs of "the people" and avoid the its becoming entangled in government bureaucracy. But what the planners assumed would be a simple technical reform led — predictably — to a whole range of actors using the reforms for their own ends.

The project's Health Division, for example, was partly appropriated as a political resource for the ruling National Party. Power struggles broke out over the use of project vehicles. Government ministries refused to vote funds to the project and persisted in maintaining their own control over their field staff and making unilateral decisions on actions in the district. An attempt to hire a Mosotho to replace the project's expatriate Canadian director was rejected, since as long as the programme's image remained "Canadian", there could be no danger of bringing about a real "decentralization" of power away from Maseru, Lesotho's capital.

Instead of being a tool used by artisans to resculpt society, in short, the project was itself worked on: it became like a bread crumb thrown into an ant's nest. Plans for decentralization were

thus abandoned in 1982. Yet Thaba-Tseka's planners continued to insist that the project's failure resulted somehow from the government's failure to understand the plan, or from the right organizational chart not having been found. Needing to construe their role as "apolitical", they continued to see government as a machine for delivering services, not as a political fact or a means by which certain classes and interests attempted to control the behaviour and choices of others.

## A Different Kind of Property

Another example of "failure" stemming from the "development" discourse's false construction of Lesotho is that of livestock "development".

"Development" planners have long seen Lesotho's grasslands as one of the few potentially exploitable natural resources the country possesses,<sup>12</sup> and the country's herds of domestic grazing animals as an inertia-ridden "traditional" sector ripe for transformation by the dynamic "modern" cash economy. What is required, according to planners, is to develop "appropriate marketing outlets", control grassland use to optimize commercial productivity through destocking and grazing associations, introduce improved breeds, and convince "farmers to market their non-productive stock".<sup>13</sup>

Far from being the result of "traditional" inertia, however, the Basotho's reluctance to treat livestock commercially is deeply embedded in, and partly maintained by, a modern, capitalist labour reserve economy. In Lesotho's highly-monetized economy, an item such as a transistor radio or a bar of soap may be subject to the same market mechanisms of pricing, supply and demand as it is anywhere else. Cattle, goats and sheep, however, are subject to very different sorts of rules. Although cash can always be converted into livestock through purchase, there is a reluctance to convert grazing animals to cash through sale, except when there is an emergency need for food, clothes, or school fees.

This practice is rooted in, and reinforced by, a social system in which young working men are away in South Africa supporting their families for ten or eleven months of the year. (Mines hire only men, and it is very difficult for women from Lesotho to find work in South Africa.) If a man comes home from the mines with cash in his pocket, his wife may present him with a demand to buy her a new dress, furniture for the house or new blankets for the children. If, on the other hand, he comes home with an ox purchased with his wages, it is more difficult to make such demands.

One reason that men like to own large numbers of livestock is that they boost their prestige and personal networks in the



*Some of Lesotho's "farmers" finish a hard day's work in a South African gold mine.*

Rui Veira/Panos Pictures

community, partly since they can be farmed out to friends and relatives to help with their field work. They thus serve as a "placeholder" for the man in the household and the community, symbolically asserting his structural presence and prestigious social position, even in the face of his physical absence. After he has returned to the household because of injury, age or being laid off from the South African mines to "scratch about on the land", livestock begin to be sold in response to absolute shortages of minimum basic necessities. Grazing animals thus constitute a sort of special "retirement fund" for men which is effective precisely because, although it lies within the household, it cannot be accessed in the way cash can.

Hence a whole mystique has grown up glorifying cattle ownership—a mystique which, although largely contested by women, is constantly fought for by most men. Such conflict is not a sign of disintegration or crisis; it is part of the process of recreating a "tradition" which is never simply a residue of the past. If the cultural rules

governing livestock in Lesotho persist, it is because they are made to persist; continuity as much as change has to be created and fought for.

Investment in livestock is thus not an alternative to migrant labour but a consequence of it. If livestock sellers surveyed by "development" experts report no source of income other than agriculture, this does not mean that they are "serious stock farmers" as opposed to "migrant labourers"; they may simply be "retired".

However useful and necessary they may be, moreover, livestock in Lesotho is less an "industry" or a "sector" than a type (however special) of consumer good bought with wages earned in South Africa when times are good and sold off only when times are bad. The sale of an animal is not "off-take" of a surplus, but part of a process which culminates in the destruction of the herd. A drop in livestock exports from Lesotho is thus not, as the "development" discourse would have it, a sign of a depressed "industry", but of a rise in incomes. For instance, when wages were increased in South African mines in the 1970s, Basotho miners seized the opportunity to invest in cattle in unprecedented numbers, leading to a surge in import figures from 4,067 in 1973 to 57,787 in 1978. Over the same period, meanwhile, cattle export figures dropped from 12,894 to 574. A boom in exports, on the other hand, would be the mark of a disaster.

Not surprisingly, attempts to "modernize" Lesotho's "livestock sector" have met with resistance. Within one year of the Thaba-Tseka project attempting to fence off 15 square kilometres of rangeland for the exclusive use of "progressive", "commercially-minded" farmers, for example, the fence had been cut

or knocked down in many places, the gates stolen, and the area was being freely grazed by all. The office of the association manager had been burned down, and the Canadian officer in charge of the programme was said to be fearing for his life.

This resistance was rooted in more than a general suspicion of the government and the "development" project. To join the official "grazing association" permitted to use the fenced-in land, stock owners were required to sell off many poor animals to buy improved ones, ending up with perhaps half as many. Such sales and restrictions in herd size were not appealing for most Basotho men. Joining the association not only meant accepting selection, culling and marketing of herds. It also meant acquiescing in the enclosure of both common grazing land and (insofar as any Mosotho's livestock are also a social, shared domain of wealth) animals. It thus signified a betrayal of fellow stock-owners who remained outside the organization, an act considered anti-social. Prospective association members also probably feared that their animals — which represent wealth in a visible, exposed, and highly vulnerable form — might be stolen or vandalized in retaliation.

### The Side Effects of "Failure"

Despite such disasters, it may be that what is most important about a "development" project is not so much what it fails to do but what it achieves through its "side effects". Rather than repeatedly asking the politically naive question "Can aid programmes ever be made really to help poor people?", perhaps we should investigate the more searching question, "What do aid programmes do *besides* fail to help poor people?"

Leftist political economists have often argued that the "real" purpose of "development" projects is to aid capitalist penetration into Third World countries. In Lesotho, however, such projects do not characteristically succeed in introducing new relations of production (capitalist or otherwise), nor do they bring about modernization or significant economic transformations. Nor are they set up in such a way that they ever could. For this reason, it seems a mistake to interpret them *simply* as "part of the historical expansion of capitalism" or as elements in a global strategy for controlling or capitalizing peasant production.

Capitalist interests, moreover, can only operate through a set of social and cultural structures so complex that the outcome may be only a baroque and unrecognizable transformation of the original intention. Although it is relevant to know, for instance, that the World Bank has an interest in boosting production and export of cash crops for the external market, and that industrialized states without historic links to an area may sponsor "development" projects as a way of breaking into otherwise inaccessible markets, it remains impossible simply to read off actual events from these known interests as if the one were a simple effect of the other. Merely knowing that the Canadian government has an interest in promoting rural "development" because it helps Canadian corporations to find export markets for farm machinery, for example, leaves many of the empirical details of the Canadian role in Thaba-Tseka absolutely mysterious.

Another look at the Thaba-Tseka project, however, reveals that, although the project "failed" both at poverty alleviation and at extending the influence of international capital, it did have a powerful and far-reaching impact on its region. While the project did not transform livestock-keeping, it did build a road to link Thaba-Tseka more strongly with the capital. While it did not bring about "decentralization" or "popular participation", it was instrumental in establishing a new district administration and giving the government a much stronger presence in the area than it had ever had before.

As a direct result of the construction of the project centre and the decision to make that centre the capital of a new district, there appeared a new post office, a police station, a prison and an immigration control office; there were health officials and

nutrition officers and a new "food for work" administration run by the Ministry of Rural Development and the Ministry of Interior, which functioned politically to regulate the power of chiefs. The new district centre also provided a good base for the "Para-Military Unit", Lesotho's army, and near the project's end in 1983, substantial numbers of armed troops began to be garrisoned at Thaba-Tseka.

In this perspective, the "development" apparatus in Lesotho is

not a machine for eliminating poverty that is incidentally involved with the state bureaucracy. Rather, it is a machine for reinforcing and expanding the exercise of bureaucratic state power, which incidentally takes "poverty" as its point of entry and justification — launching an intervention that may have no effect on the poverty but does have other concrete effects.

This does not mean that "the state", conceived as a unitary entity, "has" more power to extract surplus, implement programmes, or order around "the masses" more efficiently — indeed, the reverse may be true. It is, rather, that more power relations are referred through state channels and bureaucratic circuits — most immediately, that more people must stand in line and await rubber stamps to get what they want. "It is the same story over again," said one "development" worker. "When the Americans and the Danes and the Canadians leave, the villagers will continue their marginal farming practices and wait for the mine wages, knowing only that now the taxman lives down the valley rather than in Maseru."<sup>14</sup>

At the same time, a "development" project can effectively squash political challenges to the system not only through enhancing administrative power, but also by casting political questions of land, resources, jobs or wages as technical "problems" responsive to the technical "development" intervention. If the effects of a "development" project end up forming any kind of strategically coherent or intelligible whole, it is as a kind of "anti-politics" machine, which, on the model of the "anti-gravity" machine of science fiction stories, seems to suspend "politics" from even the most sensitive political operations at the flick of a switch.

Such a result may be no part of the planners' intentions. It is not necessarily the consequence of any kind of conspiracy to aid capitalist exploitation by incorporating new territories into the world system or working against radical social change, or bribing national elites, or mystifying the real international

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*Any question of the form  
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relationships. The result can be accomplished, as it were, behind the backs of the most sincere participants. It may just happen to be the way things work out. On this view, the planning apparatus is neither mere ornament nor the master key to understanding what happens. Rather than being the blueprint for a machine, it is a *part* of the machine.

## What Is To Be Done? By Whom?

If, then, “development” cannot be the answer to poverty and powerlessness in Lesotho, what is? What is to be done, if it is not “development”?

Any question of the form “What is to be done?” demands first of all an answer to the question “By whom?” The “development” discourse, and a great deal of policy science, tends to answer this question in a utopian way by saying “Given an all-powerful and benevolent policy-making apparatus, what should it do to advance the interests of its poor citizens?”

This question is worse than meaningless. In practice, it acts to disguise what are, in fact, highly partial and interested interventions as universal, disinterested and inherently benevolent. If the question “What is to be done?” has any sense, it is as a real-world tactic, not a utopian ethics.

The question is often put in the form “What should *they* do?”, with the “they” being not very helpfully specified as “Lesotho” or “the Basotho”. When “developers” speak of such a collectivity what they mean is usually the government. But the government of Lesotho is not identical with the people who live in Lesotho, nor is it in any of the established senses “representative” of that collectivity. As in most countries, the government is a relatively small clique with narrow interests. There is little point in asking what such entrenched and often extractive elites should do in order to empower the poor. Their own structural position makes it clear that they would be the last ones to undertake such a project.

Perhaps the “they” in “What should they do?” means “the people”. But again, the people are not an undifferentiated mass. There is not one question — What is to be done? — but hundreds: What should the mineworkers do? What should the abandoned old women do? and so on. It seems presumptuous to offer prescriptions here. Toiling miners and abandoned old women know the tactics proper to their situations far better than any expert does. If there is advice to be given about what “they” should do, it will not be dictating general political strategy or giving a general answer to the question “what is to be done?” (which can only be determined by those doing the resisting) but answering specific, localized, tactical questions.

## What Should We Do?

If the question is, on the other hand, “What should *we* do?”, it has to be specified, which “we”? If “we” means “development” agencies or governments of the West, the implied subject of the question falsely implies a collective project for bringing about the empowerment of the poor. Whatever good or ill may be accomplished by these agencies, nothing about their general mode of operation would justify a belief in such a collective “we” defined by a political programme of empowerment.

For some Westerners, there is, however, a more productive way of posing the question “What should we do?”. That is, “What should we intellectuals working in or concerned about

the Third World do?” To the extent that there are common political values and a real “we” group, this becomes a real question. The answer, however, is more difficult.

Should those with specialized knowledge provide advice to “development” agencies who seem hungry for it and ready to act on it? As I have tried to show, these agencies seek only the kind of advice they can take. One “developer” asked my advice on what his country could do “to help these people”. When I suggested that his government might contemplate sanctions against apartheid, he replied, with predictable irritation, “No, no! I mean development!” The only advice accepted is about how to “do development” better. There is a ready ear for criticisms of “bad development projects”, only so long as these are followed up with calls for “good development projects”. Yet the agencies who plan and implement such projects — agencies like the World Bank, USAID, and the government of Lesotho — are not really the sort of social actors that are very likely to advance the empowerment of the poor.

Such an obvious conclusion makes many uncomfortable. It seems to them to imply hopelessness; as if to suggest that the answer to the question “What is to be done?” is: “Nothing.” Yet this conclusion does not follow. The state is not the only game in town, and the choice is not between “getting one’s hands dirty by participating in or trying to reform development projects” and “living in an ivory tower”. Change comes when, as Michel Foucault says, “critique has been played out in the real, not when reformers have realized their ideas”.<sup>15</sup>

For Westerners, one of the most important forms of engagement is simply the political participation in one’s own society that is appropriate to any citizen. This is, perhaps, particularly true for citizens of a country like the US, where one of the most important jobs for “experts” is combating imperialist policies.

This article is a summary of some of the main arguments of *The Anti-Politics Machine: “Development”, Depoliticization and Bureaucratic Power in Lesotho* by James Ferguson, published by the University of Minnesota Press, 1994.

