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Mr. Barry Castleman,
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Our ref.
Your ref.
Date 16th October 1991

Dear Mr. Castleman,

Thank you very much indeed for your kindness in sending me the photocopies, which I look forward to studying, and also details of your book, which I have ordered.

I am attending a conference on the topic in a day or two's time, and have sent in some questions, as per the enclosed draft article, which has been provisionally accepted for publication by Medicine, Science and the Law. A much reduced version should come out next month in the ALM Newsletter, and I have also sent off a letter in response to yours to the British Journal of Industrial Medicine.

Yours sincerely,

Dr. Malcolm P.I. Weller
Consultant and
Honorary Senior Lecturer

Enc. Insurance, Reinsurance and Underwriting Names' Liability for Asbestos Related Diseases.

Insurance, Reinsurance and Underwriting Names' Liability for Asbestos Related Diseases.

Introduction

The association between asbestos fibre inhalation and lung disease has been known for a long time and Pliny the Elder and Strabo described sickness in slaves who worked with asbestos. The modern history of the association and the serious cancer complications are outlined. Twenty seven years ago, encompassing the average latency of five to ten years for asbestosis to develop, American legal safeguards, based on inadequate sampling procedures, specified maximal average levels which were 25% higher than the British, during which the peak exposure, which is the critical factor, could often exceed, by official measurements, these average levels by over 400 times. Scientists and industrialists were on record as appreciating that these levels were too high for reasonable safeguard.

As the long-term effects became better appreciated, with lower exposure levels leading to greater longevity, the association with cancers of the lungs, the lining of the lungs and the abdomen became apparent. Hueper, writing in 1951, stressed that "the actual connection (between asbestosis and lung cancer) appears very likely". Hueper's views had been expressed earlier (Hueper 1943) in a paper that was considered by an executive of the Johns-Manderville Corporation (now Manville) the largest American asbestosis company (Gardner 1946).

The same concerns were expressed slightly earlier again in Canada, Norway and France, and a little later in Italy (Desmeules et al. 1941; Macklin and Macklin 1940; Wolff 1940; Lecoeur 1942; Mottura and Faggioano 1949).

There is evidence that American manufacturers were negligent in failing to protect their workforce from even the specified maximal exposure, or to inform them of the gravity of risk to which they were subjected. The result has been a flood of litigation, claiming damages to compensate victims under the general principles of liability in tort, instead of the previously used more limited and modest compensation provisions of the Workmen's Compensation Acts.

The high cost of litigation results in only 39% of a successful claim eventually being paid to victims, who may die before settlement. The same issues are repeatedly considered by Courts and the ensuing costs are sharply exemplified by Eagle-Picher Industries Inc, now in bankruptcy proceedings, whose litigation and attorneys' costs in 1989 for approximately 137,000 claims pending against it were $119.7 million. Since 1982, 10 other major asbestos companies have filed for bankruptcy due to asbestos claims.

The Court rulings, which cannot be appealed, have lead to wide-spread criticism. In essence, there has been a shift to strict

product liability to third parties for a manufacturer once his product has entered the chain of commerce and an opening up of general liability insurance policies many years after they were written to cover claims which, at that time, had not been contemplated. The entire population has become potential claimants, critics assert to compensate, retrospectively, for inadequate protective legislation, practice and health care. Yet it is impossible to insure the entire population, since it is impossible to quantify the risk, a prerequisite to setting premium rates.

The history of the recognition of the problem of asbestosis and associated malignancies, and the implementation of protective industrial techniques are informative and relevant to the fact that the global results of Lloyds of London are in heavy deficit, and worse is believed to follow. British underwriting names have been driven to bankruptcy, some having debts of £750,000 on a standard share in one beleaguered syndicate.

There are central issues to insurers and reinsurers liablity that merit further study.

