

THE COMMISSION OF ENQUIRY ON OCCUPATIONAL HEALTH

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This article summarises the findings of the Erasmus Commission (Commission of Enquiry on Occupational Health) and attempts briefly to assess its recommendations, which are situated within the Commission's own ideological framework.

The first part of the article is primarily a summary of the Commission's findings. The relative importance of various diseases could be overlooked here as they have been listed in much the same order as they are found in the Commission. The Commission for example, attaches particular importance to the widespread incidence of Pneumoconiosis in its various forms and although we do not wish to belittle the importance of dust-induced diseases, we consider it necessary to draw attention to the apparently, 'harmless' industries e.g. the ice-cream manufacturing industry where the use of carbon bisulphate can cause severe gastrointestinal damage. Furthermore in industries where lead is used, e.g. the manufacture of glass, paint or matches, the number of workers in South Africa potentially exposed to lead poisoning exceeds 158 000. The Commission itself points out that, if Swedish standards relating to maximum levels of lead in blood and urine were applied in South Africa, many factories would have to be closed.

Another area which is often overlooked is the fact that noise is the most common physical danger to which the vast majority of industrial workers are exposed. There is not a single industry in which some area is not described as a noise zone. Heat radiation and asbestosis are other alarmingly common diseases among industrial workers.

In the article we have been fairly unambitious in following the actual structure and content of the Erasmus Commission except for the sketchy impressions and criticisms included at the end. Its aims are to make accessible information on occupational disease to people more directly involved in the struggle for workers' rights.

The Commission's approach to its investigation is revealed in the following paragraphs (3.57, 3.58 and 3.59) of its introductory chapters:

'Because the Republic, although still a young country, has developed into a vigorous industrial country within the space of the last quarter century and has a tremendous potential in this sphere, it is only natural that these tremendous developments should have some of the characteristics of the so-called first industrial revolution but it is clear to us that this development is not yet showing any signs of the oppressive and heart-rending conditions, for instance, described in the literature on the industrial revolution in England. As yet, we cannot really speak of threatening unrest, malnutrition, starvation wages, appallingly long hours of work, unemployment, and other conditions arising from problems that have a bearing on industrial health.

'The spectre seen by some people in the features remembered of industrial history in other countries has been conjured up here and an unscientific attempt has been made to seek such a theoretical parallel in conditions with a totally different orientation. This has been done partly by people who are unconnected with industry and in whose eyes enough can never be done for the Black worker, by political agitators, by prophets of doom and by people who have no ethnological background - an essential requirement in labour matters in the

multiracial Republic and the Territory of South West Africa.

'No-one would deny that, in a sense, the discovery of diamonds and gold resulted in an industrial revolution, or perhaps more of an economic revolution, in South Africa. Here, too, there was an influx of people, but the greatest number came from beyond the borders of the Republic. The disruption of family life has therefore taken place mainly outside the Republic, and the disruption of families within the Republic has been on a smaller scale not comparable with that in England.'

This attitude colours the report of the Erasmus Commission. Nevertheless the Commission's own findings frequently reveal extremely dangerous working conditions and a high increase of occupational disease. Torn between the need to exonerate industry from any ill will and the belief that the incidence of occupational disease is unnecessarily high, the Commission tends to represent the appalling lack of concern on the part of industry as mere neglect rather than a necessary concomitant of the economic system.

There is a basic assumption that the crux of the problem is that industrialists are ignorant of the economic benefits which they would derive from improving working conditions. The proposition is that better working conditions would increase productivity but this view fails to consider that in many cases, given the dangers of the industrial processes involved, the provision of safer working conditions might cut down profits (1). For many industrialists it is cheaper to continue with existing practices, especially as most occupational diseases only manifest themselves many years after employment and thus do not impair workers' fitness during employment.

Caught in their own contradictions, the Commission, in the main, concludes that Industrial Hygiene may be left largely in the hands of industrialists.

Before examining the findings of the commission it is necessary to point out that the terms of reference were interpreted to exclude industrial accidents. The Commission considered that the tendency to group accidents and occupational disease together and to classify occupational diseases as accidents arises from the 'historical struggle by workers to extend the scope of the laws relating to workmen's compensation or to interpret existing laws as widely and as favourably as possible to themselves' (Page 3 para 2.34).

Despite the fact that most occupational diseases only manifest themselves some time after exposure, the Commission restricted their brief to an examination of 'the position of workers while still employed and not after they have already left their employment and can no longer be regarded as "industrial and other production workers"' (Para 2.44 page 4).

Similarly they considered 'compensation as having no bearing on the prevention of an occupational disease or alleviation or curing of such a disease' and thus ignore it (para 2.50 page 4).

The Commission found that 5,78 million (71.9%) of the 8 million economically active people in South Africa were not covered by legislation relating to occupational disease. It pointed to a growing realisation by employers that the workers themselves are responsible

for the utilisation of the earth's resources, but also found that industrialists have put little money, time or organisation into the prevention of occupational disease. Industrialists seem to show little awareness that these are sound long term investments. The commission explicitly excluded the gold, iron and asbestos mining industries from these criticisms.

