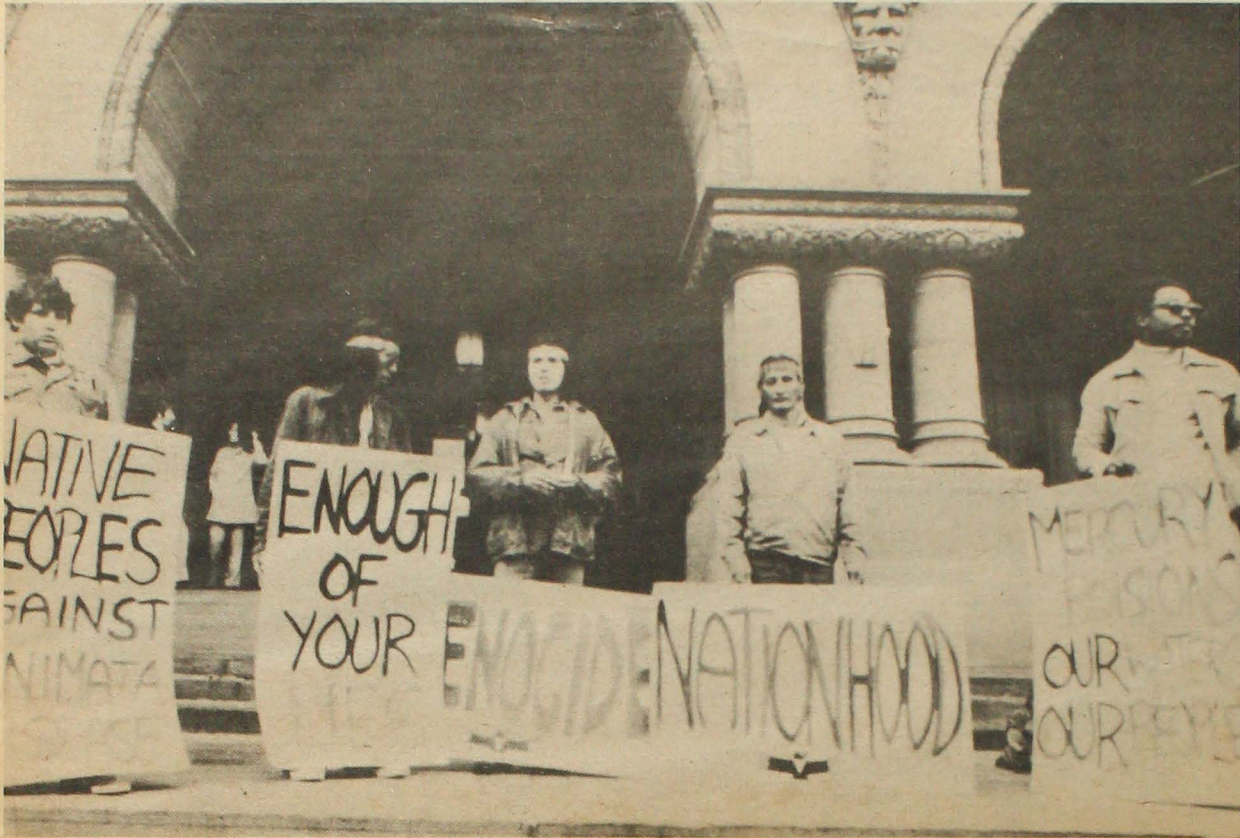


Quicksilver & slow death



A study of mercury pollution in northwestern Ontario

Introduction

Comprehensive information on mercury contamination of the environment in Canada is simply not available. In fact, anyone setting out to understand the seriousness of the mercury problem, or that posed by any other environmental health hazard, will come face-to-face with tremendous obstacles. Not the least of these are the difficulties encountered in obtaining what should be, and technically is, "public information".

The Ontario Public Interest Research Group (OPIRG) established a research team in June 1976 and charged it with the task of searching out, and critically evaluating existing information on mercury pollution in Canada. What follows is the result of this team's efforts.

The paper is divided into a number of distinct sections which can be read independently of each other. However, if one is to grasp something of the totality of the mercury problem, within its proper historical perspective, a complete reading is essential.

We do not pretend to have produced the final word or the definitive statement on the mercury issue. We have tried, however, to present enough material and analysis upon which you can judge the situation for yourself. Opinions expressed are offered in the hope of stimulating widespread discussion and debate.

To this end, we welcome your comments and criticisms. For us, the publication of this paper marks the beginning of OPIRG's efforts to put an end to widespread environmental contamination and associated human suffering.

Hopefully, our research efforts will make a contribution towards this end.

Inside

Medical Aspects	page 2
License to Pollute	page 8
Corporate Polluters	page 14
Governments' Response	page 16
Native People	page 25
Editorial	page 27



The Ontario Public Interest Research Group

Handwritten notes:
 Kimpson
 Wed Mar 14
 9:00
 leave
 leaflet

Handwritten: 20 155086

International Context

Japan

Mercury injures thousands

Two separate incidents of a seriously disabling disease caused by methyl mercury poisoning have claimed over 800 "official" victims and countless others in two coastal cities of Japan.

The disorder, called Minamata Disease, resulted from eating fish which had been contaminated by the mercury laden wastes of Chisso Corporation in Minamata and Showa Denka, in Niigata.

Symptoms of the effects of mercury pollution first appeared in the spring of 1956 when a young girl was hospitalized suffering from apparent brain damage. Within the following year 52 victims had been

reported, half of whom had died.

Many residents and health professionals feel that the seriousness of the situation, which has now reached epidemic proportions, could have been averted if the companies involved had not denied responsibility and if the government had acted in a more decisive manner. As it was, the government responded to the problem by instituting a ban on commercial fishing in Minamata Bay, a response, residents point out, that did little to protect the health of the local fishermen and their families who were the most seriously affected. And Chisso Corporation denied all

responsibility and deliberately suppressed evidence of their guilt.

In 1959, Dr. Hosokawa, a company doctor, reported that a cat which was fed acetaldehyde sludge from factory effluent showed typical Minamata Disease symptoms before it died. Chisso's reaction was to order Dr. Hosokawa to terminate his experiments and to conceal the results. Factory officials were further instructed to negotiate with the poisoned victims, paying them small indemnities in order to hush up the problem.

Chisso's attempts to cover up the problem would probably have been successful if a second mercury poisoning incident, affecting 500 people in the town of Niigata, had not occurred.

The Niigata victims believed that if the original tragedy had been responded to, the second one need not have occurred. The court concurred with their opinion. It ruled that the polluting company, Showa Denko, had been negligent because "it had not been careful enough and had failed to take adequate precautions in spite of the first incidence of Minamata Disease".

In awarding compensation to the victims the court further stated that "there is no reason whatsoever for the interest of the enterprise to be protected at the sacrifice of the life or health of the people".

Encouraged by the show of strength of the Niigata victims the original Minamata Disease patients took Chisso Corporation to court in 1969.

The government's decision that the burden of proof should lie with the company to prove its innocence rather than with the people to prove the company's guilt eventually enabled the victims to win their case. After a bitter four year court battle and 18 years after the first person was hospitalized for Minamata Disease the victims were finally awarded compensation.

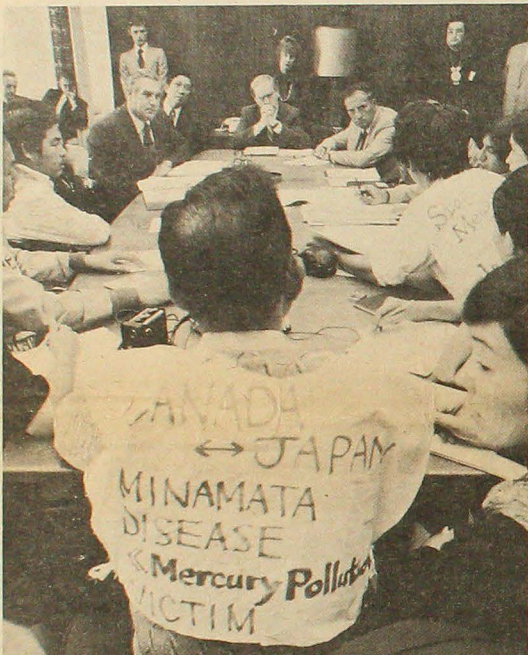


photo by Enishi and Shiota

The Minamata Disease Patient's Alliance did not win against Showa Denko and Chisso Corporation without a struggle. Many years of protests, demonstrations, confrontations and a strong and militant organization was necessary to succeed. Representatives of the Japanese victims are shown above with the Native people from White Dog and Grassy Narrows at a meeting with government officials.

Dow Chemical charged with mercury pollution

The decision of the Court of Common Pleas, in the State of Ohio, in a case against Dow Chemical of Canada and the BASF Wyandotte Chemical Corporation is still pending after four years of court battles.

The law suit, filed by the State of Ohio in 1972, charged that as a result of mercury contamination in the St. Clair River System harm had been "caused to Ohio's economy, revenue, plant and animal life and environment".

In February 1974, the court entered summary judgment which rejected the state's request that the polluting companies be ordered "to remove or render harmless the residue of the alleged discharge" and "grant compensatory damages in the amount of \$25,000,000".

On April 24, 1975 however, the Ohio Court of Appeals held that summary judgment against the state was entered prematurely and remanded the case to the Court of Common Pleas for further proceedings.

The charges against the companies came as a result of studies conducted in 1970 which demonstrated that fish caught in the St. Clair waterway and the Ohio shore of Lake Erie contained mercury levels well above the allowable safe standard of 0.5 ppm.

The investigators showed the source of pollution to be two large chlor-alkali plants owned by Dow Chemical near Sarnia and Wyandotte Chemicals near Detroit. It was later revealed that an estimated 200,000 pounds of inorganic mercury had been dumped into the St. Clair river system over a 20-year period.

Alarmed by these test results the State of Michigan also took action. On April 14, 1970, a ban was imposed on all commercial and sport fishing in the western part of Lake Erie and the St. Clair river system. This announcement increased the total number of states that have mercury contaminated waterways to thirty-three.

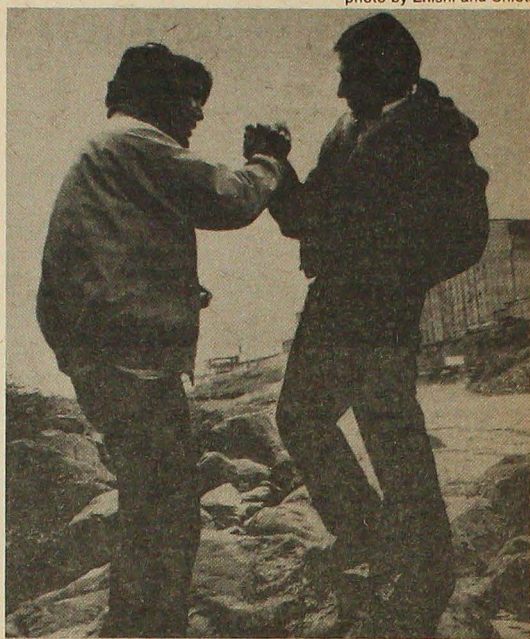


photo by Enishi and Shiota

The clasped handshake expresses the solidarity of the Japanese and Canadian native victims of mercury pollution.

Iraq

Food poisoning linked to mercury

Iraq has been struck with what has been described as the worst incidence of food contamination ever recorded with conservative estimates placing the death toll at over 3,000 with more than 10,000 others seriously afflicted with methyl mercury poisoning.

On two previous occasions in Iraq, 1956 and 1960, people were killed and injured when seed grain

treated with methyl mercury fungicides were mistakenly consumed. But neither of these tragedies could compare with the more recent 1971-72 incident.

It is difficult to develop a detailed picture of the disaster. The government was quick to impose a total news blackout and consequently very little information was available. However, enough of the highlights are known to point to a macabre comedy of errors.

Two consecutive years of famine had virtually wiped out all stocks of wheat, leaving insufficient grain for both seed and food purposes. The government, in the hopes of staving off future famine, distributed methyl mercury treated seed grain which has a higher yield than untreated seed.

Unfortunately, by the time it had been distributed many peasants had already planted their reserves and needed it for food, while others had deliberately sold their reserves in order to claim as much free seed grain as possible.

The warnings on the grain bags were displayed in English and Spanish while the language of the people was Arabic. Consequently the people starving and without an alternative food supply began eating the mercury-treated grain.

Once the government realized what was happening they dropped by plane 500,000 leaflets which warned that the grain was for planting only and was poisonous for eating. The 500,000 leaflets, however, were insufficient for the 5 million peasants, many of whom were illiterate in any event.

In desperation the government issued a decree which stated that those who were found selling the poisonous seed would be shot, a manoeuvre which only served to panic the people, who responded by dumping their seed into the River Tigris, thereby polluting the water, contaminating the fish and increasing the seriousness of the problem.

West Pakistan

About 100 cases of methyl mercury poisoning were reported in West Pakistan in 1961. The disease, at first mistakenly diagnosed as encephalitis, was caused by the consumption of seed grain treated with Agrosan-SW, an organic mercury compound.

Panorama, Guatemala

Forty-five people, more than half of them children under 10 years old, have been stricken with what appeared to be an encephalitis outbreak.

An autopsy revealed large amounts of methyl mercury in one victim and authorities have now realized that the problem is related to the consumption of wheat seed which was treated with the fungicide Panogen.

Sweden

Swedish authorities have imposed a ban on the use of methyl mercury compounds in agriculture and the use of phenyl mercury compounds in the pulp and paper industry. The announcement, effective 1966-67, comes as a result of a series of investigations designed to study the use of mercury and its impact on the environment. The studies produced some very disturbing findings.

Most notable was the discovery that metallic mercury which is used by the chlor-alkali industry could be transformed into toxic methyl mercury by micro-organisms under anaerobic conditions. This information, coupled with the finding that mercury (as methyl mercury) was found in high concentrations in fish, pointed to the possibility of a serious health hazard.

In 1967, the government established the acceptable level of mercury in food to be 1 ppm. Later it was discovered that there had been a miscalculation which resulted from the use of dry weight as opposed to wet weight, which inflated the acceptable level by at least twice as much.

To counter the error the Swedes have been warned to eat only one fish meal per week. Authorities admit, however, that for this fish eating nation the recommendation has proven unsuccessful.

Canadian Context

"New Minamata-Type Episode" Predicted in Quebec

A similar but more serious situation is shaping up in northwestern Québec where there is no longer any doubt that mercury has begun to poison. The victims are primarily the Wassini Cree, who inhabit the Bell River system area which drains into James Bay.

Up until the early 1970's, limited contact with white technology and culture had made it possible for them to maintain a traditional lifestyle. In 1968, the Dept. of Indian Affairs opened up a fish processing plant at Matagami on the Bell River.

The operation was designed to supplement the Indians' income while minimizing the disruption to a lifestyle that was largely dependent on fishing as a source of food and income. (Once opened, the plant provided a seasonal income of \$900 - \$2,000 per person.)

In the summer of 1970 analysis of fish showed high concentrations of mercury in the lakes and rivers of the area. In the fall of the same year the processing plant was forced to close down and all commercial fishing was banned.

It was not until the following year however, that officials of National Health and Welfare arrived in the Wassini settlements to explain the closing of the plant. And still, no systematic attempt was made to inform the residents of the dangers of mercury poisoning.

The government did, however, conduct tests on some of the natives and four were sent to Montréal for followup. Results from this testing showed blood levels ranging from 100 ppb to 135 ppb. Neither the test results nor their implications were made available to the Indians.

Instead, the government warned the residents not to eat the fish, provided some families with an extra \$25 per month, and went back to Ottawa leaving the Indians with no alternative food supply. As a result consumption of the contaminated fish continued and mercury blood levels increased.

In 1972, a joint federal-provincial study into mercury contamination in northwestern Québec was completed. The report, which was not made public until 1975, expressed concern over the amount of industrial pollution in the area and cited Domtar's chlor-alkali plant as a major source of mercury emission.

Since the plant opened in 1966, Dr. Leo Buffa of the Environmental Protection Service, estimates that 7 tons of mercury have been leaked into the water system. This loss represents 60 per cent of all the mercury purchased by the company in the first four years of operation.

Despite this information, Domtar has consistently denied responsibility for the dangerous levels of mercury found in the Indians. Instead the company blames the high "background levels" — mercury

from natural sources — as the major contributing factor.

As G.H. Tomlinson II, Domtar's vice-president of Research and Environmental Technology has argued: "Domtar has not denied that mercury has been emitted to the Bell River from its Quevillon operation. However, the amount is small in relation to the amounts involved in the total environment."

Independent reports disagree with Domtar's statements. A recent study, released in June of 1976, states:

"It is quite possible for us to conclude that the region in N.W. Québec in spite of a relatively weak concentration of mercury in its rocks, is definitely contaminated by the presence of an abnormal amount

Mercury is rapidly becoming a major environmental contaminant and a serious health hazard right across Canada. Although levels in areas outside of northwestern Québec and Ontario are not high enough to cause acute symptoms of mercury poisoning, there is still considerable cause for concern.

It has been demonstrated that prolonged consumption of fish containing even sub-lethal levels of mercury can easily lead to chronic forms of mercury poisoning. In Japan, for instance, physicians are now predicting that the number of verified Minamata Disease patients may eventually exceed 10,000 because of long-term low level exposure.

Elevated mercury levels in fish represent a considerable health risk wherever they occur, but espe-

cially where nearby populations consume large amounts of fish as is the case on many Canadian Indian Reserves. Officials of the National Indian Brotherhood have recently announced that the mercury pollution problem has been discovered on another four reserves.

Pending the results of further tests that number might be increased. The reserves identified so far include the Walpole Island reserve in Ontario, St. Regis reserve near Cornwall, Eel River Bar reserve on the northern shore of New Brunswick and Caughnawaga reserve near Montreal.

In fact, so extensive is the problem of mercury pollution in Canada that there is scarcely a province which does not have some area contaminated by the heavy metal.

Japan."

These test results, disturbing in themselves, do not accurately reflect the severity and extent of the problem. Only 60 per cent of the adult population was tested, and it has been suggested that those who were not included may be exposed to the greatest danger.

Furthermore, the blood samples were taken in the early part of the fishing season despite the fact that blood levels increase with increased fish consumption.

In a study completed this year entitled "A Study of the Medical and Toxicological Effects of Organic Mercury in Northwestern Québec", Dr. Barbeau states:

"There is no doubt that the Indian population examined is not neurologically normal. The signs observed, although not significant alone, strongly indicate organic mercury poisoning." The report goes on to say it found "objective signs of intoxication and neurological effects" caused by mercury contamination in 25 of the 49 Cree and Algonquin examined and concluded by warning that conditions for "a new Minamata-type episode of organic mercury poisoning" already exist.

Another report issued by the Process Research Division of the Canada Centre for Inland Waters concludes that Domtar's pulp and paper complex "had made a major contribution of industrial mercury to Quevillon River. Mercury levels in sediment on the river bottom have shown a 60 fold increase as a result of Domtar's mercury wastes."

More recently it has been shown that the Noranda Mines smelter at Noranda, Québec, has also been a major source of mercury pollution. In the surrounding region, fish were tested as high as 48 ppm, exceeding the maximum safe level by 96 times.

Despite all the evidence against Domtar and Noranda, the Québec government recently announced that it will not prosecute the companies. Instead, Social Affairs Minister Claude Forget and Envi-

ronment Minister Victor Goldbloom, said the province will pay the companies as much as \$5 million for the installation of anti-pollution equipment and will encourage the Indians "to modify their eating habits".

ronment Minister Victor Goldbloom, said the province will pay the companies as much as \$5 million for the installation of anti-pollution equipment and will encourage the Indians "to modify their eating habits".

Manitoba

The first recognition of mercury contamination of fresh water fish in Canada was reported in 1969 in Manitoba. Fish taken from the South Saskatchewan River drainage area, including Lake Winnipeg were found to contain up to 10 ppm.

A search for the source of contamination showed that the Inter-provincial Co-operative Company's chlor-alkali plant had been dumping excessive amounts of untreated mercury into the Saskatchewan river since it opened in the early 1960's.

More recent tests, conducted in July and August of 1976, revealed that about 25 percent of the 380 Manitoba Indians tested were found to have quantities of mercury in their bodies that exceeded the acceptable health limits.

The testing which was conducted by the federal health department and included over a dozen reserves, indicated that Indians from at least half of the reserves surveyed had too much mercury in their systems. The survey further suggested that some Indians may be advised to stop eating all locally caught fish.

Saskatchewan

In northern Saskatchewan native people have a higher level of mercury in their blood than any other Saskatchewan group. This was the conclusion of a series of tests which also revealed that the levels of mercury in the blood of newborn babies was almost "double that of their mothers."

Although, there are, as of yet, no documented cases of mercury poisoning in infants, authorities suggest that the possibility does exist. Mercury is not a specific disease that can be easily identified and to date as Dr. C.A. Dennis of the Prairie Institute of Environmental Health has pointed out "it certainly hasn't been looked for."

To complicate matters, symptoms of mercury poisoning "mimic birth defects quite closely" and often resemble mental retardation or conditions of the nervous system such as cerebral palsy.

British Columbia

In Pinchi Lake, B.C. virtually all species of fish tested had a contamination level of mercury in excess of the allowed 0.5 ppm. Pinchi Lake, about 100 miles northwest of Prince George and 20 miles north of Fort St. James, has long been the site of a mercury mine.

Testing carried out in 1970 showed that levels of mercury in Lake Trout ranged from 2 to 4 ppm. Followup surveys conducted in 1974 indicated that these levels had increased and were now as high as 8.31 ppm.

The problem of mercury pollution extends to the lower mainland of British Columbia. In the Squamish area, where the FMC chlor-alkali plant dumped three tons of mercury into the water in 1970, flounder were found to contain 1.42 ppm and crabs had levels 260 times greater than what is considered safe.

High levels of mercury were also found in the crabs of the lower Fraser River. Crabs from Roberts Bank had readings of .9 ppm and on Sturgeon Bank, the same species were reported to contain 3.7 ppm. Similarly, dog fish in the English Bay area were found to contain up to 1.94 ppm of mercury.

New Brunswick

An Environmental Protection Service survey in 1973 confirmed the results of earlier tests which revealed that soft shell clams collected in an area just below the chlor-alkali plant at Dalhousie contained 3.59 ppm of mercury.

The tests further showed that the mercury content of sediment samples near the C.I.L. plant were about 800 times higher than the normal background levels.

One N.I.B. official recently commented that Indians at the Eel River Reserve had been eating the contaminated clams, "and some of them were eating clams three times a day." Although he goes on to suggest that the mercury levels have since dropped, the problem has not disappeared.

Mercury levels in fish tested in New Brunswick are also well above the accepted limits. Eight species of fish at the mouth of the St. John River exceeded the government's safe level, with striped bass averaging more than four times the upper limit established for human consumption.

The high mercury levels, particularly in striped bass, are expected to cause considerable hardship for the area. One report, prepared by M. Dadsell of the Huntsman Marine Laboratory concluded that: "The people of the estuary depend on these fishes for both food and employment and it is possible that serious health and economic problems may be developing."



Medical Aspects

"Methyl-mercury poisoning destroys the brain cells. It eats them away. When the worst of the outbreak hit Minamata in the late 50's, some of the patients had to be carried, all night, along the roads outside of Minamata, so their screams would not disturb people who were trying to sleep."

The same brand of industrial pollution which victimized these Japanese fishermen and their families is now poisoning natives in N.W. Ontario and Quebec. In Minamata 107 are now dead, and many hundred, possibly thousands, of individuals, including unborn children, have suffered irreversible damage to their brains and chromosomes.

For the natives of Northwestern Ontario and Quebec, the horror story of Minamata may be a prelude of things to come. Methyl mercury is a cumulative poison. It is completely absorbed from food and slowly excreted from the body. Once absorbed, the mercury is transported by the blood throughout the body, almost entirely by the red blood cells. Mercury easily passes the blood-brain barrier and this is the point at which it causes the most damage.

Once in the brain, the mercury tends to concentrate in specific areas — principally the cerebellum, which regulates balance, and the calcarine fissure of the visual cortex. Lesser amounts of mercury find their way to other regions, including the frontal lobe where they may cause disturbances in personality. The mercury causes the brain cells to shrink, and eventually the brain resembles a sponge. The signs and symptoms of methyl mercury poisoning reflect primarily this damage to the central nervous system.

Effects on health

In the early stages of methyl mercury poisoning a victim may experience the following symptoms:

- A numbness (paraesthesia) of the fingers, lips, tongue.
- A loss of peripheral vision (tunnel vision).
- Hearing difficulties, especially picking out one voice from another.
- Speech disorders, (dysarthria), difficulty in articulating and swallowing.
- Psychological changes such as aggression, paranoia, depression or agitation.
- Stumbling gait (ataxia) and a clumsiness in handling familiar objects.

ness in handling familiar objects.

- Inability to write, read or recall such basics as the alphabet, or familiar addresses.

Eventually these symptoms can lead to muscle spasms, general paralysis, deformity, coma and death. There is no proven effective therapy for mercury poisoning; it is incurable. There is no specific time period between high levels of mercury consumption and the onset of symptoms; this can take days as was the case in Iraq with mercury contaminated seed grain, or up to 10 years can pass as was the case with many Japanese in Minamata.

"The nature of the damage caused to the nervous system by methyl mercury in sufficient concentration is such that effects may not become apparent for many years."

From an Ontario Government report on Mercury, 1973

Methyl mercury poisoning has a number of attributes which contribute to making this disease even more horrendous than the symptoms might imply. One is that the mercury has a high affinity for placenta and fetal tissue. This means that a mother can actually be protected from the poison because the mercury is trapped in her womb. Toxic effects in the new-born child may appear as slight mental retardation; or, in extreme cases, the child will show symptoms of cerebral palsy with severe retardation. Such poisoning is irreversible and can occur up to three years after the mother is exposed.

Another equally insidious aspect of mercury poisoning is the manner in which long term, chronic cases of poisoning (often difficult to diagnose) can develop over night into the acute disease described above.

The subtle, long-term aspects of environmental methyl mercury poisoning actually constitute a very serious social disease that is both recognizable and preventable. A larger number of slightly retarded children, an acceleration in violent deaths and suicides, increased alcoholism and antisocial behaviour, and an excessive amount of hypertension, heart, liver, and pancreas disease, all point to symptoms of methyl mercury poisoning. To simply test specific individuals, as has been the case in Canada, and not to test the whole communities for symptoms of mercury poisoning is ex-

What is Methyl Mercury?

There are two general classes of mercury compounds — inorganic and organic. Inorganic may exist as elemental mercury (the kind found in thermometers) or as salt (mercuric chloride, mercuric oxide, etc.). It is inorganic mercury that is most often responsible for mercury poisoning in industrial workers.

The inorganic mercury that was once used extensively in the felt hat industry caused mental instability in some of the hatters. This was responsible for the expression 'mad as a hatter'.

Mercury becomes organic mercury through combination with a one-carbon organic molecule. The type most often found in the environment is methyl mercury, an organic mercury compound. Of all the mercury compounds methyl mercury is the most poisonous because of its tendency to be almost completely absorbed by the body.

tremely irresponsible from a medical point of view. And to ignore populations who have been exposed to mercury simply because there are no overt symptoms of mercury poisoning serves to heighten that irresponsibility.

The degree of risk

Medical opinion would suggest a correlation exists between the level of mercury in a person's blood, and the total body burden or the potential health risk that person bears. Amounts of mercury in the blood are indicated by a ratio of mercury to blood, usually in parts per billion (ppb). It is possible that any level of mercury in the body represents a potential health risk — the World Health Organization has recommended that all efforts be made to keep mercury intake at a minimum. Mercury compounds have been shown to cause damage to chromosomes (the carriers of genetic material) in concentrations lower than any other known substance. And autopsies have shown brain damage in exposed individuals who consumed amounts of mercury insufficient to bring on symptoms of poisoning.

The Canadian government has used levels of mercury in blood as a convenient basis for determining whether or not an individual is "at risk". But blood mercury levels can fluctuate considerably over time. Seventy days represents the amount of time necessary to reduce the amount of mercury in your body by half — assuming no more has been ingested. Mercury in the brain, however, is more stable, with a "half-life" of 230 days.

A normal level of mercury in blood is below 20 ppb. For non-fish eaters the norm is below 5 ppb. In Canada health officials generally recognize 100 ppb as a maximum "safe" level. In Japan many individuals are now seriously ill after experiencing blood levels of 100 ppb. Acute poisoning has occurred at levels close to 200 ppb although more often cases develop between 400 and 1000 ppb.

Of the 1300 residents of Grassy Narrows and White Dog Reserves in north west Ontario, 50 have been found so far to have over 100 ppb of mercury in their blood. The highest concentration of mercury reported is approximately 150 ppm in a hair sample which indicates a level of 500 ppb in the blood.

Does mercury poisoning exist in Canada?

In August, 1976, Ontario Minister of Health, Frank Miller, stated that reports of mercury poisoning among native peoples have been greatly exaggerated. According to Miller: "It must be strongly emphasized that no illness due to mercury has been found in Canada in any persons regularly eating contaminated fish."

This is the official government position regarding mercury poisoning and it is a position as difficult to understand as it is to defend. To emphasize that no illness due to mercury has been found is to downplay the very serious threat to health posed by mercury. It is also false.

Unless the only proof acceptable to the government is a stack of corpses, there can be little doubt that illness due to mercury exists among the native peoples. A number of physicians have on different occasions testified to the existence of clinical symptoms of mercury poisoning among a large percentage of the exposed population.

In a study of the Medical and Toxicological Effects of Organic Mercury in north western Quebec completed on June 15, 1976, Dr. Andre Barbeau concluded that: "This mercury contamination has already

produced objective signs of poisoning and attendant neurological symptoms in 25 out of 49 natives examined in the course of this preliminary study. The existence of poisoning has been confirmed by facts obtained from the autopsy of a patient previously examined and clinically recognized as poisoned. Conditions for a new Minamata-type episode of mercury poisoning already exist in N.W. Quebec and call for firm, energetic and urgent government action."

Dr. F. Hicks, a senior consultant for the Dept. of Health and Welfare, had earlier voiced a warning similar to that of Dr. Barbeau. Hicks claimed that:

"While we do not have proven cases of Minamata disease in our native peoples, there is no question that present environmental conditions, both in N.W. Quebec and N.W. Ontario do not differ significantly from the situation that caused the tragedy in the Japanese fishermen of Minamata Bay.

"Quite frankly, I think we're probably going to have some bad Minamata disease showing up. And it could happen any time."

Dr. Peter Newberry, a Toronto physician who has spent much of the last 16 months living on Grassy Narrows reserve, is convinced that the early signs of mercury poisoning are evident among the Indians. He conducted extensive tests on 17 volunteers, all heavy fish eaters, and discovered at least one symptom in each of fifteen. "My tests have shown up a surprisingly high incidence of impairment of peripheral vision."

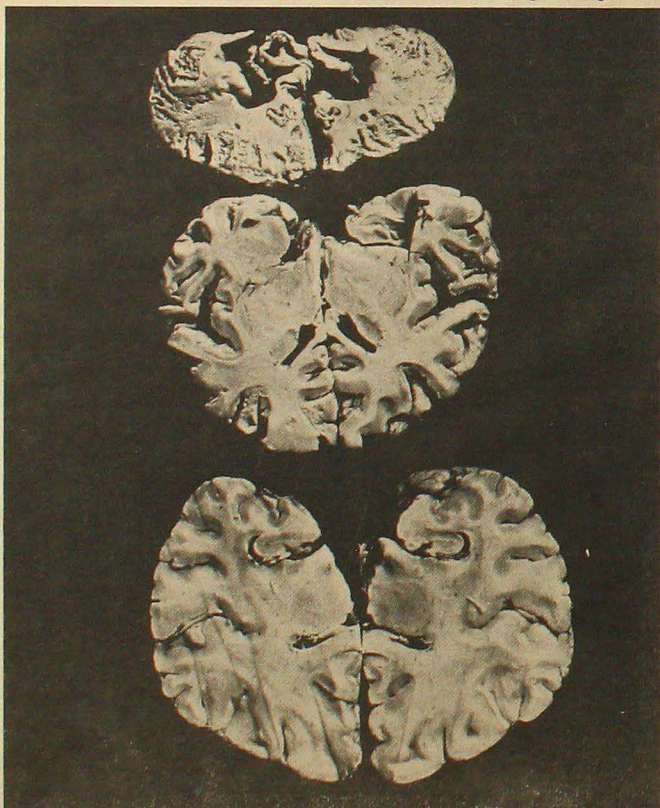
Dr. Newberry claims that "... at least 10 people in the community are going to get clinical mercury poisoning. All the classic signs are here ..." Perhaps the most telling evidence of the effects of mercury on the health of native peoples is the findings of Dr. Harada, who visited Canada from Japan while touring areas of mercury pollution around the world.

Dr. Masazumi Harada is the doctor responsible for diagnosing the congenital Minamata Disease victims in Japan. A Neurologist at Kumamoto University he is the recognized expert on the clinical aspects of environmental methyl mercury pollution. In the spring of 1975, Dr. Harada spent a week on White Dog and Grassy Narrows reserves where he tested 89 people for symptoms of mercury poisoning. Here is a summary of Dr. Harada's report and his disturbing conclusions:

"Clinical examinations at Grassy Narrows and White Dog were conducted in the same manner we conduct them with the inhabitants of the Minamata area. The results: There are numerous neurological symptoms even among those who seem to be in good health and working. Sensory disturbance, disturbance of hearing, constriction of the visual field, tremor, adiadokokinesis (which are all neurological symptoms found often in methyl-mercury poisoning) were found in large numbers among those examined.

"There were 37 cases in which some type of sensory disturbance was found. Impairment of the visual field was found in 16 cases. Seven of these cases had asymmetric constriction and tunnel vision. This is very significant in diagnosing Minamata Disease.

"There were many cases in which the constriction of the visual field could not be explained by circulatory disorders and aging and alcoholism. The fact that mercury levels in the hair and blood of these cases in which both husband and wife show these symptoms (i.e. where symptoms can be traced by families), and taking into consideration the epidemiological circumstance, the effect of methyl mercury among seven cases cannot be denied."



From Top: Sections of brain from 7 year old boy who died after four years of mercury eating away cells; an 8 year old girl who died after two years and nine months; a thirty year old man who did not have Minamata Disease. photo by Eugene Smith

Medical Aspects

Real people with real problems

The tests and statements by doctors familiar with the mercury problem clearly indicate that all is not well on the Indian reserves. What is actually being experienced by the Indians on the reserves presents another, less abstract version of the same story.