Medical Issues

Asbestos is a combination of silicates of magnesium and iron. It is a versatile substance which is incombustable, is capable of being woven into fabrics and can be impregnated with a variety of substances. It is used in the manufacture of mattresses, brake-

linings, fire-proofing material, electrical insulation, jacketing boilers and steam pipes and in building products. It was used for heat insulation in 1866 and asbestos cement was introduced a few years later. There are three main types, of which the blue variety (crocidolite) is the most toxic. All three types are strong, with crocidolite being inferior in tensile strength only to steel wire. Amosite is a naturally long fibre, an important variable in the relative industrial risk, whereas white asbestos (chrysolite), which constitutes some 93 1/2% of the world production, is a very short fibre and less dangerous.

When the insoluble fibres are inhaled they remain in the body and cause progressive damage. Asbestosis, a term first used in 1924 by Cook in a paper published in the British Medical Journal, is a slow, insidious, progressive replacement of lung tissue by fibrous tissue incited by the destructive asbestos fibres. The reserve capacity of the lungs allows the development of the disorder over many years without severe symptoms, until the damage is well advanced. The pathological changes in the lungs throws a strain on the heart, which has to pump blood through the damaged lungs, and leads to congestive heart failure.

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According to Dreessen et al., whose 1938 report and recommendations (Public Health Bulletin No. 241) influenced subsequent American legislation, in cases uncomplicated by infection, asbestosis progresses by discernable stages, similar to silicosis generally. The increasing replacement of functional lung tissue

by fibrous tissue results in shortness of breath, cough, weakness and chest pain which tends to impair working efficiency. As the disease progresses further, the sufferer does not appear well, usually being considerably underweight and appearing tired and listless. The surviving functional lung areas, generally the apices, become distended (emphysema) and the pathways to them dilated (bronchiectasis and brochiolectasis), facilitating infection. At this stage detection of the condition by the traditional clinical methods of inspection, palpation, percussion and auscultation is generally possible. X-ray changes are more sensitive to early pathology and progress from an exaggeration of the normal linear markings, to granular changes caused by a fine fibrosis within the tissue spaces, aptly described by Merewether (1933) as "ground glass", a term often used subsequently. The radiological changes are characteristically more apparent in the bases of the lung, unlike the pneumoconioses induced by other silicates (with the exception of mica). Later workers have emphasised characteristic patches, "plaques", of radiographically opaque material on the lining of lung and thoracic cavity (pleural surfaces). A dry and non productive cough is common. Later severe paroxysms of coughing may produce highly tenacious sputum, sometimes streaked with blood. There is a blue tinge to the lips (cyanosis), indicating inadequate oxygenation in the latter stages of the disease. Reduced chest expansion and so called "clubbing" of the finger tips and curving of the finger nails, pathognomonic of lung and cardiac disease, are present in these cases.

The asbestos fibres migrate to other tissues where, too, they exert pathogenic effects, particularly the induction of cancers, probably, at least in part, by binding carcinogenic substances, such as the products of tobacco smoke, so that smokers are at much greater hazard. (1) The combined hazard is more than additive, so that the risk of lung cancer from asbestos exposure, uncomplicated by smoking, is increased some five times over the expected rate and the increased risk from smoking is probably elevated eleven times, but the combined effect of persistent asbestos exposure and smoking is an increased risk of lung cancer 53 times above the levels prevailing in the general population (Hammond ~~1966~~ 1979).

Stopping smoking can considerably lower the risk of lung cancer among those previously exposed to asbestos and this is an issue that touches on contributory negligence that I believe has been little explored. Two asbestos defendants have taken action against the tobacco industry in cross-complaints filled in Bell v. Johns-Manville Corp. [No. C 80-3936 RFP, U.S. Distric Court for the Northern District of Carolina] and Robbins v. Johns-Manville Corporation [No. C 319-073, Superior Court of the State of California for the County of Los Angeles.]

Footnote

(1) Any durable fibre with a length greater than five microns and a diameter less than three microns can induce cancers in

experimental animals (Stanton and Wrench 1972) and the volcanic fibre in Karain in Cappadocia , with these characteristics, does so in man (Baris 1980).