Generally, however, the commission found that management were not industrially health oriented. This lack of interest was reflected in the small number of medical personnel with specific industrial health expertise. Except for those covered by the Department of Mines, industrialists did not pay much attention to the visits of departmental inspectors. Further these inspectors were hampered by the fact that in South Africa there is no specific industrial health training as in most continental countries. Where industrial health measures were applied this was either because it was compulsory by law or economically advantageous. For example workers at precious stone mines had to leave their working clothes on the site at the end of each shift. Considerations of industrial hygiene were rarely the motivator.

Pneumoconiosis

The Commission considered Pneumoconiosis, the occupational disease most frequently contracted by workers and thus devoted considerable attention to it. Pneumoconiosis is the generic name given to diseases caused by any type of dust. It can affect workers in such industries as mines, quarries, sand blasting works, foundries and potteries. The Commission estimated that 25% of all workers exposed to dust suffer from Pneumoconiosis. Because the disease often manifests itself some time after exposure it is difficult to establish a clear picture of the incidence. The commoner examples of such diseases in South Africa are silicosis, asbestosis and anthracosis.

Silicosis is caused by inhalation of small particles of silicon dioxide in its free form. Figures relating to silicosis and TB among black miners between 1966 and 1971 show that despite a decline in the more serious palpable island formation, the actual incidence of silicosis rose.

In South Africa asbestos is found in three forms, the most dangerous one being Cape Crocidolite (Cape Blue Asbestos). Exposure to asbestos can cause thickening of the pleura and cancer. The high incidence of cancer after exposure is confirmed by figures which reveal that out of 465 cancer patients examined, 57,7% had been exposed to asbestos. Because of the vast number of uses for asbestos, there are a large number of potentially exposed workers. Despite this there were at the time no statutory threshold levels in South Africa. The Department of Mines had proposed 40 fibres per cc. (hoping to reduce this to 5 by 1976), as a guideline for surface and underground mining activities. Other industries tended to follow this guideline. These figures compare most unfavourably with thresholds in the United Kingdom where the maximum permissible concentration of asbestos in the working atmosphere is 2 fibres per cc. The use of the particularly dangerous Cape Blue Asbestos is even more strictly controlled - the permissible concentration is 0,2 fibres per cc. and special permits are required for its use. In South Africa no special regulations govern its use. The U.S.A. regulations are similarly much more stringent with the maximum permissible concentration of asbestos fibres per cc. being 5 fibres and this is being reduced to 2.

The Commission's findings indicate that Pneumoconiosis occurs not only amongst workers in the more obvious mining and quarrying industries, but also in secondary industries such as asbestos - cement, scrap-iron, ceramic and refractory goods and

sandblasting. The Commission points out that Pneumoconiosis in itself does not impair the workers' fitness for work, but in conjunction with other complications such as chronic bronchitis, emphysema and cardiac diseases, may cause unfitness for work and even death.

The Commission's figures indicate that although the number of deaths in the case of silicosis has dropped the number of workers contracting the disease has increased.

OCCUPATIONAL DISEASES CAUSED BY EXPOSURE TO GASES AND CHEMICALS

Looking at diseases associated with the use of gases and chemicals in industry, the Commission found a general ignorance among workers and management of the specific dangers of substances in use. This lack of knowledge, it concluded, could be attributed to the fact that in South Africa, industry was developing quickly and consequently a growing number of chemical substances were being used.

The danger of chemicals and similar substances lies not only in their particular properties but in their concentration, their manner of absorption and the period of exposure. While low concentrations might reveal no chronic occupational disease (as did high chronic exposure) they were partly responsible for the development of cancerous conditions many years after exposure.

Ammonia

High concentrations of ammonia gas irritate the eyes as well as wet skin. Liquid ammonia irritates the mucosa, eyes, nose and skin. The effect on the eye ranges from watering eyes to oedema of the eyelids, corneal sores and blindness. The liquid causes corrosive burns and water blisters. Ammonia when

inhaled in large concentrations is an extremely toxic asphyxiating gas which can cause death. Even if one should survive exposure, bronchitis and pneumonia may set in. The Commission's investigations revealed that there were a wide range of industries in which exposure to ammonia could take place. Seventy two different groups of workers were at risk. This involved a total of 6 794 factories with a total workforce of 589 672.

Ozone

In basic chemical manufacture, oxygen subjected to ultra-violet rays produces ozone. Exposure to high ozone concentrations over a long period can result in oedema, haemorrhage, chronic bronchitis and bronchiolitis. Chronic exposures to relatively low concentrations cause headaches, malaise, shortness of breath and drowsiness. Some 21 categories of workers amounting to 175 605 people in 3 793 factories and works are exposed.