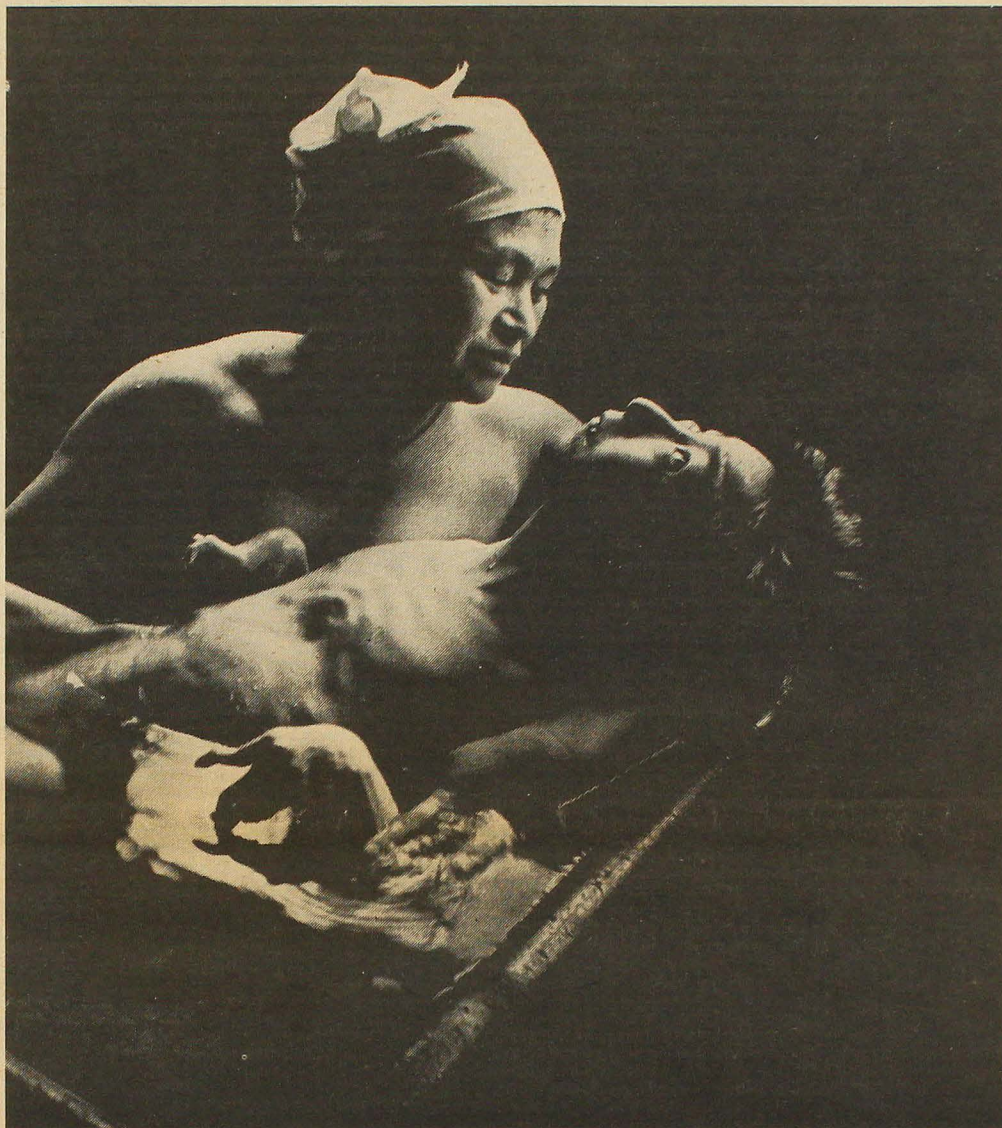
Matthew Beaver is a resident of Grassy Narrows. According to tests his blood level is 350 ppb, well into the levels at which mercury poisoning has occurred in Iraq and Japan. Although he doesn't feel sick, his upper lip quivers in a constant tremour. His benumbed hands shake, so he keeps them stuffed in his red windbreaker pockets.

He has trouble with his balance. "And then I started to have trouble with my speech", he says, "I can't talk the way I used to. I stutter a little. And I can't see too good... Maybe I'm getting old". A one-time pro-hockey prospect and former fishing guide, Matthew Beaver is 34 years old. Matthew was first informed of his mercury count in 1973, but he continued to eat fish in 1974, and into 1975. Matthew is a guide at Grassy Lodge. He's paid to eat fish. And he was warned not to mention mercury.

Marcel Papassy, also of the Grassy Narrows Reserve, recounts the tragedy of one of his children. The child was born blind and was never able to sit or hold a bottle. Finally the family was unable to provide the care needed for such severe birth defects and they gave the baby up. Papassy himself can walk but claims to suffer pain in all his joints. He had been a fishing guide and fed his family on fish.

Similar birth defects have been experienced by natives of the Matagami Reserve in N.W. Quebec. Minnie Coonish's baby boy was born normal, but within the first year of his life he developed paralysis in both arms and refused to eat. The doctors were not able to tell her what was wrong but Minnie then realized that the symptoms might be indicative of methyl mercury poisoning. Through her pregnancy she ate fish caught from local river systems, many of which have been shown to be contaminated by mercury.

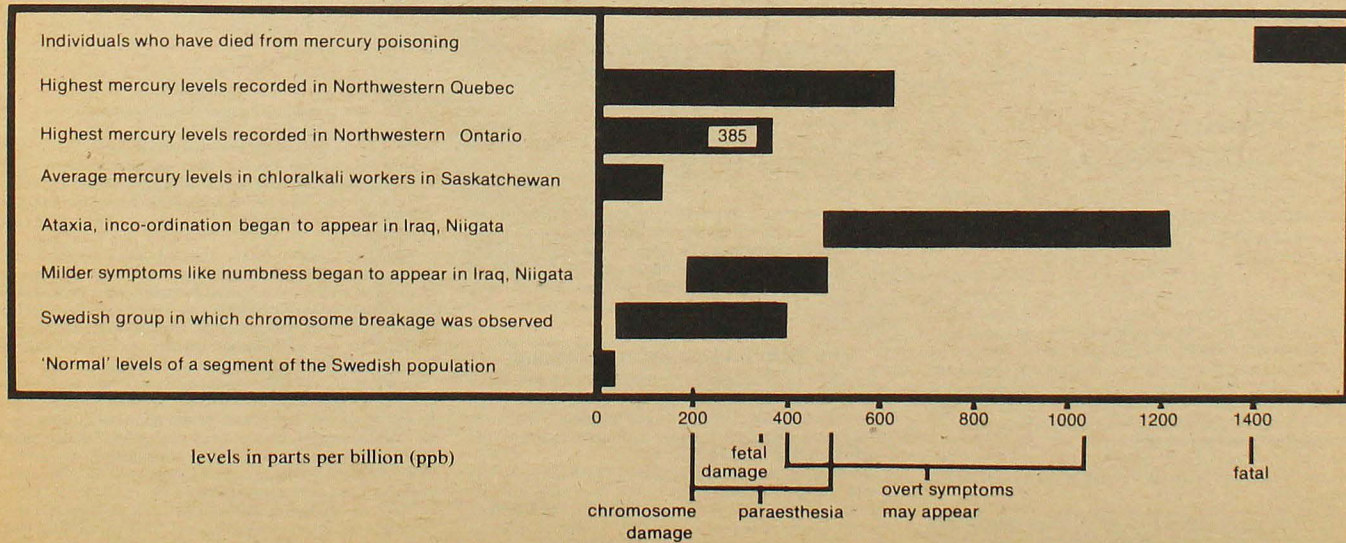
Thomas Strong was a Kenora Indian man who died in 1972. He was known to be a big fish eater and the question of mercury poisoning was raised. An inquest was held, attended by many Indian people. In fact, a very high blood mercury level was found — 224 ppb — but Dr. D.J. Stopps testified that the blood sample must have been contaminated, somehow, with mercury and that there was no proof of poisoning. No other blood sample was analysed; no tissue examination or brain histology was done. The coroner's jury concluded that Thomas Strong had died of a heart attack. But the jury also recommended that in any future deaths, investigations for mercury poisoning ought to be carried out. Two years later the provincial coroners office admitted that no autopsies had been performed since.



Tomoko Uemura, born in 1956, was attacked by mercury poisoning in the womb of her outwardly healthy mother. No one knows if she is aware of her surroundings.

Taken from MINAMATA by Eugene and Aileen Smith

Methyl-Mercury Levels in Blood and Health Hazards



Sources and Regulations

Mercury is used as an ingredient in the production of a wide variety of products including: dental fillings; electrical devices and control instruments; pharmaceuticals; and vinyl chloride, the important component in the production of plastic.

Mercury compounds are also found in agricultural and industrial fungicides or slimicides, paints, batteries, and assorted medicinal preparations.

Table 1 lists the various uses of mercury together with an estimate of the sources of mercury contamination of the environment, for the year 1970.

Effluents from chloralkali plants

The largest industrial consumer of metallic mercury in Canada has been the "Chloralkali Industry". In 1975, according to the Prairie Institute of Environmental Health, approximately 90 per cent of the market disappearance of metallic mercury resulted from its use as a cathode in the

Table 1:
Sources of Mercury from Manufactured Products in lbs., 1970

Ind. & Contr. Instruments	
Thermometers (Med.)	14,000
Switches & Relays	10,000
Other Instruments	6,000
Electrical Apparatus	
Batteries	26,000
Lamps	2,400
Power Tubes	4,600
Pharmaceuticals	4,500
Paint	20,000
Other Products	75,350
Total	163,000

Emissions in Canada, 1970

	Emissions	
	tons	percent
Production		
Mercury mining	1.05	1.3
Mercury beneficiation	0.76	0.9
Secondary production	0.004	*
Distillation	0.002	*
Production total	1.82	2.2
Metallic Mercury Use		
Chlor-alkali industry	26.4	32.1
Dental amalgams	0.17	0.2
Electrical equipment	0.003	*
Gold recovery	0.28	0.3
Pharmaceutical manufacture	0.001	*
Instrumentation	0.03	*
Mercury Use Total	28.88	32.7
Mercury Compound Use		
Agriculture	1.5	1.8
Paint manufacture	0.0036	*
Battery cathodes	0.008	*
Pharmaceutical use	0.65	0.8
Mercury compound use total	2.20	2.7
Inadvertent Emissions		
Paint use		
Interior	0.99	1.2
Exterior	5.04	6.1
Coal combustion	6.99	8.5
Petroleum combustion	20.	24.3
Natural gas combustion	0.002	*
Wood combustion	2.87	3.5
Refuse incineration	4.44	5.4
Sewage sludge incineration	0.54	0.7
Fluorescent tubes	0.94	1.1
Thermometer breakage	0.4	0.5
Zinc recovery	5.26	6.4
Copper recovery	3.42	4.2
Lead recovery	0.40	0.5
Inadvertent total	51.29	62.4
Total	82.19	100.0

** Emission factor units: (a) pounds mercury per ton of mercury processed or used, (b) pounds mercury per ton of chlorine produced, (c) pounds mercury per ton of mercury makeup added, (d) pounds mercury per 1000 tons of material burned or processed, (e) pounds mercury per billion cubic feet of gas consumed, (f) pounds mercury per ton ore.
* Negligible (less than 0.1%).

Sources: Mercury in Man's Environment and 1970 National Inventory

electrolysis of brine to produce sodium hydroxide (caustic soda) and chlorine.

Chemically, sodium hydroxide is an alkali and since the mercury cell process described above produces chlorine as well, the plants so doing have become known collectively as the "Chloralkali Industry".

Caustic soda, in turn, is utilized by pulp and paper mills to break down the bonding materials in wood fibre to produce a pliable pulpy substance suitable for the production of paper.

In 1971, there were 16 mercury-cell chloralkali plants operating in Canada, seven of which were located in the province of Ontario. By November 1975, 11 of these plants were still operating nationally, three of which were in Ontario.

Although data on estimated losses of mercury to the environment is very difficult to come by, a government report indicates that the chloralkali plants cannot account for large proportions of their "inventory losses".

The highest levels of mercury "unaccounted for" were found at Domtar's plant in Northwestern Quebec at Lebel-sur-Quevillon. Using the company's figures, 16,527 out of 24,966 pounds of mercury originally purchased could not be traced to product losses, solid, liquid or atmospheric wastes.

The same report indicated that Alcan's Arvida plant could not account for 45,959 pounds out of 71,859, CIL's Shawinigan Falls operation for 16,752 out of 42,715 and Standard Chemical in Beauharnois for 3,604 out of 22,064.

As far as Dryden Chemicals is concerned, the plant discharged an estimated 20,000 pounds of mercury into the English-Wabigoon system between 1962 and 1970. Another 30,000 pounds went into the plant, according to company records, and either remains hidden in the machinery or emerged undetected.

The main source of these losses appears to be the brine sludge and wash-water effluents which are released to nearby rivers after the production process has been completed. Mercury contamination of caustic soda and chlorine also occurs occasionally and, in addition, an unknown quantity of mercury leaves these plants in the form of air-borne pollutants.

The primary consumer of the caustic soda produced in the chloralkali plants is the pulp and paper industry. As such, it should come as no surprise to learn that chloralkali companies are well integrated into the corporate fabric of the paper companies.

Dryden Pulp and Paper Ltd., for example, operates a chemical plant on the same premises as its paper producing operation. This chloralkali plant, which used a mercury-cell process until November 1975, is incorporated as Dryden Chemicals Limited. However, both it and Dryden Pulp and Paper are in reality part of one large operation ultimately controlled by Reed International, a Britain-based transnational conglomerate.

Paper companies, according to government documents, bear more responsibility than any other single industry for Canada's water pollution problems. In Ontario alone, this industry accounts for about 20 per cent of aquatic (water-borne) wastes, 60 per cent of the suspended solids, and 80 per cent of the oxygen-depleting bio-degradable wastes which denigrate our rivers and lakes.

All this in addition to mercury and other "toxic" (poisonous) substances, about which very little information exists.

Government legislation

In theory, governments at all levels are supposed to be the institutions which protect us and the environment generally from the harmful effects of industrial pollution.

The federal government has a number of legislative instruments at its disposal in dealing with a wide variety of water pollution problems. These include: the Fisheries Act, the Pest Control Act, the Food and Drug Act, and the Environmental Contaminants Act.

The province of Ontario, in turn, has developed some controls of its own including: the Public Health Act, the Ontario Water Resources Act, and the Environmental Protection Act of 1971.

The principal means used to date, however, has been the federal Fisheries Act, under which "regulations" have been proclaimed for both pulp and paper and chloralkali plants.

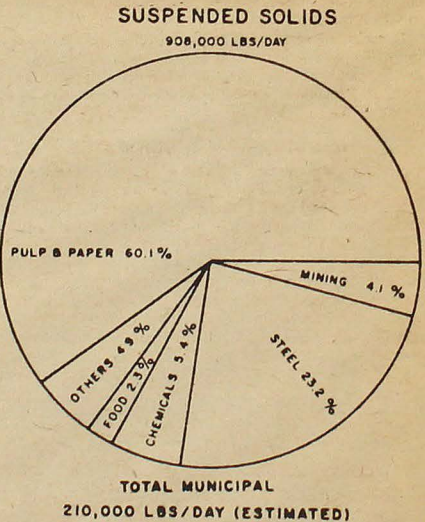
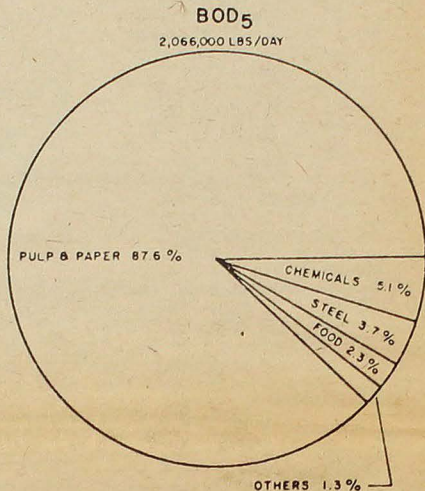
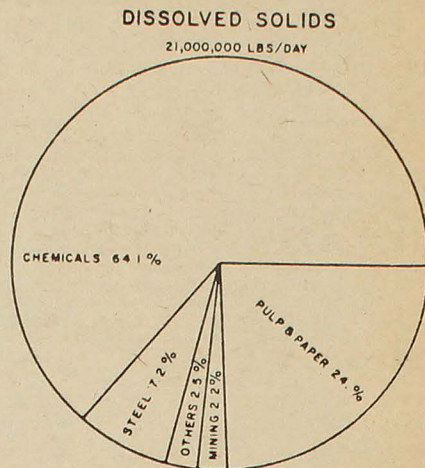
According to Environment Canada, a working arrangement has been established between the federal government and the province of Ontario whereby the province has agreed to undertake enforcement of the regulations and guidelines under the Fisheries Act. The federal Environmental Protection Service (EPS) is supposed to conduct periodic spot checks to corroborate data received from industry and Ontario Ministry of the Environment personnel.

In addition, acting under the terms of the Food and Drug Act, the Food and Drug Directorate of the federal Health Protection Branch, has developed guidelines pertaining to permissible levels of mercury to be allowed in fish sold commercially for human consumption.

The pulp and paper regulations

According to the Canadian Environmental Law Association (CELA), the Canadian pulp and paper industry and Environment Canada were "in bed together" when the regulations pertaining to the pulp and paper industry were formulated under the Fisheries Act.

These regulations were announced in November 1971 yet they do not apply to plants which were in existence at that time. In addition, both the pulp and paper and chloralkali regulations are stated in terms of **effluent-to-production ratios**. That is, the more a company produces the more it is



TOTAL MUNICIPAL
210,000 LBS/DAY (ESTIMATED)

allowed to discharge into the "receiving waters". This makes sense, from a corporate perspective, in that all companies are treated equally in terms of required pollution equipment. The government admits that the basis of the regulations is the application of what it calls "best practicable technology".

According to David Pascoe, Ontario co-ordinator for Environment Canada, both sets of regulations were developed after questionnaires were sent to the companies asking them to detail their effluent discharges and pollution control techniques. The levels finally arrived at were "somewhere between the median and the best responses received back from the companies".

In any event, the effluent to production ratios make little sense as environmental safeguards or health standards. The effects on aquatic and human health are treated as secondary considerations to the companies' "right" to maintain production. In absolute terms, the effluent may exceed the level at which it becomes dangerous to life while at the same time remaining well within the legal restrictions.

The pulp and paper regulations, such as they are, do purport to take the toxicity (degree of poisonousness) of the combined effluent of a company into consideration.

Sources and Regulations

The effluent is acceptable, as far as the government is concerned, if 80 per cent of 5 lots of 10 young rainbow trout can survive for 96 hours in a mixture of 65 per cent treated effluent and 35 per cent water, without any loss of motor controls.

Tests such as these are done by the companies themselves, and have obvious short-comings when it comes to identifying the long-term (chronic) as opposed to immediate (acute) effects on aquatic life. The sublethal effects of most chemicals are simply not known at the present time. Their synergistic, or combined effects, are uncertain and often arbitrarily assumed to be additive. Recent studies indicate that this is a rather dangerous assumption since some chemicals are far more toxic in combination than a simple addition of their individual toxicities would indicate.

Finally, different water systems will vary in their abilities to receive even the same quantities of toxic or other substances. The variables would include the size of the river, the number of plants dumping into it, the pollution toler-



ances of aquatic life, and the uses (recreational or otherwise) to which the water body is (or has been) put.

None of these problems can be effectively dealt with through a pollution standard based upon an effluent to production ratio. Yet, this is exactly what "our" government is using to "regulate" the largest industrial polluters in the country.

Mercury health standards

The only government "regulation" pertaining to mercury which could be considered as a "health standard" is the federal Food and Drug Directorate's limit of 0.5 ppm (parts per million) mercury content in fish sold commercially.

The specific wording of this regulation, as expressed by A.B. Morrison, head of the Directorate is as follows: "the Directorate would take no exception to the sale of fish containing not more than 0.5 ppm on a wet weight basis".

It should be noted that this regulation refers to fish sold commercially only, and not to fish caught by sport fishermen or tourists for personal use.

In addition, it does not relate to foods other than fish and

Mercury in Fish Regulations

The following is a short listing of the calculations used by the Food Advisory Bureau of the Federal Health Protection Branch to justify the 0.5 ppm regulation for mercury content in fish sold commercially.

- 1) the Japanese 2 mg Mercury/Day lethal dosage figure is accepted as reasonable;
- 2) a factor of 40 is applied to this figure to arrive at a tolerable daily intake level
 $2 \text{ mg/day} \div 40 = .05 \text{ mg/day (0.0000176 oz.)}$
- 3) the guideline for mercury content in fish is arrived at by dividing this daily intake figure by 100 grams, "the daily intake of fish by certain Canadians"
 $.05 \text{ mg/day} \div 100 \text{ grams} = 0.00005 \div 100 = 0.0000005$ or 0.5 parts /million
 Source: Iraq and Japan

A number of points ought to be raised about these calculations.

First of all, there is no explanation of the supposed "safety factor" of 40 used in stage 2. One fears that it is entirely arbitrary.

Secondly, it has been demonstrated by native peoples' organizations and others that many people in Canada do in fact consume more than 100 grams of fish per day (3.5 ounces).

This means that these individuals are in very real danger of developing Minamata disease. Yet the government persists in using the 0.5 ppm regulation as a standard, which is virtually impossible for an individual to relate to his/her own particular situation.

cannot therefore be considered a comprehensive standard for total mercury consumption by Canadians.

Information regarding the underlying rationale for the 0.5 ppm level is difficult to obtain, and once located, to comprehend. In a paper presented to the Royal Society of Canada's Mercury in Man's Environment Symposium in February 1971, Morrison did attempt to explain the government's position on the question.

Under the Food and Drug Act, the law states that "No person shall sell an article of food that has in it or upon it any poisonous or harmful substance". This Act provides legal authority for the Food and Drug Directorate "to determine those levels in foods of substances such as mercury, which are considered to represent a hazard to human health..."

Morrison points out that "decisions of this nature are always extremely difficult to make, involving a high degree of scientific judgment".

He goes on to outline the tests required to determine the level of ingestion which might be considered "safe". These include: short-term "lethal-dose" or acute toxicity studies to obtain a rough idea of the substance's poisonousness; 90-day studies to determine to "no-effect" level — the lowest level at which no toxic effects can be discerned; and most importantly, long-term (two years or more) studies to determine "the effects of a chemical on cancer production or life expectancy".

"A level of a chemical designated as safe", he says, "must take these requirements into account, and must, by definition, be that which can be ingested daily for a lifetime without discernible hazard".

The following is the description offered by Morrison of the standard method by which "Acceptable Daily Intakes" (ADI), "Maximum Permissible Levels" (MPL), and legal "tolerances" are established by "our" government agencies charged with protecting the public from potentially dangerous chemical pollutants.

"When all of the animal toxicity data have been obtained and evaluated, a "no-effect" level for the most sensitive vertebrate species tested is determined. From this an acceptable daily intake, or A.D.I., is obtained by applying a 10-fold

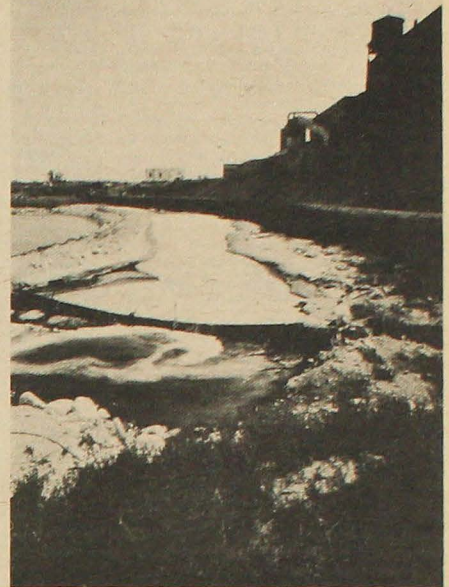


photo by Doug Wicken

The tarpaulin stretched across the spillway below Reed's plant is used to break down the foam before it reaches the river. This is not an effective anti-pollution device.

safety factor interspecies variations, and a further 10-fold factor for intraspecies variations. The ADI for man thus usually is 1/100 of the no-effect level in the most sensitive animal species tested. If acceptable data from human exposure to the chemical are available, the safety factor may be reduced to 10, since the factor for interspecies variation need not be considered.

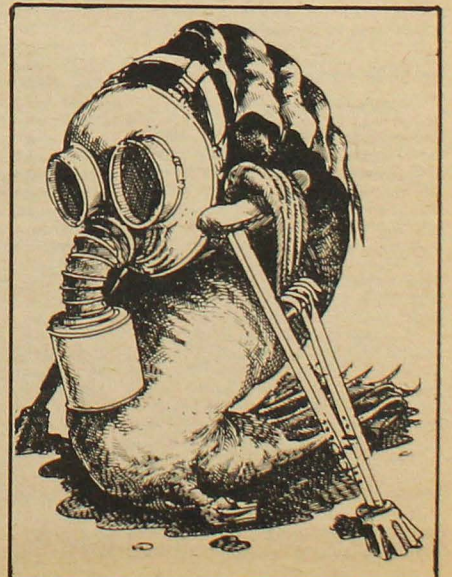
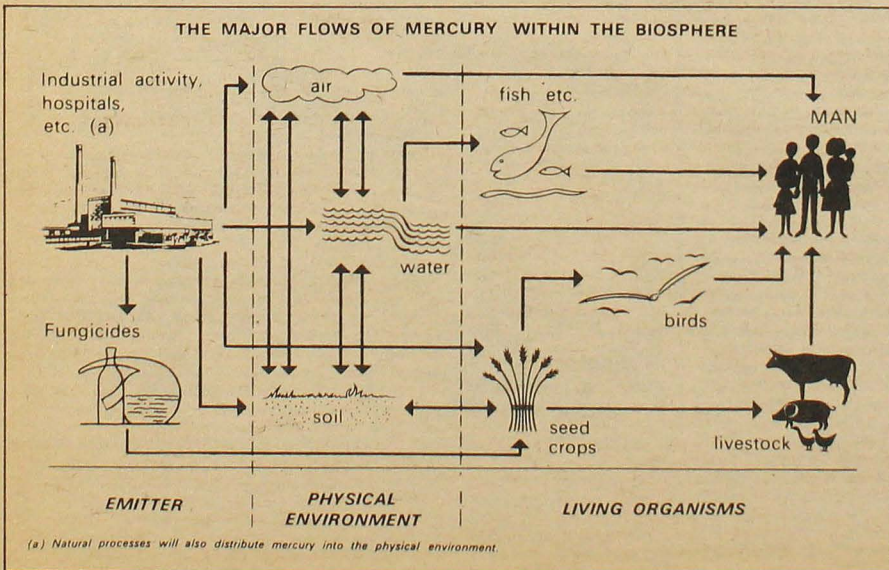
From a knowledge of the acceptable daily intake of a chemical, and the amounts of various foods eaten, it is possible to calculate the maximum permissible level (MPL) in specific foods. Legal "tolerances" which set the maximum amount of given chemicals permitted in specific foods have been established under the Food and Drug Regulations. For example, the present tolerance for the pesticide aldrin in asparagus is 0.1 ppm".

Yet, in Morrison's words, "the sort of data we like to have available to us in assessing the safety of a chemical in the food supply... are not available for mercury".

This situation prevented the government from establishing ADI's, or legal tolerances forcing health officials to rely on administrative tolerance or guidelines not having the force of law. It is important to note that Morrison made these observations in 1971.

His presentation to the Royal Society Symposium that year concluded with an outline of the studies which would have to be completed before acceptable daily intakes could be calculated.

To date, Canada still does not have ADI regulations or any other readily understandable guidelines which people can use in order to protect themselves from potential mercury poisoning. All that exists is the 0.5 ppm regulation for fish sold commercially — an effective bureaucratic device, perhaps, but hardly something which fish eaters can use to judge whether their particular eating habits constitute a hazard to their health.



License to Pollute

The chlor-alkali plant in Dryden began dumping mercury into the Wabigoon River in 1962, nine years after the first symptoms of methyl mercury poisoning struck individuals in Japan. By the end of 1962, 46 of the 121 officially verified Minamata Disease Patients had died, and methyl mercury was the recognized killer.

Yet in Canada at that time there were no standards whatsoever to limit or regulate the uses and abuses of mercury by industry. Neither was there any system of sampling or monitoring on the part of government or industry to determine what, if anything, this mercury was doing to water eco-systems, wildlife, and human beings. Mercury was just one element among a thousand unknowns that government allows industry to discharge into our environment.

And for industry, at least in the case of Dryden Chemical Company, the prime consideration governing the use of mercury was not that of long-term environmental health or the safety of workers and nearby residents.

Mercury was well known as a very poisonous substance; technical journals invariably emphasized the dangers of working with mercury and the value of keeping it within a closed system. One Ontario health journal recorded four cases of mercury poisoning in 1962 in the chlor-alkali industry alone.

At this time an alternative to the mercury cell process did exist. Dryden could have chosen to install the diaphragm cell process which has an even longer history in Canada than the mercury cell process — going back to 1911. However, the chemical industry had long favoured the mercury process because it requires a lower supply of labour. Residents and workers might have used some different criteria to judge the value of a mercury cell process — but nobody asked them.

So in 1962, Dryden purchased 60,000 lbs. of mercury and began its production of chlorine and caustic soda. Thereafter an additional 6,000 lbs. would be purchased annually to compensate for losses of mercury to water, air, solid wastes, products, and accumulations within the plant itself. There was no catchment basin outside the plant, no circulation of water, no attempt to recover the thousands of pounds of mercury dumped into the river system.

Dryden continued to dump into the river an average of 10 to 20 lbs. of mercury per day until 1970. That's more than 20,000 lbs. since 1962. In addition there's another 30,000 lbs. of mercury recorded as going into the plant which no one can account for. "It either emerged undetected, or, in part, lies deep unseen in the works." (Globe and Mail, 1975)

R. W. Billingsley, President, Reed Paper Holdings, Ltd.:

"But I still believe that most Canadians believe that private enterprise is the system which produces the most effective, efficient, and innovative use of our resources. We all pay for bureaucratic bunglings of governments. If private enterprise were to make a mess of things, I suspect that the business would not last long."

International concern

In 1966 Sweden began to take action so as to prevent further contamination by mercury of waterways and wildlife in that country. The use of mercury compounds for seed treatment was banned and chlor-alkali plants and pulp and paper mills were listed as major sources of mercury contamination.

That same year the World Health Organization recommended that the Acceptable Daily Intake for organic mercurials in food be zero, and that a "practical residual limit" not to be exceeded be set at .02 to .05 ppm.

In 1967 Swedish researchers determined that metallic mercury could be methylated under anaerobic conditions. This meant that the inorganic mercury being dumped by Dryden could no longer be considered an innocuous heavy metal resting peacefully in the Wabigoon River silt. Tiny organisms were ingesting the metal and as big fish ate little fish which ate the organisms, the poison was becoming more and more concentrated. The Swedish findings were corroborated by research in Japan and were well documented in international journals. Also well

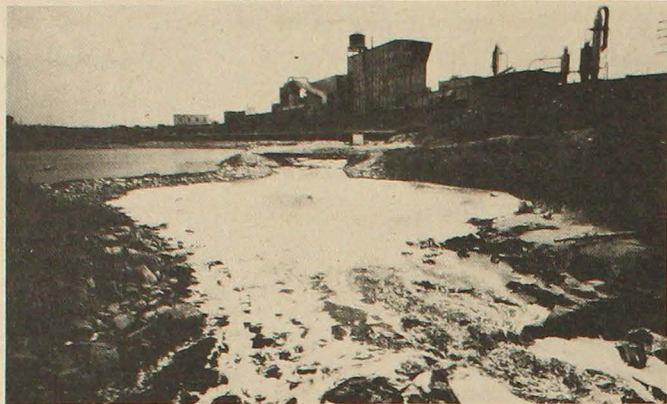


Photo by Doug Wickham

documented were the tragic disasters at Minamata and Niigata where the nature of mercury poisoning was especially well understood.

By the late 1960's a tremendous amount of fish in Canada had accumulated levels of mercury capable of poisoning people. Although much of this fish was sold commercially the government detected and suspected nothing. And although experiences in other countries clearly testified to the dangers of mercury contamination the government remained dumb and inactive.

When "experts" from the Ontario Water Resources Commission (OWRC) were asked in March of 1970 why, on the basis of experiences elsewhere, action had not been taken sooner, they replied, "We have all their papers but they're written in Japanese and Swedish and we couldn't read them."

Awareness of the mercury problem eventually surfaced as a result of the research by a Norwegian graduate student, Norvald Fimreite, who had been studying mercury uses and contamination in wildlife in Canada since 1967. Fimreite presented a paper to a symposium on pollution at the University of Western Ontario in 1969. This symposium was attended by representatives of the OWRC.

By 1968, the group working with Dr. Tadao Takeuchi, at Kumamoto University, Japan, had published no less than 183 papers on the subject. By that year the number of deaths in Japan was approaching 100, with several thousand maimed; methyl mercury was an officially recognized killer.

Meanwhile, Dryden continued to dump mercury. Why not dump? There were no government regulations limiting or prohibiting mercury in effluent. There were none written until 1972 (and there are still no regulations for other industrial sectors). There were no standards for mercury in fish and "guidelines" for fish sold commercially were not established until 1970. Nor was there any systematic monitoring program for mercury written into Canadian water quality standards. Neither is there, to this date, any standard for mercury content in food generally. And not until 1976 were any standards established limiting the emissions of mercury into the air.

Governments sleep

Fimreite had attempted, through a review of published reports and commercial statistics, and by direct inquiry, to estimate the total amount of mercury contributed annually to the environment in Canada, particularly to water and soil. The paper stated, in part:

"It is evident that by far the largest quantities of mercury and mercury compounds are used for industrial purposes. The industrial and urban areas in Ontario and Quebec must account for at least 2/3 of all mercury used in Canada... The aquatic systems are most likely to be contaminated, with the highest amounts of mercury appearing at the ends of food chains, in animals such as large predatory fish, fish-eating birds, and mammals. The accumulation of mercury following industrial uses of mercury may be more serious, not only because of the higher amounts of mercury and mercury compounds being used and released, but also because these relatively large amounts of mercury will enter a more distinct part of the biosphere. The resulting mercury concentration will therefore be pronounced where such contamination occurs... Investigations in Sweden indicate what we must expect. He (Hasselbrut) found clearly increased mercury contents in fish exposed below a chlor-alkali plant."

As well yet another Swedish paper on the conversion of mercury to methyl mercury was published in March 1969 followed by a full issue of *Environment* magazine (U.S.A.) outlining the dangers of mercury, summarizing Japanese and Swedish findings, and detailing the major source(s) of mercury pollution. But not until May 1969 did Canadian and Ontario authorities think to investigate what was happening here. Mud samples from the St. Clair River were tested and shown to have incredibly high levels of mercury. By August the mercury was traced to the Dow Chemical plant at Sarnia and by fall officials began to wonder about the fish, sending samples away to California for testing.

Elsewhere in Canada people were also beginning to wonder about the fish. Research scientists at the University of Saskatchewan decided to examine fish downstream from a chlor-alkali plant on the North Saskatchewan River. In November 1969 they submitted results of their preliminary study (Wobeser et al., 1970) to the Saskatchewan government. The levels of mercury were very high and the Federal Department of Fisheries and Forestry began, in the spring of 1970, a survey of mercury in fish in all parts of Canada. Meanwhile Canadian chlor-alkali plants found it necessary to purchase an additional 195,000 lbs. of mercury simply to replace losses from the previous year's operation.

Dryden continues to dump

In 1970, numerous water systems across Canada were closed to commercial fishing because the levels of mercury in fish had exceeded the maximum "safe" level of .5 ppm. In the English Wabigoon River system fish were found to exceed this level by as much as 30 times. These were levels at least comparable to Japan, where, by this time, over 70 people had died.

It would take from 70 to 100 years for the river systems in N-W Ontario to cleanse themselves — assuming that Dryden would stop dumping mercury. Given the extensive contamination of waterways, and considering the large and potentially lethal deposits

of mercury still percolating up from the bed of the river, it should have been abundantly clear to Dryden at this stage that any continued discharge of mercury would be criminally irresponsible.

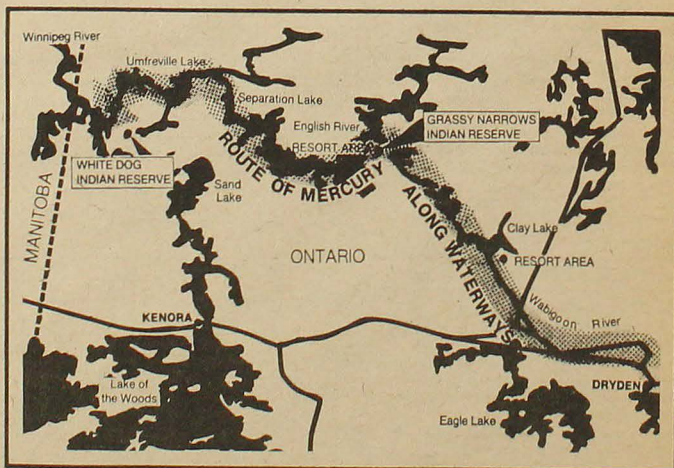
On February 27, 1970 the Ontario Water Resources Commission issued control orders to six Ontario companies. These orders, seemingly tough on the surface, required the companies "...on or before the 1st day of May, 1970...to provide facilities to ensure that mercury contaminated brine is not discharged to the environment under any circumstances." The monitoring of effluent, however, was left up to the companies. No measures were taken, after 10 years of dumping, to ensure that Dryden and other plants actually stopped contaminating the river system with mercury. Nor did the control orders impose any legal obligation on the companies to actually curtail emissions of mercury into the environment; in reality the control orders were nothing but polite, and somewhat fatuous requests.