## Notes and References

1. Murray, C., *Families Divided: The Impact of Migrant Labour in Lesotho*, Cambridge University Press, New York, 1981, p.19
2. World Bank, *Lesotho: A Development Challenge*, World Bank, Washington, DC, 1975, p.1.
3. “Basutoland”, *Encyclopedia Britannica*, 1910
4. Wilson, M. and Thompson, L., (eds.) *The Oxford History of South Africa*, Vol. 1., Oxford University Press, New York, 1969.
5. Ashton, H., *The Basuto: A Social Study of Traditional and Modern Lesotho*, Oxford University Press, New York, 1967 (second edition), p.162.
6. Murray, C., op. cit. 1.
7. FAO/World Bank, *Draft Report of the Lesotho First Phase Mountain Area Development Project Preparation Mission*, Vols. I and II, FAO, Rome, 1975, Annex 1, p.7.
8. van der Wiel, A.C.A., *Migratory Wage Labour: Its Role in the Economy of Lesotho*, Mazenod Book Centre, Mazenod, 1977.
9. FAO/World Bank, op. cit. 7, Annex 1, p.7.
10. World Bank, op. cit. 2, p.9.
11. See “Appraisal of Project Progress During the Pilot Phase and Review of Plans to Expand Agricultural Programs in Phase II of Project Operations”, CIDA, Ottawa, 1978, p.39.
12. See, for example, FAO/World Bank, op. cit. 7, Annex 1, pp.10-12. For a related South African history of government intervention into “traditional” livestock keeping, see Beinart, W. and Bundy, C., “State Intervention and Rural Resistance: The Transkei, 1900-1965”, in Klein, M., (ed.) *Peasants in Africa*, Sage, Beverly Hills, 1981.
13. CIDA, op. cit. 11.
14. Quoted in Murphy, B., “Smothered in Kindness”, *New Internationalist*, No. 82, 1979, p.13.
15. Foucault, M., “Questions of Method: An Interview”, *Ideology and Consciousness*, 8, 1981, p.13.

# Laid Off!

## Computer Technologies and the Re-engineered Workplace

by

Jeremy Rifkin

*Global unemployment has reached its highest level since the Depression of the 1930s. Worldwide, more than 800 million people are now unemployed or "underemployed". That figure is likely to rise sharply between now and the end of the century as the "computer revolution" begins to take hold. Corporations are radically altering their organizational structures and management practices as they begin to use computer technologies. The effects of earlier innovations in automation on the livelihoods of African-American blue-collar workers are an indication of what may lie ahead for other blue — and white collar — workers.*

After years of wishful forecasts and false starts, computer-based information and telecommunications technologies are making their long-anticipated impact in the workplace in the agriculture, manufacturing and service sectors. Work categories and job assignments are being compressed, restructured or simply disappearing as computerized machines begin to perform millions of different tasks. In the United States, corporations are eliminating more than two million jobs each year;<sup>1</sup> "most of the cuts are facilitated, one way or another, by new software programmes, better computer networks and more powerful hardware" which allows companies to do more work with few workers.<sup>2</sup>

Commenting on this new industrial revolution, Jacques Attali, a French government minister and technology consultant to President François Mitterand proclaimed, "Machines are the new proletariat. The working class is being given its walking papers."<sup>3</sup>

But it is not only the working class that is being affected. In the computer revolution, a wide range of middle-class, white collar jobs are also being eliminated through "re-engineering". Existing social tensions are being exacerbated and new ones created as society becomes more polarized.

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### No More Coffee Breaks

The effect of computer technologies has been most pronounced so far in the manufacturing sector — automobile, steel, mining, chemical refining, electronics, household appliances, textiles — where automation has cut many jobs. In the 1950s, 33 per cent of all US workers were employed in manufacturing; today, less than 17 per cent of the workforce is engaged in "blue collar" work, a proportion which is estimated to drop to less than 12 per cent over the next decade.<sup>4</sup> Between 1981 and 1991, more than 1.8 million manufacturing jobs disappeared in the United States.<sup>5</sup> Employment in the steel industry has been dramatically affected in the US by the introduction of computerized mini-mills. The mini-mill can produce a ton of steel with less than one-twelfth the human labour of a traditional steel mill.<sup>6</sup>

In the recent past, the service sector has tended to absorb the millions of industrial workers gradually phased out of manufacturing, but now it too is being affected. Most of the recent cutbacks in the US have been in the service industries such as banking, insurance, accounting, law, communications, airlines, retailing and hotels.

The telephone industry has been a pacesetter in the computer revolution, turning to fibre-optic cable networks, digital switching systems, digital transmission, satellite communications and office automation, technologies which require

less maintenance and are easier to repair. AT&T (American Telephone and Telegraph) now aims to replace more than half its long-distance telephone operators, more than 9,000 people, with computerized, voice-recognition technology over the next several years.<sup>7</sup>

In the postal services, US Postmaster General Anthony Frank announced in 1991 that more than 47,000 postal workers would be replaced by 1995 with automated silicon sorters which can read street addresses on letters and cards and sort them faster than people.<sup>8</sup> Banks, too, are computerizing: between 1983 and 1993, US banks replaced 179,000 human tellers, 37 per cent of their workforce, with automated teller machines:

"A human teller can handle up to 200 transactions a day, works 30 hours a week, gets a salary anywhere from \$8,000 to \$20,000 a year plus fringe benefits, gets coffee breaks, a vacation and sick time . . . In contrast, an automated teller can handle 2,000 transactions a day, works 168 hours a week, costs about \$22,000 a year to run, and doesn't take coffee breaks or vacations."<sup>9</sup>

Debit and point-of-sale banking are also gaining wider use.

### Flattening Management Structures

Until recently, computer and information tools have largely been "grafted" onto

# Re-engineering the Corporation

IBM Credit finances the computer equipment bought by IBM customers. Before re-engineering, requests for financing went through several departments and levels of decision-making before a final decision was made to grant funding, a process often taking up to seven days.

An IBM salesperson would put in a request which one of fourteen people would write down on a piece of paper. The slip of paper was then delivered to the credit department where someone would key the information into a computer and run a check on the customer's creditworthiness. This credit information was then attached to the original request form and delivered to the business practices department. Using its own computer, this department modified the terms of the sales agreement to match the customer's credit

rating, attaching these terms to the original request form. This paper then went to a pricer, who using her own computer, calculated the appropriate interest to charge the customer and wrote this down on the form which was sent along to the clerical department. Here, all the information

gathered together by the various departments was put into a letter and delivered to the sales representative who had requested the finance.

Sales representatives began complaining that their customers were cancelling orders or finding other sources

of finance because of the time it took to process customers' requests. So IBM management eliminated the five separate departments — request taking, credit, business practice, pricing, clerical — and gave the whole task of handling a customer's request for financing to a "case worker". A generalist, equipped with one computer programmed to hold and access all the information required (rather than the several separate computers used before) now processes the entire request in less

than four hours. IBM management maintained that all the tasks involved in the process "fall well within the capability of a single individual when he or she is supported by an easy-to-use computer system that provides access to all the data and tools the specialist would use."



Ulrike Preuss/Format

British Telecom executives — the next to go?

existing organizational structures and processes. Now, however, corporations are beginning to restructure the workplace to enable the full benefits of the technologies to be realized, following the example of many Japanese companies.

Computer-based information and communication technologies enable certain tasks to be carried out more quickly, increasing the volume and accelerating the flow of activity, and requiring quicker responses and faster decision-making from all levels of management. In the information era, "time" has become the critical commodity, and hierarchical management structures are proving unable to keep up with the speed and volume of incoming information. Departments, for example, create divisions which slow down decision-making. Companies have been eliminating these barriers by reassigning workers into teams to work together to process information and coordinate vital decisions, bypassing the delays that accompany the circulation of paper reports and memoranda between various divisions and levels of management. Using the latest software and computers, a member of the team can often directly

access information generated anywhere within the organization. (See Box above)

When companies restructure their organizations to make them more "computer-friendly", they eliminate layers of middle management as they flatten organizational "pyramids" and create "work teams". Such "re-engineering" typically results in a loss of more than 40 per cent of the jobs in a company, and sometimes as much as 75 per cent.

Andersen Consulting, one of the world's largest corporate restructuring firms, estimates that re-engineering in US commercial banking and savings institutions will mean a loss of nearly 700,000 jobs over the next seven years.<sup>10</sup> Eastman Kodak has reduced its management levels from thirteen to four; Intel cut its management hierarchy in some operations from ten to five levels.<sup>11</sup> In Germany, electronic and engineering giant Siemens has flattened its corporate management structure, cut costs by 20 to 30 per cent in three years, and eliminated more than 16,000 employees worldwide. Information can now be processed "at the speed of electrons rather than at the speed of the guy from the mailroom".<sup>12</sup>

## Side-lining Rebellious Workers

When the programmable computer emerged in the 1950s, industry was already restructuring its operations radically so as to automate as much of the production process as possible. The "threat and promise" of labourless machines and workerless factories seemed closer than ever. Human labour was disparaged as, at best, "makeshift" while new control technologies under development were:

"not subject to any human limitations. They do not mind working around the clock, they never feel hunger or fatigue. They are always satisfied with working conditions and never demand higher wages based on the company's ability to pay. They not only cause less trouble than humans doing comparable work, but they can be built to ring an alarm bell in the central control room whenever they are not working properly."<sup>13</sup>

Among management, the idea of the automatic factory fell on receptive ears, not least because workers, angry over wage freezes imposed during the Second World

## The Manufacture of Desire

Conventional economic wisdom has long held that new technologies boost productivity, lower the costs of production and increase the supply of cheap goods, all of which in turn stimulate purchasing power, expand markets and generate more jobs in new sectors. This theory of "trickle-down technology" is illustrated by business activities in the 1920s when a fundamental restructuring of work and a spate of new labour-saving technologies were altering the economic landscape. As productivity soared, a growing number of workers were made redundant, sales dropped dramatically and newspapers ran stories about "buyers' strikes" and "limited markets." Faced with overproduction and insufficient buyers, the business community attempted to convince those still working to buy more and save less. It began a crusade to turn workers into "mass" consumers through what an industrial relations consultant of the time called "the new economic gospel of consumption".

Converting Americans from a psychology of thrift to one of spendthrift proved a daunting task. Most working people were content to earn just enough income to provide for their basic needs and a few luxuries, after which they preferred more leisure time to extra income gained from additional work hours. To make people "want" things they had never previously desired, business had to create "the dissatisfied consumer". Charles Kettering of General Motors maintained that "the key to economic prosperity is the organized creation of dissatisfaction". GM began to make design changes each year to its automobiles which it announced in vigorous advertising campaigns intended to make consumers discontent with the car they already owned. Economist John Kenneth Galbraith succinctly observed that the new mission of business was to "create the wants it seeks to satisfy".

Advertisers also denigrated "homemade" products, promoted "store-bought" and "factory-made" items,

targeting young people in particular, and reoriented products to increase sales. Coca-Cola, for example, originally marketed as a headache remedy, was repositioned as a popular beverage. Asa Candler, who bought the Coca-Cola patent from an Atlanta pharmacist, reasoned that:

"The chronic sufferer from headaches may have but one a week. Many persons have only one a year. There was one dreadful malady, though, that everybody . . . suffered from daily . . . which during six or eight months of the year would be treated and relieved, only to develop again within less than an hour. That malady was thirst."

By 1929, the mass psychology of consumerism had taken hold in the US. Traditional American virtues of Yankee frugality and frontier self-sacrifice were fading. That year, President Herbert Hoover's Committee on Recent Economic Changes published a revealing survey which concluded that:

"economically we have a boundless field before us . . . there are new wants which will make way endlessly for newer wants as fast as they are satisfied . . . By advertising and other promotional devices . . . a measurable pull on production has been created."

Within a year, however, the economy had "crashed." The business community's very success contributed to the economic crisis. By displacing workers with labour-saving technologies, companies not only increased productivity but also created large numbers of unemployed and underemployed workers who had no money to buy their goods.

With the gospel of consumption stalled, the government had to bail out the country's ailing economy. It attempted to provide jobs and income through a massive public investment in infrastructure and to increase purchasing power through taxation policies. Ultimately, however, the Second World War saved the US economy, creating what was, until recently, a permanent military-industrial complex.

War and anxious to make up in collective bargaining for ground lost during the war because of a no-strike agreement, had begun to make increasing demands on a wide front. Issues of hiring and firing, promotions, discipline actions, health benefits and safety concerns were brought into the collective bargaining process in every industry. *Business Week* warned that "the time has come to take a stand . . . against the further encroachment into the province of management".<sup>14</sup> US industry, determined to maintain control over the means of production, turned to the new technology of automation as much to rid itself of rebellious workers as to enhance its productivity and profits.

A type of computer-aided automation called numerical control was first introduced on the factory floor in the early 1960s. With numerical control, instructions on how a piece of metal, for instance, should be rolled, lathed, welded,

bolted or painted are stored in a computer programme which instructs the machine tool on how to produce a certain part and instructs robots how to assemble parts into a product. Numerical control was described as "probably the most significant new development in manufacturing technology since Henry Ford introduced the concept of the moving assembly line."<sup>15</sup>

For managers, numerical control enabled tighter control to be exercised over every aspect of production, including the pace of the manufacturing process itself. It greatly enhanced efficiency and productivity — and diminished the need for human labour on the factory floor. Much of the workers' skills, knowledge and expertise could be coded in the programme, allowing the manufacturing process to be controlled from a distance. With numerical control, many of the decisions which workers had made on the

factory floor passed to programmers and management.

Shortly after the first demonstrations of numerical control took place at the Massachusetts Institute of Technology, Alan Smith of Arthur D Little Inc, the corporate consultancy firm, summed up the hopes of many of his colleagues by proclaiming that the new generation of computer-driven numerical control tools marks our "emancipation from human workers."<sup>16</sup>

"Emancipation" may now seem closer still. The new information technologies are designed to remove whatever control workers still exercise over the production process by programming detailed instructions directly into the machine which is designed to carry them out "verbatim". The worker is rendered powerless to exercise any independent judgement either on the factory floor or in the office, and has little or no control over outcomes

dictated in advance by the computer programmers.