Vinyl Chloride

One of the liquids used to form plastic material in the plastic industry is vinyl chloride. Tests on animals have shown that it is responsible for cancer of the liver (angiosarcoma), kidneys, lungs and brain. Also associated with exposure to this material is acro-osteolysis (shortening of the fingers). There were 23 767 workers potentially exposed in 451 plastic products factories, and a further 585 workers in 14 secondary industries (for example petroleum products).

Carbon Bisulphate

Carbon Bisulphate is a skin irritating solvent used in industries such as the metallurgical industry, ice

cream manufacture, pottery and fertilizer. Chronic exposure results in mania, depression and hallucinations. The gastro-intestinal functions are affected. The heart, liver and kidneys can also be damaged. Sixty six thousand and three hundred and ninety eight workers could be exposed to carbon bisulphate. This involves 845 factories and 58 different occupations. The Commission accepted researchers' estimates that 'only' 5 000 of these workers are at high risk.

Cyanide

Ten different occupations involve the use of powdered cyanide. Inhalation of this substance adversely affects the vascular and central nervous systems. Dermatitis and skin allergies arise from contact.

Benzine

The commission found that solvent benzine was freely used in South African industries. People working with the substance were not only generally unaware of the dangers associated with its use, but as a consequence of benzine frequently appearing under a trade name, were in some cases unaware that they were using benzine. Benzine is a primary irritant when in contact with the eyes, mucous membranes and upper respiratory tract. Exposure to high concentrations affects the central nervous system and can cause headaches, dizziness, unconsciousness, convulsions and death. Chronic exposure to low concentrations affects the haemopoietic system. In addition benzine is also carcinogenic and forms of leukaemia have often been identified among persons who have worked with benzine. There are 68 occupations in which workers are exposed to benzine. The commission considers that 'only' 40 000 of the 595 440 potentially exposed workers are at high risk.

Chlorinated Hydrocarbons, Carbon Tetrachloride, Ethyl and Naphthylamine

These are not only manufactured in South Africa but used in various industries. The Commission was unable to determine the extent of occupational disease arising from exposure to these substances mainly because of the lack of records and statistics. Small quantities of chlorinated hydrocarbon can affect people adversely. Repeated exposure causes fibrillation of the ventricle and may lead to death. Twenty thousand people are involved either in its manufacture or use. Carbon tetrachloride is used in the dry cleaning industry. Hepatotoxin in small quantities causes cirrhosis of the liver but is only detected years after exposure. Twelve thousand and seven hundred workers are exposed. Naphthylamine, used to protect clothing against moths causes cataracts. Here 26 000 workers are exposed.

OCCUPATIONAL DISEASES ARISING FROM INDUSTRIAL METALS

Lead

One of the most startling findings of the Commission was the extremely dangerous conditions prevalent in industries using lead. In fact the Commission revealed an increase in the number of notified cases of lead poisoning since 1972. They pointed to the abnormally high level of lead absorption amongst workers and pointed out that there was no maximum permissible level of lead in blood in South Africa. They found, moreover, that if South Africa were to be submitted to Swedish standards, 45,6% of workers would have to be withdrawn because they showed an overdose of lead. Similarly by USA and U.K. standards 44,0% and 26,1% respectively of the workforce would be withdrawn. In South Africa only 3,2% are withdrawn and this represents a 'voluntary withdrawal as against a

compulsory withdrawal. The Commission points out that many factories would have to be closed if one were to apply Swedish standards.

Among the symptoms of lead poisoning are gastrodynia, headaches, muscular fatigue, tetania and myodynia, loss of appetite, nausea, vomiting, loss of weight, anaemia, paleness and a blue lead line on the gingival margin. The most general form of organic lead poisoning is through tetraethyl lead which affects the central nervous system.

The Commission reveals the danger of unscrupulous employers who might try to create a favourable picture by giving their workers calcium versenate which, though it reduces the lead count in urine, can itself lead to chronic nephritis and permanently affect the kidneys.

The Commission found that even where legislation prevailed, for example, in the case of women who are forbidden to work in industries where high lead absorption occurs, it was not strictly applied.

158 678 workers are potentially exposed to lead poisoning in a wide variety of industries. Poisoning results from inhalation of lead fumes or dust.

Manganese

Manganese, affects two systems in the body.

Manganese dust causes pneumonia which can develop into chronic bronchitis. An investigation in one factory showed that there was a higher incidence of chronic bronchitis in manganese workers than in a control group. The fumes from manganese also affect the central nervous system.

Manganese has a large number of uses and thus about 89 826 are exposed. There is no threshold for the concentration of manganese in the atmosphere and sample concentrations in S.A. smelts compare very unfavourably with those of the U.S.A.

Platinum

Platinum itself is not toxic, but during the refining process platinum salts are formed which may cause platinosis - an irritation and chronic inflammation of the whole respiratory canal - and also an allergic dermatitis. The number of workers exposed includes not only 18 000 workers in 16 types of occupations covering 252 factories but also an unknown number of workers in chemical laboratories. In tests in 3 refineries 27% of workers were found to suffer from platinosis. The commission felt that platinosis could be completely prevented with proper measures.