On April 8, 1970 Jack Davis, Minister of Fisheries and Forestry, issued the following statement on his government's response to the mercury problem:

"Fortunately we have caught our mercury problem in time. We have caught it before there has been any real danger to human beings. Once spotted we have closed the fishery. Either that or we have brought up all the fish and had them destroyed. Nothing has escaped the watchful eye of our Federal Fisheries Inspection Service — a service which is regarded the world over as tops in so far as fish quality and public health are concerned."

While Davis was boasting about his ministry's "watchful eye" and world renowned reputation, George Kerr, Ontario Minister of the Environment, was making public announcements to the effect that mercury in the fish would be cleared up in "twelve weeks" (which indicates just how little you have to know about the environment to head that ministry). In fact, the government still refused to take seriously the dangers of mercury pollution. In an attempt to downplay the issue Kerr commented that "we have eliminated the source...we are confident that there isn't any mercury loss now."

But in 1970, the source of mercury was far from being eliminated, at least in the English-Wabigoon River system. According to company figures only 4 lbs. of mercury a year was dumped into the Wabigoon River between 1970 and 1975. Yet in May 1975, when the National Indian Brotherhood (N.I.B.) asked federal officials from Environment Canada to conduct an independent check of the Dryden plant's dumping habits they discovered that this operation was, in reality, discharging 30 lbs. of mercury, over four times the amount Reed officials actually admitted to dumping. The federal officials noted that this was a conservative estimate, saying that it was difficult to determine how much more was leaked into the waterway. One official felt that it could be as high as 100 lbs.



The mercury enters the river system at Dryden and for the first 40 miles downstream the river is considered dead. The first large lake downstream is Clay Lake, boasting fish with some of the highest levels of mercury in the world. Eventually the mercury is carried 140 miles downstream, past the two Indian reserves, and into Lake Winnipeg where the high levels of mercury in pike and pickerel forced the Manitoba government to close commercial fishing in 1970.

License to Pollute

An accurate account of Dryden's dumping habits is impossible to obtain. A spot check, carried out by the NIB and the Society of Friends on Sunday, April 12, 1975 and analysed at McMaster University, suggests that an excess of 7 lbs. of mercury entered the waterway on that day alone. And between 1972 and 1974, 4,085 lbs. of mercury was "lost or unaccounted for" by Dryden.

Under the chlor-alkali regulations effective May 30, 1973 the company was required to complete monthly reports indicating the quantity of mercury in liquid effluent discharges. There was no cross-checking of these figures or systematic monitoring of Dryden effluent by any government agency. Samples of effluent were tested occasionally (15 times in all) by Ontario Ministry of Environment personnel and these random checks often contradicted the company data.

The company's reporting form notes that on days when no effluent figures are given, there is no effluent. However, on six days when the company claimed no mercury discharge, the Ministry found levels of mercury ranging from 61 to 6500 parts per billion. (Background levels for this waterway are about 1 ppb.) In addition, for the first five months that Dryden reported their effluent the average daily readings were obtained by dividing the monthly total by the number of days in the month, instead of dividing by the number of samples taken. Moreover, the company's averaged data do not include "operator's errors" within the plant. These are cited by the company to account for massive spills recorded in the data; for example, on January 13, 1975 one such error produced a discharge in excess of 7 lbs. of mercury.

So how much mercury has Dryden really been dumping? In July, 1975, five and a half years after Dryden was asked to eliminate all mercury discharges, MOE officials conducted an intensive survey of mercury discharges from the Dryden Chemical plant and the adjacent pulp and paper mill. This study admits that nobody knows how much mercury was dumped; it concluded that not only did Dryden Chemical Company reports account for only a portion of all mercury being discharged, but that the techniques used to sample effluent over the last 5 years were completely inappropriate; grab samples were taken although discharges fluctuated considerably over time; only the water was sampled where as much of the mercury was in particulate form; and samples were not preserved before analysis, yielding lower results. It should have been inconceivable for Dryden to consider monitoring by use of occasional samples when the mercury was being discharged in large quantities all at once (by batch mode process). What is more, Dryden did not even bother to measure mercury levels in the cooling water and the storm water — containing quantities of mercury possibly greater than in the process water. And, to make matters worse, the effluent flow of the cooling water was just estimated and the storm water never considered.

In Quebec, where companies previously using techniques similar to Dryden converted to a continuous sampling system and a direct measure of effluent, the reported losses of mercury increased by orders of magnitude. Obviously the Department of Environment regulations governing the discharge of mercury by Chlor-Alkali plants should have required the use of standardized and approved techniques when monitoring the liquid effluent. In the absence of such requirements, the results of Dryden's "monitoring" of mercury discharges are really meaningless.

And yet for almost five years the industry and the government had been loudly proclaiming that mercury discharges were either non-existent or well below the government standards. On November 6, 1974 the Ontario Minister of the Environment said, "I can reassure you that since I came to the Ministry there has been no mercury emissions." Again on March 13, 1975, in a statement to the legislature, the Minister said, "Through the Ministry of the Environment Control Orders imposed since 1970 my Ministry has effectively eliminated the flow of mercury in industrial effluents."

Prof. Thurston; Anthropology Dept., University of Toronto:
 "Well in Minamata I would say the victims have come to the point where they no longer trust the Japanese government whatsoever. And this, I would suggest, is a very major change in Japanese politics. And what actually happened throughout

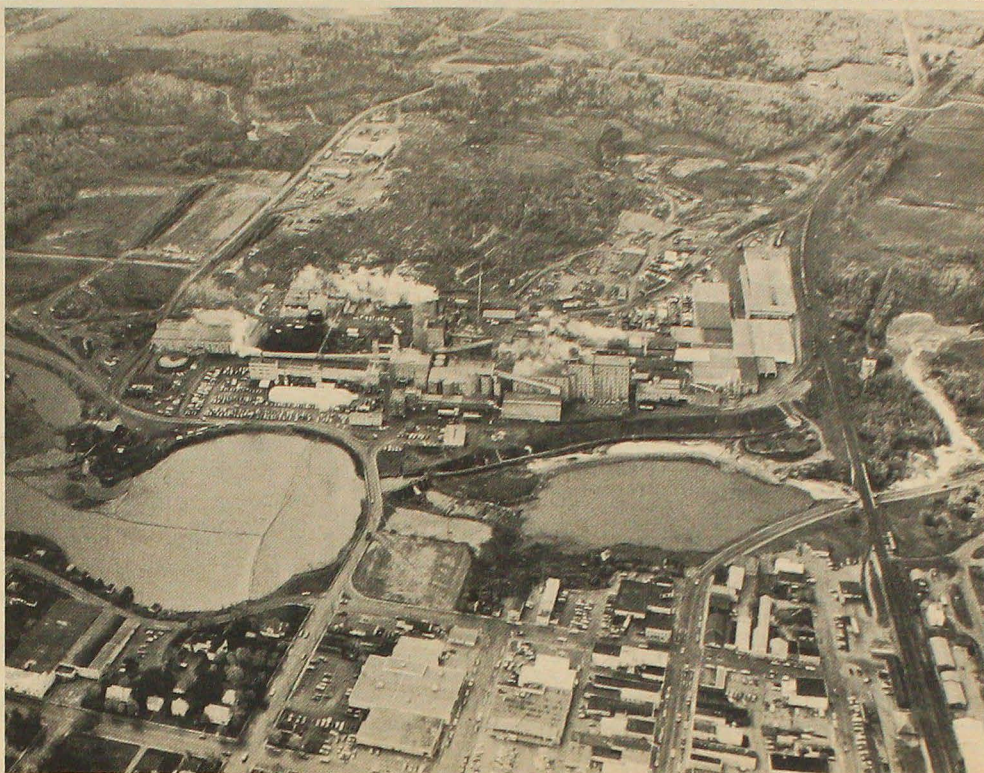
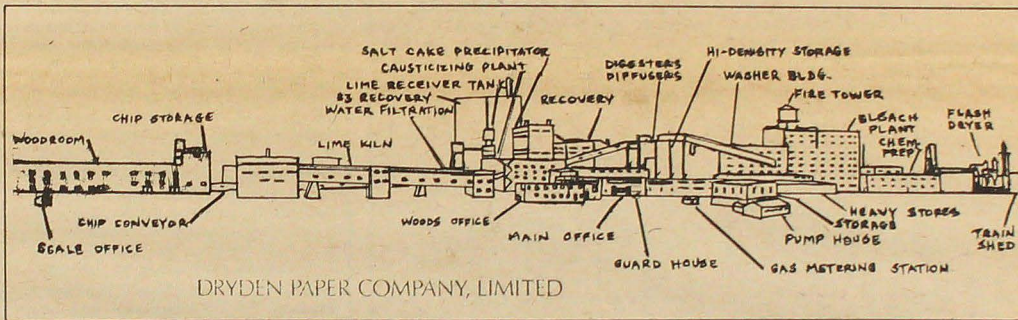


photo by Enishi and Shiota



DRYDEN PAPER COMPANY, LIMITED

the 20 years of the story gradually coming out, was that the victims began to realize that the government was really colluding with the industry, and was not really investigating the case and was not really forcing the industry to accept the responsibility of having caused the pollution in the first place."

The "force" of law

In approving the chlor-alkali mercury regulations in 1972 the government imposed the first legal restrictions on the industry's use of this most toxic metal. The legal limits, however, in allowing the continual dumping of mercury at levels convenient to the industry, simply managed to subvert the effectiveness of other environmental legislation such as the Federal Fisheries Act — which in theory at least, makes the discharge of any deleterious substance an offense.

The new regulations allowed companies to continue dumping .005 lbs. of mercury per ton of chlorine produced. (Dryden produces approximately 8,000 tons per year). According to Environment Canada such a regulation is based on the application of "best practicable technology" or in other words what the government feels the company can afford (see article on Gov't Regulation).

The regulations are not based on health considerations and completely ignore the varying size of chlor-alkali plants in Canada and the varying degrees to which river systems are contaminated. Considering the sloppy sampling techniques and general lack of enforcement that accompanied these regulations it becomes apparent that the government did not in fact demand responsible action from the industry. Pulp and paper regulations, announced by the government in 1971, provide a further example of how

our government "regulates" the industry. What follows is a description of these regulations by the Canadian Environmental Law Association:

"These regulations purport to limit the discharge of suspended solids, organic matter and toxic wastes from pulp and paper industries into our waterways. After a long period of drafting by the federal government, in close consultation with the Canadian Pulp and Paper Association (the only body with the technical information), the regulations were announced in November, 1971 — but they do not apply to any existing pulp and paper mill in Canada! Furthermore, the Minister of the Environment has set no date for these regulations to come into force for existing mills, although they now apply to new, expanded, or altered mills. If and when such a date is set, existing mills will be allowed to discharge more pollutants than new, expanded, or altered mills.

The fact that such regulations were made, that considerable publicity was given to them by the federal government, and yet that they will not cost the industry one cent for current operations or cause any clean-up of their existing operations is an unfortunate but typical illustration of how governments often give a false impression of their concern for the environment."

The Ministry of Environment is currently sitting on a document entitled "Alternative Proposals for Pollution Abatement: The Ontario Pulp and Paper Industry". This 500-page study was completed in 1974. It documents in detail just what the pulp and paper industry is doing to the lakes and rivers of Ontario, and provides graphic illustration of what little effect the 1971 regulations have had in helping to toilet train the industry. In fact, for all practical purposes the

regulations don't exist.

For example, beginning on page 281 there appears a table which, in part, asks the question, "Does mill currently meet Ministry of Environment water quality requirements?" Each of the pulp and paper mills in Ontario is listed and only two out of the 31 rate a "yes". On the same page the study mentions current problems of the Dryden mill which include "mercury accumulation and fish tainting from other mills (i.e. the Dryden Chemical Company) and accumulation of bark and fibre."

A section of the table dealing with Dryden is reproduced on page 10.

Another Provincial government report, one which has been made public, entitled **Status of Industrial Water Pollution Control in Ontario 1973**, gives us some idea of how forcefully the government has been pursuing polluters in general (through the courts). For the period 1965 - 1972 the Industrial Wastes Branch of the Ministry of the Environment laid a total of 107 charges, obtained 81 convictions for a total of \$31,955.00 in fines, or an average of \$394.51 per conviction.

Considering the size of the companies being considered here, this amounts to little more than a licence to pollute (and a cheap one at that). Meetings with civil servants in the Ministry of Environment have confirmed that the government prefers to consult with industry regarding its effluent discharges rather than assuming an adversary role and forcing them to clean up.

George Kerr, Ontario's Minister of Environment expressed the government's attitude best when he stated the following last February: "I do not intend to zero in on the pulp and paper companies to literally club

Waterways Closed

TABLE VIII
SUMMARY OF LEGAL ACTIVITIES BY THE INDUSTRIAL WASTES BRANCH AGAINST INDUSTRIES*: 1965-1973

Year	Companies Prosecuted	Orders	Public Hearings
1965	0	0	0
1966	1	3	1
1967	10	1	1
1968	5	2	7
1969	2	4	6
1970	24	16	3
1971	14	6	4
1972	2	0	1
1973	4	2	0
TOTAL	62	34	23
TOTAL CHARGES	107		
TOTAL CONVICTIONS	81		
TOTAL FINES	\$31,955.00		
AVERAGE FINE/CONVICTION	\$ 394.51		

Industrial Classes	Companies Prosecuted	Orders	Fine in Dollars
Basic Iron and Steel	-	-	-
Chemicals	3	7	1,800
Food Processing	20	1	7,750
Metal Plating and Finishing	13	9	5,305
Mining & Metallurgical	3	4	2,900
Petroleum and Petrochemical	-	-	-
Tanning & Rendering	1	-	50
Pulp and Paper	8	12	9,250
Service	14	2	4,900
Miscellaneous Manufacturing	-	-	-
Textiles	-	-	-
Total (1965-1973)	62	34	\$31,955

*Does not include legal action against industry taken by private citizens or public groups.

TABLE I

DEGREE OF COMPLIANCE BY INDUSTRIAL GROUPS WITH MINISTRY OF THE ENVIRONMENT EFFLUENT REQUIREMENTS AS OF DECEMBER 1973

Industry Group	Number of Plants Discharging Directly to Watercourses	Number of Plants Meeting Requirements	Percentage Meeting Requirements
Basic Iron and Steel	7	4	57.1
Chemicals	45	25	55.6
Food Processing	82	53	64.6
Metal Plating and Finishing	101	83	82.2
Mining and Metallurgical	89	59	66.3
Miscellaneous Manufacturing	60	54	90.0
Petroleum and Petrochemical	30	20	66.7
Pulp and Paper	32	5	15.6
Service*	26	23	88.5
Tanning and Rendering	4	2	50.0
Textiles	8	5	68.8
Total	484	333	68.8

(a) Numbers of Industries with Non-Effluent Systems: 528

(b) Industries Discharging to Municipal Sewerage Systems: 360

*Includes Utilities and Transportation Industry.

Holding Hands in YOUR Pockets

Apparently, the government of Ontario was having a difficult time toilet-training a good number of its corporate colleagues back in 1970.

At the same time, the hazards to human health resulting from years of reckless dumping of deadly contaminants such as mercury, were receiving widespread coverage in the media.

Outspoken environmental groups were demanding tougher legislation and a largely sympathetic electorate was expecting some kind of response from the government. And yet for the government, "co-operation rather than confrontation" was the order of the day. Forcing corporate polluters to pay the costs of cleaning up their act could only damage some very close relationships. A tax supported economic incentive appeared the easiest way out.

So, as the story goes, the Pollution Abatement Incentive Act came into being in Ontario. Under this Act, which was in force between 1970 and 1975, some of Canada's wealthiest polluters received an estimated \$20 million in grants to assist them in installing pollution abatement equipment.

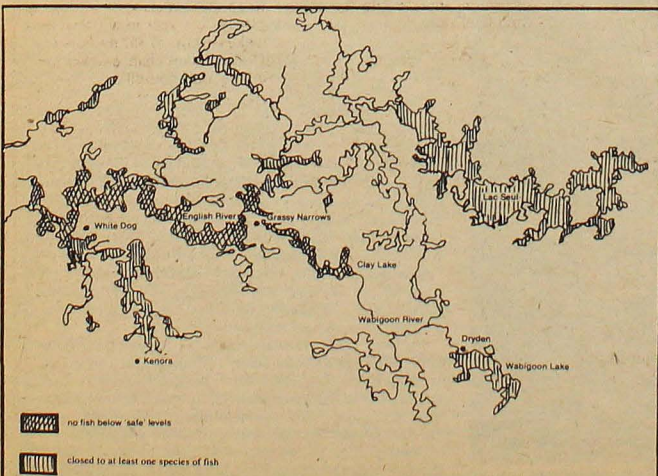
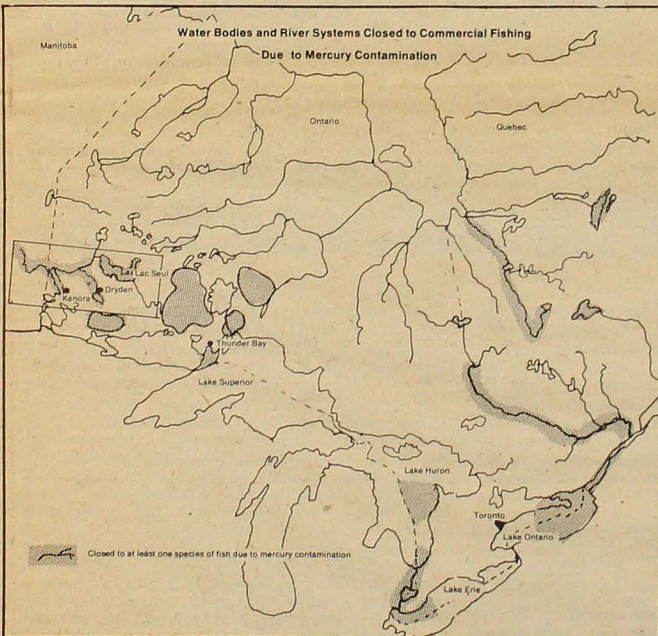
It should be pointed out that victims of environmental pollution receive no compensation under Ontario law. At the same time those responsible, the companies, receive gifts from the government paid out of tax dollars primarily collected from individual income earners. Indeed, some powerful and well-heeled people are holding hands in our pockets.

The following chart lists those companies which received \$50,000.00 or more under the Act, the amount received, and for comparison purposes, the profits of these companies for the years 1973 through 1975/76. Four additional corporations, Alcan, CIL, Domtar, and Reed, have been added because of their prominence as mercury polluters, even though they received less than \$50,000.00 in grants.

Company	Grants Prior to 1973	Grants 73 - 75	Net Income (Profits) 73-75
Abitibi Paper		\$86,946	89,761,000
Alcan		11,549	171,413,000
Algoma Steel		256,568	119,769,000
Canada Cement		140,662	68,883,000
CIL		14,249	93,432,000
Dominion Foundries & Steel		269,128	178,406,000
Domtar		126,999	158,326,000
Dow Chemical		735,205	36,000,000 (75-76 only)
Dupont		99,231	42,027,000
Ford Motor of Canada		91,009	404,900,000
General Motors	50,816.89	251,939	331,226,000
Imperial Oil		193,102	768,000,000
Inco	318,523.17		716,590,000
Reed Paper	18,640		65,886,000
St. Lawrence Cement		74,643	28,835,000
Shell Canada		88,608	399,339,000
Stelco	188,531.73		287,319,000
Texas Gulf		76,607	324,608,000

NOTE: The figures given here include "unofficial estimates" for fiscal year 1975-76 and may vary somewhat when official figures are published in 1977. Sources: Information Services Branch; Government of Ontario, and the Financial Post Corporation Service.

Water Bodies and River Systems Closed to Commercial Fishing Due to Mercury Contamination



Reed International

Dryden Chemicals Ltd., the company responsible for the contamination of the English-Wabigoon river system and the destruction of two Ojibwa communities in North-Western Ontario is part of one of Europe's largest paper and packaging corporations.

Its parent, Reed International Ltd., is a British based transnational empire whose tentacles extend into 44 countries and the lives of 90,000 workers around the world. The corporation's growth has reflected the familiar pattern of multinational development — connections in the right places, access to finance capital and an ability to orchestrate takeovers of competitors and other profitable operations in related and diversified areas of production.

At present, the Reed conglomerate is a complex mixture of over 400 operating, holding and associated companies involved in almost everything from "building products" to newspapers, television and radio stations.

Reed made its debut into the Canadian economy in 1961 when its subsidiary, Reed Paper Ltd., purchased controlling interest of Anglo-Canadian Pulp and Paper Mills Ltd. After acquisition, Anglo-Canadian began a period of rapid expansion by initiating numerous takeovers of other pulp and paper operations. So successful was the effort that by 1969 Reed had achieved the status of junior partner in the powerful Canadian Pulp and Paper oligopoly.

By 1974, Anglo-Canadian controlled Dryden Paper, Dryden Chemicals, Woods Dryden Paper Bags, Lignosol Chemicals, St. Charles Transport, Anglo Paper Products, Montmorency Paper, The Bersimis Mining, Anglo-Southern Paper, Hope Timberlands, Canadian Glassine, Textile and Paper Waste Sales, Krever Fibres, the Acme-Gulf group of companies which include Acme Paper Products, Gulf Pulp and Paper, Quebec Containers, Anglo Packaging (Quebec) and Inter-Provincial Bag.

But Anglo-Canadian was only one of the fronts that Reed was active on. Through other subsidiaries Reed acquired interests in the following companies: Kott Lumber, Tamerack Lumber, Tamerack Components, Stairfab, Aeron Lumber, Home Lumber (Scarborough), Alpha Forest Products, Argo Lumber, Maple Components, Alendale Lumber, Main Lumber, Pickering Sash and Man., James Gillies and Sons, Woodbridge Lumber, Advanced Farming Systems, Gateway Building Supplies, Riverdale Lumber, Empire Wallpaper and Paint, General Paint Corp. of Canada, National Drapery, Dwoskin, Dirge, World Wide Wall Covering, WHS Lloyd, Sertex, Arthur Sanderson and Sons (Cda), Forestville Power, Reed Mining, Clemac (Que), Crestgold Capital, Dominion Colour, Richmond Furniture Design, Butterworth of Canada, Prince George Pulp and Paper, Takla Forest Products, Takla Logging, and Intercontinental Pulp.

Although those corporate names may not be familiar, Reed's products find their way into many Canadian households. Its Canadian subsidiaries are involved in the manufacture of upholstered household furniture, record and liquor cabinets, bookcases, recliners, sofas, lounges and chairs, selling under the names of Stratolounger and Futorian. Other decorative products include wallpaper, paint, fabric and draperies with such brand names as Sunworthy, Boxer, Staunton and Sanderson.

The companies also manufacture windows, sash, doors, trusses, wall panels and construct barns, silos, and industrial storage buildings. The pulp and paper operations produce and distribute corrugated containers, folding boxes, paper and polyethylene, shopping, notion, millinery and grocery bags as well as newsprint, Kraft, and specialty papers, paperboard, chlor-alkali chemicals, turpentine, gummed tape, waxed paper, etc. Other corporate interests include mining, shipping, hydro-electric power, publishing and fashions.

By the early seventies, with the acquisition binge behind them, Reed management entered a new phase of corporate

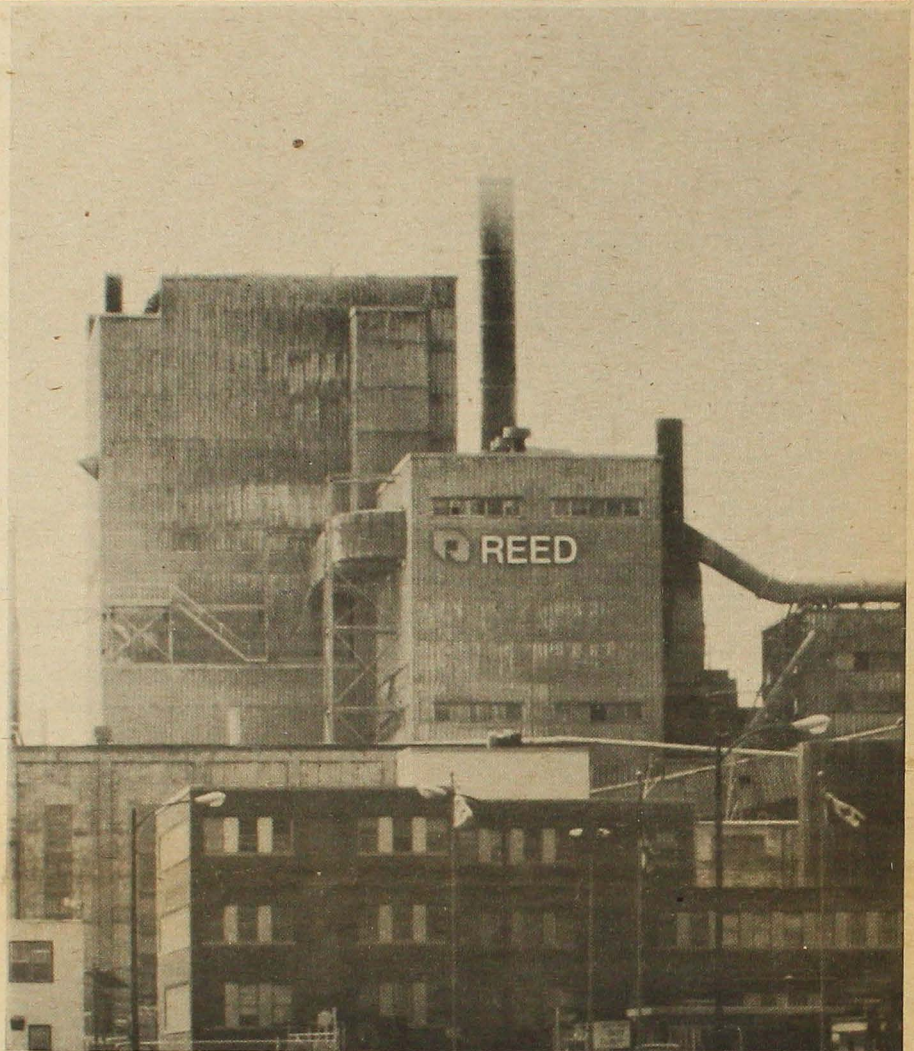


photo by Doug Wicken

development, that of consolidation. The task for management was to transform a multinational conglomerate into a mature, integrated and rationalized operation. In other words to increase Reed's corporate profit and its power.

On one level this meant internal expansion; the initiation of new companies, acquiring control over those corporations not fully owned, and the elimination of external dependencies. At another level it meant redeveloping and streamlining the various wings of the empire, centralizing management, getting rid of redundancies and transforming subsidiaries into efficient and profit maximizing divisions.

Reed Canada began its consolidation in 1974 by acquiring

the remaining 19 percent of Anglo-Canadian shares. In the same year Reed amalgamated 22 smaller wholly owned subsidiaries and changed the name of the Canadian company from Reed Paper Group Canada Holdings Ltd. to Reed Paper Holdings Ltd.

In 1975 Reed completed the acquisition of Alpha Industries and merged it with Desatoya Ltd., under the newly incorporated Reed Lumber Co. Ltd. This manoeuvre provided the company with "a nationwide distribution system for lumber and building products" which would soon be vitally necessary "for the lumber our expansion would be generating". At the same time Reed established another new company, Reed Forest Products Ltd., to co-ordinate the forest and lumbering operations of the company.

As part of the same re-organizing effort, Reed Paper announced in 1976 that National Drapery would change its name to Reed National Drapery and that all its U.S. operations would be amalgamated under the name Reed Forest Products Inc. In the same year Reed Ltd., the company's operating subsidiary, took over the business formerly carried on through Dryden Paper Co. Ltd., Dryden Chemical Ltd. and Anglo Paper Products.

The head of the reorganized Canadian wing of the Reed empire is R.W. Billingsley who prior to consolidation was the President of Anglo-Canadian Pulp and Paper Mills Ltd. Sitting on the board along side Billingsley are such notables as A.A. Jarratt and Renault St. Laurent. A.A. Jarratt up until 1970 was the Deputy Secretary for the Ministry of Agriculture in the United Kingdom and is presently chairman and chief executive officer for Reed International Ltd. Renault St. Laurent is the son of a former Prime Minister of Canada and is director of the Banque Canadienne National, Imperial Life Assurance Co. of Canada, Scott Paper Ltd., Rothman's of Pall Mall and others. Together with the provincial government, these individuals and other Reed executives are planning a massive expansion programme in northwestern Ontario which seriously threatens to be another environmental catastrophe.

Early in 1973, Natural Resources Minister Leo Bernier announced a provincial policy of doubling forest production in Ontario by the year 2000. The following year Premier Davis granted Reed Paper an 800 sq. mile tract of timberland near Red Lake. This was in addition to the 9,000 sq. mile ponderosa that Reed already controlled in Canada.

Shortly after the government made public its promise, Reed announced plans for a \$190 million integrated forest

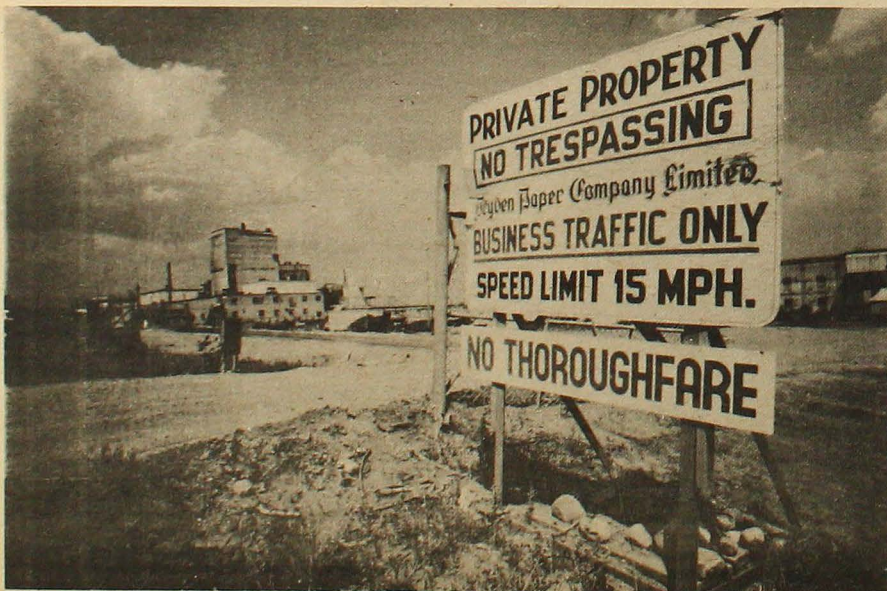
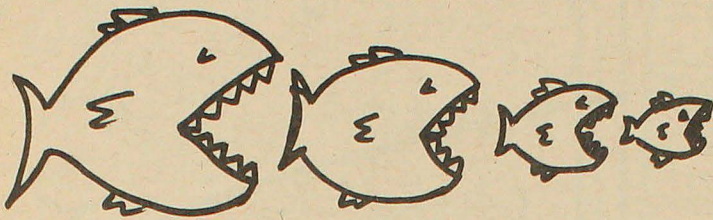


photo by Doug Wicken

Reed International



products complex which Billingsley described as an operation that "will permit the optimum utilization of the region's forest resources". One year later the total cost of Reed's projected expansion was revised upwards to \$350 million. Clearly, as Billingsley suggested, "We have an important role to play in the future here."

But nobody realized how important Reed's role would actually be until representatives of Treaty No. 9 released a series of leaked government documents. The documents revealed that the province is prepared to turn over not just 800 but 26,000 sq. miles of timberland north of Red Lake — an area that the government's own Strategic Land Use Plan recommends be preserved until 1991.

The documents further revealed that what Billingsley meant by "the optimum utilization of the region's forest resources" was a clean sweep over the entire area.

Expert opinion suggests that given the volume of wood available in these marginal forests, Reed will have to "clear-cut" in order to produce sufficient revenue to make the effort worthwhile. Up until now Treaty No. 9 Indians have managed to preserve both the traditional lifestyle and essential wilderness of the northern boreal forest by convincing the government to introduce changes in a slow and controlled manner. A commitment that Leo Bernier in 1974 assured native leaders would not be abandoned.

Now it seems that despite these assurances and without consideration of the 12,000 Cree and Ojibwa who live in the area, the government is making plans with Reed which will undermine that lifestyle and perhaps destroy 26,000 sq. miles of Ontario's timberland. "It is a sell out of the first degree," protested Andrew Rickard, Treaty Nine Chief. "This project's effects will be felt by every resident of Ontario."

Reed's relationship with labour is governed by the same disregard with which Reed considers the environment and the health and welfare of the native peoples. It is a corporate mind-set that is engendered by an overriding concern for profit maximization and growth.

"It is our objective," writes President Billingsley, "to outperform the media of all publicly-owned Canadian pulp and paper companies with respect to both profit growth and return on gross capital employed." For Reed it doesn't matter who has to make the sacrifices or what the consequences are so long as that goal is achieved.

For the workers in Reed's companies it means a persistent fight to protect their standard of living. In 1974, Reed's 10,000 or so Canadian workers generated a revenue of \$303,201,000 and a profit to the company's owners of \$34,257,000. Nonetheless, in that same year, workers were forced to wildcat at both the Montreal and Dryden plants in an attempt to get a fair wage settlement. Instead of negotiating with the workers in good faith, Reed tried to break the strike by hiring scabs and by launching a court suit against the International Paper Workers Union and the Canadian Paper Workers.

Although Reed Canada is part of an incredibly powerful international empire with assets exceeding \$400 billion and an annual revenue of well over \$1 billion, its management has shown a great reluctance in dealing with a strong national labour movement.

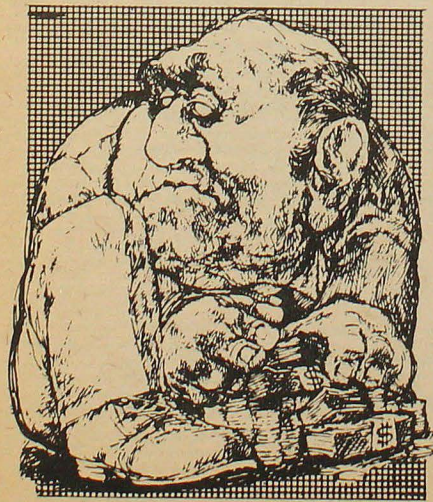
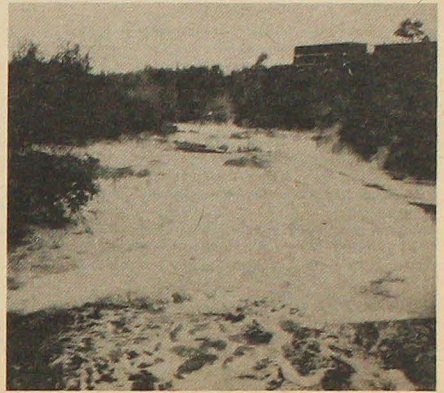
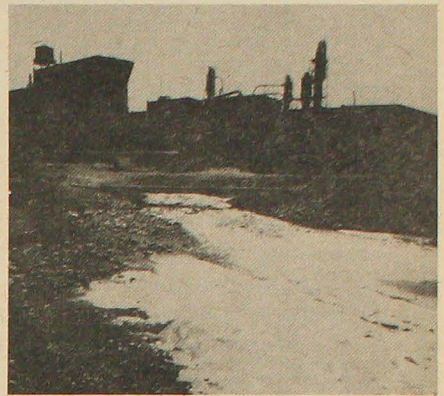
Instead, Reed prefers to divide and separate workers at its various plants from their co-workers across the country by,

as Billingsley euphemistically phrased it, "moving to put more emphasis on labour-management relations at the local level, where both labour and management know one another better, and are more realistic about what can be achieved and how to achieve it." Billingsley's reaction to the labour movement has on quite a number of occasions become quite aggressive and hostile.