New practices introduced into the Toyota-GM joint venture in California have been described as "management by stress".<sup>17</sup> If workers fall behind or need help with their part of the assembly of Toyota Corollas and Chevrolet Novas, they pull a cord which switches on a light in an overhead visual display. If the light remains on for more than one minute, the production line stops. Whereas in a traditional plant, the desired goal would be to keep the light off, indicating that production was running smoothly, in the new system, *unlit* warning lights are an indication of inefficiency. In "management by stress" the idea is to speed up production continually, stressing the system to find out where weaknesses are so that new designs and procedures can be implemented to increase pace and performance. When workers identify weak points, the actions taken by management only stress the production system further. The ever-increasing pace of production often results in increased injuries.<sup>18</sup> Worker stress in Japan under these conditions has reached near-epidemic proportions.<sup>19</sup>

## New Realities

Whereas new industries and markets and government spending have helped ease the recurring problem of technological displacement over the past 60 years (*see* Box, p.184), in the information age neither the marketplace nor the public sector are likely to come to the rescue.

### • Fewer Jobs

The new products and services of the high-technology revolution will generate jobs — but far fewer jobs than those they have made obsolete. The "information superhighway", for instance, a form of two-way communication that can bring information and services directly to the consumer, bypassing traditional channels of distribution and retailing, will employ an increasing number of computer scientists, engineers, producers, writers and entertainers to programme, monitor and run the networks. But their numbers will pale in comparison to the millions of employees in the distribution and retail sectors whose jobs will be made redundant and irrelevant.

The high-tech global economy needs entrepreneurs, scientists, technicians, computer programmers, educators and

*Management consultant Peter Drucker maintains that the disappearance of labour as a key factor in production is "the critical unfinished business" of capitalist society.*



Jacky Chapman/Format

consultants, all jobs which require high levels of education and knowledge. It is naive to believe that large numbers of unskilled and skilled blue and white collar workers can be retrained as physicists, computer scientists, high-level technicians, molecular biologists, business consultants, lawyers or accountants.

### • No More Markets

Some sectors of the US business community believe that the losses in the domestic market will be countered by an increase in foreign demand and the opening-up of markets abroad due to the lowering of trade barriers and a push into "untapped" regions. Corporate efforts to create new markets, however, are having only limited success because, among other reasons, the same technological and economic forces at work in the US are affecting much of the global economy. In Europe, Japan and in a growing number of developing nations, automation and re-engineering are replacing human labour at an ever-accelerating rate, thereby reducing effective consumer demand. In Sweden, the Stockholm-based food cooperative, ICA, installed a computer inventory system which enabled it to shut

down one third of its warehouses and distribution centres and cut its wholesale workforce by 30 per cent, more than 5,000 employees.<sup>20</sup> In Germany, manufacturers have been shedding workers faster than in the US: between 1992 and 1993, more than half a million jobs were eliminated because of computerization and re-engineering.<sup>21</sup>

### • No More Credit

With demand seriously weakened by rising unemployment and underemployment in most of the industrial world, the business community has tried to stimulate purchasing power by offering easy consumer credit. Buying in instalments, loans and credit card purchases have become a way of life in many industrial countries. In the United States, private consumer debt increased 210 per cent in the 1960s and 268 per cent during the 1970s; today it is more than \$4 trillion.<sup>22</sup> Middle-class families are paying nearly one quarter of their income to creditors,<sup>23</sup> a figure which elicited the comment that "what seems to be one of the best times financially for our country as a whole stands in contrast to what is arguably one of the riskiest times that large parts of the household sector have faced in many years".<sup>24</sup>



*Decades after Charlie Chaplin tried to keep up in Hard Times, the work of more than 75 per cent of the labour force in most industrial countries still consists of simple repetitive tasks. Automated machinery, robots and increasingly sophisticated computers can perform many if not most of these jobs . . .*

### • Less State Provision

Since the Depression of the 1930s, governments have used public investment to dampen the effect of technological unemployment. The National Defense Highway Act of 1956, the most costly public works project in US history, opened up new employment opportunities in every region of the country. The Great Society programmes in the 1960s likewise provided numerous jobs for many of the technologically unemployed. The Cold War and the Vietnam War led to an accelerated flow of government subsidies to the defence industries, ensuring employment for many who had been displaced by new technologies. By the mid-1970s, more than 19 per cent of all US workers had jobs in the public sector, making the government the largest employer in the country.<sup>25</sup>

Concerned over deficit spending and mushrooming debt, however, the government is now cutting back on public expenditure. Many of these cuts are taking place in the military-industrial complex and in public sector employment. The Clinton administration has announced its intention to "re-engineer" the government, using many of the same management practices and new information technologies that have been introduced in the private sector.

### Throw-Away Workers

For an increasing majority of people, long-term job security is a thing of the past. Many corporations are creating a two-tier system of employment: a core staff of

permanent, full-time employees and a peripheral pool of part-time and contingent workers who earn an average 20 to 40 per cent less than full-time workers doing comparable work while receiving little or no benefits such as health insurance.<sup>26</sup> In April 1994, for instance, two-thirds of new jobs created in the US were at the lowest wage level.

In February 1993, BankAmerica Corporation, which had posted record profits for the previous two years,<sup>27</sup> turned 1,200 full-time jobs into part-time ones, estimating that less than 19 per cent of its employees would be full-time in the near future. At sports shoe manufacturer Nike's distribution facility in Memphis, 120 permanent employees, earning more than \$13 an hour, work alongside 60 to 250 temporary workers receiving half that amount for doing the same work.<sup>28</sup> In a process of "just-in-time employment", a contingent workforce can be used and discarded at a moment's notice and at a fraction of the cost of a permanent workforce. As one temporary worker at an automotive plant said "They think of us as throw-away people."<sup>29</sup>

The very existence of part-time and temporary workers is used to drive down wages for the remaining full-time workers. A 1994 Census Bureau report showed that the percentage of full-time workers earning less than the poverty level income for a family of four — about \$13,000 a year — rose by half between 1979 and 1992. One in ten US Americans received food stamps in 1992, the largest percentage since the food programme began in 1962. Many of the new recipients are the newly unemployed and working people

whose wages are inadequate to enable them and their families to survive. The number of homeless and people living in inadequate housing has also risen. More than 600,000 people, including over 90,000 children, are homeless in any given month in the United States.<sup>30</sup>

The high-technology revolution is likely to exacerbate these divisions and tensions between rich and poor. In this respect, the experience of black Americans with automation suggests the likely impact that re-engineering and new automation technologies will have on people around the world.

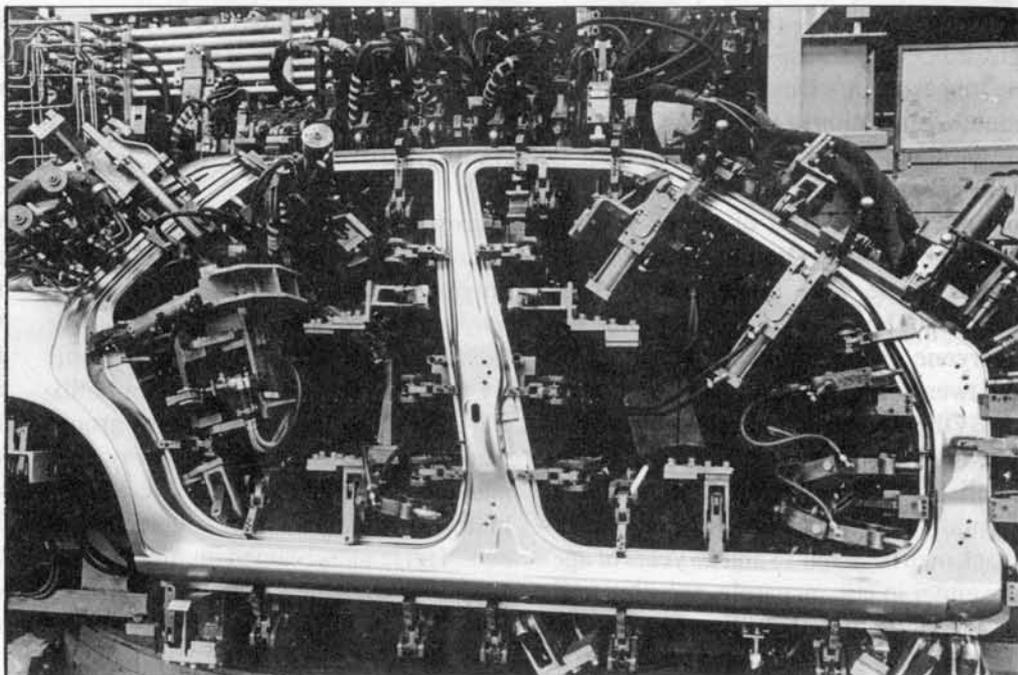
### Black America

At the beginning of the twentieth century, more than 90 per cent of the US black population lived in the South of the country. The vast majority of them were tied to sharecropping, a form of agriculture that had changed little since the first slaves were brought to America.

During and after the First World War, manufacturers in the Northern US cities desperately needed unskilled labour; with foreign immigration suspended during the war years, they began recruiting among blacks in the rural South. Although for many African-Americans, prospects of a living wage were sufficient to leave families and friends, most preferred not to risk the uncertainties of life in the North.

Then came mechanization. On 2 October 1944, an estimated 3,000 people crowded onto a cotton field just outside Clarksdale in the rural Mississippi Delta to watch the first successful demonstration of a mechanical cotton picker:

... particularly on the automobile assembly line. Industrial engineers are now developing machines with capabilities such as voice communication, learning from experience, three-dimensional vision with colour sensitivity, multiple hand-to-hand coordination, walking and self-navigating skills, and self-diagnostic and correction skills.



Jenny Matthews/Format

"The pickers, painted bright red, drove down the white rows of cotton. Each one had mounted in front a row of spindles, looking like a wide mouth, full of metal teeth, that had been turned vertically. The spindles, about the size of human fingers, rotated in a way that stripped the cotton from the plants, then a vacuum pulled it up a tube and into the big wire basket that was mounted on top of the picker".<sup>31</sup>

Each machine could do the work of fifty people: whereas a labourer could pick 20 pounds of cotton in an hour, the mechanical pickers could pick 1,000 pounds in the same time.<sup>32</sup>

White plantation owners in the Delta and elsewhere in the South saw mechanization as a way of defusing growing challenges from black people to racial segregation which the planters feared would undermine the whole plantation economy. A prominent Mississippi planter wrote to the local Cotton Association:

"I am confident that you are aware of the serious racial problem which confronts us at this time and which may become more serious as time passes. I strongly advocate the farmers of Mississippi Delta changing as rapidly as possible from the old tenant or sharecropper system of farming, to complete mechanized farming. Mechanized farming will require only a fraction of the amount of labour which is required by the sharecropper system".<sup>33</sup>

In 1949, only 6 per cent of the cotton in the South was harvested mechanically; in 1964, the figure was 78 per cent; and by

1972, all cotton was picked by machines.<sup>34</sup>

The push of mechanization combined with the pull of higher wages in the Northern industrial cities created "one of the largest and most rapid mass internal movements of people in history". Between 1940 and 1970, more than five million black men, women and children, migrated North<sup>35</sup> to become an urban industrial proletariat.<sup>36</sup> They found unskilled jobs in the automobile, steel, rubber, chemical and meat-packing industries; Northern industrialists often used black people as strike breakers or instead of immigrant workers.

In the mid-1950s, however, two processes precipitated a massive decline in black employment: automation and factory relocation to the suburbs. Between 1953 and 1962, 1.6 million unskilled jobs were lost to automation in the sectors where black workers predominated. Cheap land and tax savings encouraged companies to move to the newly-emerging suburban industrial parks. White middle- and working-class families followed, leaving the centres of cities increasingly black and poor.<sup>37</sup>

Thus whereas the unemployment rate for black Americans never exceeded 8.5 per cent between 1947 and 1953 and the white rate of unemployment had never gone beyond 4.6 per cent, by 1964 blacks were experiencing an unemployment rate of 12.4 per cent while white unemployment was only 5.9 per cent. Civil rights activist Tom Kahn quipped, "It is as if racism, having put the Negro in his economic place, stepped aside to watch technology destroy that place."<sup>38</sup>

Sidney Willhelm summed up the

experience of black Americans up to 1970 as follows:

"With the onset of automation the Negro moves out of his historical state of oppression into one of uselessness. Increasingly, he is not so much economically exploited as he is irrelevant . . . As automation proceeds, it will be easier for the [dominant whites] to disregard the [black minority]. In short, White America, by a more perfect application of mechanization and a vigorous reliance upon automation, disposes of the Negro."<sup>39</sup>

He concluded:

"An underestimation of the technological revolution can only lead to an underestimation of the concomitant racial revolution from exploitation to uselessness; to misjudge the present as but a continuation of industrialization rather than the dawn of a new technological era, assures an inability to anticipate the vastly different system of race relations awaiting the displaced Negro".<sup>40</sup>

## The Making of the Urban "Underclass"

Sociologist William Julius Wilson blames the exodus of white people from the centres of the cities for a spiralling decline in the inner-city tax base, a precipitous drop in public services, and the entrapment of millions of black Americans in a self-perpetuating cycle of permanent unemployment and public assistance.<sup>41</sup>

Millions of unskilled urban workers and their families have now been dubbed

an "underclass" — permanently unemployed people whose unskilled labour is no longer required and who live hand-to-mouth, generation to generation, as wards of the state. The hope of being retrained for a job in the elite knowledge sector is out of reach for most of these workers. But even if re-education and retraining on a mass scale were implemented, there would not be enough high-tech jobs for everyone in the automated economy of the twenty-first century.