Iron

In spite of the fact that S.A. is emerging as a major iron producer, there is no statutory ruling as to maximum thresholds. The commission found that where workers were exposed to high concentrations of dust with iron oxide and silica they could develop advanced pulmonary fibrosis. This could affect 10 486 workers.

Chrome

The commission was disturbed to find that in the chrome industry there was an apparent lack of concern about the physical welfare of workers. Exposure results in traumatic atrophic rhinitis. It also found that the incidence of bronchogenic carcinoma was abnormally high amongst chrome workers. In one

survey of a chrome factory workers accepted that perforated nasal septa were an almost inevitable consequence of their jobs. 75% of these workers had active lesions while 46% had complete perforations. 165 777 people in 102 different occupations working in 2 145 factories are in contact with chrome.

Vanadium

South Africa produces 40% of the world's vanadium. The commission considered that research into the effects on workers of this metal should be given high priority. The dangerous element is vanadium pentoxide which damages the red blood cells and leads to chronic bronchiolitis, emphysema and cancer of the lung. 27 616 workers exposed to vanadium are found in 17 different kinds of occupations in 408 factories.

Mercury

Exposure to mercury is limited to those industries where metallic mercury or organic or inorganic mercury compounds are used in one form or another during manufacturing processes. Although some compounds are skin irritants, the most common problems arise from inhalation of mercury dust and fumes. Acute exposure results in one or more of the following: gastrodynia, vomiting, diarrhoea, gingivitis, pneumonia, kidney injury and cardiac and respiratory failure. Chronic exposure causes gingivitis, emotional instability, headaches, sleeplessness, auditory loss and visual restrictions. Poisoning from certain organic mercury compounds results in other symptoms such as ataxia and tremors. Mercury is used in 55 different industries with a total of 77 132 people working in 715 factories. Although mercury is used in the gold refining industry, the Department of Mines does not include mercury poisoning as a scheduled disease.

Other metals

According to the commission, industrial diseases associated with cadmium (emphysema, reduction of erythrocytes, and kidney damage) have not been positively detected in South Africa. Similarly the extent of metal fume fever which occurs among bronze welders is not known. As far as aluminium is concerned the commission found no evidence of any cases of Shaver's disease (an acute interstitial condition of the lung) when it visited the aluminium plant at Richards' Bay.

OCCUPATIONAL DISEASES ARISING FROM PHYSICAL AND BIOLOGICAL FACTORS

Radiation

Unlike other industrial health hazards which have largely been ignored, protection against radiation has been recognised as being of prime importance. The commission considered this to be a consequence of the fear of nuclear war and the related concern with nuclear energy. This has resulted in careful monitoring and though the number of registered radiation workers grew from 4 000 to 7 000 between 1964 and 1974 there was only an average of 3 people per annum who received a dose exceeding the maximum permissible level. Even in the mining industry where a large number of people are exposed to uranium under conditions which are difficult to control, the incidence of persons exposed to dangerous doses has been low. Other dangerous beams include non-ionising parts of the electro-magnetic spectrum e.g. microwaves and infra-red and ultra-violet radiation.

Noise

The most common physical danger to which workers are exposed is noise. If a sound reaches a level of 85 decibels and is sustained for a sufficient length of time, whether the noise is pleasant or not, it will cause deafness. If noise equivalent to 85 db is sustained for an eight-hours period, auditory loss is a real danger. There is not a single industry in which some area is not described as a noise zone. Of the 1 598 070 workers in 30 097 factories 15% (239 711) work in noise zones. The Commission considered that workers were ignorant of the dangers in non-obvious areas and thus of the necessity for wearing ear-muffs.

Heat

Though heat stroke is a particular problem on deep gold mines, other workers are faced with the danger of excessive heat and the potential working population exposed to heat is about 300 000. Excessive heat may cause dermatitis, dehydration, heat exhaustion and heat stroke. All these reactions are reversible and disappear if exposed persons are removed from heat. The Commission points to the successful program of heat acclimatisation ('world famous') on the gold mines which has succeeded in reducing heat stroke mortality from 14 per 100 000 per annum to 4 per 100 000 per annum. Workers exposed to heat radiation at coke furnaces, glass furnaces and foundries can be rendered sterile for protracted periods by the intense heat radiation.

Zoonoses

Not only farm workers but factory workers (e.g. in abattoirs, meat canneries, factories producing plant and animal oils and by-products) are potentially exposed to zoonoses - that is various diseases transmitted by contact with animals. The commission

felt that it was a moot question whether zoonosis could be designated an occupational disease. There was apparently some justification in the case of veterinary surgeons, stock inspectors and farmworkers but the Commission was less sure whether it could be applied to other workers although a further 48 333 workers in 790 concerns could be affected. Zoonoses inter alia, include the following disease: anthrax, brucellosis, TB leptospirosis, glanders, foot and mouth, herpes, marbury virus, trypanosomiosis, tick bite fever, ringworms and malaria. Because there has been no follow-up on patients who have been discharged from hospital, it is almost impossible to determine if there has been any permanent damage from these diseases.