"The labour situation in Canada is almost out of control. We have seen ample demonstration in the public sector of labour's irresponsible actions and our governments ineffectual efforts to restrain them . . . This counter-productive and destructive attitude has already begun spilling over into the private sector . . ." He goes on to suggest that "We have seen unions grossly misled into making unreasonable demands, harming the national economy and hurting thousands of individual Canadians."

Billingsley even goes so far as to argue that "Management has a moral responsibility to speak up and take a firm stand, and to support government in whatever measures are necessary to convert labour to a responsible partner."

All this from the company that has irresponsibly and knowingly dumped tons of mercury into our waterways; that has virtually destroyed the social and economic structure of two Indian communities; that has contaminated the fish and poisoned the people; that has put tourist camp operators out of business; that is involved in secret negotiations with the Ontario government to systematically rape 26,000 sq. miles of Canadian timberland and is making unilateral decisions that will affect all of our futures.



DOW

Company: Dow Chemical of Canada, (Sarnia) one of top 100 industrials in Canada.

Parent: Dow Chemical owns 100%

Description: Dow Chemical is a multinational corporation involved in the production and sale of a wide range of chemicals, metals and plastics. The Co. also produces agricultural products (insecticides, fungicides, nutritional and feed additives) construction material, consumer products (saran wrap, over cleaner), cosmetic products pharmaceuticals, medical-surgical products, silicone products, and synthetic textile fabrics. The company is engaged in investment, banking and financial operations and owns interests in oil and gas producing properties as well as owning rock salt, coal, limestone and natural brine operations.

Subsidiaries: Dow's empire includes over 124 subsidiary and affiliate companies around the world. In the U.S. its principal properties are in 25 states and include 47 manufacturing locations. It has 17 manufacturing facilities in four Canadian provinces. In Europe it has 27 locations in 11 countries, one in the middle east, 15 in 7 countries in Latin America, and 33 in 9 countries in the Pacific area.

Assets: \$5,846,731,000 (ranked by Forbes as 54 on top 500)

Sales: \$4,888,114,000 (Ranked by Forbes as 43 on top 500)

Income: \$615,662,000 (Ranked by Forbes as 43 on top 500)

Employees: 53,100

Capital Expenditures: For 1975 estimated at \$1,000,000,000

C.E.O.: Charles B. Branch, \$566,679

* Directors are internal to the company without many outside connections. In the U.S. most important external involvement is with a number of Banks.

* The Chilean Junta in Jan. 1974 returned two of the company's facilities that were nationalized by Allende.

* Legal proceedings are pending against the company for its dumping of mercury from its Sarnia operation. The Province of Ontario has asked the court to 1) order the defendant to remove or render harmless contaminants accumulated in Ontario river and lake beds as a result of the alleged discharges or alternatively, to pay \$10,000,000 to enable the Province to perform the task, and 2) award the province general damages of \$25,000,000 plus court and other costs. The company's lawyers feel that "the results of this and other outstanding litigation will not have a materially adverse affect upon the assets or business of the company". The Province instituted the proceedings in 1971 and still (five years later) a trial date has not been set. The Province instituted the proceedings in 1971 and still (five years later) a trial date has not been set.

F.M.C.

Company: F.M.C. of Canada formed in March 1971 with the Consolidation of Link Belt Ltd., Link Belt Speeder Ltd., Syntrol Ltd. and F.M.C. Chemicals Ltd.

Parent: F.M.C. Corp. own 100%

Description: A multinational which manufactures and sells a broad range of machinery and chemical products for industrial, agricultural and defence users. Its chemical products relate mainly to natural resources and proprietary insecticides. Products include cellophane, caustic soda, chlorine, food preparation and processing, machinery, cranes and excavators, power transmission equipment, petroleum specialty equipment, military vehicles and railroad freight cars.

Subsidiaries: F.M.C. Corp. has 23 subsidiaries principally located in the U.S., Canada, South Africa, Mexico, Argentina, Italy, Brazil, Holland, England, Australia, and Venezuela. Its U.S. operations include 67 facilities in 28 states. In Canada the Co. has 3 facilities.

Assets: \$1,672,071,000 (1974) Net Income: \$80,887,000 (1974)

Sales: \$2,074,070,000 (1974) Employees: 48,320 (1974)

Shared Directorships: American Electrical Power Co., Lehman Corp., I.B.M., I.B.M. World Trade Corp., Standard Oil Ind., Pacific Corp., Bell & Howell, Petro-Tex Chemical Corp., Export-Import Bank, Wells Fargo Bank, First Nat. Bank, Continental Can Co., Can Ltd., Empire Savings and Loan Ass'n., Central Bank & Trust, Philadelphia Nat. Bank.

* Henry Kearns: A director who was ass't sec. of international affairs Dep't of Commerce (U.S.), member of Task Force Intelligence Activities, Hoover Commission, and a high ranking Republican who was chm. of Eisenhower-Nixon campaign.

DOMTAR

Company: Domtar Ltd.

Parent: Control is exercised by Argus Corporation Ltd. (16.9%)

Description: Argus Corp. Ltd. is a Canadian based investment and holding corporation with controlling interests in major Canadian corporations engaged in the international manufacture and sale of construction materials, chemicals, forest products, a variety of paper products, agricultural machinery, construction equipment and natural resources. Company controls bakeries, food retail outlets, radio stations, mining operations, forest lands and real estate. It is considered one of Canada's most substantial empires.

Subsidiaries: The co. exercises control over the following corporations and all their subsidiaries throughout the world: Massey Ferguson, B.C. Forest Products Ltd., Standard Broadcasting Corp. Ltd., Dominion Stores, Domtar, Hollinger Mines and others. Massey Ferguson is ranked the 6th largest corporation in Canada by sales; B.C. Forest Products is ranked 58th largest by assets; Domtar is ranked 22nd largest by sales and Dominion Stores is the 2nd largest merchandiser in Canada.

1975	Sales	Assets	Income
Massey Ferguson	2,513,302,000	1,982,026,000	94,677,000
Domtar	815,221,000	721,368,000	35,288,000
Dominion	1,913,986,000	262,946,000	20,437,000
B.C. Forest	273,426,000	368,791,000	15,888,000

Shared Directors with Banks: Bank of Montreal (4), Bank of Nova Scotia (4), Royal Bank of Canada (4), Canadian Imperial Bank of Commerce (7)

Shared Directors with dominant corporations: Cdn. General Investments: Canadian Investments; Canadian Tire Corp. Ltd., Canada Trust Co., Huron and Erie Mortgage Corp., Great Canadian Oil Sands Ltd., London Life Insurance Co., Sun Life Assurance Co. of Canada; Dominion Glass Co., Iron Ore Co. of Cda., Crown Trust Co., Crown Zellerbach Cda. Ltd., Continental Corp., Labatt Breweries, Kaiser Resources Ltd., British Pacific Properties, Volvo Canada Ltd., Canon Ltd., Petrofina Canada, Molson Companies, Price Co., Consumers Glass, Canada Permanent Mortgage Corp., Dome Mines, Dow Petroleum, Excelsior Life Ins. Co., Algoma Steel Corp., Canadian General Electric, Sun Alliance & London Ins. Group, Continental Can, Abitibi Paper, Cdn. Pittsburgh Industries, Confederation Life Inds., Traders Group, Trust Corp. of Bahamas & all the major co. within the Argus Empire.

Prominent Directors (Argus):

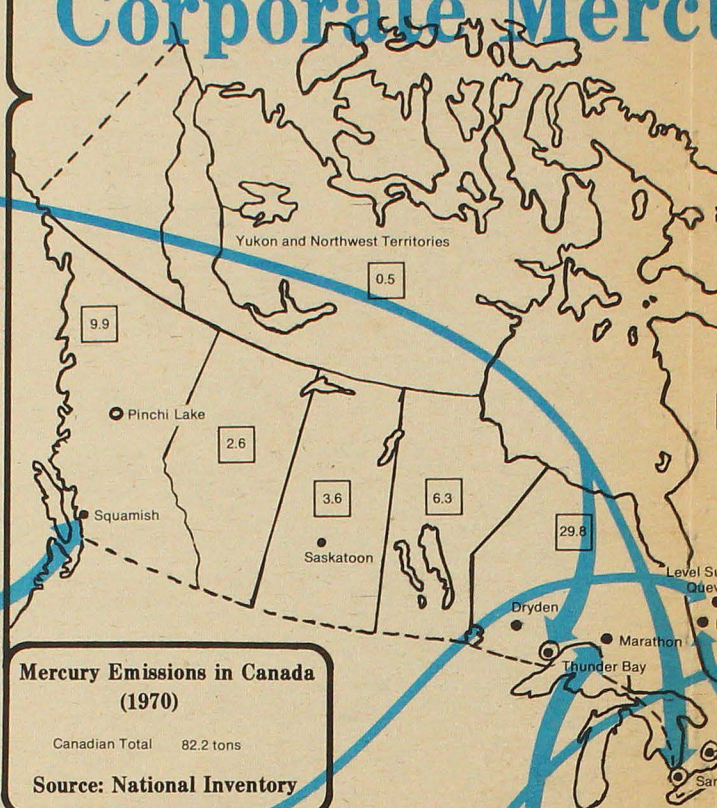
John A. McDougald: Personal wealth between 250 and 300 million dollars. Has 30 directorships through Argus. Control over industrial and commercial assets worth \$2 billion. Personal friend to the Royal Family.

Col. M.C.G. Meighen: Son of the former Prime Minister of Canada Arthur Meighen. Sits on Argus and all its dominant subsidiaries.

Maj.-Gen. A.B. Mathews: Son of former lieutenant-Governor of Ont. Was Lester Pearson's first choice for Governor-General of Canada. The appointment was not made because of Mathews previous post as president of National Liberal Federation. Sits on Argus and all major subsidiary boards.

* Past Director of Domtar was C.D. Howe. Served as head of Wartime Industries Control Board. Presided over Dep't of Defence Production and was Minister of Trade and Commerce.

Corporate Mercury



Mercury Emissions in Canada (1970)

Canadian Total 82.2 tons

Source: National Inventory

STANDARD CHEMICALS

Company: Standard Chemicals Ltd.

Parent: Owned 100% by PPG Industries Ltd. (Pittsburgh Plate Glass)

Description: PPG Industries is a U.S. based multinational corporation which is one of the leading producers of glass for the automobile and building industry, paint, varnish, lacquer and brushes for industrial and domestic use. Among other things it produces soda ash, chlorine, caustic, alkalis, fiber-glass, vinyl plastic, antifreeze fluids, dry colors, insecticides, fungicides, and seed grain disinfectants.

Subsidiaries: Major operations in the U.S. and Canada but company does have 43 subsidiary or affiliate companies in 15 countries of the world. In the U.S. it has 19 glass locations, 11 coating and resin facilities, 2 fiberglass, and chemical and 4 other manufacturing operations. The company controls 13 manufacturing in 3 provinces in Canada. Major Canadian subsidiary is PPG Industries Canada Ltd. which ranks as one of the top Cdn. Industrials.

Assets: \$1,869,000,000 (1975) Income: \$89,000,000

Sales: \$1,886,600,000 Employees: 34,900

C.E.O.: Robinson F. Barker — \$391,378

Capital Expenditures: 1974 estimate \$200,000,000

Ranked by Forbes in the top 200 U.S. Corporations.

Prominent Cdn. Director:

Hon. Paul Desruisseaux: Member of the Senate from 1966. Associated with Westmount Life Assurance Co., Cdn. Gen. Electric Co. Ltd., Royal Bank of Canada, Provigo, Melchers Distilleries, Cable Television, Desmond Research and Development, Lucky One Beverages, Mondeu Int'l. Ltd., Gov. of Sherbrooke Univ.

AMERICAN CAN

Company: American Can of Canada Ltd.

Parent: Owned 100% by American Can Co.

Description: American Can Co. is a diversified multinational primarily engaged in the production and sale of metal, paper, plastic and wood containers for food, beverage, pharmaceutical and other products. The company controls pulp, paper and paperboard mills, produces household paper products, pharmaceutical and health care products, lumber and plywood products, disposable cups, plates and cutlery (Dixie), container and packaging machinery, petrochemicals and plastic resins. The company owns forestlands, plating and tin recovery operations, manufactures and sells patterns for wearing apparel, publishes fashion oriented catalogs, produces zippers and scissors, fashion fabrics and accessories. American Can also publishes trade magazines, art books, bibles, dictionaries, technical and training manuals and government publications. It provides services to government and commercial customers including the grocery trade in economic, social and market research; health, law information and computer applications in legal, legislative and other areas. The company owns and has cutting rights on 616,000 acres of U.S. timberland, owns 29,000 acres in Ont. and has a logging licence on an additional 2,500,000 acres of Cdn. timberland.

Subsidiaries: The empire includes 51 subsidiary of affiliate companies and 149 factories in 25 countries of the world.

Assets: \$1,855,280,000 (1975)

Sales: \$2,870,156,000 (Ranked by Forbes as 86th or top 500 U.S. Corp.)

Net Income: \$77,297,000 C.E.O.: William F. May — \$260,120

Employees: 50,100 Capital Expenditures: \$114,396,000 (1974)

Shared Dir. with Banks: Canadian Imperial Bank of Commerce

* Cdn. directors of subsidiaries not highly integrated with other prominent Cdn. companies. Directors of parent Co. involved in finance, industrial and especially communications corporations in the U.S.

* Received \$158,300 from Dep't of Regional and Economic Expansion in Dec 1972 for expansion of St. John's Nfld. plant.

DOW

Company: Dow Chemical of Canada, (Sarnia) one of top 100 industrials in Canada.

Parent: Dow Chemical owns 100%

Description: Dow Chemical is a multinational corporation involved in the production and sale of a wide range of chemicals, metals and plastics. The Co. also produces agricultural products (insecticides, fungicides, nutritional and feed additives) construction material, consumer products (saran wrap, over cleaner), cosmetic products pharmaceuticals, medical-surgical products, silicone products, and synthetic textile fabrics. The company is engaged in investment, banking and financial operations and owns interests in oil and gas producing properties as well as owning rock salt, coal, limestone and natural brine operations.

Subsidiaries: Dow's empire includes over 124 subsidiary and affiliate companies around the world. In the U.S., its principal properties are in 25 states and include 47 manufacturing locations. It has 17 manufacturing facilities in four Canadian provinces. In Europe it has 27 locations in 11 countries, one in the middle east, 15 in 7 countries in Latin America, and 33 in 9 countries in the Pacific area.

Assets: \$5,846,731,000 (ranked by Forbes as 54 on top 500)

Sales: \$4,888,114,000 (Ranked by Forbes as 43 on top 500)

Income: \$615,662,000 (Ranked by Forbes as 43 on top 500)

Employees: 53,100

Capital Expenditures: For 1975 estimated at \$1,000,000,000

C.E.O.: Charles B. Branch, \$566,679

Directors are internal to the company without many outside connections. In the U.S. most important external involvement is with a number of Banks.

The Chilean Junta in Jan. 1974 returned two of the company's facilities that were nationalized by Allende.

Legal proceedings are pending against the company for its dumping of mercury from its Sarnia operation. The Province of Ontario has asked the court to 1) order the defendant to remove or render harmless contaminants accumulated in Ontario river and lake beds as a result of the alleged discharges or alternatively, to pay \$10,000,000 to enable the Province to perform the task, and 2) award the province general damages of \$25,000,000 plus court and other costs. The company's lawyers feel that "the results of this and other outstanding litigation will not have a materially adverse affect upon the assets or business of the company". The Province instituted the proceedings in 1971 and still (five years later) a trial date has not been set.

F.M.C.

Company: F.M.C. of Canada formed in March 1971 with the Consolidation of Link Belt Ltd., Link Belt Speeder Ltd., Syntron Ltd. and F.M.C. Chemicals Ltd.

Parent: F.M.C. Corp. own 100%

Description: A multinational which manufactures and sells a broad range of machinery and chemical products for industrial, agricultural and defence users. Its chemical products relate mainly to natural resources and proprietary insecticides. Products include cellophane, caustic soda, chlorine, food preparation and processing, machinery, cranes and excavators, power transmission equipment, petroleum specialty equipment, military vehicles and railroad freight cars.

Subsidiaries: F.M.C. Corp. has 23 subsidiaries principally located in the U.S., Canada, South Africa, Mexico, Argentina, Italy, Brazil, Holland, England, Australia, and Venezuela. Its U.S. operations include 67 facilities in 28 states. In Canada the Co. has 3 facilities.

Assets: \$1,672,071,000 (1974) Net Income: \$80,887,000 (1974)

Sales: \$2,074,070,000 (1974) Employees: 48,320 (1974)

Shared Directorships: American Electrical Power Co., Lehman Corp., I.B.M., I.B.M. World Trade Corp., Standard Oil Ind., Pacific Corp., Bell & Howell, Petro-Tex Chemical Corp., Export-Import Bank, Wells Fargo Bank, First Nat. Bank, Continental Can Co., Can Ltd., Empire Savings and Loan Ass'n., Central Bank & Trust, Philadelphia Nat. Bank.

Henry Kearns: A director who was ass't sec. of international affairs Dep't of Commerce (U.S.), member of Task Force on Intelligence Activities, Hoover Commission, and a high ranking Republican who was chm. of Eisenhower-Nixon campaign.

DOMTAR

Company: Domtar Ltd.

Parent: Control is exercised by Argus Corporation Ltd. (16.9%)

Description: Argus Corp. Ltd. is a Canadian based investment and holding corporation with controlling interests in major Canadian corporations engaged in the international manufacture and sale of construction materials, chemicals, forest products, a variety of paper products, agricultural machinery, construction equipment and natural resources. Company controls bakeries, food retail outlets, radio stations, mining operations, forest lands and real estate. It is considered one of Canada's most substantial empires.

Subsidiaries: The co. exercises control over the following corporations and all their subsidiaries throughout the world: Massey Ferguson, B.C. Forest Products Ltd., Standard Broadcasting Corp. Ltd., Dominion Stores, Domtar, Hollinger Mines and others. Massey Ferguson is ranked the 6th largest corporation in Canada by sales; B.C. Forest Products is ranked 58th largest by assets; Domtar is ranked 22nd largest by sales and Dominion Stores is the 2nd largest merchandiser in Canada.

Table with 4 columns: Year, Sales, Assets, Income. Rows for 1975 Massey Ferguson, Domtar, Dominion, B.C. Forest.

Shared Directors with Banks: Bank of Montreal (4), Bank of Nova Scotia (4), Royal Bank of Canada (4), Canadian Imperial Bank of Commerce (7)

Shared Directors with dominant corporations: Cdn. General Investments: Canadian Investments; Canadian Tire Corp. Ltd., Canada Trust Co., Huron and Erie Mortgage Corp., Great Canadian Oil Sands Ltd., London Life Insurance Co., Sun Life Assurance Co. of Canada; Dominion Glass Co., Iron Ore Co. of Cda., Crown Trust Co., Crown Zellerbach Cda. Ltd., Continental Corp., Labatt Breweries, Kaiser Resources Ltd., British Pacific Properties, Volvo Canada Ltd., Canron Ltd., Petrofina Canada, Molson Companies, Price Co., Consumers Glass, Canada Permanent Mortgage Corp., Dome Mines, Dow Petroleum, Excelsior Life Ins. Co., Algoma Steel Corp., Canadian General Electric, Sun Alliance & London Ins. Group, Continental Can, Abitibi Paper, Cdn. Pittsburgh Industries, Confederation Life Inds., Traders Group, Trust Corp. of Bahamas & all the major co. within the Argus Empire.

Prominent Directors (Argus):

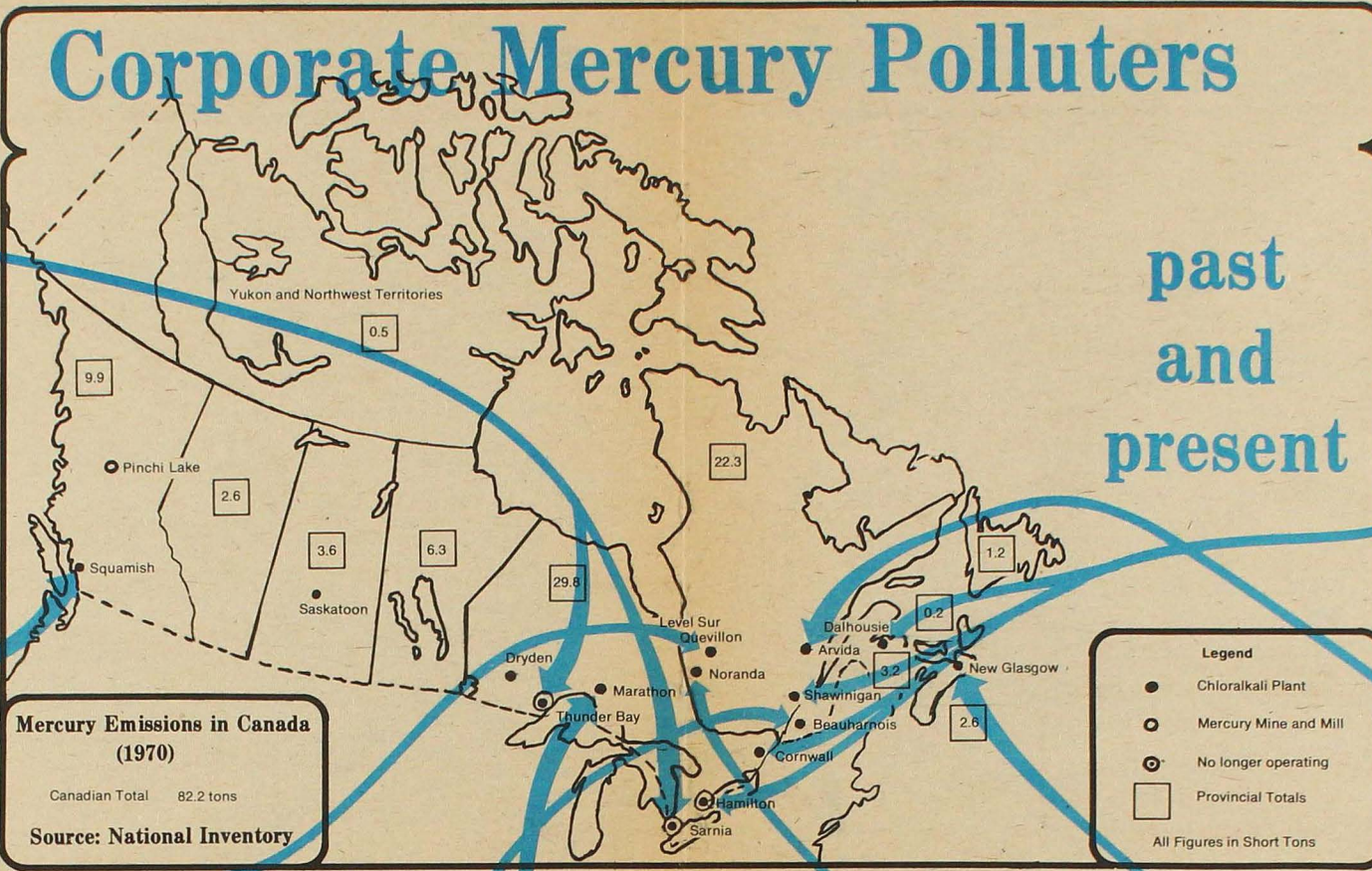
John A. McDougall: Personal wealth between 250 and 300 million dollars. Has 30 directorships through Argus. Control over industrial and commercial assets worth \$2 billion. Personal friend to the Royal Family.

Col. M.C.G. Meighen: Son of the former Prime Minister of Canada Arthur Meighen. Sits on Argus and all its dominant subsidiaries.

Maj.-Gen. A.B. Mathews: Son of former lieutenant-Governor of Ont. Was Lester Pearson's first choice for Governor-General of Canada. The appointment was not made because of Mathews previous post as president of National Liberal Federation. Sits on Argus and all major subsidiary boards.

Past Director of Domtar was C.D. Howe. Served as head of Wartime Industries Control Board. Presided over Dep't of Defence Production and was Minister of Trade and Commerce.

Corporate Mercury Polluters



Mercury Emissions in Canada (1970)

Canadian Total 82.2 tons

Source: National Inventory

STANDARD CHEMICALS

Company: Standard Chemicals Ltd.

Parent: Owned 100% by PPG Industries Ltd. (Pittsburgh Plate Glass)

Description: PPG Industries is a U.S. based multinational corporation which is one of the leading producers of glass for the automobile and building industry, paint, varnish, lacquer and brushes for industrial and domestic use. Among other things it produces soda ash, chlorine, caustic, alkalis, fiber-glass, vinyl plastic, antifreeze fluids, dry colors, insecticides, fungicides, and seed grain disinfectants.

Subsidiaries: Major operations in the U.S. and Canada but company does have 43 subsidiary or affiliate companies in 15 countries of the world. In the U.S. it has 19 glass locations, 11 coating and resin facilities, 2 fiberglass, and chemical and 4 other manufacturing operations. The company controls 13 manufacturing in 3 provinces in Canada. Major Canadian subsidiary is PPG Industries Canada Ltd. which ranks as one of the top Cdn. Industrials.

Assets: \$1,869,000,000 (1975) Income: \$89,000,000

Sales: \$1,886,600,000 Employees: 34,900

C.E.O.: Robinson F. Barker - \$391,378

Capital Expenditures: 1974 estimate \$200,000,000

Ranked by Forbes in the top 200 U.S. Corporations.

Prominent Cdn. Director:

Hon. Paul Desruisseaux: Member of the Senate from 1966. Associated with Westmount Life Assurance Co., Cdn. Gen. Electric Co. Ltd., Royal Bank of Canada, Provigo, Melchers Distilleries, Cable Television, Desmont Research and Development, Lucky One Beverages, Mondeu Int'l. Ltd., Gov. of Sherbrooke Univ.

AMERICAN CAN

Company: American Can of Canada Ltd.

Parent: Owned 100% by American Can Co.

Description: American Can Co. is a diversified multinational primarily engaged in the production and sale of metal, paper, plastic and wood containers for food, beverage, pharmaceutical and other products. The company controls pulp, paper and paperboard mills, produces household paper products, pharmaceutical and health care products, lumber and plywood products, disposable cups, plates and cutlery (Dixie), container and packaging machinery, petrochemicals and plastic resins. The company owns forestlands, plating and tin recovery operations, manufacturers and sells patterns for wearing apparel, publishes fashion oriented catalogs, produces zippers and scissors, fashion fabrics and accessories. American Can also publishes trade magazines, art books, bibles, dictionaries, technical and training manuals and government publications. It provides services to government and commercial customers including the grocery trade in economic, social and market research; health, law information and computer applications in legal, legislative and other areas. The company owns and has cutting rights on 616,000 acres of U.S. timberland, owns 29,000 acres in Ont. and has a logging licence on an additional 2,500,000 acres of Cdn. timberland.

Subsidiaries: The empire includes 51 subsidiary of affiliate companies and 149 factories in 25 countries of the world.

Assets: \$1,855,280,000 (1975)

Sales: \$2,870,156,000 (Ranked by Forbes as 86th or top 500 U.S. Corp.)

Net Income: \$77,297,000 C.E.O.: William F. May - \$260,120

Employees: 50,100

Capital Expenditures: \$114,396,000 (1974)

Shared Dir. with Banks: Canadian Imperial Bank of Commerce

Cdn. directors of subsidiaries not highly integrated with other prominent Cdn. companies. Directors of parent Co. involved in finance, industrial and especially communications corporations in the U.S. Received \$158,300 from Dep't of Regional and Economic Expansion in Dec 1972 for expansion of St. John's Nfld. plant.

NORANDA

Company: Noranda Mines Ltd.

Parent: Major shareholders are Hollinger Mines Ltd. and Labrador Mining and Exploration Co. Together these companies hold 10.7% of Noranda's shares.

Description: Noranda is a Canadian based diversified multinational engaged in the mining, smelting, refining and marketing of natural resources. The company is also involved in manufacturing metal products, pulp, paper, fertilizer and plastics. It controls logging and lumbering operations and is engaged in the exploration of oil, gas and mineral resources.

Subsidiaries: The Noranda empire includes 67 subsidiary or associate companies with operations in 17 countries of the world and marketing activity in an additional 28. Directly or through subsidiaries, the company controls 26 mines, 8 refining and smelting operations, 2 fertilizer plants, 22 forest product operations, and 34 manufacturing facilities primarily located in Canada and the United States. Noranda exercises a 28.5% interest in B.C. Forest Products Ltd.

Assets: \$1,980,117,000 (1975) Income: \$154,870,000 (1974) Employees: 33,000

Sales: \$1,156,423,000 (1975) Cap. Expenditures: \$158,147,000 (1975)

The company was ranked (assets) by the Financial Post as Canada's 9th largest industrial empire.

Shared Directors with Banks: C.I.B.C., B. of N.S., B.C.N., Royal Bank

Shared Directors with Major Canadian Corporations: Air Canada, C.N.R., Dominion Stores, Canada Cement Lafarge, Confederation Life Insurance, IBM Canada Ltd., RCA Ltd., Revelstoke Cos. Ltd., Abitibi, Budd Automotive, Canada Life Assurance, Sun Life Assurance, Wabasso Ltd., Brascan Ltd., National Trust Co., Maclean Hunter, Southam Press, Dominion Insurance Corp., Norcen Energy Resources, Export Dev. Corp., Mutual Life Assurance, Guaranty Trust, Canadian Arctic Gas Pipeline Ltd., Allstate Life Insurance, John Labatt Ltd., Lever Bros., Simpson Sears, Simpsons, Panarctic Oil, Gulf Oil.

Highlights:

The company laid out the townsite of Noranda, Quebec and through subsidiaries operates its public utilities, hotel and recreation centres.

CANSO CHEMICALS - SCOTT PAPER

Company: Canso Chemicals, New Glasgow, and Scott Paper Ltd., Amherstburg, Ont.

Parent: Canso Chemicals (33%) and Scott Paper Ltd., (54.6%) are controlled by U.S. based Scott Paper Co.

Description: The Scott Paper Co. is a multinational corporation which is principally involved in the manufacture and sale of a wide range of paper products and related items for domestic, industrial, institutional and medical use. Controls lumbering operations and forest lands, chemical co., pulp and paper mills and also produces leisure furniture, polyurethane foam products and decorative light fixtures.

Subsidiaries: Major Cdn. subsidiary Scott Paper Ltd. which sells under 30 brand names. In the U.S. its operations are located in 16 states with 28 manufacturing facilities. Scott Paper Co. has 56 subsidiary or affiliated companies in 19 countries throughout the world. It operates joint subsidiaries with Bowater Corp., a British based multinational pulp and paper co. It is also connected with the Mead Corp., a U.S. multinational pulp and paper co. and with the Argus empire in Canada through its interests in B.C. Forest Products Ltd. (one of Cda's largest 200 corporations). Through operation of Canso Chemicals Co. it is connected with I.C.I.-C.I.L. On Forbes top 500 list. Ranked by profitability and growth as 7th in Housekeeping products and 14th on profitability in Forest Products and Packaging.

Assets: \$1,284,669,000 (1975) Employees: 20,100

Sales: \$1,191,883,000 (1975)

Shared Directors with Banks: Royal Bank and Toronto Dominion, B.C.N.

Shared Dir. with Cdn. Corp.: Reed Paper, Imperial Life Assurance, Home Oil, I.A.C., Rothmans of Pall Mall, Dominion Construction, Cominco, Cda. Trust, Pacific Petroleum Ltd., Standard Brands, Woodward Stores, Cdn. Utilities.

C.E.O.: Charles D. Dickey Jr. - \$179,576

Prominent Cdn. Dir.: Renault St. Laurent: Son of late Prime Minister Louis St. Laurent.

C.I.L.

Company: Canadian Industries Ltd.

Parent: 73.4% controlled by Imperial Chemical Industries Ltd.

Description: I.C.I. Ltd. is a U.K. based multinational corporation engaged in the manufacture and sale of agricultural products, chemicals, industrial explosives, metals and engineering products, organic chemicals and dyes, paints and building services, petrochemicals, pharmaceuticals, plastics and synthetic fibres. Products include fungicides, herbicides, insecticides, fertilizers, nylon fibres and yarns, caustic soda, chlorine, food additives, silicones, decorative paints and wall coverings, medical and veterinary drugs, polyvinyl chloride, lingerie, shirts, carpets and home furnishings, ammunition, golf equipment, etc. Company owns real estate and has interests in North Sea oil and gas.

Subsidiaries: The empire includes over 400 subsidiary or affiliate companies operating in 50 countries of the world. Its major Cdn. Subs. is Cdn. Ind. Ltd. which has interests in 41 subsidiary or affiliate corporations and is ranked by sales as no. 32 on the Financial Post Top 200 Cdn. Industrials. Cdn. Ind. Ltd. has a one-third interest in Canso Chemicals which was set up as a joint operation with Scott Paper Co.

Assets: (UK pounds) 3,165,200,000 (1974)

Sales: 2,954,800,000 (1974) Employees: 201,000

Income: 232,000,000 (1974) Capital Expenditures: (UK pounds) 350,000,000 (1975)

Shared Directors with Banks: Banque Canadienne National, Bank of Montreal

Shared Directors with dominant corp. and financial institutions: Cda. Cement Lafarge, Alcan Aluminum, Cominco Ltd., Royal Trust, Sun Life Assurance Co., Cdn. Investment Fund Ltd., Credit Foncier Franco-Canadienne, Guardian Insurance Co. of Ca., Alliance Mutual Life Ins. Co., Québec Telephone, Canadian Pacific and subsidiaries, Triarch Corp., Halifax Ins. Co., Commercial Life Assur. Co. Ltd., the Consumer's Gas Co., Cdn. Corporate Mgmtent Ltd., Victoria and Grey Trust, 500 Line Railroad.

Prominent Cdn. Directors: Hon. James Sinclair: Senator, father-in-law to Pierre Trudeau.

A.M. Campbell: Served with Foreign Exchange Control Board.

A.G.S. Griffin: Sec. - Wartime Price and Trade Bd; sec. - Royal Commission on Prices; First Secretary, Dep't of External Affairs.

ALCAN

Company: Aluminum Co. of Canada. One of the world's largest producers of aluminum it has 25 manufacturing operations across Canada and employs 16,000 workers. It commenced operation at Shawinigan Falls (Quebec) in 1901.

Parent: Alcan Aluminum Ltd. owns all outstanding common shares.

Description: A fully integrated multinational operation engaged in all phases of the aluminum industry from the mining of bauxite through production, fabrication, distribution and sale of aluminum products. Also produces lime, chlorine and magnesia; produces and sells hydroelectric power and owns and operates ships and port facilities, a railway and truck fleets.

Subsidiaries: The Alcan empire is composed of 118 subsidiary or affiliate companies which operate in 37 countries and sell in an additional 63 countries around the world. Major bauxite holdings are located in Jamaica, Brazil, France, Guinea (W. Afr.), India, Malaysia and Australia. Major U.S. subsidiary, Alcan Aluminum Corp., has 8 major plants and more than 40 other operations.

Assets: \$3,011,781,000 (Ranked by Financial Post as 4th largest industrial in Canada 1975/76)

Sales: \$2,301,453,000 (F.P. Rank by sales: 8)

Income: \$169,136,000 (1974)

Employees: 64,000

Capital Expenditures: 1975 expenditures between 200 and 250 million.

Shared Directors with Banks: Royal Bank, Bank of Montreal, Canadian Imperial Bank of Commerce

Shared Directors with major Cdn. Corps.: Cda. Cement Lafarge Ltd., Sun Life Assurance Co. of Cda., Cdn. Industries Ltd., Cominco Ltd., Royal Trust, Abitibi Paper, Bell Canada, Canada Trust, in Washington and as Executive Director of the International Monetary Fund and of the World Bank.