By the late 1980s, one out of every four young African-American men was either in prison or on probation. In the nation's capital, Washington DC, 42 per cent of black men between 18 and 25 years of age are either in jail, on parole, awaiting trial or being sought by the police. The leading cause of death among young black men is now murder.<sup>42</sup>

The experience of black labourers and blue collar workers in the manufacturing industries over the past quarter century bodes ill for the future. The US's "underclass", largely black and urban, is likely to become increasingly white and

suburban as computerized machines absorb more and more skilled jobs.

## Xenophobia

A growing number of politicians and political parties, especially in Europe, are preying on the public's fears of unemployment by blaming immigrants for the loss of jobs. In Germany, young people are taking to the streets in violent political protests aimed at immigrant groups whom they accuse of taking away German jobs. In 1992, 17 people were killed in 2,000 separate violent incidents, as neo-Nazi leaders blamed immigrants and Jews for the rising unemployment problem. Also in 1992, two neo-fascist parties won seats for the first time in two state parliaments by appealing to xenophobia and anti-Semitism.<sup>43</sup> Extreme right-wing parties have also had electoral successes in Italy, Russia and Britain.

Rarely do any of these politicians broach the issue of technology displacement. Yet it is the forces of re-engineer-

ing, "downsizing" and automation that are eliminating jobs in working-class communities in every industrial country.

Productivity gains and other benefits of new technologies have not "trickled down" to the average worker. Indeed, trickle-down technology seems a euphemism for protecting the interests of the nation's economic elite. The new high-technology revolution is likely to exacerbate the increasing tensions between rich and poor. The growing gap in wages and benefits between top management and the rest of the US workforce is creating a deeply-polarized country, split between a small number of cosmopolitan affluent Americans and an "underclass" of increasingly impoverished workers and unemployed persons.

This article is extracted from *The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era* by Jeremy Rifkin, to be published by G. P. Putnam's Sons, New York in January 1995, \$24.95.

## Notes and References

1. "When Will the Layoffs End?", *Fortune*, 20 September 1993, p.40.
2. "Retooling Lives: Technological Gains are Cutting Costs, and Jobs, in Services", *Wall Street Journal*, 24 February 1994, p.A1.
3. Attali, J., *Millennium: Winners and Losers in the Coming World Order*, Random House, New York, 1991, p.101.
4. Bartlett, D. L. and Steele, J. B., *America: What Went Wrong?*, Andrews and McMeel, Kansas City, 1992, p.18; Drucker, P. F., *Post-Capitalist Society*, Harper Collins, New York, 1993, p.68.
5. Bartlett, D. L. and Steele, J. B., op. cit. 4, p.xi.
6. Drucker, P. F., op. cit. 4, pp.72-73; "Why Job Growth is Stalled", *Fortune*, 8 March 1993, p.51.
7. "AT&T to Replace as Many as One-Third of Its Operators with Computer Systems", *Wall Street Journal*, 4 March 1992, p.A4; "Voice Technology to Replace 6000 Operators", *Washington Post*, 4 March 1992, p.B1.
8. "Postal Service Automation to Cut 47,000 Jobs", *Washington Post*, 28 September 1991, p.A10.
9. Leontief, W. and Duchin, F., *The Future Impact of Automation on Workers*, Oxford University Press, New York, 1986, p.84.
10. "Price of Progress: Re-engineering Gives Firms New Efficiency, Workers the Pink Slip", *Wall Street Journal*, 16 March 1993, p.1.
11. Davidow, W. II and Malone, M. S., *The Virtual Corporation: Restructuring and Revitalizing the Corporation for the 21st Century*, Harper Collins, New York, 1992, p.66.
12. Kagono et al., *Strategic vs Evolutionary Management: A US/Japan Comparison of Strategy and Organization*, 1985, pp.112-113.
13. "Men Without Machines", *Fortune*, November 1946, p.204.
14. *Business Week*, January 1946, cited in "The End of Corporate Liberalism: Class Struggle in the Electrical Manufacturing Industry 1933-50," *Radical America*, July-August 1975.
15. Langefors, B., "Automated Design" in Colborn, R., *Modern Science and Technology*, Princeton University Press, Princeton, 1965, p.699.
16. Alan A. Smith to J. O. McDonough, 18 September 1952, N/C Project Files, MIT Archives.
17. "Management by Stress", *Technology Review*, October 1988, p.37. See also Parker, M. and Slaughter, J., *Choosing Sides: Union and the Team Concept*, Labour Notes, Chicago, 1988.
18. See "Workers at Risk", *Detroit Free Press*, 7 July 1990, pp.1A, 6A-7A; "Injury Training Woes Hit New Mazda Plant", *Automotive News*, 13 February 1989, pp.1, 52.
19. Kenney, M. and Florida, R., *Beyond Mass Production: The Japanese System and its Transfer to the US*, Oxford University Press, New York, 1993, p.265. See also National Defense Council for Victims of *Karoshi*, *Karoshi: When the Corporate Warrior Dies*, Mado-sha Publishers, Tokyo, 1990.
20. "On the Continent, a New Era Is Also Dawning", *Business Week*, 14 June 1993, p.41.
21. "Germany Fights Back", *Business Week*, 31 May 1993, p.48.
22. Judis, J. B., "The Jobless Recovery", *The New Republic*, 15 March 1993, p.22.
23. Federal Reserve Board, 1994.
24. "Middle Class Debt is Seen as a Hurdle to Economic Gains", *New York Times*, 28 March 1994, p.22.
25. US. Department of Labour, *Labstat Series Report*, Bureau of Statistics.
26. "Cutbacks Fuel Contingent Workforce", *USA Today*, 3 March 1993, p.1B.
27. "Age of Angst: Workplace Revolution Boosts Productivity at Cost of Job Security", *Wall Street Journal*, 10 March 1993, p.A8.
28. "Temporary Workers are on Increase in Nation's Factories", *New York Times*, 6 June 1993, pp.A1-D2.
29. "UAW Faces Test at Mazda Plant", *New York Times*, 27 March 1990, p.D8.
30. Mishel, L. and Bernstein, J., "The State of Working America 1992-93", Economic Policy Institute, Washington DC, 1992, p.389.
31. Lehmann, N., *The Promised Land: The Great Black Migration and How it Changed America*, Vintage Books, New York, 1992, pp.5, 8.
32. *Ibid.*, p.5
33. *Ibid.*, pp.49-50.
34. Peterson, W. and Kislev, Y., *The Cotton Harvester in Retrospect: Labor Displacement or Replacement?*, University of Minnesota Press, St. Paul, 1991, pp.1-2.
35. Lehmann, N., op. cit. 31, p.6.
36. Jones, M., *Black Migration in the US with Emphasis on Selected Central Cities, Century 21 Publishing*, Saratoga, 1980, p.46.
37. The proportion of blacks living inside central cities increased from 52 per cent in 1960 to 60 per cent in 1973, while the proportion of whites residing inside central cities decreased from 31 per cent to 26 per cent. See: Wilson, W. J., *The Declining Significance of Race: Blacks and Changing American Institutions*, University of Chicago Press, Chicago, 1980, pp.111-112.
38. Kahn, T., "Problems of the Negro Movement", *Dissent*, Winter 1964, p.115.
39. Willhelm, S., *Who Needs the Negro?*, Shenkman, Cambridge, Mass., 1970, pp.156-157.
40. *Ibid.*, p.172.
41. Wilson, W. J., op. cit. 37, pp.111-112.
42. Wilson, W. J., *The Truly Disadvantaged*, University of Chicago Press, Chicago, 1987, p.22; Magnet, M., *The Dream and the Nightmare*, William Morrow and Co. New York, 1993, pp.50-51.
43. "Germany's Furies", *Newsweek*, 7 December 1992, p.31.

# A Pipeline Killing Field

## Exploitation of Burma's Natural Gas

by

Pamela Wellner

*A foreign-funded natural gas pipeline from the Andaman Sea across Burma to Thailand involves forest destruction and forced labour. Environmental and human rights groups are calling upon oil companies to abandon the scheme and demanding an international boycott of Burma's military regime.*

In Burma, ecological destruction, particularly deforestation, is inextricably linked with human rights abuses. Rich in natural resources and cultural diversity, the country is being ravaged to keep a military dictatorship in power as it wages war against ethnic nationalities and a pro-democracy movement.

The military has ruled Burma since 1962 when it seized power from the democratic government. By the late 1980s, however, a growing democracy movement was causing it to rethink. General Ne Win stepped down as dictator in July 1988 (although behind the scenes he still wields immense political influence) and was replaced by Defence Minister, General Saw Maung who renamed the regime the State Law and Order Restoration Council (SLORC), imposed martial law,<sup>1</sup> changed the country's name to Myanmar, and intensified repression: more than 1,000 pro-democracy demonstrators were reportedly killed in September 1988 and many more incarcerated.

In 1990, SLORC held a national election in which over 80 per cent of the seats were won by the National League for Democracy (NLD), led by Aung San Suu Kyi. Refusing to relinquish power, SLORC has since kept Aung San Suu Kyi under house arrest. Thousands of students and pro-democracy leaders have fled to the forest since 1988 and now live as refugees, mainly on Burma's borders with Thailand, Bangladesh, India and China, where many of Burma's indigenous peoples also live. There they have formed a parallel government, the National Coalition Government of the Union of Burma (NCGUB), which is allied with the ethnic minorities — Karen, Mon and others — who have been fighting the Burmese government since independence from Britain in 1948.<sup>2</sup> In the words of 1976 Nobel Peace

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Gavin Wilcox

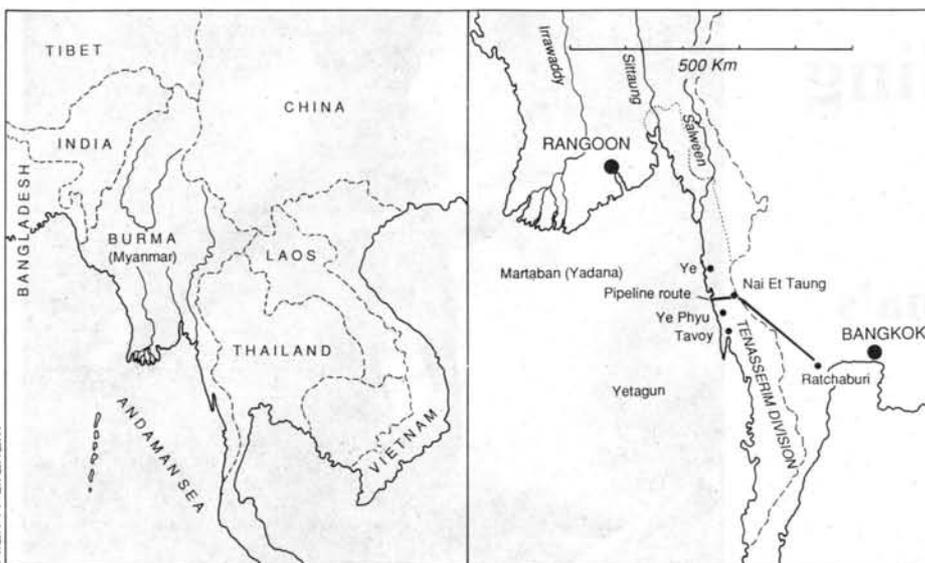
*A forced labourer in Burma works in chains*

Laureate Betty Williams, who visited the Thai-Burma border in 1993, SLORC "continues to uproot, rape and murder thousands of indigenous people as it moves to cleanse the border of ethnic insurgents and plunder the country's rich natural resources."

### Prospecting for Oil and Gas

To fund its military operations, SLORC has not only sold timber and fishing concessions to foreign, mostly Thai, Chinese and Indian, companies, but has also invited multinational companies to prospect freely for oil in Burma and in Burmese waters. Since 1989, at least 10 foreign companies (predominantly from the US, Canada and Europe) have bought exploration licences for mostly onshore concessions in government-controlled areas of central Burma, investing over \$400-500 million in the search for oil and gas: indeed, in the last six years, oil companies have provided the largest sectoral block of foreign investment in the country.<sup>3</sup> As the Institute for Asian Democracy stated in its 1992 report, *Towards Democracy in Burma*, "A major find by any will assure the SLORC substantial income for years to come and will further insulate the generals against international pressure."

Initially, however, the oil companies were disappointed, so much so that by 1992, a number of them — including Shell (UK/The Netherlands), Broken Hill Pty (Australia), Croft (UK), Kirkland Oil (UK) and Idemitsu (Japan) — did not renew their contracts to continue exploration because of poor discoveries, high operating costs and other factors. In 1994, Amoco joined the exodus, citing poor financial returns. Although this was never publicly admitted, in at least two cases the withdrawals



were prompted by concern over human rights abuses in Burma.

Other companies might well have followed suit had it not been for the discovery of two major natural gas fields in the Andaman Sea, named the Yadana ("jewel") and the Yetagun ("waterfall"). In June 1994, Minister of Energy U Khin Maung Thein put proven reserves in the Gulf of Martaban, site of the Yadana field, at over six trillion cubic feet of natural gas — more than three times original estimates.<sup>4</sup> Encouraged by these finds, some oil companies are continuing their involvement, on and offshore, and a further 18 offshore concessions have been announced by SLORC.

The Yetagun concession, covering 50,000 square kilometres, is now being developed by a consortium of Premier, Nippon Oil and Texaco. In the Yadana field, French oil multinational Total has joined forces with Unocal, a US company, to explore a concession of some 26,140 square kilometres, originally bought by Total for a reported \$15 million. When this concession starts producing gas, expected to be in mid-1998, the Myanmar Oil and Gas Enterprise has an option to take up 15 per cent of the project (as it does in the Yetagun field) and the Petroleum Authority of Thailand an option for 26 per cent, with Unocal retaining at least 28 per cent and Total 31 per cent.<sup>5</sup>

## Resettlement and Forced Labour

To transport the gas from the Yadana field, a pipeline is to be constructed from the Andaman Sea across Tenasserim — a thin strip of Burmese territory which contains some of the least disturbed tropical forest in Burma and is controlled by the Karen National Union and the New Mon State Party — to Thailand.<sup>6</sup>

SLORC has been forcibly displacing villages along the pipeline's route since February 1992, a process which has intensified since October 1993, causing many people to take refuge in Thailand. SLORC is also logging the area with conscript labour to clear a 60 metre swathe for the pipeline and to obtain timber to build supporting roads and SLORC military outposts. In one area, the authorities forced every family to work seven days without payment or food in order to construct or upgrade roads. Villagers have been told that they will receive no compensation for the land (full of coconut and other fruit trees) that has been cleared.