Insects and Vermin

Forestry workers face the additional hazard of insects and vermin. Because agricultural forestry workers are so regularly exposed to such diseases as malaria and bilharzia the Commission considered that there was a strong case for their inclusion as an occupational disease. However, in their evidence, the Department of Forestry maintained that 80-90% of all blacks in the Eastern Transvaal suffer from bilharzia. The commission considered that without pre-employment medical examinations it was difficult to ascertain whether black workers contracted the diseases in the course of their employment.

Insecticide Poisoning

The Commission found that deaths from agricultural chemicals were minimal. However, the carcinogenic effects of pesticides had not yet been established. But where they appeared positive, as in the case of D.D.T., their use had been restricted to a minimum. A further 146 835 factory

workers who handled agricultural products were also exposed to pesticides and insecticides. This included such activities as the canning, storing, sorting, grading and packing of fruit and vegetables; the handling of grain and manufacturing of grain products; the manufacture of sugar, cocoa and sweets; the manufacture of wine, spirits, beer, fruit juices and cool drinks; the manufacture of sundry foodstuffs.

The table below indicates the large number of workers potentially exposed to dangerous substances and illustrates the non-obvious industries where they may be found in.

INDUSTRIES IN WHICH WORKERS ARE
EXPOSED TO DANGEROUS SUBSTANCES

<u>Toxic Substance</u>	<u>Type of Industry</u>	<u>No. of factories Mines or Works Involved</u>	<u>No. of po- tentially exposed workers</u>
<u>Ammonia</u>	Textile & artificial Fibre weaving	671	230 173
	Leather & rubber Pressing, paper & associated industries	838	63 285
	Chemical industries	1 107	68 704
	Metal plating & paintwork	2 563	192 547
	Photographic pro- cessing labs.	167	6 532
	Laundries, dry- cleaning	110	2 410
		<u>1 338</u>	<u>26 021</u>
		<u>6 794</u>	<u>589 672</u>
<u>Ozone</u>	Metal plating	289	4 704
	Steelworks where there is welding	3 324	155 371
	Photopressing	110	2 410
	Basic chemical manufacturing	70	13 320
		<u>3 793</u>	<u>175 605</u>
<u>Vinyl Chloride</u>	Plastic production Secondary industries in petroleum manufacture	451	23 767
		<u>14</u>	<u>585</u>
	<u>565</u>	<u>24 352</u>	
<u>Benzine</u>	As ammonia	6 794	589 672
	Paint industry	111	5 768
		<u>6 905</u>	<u>595 440</u>

<u>Toxic Substance</u>	<u>Type of Industry</u>	<u>No. of Factories Mines or Works Involved</u>	<u>No. of po- tentially exposed workers</u>
<u>Carbon Bisulphide</u>	Metallurgical	131	27 214
	Ice cream	35	1 261
	Pottery	25	27 002
	Fertilizer	22	4 557
		<u>845</u>	<u>66 398</u>
<u>Lead</u>	Tanneries	33	2 211
	Rubber & rubber pro- ducts	406	24 842
	Printing works	756	34 271
	Typesetting	7	288
	Paint manufacture	104	5 688
	Explosives & fireworks	5	4 577
	Match manufacture	6	1 212
	Agricultural remedy manufacture	22	4 557
	Brickworks	301	32 624
	Pottery, sanitary ware & tiles	5	6 001
	Glass manufacture	196	12 240
	Lead smelting	15	768
	Cable manufacture	146	19 343
	Galvanizing works	14	842
	Battery manufacture	31	3 537
	Copper alloys	39	5 677
		<u>2 086</u>	<u>158 678</u>
<u>Manganese</u>	Manganese ore works	17	5 160
	Ferromanganese works	5	1 806
	Battery manufacture	31	5 677
	Brickworks	301	32 624
	Explosives & fireworks	5	4 577
	Match manufacture	6	1 212
	Glass manufacture	196	12 240
	Rubber	406	24 842
	Paint manufacture	104	5 688
		<u>1 011</u>	<u>89 826</u>

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<u>Manganese</u>	Manganese ore works	17	5 160
	Ferromanganese works	5	1 806
	Battery manufacture	31	5 677
	Brickworks	301	32 624
	Explosives & fireworks	5	4 577
	Match manufacture	6	1 212
	Glass manufacture	196	12 240
	Rubber	406	24 842
	Paint manufacture	104	5 688
		<u>1 011</u>	<u>89 826</u>
<u>Platinum</u>	Platinum refineries	5	1 461
	Glass factories	196	12 240
	Ceramics	56	6 271
	Chemical Laboratories (unknown number)		
<u>Chrome</u>	Chrome mines	17	3 514
	Soap factories	59	6 094
	Factories using lead wastes	2 086	158 291
		<u>2 162</u>	<u>168 291</u>
<u>Vanadium</u>	Ceramic	196	12 240
	Petroleum refineries	13	2 644
	Glass factories	196	12 240
	Vanadium smelters	3	452
	<u>408</u>	<u>27 576</u>	