Highlights:

Despite the fact that the company is one of Cda's largest industrial operations or perhaps as a result of it, its Saguenay works at Arvida were subsidized in 1971 with help from the Federal Area Development Agency and the Gov't of Quebec.

A U.S. Antitrust suit is pending against the company's U.S. subsidiary for limiting the production and fixing the prices of aluminum or aluminum products.

The company is presently involved in a \$280 million bauxite project in the Amazon Region of Brazil which is causing substantial disruption to the native peoples.

Prominent Directors:

Nathanael V. Davis: Chm. of the board and C.E.O. Receives direct remuneration of \$235,758 and annual pension benefits of \$133,700. He owns the largest single block of Alcan shares and is a member of Cda's \$50M set.

Paul H. Leman: President of the company, chm. of the board and C.E.O. of Aluminum Co. of Canada. Receives \$188,017 direct remuneration and \$104,200 in annual pension benefits. Completed a five year term as director of the Export Development Corporation of Canada.

Erik Broffoss: Chm. of Norwegian Regional Development Fund and Dir. for the Nordic countries in the International Monetary Fund. Has served as Chief Executive Officer of the Norwegian Ministry of Supply and Reconstruction, as the Finance Minister, Minister of Foreign Trade and Gov. of the Bank of Norway.

Dr. John J. Deutsch: Worked with C.D. Howe for more than 2 decades. Served with the Dep't of Finance, Dep't of External Affairs, and the Foreign Exchange Control Board. He was Chm. of the Economic Council of Cda. and is presently a member of the Cda. Council, the Ontario Council on University Affairs and Teaches at Queen's University.

The Rt. Honourable Viscount Harcourt: He has served as Minister (Economic) at the British Embassy in Washington and as Executive Director of the International Monetary Fund and of the World Bank.

Louis Rasminsky: Chm. of the International Development Research Centre, Ottawa, an agency of the Cdn. gov't. He was a senior official in the Finance Dep't, served as Gov. of the Bank of Canada and as an executive director of the I.M.F. and of the World Bank.

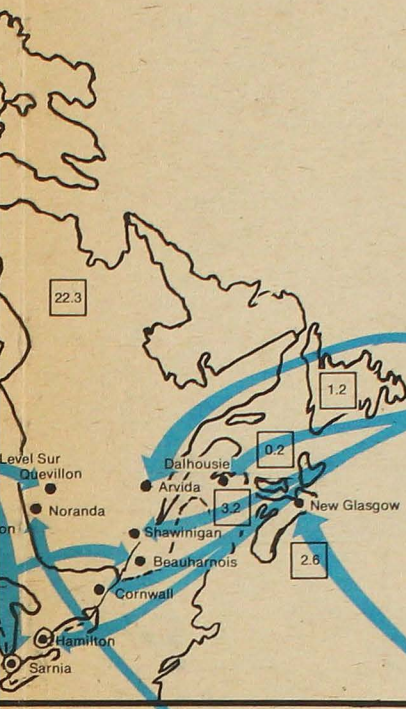
Hon. James Sinclair: He was the Minister of Fisheries in the St. Laurent Government and is a member of the Privy Council of Canada, Chm. of Cda. Cement Lafarge Ltd. which was fined \$432,000 in spring 1974 for conspiring to fix base mill cement prices. He is the father-in-law to Prime Minister Trudeau.

James T. Hill Jr.: He has served as General Counsel of the U.S. Dep't of the Navy and as General Counsel and Assistant Secretary of the U.S. Dep't of the Air Force.

W.O. Trautts: He was a member of the Economic Council of Canada and is a member of the Cdn.-American Cte. and Chm. of the Exec. Cte. of the British-North American Cte., Dir. of the Conference Board Inc. and the C.D. Howe Research Institute.

Mercury Polluters

past
and
present



Legend

- Chloralkali Plant
- Mercury Mine and Mill
- ⊙ No longer operating
- Provincial Totals

All Figures in Short Tons

NORANDA

Company: Noranda Mines Ltd.
Parent: Major shareholders are Hollinger Mines Ltd. and Labrador Mining and Exploration Co. Together these companies hold 10.7% of Noranda's shares.

Description: Noranda is a Canadian based diversified multinational engaged in the mining, smelting, refining and marketing of natural resources. The company is also involved in manufacturing metal products, pulp, paper, fertilizer and plastics. It controls logging and lumbering operations and is engaged in the exploration of oil, gas and mineral resources.

Subsidiaries: The Noranda empire includes 67 subsidiary or associate companies with operations in 17 countries of the world and marketing activity in an additional 28. Directly or through subsidiaries, the company controls 26 mines, 8 refining and smelting operations, 2 fertilizer plants, 22 forest product operations, and 34 manufacturing facilities primarily located in Canada and the United States. Noranda exercises a 28.5% interest in B.C. Forest Products Ltd.

Assets: \$1,980,117,000 (1975) **Income:** \$154,870,000 (1974) **Employees:** 33,000
Sales: \$1,156,423,000 (1975) **Cap. Expenditures:** \$158,147,000 (1975)

The company was ranked (assets) by the Financial Post as Canada's 9th largest industrial empire.

Shared Directors with Banks: C.I.B.C., B. of N.S., B.C.N., Royal Bank

Shared Directors with Major Canadian Corporations: Air Canada, C.N.R., Dominion Stores, Canada Cement Lafarge, Confederation Life Insurance, IBM Canada Ltd., RCA Ltd., Revelstoke Cos. Ltd., Abitibi, Budd Automotive, Canada Life Assurance, Sun Life Assurance, Wabasso Ltd., Brascan Ltd., National Trust Co., Maclean Hunter, Southam Press, Dominion Insurance Corp., Norcen Energy Resources, Export Dev. Corp., Mutual Life Assurance, Guaranty Trust, Canadian Arctic Gas Pipeline Ltd., Allstate Life Insurance, John Labatt Ltd., Lever Bros., Simpson Sears, Simpsons, Panarctic Oil, Gulf Oil.

Highlights:
 * The company laid out the townsite of Noranda, Quebec and through subsidiaries operates its public utilities, hotel and recreation centres.

CANSO CHEMICALS - SCOTT PAPER

Company: Canso Chemicals, New Glasgow, and Scott Paper Ltd., Ambergrombic Pt.
Parent: Canso Chemicals (33%) and Scott Paper Ltd., (54.6%) are controlled by U.S. based Scott Paper Co.

Description: The Scott Paper Co. is a multinational corporation which is principally involved in the manufacture and sale of a wide range of paper products and related items for domestic, industrial, institutional and medical use. Controls lumbering operations and forest lands, chemical co., pulp and paper mills and also produces leisure furniture, polyurethane foam products and decorative light fixtures.

Subsidiaries: Major Cdn. subsidiary Scott Paper Ltd. which sells under 30 brand names. In the U.S. its operations are located in 16 states with 28 manufacturing facilities. Scott Paper Co. has 56 subsidiary or affiliated companies in 19 countries throughout the world. It operates joint subsidiaries with Bowater Corp., a British based multinational pulp and paper co. It is also connected with the Mead Corp., a U.S. multinational pulp and paper co. and with the Argus empire in Canada through its interests in B.C. Forest Products Ltd. (one of Cda's largest 200 corporations). Through operation of Canso Chemicals Co. it is connected with I.C.I.-C.I.L. On Forbes top 500 list. Ranked by profitability and growth as 7th in Housekeeping products and 14th on profitability in Forest Products and Packaging.

Assets: \$1,284,669,000 (1975) **Employees:** 20,100
Sales: \$1,191,883,000 (1975)

Shared Directors with Banks: Royal Bank and Toronto Dominion, B.C.N.

Shared Dir. with Cdn. Corp.: Reed Paper, Imperial Life Assurance, Home Oil, I.A.C., Rothmans of Pall Mall, Dominion Construction, Cominco, Cda. Trust, Pacific Petroleum Ltd., Standard Brands, Woodward Stores, Cdn. Utilities.

C.E.O.: Charles D. Dickey Jr. - \$179,576

Prominent Cdn. Dir.: Renaud St. Laurent; Son of late Prime Minister Louis St. Laurent.

C.I.L.

Company: Canadian Industries Ltd.
Parent: 73.4% controlled by Imperial Chemical Industries Ltd.
Description: I.C.I. Ltd. is a U.K. based multinational corporation engaged in the manufacture and sale of agricultural products, chemicals, industrial explosives, metals and engineering products, organic chemicals and dyes, paints and building services, petrochemicals, pharmaceuticals, plastics and synthetic fibres. Products include fungicides, herbicides, insecticides, fertilizers, nylon fibres and yarns, caustic soda, chlorine, food additives, silicones, decorative paints and wall coverings, medical and veterinary drugs, polyvinyl chloride, lingerie, shirts, carpets and home furnishings, ammunition, golf equipment, etc. Company owns real estate and has interests in North Sea oil and gas.

Subsidiaries: The empire includes over 400 subsidiary or affiliate companies operating in 50 countries of the world. Its major Cdn. Subs. is Cdn. Ind. Ltd. which has interests in 41 subsidiary or affiliate corporations and is ranked by sales as no. 32 on the Financial Post Top 200 Cdn. Industrials. Cdn. Ind. Ltd. has a one-third interest in Canso Chemicals which was set up as a joint operation with Scott Paper Co.

Assets: (UK pounds) 3,165,200,000 (1974)
Sales: 2,954,800,000 (1974) **Employees:** 201,000
Income: 232,000,000 (1974) **Capital Expenditures:** (UK pounds) 350,000,000 (1975)

Shared Directors with Banks: Banque Canadienne National, Bank of Montreal

Shared Directors with dominant corp. and financial institutions: Cda. Cement Lafarge, Alcan Aluminum, Cominco Ltd., Royal Trust, Sun Life Assurance Co., Cdn. Investment Fund Ltd., Credit Foncier Franco-Canadienne, Guardian Insurance Co. of Ca., Alliance Mutual Life Ins. Co., Québec-Téléphone, Canadian Pacific and subsidiaries, Triarch Corp., Halifax Ins. Co., Commercial Life Assur. Co. Ltd., the Consumer's Gas Co., Cdn. Corporate Mgmtment Ltd., Victoria and Grey Trust, 500 Line Railroad.

Prominent Cdn. Directors:
Hon. James Sinclair: Senator, father-in-law to Pierre Trudeau.

A.M. Campbell: Served with Foreign Exchange Control Board.

A.G.S. Griffin: Sec., Wartime Price and Trade Bd; sec., Royal Commission on Prices; First Secretary, Dep't of External Affairs.

ALCAN

Company: Aluminum Co. of Canada. One of the world's largest producers of aluminum it has 25 manufacturing operations across Canada and employs 16,000 workers. It commenced operation at Shawinigan Falls (Quebec) in 1901.

Parent: Alcan Aluminum Ltd. owns all outstanding common shares.

Description: A fully integrated multinational operation engaged in all phases of the aluminum industry from the mining of bauxite through production, fabrication, distribution and sale of aluminum products. Also produces lime, chlorine and magnesia; produces and sells hydroelectric power and owns and operates ships and port facilities, a railway and truck fleets.

Subsidiaries: The Alcan empire is composed of 118 subsidiary or affiliate companies which operate in 37 countries and sell in an additional 63 countries around the world. Major bauxite holdings are located in Jamaica, Brazil, France, Guinea (W. Afr.), India, Malaysia and Australia. Major U.S. subsidiary, Alcan Aluminum Corp., has 8 major plants and more than 40 other operations.

Assets: \$3,011,781,000 (Ranked by Financial Post as 4th largest industrial in Canada 1975/76)
Sales: \$2,301,453,000 (F.P. Rank by sales: 8)
Income: \$169,136,000 (1974)
Employees: 64,000

Capital Expenditures: 1975 expenditures between 200 and 250 million.

Shared Directors with Banks: Royal Bank, Bank of Montreal, Canadian Imperial Bank of Commerce

Shared Directors with major Cdn. Corps.: Cda. Cement Lafarge Ltd., Sun Life Assurance Co. of Cda., Cdn. Industries Ltd., Cominco Ltd., Royal Trust, Abitibi Paper, Bell Canada, Canada Trust, in Washington and as Executive Director of the International Monetary Fund and of the World Bank.

Highlights:
 * Despite the fact that the company is one of Cda's largest industrial operations or perhaps as a result of it, its Saguenay works at Arvida were subsidized in 1971 with help from the Federal Area Development Agency and the Gov't of Quebec.

- * A U.S. Antitrust suit is pending against the company's U.S. subsidiary for limiting the production and fixing the prices of aluminum or aluminum products.
- * The company is presently involved in a \$280 million bauxite project in the Amazon region of Brazil which is causing substantial disruption to the native peoples.

Prominent Directors:
Nathanael V. Davis: Chm. of the board and C.E.O. Receives direct remuneration of \$235,758 and annual pension benefits of \$133,700. He owns the largest single block of Alcan shares and is a member of Cda.'s \$50M set.

Paul H. Leman: President of the company, chm. of the board and C.E.O. of Aluminum Co. of Canada. Receives \$188,017 direct remuneration and \$104,200 in annual pension benefits. Completed a five year term as director of the Export Development Corporation of Canada.

Erik Broffoss: Chm. of Norwegian Regional Development Fund and Dir. for the Nordic countries in the International Monetary Fund. Has served as Chief Executive Officer of the Norwegian Ministry of Supply and Reconstruction, as the Finance Minister, Minister of Foreign Trade and Gov. of the Bank of Norway.

Dr. John J. Deutsch: Worked with C.D. Howe for more than 2 decades. Served with the Dep't of Finance, Dep't of External Affairs, and the Foreign Exchange Control Board. He was Chm. of the Economic Council of Cda. and is presently a member of the Cda. Council, the Ontario Council on University Affairs and Teaches at Queen's University.

The Rt. Honourable Viscount Harcourt: He has served as Minister (Economic) at the British Embassy in Washington and as Executive Director of the International Monetary Fund and of the World Bank.

Louis Rasminsky: Chm. of the International Development Research Centre, Ottawa, an agency of the Cdn. gov't. He was a senior official in the Finance Dep't, served as Gov. of the Bank of Canada and as an executive director of the I.M.F. and of the World Bank.

Hon. James Sinclair: He was the Minister of Fisheries in the St. Laurent Government and is a member of the Privy Council of Canada, Chm. of Cda. Cement Lafarge Ltd. which was fined \$432,000 in spring 1974 for conspiring to fix base mill cement prices. He is the father-in-law to Prime Minister Trudeau.

James T. Hill Jr.: He has served as General Counsel of the U.S. Dep't of the Navy and as General Counsel and Assistant Secretary of the U.S. Dep't of the Air Force.

W.O. Twaits: He was a member of the Economic Council of Canada and is a member of the Cdn.-American Cte. and Chm. of the Exec. Cte. of the British-North American Cte., Dir. of the Conference Board Inc. and the C.D. Howe Research Institute.

Government Response

It has been suggested that mercury pollution affects organizations in much the same way as it does people. Governments when faced with a possible crisis rapidly develop 'tunnel vision' and exhibit a tremendous 'lack of co-ordination'.

In Canada the condition is rapidly approaching its terminal stage. The governments involved have not only demonstrated incompetence in handling the situation, they have acted in ways that can only be construed as negligent. Face-saving, career-building, buck-passing, and discriminatory actions all characterize its bureaucratic response to this very real human problem. The governments, it would appear, have been more interested in protecting the polluters and denying their own responsibility than they have been in preventing a possible tragedy.

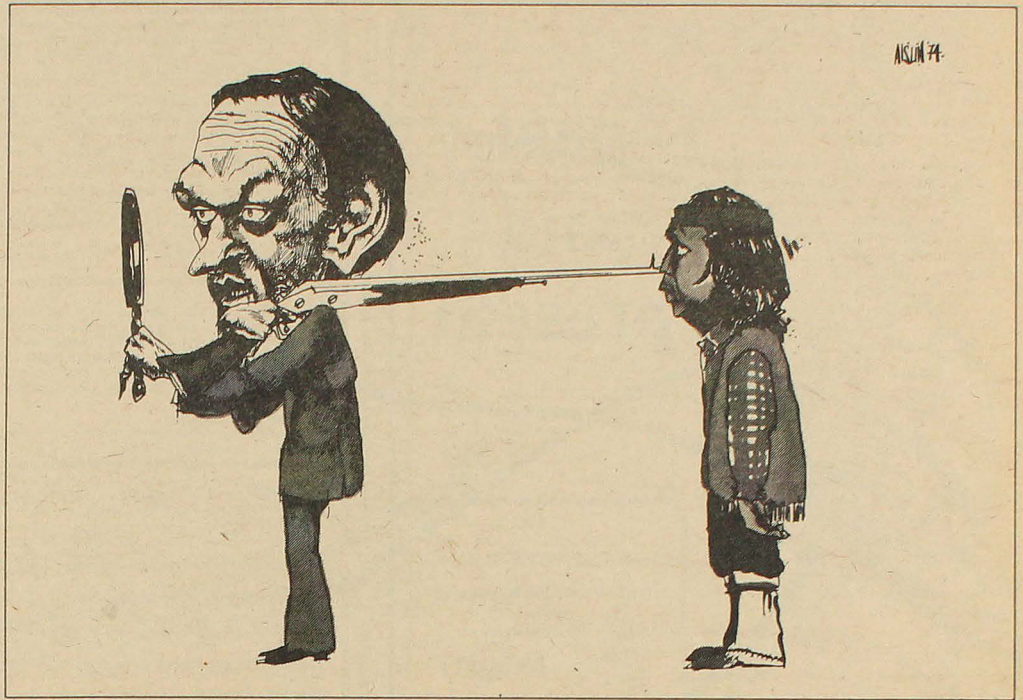
Since the problem of mercury pollution first surfaced in Ontario the government has engaged in a deliberate campaign to suppress information; it has down-played and minimized the problem of mercury poisoning and it has consistently attempted to deflect the issue by attributing the problem to other conditions and to the victims themselves.

In 1975, Ontario Health Minister Frank Miller informed the Ontario public that his "policy is to release figures not to hide them". Back in 1970, George Kerr, then Minister of the Environment had made a similar promise: "There's no reason why any of these surveys which end up in a report shouldn't be made public. I think this is the only way to stop any rumours, or erroneous statements about such analysis and reports."

In the intervening period, however, the government has commissioned reports on mercury pollution which it has never made public, it has conducted surveys of the mercury levels in fish from contaminated waterways which it has not released, and it has performed tests on native people, the results of which were not made available to those concerned.

Despite disclaimers, the government of Ontario is still engaged in a practice of withholding information relevant to the resolution of the mercury problems.

In 1970, the English-Wabigoon was closed to commercial fishing. By this time in Japan, thirteen years after the discovery of Minamata Disease, there were over one hundred 'verified victims' of mercury poisoning with the number increasing annually. The extent of the damage years after the dumping of mercury by Chisso and Showa Denko in Japan, did not penetrate the wisdom of our government. George Kerr, at the time, announced that "We're hoping therefore by



next summer (1971) that the problem will be over."

Even at this early stage there was enough information from Japan, Sweden and elsewhere to convince the government that the problem would not disappear in a matter of weeks. Kerr's statement was completely wrong and the government continued to maintain its position of minimizing the seriousness of the situation.

Four years after Kerr's pronouncement, with the casualty rate in Japan now approaching the 800 mark, Leo Bernier still found it possible to make statements such as, "I remember, you know, that the experts said it would be cleaned up in a matter of, you know, 19 or 20 weeks. Then it went to 2 or 3 years. Now they're telling us 5 years... I'm not convinced that it's as serious a problem as what some people make it out to be."

To the contrary, the problem has always been much more serious than the government would have us believe. Coupled with the above-mentioned tactics of suppressing

information and minimizing the potential danger, the government has attempted to deflect attention away from the central issue of mercury to more tangential themes.

This has included the tactic of raising the spectre of 'high natural background levels' of mercury in the environment. It has also included attempts to blame the problem on the nutritional habits of the native people or on their genetic susceptibility.

In fact, mercury levels in fish in the English-Wabigoon system have been as high as 60 times the 'background' levels. This situation simply cannot be explained by natural mercury concentration as anyone knowledgeable about the problem will admit.

As for the 'nutritional' and 'genetic susceptibility' arguments, they do not obviate the fact that mercury is a threat to human health, period. If the native people are more susceptible than others, all the more reason to reduce their exposure to mercury.

Such arguments are merely an attempt to

deny or deflect responsibility.

One way to determine just how seriously the government has taken its responsibilities toward the native people is to examine its record of action on recommendations made to it by special task forces and inter-departmental committees.

Over the course of the past six years hundreds of reports, documents and studies have been piling up on the shelves and desks of numerous bureaucrats in various government departments. These reports, many commissioned by the government itself, testify not to government action but to its paralysis. Time and time again, with mechanical repetitiveness, the recommendations and conclusions of the reports have, been ignored, delayed or denied.

In 1970, a report entitled "Mercury in Humans in the Great Lakes Region" recommended that clinical examinations, directed particularly toward the central nervous system, be carried out and that both the clinical and subclinical effects of mercury be determined.

To date there has been no government programme designed or implemented to comprehensively undertake this examination. Instead the government has been content to record mercury levels in blood and hair samples collected at the time of year when they were predictably at their lowest.

For the sake of accuracy, it should be pointed out that the government did conduct clinical examinations on some Indians. The government, however, distorts the extent of this programme.

In August 1975, Health Minister Frank Miller, in a speech in Kenora, stated that "as a result of the mercury survey of native people and of fish in the English River area, the individuals affected were offered clinical examination and treatment in Winnipeg General Hospital." (emphasis added) This statement suggests a far more extensive programme than was actually undertaken.

Of the 110 residents of the two reserves that were affected, only six were tested and these six were not the most seriously affected. The government has further suggested that only six people were tested because that is all who would volunteer. In actuality, these were all that the government wanted. A letter dated May 15, 1973 from the Medical Services Branch in Kenora and addressed to Chief Roy McDonald of White Dog states, "Unfortunately, Winnipeg can only test five or six at the very most people at one time. Could you please forward the names of five or six of the above named persons who would be available to go to Winnipeg..."

It is still unclear why it was necessary to make the native people travel 160 miles to Winnipeg to conduct the examinations. Dr.

Institutional Racism

Letter to Whites

Ministry of Health 416/965-24.1 Hepburn Block Queen's Park Toronto Ontario M7A 1R3

June 8, 1973

Dear Householder:

The government of Ontario has been collecting and analyzing fish for mercury for more than three years. These analyses show that fish from the following areas have high levels of mercury in their flesh and may be harmful to health if eaten. Women who are, or may be, pregnant should be particularly careful not to eat fish from these waters because high levels of mercury may damage the unborn child:

The Wabigoon River from the dam in the Town of Dryden to the junction with the English River;

The English River from below the falls on Tida Lake westward to the Winnipeg River;

The Winnipeg River from Swan Lake westward to the Manitoba boundary.

The Ministry of Health, therefore, recommends that you do NOT eat fish from these waters.

This recommendation is made because the mercury levels in all of the types of fish tested in waters above have been found to be 10 to 30 times the highest level allowed in fish sold as food.

The high amounts of mercury found in the fish in the Wabigoon and lower English River may be due to pollution, but the industrial mercury discharges to the waterways have been drastically reduced and do not meet the strict regulations set out by the Ontario Ministry of the Environment.

Mercury discharged to the water in the past is expected to remain in the bottom mud of the rivers and lakes and give rise to high levels of mercury in the fish for many years to come. Because the mercury is in the mud and makes its way into the larger fish such as pike and pickerel through their food, the mercury levels in the water itself have nowhere been found to be above the safety level and, therefore, nowhere is the water unfit to drink because of its mercury content.

Fish in other lakes and rivers in Northwestern Ontario contain small amounts of mercury as they do everywhere in the world, but in general these levels are below the limit set for food and can safely be eaten. In a few lakes, the larger sizes of fish such as pike and pickerel may contain somewhat more than the limit set for mercury and it would be unwise to eat such fish on a regular basis.

Because of the very large number of lakes in Ontario the mercury levels in fish from all such lakes have not been tested but where testing has been carried out the results are available through the local offices of the Ministry of Natural Resources.

Yours sincerely,
B.T. Potter, M.D.
Minister of Health

Letter to Native People

March 17, 1975

Dear -----,

As agreed with your chief and councillors, I am forwarding the results of the blood test for mercury that was taken in January and February 1975.

Your level of mercury was found to be _____ parts per billion. From this measurement and our conversations with both you and other people in your band, there is no suggestion that mercury is affecting your health or the health of anyone else in the band who gave us a blood sample.

Most of the band members have mercury levels when are higher than the people living in Southern Ontario who do not eat very much fish, but this is to be expected, and the mercury level does vary from person to person without necessarily having any effect on their health. We consider your mercury level to be in the range of measurements which would not affect your health.

We realize that this matter of mercury in the fish is a difficult one to understand and the experts are still learning more about mercury and its effects, but it is also important to remember that to keep healthy it is necessary to eat balanced meals which contain some meat or fish as well as starchy foods such as bread, and fats such as margarine or butter.

To keep your mercury level at the same number or reduce it, three steps can be taken: (1) do not eat more fish from the English River than you do at present; (2) always select the smaller fish, and remember that whitefish contain less mercury than pike or pickerel; (3) take fish from above the falls at Maynard Lake, or from the lakes and rivers away from the English River, because the fish in these waters are much lower in mercury.

If you have any questions about mercury, I suggest that you send them either to Dr. G. J. Stopps, Community Health Standards Division, 15 Overlea Blvd., 3rd floor, Toronto, Ontario, or to myself at the above address.

We should like to thank you for your help in measuring the mercury levels, and plan, if your chief and councillors agree, to return in the near future to measure mercury levels again to check whether they have remained the same or have shown any change.

Yours sincerely,

/s/

Peter J. Connop
Zone Director
Thunder Bay Zone

Government Response

Harada, a neuropsychiatrist and expert on Minamata disease from Kumamoto University in Japan, managed to single-handedly conduct clinical examinations on 89 people right on the reserves. It is more than ironic that, with all its resources and facilities, the government can only test six people removed from their homes when one committed physician can test 89 on the reserve.

In 1973, the Ontario Government's 4th Report of the Mercury Task Force concluded with a number of recommendations. Very briefly, these included the following:

- That mercury contaminated fish not be used for human or animal food;
- That native people receive assistance in replacing contaminated fish with uncontaminated fish or other food;
- That assistance be provided to the bands to enable them to resume viable commercial fishing operations in adjacent waters;
- That the taking of fish for food be prohibited while realizing that "complete closing of the river system may be necessary for control purposes."

In the face of these suggestions, the government once again chose to act in an obviously inadequate manner. Given no alternative, native people were forced to continue eating the contaminated fish from the English-Wabigoon River system.

In fact no alternative was provided until 1975 when the government supplied the reserves with freezers stocked with whitefish. This program, however, was another mismanaged half-measure that, as Stephen

Lewis has pointed out, failed from the start. "The entire fish for food programme is a dead letter. It is over. When it was first announced in the legislature it was seen as a heroic answer to the problem. They would try to identify lakes where there was no mercury pollution and have the members of White Dog and Grassy Narrows fish those lakes... It seemed, after four or five years of playing games, a legitimate solution. It's finished. It's over... More incredible, is the fact that it was apparently over in January or February."

As for the "complete closing" of the river system, despite the obvious necessity to do so, it is still open to sport fishing and the tourist camp operators.

The 4th report of the Task Force went on to recommend that (5) the government should compensate the commercial fishermen on the reserves (6) carry out more in depth health examinations and (7) develop an information programme designed to warn the reserve residents against eating the fish. Again the government waffled. Its compensation program consisted of providing some minimal financial compensation to 30 'licensed' commercial fishermen at White Dog and to 19 'licensed' fishermen at Grassy Narrows. The compensation was based on a 70% loss of revenue figure for 1970-1972 and a 60% loss of revenue for 1973. No compensation was paid after 1973.

The recommendation for a more in depth health examination has been shelved for more than three years. Dr. Stopps, just be-

fore leaving the Ministry of Health in February 1976, drew up a "Preliminary Proposal for Studying the Health Hazard from Mercury Contaminated Fish in Northwestern Ontario". It will be years, assuming the government acts on the proposal, before any results are in.

The government's 'information program' is yet another tribute to incompetence. The government would have us believe that "When the full implications of the situation became known, our immediate concern was to alert the Indian people to the danger of eating the contaminated fish..." If this was the government's concern, why was it necessary, three years after the 'implications of the situation' had become known, to recommend that an 'information program' be implemented?

From the start the government information program has been mismanaged and beset with contradictions. Letters have been sent to the Indians advising them (1) not to eat the fish, (2) to eat only the smaller fish and (3) to eat as much as much as they did in the past. These contradictions are perhaps understandable, for even the government must recognize the futility of advising people not to eat fish in the absence of a suitable alternative.

In December 1975, a 'not officially released' report entitled 'Mercury Poisoning in Iraq and Japan' detailed another series of recommendations:

- Fish from the Wabigoon and lower English River system not be used for human or animal food;

• It's recognized that the most effective way of achieving recommendation 1 is to close the waterway to all forms of fishing;

• Those persons who are dependent on fish for a substantial part of their food intake receive adequate help in replacing contaminated fish with uncontaminated fish or other food of equal dietary value;

• A clinical and epidemiological study of the Grassy Narrows and White Dog bands should be carried out;

• As a first priority, information concerning tolerable weekly intakes of mercury should be quickly disseminated to Canadian communities or groups known to be heavy fish eaters.

These recommendations speak for themselves. In the last six years, they have been reiterated time and time again by scientists, government task forces, native people organizations, and public interest groups. For the most part they have still not been acted upon.

In the face of such evidence, Premier Davis still finds it possible to suggest that the government has acted in a responsible and effective manner.

"The Provincial Government has been very deeply involved in the assessment and solution of the problems related to mercury contamination since the very first indication of a potential hazard to health... I, personally, am satisfied with the efforts put forth to date."

Premier William Davis
January 13, 1975
(emphasis added)

Dr. Gordon J. Stopps

The role played by Gordon J. Stopps in the mercury problem deserves a very special mention in this paper. Dr. Stopps was a senior consultant for the Ontario Ministry of Health from 1971 to 1976. Throughout this time he functioned as a spokesman for the Ministry and played a key part in assessing and responding to the health aspects of mercury pollution. Some statements by Stopps have been extracted from various letters and reports and quoted below. They make fascinating reading and require little explanation.

- "I have recently joined the Health Studies Service and will be working mainly on the significance to human health of the levels of mercury found in residents of Ontario."

Letter to Colin Myles
December 16, 1971.

- "The purpose of this study is to attempt to answer the question — has the past or present consumption of mercury contaminated fish affected the health of persons in Northwestern Ontario?"

From "A Preliminary Proposal for Studying the Health Hazard from Mercury Contaminated Fish in Northwestern Ontario",
January 1976.

Comment: One wonders just what Mr. Stopps and the Ministry of Health were doing during this five year interval.

- "As you know there is a limit of 0.5 ppm mercury set for fish sold as food in the U.S.A. and Canada. The average levels of mercury in the pike and pickerel in the lower English and Wabigoon River are thirty times the maximum allowable limit set for mercury in fish, therefore, fish from these waters should not be eaten."

Letter to Tourist Camp Operator
November 16, 1972

- "From the measurements we made and our conversations with your people, we did not find any effect of mercury upon the people's health, however, it would be wise to tell those people with particularly high mercury levels to reduce the amount of fish they eat and we are making this recommendation in the letters sent to those few people who do have such levels."

Letter to Band Councils
February 27, 1973.

- "The fact that no one has been demonstrated to become ill from eating fish on the Wabigoon and lower English river systems is, in my mind, a matter of good fortune rather than demonstrating that there is no potential hazard to human health from eating these fish. As you know, it was the opinion of Dr. Sutherland, and I agree with him, that the fish from the Wabigoon and lower English River system should not be eaten even over relatively short periods of time."

Letter to Tourist Camp Operator
February 12, 1973.

Comment: Why is it that Stopps warned white tourist camp operators and their guests not to eat any fish while advising native people to simply reduce their consumption?

- "We also have to remember that we haven't seen any mercury poisoning. Not that we should wait for mercury poisoning, obviously, before we do something. But it does suggest that since the conditions in the river have existed for some time, and we don't appear to be seeing any sickness due to mercury, that acting in great haste from the point of view of suddenly saying "You shouldn't eat any of the fish" would be ill advised."

From "A Clear and Present Danger"
CBC Documentary, November, 1974

- "With regard to the health effects of mercury, if we are to say that the levels of mercury found in our Ontario population are safe, we must of course, have looked carefully for possible harmful effects and be able to convince people that we have not found them. Only if such a statement can be made, based on solid scientific work, is there any basis at all for questioning the 0.5 ppm level in fish."

Letter to Tourist Camp Operator
December 16, 1971

- "While on the reserve, I was asked how it was possible to say that the persons that we had taken blood from were in good health since we had not done an exhaustive examination, and I replied that in the case of methyl mercury poisoning a great deal of reliance would be placed upon the history given and that no one had volunteered symptoms which were suggestive of mercury poisoning and this was strong but not conclusive evidence that there was no health effect due to

mercury."

- "There's no obvious illness in this area that we can in any way attribute to mercury."
CBC Programme, November, 1974

- "If the health effects (of mercury) were relatively severe it is likely but not certain that they would have already become apparent in those eating the largest quantity of contaminated fish over the longest time. It is quite possible, however, that lesser degrees of mercury intoxication could go undetected without a special study... No present agency is known to exist in Canada that could undertake the proposed study."

From "A Preliminary Proposal..."
January, 1976

Comment: How is it possible for a Health official to downplay the hazards of mercury contamination while admitting at the same time that such a conclusion is unfounded in the absence of a special study?

In February, 1976, Dr. Stopps left the Ontario government to take a teaching post in Preventative and Community Medicine at the University of Toronto. If Stopps' appointment is an indication of what University of Toronto means by 'preventative medicine' then the citizens of Ontario should brace themselves for a new kind of newspeak from the medical profession over the growing issues of environmental and occupational health.

Stopps' appointment to the University of Toronto is especially alarming in that it may not end his 'involvement' with the health problems of native people. In the 1976 Preliminary Proposal, in which Stopps suggests that an exhaustive study be conducted on the reserves, he points out that no agency exists to handle such a study. Stopps goes on to say: "...but it is felt that a large university, having a medical school, could carry it out provided a compact and experienced research management organization is available."

One month later, Stopps began to work for the Faculty of Medicine at the University of Toronto. The province is currently negotiating with the University of Toronto, among others, for the purpose of contracting the study proposed by Stopps.

A brief description of Stopps' career before working for the Ministry of Health helps one more fully appreciate his role in the mercury problem.

Stopps came to Canada from the E. I. du Pont de Nemours Company where he worked for many years in the Haskell Laboratory for Toxicology and Industrial Medicine. Du Pont, along with the Ethyl Corporation, produces most of the approximately 260,000 tons of lead additives burned each year in the U.S.

Close to the end of his career with Du Pont, Stopps took part in preparing a report on the health effects of air-borne lead, commissioned by the National Research Council of the National Academy of Sciences. The report concluded that the amount of lead in the air of most major cities did not pose a threat to human health.

The lead industry was delighted with what it perceived as a clean bill of health. Officials at the U.S. Environmental Protection Agency, however, who had hoped to use the report to impose a national air quality standard for lead, claimed the report "pretty well pulled the rug out from under us."

Stopps' views had long been taken as representing the industry's position on the hazards of air-borne lead. It was felt by many that Stopps' significant contribution to the report had biased the results. One of the many critics, and an official reviewer of the lead report claimed that Stopps' declarations of neutrality meant nothing: "How could he be neutral? He has written and written for years that there's nothing harmful about tetra ethyl lead... It's just not possible for him to act purely as a scientist." (Science, Vol. IX, Nov. 71)



Government Response

The Minister of Natural Resources

Leo Bernier is the Natural Resources Minister for Ontario. His ministry has two conflicting responsibilities—conservation of the natural environment and regulation of commercial and recreational exploitation of natural resources. When these responsibilities clash—as they almost invariably do—exploitation appears to be the most consistent winner.