The long latency between exposure and latant disease, which may be as long as 40 years for some asbestos related diseases, creates difficulties in defining a relationship and a "long tail" to insurance claims. Knowledge of the adverse effects has been accumulating and it is relevant to outline some aspects of the literature on the subject.

Growing Insight Into The Hazards

In the Annual report of 1898 of women inspectors of factories (HMSO, 170) the microscopic appearance of "sharp, glass-like, jagged" asbestos fibres was described and "the effects have been found to be injurious, as might have been expected."

Auribault reported on numerous deaths in a French asbestos spinning and weaving mill between 1890 and 1895, publishing his findings in the Bulletin of Work Inspectors.

In "Dangerous Trades" (edited by T. Oliver published by Dutton in New York in 1902), Anderson included asbestos amongst the dusts long known as injurious to man. Scapa reviewed 30 asbestos workers who attended his clinic between 1894-1906 in his address

to the 18th International Medical Congress in Rome, the proceedings of which were published in 1908, and found rapidly progressive tuberculosis (TB) to be common.

A case of pulmonary fibrosis was reported by Murray in 1907 to the Committee on Industrial Hygiene in England with a history of 14 years work with asbestos. Series of cases of asbestosis were subsequently described by a variety of observers, including, Pancoast (1918), Pancoast and Pendergrass (1926), Cooke (1924; 1927), who had earlier coined the term, Wood (1929: 1930), Haddow (1929), Simson, Lynch and Smith (1935), Ellman (1933), Merewether (1933-1934), Lanza et al. (1935), Donnelly (1936), McPheeters (1936) and Shull (1936). More definitive studies were conducted by the Pennsylvania Department of Labor and Industry in 1935 and the U.S. Public Health Service and the North Carolina State Board of Health in 1937. The U.S. Public Health Service fully documented the significant risk involved in asbestos textile factories in a report by Dreesen et al. in 1938, discussed earlier, and urged elimination of hazardous exposure.

There is no cure and the utmost care should therefore be taken to minimise inhalation. The situation was recognised early in the UK, initially in 1917 when The British Factory Department ordered improved ventilation, and later with more stringent obligations on manufacturers to control and suppress asbestos dust, established under the Asbestos Industry Regulations of 1931. At this time world production was in the region of 340,000 tons.

In 1947, the American Conference of Governmental Industrial Hygienists, a quasi-official body responsible for making recommendations concerning industrial hygiene, issued guidelines suggesting threshold limits of 5 million particles per cubic foot of air, probably influenced by the recommendations of the Public Health Service nine years earlier (Dreesen et al. 1938).

Disquiet continued and 7% of all deaths among insulation workers were held to be due to asbestosis. The New England Journal of Medicine published an editorial in 1965 (vol. 272 pp. 590-591), insisting that "certain industrial operations using asbestos can be made safe by engineering control. In other operations this may be so difficult that substitution of a safer material must be considered."

In 1968, the American Conference of Governmental Industrial Hygienists reduced their recommended exposure levels to 2 million particles per cubic foot of air, but serious doubt exists that even the earlier, less stringent standards, were observed. In one key case (Borel v. Fiberboard et al. Sept. 10, 1973) discussed further, a worker described to the Court how, despite his earnest attempts to limit exposure, his clothes were stiff with asbestos fibres at the end of a working day.

Cancer and Asbestos Exposure

Malignancies are associated with asbestosis. In 1942 and 1943

Gloyne published abstracts of German papers linking asbestos with plural cancer, as well as lung cancer (Gloyne 1943, 1944). These abstracts were reprinted,, alongside others making similar points, in the American Journal of Industrial Hygiene and Toxicology and the Industrial Hygiene Digest, a journal which was circulated to Johns-Manderville and other asbestos companies who were members of the Industrial Hygiene Foundation.