<u>Toxic Substance</u>	<u>Type of Industry</u>	<u>No. of Factories Mines or Works Involved</u>	<u>No. of po- tentially exposed workers</u>
<u>Mercury</u>	Leather tanneries	33	2 211
	Paint factories	104	5 688
	Potteries, sanitary ware and tiles	196	12 240
	Agricultural remedy manufacture	22	4 557
	Paper & paper products	186	29 907
	Basic chemical factories	70	13 320
	Factories in which mercury lamps, flour- escent light & mercury containing lamps are manu- factured	99	4 632
		<u>715</u>	<u>77 132</u>
<u>Zoonosis</u> ¹	Abattoirs, butcheries, meat canneries, etc.	513	28 921
	Dairy produce factories	247	13 677
	Plant & animal oils & fats & by-products of these	30	5 735
		<u>790</u>	<u>48 333</u>

(This does not include farm workers, veterinarians, stock inspectors and factory workers)

¹ Zoonosis is of course any infectious disease of animals that may affect man and not a toxic substance.

<u>Toxic Substance</u>	<u>Type of Industry</u>	<u>No. of Factories Mines or Works Involved</u>	<u>No. of po- tentially exposed workers</u>
<u>Pesticides and Insecti- cides</u>	Canning, storing, sorting, grading & packing of fruit and vegetables	107	30 503
	Handling of grain & manufacture of grain products	1 297	56 460
	Manufacture of sugar, cocoa & sweets	93	26 081
	Manufacture of wine, spirits, beer, fruit juice & cool drinks	312	24 396
	Manufacture of sundry foodstuffs	165	9 395
		<u>1 974</u>	<u>146 835</u>

(A further 2.5m agricultural workers can be added to the above total).

THE COMMISSION'S RECOMMENDATIONS

This section deals briefly with the recommendations of the Commission, pointing firstly to their inadequacy in terms of the Commission's own findings and paradigm and secondly to the way in which their recommendations highlight their ideological position.

The Commission points to an alarmingly high rate of occupational disease in industry and on the mines. This rate is probably, in fact, even higher than the Commission's findings reveal for

- i) accidents are specifically excluded,
- ii) the health of the working class community as a whole is not taken into account and
- iii) the Commission itself notes a lack of information in many critical areas.

The recommendations are surprisingly diffident. Great emphasis is laid on co-operation between workers and employers as a means of securing industrial safety and health. The mines, the railways the Departments of Defence and Industries should be allowed, the Commission recommends, to retain direct control and a large amount of discretion in health matters affecting their employees.

While the Commission emphasises the need for legislative action to be taken, even here, they see the 'over-hasty enforcement of sanctions' as being unnecessary. Rather 'advice' persuasion and warnings' should be used. They point out that there is a need for a single uniform Act covering all matters pertaining to Industrial Health. They argue that it is necessary to make it compulsory for all industries to engage industrial health staff in proportion to the number of workers they employ.

The Commission repeatedly expresses concern at the high incidence of occupational disease in terms of cost of production. Promotion of health, they argue, 'should be as important and normal as production and marketing'. A person operating at management level should be responsible for health matters and should liaise with government industrial health inspectors and workers or their representatives This would ensure that management would adhere to lawful requirements and report any serious occupational disease or problem, and also that they would consider complaints and requests by workers or their representatives in connection with industrial health problems and would thus provide 'an effective safety valve for workers' pent-up emotions'.

They recommend that it be the responsibility of management to provide medical welfare services and pre-employment and other medical examinations. These are important as they can disclose the existence of occupational disease which might save workers' lives or even prevent disease spreading or being transmitted to family or fellow-workers. The Commission continually stresses the importance of pre-employment examinations to establish where occupational disease is contracted to ensure that the responsible body contributes to compensation.

Management should ensure that working conditions are suitable and should supply industrial health equipment (ear-muffs etc.).

The Commission concludes that the onus is mainly on management, although the co-operation of workers must also be sought, but not 'solely by freely recognising pressure groups or acceding to demands'.

They point out that in Britain, since 1872 coal miners have had the right to appoint representatives to inspect the mines on their behalf. This was extended to all mines in 1954. These representatives are appointed by trade unions and have the right to inspect the mines at least once a month. The Commission identified 3 reasons why such rights should not be granted to mine and other workers in South Africa:

'Firstly, the history of trade unions in the Republic does not go nearly as far back as that of trade unions in England. Secondly, on the mines of the Republic we have various races with different norms, and these groups cannot always agree among themselves about their demands. Thirdly, a great number of our miners are blacks who come from beyond our borders. By giving trade union rights to these workers, who have little or no interest in the Republic's welfare, they may become the biggest pressure groups with the most unreasonable demands, and as aliens they may even seek to dictate labour

policy in in this country. No country could tolerate such such a state of affairs'(Page 41, para. 11 507).