Villages have also been moved to make way for a 160-kilometre extension from Ye to Tavoy of the notorious "Death

Railway" built during the Second World War by the Japanese with the forced labour of nationals of Japanese-occupied countries — Thailand, Malaya, Singapore — and Allied prisoners-of-war. Officials of the New Mon State Party believe that, as the railway extension will intersect the pipeline's east-west path, it is being built to transport pipeline equipment and materials and SLORC military units to the area. Since early February 1994, over 60,000 people, mainly Mon and Karen, have been conscripted to work on the railway.<sup>7</sup> SLORC battalions have entered villages and demanded labour, equipment and supplies. The village heads are then responsible for rounding up labourers, usually men and women between the ages of 18 and 60, although it is not uncommon for children as young as eleven

and pregnant women to be conscripted as well. If the number of labourers demanded cannot be met, the village is asked to pay a fine of 3,000 kyats per person to compensate for the shortfall. In one town, five bulldozers were stationed to make up for possible labour shortages and the village was charged 10,000 kyats for each hour a bulldozer was in operation.<sup>8</sup>

Conditions in work camps are appalling. Villagers are normally forced to work on shifts of approximately two weeks, and are told to bring their own food, blankets and tools. Workers unable to keep up are beaten. Facilities for human waste disposal and water purification are inadequate, and consequently, many people are dying of intestinal diseases. Sometimes the sick are allowed to go back home, but many die along the way or once they reach home.<sup>9</sup> According to one escaped labourer, each village has to provide at least 20 tons of timber, while the Karen Information Service report that in the Tavoy region each family is required to provide 100 square feet of railway sleeper.<sup>10</sup>

## Thai Complicity

SLORC receives moral and financial support for such abuses from two main sources: the Thai government and military and Thai firms; and Western oil companies.

Thailand's rapid economic development has led to severe shortages of natural resources, particularly of timber and fish. In the last few years, Thai companies have therefore turned towards their less-developed neighbour for new supplies, paying about \$300 million in licences and fees for various logging, mining and fishing concessions. Many of these concessions are controlled by present or retired military officers who have been given virtually a free hand to exploit Burma's natural resources in return for financing SLORC's arms purchases. These companies have in addition negotiated timber deals with the ethnic nationalities who also need money for weapons.

However, with timber resources near the Thai border diminishing, some sections of the Thai government and the business sector now appear to believe that they will benefit more if they help SLORC "contain" the ethnic groups than if they negotiate with the insurgents for the resources. The prospect of the pipeline has undoubtedly contributed to this shift. Thailand is currently the only contracted importer of gas from the pipeline and will be the main consumer of gas from the Andaman fields. It is thus in the interests of both the Thai government and the

## Forced Labour

The following are excerpts from an interview with an escaped railway labourer:

— *Why did you go to work on the railway?*

One person per household must go to work; if they cannot they have to pay 3000 kyats.

— *How many days did you work?*

Five days.

— *Why did you flee?*

I cannot work; I am in poor health, so I fled. There are about 10 others who fled.

— *Did you notice if people are beaten?*

Some people who can't work, the SLORC beat them with sticks or bayonets. They did not work because they were sick.

— *How were they told they had to go to the railway?*

The SLORC gives the headman a letter that every one must go to work and if they don't work the SLORC will come and get them.



— *Does SLORC come to the village very often?*

Yes, SLORC comes to my village often, they always take the livestock and other things from the people.

Interviews with a SLORC defector who was stationed to oversee the construction of the railway, confirms the working conditions:

— *What are the conditions of the people working on the railway?*

Conditions are not good. One small can of rice per day is provided for each villager.

— *Are the villagers beaten or chained?*

If they try to flee they are beaten.

— *Is the area where you were stationed by the railroad forested?*

Yes, in some areas there is forest.

— *Was there any cutting down of trees?*

Yes, in the area I was responsible for, there was a lot of logging for the railroad.

Petroleum Authority of Thailand to help SLORC secure the area around the pipeline.

Attitudes towards the ethnic groups living in areas strategic to the pipeline are thus hardening, whilst Thailand's policy towards SLORC has become more accommodating. In September 1993, the Thai foreign minister announced that the Thai government would recommend that Burma be given observer status in the Association of South-East Asian Nations (ASEAN).<sup>11</sup> At the same time, the National Security Council of Thailand has been attempting to secure the border area by pressurizing the various ethnic groups whose lands border Thailand to agree to ceasefires with SLORC. A series of meetings between the New Mon State Party and SLORC to discuss ceasefire conditions have taken place since the beginning of the year, arranged through a Thai businessman with interests in the pipeline, although these discussions have recently stalled.<sup>12</sup> Tentative approaches have also been made to the Karen National Union, which has so far declined to negotiate with SLORC.

Whereas Thailand has, in the past, allowed people fleeing persecution to take refuge on the Thai side of the border, the Thai army is now forcibly relocating refugees back to Burma, including those who have fled from forced labour in the pipeline and railway areas. Once back in Burma, these people face retribution from SLORC and are again taken for forced labour. On 7 April 1993, two refugee camps just south of Nat Ei Taung were burned down by the Thai army. According to an unnamed source quoted in the Thai newspaper, *The Nation*, "this action was probably related to the gas pipeline."<sup>13</sup>

In late February 1994, some 7,000 refugees at Loh Loe camp, one of the largest refugee camps along the border, were forcibly relocated by the Thai army to Halockhani in Burma, just five kilometres from a SLORC military base, the field command of

the Burmese army's 62nd battalion. On 21 July 1994 — the first day of the annual ASEAN meeting in Bangkok — the 62nd battalion attacked Halockhani, but were ambushed by the Mon National Liberation Army. Using Mon refugees as human shields, SLORC soldiers retreated, taking 16 prisoners and burning 50 houses. Some 5,000 refugees again fled to the Thai side of the border, refusing to return to Burma until their safety was guaranteed. With the Thai army blocking attempts to provide medical and food assistance to the Mon refugees, they may have little choice but to go back to Halockhani.<sup>14</sup>

### Multinational Complicity

Without Total's and Unocal's investment, the natural gas pipeline would be unlikely to go ahead. Yet the two companies deny any responsibility for what is happening in Tenasserim and refuse to admit that the construction of the pipeline involves the use of forced labour nor that it is having a severe environmental impact.

Total claims that only the last few kilometres of the pipeline's route are forested. In September 1994, at the Total's Paris headquarters, spokesperson Michel Delaborde said:

"aiding the economic development of the country is a good thing. One can discuss this point. But we are not involved in politics; we are industrialists and everything we do, we will do with complete respect for working conditions and human rights."<sup>15</sup>

Unocal, meanwhile, asserts that it is directly benefiting the people through the provision of employment and better health and training standards for 2,000 local workers, as well as contributing to the growth of democracy.<sup>16</sup> In a *Los Angeles Times* article, however, a member of Unocal's team investigating the



*Cut teak from Burma crossing the Moei river into Thailand.*

Environmental degradation is accelerating in Burma through the various projects SLORC is pursuing to raise foreign exchange — logging, hydroelectricity, mining and fishing. Since 1989 the rate of deforestation has increased dramatically, mainly through logging of the border areas. In 1948, some 74 per cent of Burma — 500,000 square kilometres — was covered in forest, whereas today, most sources put the figure at only about 30 per cent. Foreign companies, as well as SLORC and some ethnic groups, profit from the logging; SLORC recently announced, however, that foreign companies would have to shift from logging to developing value-added processes such as plywood mills.

Burma's four main rivers — Irrawaddy, Chindwin, Salween and Sittaung — are viewed as a source of abundant hydropower. Plans have been drawn up with Thai authorities to build dams in the east and south-east of the country, the largest of which would be the Upper Salween Dam, a 166-metre high construction which could produce 4,560 megawatts.

Reports have increased over the last two years of ecological despoilation, disease and killings in the mining regions of north-eastern Shan state, where SLORC is trying to expand the trade in rubies and other precious stones. With over one million displaced people and refugees within Burma, many people have joined the scramble to the ruby mines at Mongshu in Shan state and a disease-ridden jade mine in Kachin state, where a reported half million prospectors and traders from across the country have converged. Vast areas of forests and hillsides have been stripped bare in the process.

Modern trawler fleets from Thailand have fished out large areas of the Andaman Sea since buying concessions from SLORC in 1989. Despite complaints from local fishers, over 280 boats from another eight Thai companies were allowed to buy a new round of contracts in November 1993. The Burmese Fisheries Ministry has recently signed at least nine joint venture agreements to exploit Burma's marine resources, including two shrimp ventures with Mariam Marshall Segal, a New York investor.

Source: *Paradise Lost? The Suppression of Environmental Rights and Freedom of Expression in Burma*, Article 19, September 1994

pipeline admitted that the team spent one day only in the pipeline area and that their access was restricted by local SLORC military authorities.<sup>17</sup>

An umbrella group of international environmental and human rights groups, the Coalition for Corporate Withdrawal from Burma, asked Unocal shareholders in April 1994 to vote in favour of the company issuing a comprehensive report on its operations in Burma, including the human rights and environmental impact of the Martaban Gulf gas pipeline. Although Unocal's Board of Directors recommended voting against the proposal, 15.3 per cent of the shareholders voted in favor of the resolution — insufficient for the report to be issued, but enough to bring the resolution up at next year's annual shareholders' meeting.

Although US oil companies deny responsibility for SLORC's activities, they may find themselves legally accountable. The Center for Constitutional Rights, a US public interest law firm, claims in a letter to Unocal that the company "could be held legally liable for deaths, injuries, property damage or other harm arising out of your company's operations in Burma." The Center asserts that under US tort law:

"If a corporation enters into a contractual relationship with disreputable parties [such as SLORC], and it is reasonably foreseeable that those parties will hurt someone, the corporation may be held liable for the harm resulting from the business transaction."

The Clinton administration is soon to release a review of US foreign policy with Burma. The review may suggest that economic sanctions be applied against the SLORC regime, or may take a more conciliatory approach. Oil companies are likely to try to convince the administration that, instead of sanctions, a "Code of Conduct" should be drawn up which would allow them to continue their projects in Burma. At the annual ASEAN meeting in July 1994, however, the US did not support a proposal put forward by Australian Senator Gareth Evans for the adoption of "critical dialogue" with SLORC — a form of "constructive engagement".<sup>18</sup>

The proposal was supported by New Zealand and received the tacit approval of the European Union. British Foreign Secretary Douglas Hurd said in September 1994:

"We follow the European Union line on Burma; we're strongly critical of the abuse of human rights by the SLORC . . . but that should not impede or prevent trade . . . In certain circumstances, trade can actually have a useful effect in opening up the country and showing the need for change inside the country, so there's never been a trade boycott, though there is a European guideline barring political contact."<sup>19</sup>

When Archbishop Desmond Tutu of South Africa was in Thailand in 1993, however, he called for sanctions against SLORC, saying:

"International pressure can change the situation in Burma. Tough sanctions, not 'constructive engagement', finally brought the release of Nelson Mandela and the dawn of a new era in my country. This is the language that must be spoken with tyrants — for sadly, this is the only language they understand."

One of the few hopes for the safety of the ethnic nationalities living in the pipeline area and for the preservation of the forest

around it is for foreign companies to withdraw their investments in Burma. A May 1994 press release of the New Mon State Party, issued just before its third round of peace talks with SLORC, maintained that:

"Ethnic nationalities and ecological diversity are the immediate victims of greed and racism, because the oil and gas corporations as well as multinational investors are assisting the SLORC military junta with technical aid and propaganda to legitimize SLORC rule."<sup>20</sup>

Last year, the Democratic Alliance of Burma, an umbrella organization of political, student and ethnic groups, including the Mon and Karen whose territory the pipeline would run through, issued the following international appeal:

If they make a pipeline to Thailand, it would go through our last big rainforest . . . We have tried to save our forests and made wildlife preserves like Kaser Doo mountain where animals like elephant, rhinoceros, wild giant cattle, tapir and hornbill can live with no disturbance from outside. The pipeline would ruin it completely . . . SLORC can never hope to patrol [all the pipeline]. But if the foreign companies ask it to, the SLORC is greedy enough to make a campaign to kill off every Karen and Mon in the area, so the pipeline might seem safe. We, the Democratic Alliance of Burma, earnestly appeal to the international countries whose oil companies are in this Burmese business to stop it immediately before our people are killed on a pipeline killing field."