In 1949 Merewether, the Chief Inspector of Factories, published his annual report and his finding of lung cancer in 13.2% of cases of asbestosis but in only 1.3% of cases of silicosis. Following his publication of abstracts of German papers, Gloyne published his own findings in the Lancet in 1951 of lung cancer in 14.1% of necropsies on subjects with asbestosis against 6.9% in silicates. The increased risk of the lung cancer run by asbestos workers was confirmed epidemiologically in the mid 1950s in Britain (Doll 1955). Epidemiological studies were hampered in America because necropsies were rare and illegal in some states.

In 1960 the previously rare tumour, pleural mesothelioma was found to occur relatively frequently in South African asbestos workers and many subsequent studies have demonstrated a relationship between asbestos and this tumour and also an abdominal tumour, peritoneal mesothelioma (eg Newhouse and Thompson 1965).

Knowledge of the condition and the complications were widely

disseminated in generalist journals, such as the Lancet, the British Medical Journal, and the New England Journal of Medicine, and reviews and abstracts were often reported on both sides of the Atlantic in broadly based accounts and abstracts of meetings and seminars, such as the conference entitled Biological Effects of Asbestos held by the New York Academy of Sciences on October 19-21 1964, (published in the Annals of the New York Academy of Sciences with abstracts in the Proceedings of the Royal Society of Medicine in England). There was a steady stream of publications in specialist journals devoted to industrial health and respiratory medicine, at a rate of about 30-40 papers a year during the 1960s, when world production of asbestos had climbed to around 3 million tons per annum. Dr. R. Murray, representing the Trades Union Congress, asked the Section of Occupational Medicine of the Royal Society of Medicine in 1966 whether it was certain that the proportion of asbestos being used in manufacturing processes justified the risks of asbestosis, bronchial carcinoma and mesothelioma, which were entailed by its use.

The scientific knowledge of the time was matched by the insight of industrialists. In 1964 Mr. C.G. Addlingley of British Belting and Asbestos Ltd. Cleckheaton stated, "we do not believe there is any safe limit ... we are always striving to get right down to zero ... there is no scientific basis for that limit (5mppcf) whatever ... John Wells of U.S. Rubber Co., Newnan Ga. repeated these views, "our own conclusion, as we began seeing

what was happening in our own process, was that the only safe amount of asbestos dust was zero and that the efforts in terms of achieving that lay basically in engineering, and, secondly, in education. But as far as a safe level of asbestos dust is concerned there is no safe level. The safe level is nil and anything above the safe level represents certain risks."

A 1970 Senate Report on the Occupational Safety and Health Act stated that "Because nothing has been done about the hazards of asbestos ... 20,000 out of 50,000 workers who have entered one asbestos trade alone - insulation work - are likely to die of asbestosis, lung cancer or mesothelioma. Nor is the potential hazard confined to these workers, since it is estimated that as many as 3.5 million workers are exposed to some extent to asbestos fibers, as are many more in the general population."

In 1978 the U.S. Department of Health, Education and Welfare estimated that between eight and 11 million workers were exposed since World War 11. The Commercial Union Insurance Companies estimated that 13 million workers have been exposed since the 1940s (Special Project 1983).

Initial American Legal Requirements

Despite the clear indications of serious industrial hazard, workman's compensation laws long remained defective in the US and the legal requirements were inadequate to ensure the health of asbestosis workers (Hueper 1965).

As mentioned above, in the review of the chronology of publications on this issue, levels of 5.0 million particles per cubic foot of air for daily eight hour exposure was adopted by the American Conference of Governmental Industrial Hygienists in 1947 and reaffirmed in their conference of 1964.

These levels were established on the basis of abdominal (intraperitoneal) injections into guinea pigs which "may be regarded tentatively as the threshold value for asbestos dust exposure until better data are available". Other evidence, using the same experimental technique, showed that this level was only applicable to short fibre asbestos observations and the levels were vigorous criticised as being inadequately stringent for humans. For example Shall (1965) in a conference convened by the New York Academy of Science, pointed out that the industrial plants studied manufactured textiles and the sampling procedure (impinger collection in ethyl alcohol and distilled water) included stone, cotton and other dust particles and gave only a very indirect measure of the risk of asbestosis because of the relative importance of long fibres, whereas the studies had predominantly been on supplies of the short fibre chysolite from Canada.