Having thus severely circumscribed the role of worker organisations in dealing with matters pertaining to industrial health, the Commission proceeds to support the establishment of 'joint committees' comprising management and employees for periodic discussion of industrial health matters. However the Commission does not consider it necessary for specific legislation to be enacted providing for such joint committees. The Commission considers that 'if mutual trust is to be achieved there must be some level at which employer and employee may meet to consider the employees' work environment and health'. It sees the constitution of these committees being left for the time being to the discretion of management.

The Commission points out that South Africa is one of the few industrially developed countries without a comprehensive health system for the protection of all industrial workers and the prevention of occupational disease.

They attribute the 'lack of crises' in the industrial sphere to the 'generally sound conditions' in South African industry. This 'lack of crisis; bears out the 'esteem in which our mining industry is held and of the fairness of the compensatory legislation covering mines and other productive workers'.

In arguing the case for all industrial health matters to be placed under one single body, the Department of Health, the Commission contends that 'a large number of workers are and will continue to be indispensable citizens and it is the duty of the State to protect them against employers'.

Their argument here is essentially contradictory. While realising on the one hand the need for 'some' workers to be protected against employers, on the other hand, they

repeatedly assert the existence of good grounds for co-operation' between employers and workers in matters pertaining to industrial health. The Commission sees a constructive role for white trade unions in advancing industrial health (in co-operation, of course, with employers). At the same time, however, it is concerned that industrial disease should be controlled by employers and the State before it becomes an area of operation for 'pressure groups'. Thus far, the Commission suggests, industrial unrest has been sparked off by 'political agitators' and not by dissatisfaction with working conditions.

The Commission repeatedly expresses concern at the lack of research into diseases other than those that are dust induced. The Pneumoconiosis Research Unit (PRU), they point out, was originally commissioned in 1955, solely for research work on pneumoconiosis. In 1964, an Asbestosis Research Project was launched. With the rapid growth of industry, it was felt that resultant serious industrial health problems should be tackled and researched at a national level. This led to an enlargement of the PRU. In 1969, at the International Conference on Pneumoconiosis, grave concern was expressed over the lack of research on occupational diseases other than those dust-induced. But the Commission considers that international norms are not generally suitable for South African industry. To quote the Commission: 'Although there are international safety norms for many other occupational diseases, it is generally acknowledged that these norms are not definitive and do not hold good under all circumstances. For this reason, it would not be safe for the Republic to rely solely on international norms and it was generally felt that it was essential for the Republic to do its own research in view of the fact that its workers consisted of different races and that local conditions differed so widely from those in most other countries'.

Nevertheless it was agreed that there were 'hosts' of

industrial health problems urgently requiring attention.

In 1974, the activities of the PRU were integrated with the National Research Institute for Occupational Diseases (NRIOD), under the auspices of the Departments of Health and Mines. NRIOD does basic research which it applies to an industrial population. The Commission agrees with the Department of Mines that NRIOD should be separated from the Medical Research Council (MRC) and be integrated with the Department of Health. The Commission proposes that NRIOD as such, should disappear, and an Industrial Health Development Branch should become an auxiliary branch of the Department of Health.

The Commission thus recommends that a unified Industrial Health Inspectorate be formed within the Department of Health.

The Department of Health, they suggest, should be responsible for the determination of standards and threshold limit values to be observed by industries.

Industrial workers are subject to occupational diseases that are caused by exposure to excessive concentrations of hazardous substances over periods exceeding certain minima. However individuals differ greatly in susceptibility.

Because the origin of occupational disease is a function of the concentration of harmful substances in the environment, the period of exposure, the method of handling substances and individual susceptibility, the Commission considers it more rational to lay down maximum threshold values for various substances, than to lay down rigid fixed standards. The maximum threshold limit values for the factor environment relate to concentrations of harmful substances in the air and represent those conditions to which workers may be repeatedly exposed without harmful consequences.

However, the Commission only goes so far as to suggest

that maximum threshold limits be used as indices and not as 'fine dividing lines'

In biological monitoring, the maximum threshold limit values represent the maximum permissible quantity of hazardous substances (or metabolites produced by them) in the blood or body fluids. When the threshold limit value is reached, the worker must be withdrawn from work and given the necessary medical treatment. The object of industrial hygiene is to keep concentrations as far below these values as possible. In South Africa, there is no schedule of maximum threshold limit values for hazardous substances used in various industries. Much has been done to lower the concentration of dust in the mines, but there is still no system for determining dust concentration, the type of particles and the period of exposure likely to cause pneumoconiosis. The relative toxicity of a series of dust particles has been worked out experimentally, but can only serve as a guide.

In some cases, standards determined by international organisations are applied in South Africa, but the Commission points out that the formation of standards and threshold values for industries requires the greatest accuracy and care, not only for the protection of the worker and the public, but 'also because they have financial implications that may have serious, and sometimes disastrous consequences for an industry.