## Notes and References

1. Martial law was officially lifted by 1992, but SLORC has continued to rule under a complex array of security laws which allow military officers sweeping powers of arbitrary arrest and detention. See *Paradise Lost? The Suppression of Environmental Rights and Freedom of Expression in Burma*, Article 19, The International Centre Against Censorship, 33 Islington High Street, London N1 9LH, 1994
2. There are at least nine distinct ethnic groups in Burma. Burmans account for two-thirds of those who live in Burma and have dominated the government since independence. The other groups are the Karen, Karenni, Mon, Shan, Kachin, Chin, Rohingya and the Arakanese. For more information, see Smith, M., *Burma: Insurgency and the Politics of Ethnicity*, Zed Books, London and New Jersey, 1993; Lintner, B., *Land of Jade: A Journey Through Insurgent Burma*, Kiscadale Publications, Edinburgh, 1990; Lintner, B., *Outrage: Burma's Struggle for Democracy*, Review Publishing, Hong Kong, 1989; Aung San Suu Kyi, *Freedom From Fear*, Penguin Books, Harmondsworth (reprinted January 1995)
3. All Western development aid to Burma was cut off in 1988 in protest at SLORC's seizure of power. Foreign investment, therefore, is coming from private companies, predominantly those based in the US, Thailand, Singapore and Japan. See *Paradise Lost?* op. cit. 1, p.16.
4. *Paradise Lost?* op. cit. 1, pp.16-17.
5. On 9 September 1994, a memorandum of understanding was signed between Total, Unocal, the Myanmar Oil and Gas Enterprise (MOGE) and the Petroleum Authority of Thailand (PTT) in Rangoon under which the PTT will buy \$400 million of gas for 30 years, starting in 1998. The PTT looks set to take up its full option, but there has been no announcement of the percentage of MOGE's participation. See "The Human Rights Pipeline", *Los Angeles Times*, 11 April 1994; Birsel, R., "Burma, Thailand sign gas purchase agreement", Reuters, 9 September 1994; Boonsong Kositchetana, "PTTEP prepared to take up to 30% stake in Burma gas field," *Bangkok Post*, 13 September 1994; "Gas contract with Rangoon overrides everyone's future best interests," (editorial), *Bangkok Post*, 11 September 1994.
6. The pipeline will pass from the coast near the village of Hpaungdaung Yaw at Heinze bay, through the villages of Onbinkwin, Kanbauk and Zinba village to the Thai-Burmese border, approximately 43 kilometres as the crow flies. The Petroleum Authority of Thailand is responsible for building the 390-kilometre Thai section of the pipeline which will enter Thailand at the village of Pilok in Khanchanburi province, run past Ban I Tong (Nat Ei Taung) down to a 2,800MW power plant operated by the Electricity Authority of Thailand in Ratchaburi province. Gas from the smaller Yetagun field may use this pipeline as well, or may go underwater to Ranong in Thailand. See "Attack on Mon refugees may delay gas pipeline", *The Nation*, 2 August 1994; Boonsong Kositchetana, op. cit. 5; Boonsong Kositchetana, "Consortium complete development plan for Burmese gas field", *Bangkok Post*, 13 August 1994; Fahn, J., "Ranong likely terminal for second Burmese gas pipeline", *The Nation*, 23 August 1994.
7. Since October 1993, an estimated 120,000 to 150,000 people have been subjected to such slave labour. See "Ye-Tavoy Railway Construction: A Report on Forced Labour in the Mon State and Tenasserim Division in Burma", New Mon State Party, April 1994.
8. The Burmese government's official exchange rate of six kyats for one US dollar contrasts with the black market rate of 110 kyats. A villager's annual income is around \$25-30 (black market rates)
9. These conditions have been confirmed in interviews with some SLORC military defectors who were stationed to oversee the construction of the railway.
10. In February 1994, Mon military intelligence intercepted a message sent by SLORC personnel to their battalion headquarters detailing the amount of land cleared since the middle of the previous month in three labour camps under the supervision of one SLORC battalion. The first camp had cleared 15,132 linear yards, the second 11,000 yards, and the third 9,400 yards.
11. Because of intense lobbying by Burmese opposition groups and public condemnation within Thailand, however, this initiative was not accepted by other ASEAN members.
12. The New Mon State Party halted the negotiations because the conditions imposed by SLORC are tantamount to Mon surrender, with SLORC effectively controlling Mon lands. Personal communication, Faith Doherty, Southeast Asia Information Center, and Fahn, J., "Mons and SLORC," *The Nation*, 7 September 1994.
13. *The Nation*, Bangkok, 4 May 1993.
14. *Burma Issues*, August 1994, p.4; AFP, "Aid agency fears Mons being starved out of Thailand", *The Nation*, 7 September 1994; Amnesty International, *Thailand: Burmese and other asylum-seekers at risk*, London, September 1994.
15. "Oil Firms Face Heat on Myanmar Investments", *In Asia Today*, 8 September 1994.
16. *Paradise Lost?* op. cit. 1, pp.18-19.
17. *Los Angeles Times*, 26 April 1994.
18. Personal communication, Michelle Bohana, Institute for Asian Democracy. It is hoped that a UN resolution (A/C 3/48/L70-48 section agenda item 114c) will be introduced within the next few months, asking the international community to adopt a resolution by consensus that advances previous resolutions, such as that appointing a Special Rapporteur on human rights, and also suggests facilitating the transfer of power to those elected in the 1990 elections.
19. *The Bangkok Post*, 14 September 1994.
20. *Paradise Lost?* op. cit. 1, p.18.

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## Books

### Traditions of Hope

**TENDING THE EARTH: Traditional Sustainable Agriculture in India** by Winin Pereira, Earthcare Books, 2 Anand, 17 Carmichael Road, Bombay 400 026, 1993, £7.50/\$9.95 [postage & packing £1.50/\$2 sea mail; £3/\$4 airmail] (pb) 315pp. ISBN 81-85861-00-6

Towards the end of *Tending the Earth*, Winin Pereira deprecatingly writes:

“What has been presented in this book is only a micro-fraction of the knowledge that is available in old manuscripts and books and in the memories of those farmers who still practise sustainable agriculture. Rather than merely collecting such knowledge and recording it, it is far more important to preserve the culture that supports them, in their practice and in their continuing innovation as they keep up with changing environmental and social conditions.”

This book, however, is much more than Pereira's characteristically modest description of it. It is part of a new movement that seeks to revalorize and reclaim traditional farming and agricultural methods and practices. These offer hope to societies abjectly dependent upon destructive industrialization, not merely of agriculture and food production, but of everything. Those who speak of “post-industrial society” exaggerate. What we have experienced has been a deepening subordination of human needs to the industrial machine. Don't we now constantly hear of such implausible projects as a food industry, a healthcare industry, a music industry, an insurance industry, even a sex industry?

Pereira's quest is the rescue of our humanity from this process of enclosure, which has appropriated and commoditized our capacity to do, to make and to create things freely for ourselves and each other outside the market — the human commons. This unhappy appropriation and commodification — “development” — continues to be universalized under the banner of the free market economy through the instruments of the West's financial institutions — the World Bank, the International Monetary Fund and GATT — threatening to engulf the whole world in a totalizing monoculture of money.

*Tending the Earth* looks at the interconnections within a traditional Indian holistic system which understands the interdependence of all creation, of living and non-living things and creates a harmonious and dynamically evolving but stable structure. The cumulative effect of the book is extraordinarily powerful.

Throughout *Tending the Earth*, Pereira describes the diverse usefulness of a tree, shrub or plant. For instance, the leguminous pigeonpea, *cajanus cajan*, a natural soil-aerator which, apart from its nutritional value, serves as fodder, green manure, firewood and material for thatching; its tender leaves heal diseases of the mouth, while the juice of the leaves alleviates jaundice and lowers cholesterol levels.

He tells how *morinda citrifolia*, known as the al tree, was cultivated for its roots from which the red al dye was extracted. Over centuries of selection in the fields, farmers reduced a 12-metre-high perennial to a small, 50-centimetre-high, annual or biennial field crop. Cloth dyed with al was protection against white ants and other destructive insects. It was widely used by bankers and shopkeepers to wrap their account books in. Whole village industries providing employment for tens of thousands of people depended upon the dye. All this was destroyed by the introduction of aniline dyes at the beginning of the century. This model, an implant of alien colonial values, is now being intensified in an India that has been nominally free for 40 years.

Pereira describes how farmers in each locality of India developed strains of rice or other crops adapted to the particular place the farmers knew so intimately; they were familiar with and coped with likely variations in rainfall, improvising if the rains came late by sowing a reserve crop to replace the one lost in a bad

season. Pereira evokes the complex processes of intercropping, of rotations evolved over centuries, the living experiments of nameless and uncelebrated farmers in the timeless chain of being, a process now threatened with extinction by laboratory-engineered monocultures.

Forests and other commons have provided the thousands of plants on which farmers have experimented for use as food, fodder, medicine, timber, oil for cooking and lighting, cosmetics, dyes, tans, fibres, fuel, material for artefacts, ornaments and countless other purposes.

To see this incomparable richness threatened by short-term “improvements” that cannot be maintained beyond a few seasons has called forth within India a vast resistance against the reductive and narrowing genetic base which the transnationals propose for the principal foodcrops of the world.

When the farmers of North Karnataka destroyed Cargill's offices in Bellary in 1992, they were not acting from theory, but in response to the failed promises of seeds patented and controlled by the giant transnational. All over the country, farmers are well aware of the implications of GATT and the World Trade Organization for their independence and their ability to carry out the experimentation of millennia, which Pereira describes in such vivid and passionate detail in this book.

Invariably those who speak of the value of tradition are accused by the development industry of wanting to “take us back” to a time of darkness and superstition. This is a measure, not so much of the profound ignorance of the savants of the West and their acolytes, as of the purely fiduciary nature of their belief in Western technology: locked in their closed circle of despair, they look to the causes of what is wrong with our world as the sole source of all future hope, whether in the guise of Western science, economics, the market, wealth, technology. Their faith rests on a cumbersome, reductive, complicated machinery that mimics and mocks the organic, delicate, inimitable complexity of the natural world.

As a nuclear physicist, Winin Pereira was formed within that destructive Western system. He turned his back on it more than three decades ago, since when he has devoted himself to the study of traditional sustainability — not of the kind upheld by the value-added consultancies which now proliferate in the West. Painstaking, scholarly, patient, he has

amassed one of the most inspiring compilations of hope that I have yet seen.

Jeremy Seabrook

**Jeremy Seabrook** has worked as a teacher, lecturer, social worker and journalist. His most recent book is *Victims of Development: Resistance and Alternatives*, Verso, 1994.

## To Be or Not To Be

**THE FUTURE OF THE MARKET: An Essay on the Regulation of Money and Nature after the Collapse of "Actually Existing Socialism"** by Elmar Altvater, Verso, London and New York, 1993, £11.95/\$18.95 (pb) 274pp. ISBN 0-86091-610-3

**IN THE WAKE OF THE AFFLUENT SOCIETY: An Exploration of Post-Development** by Serge Latouche, Zed Books, London, 1993, £14.95/\$19.95 (pb) 256pp. ISBN 1-85649-172-2

The excitement generated by the end of "actually existing socialism" has not lasted long. Social and environmental problems are keeping history in motion, spoiling the celebration of the "end of History" that was predicted after the "final" victory of the market economy and parliamentary democracy over centralized economies and communist regimes.

Where history is going, however, is far from clear, as these two complementary and contradictory books clearly reveal. Both Elmar Altvater and Serge Latouche criticize conventional wisdom and dismantle some common modern certainties — but from their observations, they derive almost opposite conclusions.

Altvater provides a sound description of the limits and contradictions of the market economy, while his ecological critique of political economy and arguments for non-market regulations help to explain some present predicaments. To overcome them, he suggests combining the "imperative principles" of planning, the market, democratic participation and the public space of civil society.

Altvater is concerned with recent fundamentalist attacks on Western rationality, directed against the thinking of the Enlightenment, individualism, universalism and modernism. He thinks they should be understood as negations of the project of modernity, which are too

hide-bound and antiquated to overcome the current problems. At the same time, since he thinks that the free market alone cannot be trusted to counter those problems, he warns that today:

"the further evolution of society is possible only if the economic rationality of market procedures is firmly embedded in a complex system of social, non-market regulation of money and nature"

— a procedure that he leaves, however, in discreet obscurity.

In contrast, Serge Latouche is distrustful of any attempt to revitalize what is dying: he puts his bets on the new era, whose birth he attempts to describe. But he suspects that the birth will not take place until a dignified funeral for the old era can be organized — something that nobody seems ready to do.

Latouche shared Altvater's theoretical framework for many years. He examined the negative aspects of the Western project and attempted to mend it, so it might fulfil its promises. Although his writings retain what he distilled from that experience, his field observations, mainly in Africa, forced him to tear up such a framework. Among the castaways of modernity at the centre of his concern, he discovered new social forms heralding ways out of its impasses. He suspected not only that those who had been shipwrecked by progress were resisting or trying to survive, but also that the embryo of a new era could be found in their struggles.

*In the Wake of the Affluent Society* is a logical continuation of Latouche's previous work. In the first part, he synthesizes his radical critique of the Westernization of the world, and reveals how its culmination represents its defeat. Westernization, he says, imposes on the whole planet a way of thinking and being which pretends to exemplify the best achievement of human civilization, yet at the same time brings about vast environmental and cultural destruction and excludes from its achievements most people on earth.

In the second part, he explores with passion and theoretical rigour "the archipelago of the informal". He dismantles the myth of development, now the principal current emblem of the modern project, to reveal what might be beyond it when the castaways of progress rescue their traditions, break the historical discontinuity imposed on them by modernity and commit themselves to the construction of a new and authentically postmodern society. Latouche outlines the possibilities

SERGE  
LATOUCHE



IN THE WAKE OF THE  
AFFLUENT SOCIETY

AN EXPLORATION OF  
POST-DEVELOPMENT

of a new lifestyle, along the way describing the ambiguities and traps of the temptations to which the shipwrecked are currently exposed, in the form of alternative development, self-sufficiency and "standards of living".

Latouche's and Altvater's differing treatments of the informal exemplify a distance between them. For Altvater, the informal is only the seamy side of the economy, its black side, the drugs and the Mafia, dancing only to the economic tune. Latouche dares to go further into the nebulae of the informal, to understand it in its plurality and heterogeneity, and to rescue it as a culture. He reveals how reembedding the economy in culture can be a daily practice in the informal world, even as it is besieged by the economic ethos.

It is not possible to see everything in a new era with the lenses of the past. Only by breaking them and learning to see the emerging world can one start a journey through it. It is not easy, however, to assume such a radical renunciation, which inevitably generates a feeling of blindness and clumsiness, which provokes an urge to go back to more familiar surroundings. Latouche was not stopped by the difficulties he confronted — and his contribution comes in good time. His theoretical courage offers the kind of remedy urgently needed in the uncertainty and confusion dominating the current age.