The sampling of subjects was biased, the numbers very small and the controls inadequate. The study was conducted for a mere five years in 333 of the 511 employees investigated, more than half of

whom were under 30, the lowest average age of any group studied by the Public Health Service at that time (for comparison the average age was 37.8 in the foundry industry). The sick were missing and the dead were buried. The 76 "controls" used for comparison were office workers in the same factories who were known also to have been exposed to asbestos dust (so great is the toxicity that merely living in the vicinity of asbestos processing (eg Wagner Sleggs and Marchand 1960; Wagner 1963) or handling the clothes of those who work in the factory (eg Hourihane Lessof and Richardson 1966) can lead to asbestosis.)

Further criticisms included the fact that the exhaust ventilation systems were not standardised and were inappropriate for scientific study. The dust count is conceived as an average but in practice this average often encompasses an enormous range, up to 211 million particles per cubic foot of air (mppcf) being recorded, and peak levels are probably highly significant because they overwhelm all defence mechanisms with huge lung retentions.

The unsatisfactory protective provisions did not eliminate any moral obligation upon employers, or commercial prudence from insurers to ensure minimisation of risk, particularly in respect of long fibre and blue asbestos, and special precautions for the particularly vulnerable population of smoking workers, or their elimination from the workforce. Certainly some companies were alive to the problem. Hoffman (1918) pointed out the probable hazards of asbestos dust and persuaded the Prudential Insurance

Company of Boston to discontinue issuing policies to asbestos workers. Later an epidemiological survey of asbestos workers was initiated by the Metropolitan Life Insurance Company of New York (Lanza McConnell and Fehnel 1936).

The majority of industrialists were not responsive to the widespread knowledge in the public domain to take proper precautions to safeguard adequately the health of employers. Evidence was adduced that during the period 1936-1969 no American manufacturer of asbestos containing products ever warned contractors or insulation workers of the dangers associated with inhaling dust or informing them of the American Conference of Governmental Industrial Hygienists's threshold limit values (Borel v. Fiberboard et al. Sept. 10, 1973).

Further Evidence of Hazard

Evidence of serious hazard continued to accumulate. In a survey conducted of 115 deaths amongst asbestosis workers over the years 1931-1949 the mean age of death was 46.5 years. At that time tuberculosis (TB) claimed many, but pulmonary carcinoma affected 14.8% and abdominal malignancies 6.0% (Wyers 1949).

Following his published report in 1960, at the International Congress on Occupational Health in 1963 Wagner reported on more than 120 cases seen since 1956 (Wagner 1963). The extreme toxicity of the virulent dust is so great that more than half the cases he described never worked in the asbestos industry, but

simply lived near the mines and mills. As suggested by this observation, in Wagner's series tumours were found after comparatively low doses, probably because the survival from compromised lung and cardiac performance was longer in this group.

TB was becoming increasingly uncommon and the overwhelming exposures seen in earlier days was largely avoided, thus survival was increasing and the incidence of cancers was becoming more apparent. Accordingly, in a later series of 71 deaths spanning 1957-1964, pulmonary carcinoma had risen to 36.6% and primary malignancies of the lining of the abdomen (the peritoneum) had risen from 0% in Myers 1949 report to 18.3% (Smithers 1965)

In a survey published in 1965 of 1522 men working in the insulation industry, it was concluded that "asbestosis and its complications are significant hazards among insulation workers in the United States at this time". 339 out of 392 workers in the industry followed up for 20 years had asbestosis. Lung cancer was 7 times higher and gastrointestinal cancer 3 times increased (Selikoff 1965). Selikof had emphasised the association in the preceding year in a publication in the widely read Journal of the American Medical Association (Selikof et al. 1964) and emphasised that his data do not give an indication of incidence, since he had studied a group of men in the insulation trade, with only intermittent exposure to materials containing limited amounts of asbestos, in a trade with a short working week, working in

variable conditions, including the open air, with results relating to the relatively recent past. In the same paper, he and his colleagues drew attention to the hazard of environmental exposure, reviewing five papers from South Africa, Britain, and Finland.