On sanctions, the Commission's recommendations are extremely mild. They recommend that the maximum threshold values for different substances serve only as guides. Thus, they foresee that litigation and prosecution will be greatly reduced. If sentences are necessary, for contraventions of industrial health legislation, they should be as 'constructive' as possible, i.e. they should take the form of suspended sentences. Industrialists should have the right of appeal.

Rather than enforcing strict sanctions, they suggest

that a system of licensing be introduced to promote industrial health. The issue of a permit or a licence could be refused or withdrawn if certain conditions pertaining to industrial health were not complied with. But licensing should be applied selectively.

SOME IMPRESSIONS OF THIS ENQUIRY

Exactly what the Commission means by 'constructive' sentences and 'selective' licensing is questionable, but it is certainly indicative of the general equivocation with which the Commission approaches the problem.

It is clear that the Commission's recommendations are very limited and the limitations stem primarily from the restrictive ideological assumptions under which they operate.

Most importantly, the Commission assumes that there is a congruence of interest between workers and employers. This is obvious in the recommendations, which are made on the assumption that workers and employers can and will co-operate in applying standards of health and safety, thus obviating the need for strict state enforcement. However, as has been pointed out earlier, the Commission implicitly contradicts this basic assumption by pointing out the need for the protection of 'some' workers against employers by a supposedly 'neutral' state.

The Commission's findings, although horrifying enough in themselves, should, however, be treated with some degree of circumspection. Health in the workplace is separated, conceptually and practically, from health in the community; in this way 'industrial health' can be separated from 'public health'. This convenient distinction enables the Commission to ignore completely the problems of workers outside the workplace. In South Africa in particular, the political institution of the 'homelands' makes it possible for employers to dismiss those problems of workers and their families which do

not relate directly to the factory or mine. Rural communities, from whence most of the labour force comes, are nevertheless profoundly affected by industrial disease in the 'industrial areas'.

Industrial and mining accidents are also specifically excluded from the report, even though, as the Commission itself points out'..... a great many accidents are so closely bound up with a particular industry that they may be regarded as acute diseases and indeed as occupational diseases'.

Another major assumption of the Commission is that some degree of disease is inevitable in production. In some cases, it considers that disease can be minimised but it rarely considers the complete elimination of disease. A striking example of this is in the mining industry, where it is probably cheaper to arrest pneumoconiosis or TB in their advanced stages. Further the Commission says in its own words: '..... in this way (it is possible to) retain the services of such workers and prevent their becoming permanently dependent on the state'. However, the Commission seems to conclude that under prevailing conditions of production, it is not possible to prevent pneumoconiosis - or most other diseases - entirely.

The important question for the Commission is not the health of the worker as it affects either the worker or his community, but the health of the worker as it affects production and the employer. Thus pre-employment checks are recommended by the Commission, partly to ensure that unhealthy workers are not employed, and partly so that responsibility for the disease can be avoided as far as possible and costs can be shifted backwards to fall ultimately on the worker himself.

In a sense the Erasmus Commission serves as an attempt to pre-empt autonomous worker organisation on the issue of industrial health. It is concerned that industrial

disease should be controlled by employers and the state before it becomes an area of operation for 'pressure groups'. So far, the Commission suggests, industrial unrest had been sparked by political agitators, and not by dissatisfaction with working condition:

'It is the Commission's considered opinion that the only dissatisfaction among black workers about their living conditions at works, mines and factories does not arise from safety or industrial health hazards or their knowledge of these matters, but is due to outside influences' (Page 7 para. 13.92).

While the Commission sees a constructive role for white trade unions in advancing industrial health it does not see this role extended to all workers. On the contrary it ascribes industrial peace to the '.... absence of black trade unions in the Republic and a striking absence of industrial organisation in certain factories....' (Page 7, para. 3.93).

The mining industry attracts little criticism and a great deal of praise from the Commission.

'The comparatively peaceful labour conditions in which the gold and diamond mines, the Republic's first major industries, could continue their operations was due to the fact that the worker's safety and health were their constant concern, and created an undeniable climate of industrial peace in the industrial life of the Republic, which overseas countries, which knew little about it, find difficult to understand'(Page 7, para. 3.84 and 3.85).

Even if the 800 annual deaths due to mine accidents are ignored, the high number of victims of dust-induced diseases surely warrant closer attention.

It is important to consider the question of why this

Commission was appointed at this time. One tentative answer is that a high and increasing incidence of occupational disease and accidents, which is impairing production - and proving a burden on the State - has itself called forth a response. The Commission itself repeatedly expresses concern at the high incidence of occupational disease, sometimes explicitly in terms of its costs to production. Furthermore, it is possible that the appointment of the commission was prompted by a concern that deteriorating working conditions might facilitate the development of politically effective "pressure groups".

FOOTNOTE:

1. "At an electroplating plant in a large printing works, the Commission interviewed an electroplater who was most dissatisfied with his working conditions. He was already showing signs of traumatic atrophic rhinitis. The preventative measures were inadequate, and according to the management's testimony this worker and his colleagues were paid a bonus as an inducement to continue working in the poor conditions" (Para. 7.245 page 21).