It was Leo Bernier who, early in 1973, announced a provincial policy of doubling forest production in Ontario by the year 2000. Later, it was discovered that this policy translates into a massive expansion of timber rights for Reed International into the most fragile forest land of Northern Ontario—exposing some 26,000 square miles and numerous Indian communities to the ravages of clear-cut logging.

It was also Leo Bernier who, in 1973, appointed Tommy Jones to head a ministerial advisory committee to advise the Ministry of Natural Resources on what to do about the mercury problem. Tommy Jones is the vice-president of Reed Paper Company which owns Dryden Chemical Company, the major mercury polluter in N.W. Ontario. In fact, Mr. Jones is the former manager of the Dryden Paper Company!

Bernier is parliamentary representative for the Kenora area. On his re-election to the Kenora riding last year Bernier commented to a reporter, "I don't talk about mercury. It's not my department." Mr. Bernier's department regulates fishing, licences tourist camps, was responsible for supplying an alternative food source and new employment opportunities for the native peoples, and has, in fact, been deeply involved in the mercury problem from the very beginning. Native peoples' feelings toward his ministry was highlighted when they blockaded the road up to White Dog Reserve in 1975. The gate fee was \$10 for regular vehicles and \$25 for cars belonging to the Ministry of Natural Resources.

It is also not true that Mr. Bernier does not talk about mercury. In May 1970, it was Mr. Bernier who triumphantly announced that Dryden had beaten its mercury problems. But then, Bernier doesn't hold Dryden responsible for polluting the fish anyway. He blames 'water organisms' for having transformed the mercury into poison. (Toronto Star, April 19, 1975)

From the beginning, Mr. Bernier's department has been working overtime on ways of getting the polluted fish to market. In March, 1973, he claimed, "We're even going into the idea of blending, whereby the fillets from larger fish would be packaged with fillets from smaller fish, and the overall average mercury content would be below the 0.5 ppm."

If this didn't work, he had more creative ideas on how to sell mercury contaminated fish. For example, on the CBC show *As It Happens* in November 1974, he suggested that the fish could be filleted "and put through a breeding or fish-stick process, and when the whole package is weighed, we would compare the levels of mercury as by weight and volume to see if we can get it below the 0.5 ppm."

If this too failed, there was always the possibility of simply raising the acceptable levels: "... I think it's time we had another look at the level that was placed on us by the World Health Organization and it's my understanding that there's a large safety factor already built into the 0.5 ppm level."

Comments by Bernier have also contributed to downplaying the extent of the mercury pollution and minimizing the health risk: "... When we first went into this mercury contamination problem, I remember... that the experts said it would be cleared up in a matter of, you know, 19 or 20 weeks. Then it went two or three years. Now they're telling us five years."

But from the information that's come to my desk, to my attention, I'm not positively convinced, and I'm not an expert, I'm not a doctor, I'm not a lawyer, I'm just an ordinary layman, and I'm not convinced that it's as serious a problem as what some people make it out to be." (As It Happens, November, 1974)

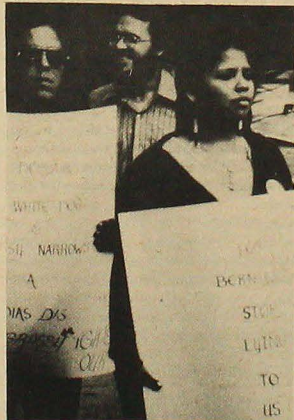


photo by Enishi and Shiota

Bernier's doubt is passed on the unsuspecting tourist, who may not be fully informed as to the potential dangers of eating fish:

"Well our policy is that the angler can go out and fish for himself. We notify him of the information we have received from the Health people and the environment, and that's that eating large quantities of fish may, I repeat, may be harmful to your health... But here again, it is, you know, the fisherman beware! We're notifying you—like cigarettes—you are warned that if you have a desire to smoke large quantities of cigarettes, then it could be harmful to your health."

When the Japanese doctors visited the reserves and began to inform people of the real dangers of mercury Leo Bernier called them a bunch of "travelling toubadours". He was upset that the group had ignored the government: "To me that was not protocol." He said scientists should deal with the matter "on a high basis" and "keep politics out of it".

Bernier has also been one of the most adamant and vocal advocates of the government's policy of refusing compensation for the victims of mercury pollution: "Our policy is that there will be no compensation for industrial pollution. That is stated government policy. The polluter is responsible and the courts are open to the individual to take on the polluter."

However, when Barney Lamm (a tourist camp operator who closed his camp because of mercury) took Dryden to court, Bernier found the Lamm case a political thorn because it undermined the local industry of his home riding: "They said they aren't prepared to let their clientele fish this type of water in case there may be some damage to health. This is the route they choose. But there is no doubt in my mind they still could be operating, maybe on a more reduced scale. Perhaps they should be diversifying. Maybe they should be flying guests out to uncontaminated lakes."

Government Secrecy

In a recent Canadian Press article (21/8/76) Canada was accused of being the "Most close-lipped of all the world's democratic governments", classifying as a matter of routine more than 80 per cent of its documents.

This almost paranoid concern for secrecy is a problem that extends beyond the federal government. In Ontario all information held by the government, no matter how innocuous, may be released only with ministerial approval. In practice, as the Canadian Environmental Law Association has pointed out, this discretion is at the whim of civil servants who maintain a rigid policy of releasing as little information as possible. C.E.L.A. goes on to write that: "There is no established public procedure whereby the citizen can take any action to obtain a report or document. In fact, the government does not even tell the citizen what information it has. Countless anonymous bureaucrats sit stamping secret, confidential, restricted and other designations on virtually every piece of paper and document that goes across their desk. The politician and bureaucrat alike are vitally aware of the fact that information is power and they guard this tradition of secrecy."

The full impact of this regime of secrecy is felt at the point when citizens express an interest and concern over a particular issue such as mercury poisoning. Invariably their inquiries are met with an attitude which conveys the impression that to pursue the matter any further will be to jeopardize the security of the country.

Requests for first hand data are countered with the "bureaucratic shuffle"—a familiar manoeuvre which involves going through numerous switchboards to countless departments which repeatedly inform you that the information you desire is really the jurisdiction of some other department, ministry or agency.

If you are more specific and can back up your request with the name and date of the document, what ensues is an interrogation (which reinforces the impression of being a foreign agent) followed by the consistent response "that information is confidential and has not yet been released".

At best, the government will point to sources of information where some of the data you request can be painstakingly extracted from public records. For the most part, however, individuals and public interest groups have to use their own resources and supply their own data.

It is this secrecy and deception around the mercury issue which has forced Barney Lamm, a concerned tourist camp operator, to hire his own scientist to test for mercury in Clay Lake fish; that forced a resident of White Dog to send tissue samples from his sick cats all the way to Japan for analysis; that forced the National Indian Brotherhood to conduct an independent analysis of the effluent from the Dryden Chemical Co.; that forced commercial fishermen in the St. Clair area to gather and test their own fish samples; that forced Japanese doctors to come to Canada in order to make public the status of mercury poisoning on the reserves; and that forced a delegation of Canadian Indians to go to Japan in order to understand the full danger of mercury poisoning.

Concrete examples of government secrecy are not difficult to find in Canada:

- In February of 1972 the Ontario government had completed its major study of mercury poisoning which revealed levels in fish at 30 times the safe standard, and designated all fish eaters in N.W. Ontario as being "at risk". This important document was concealed until November 1974, the day after parts of it were made public by Max Allen on the C.B.C. programme "As It Happens". As Stephen Lewis, NDP leader, argued in the Ontario legislature:

"When you have a document that contains that kind of information which relates directly to the actual or potential health hazards of all those who consume fish in the Grassy Narrows and White Dog reserve areas, how dare you not bring it to public attention for more than two and a half years?"

- The Federal Government conducted a number of experiments in which 16 cats were fed fish from a lake on the English Wabigoon River system. This study which revealed that all sixteen cats

showed distinct symptoms of methyl mercury poisoning was suppressed for three years. The report was eventually released on the same day that the Japanese doctors arrived in Canada. Whether or not this was an attempt to cover-up for five years of government inaction or to detract attention from the Japanese experts is a matter for conjecture.

- In March 1974, a study was completed by the Ontario Minister of the Environment entitled "Alternative Policies for Pollution Abatement in the Ontario Pulp and Paper Industry". Among other things the report documents the amount of pollution caused by the Pulp and Paper Industry and evaluated the various companies' compliance with government regulations. More than two and a half years after its completion, this study is still confidential.

THE GOVERNMENT IS CURRENTLY DRAFTING A 'FREEDOM OF INFORMATION' ACT... BUT THE CONTENTS ARE SECRET!



CONARD

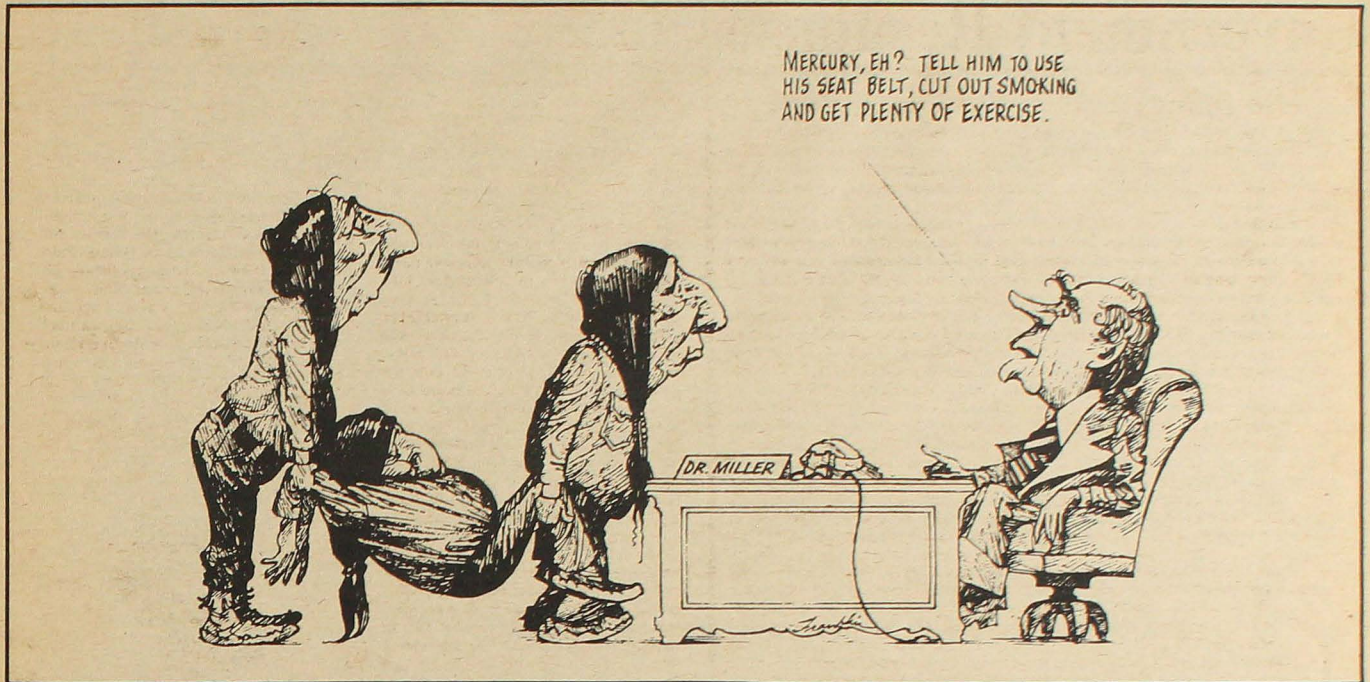
- Mercury Poisoning in Iraq and Japan, is the title of yet another unreleased document in the hands of the Ontario government. This report, completed by a team of government and medical experts who were sent to Japan and Iraq, is one of the most comprehensive government reports on the subject of mercury poisoning. After being submitted to cabinet over eight months ago, the government's excuse for not making it public was to suggest that "it was in need of revision".

- A report by the Federal Task Force on Organic Mercury in the Environment dated Aug 1973 cited the difficulty it had in receiving information from the Ontario Government. "The free flow of information and data on mercury in the environment with the Province of Ontario is impeded for reasons that are not clearly understood". Although frustrated by the reluctance of the province to provide information, the Task Force's own report was not released until over a year later.

Government secrecy is not a policy that is applied indiscriminately and uniformly to all groups. T.S. Jones, V.P. of Reed Paper, Ltd., didn't have any trouble getting information from either level of government. Discussing the situation with Barbara Fromm of "As It Happens", he said, "You see I was a little surprised that you had trouble getting information because we never have..." Probably not—but those people directly affected by mercury poisoning certainly do.

How is it possible for the public to develop an informed opinion on the operations of the government and to assess its effectiveness in dealing with particular problems if there is no access to information? As Drs. D'Itri from Michigan State University have commented "all data must be made freely available so that recommendations for action can be based on what is best for all of the people all the time". The Province and the Federal Government disagree. As Mr. Turner, past Liberal Cabinet Minister, said in a speech to the August 1976 Bar Association meeting in Winnipeg: "There is a vested interest in presenting any policy or any decision in the most favourable light. This sometimes means selecting facts. It often means managing or manipulating information. Full and immediate revelation of all the facts can be embarrassing."

An informed citizenry, it would appear, is a threat to government complacency and a risk to a system which instead of acting to solve problems prefers to cover them up.



Government Health Care

The following is a critical review of five years of testing on the Grassy Narrows and White Dog Indian reserves. The greater part of this review has been adapted from a report written by Jill Torrie for the National Indian Brotherhood and presented to the Standing Committee on Mercury in the Environment on July 23, 1975.

The article is valuable not just as a critique of Government monitoring programmes on the reserves, but also as an example of how the government defines 'health care'.

As such it constitutes a warning to those communities right across Canada where environmental contaminants of one kind or another pose a threat to human health. Leaving it up to the experts, and not participating in and critically evaluating health care programmes, is a potentially perilous and ultimately tragic choice for any community.

If you were responsible for determining whether or not the health of any Indian was being threatened or damaged by mercury in fish what would you do?

Would you not be sure to test those Indians who ate the largest amounts of fish? And wouldn't you conduct your tests at the time of year when the Indians were eating the fish? And wouldn't you check as many Indians as possible for actual signs and symptoms of mercury poisoning? Of course you would be sure to test the same Indians at least three times so that any trends or changes in health would become apparent. And considering the subtle effects of chronic mercury poisoning wouldn't you have to examine the whole community in question for indications of slight brain damage — and then compare these results with a similar community unexposed to mercury?

The federal and provincial government officials responsible for the health of the natives have done none of these things. In fact, the whole monitoring procedure on the reserves has been so shoddy that it is difficult not to conclude that the government testing has been designed to elicit a desired result of "no evidence."

The Ontario Ministry of Health, in cooperation with the Federal Health Services Branch, has conducted the testing programmes on the reserves. Tests were carried out in the fall of 1970, Dec. 1972 into Jan. 1973, Dec. 1973 into January 1974 and in January 1975. The Federal Government refers to these activities by two-year designations (eg. 1970-71, 1971-72, etc.) which implies a more extensive and more serious effort than has ever been undertaken. Each testing programme lasted several days in each community. Let's examine the testing procedure in light of the questions asked above.

Who was Tested?

No known group of the heaviest fish-eaters have been tested. All residents at Grassy Narrows and White Dog say the guides were the heaviest fish-eaters because they cooked and ate fish daily, in the summer, with their customers. **The majority of guides were never tested.**

Although all residents of the Reserves were involved in fishing at some time, the government of Ontario paid some minimal compensation to 30 commercial fishermen at White Dog and to 19 commercial fishermen at Grassy Narrows. This was based on a list of people recognized by the government as being involved extensively with fish. **And yet the majority of these people were never tested either.** Testing was not done on a random sampling basis. Instead, Indians were checked on a "come and be tested" volunteer basis which is hardly the best approach for achieving representative samples.

When were they tested?

Except for the 1970 tests, all testing has been carried out in the winter, a period of low fish consumption. Since mercury has been shown to have a half life of 70 days in the blood, it is foolhardy to test blood mercury levels months after the period of high fish consumption has passed.

What kind of tests?

Only six Indians have been tested for actual symptoms of methyl mercury poisoning; and these were not the Indians recording the highest blood mercury levels. All other testing was simply to determine mercury levels in blood and hair. In all of this testing for mercury levels since 1970 only 21.1% of the White Dog population, and 31.2% of the Grassy Narrows population, have been tested on at least one occasion.

How many times were they tested?

Not a single person on either reserve was tested over four years. There has in fact been no systematic attempt to test the same people each year. Only ten people from Grassy Narrows, and 14 from White Dog have been tested three times consecutively.

Was the whole community tested for mild symptoms?

To date there has been no epidemiological study conducted on the two reserves. In fact there has been no attempt what-so-ever to treat mercury poisoning as a community health problem or to compare the health of persons consuming mercury contaminated fish with that of persons in similar circumstances but consuming fish free of mercury. Without such comparisons it becomes almost impossible to find 'unequivocal' cases of mercury poisoning. (see box) Of course this does not mean that such cases do not exist.

Defining the Problem

The basis of the "public health" programmes directed toward mercury poisoning at Grassy Narrows and White Dog is the mercury level in the blood at the time of testing. From these levels, officials from both the federal and provincial governments have concluded since 1970 that "there is no evidence of any illness in Ontario from consumption of fish contaminated with mercury." Statements to this effect can be found in countless letters, news releases, ministers' statements, and government documents.

Statements of this kind are based on the idea of a safety threshold level for mercury. Yet, the current Japanese literature argues strongly against the current "public health" programme on mercury poisoning, based as it is on current blood mercury levels. To quote Dr. Harada, of Kumamoto University in Japan:

"... It must be also noted that there are no experiments as yet to prove how safe the presently calculated safety level is when amounts just on the so-called safe side are consumed continuously over a period of many years."

The Ontario government has used a "safety level" of 100 ppb of mercury in blood as a standard for identifying those persons who are "at risk". All other persons with lower mercury counts have been told they have nothing to worry about. The following is an extract from Dr. Harada's "Minamata Disease: A Medical Report":

No "Threshold Point"

The accepted concept of the safety level is based upon the idea that symptoms do not appear unless a certain amount of methyl mercury accumulates in the body. But it is misleading to think that therefore methyl mercury causes no cell damage until it reaches a certain level. Although outward symptoms may not appear until a certain level is reached, it can be assumed that damage is proportionate, to some extent, to the amount of mercury that is consumed and that passes through the body, whether or not the body's mercury content reaches a "dangerous" level at any given moment. If so, there is no actual "safety level". The greater the methyl mercury intake, the greater the cell damage. The lower the intake, the less damage to cells. On the cellular level there is no "threshold point".

In fact, in Minamata and the surrounding area, symptoms are becoming evident for the first time in some individuals, even though at present most of the fish and shell-fish in this area show a relatively low mercury content, and persons showing symptoms have low levels of mercury in their hair. This phenomenon cannot be explained by the mercury "accumulation theory" based on the concept of biological half-life.

The Government's Response

The most helpful activity of government agencies in an environmental health emergency like this — after the cause of the poisoning has been removed — might be the implementation of an intervention programme designed to restore individual health (where possible), to restore community social and economic health, and to prevent recurrence of the poisoning.

The activities we have seen initiated by agencies of the federal and provincial governments have not been of this kind. Instead, a biological monitoring scheme was established that has proven misguided both in intention and in practice. There was never any experimental design (of course, this shouldn't have been an experiment at all), and there was never any idea what actions would be taken if certain conditions were encountered. In other words, no contingency plans were prepared.

What would have been done, for example, if a blood mercury of 700 had been discovered? Would the individual have been removed from the Reserve? What would have happened (or what will happen) upon discovery of clear-cut fetal damage from mercury? Would the Dryden Chemical Company have been closed? Or sued? Would the 1970 Control Order have been enforced? Would the Band Councils have been informed? Would the tourist camp operators? Or the public? What "treatment" would the individuals affected have been offered? What actions would be taken to prevent other cases?

The list of questions is very long, and it illustrates how much more difficult it is to solve environmental health problems than it is to try to prevent them.

The "Forked Tongue" Health and Welfare Canada

A letter written in 1975 by Dr. Connup, Zone Director of the Dept. of Health and Welfare identified the aim of the surveillance programme on the reserves as being an effort to:

"identify those individuals who might be at risk and to ensure that these people receive further investigation."

and:
"to inquire into the size and nature of the problem."

Compare these statements by Dr. Connup with some of the specific recommendations of the Federal Task on Organic Mercury in the Environment: Grassy Narrows and White Dog, Ontario. These recommendations were made back in 1973:

- The residents of the communities of White Dog and Grassy Narrows be recognized "at risk" and surveillance measures implemented by the Ontario Ministry of Health, in co-operation with the Department of National Health and Welfare.

Government Health Care

continued from page 19

Health and Welfare and the Committee on Mercury in the Environment, continue on an annual basis (i.e., blood and hair mercury samples).

- Immediate measures be implemented to obtain blood and hair samples from persons not previously tested and in particular those engaged in occupations associated with fishing and hunting.

- Special programs relating to mercury pollution in the future include maximum involvement and participation by the local people and inclusion of the Grand Council of Treaty No. 3 Association of Chiefs.

What happened to these recommendations? Clearly, in 1973 the federal government considered "residents of the communities of White Dog and Grassy Narrows at risk". In 1975 the purpose of the testing programmes is to "identify those individuals who might be at risk". Because proper public health surveillance of the population at risk was not carried out to determine who was in what condition (i.e., only a small percent of volunteering population was tested), officials now suggest that only part of the 1973 "at risk" population is actually "at risk".

This sounds like Alice in Wonderland, but what it boils down to is that if you don't look for sick people you won't find them. Not finding them allows you to claim they don't exist.

In the same letter of March 4, 1975, written by Dr. Connup, the basis of the present expanded programme of testing and monitoring is identified as:

"the obtaining of annual blood samples and possible hair samples from all residents of both Reserves with a special priority being given to those who have previously shown a blood mercury level of 100 ppb or more."

In 1973 the Task Force recognized guides, trappers and fishermen(women) as being potentially a higher risk group that special attention needed to be paid to. In 1975 special priority will be given to those who have previously shown blood mercury levels of 100 ppb or more. Because the high risk groups from Grassy Narrows and White Dog have never been tested, their previous levels are unknown. They are not, as a group, included at this time for "special priority". Since all of the people who have tested the highest have come from these high risk groups, this is, in fact, a prescription for missing the most-at-risk population.

Consider what would occur if presently employed guides were tested as a group and if they were found to test higher than the rest of the population. (The two people who were tested at over 200 ppb at Grassy Narrows in January of this year were both guides.) This would reflect very poorly on the past "surveillance" schemes, but more importantly, it would reflect on the lack of government action on the closing of the water system to tourist operations.

Big Brother

In 1973 the Federal Task force on Mercury in the Environment recommended that special programmes relating to mercury pollution include maximum involvement and participation by the local people and inclusion of the Grand Council of Treaty 3 Association of Chiefs.

In January 1975 the Community Health Aide at White Dog was told by the nurse in Kenora that an optometrist and a public health nurse were coming to the Reserve. After their arrival, she found out the public health nurse had been hired specifically to do mercury testing.

The Bands and Treaty No.3 were not consulted or involved. As a consequence, the people at Grassy Narrows and White Dog did not and do not participate in the mercury programme as they would have done had they been consulted.

Then, as if to add insult to injury, on February 5, 1975, the Chiefs of Grassy Narrows and White Dog and Treaty No.3 staff were called to a meeting and told what the programme of Health and Welfare Canada would be.

Government Sophistry

With each testing programme, a fishing "history" has been taken. This involves asking the individual, in English, how much fish he or she eats, in summer and in winter. (As far as we know, no precoding of

the amounts has been done; and it is beyond us how meaningful conclusions can be drawn from the welter of answers obtained.)

At times the government has used these "histories" to claim there is a wide variation in mercury levels in people eating the same amount of fish. Other arguments which have been used along with this, to underplay the connection between the consumption of poisoned fish and biological effects, are:

- That the other food eaten may have something to do with the absorption of mercury;

- That Indians may be biologically predisposed to handle more mercury without toxic effects;

- That mercury levels have been found to be lower than expected, given the fish-eating habits of the population.

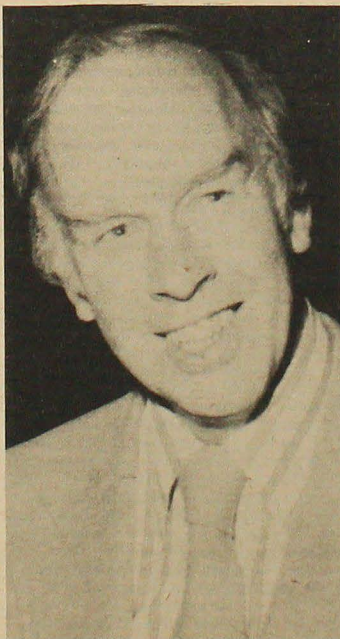
These arguments are strange, and mischievous. They are used to minimize the potential health problems from mercury poisoning, and to minimize the government's responsibilities to recognize and deal with the poisoning. They ignore the scientific material on mercury. They ignore the Japanese experience.

A Decline in Community Health Care

Within the general context of health care on the reserves the government approach to mercury poisoning indicates a shift from consideration of the **community** as the basic unit requiring surveillance, to the **individual**.

At a meeting of the Standing Committee on Mercury in the Environment in March, 1975, Dr. Black said his concerns were limited to the health of individuals. When it was suggested that, as a public health official, his concern should be **community** health, Dr. Black tried to say there was no difference. Yet by focussing on the individual, blame for the incomplete, haphazard and sloppy surveillance is placed on the individual who chooses or fails to choose to be surveyed: "all residents who were willing to be tested."

This nicely allows public health officials off the hook. By shifting the focus of the mercury programme to the individual, the programme is distanced from the on-going public health programme of the community; rather, it is treated as a separate, special program brought into being by this one, isolated instance of environmental pollution. In fact, the mercury programmes have never been part of the community health programmes. The Community Health Aides have never been informed about or involved in the mercury programmes. Had mercury been treated as an integral part of the community health programmes, Health and Welfare Canada might long ago have seen fit to furnish the kinds of service (not testing) that could have alleviated the impact of the poisoning.



Frank Miller, Ontario's Health Minister does not believe that the government has any responsibility to provide the natives with an alternative to mercury contaminated fish.

Epidemiological Study

The symptoms of Minamata Disease are non-specific. That is they are not unique to mercury poisoning. As such, they can be easily and falsely attributed to alcoholism or encephalitis or syphilis or a host of other maladies, as was the case in Japan.

It is very difficult to examine a person and say for sure that s/he is suffering from mercury poisoning unless s/he is very severely troubled. To "unequivocally prove" that individuals are being poisoned by mercury one must either conduct brain autopsies or an epidemiological study.

The objective of an epidemiological study would be to determine whether the occurrence of particular signs and symptoms associated with mercury poisoning is significantly higher among the exposed population than among a control group unexposed to mercury.

The first step in such a study is locating a similar population to that on the reserves in terms of size, age groups, occupation, habits, and life style. Next, a team of specialists would conduct examinations of all individuals in both groups. These procedures would include:

- a general medical examination of the whole person.
- tests on the whole nervous system: skin sensation, muscle control, strength, balance and coordination.
- special examination of the eyes and vision.
- special tests of the ears and hearing.
- special examinations for people born with unusual problems.

Chemical tests of blood and hair samples for mercury content would also be undertaken.

Finally, all of the information, including personal histories, would be processed and analysed by computer, in order to ascertain the differences, if any, between the two groups.

A study of this nature was conducted in the vicinity of Minamata, Japan, in 1970. A significantly increased occurrence of tremors, mental disturbances, tunnel vision, and other neurological symptoms, among those people consuming contaminated fish, clearly indicated the existence of methyl mercury poisoning.

In discussing the results of the Japanese epidemiological study, Dr. Harada also claimed that mental deficiencies in children living in the contaminated areas were found to be "astonishingly higher than in the control area". As a result of this study the number of officially recognized Minamata Disease victims has soared.

The lack of action by the Ontario Government forced the Band Councils of White Dog and Grassy Narrows reserves to include a request for an epidemiological study in their presentation to cabinet ministers on September 20, 1975. Finally, in January 1976, six years after the English-Wabigoon was closed to commercial fishing, the Ontario Ministry of Health indicated some interest in such a study. At this time, Dr. Stopps, a senior medical consultant for the Ministry, submitted a "Preliminary Proposal for Studying the Health Hazard from Mercury Contaminated Fish in N.W. Ontario".

The word "preliminary" sounds ominous enough, at this late date, but even more disconcerting is Stopps' contention that "No present agency is known to exist in Canada that could undertake the proposed study . . ." Yet, as Dr. Stopps admits in the proposal, without such a study it is quite possible that mercury poisoning on the reserves could go undetected. For six years the government has been loudly proclaiming that "no illness due to mercury has been found in Canada in any persons regularly eating mercury contaminated fish". Now Dr. Stopps admits that no agency exists in Canada capable of detecting such an illness!

This same man was hired by the Ministry of Health in 1971, to work mainly on the significance to human health of mercury contamination. He has been downplaying the dangers to native Canadians in the absence of studies he himself considers to be necessary. At the same time, Stopps is well aware of some of the health problems facing native people, including conditions with symptoms similar to those of mercury poisoning. Take this 1974 statement, for example:

"There are certain things that one finds in a native population — they're well known. They do tend to have a lot of ear problems, particularly in children. Whether they have more eye problems than the white population is hard to say. Part of this may be that they're not tested as frequently."

The government is currently negotiating with various universities in the province and elsewhere in an effort to assemble an interdisciplinary team capable of conducting an epidemiological study.

If undertaken, it could prove to be of real value in a number of ways:

- it could help identify all those individuals in need of immediate medical attention;
- it could provide a firm basis for designing expanded health care programmes aimed at reducing the impact of mercury poisoning;
- it could alleviate the tensions and doubts within the affected communities regarding the reasons for illness and the nature of the health risk to both present and future generations;
- it could identify individuals who should be compensated for loss of health;
- and it could be used in the courts (as was the case in Japan) to hold the corporate polluter legally responsible for all damages to health.

If, on the other hand, an epidemiological study translates into more government double-talk on whether or not a problem exists, then the study will be nothing more than a cruel hoax.

The parameters of the study must be sufficiently broad so as to allow for considerations of future health care programmes and compensation. Full participation on the part of the reserve residents must be encouraged, and of course, the results of the study must be made freely available.

Most importantly, care must be taken to ensure the impartiality of those conducting the study. An epidemiological study designed so as to provide no evidence of illness from mercury will do just that.

The history of occupational health research, for example, is rife with industry-sponsored scientific studies displaying built-in biases. Indians can be found to be free of mercury intoxication just as other "scientific" studies have denied the existence of asbestosis among asbestos workers, or lead poisoning among lead workers.

In fact, the deplorable quality of previous health care programmes on the reserves testifies to the need for a large measure of participation by the Native Peoples' Organizations in any future health studies to help offset this kind of bias.

It is predicted that an epidemiological study would take two years or more to complete. The danger here is that it will become just another excuse for inaction — another non-event in an endless series of forgotten projects. At its conclusion, at least 9 years will have passed since the mercury contaminated fish were first identified as a health risk — and still there would be no promise of any real action.

In Minamata, the double-talk and evasions lasted 14 years; the Ontario Government is right on schedule.

Compensation

The social costs of mercury pollution cannot be repaid. No amount of money can substitute for good health, a sound mind, prides employment, or a secure family life. New legislation and new forms of compensation cannot bring back what has been destroyed through environmental contamination. In the final analysis, the only acceptable solution to pollution — is to eliminate it at the source.

For the vast majority of industrial polluters (and certainly in the case of chlor-alkali plants and of pulp and paper mills) the technology exists to keep 'a clean pipe'. It's the incentive that is lacking. Pollution is profitable for those who pollute and social controls are either nonexistent or unworkable. And a minority of people, usually those lacking the power and wealth with which to defend themselves, are forced to bear the costs of production while a few get rich in the process.

The structure of "our" political economy is, of course, at fault. But so too is a culture which lacks environmental ethics and substitutes monetary compensation for prior restraint. As Eugene and Aileen Smith point out in their book on mercury poisoning in Japan, "The morality that pollution is criminal only after legal conviction is the morality that causes pollution."

A Just Society?

"It is all right to speak of the dangers to the environment but there is another problem which has to be faced. That is the problem of these people who have been hurt by pollution through no fault of their own; in other words, the innocent bystanders must pay. It was not the fishermen who polluted the waterways, it was not the tourist industry which polluted the waterways, and it was certainly not the Indians who depend upon fishing for their living and income."

What are the alternatives? We have ministers from both the Ontario government and the federal government going around saying to these people, "You can sue the polluters." These are supposed to be men. I am not a lawyer, Mr. Speaker, but lawyers tell me that anybody who is stupid enough to think that a small fisherman or tourist camp operator could sue a polluter, that he would have the resources to go that far, is ignorant of the law and especially of law practice.

It seems to me there is a definite role for society to play, acting through governments, to compensate people who are affected by pollution."

John Reid, MP Kenora-Rainy River
October 23, 1970

Those who have suffered as a result of mercury pollution in N.W. Ontario have not received any compensation. The government waffles, the courts are inaccessible, and the legal system operates with a procedural and conceptual bias which leaves the victims of pollution with little hope of redress.

Even if the courts were to provide compensation, they could not entertain awarding damages for such 'abstract' losses as lifestyle, pride, opportunity, and community. Yet, the present system is incapable of providing anything more than monetary compensation. But when a community is deprived of its economic base, or when an individual discovers that his or her skills are now redundant, parcels of cash handed out in piecemeal fashion are of little value. The court system, it is obvious, does not constitute a satisfactory means by which victims can fight back. In fact, in the absence of government initiative, it merely serves to protect the polluter from facing up to his actions.

In April, 1970, Jack Davis, then Federal Minister of Fisheries and Forestry, gave a speech on mercury pollution entitled "The Polluter Must Pay". His conclusion was that "Basically, the industry which caused the problem must solve the problem. It must not only improve its housekeeping but also make amends for sloppy practices in the past. It must clean up its operations and it must compensate others who have been hurt by its negligence."

But to this date, Dryden Chemicals Co. has not paid a penny. Dryden doesn't even admit to any blame — citing 'high' background levels of mercury as the real villain and pointing to the absence of any specific environmental standards for mercury emis-

sions, at the time it admits to dumping it. The only compensation allocated as a result of this mercury contamination was a paltry sum paid by the government to those fishermen located in areas closed to all commercial fishing.

Court Action Against Dryden

When excessive levels of mercury destroyed the fishing industry on Lake Winnipeg, the Manitoba government reasoned that the costs of such pollution should be borne by the polluter and not by fishermen or Manitoba taxpayers.

Consequently, in 1971, the Manitoba government brought a law suit against Dryden Chemical Co. in an attempt to recover over \$2 million in losses suffered by the commercial fishermen in that province. However, thanks to a strange quirk in the Canadian legal system, Dryden was soon let off the hook.

In a Supreme Court of Canada decision it was decided that the Manitoba government had no jurisdiction over the actions of industry in another province, and hence had no standing in court to lay claims against Dryden. The court was split on the decision with 2 of the 5 judges dissenting. As the minority pointed out, this decision actually amounted to a permit for industries to pollute at will across provincial boundaries.

It is the innocent victims of mercury pollution, and not Dryden Chemicals who have been forced to pay the costs.

Let's briefly review what "bearing the costs of mercury pollution" has meant to the residents of Northwestern Ontario.

For the town of Kenora it has meant a 10% drop in employment and reported losses in tourist revenue of between \$6 and \$9 million for the 1970-72 period alone.

For some of the tourist camp operators it has meant years of hardship and tremendous financial loss as they were forced to close down their camps and leave the area.

For the 56 commercial fishermen in Northwestern Ontario it meant a complete loss of livelihood with similar repercussions on the unlicensed fishermen in their employ-

ment and a general disintegration of community life.