Tighteneing of American Legal Requirements

In 1968 the American Conference of Governmental Industrial Hygienists revised their guidelines, suggesting threshold limits of 2 million particles per cubic foot of air, instead of 5 million.

Discussion

In American law, a seller has a responsibility to inform users and consumers of dangers which the seller either knows or should know at the time the product is sold. Manufacturers' failure to provide such warnings renders them liable to damages.

It is estimated (Einthoven and Kronick 1991) that despite nearly 15% of the gross national product being spent on health, 40 million American citizens have no more than Third World care. Against the difficulty the average citizen has in obtaining care for chronic disorders, with inadequate benefits from public assistance programs and the workmen's compensation system (which would generally result in a disability pension based on a percentage of weekly income), claimants have turned to the tort

litigation system in increasing numbers, with up to 25,000 plaintiffs claiming off more than 260 defendants in 1981. "The tide ... continues to rise unabated and has not begun to crest." (Summary of the Report of the Judicial Conference 1991). Predictions have been made of 200,000 asbestos disease deaths before the year 2000 and as many as 265,000 by the year 2015 (MacAvoy et al. 1982).

American Courts have responded with awards against insurers for asbestos related risks, with interpretations of the original policy wordings which stretch credulity, and call in question the quality of justice, which seems tainted by considerations of social engineering. In essence, there has been a shift to strict product liability to third parties for a manufacturer once his product has entered the chain of commerce, and an opening up of general liability policies, seemingly to compensate, retrospectively, for inadequate protective labour health legislation, practice and health care.

The trials are complex and expensive. In the Cimino v. Raymark Industries trial in the Eastern District of Texas [Civil Action No. B-86-0456 CA (E.D. Tex.)]. during the pendency, the court signed 373 pretrial and trial orders, there are 529 pages of docket sheets and over 3,000 depositions were taken. The trial transcript contained 25,348 pages, 271 expert and 292 fact witnessess testified, and 6,176 exhibits consisting of 577,000 pages were received in evidence. 58 lawyers participated in the

133 days of trial, during which 488 of the original plaintiffs died and at least seven of the defendants had declared bankrupcy. In a smaller case, Reeves v. American Export Isbrabdsten [N. Dist. of Ohio, Civil Action Nos. C86-2330, C86-821, C86-2559, C86-4601.]. involving only four plaintiffs, the smallest number of lawyers in the courtroom at any one time during the trial was 41 and the maximum 58. There were 100 lawyers listed as counsel of record in the Brooklyn Navy Yard asbestos trial in the Southern District of New York.

Against these figures, it is hardly surprising that the costs of litigation exceed victims' recovery by nearly two to one and future claimants may lose altogether because of exhaustion of assets. "The picture is not a pretty one. Decisions concerning thousands of deaths, millions of injuries, and billions of dollars are entangled in a litigation system whose strengths have increasingly been overshadowed by its weakness." (Hensler et al. 1985)

Underwriters twenty or more years ago apparently did not perceive any great risks from asbestos related claims. Premiums were low and reserves inadequate. This was despite the fact that knowledge was available in the medical literature, including Journals of Industrial Medicine, Proceedings of International Conferences on Asbestos related diseases, and in the General Medical Journals, despite the presence of legislation governing exposure levels, because of the perception of the problem by Governments in America and Britain, and despite the knowledge of

industrialists and at least some insurance companies. Nevertheless, they had no reason to expect that their policies were going to be interpreted to mean that they were insuring the entire population.