Gustavo Esteva

Gustavo Esteva is a grassroots activist and deprofessionalized intellectual living in a small Indian village in southern Mexico.

## Water, Water, Everywhere . . .

**WATER WARS: Coming Conflicts in the Middle East**, by John Bulloch and Adel Darwish, Victor Gollancz, London, 1993, £17.99 (hb), 224 pp. ISBN 0-575-05533-2.

**WATER AND POWER: The Politics of a Scarce Resource in the Jordan River Basin**, by Miriam R. Lowi, Cambridge University Press, Cambridge, 1993, £35/\$49.95 (hb), 291 pp. ISBN 0-521-43164-6.

**WATER RESOURCES AND CONFLICT IN THE MIDDLE EAST**, by Nurit Kliot, Routledge, London and New York, 1994, £85/\$150 (hb), 309 pp. ISBN 0-415-09752-5.

Fresh water, the basic requirement for life on earth, is a finite resource in space and time. Worldwide, it is being wasted and polluted, while changing lifestyles strain the supply.

Most water courses are international, but international law does not provide adequate means to regulate the competition between riparian states. Upstream states can refer to the doctrine of absolute national sovereignty, whereby a state has the exclusive right to use and dispose of the natural resources within its territory. Downstream states tend to emphasize another principle: the doctrine of absolute national integrity according to which lower riparians are entitled to unaltered water volume and quality. Given these contrasting doctrines and modern abilities to dam and divert rivers, international conflicts over the sharing of

transboundary water resources are almost inevitable.

In this respect, the Middle East is particularly at risk due to the natural scarcity of fresh water in the region and the already strained political situation. All three books focus on the region, but approach the challenge from different perspectives.

*Water Wars* is the most popularly written of the three and aims to warn of a potentially dangerous future. In the Jordan Basin, an area of particularly severe shortage, water has already had a crucial influence in one major war, the Arab-Israeli conflict of 1967. Before the outbreak of the crisis, the Arab League had tried to divert the sources of the Jordan river, Israel's main water supply, which originates on the Golan Heights and in South Lebanon.

But Israel, too, has not hesitated to use water as a policy instrument. Its severe restriction of Palestinian consumption in the occupied territories while allowing Israeli settlers much larger supplies has weakened the Palestinian economy and induced many Palestinians to leave their homeland. In the current Middle East peace negotiations, water is one of the major bones of contention between Israel, the Palestinians and Arab neighbours.

In the Euphrates-Tigris basin, Turkey's position in the upper stream enables it to utilize water to exert political pressure on its Arab neighbours, Syria and Iraq. During the last 20 years, Turkey has built a huge dam and irrigation project on the Euphrates which has not only decreased the water flow but also repeatedly cut it off for short periods. A further reduction of flow (some experts predict it could reach more than 50 per cent once the whole project is finished) would have

catastrophic effects for both downstream countries which depend on water originating from outside their countries. The support Syria and Iraq have given Kurdish guerrillas fighting the Turkish state indicates how water has mingled with traditional political rivalries between these three riparians.

In a third contentious basin, Egypt, which is totally dependent on the waters of the Nile, has always made the safety and continued flow of the river the central concern of its policy towards its southern neighbours, Ethiopia and Sudan. This latent conflict has not yet come to crisis dimensions, as the upstream countries have not embarked on any projects which would utilize the waters of the Nile to any significant degree — as yet.

By its very title, however, *Water Wars* somewhat overemphasizes the role of water in conflicts in the Middle East, almost to the point of casting it as the sole reason. Authors John Bulloch and Adel Darwish tend to neglect the fact that the region would be one of the world's most politically unstable areas, even if water was not in short supply. Nevertheless, it is an easy-to-read and worthwhile introduction to the issue, providing a good overview with many interesting details.

The two other monographs are concerned with particular aspects of the issue. Miriam Lowi's *Water And Power* is a historical and political analysis of the water disputes in the Jordan River and of their relationship to the broader Arab-Israeli conflict. Her analysis starts from one leading question: why do states in arid regions fail to cooperate in water management and development when cooperation would appear to be in their mutual interest?

By studying the various attempts since the 1950s to institute an international water sharing regime in the Jordan Basin and comparing them with water disputes in other river systems, Lowi concludes that states only cooperate in an international river basin when the dominant power in the basin wishes to do so, or has been induced to do so by an external power. Cooperation is particularly difficult to achieve, however, when the dominant power is an upstream riparian (such as Israel after the 1967 war).

Lowi stresses that when water disputes unfold within more comprehensive political disputes, they cannot be isolated from them. In the Arab-Israeli conflict, water has been both an additional source of conflict to the traditional one and a

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means to play it out. The riparian dispute over the Jordan River will not, therefore, be solved until the overwhelming political and territorial conflicts have been settled.

Beside having a strong theoretical bias, *Water and Power* provides one of the most comprehensive and profound accounts of the history of water disputes in the Jordan basin. Although it does not consider the latest peace negotiations, it provides helpful background material on this particular aspect of the Arab-Israeli conflict.

*Water Resources and Conflict in the Middle East* centres on an analysis of principles of international law applied to water management in the Middle East. Despite the survival of the concepts of absolute territorial sovereignty and integrity, several attempts to codify rules for the sharing of transboundary water bodies have been made in the last few decades. The most important of these are the 1966 Helsinki Rules and the Law of the Non-Navigational Uses of International Watercourses, which are drafts formulated by the International Law Commission, a private institution, and by a UN affiliated body. Author Nurit Kliot applies these rules to the three river systems of the Middle East — and finds that in none of them does the actual distribution of water correspond to the criterion of “equity” as stated in these legal frameworks. Kliot discusses both the distribution shifts which would have to take place if the legal rules were applied, and the improvements which she suggests should be made to the legal principles themselves because of the problems in their practical application.

In doing so, she provides a detailed study of the hydrology, geography and water development projects in these river systems and an analysis of the socio-economic needs of the countries which border them. Despite a technical presentation, the work is a comprehensive and useful reference for all those studying the hydrology of the Middle East and a “must” for those interested in international law principles as applied to the management of international water resources.

*Stephan Libiszewski*

**Stephan Libiszewski** is a Research Associate at the Center for Security Policy and Conflict Research of the Swiss Federal Institute of Technology in Zurich. He is studying water disputes in the Jordan Basin Region as part of a programme on Environment and Conflicts (ENCOP).

## BOOKS DIGEST

- **WALLEYE WARRIORS: *An Effective Alliance Against Racism and for the Earth***, by Rick Whaley with Walter Bresette, New Society Publishers, Philadelphia, PA and Gabriola Island, BC (distributed in UK by Jon Carpenter Books, Oxford), 1994, £13.50/\$17.95 (pb) 272pp. ISBN 0-86571-257-3.

Every spring, the indigenous Anishinabe harvest Walleye fish from Wisconsin and Minnesota lakes while some local sport fishermen, resort owners and other white residents cast stones, racial epithets and death threats at them. In the late 1980s, a multiracial alliance was formed to counter this racism and resource colonization, and to document its struggles so that “supporters of non-violent activism and those who believe that anti-racist struggles are inseparable from earth struggles will find value in the lessons of our modest but valuable success story.”

- **CHILDERLEY: *Nature and Morality in a Country Village***, by Michael Mayerfeld Bell, The University of Chicago Press, Chicago, 1994, £25.95/\$32.50 (hb) 279pp. ISBN 0-226-04197-2

“How might you define nature?” asks a US sociologist of an inhabitant of Childerley, a village in Hampshire, England, the world’s first “truly industrialized” country and one of the most densely populated. “It’s the strangest question I’ve ever had on me,” replied the villager, although his and other answers lead the author to conclude that nature is at the heart of these inhabitants’ conception of themselves. An engrossing insight into communities and countryside which ought to make any reader think again before taking at face value studies which unequivocally regard “indigenous” people as “closer to nature”.

- **TRENDS IN WORLD COMMUNICATION: *On Disempowerment and Self-Empowerment***, by Cees J Hamelink, Southbound/Third World Network, 9 College Square, 10250 Penang, MALAYSIA, 1994, £9.50/\$18 (pb) 168pp. ISBN 983-9054-06-6.

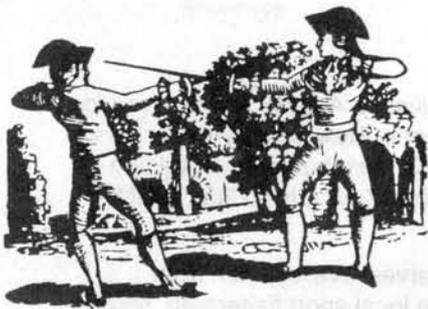
This book rejects the myth of the “global village” and “technological progress”, documenting how past and present developments in communication technologies can make people less informed about events and processes around them. Hamelink concludes with suggestions of how to reverse these disempowering trends.

- **SOCIAL THEORY AND THE GLOBAL ENVIRONMENT**, edited by Michael Redclift and Ted Benton, Routledge, London and New York, 1994, £12.99 (pb) 271pp. ISBN 0-415-11170-6.

This collection of essays considers how the “global environment”, as conjured up by the media and mass communications, compares with the environment with which most poor people are familiar. “Do we share an understanding of the global environment in the same way as we ‘share’ the globe?” they ask. The writers emphasize how particular representations of environmental issues bolster the influence of various parties: scientists, politicians, interest groups and the public at large. “We should not forget, however,” they warn, “that most of the world’s population lies outside, or at the margins of, this discourse.”

- **BRINGING TECHNOLOGY HOME: *Gender and Technology in a Changing Europe***, edited by Cynthia Cockburn and Ruza Fürst Dilic, Open University, Buckingham and Philadelphia, PA, 1994, £12.99/\$27.50 (pb) 187pp. ISBN 0-335-19158-4.

New products and processes are transforming the economies and cultures of Europe, East and West. Studies from eight countries of the design, production, distribution and use of familiar household technologies — washing machines, vacuum cleaners, food processors — illustrate how masculinity and femininity, power and subordination continue to be created and reinforced.



## Letters

### Under Western Eyes

When Margaret Thatcher was Britain's Prime Minister, it was common to hear critics refer to her as "that woman". Even to many who disagreed with her actions, this was jarring. Yet it was often hard to explain why. Was Thatcher not a woman? In the end, one could only point out that emphasizing Thatcher's gender in the context of a discussion of her policies paved the way for an invalid syllogism: Thatcher committed outrages; Thatcher was a woman; therefore, Thatcher's outrages were due to the fact that she was a woman. The implication was that the outrages could be countered only by increasing the role of men in public life.

One source of this thinking is obvious. In our culture female PMs are news, male PMs are not. When one criticizes a woman PM, one tends to call attention to her gender in a way one would never do with a man. Hence a woman PM's gender is always available as a candidate explanation for her actions in a way that a man's never is. The sexism embedded in British language and culture tugged Thatcher's critics toward fallacious reasoning against their better judgement.

So, unfortunately, is the case with much recent Western thinking about the South. Just as what is implicitly picked out first in most discussions of Thatcher is that she is an "aberration" from the norm of maleness, what is highlighted in most Western discussions of the Third World is that it is an "aberration" from (Western) cultural "normality". Small wonder that it is to this "aberrant" status that Westerners often turn for explanations of Third World problems.

Take, for example, an article entitled "The Coming Anarchy" in a recent issue of the US magazine *Atlantic Monthly*. Roving

reporter Robert D. Kaplan paints a picture of rampant crime, rural-to-urban migration, and social and environmental breakdown in West Africa. Troubled by visions of black urban youths "like loose molecules in a very unstable social fluid", black children "as numerous as ants", and future guerrilla wars waged for "primitive ends" by "juju warriors" animated by "ancient tribal hatreds", Kaplan solemnly attributes the ills he sees to "animism", "communalism", the departure of French expatriates, overpopulation and other dire manifestations of non-Westerness — including the lack of those "economic, educational and cultural standards" through which alone the natural "human" urge toward "physical aggression" (an urge made manifest, we learn, "especially in the developing world") can be "tranquillized". The article is interspersed, as if to illustrate the values which have to be defended from such barbarism, with adverts for Mazda, Saab and Pontiac cars, Sony CD players and Bombay Sapphire gin (the one with Queen Victoria on the label), peopled by US models from whose tranquil expressions one would indeed never guess the global violence being committed in the struggle to confect and purvey such goodies.

Kaplan's reasoning hardly needs spelling out. Abuses, suffering and menace are to be found in region X or among people Y; these regions and peoples are non-Western; therefore, the abuses, suffering and menace must be due to this non-Westerness — and their solution, if there is any, must lie in the influence of those whose culture is not "non-Western", i.e., Westerners.

Such loopy syllogisms are very much to the taste of development banks and Western military establishments — both of whose *raison d'être* involve intervention outside the West. But they tend to strike a chord with the rest of us Westerners, too. Part of this is no doubt due to the English language itself, which, like other languages, has a funny way of enabling its speakers to point the finger at others without including themselves in the accusation. Words such as "corrupt", for example, trip off our tongues easily when we are describing the African official with the ill-fitting uniform who skims 20 bucks off a tourist to stamp a passport or the unscrupulous Asian president with the odd moustache who rips off his country for millions. Yet English contains no word of equal pejorative force which can be untendentiously applied to the US Secretary of Defense who resigns to join the board of a weapons firm seeking orders from the government; the soft-spoken Swedish aid official who hands out

contracts to his former colleagues in the dam industry; the immaculately-groomed British Foreign Minister who secures a foreign contract for an uncompetitive company headed by a contributor to his political party by channelling £200 million in taxpayers' money to a useless aid project which may kill or evict thousands; or the World Bank Vice-President who leads an irreproachable "private life" on his immense official salary in suburban Washington while lavishing political support on a Marcos or a Mobutu and blocking all attempts to make his agency accountable to the hundreds of thousands of people whose livelihoods it destroys.