One other attempt has been made to receive compensation from Dryden Pulp and Paper Co. and Dryden Chemical Co. In 1970 Barney Lamm, a tourist camp operator who closed down his lodge completely in 1970, filed suit for \$3.4 million in damages. Six years later the case is still at the examination of evidence stage and all Barney Lamm has received is bills amounting to over \$250,000.

The Case Against Dow

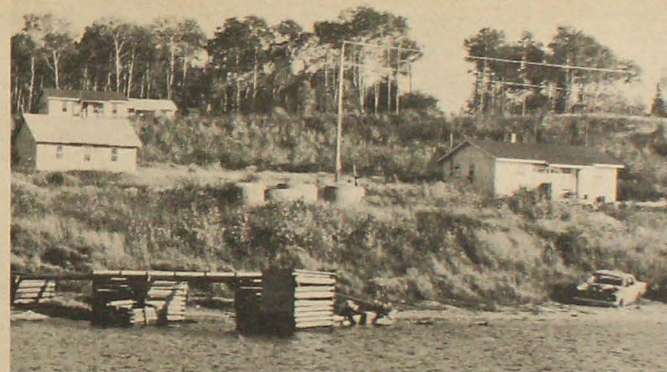
One year after the closure of commercial fishing on the various polluted waterways in Ontario, the provincial government began its one and only attempt to pursue the companies responsible.

It was announced, with great fan fare at a Davis press conference on March 15, 1971, that the Ontario government was suing Dow Chemical and its American parent for \$25 million in addition to seeking a clean-up order. If the clean-up could not be accomplished, the government wanted another \$10 million.

At the time Premier Davis said that he hoped the suit would show that the province "means business" about fighting pollution. George Kerr, then Minister of the Environment, said he expected the suit to go to the courts in 1972, and promised that "the polluter will pay". Senior Environment Ministry officials talked of the suit as becoming an example to other large industrial polluters. And Resources Secretary Alan Lawrence indicated that if the Dow suit was won by the government a suit against Dryden "and maybe a dozen others" would be instigated. "From our point of view it is the one which will set the law for Ontario and indeed for the rest of Canada in relation to this kind of pollution," he said.

In the view of Vern Singer, (Liberal MPP Downsview), the launching of an unprecedented pollution law suit against a multinational corporation helped the Conservatives to their landslide victory at the polls in October, 1971.

photo by Enishi and Shiota



Although the closing of commercial fishing on the English-Wabigoon eliminated the only source of employment on the two reserves the Ontario government still refuses to compensate the native people.

The closing of commercial fishing also meant losses for the shore workers involved in the handling, processing, marketing, and transportation of fish and the supply of boats, gear, fuel, etc.

And for the Indians on the two reserves the costs incurred by mercury pollution are truly inestimable. Closing the mercury contaminated waterways meant eliminating virtually the only source of employment for men and women on the reserves, transforming self-reliant communities into welfare ghettos.

Fish, a staple food on the reserves and virtually the only source of protein available to natives, is contaminated by Dryden's mercury waste. The loss of traditional fishing grounds has meant both a loss of income and an increase in the cost of living. For an unknown number of Indians on the reserves, and very possibly for children yet unborn, mercury pollution translates into potentially irreversible brain damage, incurable deformities, and death.

For the communities as a whole, mercury pollution is the main factor contributing to increased violence, crime, drunkenness, de-

However, apart from the political gains, little of substance has developed from the case against Dow. Five years have passed and the case is still not in court. By choosing to make Dow Canada's American parent company a party to the action, the government created a two year delay because the law is not clear on whether or not this is permissible. It took more than four years of legal infighting, complicated by two changes in government lawyers before Dow managed to file a statement of defense. The defendant, (Dow) normally has 10 days to file a defense, but since this is a civil suit it is up to the plaintiff — that is the government of Ontario — to push the action forward.

If the case ever gets to court, and this could take another year, the prospects for success are looking steadily worse. Already the government has dropped a large part of the suit on the basis that it is impossible to "prove" that Dow was responsible for high mercury levels in Lake Erie or the Detroit River. According to Dow, "Mercury has been and is being discharged into the environment and hence into the waters in question from a number of industrial, agricultural, and domestic sources..." The gov-

ernment could have responded to this defense by simply including as defendants any other corporations dumping significant amounts of mercury into the waters in question. Instead, the government backed down.

The revised suit applies only to environmental damage to Lake St. Clair, the St. Clair River, and Lake Huron. The government's statement of claim against Dow is for general environmental damage and is not broken down into specific charges. The government contends that Dow "failed to take all reasonable steps to ascertain...the potential damage to the natural environment of the rivers and the lakes affected by the manufacture, to the fishes and the wildlife thereof, and to the inhabitants of the province of Ontario..."

There is no mention in the claim of compensation for the 200 fishermen forced into early retirement when mercury contamination forced the banning of commercial fishing. To receive compensation the fishermen must file their own suit which is impossible as long as the necessary evidence is being held in confidence for the government case.

Considering that the Dow case has effectively prevented individuals in Southern Ontario from either suing or negotiating some settlement with Dow, perhaps it is an unintended blessing that the government has not yet bothered to "leap" into action against Dryden.

In any event, it is important to ask why the government chose to file suit against Dow in Southern Ontario, and not against Dryden in Northern Ontario, where the repercussions of the pollution have been much more devastating. Is Lake Erie too "close to home"? Is the white populace of Southern Ontario worth defending while the Indians up north are not? Or perhaps Dryden has some influential friends in high places. (See box on Natural Resources Minister Leo Bernier.)

While the legal suit drags on, the government has, since 1970, given Dow \$821,113 in refunds on sales taxes paid on pollution control equipment under the Pollution Abatement Incentives Act.

The Government Line: Loans Only

When Stephen Lewis, NDP leader, urged the government to provide full compensation for the commercial fishermen on the reserves, the Minister of Natural Resources, Mr. Bernier, replied, "It is not this government's policy to compensate people for loss of income resulting from pollution."

The rationale for such a policy is well articulated in a statement by Dr. Connup, the zone director for National Health and Welfare in N.W. Ontario. In a letter to his superior, Dr. Connup writes, "If the Provincial government does provide any financial compensation to these communities (the two Indian reserves) it would be setting a precedent which will undoubtedly be brought out at regular intervals for every bit of smoke, bad weather or any other adverse factors which may affect the communities in the future."

Natural Resources Minister Leo Bernier used the same kind of logic to explain why compensation in general runs against government policy:

"The thing is, where do you stop? It could be endless in terms of industrial pollution damage — the lead plants here in Toronto, the sulphur damage in the Sudbury area, smoke damage, respiratory diseases. It would be endless... Our policy is that there will be no compensation for industrial pollution. That is stated government policy. The polluter is responsible and the courts are open to individuals to take on the polluter."

What Mr. Bernier is really saying is that if you have 6 or 10 years and several hundred thousand dollars to spare; and if the government is not engaged in a similar law suit itself; and if you can find out about and then obtain the necessary evidence from bureaucrats to make a case against the offending industry; and if you can prove in court that this particular industry was directly responsible for damages to you and that the industry should have known better; then if you're lucky and persistent and white you may eventually receive some compensation. And if not, then tough luck.

While the government itself wades through the 6th year of unproductive "litigation" with Dow Chemical Co., how can Mr. Bernier still point to the courts as a viable remedy for victims of industrial pollution?

continued on page 22

Compensation

continued from page 21

From the beginning, the government of Ontario has worked hard to avoid compensating anyone for damages incurred by mercury pollution. The government of Ontario's view, as we have seen is that such compensation would only set an "undesirable precedent".

Loans, collectable on demand, were provided for the hard hit commercial fishermen up until 1972. Based on a percentage of yearly income prior to 1970, the loans were intended to enable fishermen to maintain their boats and equipment. For the entire three year period, the loans totalled approximately \$900,000. For the fishermen and their families, this amounted to approximately \$1.40 per individual per day according to the head of the St. Clair Commercial Fishermen's Association. The loans have now been forgiven—considering the economic hardships faced by the fishermen, the government had little choice.

And so the loans have become a disguised and extremely inadequate form of compensation provided to the fishermen at the expense of the Ontario Taxpayer, and not the polluting industry.

The government's reluctance to provide assistance to tourist camp operators is another example of the "no compensation" policy. Since a complete closure of the waterway would necessitate compensation for the camp owners, it becomes easier to understand why, in the face of mounting pressure and convincing argument, the waterways remain open to sport fishing.

The government has actually spent huge sums—more than the \$4.3 million necessary to fully compensate the tourist camp operators—in trying to prevent the lodges in the area from going bankrupt.

Let Them Eat ... Fish!

Except for some paltry sums initially paid out to 49 commercial fishermen on the reserves, the government has denied compensation to the native peoples as well. Of course Leo Bernier claims "the courts are open to individuals to take on the polluter". Yet, aside from long delays and high costs, it is extremely difficult to ascertain just what the courts are open to providing. Without sizeable financial and legal assistance, the courts most certainly are not "open to the individual".

The government's vacillating policy on providing assistance for court action has added still more confusion to the already complex legal questions. In 1975 the provincial government was withholding assistance on the grounds that the Indians had no proprietary right to the fish. Because the province "owned" the fish the Indians could not sue for damages for loss of livelihood.

However, back in November 1974, Mr. Bernier was magnanimously offering financial support to any Indians wanting to pursue the English-Wabigoon polluter (Globe and Mail, Nov. 8, 1974). When the issue was raised in the Ontario legislature on April 21, 1975, there was yet another story from the Attorney General, John Clement. He suggested that there would be no assistance to help the Indians finance legal action because such an action would be a civil matter and therefore outside the government jurisdiction. The government he said, would not undertake civil litigation "on behalf of one particular group in this province". (C.P. article, April 30, 1975)

Changing the story once again in November 1975, the new Attorney General for Ontario, Roy McMurtrey, said the province might take legal action against Dryden Pulp and Paper Co. through the office of the official guardian so as to protect the rights of Indian children found to be suffering from mercury poisoning. (Montreal Gazette, Nov. 22, 1975)

While the government vacillated on the question of financial and legal assistance, the Native People on their own initiative had been seeking legal advice so as to assess the advisability of court action. Following a request to the Federal Department of Indian and Northern Affairs, the Band Councils were offered funds in 1976 for a feasibility study.

But the bands remain undecided on the value of such action. Their reluctance to file claim against Reed International is entirely understandable given that, for victims of environmental pollution, the common law in Canada is hopelessly archaic and offers little prospect of success.

In a recently drafted Ontario Ministry of Health document, entitled "Mercury Poisoning in Iraq and Japan", the legal and compensation aspects of mercury pollution are examined. The report states that "Apart from the case of employees, there is no statute law in Ontario designed to provide compensation benefits to persons whose health has been damaged by environmental pollution, with the cases of such benefits being recovered from levies on the polluters. There is also no statutory system of arbitration and mediation specifically designed to facilitate the prompt solution of pollution disputes."

What this means is that the most one can accomplish by criminally prosecuting Dryden Chemicals and Dryden Pulp and Paper is the procurement of a fine—payable to the crown and not to the victims. And in the absence of specific environmental pollution standards or control legislation at the time most of the mercury was dumped, it is unlikely that any such prosecution would be successful. Of course the government can still provide compensation to the victims of industrial pollution but the monies would come from the public treasury—and not from the corporate coffers.

The only legal means by which the polluting company can be forced to compensate for its destructive activities is through common law actions brought against the company by individuals seeking damages. The individual must sue and the court can find the polluter at fault under such common law torts as nuisance, negligence, riparian rights, or trespass.

However, the procedural rules governing these actions are heavily stacked in favour of the polluter, and against the victims. Through statutory reforms the government could alter the rules and concepts by which the court operates; but until such reforms are instituted the prospects for victims of environmental contaminants look grim.

When recovering compensation for loss of livelihood the common law requires that the plaintiff (victim) demonstrate a property interest. In other areas of the country where fishermen have suffered from environmental pollution they have been unable to receive compensation from the courts because in law they do not own the fish.

When suing for damages for loss of health or loss of lifestyle a property interest is not a necessity but in all cases the plaintiff must demonstrate a causal connection between the actions of the offending industry and the personal damages for which he or she claims. It would seem self-evident that Dryden dumped the mercury which poisoned the water, the fish, and eventually the Native Peoples. Only in court would such common sense be contested.

In fact to legally prove this connection in court is almost impossible. The burden of proof would be on the Native People to demonstrate that no other interpretation is possible. Short of following a piece of mercury from Dryden's sewer to an Indian's brian, such causality cannot clearly be demonstrated. Considering that it is the Native People who have been victimized it should be obvious that the burden of proof should lie with the industry to demonstrate that the poison it spews into the water is not the cause of the damage. But such is not the case.

To demonstrate a clear-cut causal relationship is not the only hindrance to receiving compensation under common law. When a company is sued for creating a **private nuisance** the plaintiff must show that the company ought to have known about the offensive effluent, and did not act upon such knowledge to prevent the injury. If the company is held to be **negligent** then the plaintiff must prove that

- the conduct under attack was below the standard of reasonable care in the community;
- the defendant should have foreseen the damage which resulted;
- tangible losses are a direct result of the company's lack of care.

It is not enough to argue that the company was thoughtlessly dumping tons of toxic materials into the environment for years on end without demonstrating any concern for possible repercussions on wildlife and people. The company is not automatically responsible for any damage caused by these poisons—even when the material is known to be poisonous to all forms of life.

Instead the plaintiff must prove that the polluter knew, or should have known the manner in which such poisons would damage the environment and that the polluter did not act upon such knowledge.

When attempting to hold Dryden at fault for creating a **private nuisance** the plaintiff must also demonstrate that he or she is in some way specially affected by the mercury pollution. If the mercury pollution has affected a number of persons equally, then it becomes a **public nuisance** and no one person will have standing (the right to be recognized) in court. The native people cannot collectively sue the polluter because only the Attorney General has the authority to launch what is, in effect, a class action against the company.

If the Attorney General decides to take over the action on behalf of all the complainants then there is no guarantee that any compensation will be paid out to the actual victims, nor is there any guarantee that government lawyers will be of any real assistance. So if Dryden is to be found guilty of creating a nuisance each individual affected must launch a separate law suit and prove special damages, in order to receive compensation. This concept of standing fundamentally undermines the right of a group of individuals who have suffered similar damages as a result of industrial pollution to demand compensation from the company responsible.



A Lesson From Japan

A brief discussion of the legal and compensation aspects of mercury pollution is sufficient to illustrate the more glaring deficiencies of the law in Ontario. In Japan, where similar difficulties were encountered following the outbreak of mercury poisoning some radical changes have been made. These Japanese reforms serve to emphasize the shortcomings and injustices of the current legal system in Ontario.

(Much of the following information on Japanese laws has been extracted from **Mercury Poisoning in Iraq and Japan**, a report by the Ontario Ministry of Health, Dec./75)

In Japan two court cases were initiated by the Minamata Disease victims against the polluting companies. The decisions of the court in these cases produced significant reforms in the Japanese civil law. At the same time substantive statutory reforms were instituted by the Japanese government. **The Pollution Disputes Settlement Law** was enacted "to ensure prompt and proper settlement of environmental pollution disputes for providing systems and procedures of mediation for compromise, conciliation, arbitration, and decisions relating thereto." Under this law an Environmental Pollution Disputes Co-ordination Commission was established to conciliate, arbitrate, and to make decisions on disputes relating to environmental pollution.

In addition, a **Pollution-Related Health Damage Compensation Law** was enacted, operating on similar premises to Workman's Compensation in Canada. This Compensation Law is based on the principle that since a polluter is responsible under civil law for damage to health caused or influenced by air or water pollution, he should pay compensation in order to provide the victims of such pollution with prompt and adequate assistance.

Reforms within the civil law in Japan are also significant to the Canadian situation considering the inadequacies of our own common law. The courts removed the burden on the victims of having to prove a causal relationship between the company's emissions of waste water and their disease, in the absence of proof by the companies that their emissions could not be the cause.

Also strict liability was imposed on the

companies—which means that because they were using substances inherently poisonous and dangerous to human health they were held fully accountable for all damages resulting from the escape of such materials even where utmost care had been taken.

A brief description of these court cases follows (adapted from a report prepared by the Environment Agency of Japan):

138 victims of Minamata disease in Kumamoto brought an action in the Kumamoto District Court against the Chisso Company for a total of approximately \$5 million in compensation. The plaintiffs claimed that the cause of disease was methyl mercury compounds contained in waste water discharged from the Minamata plant of the defendant. The court delivered its judgment March 20, 1973 in favour of the plaintiffs.

The court found that Minamata disease was caused by ingestion of seafoods contaminated with methyl mercury compounds in Minamata Bay and its vicinity over a long period of time and in large amount. The court concluded that there was a correlation between the occurrence of the disease and the defendant's emission of waste water. In addition, that the defendant was negligent in failing to observe "the important obligation of preventing health damages of people, particularly the people in the local community, by neglecting to undertake the best possible preventative measures such as immediate suspension of plant operations in the event where the waste water was confirmed poisonous or where there was a doubt as to the safety thereof".

The court further maintained that waste water discharged from the chemical plant held "the possibility of containing reaction products beyond anticipation, thereby possessing great potential danger. The court concluded that when a chemical plant is discharging waste water, the best available knowledge and techniques should always be employed in carrying out research and inspection as to the existence of poisonous substances in the waste water, and also to assess the extent of its influence upon animals, plants, and humans thereby always confirming the safety of the waste water."

The plaintiffs recovered approximately \$3 million compensation.

After the original outbreak at Minamata, there was another in Niigata Prefecture from the consumption of fresh water fish contaminated by methyl mercury. Seventy-seven persons brought an action in the Niigata District Court against the Showa Denko Limited for about \$1.7 million compensation. They claimed that they had been poisoned by methyl mercury discharged by the Kanose Plant of the Defendant into the Agano River in Niigata Prefecture since 1964, where it had been accumulated in fresh water fish which they had consumed.

The court delivered its judgment September 29, 1971 in favour of the plaintiffs. A summary of its judgment prepared by the Environment Agency of Japan is as follows:

"Although the present Civil Law requires demonstration of an apparent cause-effect relationship between the discharged organic mercury from the company plant and the occurrence of the disease, it is inappropriate and inequitable to ask the victims to prove scientifically such a cause-effect relationship. Therefore, if consistent explanation is possible by the accumulation of circumstantial evidence and supporting testimony by competent scientists, which traces the source of pollution to the "doorway of the enterprise", the court will admit the cause-effect relationship of the pollution, unless the enterprise proves that its plant could not be the source of pollution."

In regard to the question of intention or negligence on the part of the enterprise, the court considered that Showa Denko had been negligent because "it had not been careful enough and had failed to take adequate precautions in spite of the first incidence of Minamata disease on the coast of Minamata Bay."

The court further stated that "there is no reason whatsoever for the interest of the enterprise to be protected at the sacrifice of the life or health of the people". The plaintiffs recovered almost \$1 million in damages.

Eventually both Chisso Corporation and Showa Denko were to pay out close to \$85 million in damages as more and more victims of mercury poisoning sued for damages.

Tourist Camp Operators

A risk to the health of both tourists and guides, the mercury contaminated waterways of N.W. Ontario still remain open to sport fishing. According to the provincial government, closing the waterways would necessitate an expensive compensation program that might set a precedent for future pollution cases. So, instead, the government has spent an even greater amount of money in trying to keep the waterways open.

In addition to the financial costs and health risks, this policy has forced economic hardships on a number of tourist camp owners, it has unnecessarily tarnished the reputation of all of Northern Ontario with rumours of unhealthy fish, and it has contributed to downplaying the dangers of mercury poisoning for all fish consumers in the areas affected.

Fish for fun

In early 1970, the Ontario government banned commercial fishing in the English-Wabigoon River system. At the same time, it announced that while the fish contained dangerous amounts of mercury all tourist camps that wanted to stay open would continue to receive licences.

On April 23, 1970, officials of the Ontario government called a meeting of the camp owners on the English-Wabigoon Rivers and informed them that fish in Clay Lake contained unacceptably high mercury levels. The camp owners weren't given the actual figures, only an indication that they were in excess of 0.5 ppm. Fishing would still be permitted under the "Fish for Fun" policy, but warning signs would be posted in conspicuous places. The signs displayed a frying pan with a fish dramatically crossed out with a big red X above a hazard warning.

This bad news came after camp owners had spent the winter promoting their camps at sport shows in the United States. Larders were being stocked for what promised to be a record season, but negative publicity could undo all of the promotion and advertising.

A main feature of a vacation at these camps is a fish-fry shore lunch — a traditional specialty where the morning's catch is filleted and then fried over a roaring fire. Now that some of their fish contained up to 40 times the acceptable level of mercury (.5 ppm), the government felt that tourists should be "encouraged" to fish for fun only. James Auld, Minister of Tourism and Information, issued the following press release on the mercury pollution problem:

"Nowhere in Ontario is fishing any longer barred to anglers for this reason.

"In these designated areas, fishing will be strictly for fun. This means no shore lunches or take home stringers, because everything you catch should really be thrown back.

"When you think seriously about it, the real fun is in catching and relating your prowess to friends. Indeed, perhaps the best news for many picky housewives is that you've caught absolutely nothing."

In 1970, camp owners were assured that dredging would begin in September, and the lakes would be free of contamination by the following spring.

Nightmare for the Lamms

Barney and Marion Lamm are the owners of Barney's Ball Lake Lodge, one of the largest camps on the river system. They closed down their Lodge completely in 1970. When the mercury was removed, the Lodge would be re-opened and the confidence and health of vacationing fishermen would be preserved. Barney was relocating some of his guests to camps on the Winnipeg River system until he inadvertently learned from commercial fishermen that this waterway was also polluted.

Information on which areas were contaminated and the actual levels of mercury found had not been released by the government. In 1970, the Ontario Ministry of Lands and Forests published a bulletin listing lakes and species of fish over .5 ppm, but the bulletin was not widely circulated. The 1971 edition deleted the notation that some fish in polluted Ontario lakes contained up to 15 ppm of mercury, and only listed the species of fish over .5 ppm in each lake.

After the closing of Ball Lake Lodge in 1970, the Lamms tried to find out the actual levels of mercury in the fish. Nowald Firreite, a graduate student at Western University, agreed to undertake a survey. He managed to send a large number of fish, mammal and bird specimens to a commercial testing laboratory before the Department of Lands and Forests revoked his collector's permit.

At a cost of \$55,000, the Lamms learned that some fish exceeded the .5 ppm standard by 30 to 40 times. When government health authorities were confronted with these findings, the results were unofficially confirmed. When the Lamms attended the International Conference on Mercury Pollution at Ann Arbor, Michigan, in the fall of 1970, they discovered that these heavily contaminated waterways could take up to 100 years to cleanse themselves. Their camp never reopened.



Another camp closes

In 1970 Colin Myles, another tourist camp operator, felt that if guests could only fish for fun and not eat their catch, many of his former customers would discontinue coming at all. His operation would no longer be economically viable.

However, with government encouragement, and despite cancellations from many of his guests, he remained operational. Myles purchased commercially caught fish from unpolluted lakes to supply to his guests and guides. But the government's "fish for fun" program didn't work. Guests continued to fish, and eat their catch.

In 1970, Mr. Brunelle, an Ontario Cabinet Minister, informed Myles that despite his cancellations, no form of compensation would be available:

"This will advise you that no program of loans has been, or is likely to be, established for persons conducting tourist camp operations in areas where commercial fishing has been prohibited."

Since the government was adamant about providing no assistance for relocating or converting the fishing lodges, Colin Myles began to wonder just what was the risk to visiting fishermen. In 1970, R. B. Sutherland, on behalf of Thomas Wells, then Minister of Health, replied to his request for information concerning hazards of eating 10 to 15 meals per year from the polluted waters:

"A positive statement to the effect that the consumption of 10 to 15 meals of fish from these waters is not harmful to health over the time period outlined in your letter cannot be given."

Because of the mercury pollution, the Myles camp on Separation Lake remained closed in 1971. According to Mrs. Myles: "We knew there was no way to continue operating at Separation Lake unless the fish were safe to eat, or we had to lie to our customers. It was one or the other."

In January 1972, E. J. Stone, Regional Manager, Tourism and Information replied to another inquiry from Colin Myles:

"While we realize your operation is in the center of the area in which the contamination is prevalent, we point out to you the successful efforts of others in similar situations over the past year..."

"Surely you can learn from their experience that despite the adverse publicity regarding the contamination problem, with perseverance and good operation, your resort could continue to operate."

"May I suggest that had you maintained a small staff and remained operational over the past year that the camp would have managed to show a profit."

Myles was expected to show profits, but at whose expense? In 1972, conditions on the water system had not changed. Dr. Stopps, Senior Medical consultant for the Ministry of Health stated the following in a letter to Myles:

"As you know, it was the opinion of Dr. Sutherland and I agree with him that fish from the Wabigoon and lower English River system should not be eaten over relatively short periods of time."

Myles was informed that compensation could only be made available if he were to relocate his operations. So, in 1972, Myles

continued on page 24

An Interview With Marion Lamm

What was your initial reaction to the warnings against consumption of the poisoned fish?

M: We were advised in the first week in May 1970, that all fish must be returned to the water because they were not safe for human consumption, and must not be fed to guests or employees. We had to make a decision. At that time we were told by the government that the mercury problem would clear up in 16 to 20 weeks.

Did you open the camp in the summer of 1970?

M: We decided that there was no way we could operate and subject people to that kind of a hazard. We immediately contacted the people that were coming and made reservations for them at camps that were not on the polluted river, and advised them that in 16 or 20 weeks the problem would be over and we would be open in the fall.

What did you do in the interim?

M: We decided to spend those 16 to 20 weeks trying to learn about it. We went to Ann Arbor, Michigan. There was a conference there in June 1970, and it was at the conference that we found out there was no basis for their statements that it was going to clean up in 16 to 20 weeks. Being realistic, there was no way that the fish was going to be safe to eat, for, as they said, 100 years. So since that time, we have spent six years fighting the inaction of the Ontario government.

What were the reactions of other tourist camp operators?

M: When they first made the announcement, we had a meeting of all the camps that were on that English-Wabigoon River chain. At that time, they took a vote and it was a unanimous vote by all of the camps operating that they would not open. This was on a Sunday. My husband went down to Toronto to find out what the situation really was. He came back on a Thursday, and all the camps had opened except one.



What happened between Sunday and Thursday to change people's minds?

M: Well, I think there was political pressure. I think certainly they were given the impression that if it wasn't talked about, the problem was going to go away in 16 to 20 weeks; that there was no big problem if nobody talked about it.

When did the fish for fun signs go up?

M: Well, it was late in 1970. They had the signs printed for quite a long time before they were put up. They were very hard to

find and I think that they sent it to the camp operators to put up. Well a camp operator that's operating and not telling the people about mercury is not going to put up a big sign. They weren't up for very long.

Did you notice any change on the reserves and in the town of Kenora after you closed?

M: Our camp was the largest in the area and we hired about 75% of the work force on Grassy Narrows Indian Reserve. So, when we closed, economically it was a disaster to the area. Commercial fishing was stopped, their guiding was cut off when we closed; there's nothing else for them to do. We operated our camp for 27 years. The Indians were not only very good employees, they were good friends. It's a tragedy, a real tragedy.

You took Dryden Paper and Dryden Chemical to court in 1971. What is the status of that claim?

M: They're still in the examination of evidence. We don't feel that an individual like ourselves should have to fight a multi-million dollar corporation.

You talk about the pulp and paper industry in Canada, you're talking about General Motors in the States. Your pulp and paper companies are your big industries, and this is where your votes are. We feel its a question of putting votes before health, or dollars before health with the camp operators that are still open.

We miss the camp terribly, but if we were operating today and the same kind of announcement was made, that fish were not for animal or human consumption, we would do exactly the same thing and close it up. We did it for only one reason: The fish weren't safe

Tourist Camp Operators

continued from page 23

moved from Separation Lake, 30 miles north of Kenora, to Ash Lake, 22 miles S.W. of Kenora. He applied to the Northern Ontario Development Corporation for compensation, but was refused.

Government goes fishing

In 1971, the tourist camp operators around Kenora formed the "Fish for Fun" Camp Owners Association, and collectively proposed that the government purchase their camps at a cost of \$4.3 million. This would have enabled the camps to relocate, thereby protecting the tourist industry from being adversely affected by pollution rumours. In addition this would safeguard the health of guides and sports fishermen. However, the plan was rejected by the government for fear that it would be seen as a compensation payment.

Rather than face the problem head-on, the government decided to get into the tourist business itself. Minaki Lodge — a luxury resort 30 miles north of Kenora and surrounded by mercury contaminated waters, was purchased and renovated by the province at a cost of six million dollars. In the words of Barney Lamm: "They could have relocated tourist camps and put native people to work for less than they spent on Minaki."

This Lodge is still not operational. The government converted the bedrooms into boutiques and now there is nowhere for the guests to sleep! An article in the September 8, 1976 Globe and Mail suggests the total cost of renovation will reach \$10 to \$12 million.

People or profits?

By the end of 1971, two tourist camps in

the area had closed down, but many of their clients had switched to lodges with less scrupulous owners. By 1972 it was "business as usual" throughout N.W. Ontario.

How is it that some camp owners were allowed to profit at the expense of those who had closed down, and at the risk of poisoning guides and guests?

The fourth Report of the Government's Mercury Task Force, 1973, supplies some of the answers.

"A loss of income and capital depreciation has been experienced by tourist camp operators located on the Wabigoon-English river system.

"Two of these establishments have closed while approximately 26 establishments that are located on or immediately adjacent to the affected waters have continued operations. However, in 1971 and 1972 these operators have built their businesses back up to a level close to the 1969 periods. This has been accomplished largely by promoting the fact that the mercury problem has not presented a recognized health hazard for their guests or their employees."

As recently as 1975, reports concerning the danger of consuming mercury polluted fish, over even a short period of time, were still being received by the government. Dr. Clarkson, Director of the Environmental Health Sciences Centre at Rochester University in a study dated December 1975 reports that after people ate one meal of mercury contaminated fish, their mercury blood level rose from 5 ppb to 20 ppb in as little as two hours.

And Dr. Stopps, of the Ministry of Health, has pointed out that eating only 7 oz. of fish per day for a two week vacation could leave the mercury blood levels elevated 20% a

year later. Thus methyl mercury could accumulate in the body from one year to the next even if no additional contaminated foods were consumed.

Both government and private medical opinion point out that consumption of mercury contaminated fish is not only dangerous over a long period of time with constant consumption, but could also prove to be harmful with only limited consumption over a relatively short period of time.

Moreover, if tourists are at risk, then Indian guides are in even greater danger. Yet Aileen Smith, who visited the reserves after having spent five years in Minamata, Japan, has stated that: "Some Indian guides have told me their orders were to prepare meals of freshly caught fish for the tourists and eat with them as they had always done. The guides said they had been told never to mention mercury."

So how were the tourists to become aware of the dangers associated with mercury pollution in northwestern Ontario; especially in view of the fact that many tourists were from the Chicago area and may not have been exposed to media coverage concerning the risks?

Premier William Davis, in a letter dated Jan. 13/75 noted that "sports fishermen were warned not to eat the fish through notices contained in copies of the fishing regulations, through information offices, and tourist camp operators."

But the notices accompanying the fishing licenses did not contain information concerning the extent to which fish were contaminated by mercury, or even what mercury was. Aileen Smith quotes Kenora's manager of the Tourist Association Office as saying:

"Why, that problem they had over in Japan, that was marine fish. This is river fish, so it's not the same problem at all... Science is so advanced that they detect almost anything. I bet you they could detect mercury in your shoe there."

Tourists were never told about mercury unless they asked specifically about it. But how would they know to ask?

And even when they did request information from tourist camp operators, the replies were no more honest than those of the tourist bureaus. In a letter dated April 21, 1975, one tourist camp operator in reply to a prospective customer argued that:

"The mercury 'problem' a few years back, was highly overrated and over publicized and turned out to be not nearly as bad as first suspected. We have a letter from the Minister of Health for Ontario, which states... 'It must be strongly emphasized that no illness due to mercury has been found in Canada in any person regularly eating mercury contaminated fish...' — that is a pretty good record."

Another camp operator replied: "We fish the very same waters that Minaki Lodge did, and there is no problem with having shore lunches."

Even the Ministry of Industry and Tourism attempted to cover up the very real dangers of mercury pollution. In a letter written in April, 1975 E.J. Stone, a ministry official pointed out that, "Recent reports indicated a 40% reduction in mercury content in fish in the English River area affected." However, conservative estimates claim that the mercury level in fish is still eight times the "acceptable limits." But this, Stone neglects to mention.

In July, 1976, Bob Murdoch, of the Ontario Ministry of Health sent news releases to Chicago area papers to counteract any damage done by Dr. Clarkson's report concerning the possibilities of tourists bringing back mercury in their hair and blood. The news release says that these statements are as yet unproven and that "visitors to the area can still enjoy swimming, boating, canoeing, hunting, and fishing for fun."

Murdoch neglects to inform tourists of possible consequences should they decide to eat the fish they catch, rather than fish merely for fun. In fact, the government is quite blatantly cooperating with the tourist camps so as to downplay the problem, and keep the tourist dollars flowing.

Although the government refuses to pay any compensation to concerned owners who close, some camp owners are now eligible for loans on the condition they remain open. Other operators have received government grants to help cover cover of advertising programmes designed to offset the bad publicity of mercury poisoning. For the government mercury pollution is not so much a health problem as it is a threat to the provinces' short-term economic interests.

Who is protecting whom?

In March 1973, in the 4th Report of the Mercury Task Force, Ontario Government officials recommended: "the taking of fish for food be prohibited on the above waters (English-Wabigoon) recognizing that complete closure of the waters to all forms of fishing may have to take place for control purposes." Again in December 1975, a team sent by the Ontario Ministry of Health to study mercury poisoning in Iraq and Japan recommended:

- "1. Fish from the Wabigoon and English River system not be used for human or animal food.
2. It is recognized that the most effective method of achieving recommendation no. 1 is to close the waterway to all forms of fishing. In particular this would protect the fishing guides who are the population most at risk."

It is evident that the Ontario Government's refusal to close the waters to sports fishing contradicts recommendations made by just about everyone who has taken the time to look at the problem.

Not closing the river system also flies in the face of demands by Indian Bands, Native Peoples organizations, tourist camp operators, groups of concerned citizens, opposition parties and even the Federal Government.

One must question just who the Ontario government is trying to protect by downplaying the health risk and denying compensation for all those affected by mercury contamination of the English-Wabigoon.



The fish fry shore lunch is one of the most attractive features of a vacation at a tourist camp in north western Ontario. Although the fish are now contaminated with mercury the guides are still required to prepare them. photo by Enishi and Shiota

Native Peoples' Response

In the mid-fifties Ontario Hydro began developing a new generating project that was to be the initial assault in a long series of acts which have led to the social and economic disintegration of two Ojibwa communities. In 1956, the One Man Lake reserve was relocated to White Dog and six years later Grassy Narrows was moved a few miles southeast of its former location to an area of poor hunting and poorer soils.

The resettlement plan, necessitated by the flooding of former reserve lands and accompanied by a promise of hydro electric power, transformed, according to one Federal Task Force Report, "a contented and pleasant way of life to one of frustration and bewilderment."

For the government the major consideration in the relocation was not the preservation of the Indian's life-support systems but accessibility to the reserves by roads. Roads, which for the most part, were used to bring in white school teachers and government officials.

For these dubious benefits and in order to satisfy hydro's growth expectations, the Indians were forced to re-organize their life-patterns. Whereas prior to the relocation the Indians relied on wild rice, game, fowl, fish and vegetable gardening to supply their food needs, they were now forced to depend primarily on fishing both as a source of income and as the mainstay of their diet. As for Ontario Hydro's promise of electric power it took 14 years to materialize.

But the worst was yet to come. After having their homes of many years expropriated, their rice fields flooded, their livelihood reduced to a single commodity and their community life disrupted, the Indians had now to contend with the ravages of industrial pollution and the threat of mercury poisoning.