I raise this issue as a result of reading my colleague Marcus Colchester's excellent article "The New Sultans: Asian Loggers Move in on Guyana's Forests" (March/April 1994). This article does the great service of highlighting a widespread and growing trend in economic globalization: large-scale investment by companies based in the South in other Southern countries. It also rightly draws critical attention to patterns of exploitation within and among Southern countries — a topic often neglected by Western commentators. Drawing on information gathered firsthand, Marcus documents clearly the extent to which Malaysian-dominated logging consortia are gaining access to forests in Guyana, imperilling local people and their environment.

At several points, however, "The New Sultans" sets up a type of West/non-West distinction which, by implicitly locating problems in the latter and solutions in the former, tempts us toward the kind of invalid reasoning I've sketched. Because I'm disturbed at how often this type of reasoning is now cropping up in talk about human rights and the environment, I'd like to share my qualms about the article in order to make a case for choosing vocabularies of protest more carefully.

"The New Sultans" implies that the "conditions under which corruption flourishes" — "monopolies, discretion and the absence of accountability" — are particularly "Third World" in nature. As in Kaplan's article, the departure of an "expatriate" bureaucrat is held up as a sign of Third World governmental degeneration. "The New Sultans" even suggests that North-South equity is not worth discussing unless the South somehow first ensures social justice within its own purlieu, calling to mind a picture of Northern parents telling their Southern children that they can't join the grown-ups until they clean up their room.

The article links abuses with "Third Worldness" still more tightly through an

undistanced and unacknowledged use of a biased vocabulary which, no matter how correctly it is applied according to its own lights, sets up an invidious contrast between "Asian" and "non-Asian" modes of behaviour. The word "nepotistic", for example, which is employed liberally in the article to describe "Asian" politics, is a useful shorthand for certain breaches of fair procedure within the meritocracies of the West. Used across the cultural board, however, without acknowledgement of its historical situatedness, the term can stigmatize many highly-democratic non-Western practices while giving many undemocratic Western practices an implicit pat on the back.

In a non-Western rural community where successive village heads tend to be members of the same clan, for instance, the procedures for holding leaders accountable to other villagers may well be far more effective than those which hold an elected British Prime Minister accountable for his or her actions to the British public, and no more discriminatory, say, than the old-school and old-boy networks which prevail in the City of London. Yet in the language of "nepotism", it is the village's political system, and not those of Britain, which is assigned to the category of a "problem". Southerners fighting corruption in their own countries in their own ways may be excused if they take a jaundiced view of a vocabulary which, although it does call attention to many of the abuses they are battling, not only remains blind to more far-reaching abuses originating in the North but also questions many aspects of their whole civilization.

Throughout "The New Sultans", "Western" practices are implied, by *not* being mentioned, to be normal, unproblematic, magisterial and universal. The Guyanese Forestry Commission, for example, is cited as an instance of the "capture theory of regulation" whereby a regulatory body comes to be controlled by the industry it is supposed to regulate — yet we are not told that this "capture theory" was first developed to describe the failures of regulation in the United States. Logging in Guyana, the article points out, "lacks proper supervision" — but it is not mentioned that "proper supervision" is also lacking in the Pacific Northwest, Finland and everywhere else in the West as well. Similarly, we are reminded that in South-East Asia local leaders have been "bought off or eliminated" where they have stood in the way of the logging business — yet it is not acknowledged that such practices are also standard operating procedure for firms and governments of the industrialized West.

Such omissions are relevant to an article about Guyana for the same reason that omitting mention of men Prime Ministers' outrages is relevant to a critical article about the policies of "that woman Thatcher". They actively encourage the illusion that the problems described lie in "Third Worldness" or "lack of proper supervision" or "womanhood" rather than in structures which afflict Third and First Worlds and men and women alike — for example, increasingly centralized corporate and state control, runaway, subsidized industrialized-society consumption, and patriarchy. Moreover, by implying that First Worlders, or men, are qualified to intervene with "solutions" or "proper supervision", such omissions help shore up the legitimacy of some of the very practices — including development "aid" and the devaluation of the work that women do — which have *fostered* both Thatcherite policies and large-scale corruption and deforestation in the South.

The aspect of "Third Worldness" which "The New Sultans" insists most on identifying as a problem in Guyana is "Asian patterns of patronage and persuasion". The article relates how, encouraged by economic liberalization, foreign investors are threatening Guyana's "hesitant steps towards a functioning democracy" by creating a climate in which forestry officials use their power to grant logging concessions as a way of maintaining a network of loyal subordinates. This commonplace practice is then given an exotic "Asian" lineage by associating it with the Malay sultans of pre-colonial times, who, it is suggested, share an identity both with modern Malaysian rulers — as individuals who exercise power "for personal ends by clientelistic means" — and with the Sino-Malaysian logging companies active in Guyana. "New sultans", the article adds, are spearheading a new "South-South colonialism which will be no less damaging than the North-South colonialism of the past."

The problem here is not the attempt to distinguish among corporate cultures from different parts of the world. That is unobjectionable; understanding the cultural baggage a Wall Street lawyer or a Singaporean magnate bring to a new situation helps in understanding how they will react to it. The problem, rather, is that the particular equation Malay sultans = Malaysian rulers = Sino-Malaysian loggers = new colonialists is unintelligible except as racial free-association. Malaysia's real sultans no longer hold much political power, nor do they have much to do with logging. Sino-Malaysian logging companies, by the article's own account, are not

themselves sultan-like patrons but rather contractors to their clients. Prime Minister Mohamad Mahathir, whatever one thinks of him as a leader, does not exercise power for ends which can be informatively described as any more "personal" than John Major's. Nor is his Malaysian government invading and colonizing Guyana in the way that, say, the British colonized India. Malaysian loggers in Guyana will produce not for their "mother country" but predominantly for the North. They are thus perhaps better described as helping to extend the same old Northern-dominated world economic system we are all familiar with rather than as pioneering a distinct, equivalent and parallel South-South phenomenon.

The article makes a final attempt to isolate "Asianness" as a cause of Guyanese problems by portraying Guyana as a blank cultural slate on which Asian "nepotistic patronage politics" are being "replicated". This image is likely to attract many Westerners in that it suggests not one role for them in Guyana but two. Not only are Westerners' "non-Asian" ways of doing things necessary to counter the introduced "Asian" patterns, but their powerful and wise guardianship is also required to "protect" the supine Guyanese.

The "replication" image, however, does not reflect the way power works in the real world. Patronage systems are not standardized, ready-made items which would-be patrons can take with them in a suitcase wherever they go, to be unpacked and imposed in any alien situation without being subject to remoulding by the locals. Rather, they evolve in historical processes of jockeying, resistance and accommodation among interest groups, resulting in *sui generis* structures in which clients have a hold on patrons as well as patrons on clients. Political change occurring in a region as a result of liberalization and foreign investment is thus never simply a "replication" of a political culture already in place somewhere else. Looking at the patronage systems of "Asia" — assuming there were some point in trying to conjure up something identifiably "Asian" out of the welter of political systems used by farmers in Sulawesi, state *apparatchiks* in Tashkent and corporate executives in Hong Kong — is unlikely to provide many more insights into what is going on in Guyana than looking at the patronage systems of Chicago, Illinois.

The seemingly anodyne catchwords favoured today by Western governments and Western-dominated development institutions to justify their interventions in the South — "evolution of democratic

institutions", "promotion of good governance", "proper supervision" and "institution-building", to mention a few — are not merely labels for processes which often undermine democracy. They are also saturated with disguised racism. This racism obstructs understanding by attributing abuses to ethnic background or "underdevelopment" rather than to the concentrations and types of power for which those governments and institutions are themselves partly responsible. To adopt such terms of discussion uncritically is indirectly to endorse this racism.

That is easy enough to do unwittingly. But in an era in which such vocabularies constitute the flag for new imperialist interventions to counter "Third World anarchy and corruption", the consequences are too real and too damaging to be able to plead naivete as an excuse.

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### **Marcus Colchester Replies . .**

The article referred to is my third publication which has focused on the political economy of the timber industry in tropical countries. The first study, published as a booklet by Survival International and the Institute for Social Analysis in Kuala Lumpur, was titled *Pirates, Squatters and Poachers: The Political Ecology of Dispossession of the Native Peoples of Sarawak*. It showed how many of the institutions of government established under British colonialism underlie the current conflict there between indigenous Dayak communities and Malaysian loggers.

The second, published by the International Work Group for Indigenous Affairs, titled *Slave and Enclave: Towards a Political Ecology of Equatorial Africa*, focused on the continuity of European forms of exploitation commencing with the slave trade, during the colonial period and in independence. It highlighted the role played by "Western", particularly French, logging companies and other extractive industries in subverting the political processes of these African countries.

The third, an abbreviated version of which has appeared in *The Ecologist*, warns of the threat posed to Guyana's indigenous peoples, forests and democratic institutions by an influx of Asian

logging companies. In all three studies I have emphasized how the domination of the local political economy by foreign interests depends on the collaboration of local elites.

The fact that the article on Guyana focuses on Asian companies is no more biased than my focus on British influence in Sarawak or my focus on French influence in Equatorial Africa. It happens to be the case that the companies most actively pressing for access to Guyana's forests are Asian and it would be well for Guyana to weigh the implications.

If Guyana is to cope effectively with this situation, it needs to be clear what the dangers are. In my article I suggest that the risks lie as much in the subversion of government and just decision-making as in the direct impacts of logging on local communities and forests. I emphasize the potentially devastating consequences of corruption and suggest that the record of Asian logging companies in South-East Asia gives strong grounds for concern. The recent expulsion from the Solomon Islands of an executive from Berjaya — one of the biggest companies trying to get into Guyana and in the process of being taken over by Rimbunan Hijau — for trying to bribe a senior government official into giving him a logging license suggests the validity of these concerns. The official noted that the incident "only highlighted the endemic corruption which surrounds the timber industry in the Solomon Islands. Sadly, this problem has only gotten out of control in the last five or six years, a period which coincides with the big influx of foreign timber companies".

Since 1992, logging rates in the Solomons have increased steeply, to a large extent due to the movement of Malaysian companies into the Islands. By the end of 1993, log exports had boomed from around 300,000 cubic metres in 1991 to around 700,000 cubic metres. This year, according to a World Bank study, the cut may almost double again, up to 1.3 million cubic metres. At this rate the Solomon Islands' old growth forests will be exhausted within eight years.

My article does suggest that the mercantilist business culture of Asian, particularly Malaysian, loggers is shaped by traditional forms of patronage, clientelism and an unquestioning respect for power, which favour corruption and fit ill with attempts to ensure accountability and a consideration for the rights and needs of local communities. In contrast to countries whose rulers, if not citizens, espouse so-called "Asian values" — characterized by rapid "market integration", autocratic rule and a denial of

universal human rights — countries like Papua New Guinea, the Solomon Islands and Guyana are attempting to develop "democratic" political systems, where the activities of those in power are subject to public scrutiny and control.

It is ingenuous to suggest that because nepotistic relations may be culturally sanctioned and socially benign for village level decision-making, the same practices are beyond criticism when portioning out the contracts, investments and profits of international capitalism. The "global village", in which we live today, requires a little more surety that the interests of other citizens will be taken into account.

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## **Wildlife Tourism and Rights**

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Let me make some remarks on "The Political Economy of Tourism" by Anita Pleumarom (*The Ecologist*, July/August 1994) drawing them from my 20 years' experience as the director of an Alpine national park.

1. However sad the encroachment of industrial culture may be on the (last) aboriginal or preceding cultures, its total victory appears to be almost ineluctable. Sooner or later even the most remote spot on earth will somehow be developed.
2. However disruptive the role of tourism may be, it is far less disruptive than that of any other kind of development such as mining, logging, industry and often even modern agriculture. This applies both to the local cultures and to the local wildlife and wilderness.
3. The local people's right of developing their land as they like is not *per se* an ecological guarantee. Not rarely they (or their bosses) have become allies of developers.
4. That right is anyway not an absolute one or a human right, especially if their land is ecologically valuable or precious. A national park can be enforced — upon compensation — as rightly as any highway or hydroelectric plant, although I obviously prefer the former. I sympathize with the native cultures, but the native wildlife seems to me more at risk.

**Francesco Framarin**  
Quart  
(Aosta)  
ITALY

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21 November, 1994: **AID TO CHINA; THE ROLE OF INTERNATIONAL DEVELOPMENT AGENCIES**. A one-day seminar aimed at NGOs and other interested people wanting more information about development issues and NGO activity in China. Contact: Laura Rivkin, Great Britain-China Centre, 15 Belgrave Square, London SW1X 8PS, UK. Tel: 071 235 6696; Fax: 071 245 6885, e-mail gbcc@gn.apc.org.

23 November 1994: **THE VIRTUOUS CIRCLE: Integrating environmental objectives with social and economic development**. The Station Hotel, Perth, Scotland. Organized by Scottish Wildlife and Countryside Link, PO Box 64, Perth PH2 0TF. Tel: 0738 630804.

10-14 December, 1994: **10th International IFOAM Conference on Organic Agriculture** at Christchurch, New Zealand. For more details contact Conference Secretariat, PO Box 84, Lincoln University, Christchurch, New Zealand. Tel: +64 (3) 325 3819, Fax: +64 (3) 325 3840

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**The 1995 Conference on Environmental Pollution**, July 15-22, 1995, in St Petersburg, Russia. This is a forum for contact between scientists from Russia and other CIS states, and the rest of the world. Papers are invited on aspects of air, water and land pollution, monitoring, control and remediation, ecology, ecotoxicology, conservation and teaching. There will be a social programme of visits to cultural sites around St Petersburg, and

other persons accompanying delegates may attend at a reduced rate. Accommodation will be on board a cruise ship. Contact: Linda R Wood, Pollution Research Unit, Dept. of Biological Sciences, Napier University, 10 Colinton Road, Edinburgh, EH10 5DT, UK. Tel: 031 455 2226/2326, Fax: 031 452 8023.

## PUBLICATIONS

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