In 1969, the Federal Government discovered that fish in the English-Wabigoon River system were contaminated with mercury. In May of that year the Provincial Government closed the waterways to all commercial fishing thereby destroying the primary source of employment and income for the two reserves.

"You know, everybody knows, that people have to be free to express human freedom. They have to laugh, they have to yell, and they have to be free to move around. But when you push people into a group like that a lot of that expression turns inside. It's what you call internal aggression. And as a result of that Indians live a dangerous style of life. They fight each other, they drink a lot. And the tendency of suicide is higher.

"...This is the crime, the injustice that is being committed by the government and by the business around the country. They are taking one segment of society and pushing it violently inwards."

Louis Cameron
Anicinabe Interview

Sport fishing, however, which was the basis of Kenora's tourist trade was allowed to continue. The government with its usual half-hearted effort, posted signs encouraging the tourists to "fish for fun" and warned native people to avoid eating the fish. Tourist camp operators and government officials have been down-playing the danger of mercury poisoning ever since.

It is this contradiction that has increased the seriousness of the mercury problem. The government, faced with two choices — that of protecting the health of the Indians or protecting the industry in Leo Bernier's (Ministry of Natural Resources) home riding — chose the latter, a decision which understandably caused considerable confusion in the Indian communities. The fact that the provincial government allowed the river systems to remain open to any fishing belied the seriousness of the situation.

Indians were faced with only two alternatives. Either they could find additional funds to buy foods other than fish or they could eat the contaminated fish from the English-Wabigoon. Considering that hundreds of native people had lost their livelihood with the banning of commercial fishing and that prices were considerably inflated at the only available store on the reserve, the first alternative was most unrealistic. Mr. Art Assin, former chief of Grassy Narrows presented the case quite clearly: "Some of my people know too much about being hungry and not very much about this mercury."

The government did little to provide the Indians with a way out of the predicament. No compensation was given to all but a few and no alternative food source was made available to the reserves. As Health Minister Frank Miller stated: "The Ontario Government has no responsibility to find another food source for Indians whose health is threatened by contaminated fish from mercury-polluted waters near Kenora...."

He went on to suggest that his only responsibility was to warn of the danger, as he warns of a possible health hazard in the case of cigarettes and alcohol (Globe and Mail, April 19, 1973, p. 38). Mr. Miller noticeably failed to mention the fact that unlike either alcohol or cigarettes, mercury contaminated the main food supply of the Indian people.



photo by Enishi and Shiota



Native peoples' demonstration at Queen's Park during visit of Minamata Patients' Alliance to Canada.
photo by Enishi and Shiota

Five years after the closing of the river to commercial fishing the government finally provided an alternative food source in the form of whitefish stored in large freezers on the two reserves. As Stephen Lewis said of the programme: "If I've ever seen anything that is a monument to incorrigible stupidity, it's the way this whole programme has been handled." He went on to point out that the freezer was not working and that several thousand pounds of the fish were rotting. In addition it should be pointed out that whitefish are relatively bland tasting in comparison to pike or pickerel and are not well-liked by fish eaters.

Virtually no other government action designed to alleviate the problem has taken place in the last six years. Again Stephen Lewis commented: "It's more than six years after the event and I have to say to you that we're practically back at day one. It's almost as incredible as that. Just over six years later, and all the capacities of government, federal and provincial, to mobilize a response to a genuine human predicament —

all of these capacities seem to have, by and large, failed or at the very best, to have been hopelessly inadequate."

The government's capacities, that Lewis speaks of, have been worse than inadequate and have done more than simply fail. In the absence of an effective programme, the government has accelerated the process of disintegration that began with Hydro's relocation of the reserves in the fifties.

The once prosperous wild rice industry was almost completely destroyed in 1974 when flooding began as a result of the hydro project. In 1972, 154,000 lbs. were produced but in 1974 only 1,669 lbs. were harvested. In 1975 the harvest again was drastically reduced and unless the flooding is controlled, there will be no harvest in 1976. Out of the 270 residents of Grassy Narrows 18 years of age or older, only 14 now have year round employment. An estimated 95% of the balance are either unemployed or have employment that would account for three months or less of the calendar year.

The situation differs little for White Dog. Out of an employable population of 140, only 15 are employed for a full 12 month period. Where previously 75 people were employed on commercial fishing operations, today not one is so employed.

The average life expectancy of a native person on Grassy Narrows and White Dog reserves is 37 years; for the rest of the Canadian population it is 62 plus. Sixty-one per cent of all native children fail to reach grade 8 and 90 per cent drop out before grade 12.

In the Kenora area, the total number of infant deaths is double the provincial average. There are 10 times as many infants dying of pneumonia and lung-related diseases.

There is a higher than average rate of mental disorders among Indian children (Dr. Harada found that the mental dexterity of children born between 1953 and 1966 in Minamata during the mercury poisoning outbreak was 30% below normal).

Between 1970 and 1973 native people experienced more than 200 unnatural deaths in the Kenora area alone. Alcohol was a known factor in 70% of these cases.

The fourth Task Force on Mercury Pollution admits to the role that mercury poisoning has had in creating this intolerable situation: "It is evident that the mercury contamination of the English-Wabigoon River system has severely affected the economic and social conditions in adjacent areas...Fishing, both commercial and for food, and guiding were the few remaining proudfest activities available to the Indians."

In 1969, before the rivers were closed to commercial fishing, welfare payments to Grassy Narrows amounted to \$9,000. By 1975 this figure had increased to \$140,000. Chief Andy Keewatin describes the impact of mercury pollution in this way:

"When we lost our commercial fishing and we lost our guiding it kinda turned the people around to a different style of living.

"Ever since mercury, there's been quite a change. You never used to see any murders. There's been a lot of drinking, too. We didn't use to.

"People don't have anything to do so you get the welfare cheque and you go to town and get tanked up."

The Indians' response to the mercury problem has not been one of passive accep-

continued on page 26

Statement of Demands

We, the people of Grassy Narrows and White Dog, accuse the Government of Ontario and the Dryden Chemical Company (Reed Paper), of poisoning our food, our water supply, and destroying our way of life. We accuse this company and this government of killing our people.

We, the people of White Dog and Grassy Narrows, put forward the following demands:

1. We demand that the Government of Ontario immediately declare Grassy Narrows and White Dog reserves a disaster area. Because this is an emergency situation we demand that a provincial federal action group be established with a suitable budget and the power and authority to allocate funds on a local level for measures to protect health and restore socio-economic well-being.

2. We demand again that the Wabigoon and English river systems be closed immediately to all fishing, including commercial fishing, sport fishing and fishing for food. The danger to fishing guides who have been eating fish heavily polluted with mercury and who have been guiding on these waterways for many years is widely recognized. There is also a not negligible danger to tourists, who can accumulate a potentially dangerous body burden of mercury in as short a time as 5 to 15 days of eating fish daily from these waters.

3. We demand that the Minister of Health, the Minister of the Environment and the Minister of Natural Resources visit both Reserves at a mutually agreed-upon time to see first hand the destruction to the well-being of the communities caused by mercury pollution and to meet the people face to face who must live daily with the problems created by mercury.

4. We demand an immediate declaration in principle that the Government of Ontario is willing to enter into negotiations with the Band Councils to provide compensation for the destruction of community life, the loss of livelihood, the loss of food sources and the destruction to health caused by the dumping of mercury into the environment.

The following areas of compensation must be taken into account:

- a) Loss of livelihood: we are currently compiling data to document the financial losses to the reserves as a result of:
 - i) loss of commercial fishing income from 1970,
 - ii) loss of guiding income since 1970
 - iii) loss of income from other sources since 1970.
- b) Future loss of livelihood from commercial fishing, guiding and other affected sources of income.
- c) Health problems which have arisen and which are likely to arise in the near future. We wish to avoid expensive and time-consuming litigation based on individual health problems.
- d) Loss of free food sources which the native people have relied on since time immemorial and which have been recognized in Treaty Number 3.
- e) Mercury pollution has destroyed the quality of life and the solid social fabric which previously existed in both communities and is likely the cause of the serious social problems which have recently arisen.

5. We demand that the Province of Ontario compensate the people of White Dog and Grassy Narrows for the flooding of reserve lands caused by the construction of the Hydro dam at White Dog Falls. We estimate that up to 5,000 acres were lost through this flooding.

- The compensation should take the following forms:
- a) Additional reserve land.
 - b) Compensation for loss of livelihood from trapping, gathering wild rice, commercial fishing and any other sources of income affected by the Dam.
 - c) Compensation to individual band members for losses to the personal property suffered through the flooding.

Native Peoples' Response

continued from page 25

tance. Their actions have been in response to a government that has done nothing for them, and everything against them. Governments, according to George Manual, President of the National Indian Brotherhood "...have acted in a deliberately irresponsible manner in monitoring mercury dumping.... What I find most outrageous is that Indian people have developed mercury poisoning while federal and provincial officials have been acting as apologists for the company...."

From the beginning the native people have pressured both the government and the company to tell them the truth about the effects of mercury pollution. Finding that unsuccessful, the National Indian Brotherhood initiated its own research on mercury poisoning. As well, six representatives from White Dog and Grassy Narrows visited Japan to investigate the effects of mercury poisoning themselves. Tommy Keesick, former chief of Grassy Narrows had this to say of the visit:

"The one thing we did find out in the trip is that the situation in Minamata and Grassy Narrows and White Dog is comparable in mercury content, which goes to prove that both our communities are in grave danger."

"We did not know how mercury actually affected the human being. We had only thought of mercury contamination as economic loss, but arriving in Japan, seeing how mercury really deteriorated the human body was quite a shock to us, especially what has happened to the younger children."

"How such innocents can be the first victims to be attacked, not knowing what was in store for them, this really hit us hard."

This visit, while exemplifying international solidarity also served to accentuate the bitterness felt by native people toward their "public servants". In the words of Andy Keewatin:

"While people from thousands of miles away can hear our cries, the government only a few feet away from us cannot."

This year, the Indians again took action when the government continued to ignore the problem. In protest to the provincial government's refusal to close the river to sport fishing, Chief Isaac Mandamin led a campaign to block the only road to the fishing camps.

"We want the government to either say it's okay for us to fish again or that it is not okay for us or for the tourists at the fishing camps. We want the government to say once and for all that there is mercury here or there is no mercury here. We've been waiting six years to get some kind of action and we've been pretty patient."

For some of the Indians the constant frustration of dealing with an unresponsive government has led to more militant forms of organization. In 1972, as a response to the social and economic violence perpetrated against them by government and business alike, the younger generation of Indians formed the Ojibway Warrior Society.

"Where a thousand people's lives are jeopardized we cannot accept the court's methods because they take a long slow process and by the time they make a decision, there will be a lot of our people who will have passed on from the poison they drink and eat."

In 1974, in an attempt to bring public attention to the plight of the Indians in northwestern Ontario, the Ojibway Warrior Society occupied Anicinabe Park in Kenora.

The parkland originally had been purchased by Indian Affairs as a camping area for Indian travellers between the reserves and Kenora, and specifically as a camp for those discharged from the hospital. But in 1959, the town of Kenora purchased the land from the federal government and developed it into a camping park for tourists. For the Ojibway Warriors the case of Anicinabe Park exemplified the treatment accorded Indians time and again and testified to their second class citizenship. They claimed that the park was sold without their permission, despite the fact that they had legal and moral rights to the land.

For the Ojibway Warrior Society the occupation of the park was a symbol — the native people were fighting back.

"We have to live that style of life that is detrimental to human beings. So we, the Ojibway Warriors' Society, believe the only way is to bring that internal aggression outwards. It must go out. We must break out through the same way we got in. We got in by violence, we must go out by confrontation."

"... we are fighting oppression, we are fighting profiteers, fighting private interests."

"... It's our people that are being killed and they (politicians) know it, our people are dying and they know it. It's our responsibility and we have to take that responsibility. If anyone is going to do anything for our people we are going to do it — Indian people themselves will do it for Indian people."

Louis Cameron
Ojibway Warrior
Anicinabe Interviews

Recently, the National Indian Brotherhood's Mercury Team prepared a report designed to combat the devastation wrought by mercury pollution on the two reserves. It begins by demonstrating once again the lack of government action. The authors write that:

"During April 1975, two Ontario Cabinet Ministers, Leo Bernier and Allan Grossman, made specific promises regarding certain future programs for developing private and commercial fishing in uncontaminated waters, freezers for storage of uncontaminated fish, and certain economic development projects... The summer months proved to be less than expectedly productive for these promised programs... December 1975 — the Indians are still waiting to hear the decision of the Ontario Cabinet as to the status of the proposed future programs."

In September, 1975, while awaiting the Cabinet's decision, the Indians of northwestern Ontario drafted and presented to

the government a set of demands and a comprehensive program designed to upgrade the quality of life on the reserves. What follows is a summary of the demands.

1. That the people of Grassy Narrows and White Dog be given a new protein source (alternative source of food).
2. That a new source of livelihood be given to these people.
3. That the people on the reserves be compensated for their loss of livelihood.
4. That these people be compensated for any health problems caused by mercury pollution.
5. That every possible step be taken to clean up the environment in northwestern Ontario and stop industrial pollution in general.
6. That the polluters be brought to trial.
7. That collusion among Federal and Provincial Governments and corporations cease.
8. That any abrogation of Indian rights be rectified.
9. That clinical testing and other health studies be implemented immediately and that results related to the findings be released immediately.
10. That a preventative cognizance be instituted immediately for northwestern Ontario (that any possible source of industrial poisoning be looked at).

The residents of Grassy Narrows and White Dog are the victims of industrial pollution and yet they have been made to pay for this victimization. For them this is more than a mockery of justice, it is genocide. The Indians believe that those who are responsible and not those who are affected should bear the burden of guilt. The innocent, they argue, should be compensated and the guilty should be penalized.

"It is not sufficient that the polluter simply cease the dumping of mercury into the system... Those responsible for the destruction of the waterway that provides both a way of life, employment, and recreation to thousands must be prepared to restore the waterway to its original state."

Interview With Isaac Mandamin Chief of White Dog

In July of this year, the provincial and federal governments proposed the creation of a national park to cure the problems of the mercury-contamination in the English Wabigoon River system.

Judd Buchanan, federal Indian Affairs Minister, said the park would be a vehicle for solving the social and economic problems created in the region from the mercury pollution.

It has never been made clear exactly how the park would solve any of the problems of food supply, unemployment, and the social disintegration that has already taken place on the reserves.

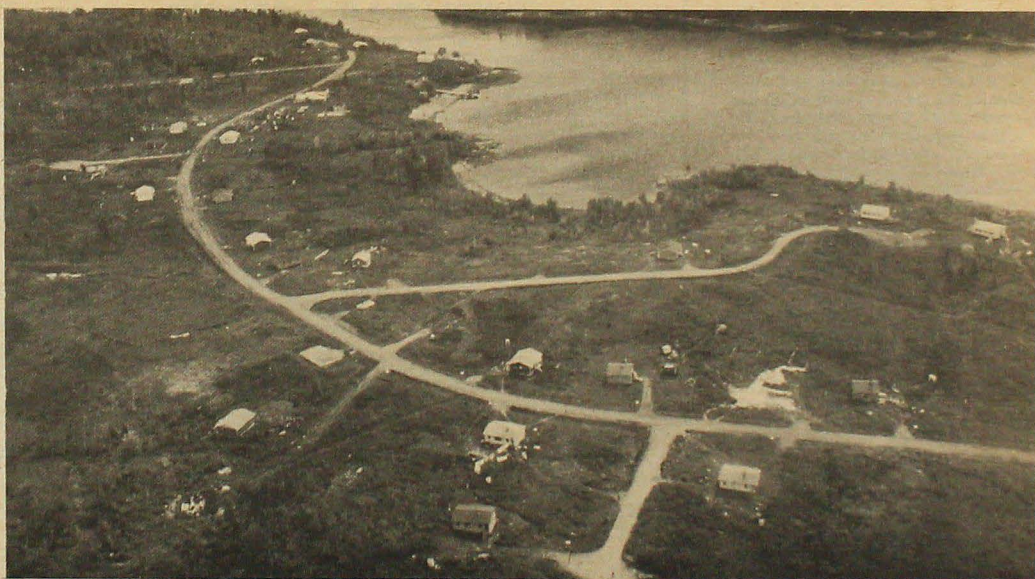
In a recent Canadian-Press article, Buchanan said that with the establishment of a national park, the governments could come to grips with the questions of closing the river system to all fishing, paying compensation to involved parties, and planning the social and economic well-being of residents of the area.

When you think about it, what a lovely place for a park. A showplace in which the world can witness industrial pollution in Canada's north: and a monument to years of callous government inaction.

The national park sounds too much like the government trying to save face; again, at the expense of the native peoples. But what alternatives exist? The following is an interview with Isaac Mandamin, Chief of White Dog Reserve.

What's been happening with the national park proposal? Have you received any information?

Mandamin: Well, no. Right now nobody's making a move. I tried to get into it. But actually the guys who will be negotiating with us is the province. After we've done negotiating, and the park comes up, then the federal government takes over. That's something I couldn't understand. If we're going to deal with the Federal government with the national park, then we might as well deal with them from the beginning.



An aerial view of White Dog reserve one of the two native peoples' communities which were devastated by mercury pollution.

Photo by Emishi and Shota

Do you think that the park is a good idea?

M: We really don't have an alternative now but to try and see about a national park. The whole of N.W. Ontario, I have a report on it, the whole of N.W. Ontario, north of White Dog, and even in the remote country, it's all over the safe level. So we can't take fish out the rivers for consumption.

Natural Resources said there's some fish coming through for our freezers — both Grassy and White Dog, Walleye and northern. No whitefish anymore. The only place we can find these fish that are safe to eat is in Manitoba, in Lake Winnipegosis.

So you're excited about getting something other than whitefish?

M: Yes, but what gets me is that they still let the tourists fish for sport. And they don't say anything about safe levels. So, who's kidding who here?

Do you think that the national park would involve any better compensation for commercial fishermen?

M: Yes, I think so. It's the only alternative they have. Buchanan (federal minister of Indian and Northern Affairs) said the only way anybody would get compensation was if they make a national park out of it, then the federal government would take over. But, if they just closed the river down, then nobody gets money. That's the way it goes.

What's happening with the blockade on the road?

M: We took it down on July 8. We had

the meeting in Ottawa and we took it down as good faith. If we don't hear anymore about the park, we may have to put it back up.

What do you know about the epidemiological study that has been proposed?

M: We asked for that last April. But we were trying to get the Lake reserve tested. We were trying to compare the two. Shoal Lake people eat a lot of fish like we used to here and they haven't got mercury in them. We want to compare the mercury levels in the people.

We've been told that a study like that would take two years.

M: Well, if they wait that long, maybe some of the people will be starting to go. There won't be so many to test.

Editorial

The governments of Canada and Ontario have been aware of the problem of mercury contamination and its attendant dangers since 1969. The problem, however, need never have occurred and wouldn't have if proper attention had been given to the Japanese experience and if the regulatory, monitoring, and enforcement agencies in Canada had been doing their job.

But mercury is a problem and its costs in terms of the health and well-being of the native people in N.W. Ontario are immeasurable.

The government has failed on two counts. First when it did not prevent the problem and secondly when it did not act to resolve it. Even if we accept the government's own terms of reference, it was possible for it to have offered an honest and entirely practical response in 1969. This would have meant:

- admitting to the seriousness of the health threat to native people and forcing the companies responsible to cease any future dumping of mercury;
 - instituting legal proceedings against Reed International in order to obtain compensation for the destruction of the economies of Grassy Narrows and White Dog Reserves;
 - closing the affected areas to sport fishing in order to protect tourists, and providing tourist camp operators with loans or grants to relocate;
 - undertaking extensive clinical and epidemiological testing of the native people to determine their individual and collective situation regarding mercury poisoning and providing whatever medical care found to be necessary;
 - providing grants-in-aid to affected reserves for reconstruction of their economic bases;
- and
- moving to create an effective legislative, judicial and enforcement framework so as to provide a basis for meaningful response to environmental contamination in the future.

In actuality, what have these governments done?

To say that they have done little which could be interpreted as constructive, would understate the case — they have done **nothing** constructive.

The responsible companies have not been taken to court but instead have been allowed to continue discharging mercury into the English-Wabigoon.

The corporations have not been forced to provide compensation to their victims but instead have been awarded sizable grants and tax rebates.

The river system, despite public pressure, has remained open, thereby exposing tourists and guides to possible mercury poisoning.

No extensive clinical or epidemiological studies have been carried out. In fact the government testing programme (what there was of it) seems to have been deliberately designed to fail to uncover evidence of mercury poisoning.

No aid has been provided to reconstruct the economies of White Dog and Grassy Narrows.

Minimal aid has been provided to the tourist camp operators.

No adequate alternative food supply has been provided to the native peoples.

No programme of adequate compensation has been provided to the commercial fishermen.

And the government has not moved to patch up its hopelessly inadequate monitoring and enforcement procedures.

The past seven years of evasion, secrecy, and bureaucratic bungling have only served to exacerbate a human tragedy that is as unnecessarily long as it is artificially complex.

So, what are we to make of all this?

Some would have us believe that the whole thing is simply a matter of bureaucratic incompetence — the 'fatal' flaw of large-scale organizations. This charge is well laid and may explain why the government's 'fish for food', 'fish for fun', and informational and health programmes have all been poorly conceived and inadequately implemented.

It might also help explain the deplorable record of the 13 provincial and 5 federal departments and agencies involved in the issue. It does not, however, explain many other facets of the problem.

It does not explain the cover-ups, the secrecy and the negligence that have characterized the government's involvement.

It does not explain the overtly racist attitudes of the government toward the native people.

It does not explain why firm action was not taken against the polluters.

It does not explain why public monies were used for corporate gifts.

And it does not explain why on so many occasions the government has demonstrated cognizance of the problem while rejecting opportunities to resolve it.

What has been lacking is not the ability to act, but the political will to act.

The problem is not simply an aberration in the functioning of the regulatory state. Unfortunately, it is not simply a question of one or two isolated companies acting in a socially irresponsible manner while the government looks the other way. The problem is much more fundamental.

It is a problem which reflects the realities of the Canadian political economy, an economic structure which encourages large industrial empires to use public waterways as corporate sewers and a political structure which demonstrates a great reluctance in toilet-training the polluters.

The problem is that the government is more interested in protecting corporate interests than it is in the health and well being of native people. The problem is the tyranny of corporate wealth and private interests.

When faced with the choice of continuing production by Dryden Chemicals or ending mercury dumpings, the government chose production. When faced with the choice of forcing the company to pay compensation to its victims or safeguarding Reed International's profitability, the government chose profits.

Throughout this entire affair the government has simply been acting in the corporate interest.

In reality the exigencies of business dominate the political institutions of this country.

This is a fact that is reflected in our legal system which fines its citizens for littering on public highways but allows corporate giants to dump tons of mercury into public waterways. 'Law and Order', the catch phrase of the seventies, appears to refer only to crimes against private property. It does not refer to the criminal actions of private property against the life, health, and welfare of the people of Canada.

It is a reality that has come to penetrate and dominate the presumed neutrality and objectives of Science. There is a universal principle that can be discovered in the particularity of any environmental or occupational health problem. It is that impartial third parties do not exist.

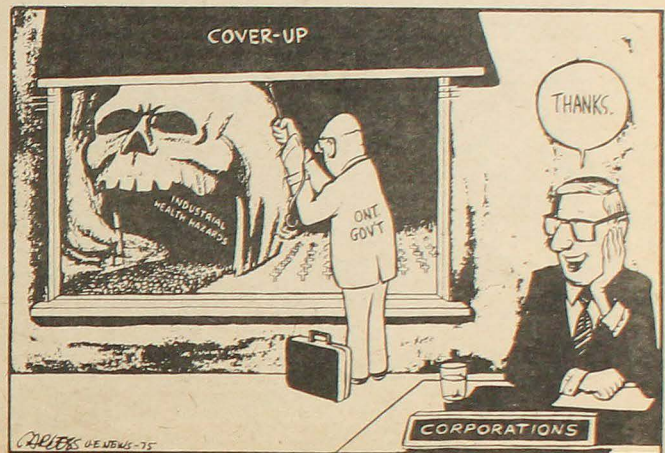
It would be a mistake for us to think that the problem of mercury is an isolated one. The fact is that thousands of highly toxic chemicals are being allowed to contaminate our air, lakes, and streams, not to mention our places of work.

It would also be a mistake to expect the 'experts' or the government to automatically act in the public interest.

It is up to us. We must organize to defend ourselves against the powerful corporate interests. We must force the government to act. We must find ways to prevent the continued degradation of our environment and our health. We must force a redefinition of society's goals.

The health and welfare of people must supercede that of corporate profits.

Let the outbreak of mercury poisoning in Canada be a warning to us all.



Ontario Public Interest Research Group

Quicksilver and Slow Death . . . was researched and written by the Mercury Research Team and is published by the Ontario Public Interest Research Group (OPIRG).

Copyright © OPIRG Inc. 1976

Members of the team include David Moffat, Patti Moffat, Peggy Nichols, David Robertson, and Terry Moore.

Public interest groups, native peoples' organizations, and other non-profit citizens' action groups may reproduce articles, in whole or in part, provided that the appropriate credits are given.

Special thanks are given to the following groups and individuals for their generous assistance: Max Allen, the National Indian Brotherhood, Alan Roy, Jill Torry, Richard Phaneuf, Hiro Miyamatsu, Isaac Mandamin, James Harding, Doug Wicken, Norman Zlotkin, Mrs. Colin Myes, Marion Lamm, Frank and Patricia D'Itri, Steve Moore, the Society of Friends and the Canadian Environmental Law Association. Of course, responsibility for any mistakes, or other shortcomings of this paper remains with the members of the Mercury Team alone.

We would also like to thank Ellen Forrester, Joan Fischer, John Morris and the patient people at Dumont Press Graphix for their invaluable production assistance and suggestions.

Quicksilver and Slow Death is distributed by the OPIRG Provincial Office, and local OPIRG Chapters, the addresses of which are shown below.

Rates for purchasing the paper are as follows:
single copies @ \$.50 each
over 10 @ \$.30 each
over 100 @ \$.25 each

OPIRG (Provincial)
Room 351
Chemistry 1
University of Waterloo
Waterloo, Ontario
Terry Moore or
David Robertson

OPIRG-McMaster
Wentworth House
McMaster University
Hamilton, Ontario
Chris Priest
523-0131

OPIRG-Waterloo
Room 351
Chemistry 1
University of Waterloo
Waterloo, Ontario
Eugene Bauthien
884-9020

G-OPIRG
214 Old Engineering Bld.
University of Guelph
Guelph, Ontario
Peter Cameron or Jim Zimmerman
824-2091

OPIRG-Western
Organizing Committee
c/o University Student Council
University Community Centre
University of Western Ontario
Alan Baer

OPIRG-Peterborough
Bob Fishlock
c/o Bob Paehlike
Trail College
Trent University
Peterborough, Ontario

Sources

The following is a short list of sources of information used in writing this paper. Most of them are available through libraries, government departments, or native peoples' organizations. The National Indian Brotherhood, the Union of Ontario Indians, The Canadian Association in Support of Native Peoples and the Ontario Public Interest Research Group, have extensive files on mercury poisoning. Generally speaking, access to this information can be gained upon request. The addresses and telephone numbers of these and other organizations active in the mercury issue are listed below.

Mercury in the Environment:

- **Mercury in Man's Environment**, Proceedings of the Symposium on Mercury in Man's Environment, the Royal Society of Canada, February 1971.
- **Production and Use of Mercury in Canada**, G.E. Bangay, Policy Planning and Research Services, Environment Canada, July 1971.
- **Mercury: A New Pollution Problem**, Environment Vol. II Number 4, May 1969.
- **Mercury in the Environment**, Environment Vol. 13, Number 4, May 1971, pp. 16-33.
- **Mercury and the Environment: Studies of Mercury Use, Emission, Biological Impact and Control**, OECD, Paris 1974.
- **Public Health Significance of Methyl Mercury**, Ontario Department of Health, February 1972, p.5.

Health Effects of Mercury Poisoning:

- **Mercury in Man**, Environment Vol. 13, Number 4, pp. 2-15, May 1971.
- **Legacy of the Mad Hatter**, Environment Vol. 11, Number 4, p.18, May 1969.
- **Mercury and Our Environment**, Mercury Pollution Action Group of B.C., p.1, June 1976.
- **Mercury Poisoning in Iraq and Japan**; Report of a Team Sent By the Ontario Ministry of Health, November/December 1975, sections 4:00 and 5:00.
- **Health Effects of Environmental Pollutants**, Walcott, G.L., C.V. Mosby Co. St. Louis 1973, pp. 136.
- **Minamata Disease: A Medical Report**, Harada, M., and Smith, A.M., pp 180 in Minamata, A.&E. Smith, Holt Rinehart and Winston, New York, 1975.
- **Exposure to Methyl Mercury in Grassy Narrows and White Dog Reserves: An Interim Report**, Clarkson, T.W., Appendix 1-13, 1975.
- **A Study of the Medical and Toxicological Effects of Organic Mercury in Northwestern Quebec**, Barbeau, Nantel and Dartot June 1976, Government of Quebec.

Government Regulations:

- **Fisheries Act, Chlor-Alkali Regulation**, SOR 72-92, Eco-Log p. 124 July 1975.
- **Fisheries Act, Pulp and Paper Effluent Regulations**, SOR 71-578, Eco-Log p. 132 July 1975.
- **Guidelines and Criteria for Water Quality Management in Ontario** OWRC, June 1970.
- **Mercury in Effluent from Chlor-Alkali Plants**, Ministry of Environment, Ontario, February 1976.
- **Status of Industrial Water Pollution Control in Ontario**, Ontario Ministry of the Environment, 1973.
- **Alternative Proposals for Pollution Abatement: The Ontario Pulp and Paper Industry**, Ontario Ministry of the Environment, 1973.
- **Environment on Trial**, Canadian Environmental Law Association (CELA) pp. 95, 1974.
- **The Canadian Approach To Acceptable Daily Intakes of Mercury in Foods**, Morrison, A.B., in **Proceedings of the Royal Society of Canada's Mercury in Man's Environment Symposium**, February 1971, p. 157.

Organizations

National Indian Brotherhood,

Suite 1610,
130 Albert St.,
Ottawa, Ontario K1P 5G4
contact person: Alan Roy 1-613-236-0673

Quaker Committee for Native Concern,

Friends House,
60 Lowther Ave.,
Toronto, Ontario
contact person: Ginny Smith 1-416-921-0368 or 922-6128

Canadian Association in Support of Native Peoples,

Library and Information Centre,
277 Victoria St.,
Toronto, Ontario M5B 1W5

Union of Ontario Indians,

3028 Danforth Ave.,
2nd Floor,
Toronto, Ontario M4C 1N2

Grand Council Treaty Number 3,

120 Second St. S.,
Kenora, Ontario P9N 1E9

Grand Council Treaty Number 3,

261 Third Avenue, Timmins, Ontario

Grand Council Treaty Number 9,

20 Holly St.,
Toronto, Ontario M5S 2E8
contact person: Heather Ross 1-416-482-0917

Mercury Pollution Action Group of B.C.,

438 East Cordova Street,
Vancouver, British Columbia,
Canada

Ontario Public Interest Research Group,

Provincial Office,
Chemistry 1, Room 351,
University of Waterloo,
Waterloo, Ontario
contact person: Terry Moore or David Robertson
1-519-884-9020

Critical Historical Reviews:

- **"Death From the Water"**, Aileen Smith, RIKKA Vol. 2, Number 1, pp. 2-15.
- **Mercury Poisoning, Native People and Reed Paper Company**, Moore, S., Toronto Alliance Against Racism and Political Repression, Pamphlet Number 1, 1976.
- **"Massacre at Grassy Narrows"**, Marc McDonald, Macleans, October 20, 1975 pp. 36
- **"The Hidden Poison in Northern Rivers"**, Singer and Rogers, Saturday Night, October 1975, pp. 18.
- **Minamata**, Smith A. and E., Holt Rinehart, New York, 1975.

Corporations:

- **Reed's Greed**, Grand Council Treaty No. 9, Timmins, Ontario.
- **Mercury Poisoning, Native People and Reed Paper Company**, Steve Moore, Toronto Alliance Against Racism, 1976.
- **Alternative Proposals for Pollution Abatement: The Ontario Pulp and Paper Industry**, Ontario Ministry of the Environment, 1974.
- **Financial Post Corporation Service.**
- **Financial Post Directory of Directors.**
- **Directory of Corporate Affiliations 1976**, National Register Publishing Co. Inc., Skokie, Ill.
- **Who Owns Whom**, O.W. Rjoskill and Co. (Reports) Ltd, 24 Tufton Street, London, England, Continental Edition 1976, Vol. I and Vol. II, North American Edition 1976.
- **Directory of Inter-Corporate Ownership**, Simon and Schuster, New York, N.Y., 1974, Vol. I and Vol. II.
- **Jane's Major Companies of Europe**, Jane's Yearbooks, London, (various years)
- **Moody's Industrial Manual**, Moody's Investors Service, Inc., New York, N.Y. 1976, Vol. I and Vol. II.
- **Who's Who In Canada**, International Press Ltd., 643 Yonge St., Toronto, Ontario (various years).
- **Who's Who in America**, Marquis Who's Who, Chicago, Ill. (various years).
- **The Financial Post '300'**, summer 1976.
- **Forbes 'Annual Directory Issue'**, May 15, 1976.
- **"The Canadian Establishment"**, Peter C. Newman, M and S, 1975.
- **Company annual reports, prospectus and documents filed with the Securities Exchange Commission**, 555 Yonge St. Toronto, Ont.
- **"Remodelling Ontario's North"**, Dave Dubuque, Ontario Report, Vol. 1, No. 5, June 1976 P.O. Box 6851, Station A, Toronto.

Films

- **Minamata Disease Part I**, (a medical history), 80 minutes, colour, English subtitles, distributed by DEC Films 121A Avenue Road, Toronto. 1-416-964-6901.
- **Hands Across Polluted Waters**, 32 minutes, English, distributed by DEC Films, 121A Avenue Road, Toronto. 1-416-964-6901.
- **Minamata Victims and Their World**, 2 hours, English subtitles, Faroun Films Distribution Ltd., 136 St. Paul East Montreal, P.Q., H2Y 1G6. 1-514-526-5970.
- **Slide-tape montage on the life of the Cree and Ojibwa People of Northwestern Ontario**, distributed by Grand Council Treaty No. 9, 20 Holly St., Toronto, M4S 2E8. 1-416-482-0917.

Donations

The Ontario Public Interest Research Group (OPIRG) has established a **Defence Fund for Victims of Mercury Pollution**.

Money donated to this fund will be turned over to Native Peoples' Organizations to assist them in their fight with government and the corporate polluters. Charitable tax receipts are available on request.

Of particular importance is an up-coming trip to Japan being planned by a number of women from the Grassy Narrows and White Dog reserves. They are planning to visit with women in Minamata and Niigata who have given birth to children with mercury-induced physical and mental deficiencies. The more money available, the greater the number of women who will be able to go.

Letters of Support are well-received and help to let the native people know that the governments involved do not speak on behalf of the people of Canada or Ontario. If you are concerned about this situation, send your expressions of solidarity to:

The Band Council Office,
Grassy Narrows, Ontario
Via KENORA, Ontario

The Band Council Office,
White Dog, Ontario,
Via KENORA, Ontario

In addition, OPIRG is selling "Greed buttons" depicting the slightly altered corporate symbol of Reed International, for \$1.00 a piece.

cut along this line

DEFENCE FUND FOR THE VICTIMS OF MERCURY POLLUTION

- Please find \$_____ enclosed as a donation to the FUND.
- Please send _____ copies of this paper to the address below. I have enclosed \$_____ to cover the costs.
- Please send _____ "Greed buttons" to the address below. I have enclosed \$_____ as a donation to the FUND.
- Please send me a **Charitable Tax Receipt** to cover my donation.

Checks should be made payable to:

the Ontario Public Interest Research Group (OPIRG)

Name: _____

Address: _____

Telephone: _____