Now the insurance industry is suddenly called upon to to cover incurred and anticipated liability on the "interpreted" meaning of the original wording. The U.S. Judicial Conference Ad Hoc Committee on Asbestos Litigation (1991) lately reported that it "believes it to be inevitable that, unless Congress acts to formulate a national solution, with the present rate of dissipation of the funds of defendant producers due to transaction costs, large verdicts, and multiple punitive damage awards, all resources for payment of these claims will be exhausted in a few years."

An essay focussed on a particular industrial hazard may well seem to advance that problem to a more prominent position than is merited. Historically, other industrial hazards preoccupied scientific and commercial interests; amongst the lung diseases tuberculosis, coal miners' pneumoconiosis and the general problem of silicosis for a long time eclipsed the specific silicosis problems of asbestosis. Bladder cancer in the chemical industry and skin cancer in the cotton industry competed for peoples' time and attention. Nevertheless, it is reasonable to expect that those concerned with mining or processing asbestos should have been alert to the growing body of medical opinion that, first

tentatively and then authoratively, established links between asbestos fibre inhalation and serious diseases. In 1964 Selikof considered that his alarming results were tempered by the fact that they were obtained "in an era when industry has been aware of potential asbestos hazard". Similarly, one would expect that underwriters would take some interest in literature pertinent to the risks they are covering. Intelligence gathering in medicine is greatly facilitated by the excellent Index Medicus and it is simple to consult this publication for a comprehensive annual survey of the world literature. Journals of Industrial Medicine might reasonably be consulted by the medical staff of major concerns and one at least is known to have been subscribed to by several asbestos producers.

It is impossible to draw a sharp line in time to say when a particular viewpoint has become ingrained in the consciousness of those intimately concerned with the issue. What is clear, however, from a reading of the major journals and abstracting services, is that a Nelsonian eye seems to have long been turned towards the mounting evidence of industrial hazard. In his evidence to the Court Dr. Clark Cooper, an expert witness for the defence in Borel v. Fiberboard et al. 1973, testified as follows:

"Q, The state of knowledge in the 1930's, lets say, in your opinion was asbestosis as a disease known about and recognized as a danger caused by inhaling asbestos dust?

"A. Yes.

Q. And would you say that would have been rather common knowledge in the 1930's?

"A. Yes, I would say that. The answer to that would be yes."

clearly indicating that the hazard was appreciated.

One of the criticisms made by the Appeal Judges in Borel v Fibreboard was that manufacturers did no research into the hazard, "no manufacturer ever tested the effect of their products on the workers using them ..." It would appear that their behaviour was more reprehensible than this, and it would seem that they actually sponsored research, albeit (properly) on animals, and then supressed publication of the (unfavourable) outcome (Brodeur 1985; Huncharek 1990; Castleman 1990).

Legal safeguards, which sluggishly responded to the scientific understanding, seem to have been outrageously flouted. This is the view of the Courts that have indignantly awarded punitive damages to claimants, very nearly $5billion dollars between 1980 and 1982 (Rand Corporation 1984). In an asbestos case tried in the U.S. Virgin Islands in the Autumn of 1990, the verdict included a $25 million punitive damage award to one plaintiff against one defendant. The total verdict was $26.3 million (see Washington Post, B1, B4 November 29th 1990).

The American Government accepted its culpability in the Naval shipyards during World War 11, when the war effort condoned unsafe practices (cf PPG Industries and Corning Glass Works, Distric Court for the Eastern District of Texas, 1978). It seems ironic that insurers should be called upon to pay punitive damage awards that arise because manufacturers flouted appropriate safeguards and hazarded mens' lives for commercial gain, and worse, that they seemed to suppress proper research findings that went against their perceived interests (cf Brodeur 1985; Huncharek 1990; Castleman 1991), thus seriously jeopardising their claims by breaching the principle of "utmost good faith" implicit in all insurance contracts; "in the light of information obtained through legal discovery proceedings in hundreds of asbestos lawsuits it is undeniable that leaders of the asbestos industry conspired to misinform both the public and the scientific community about the dangers of asbestosis" (Huncharek 1990).

It is doubly unreasonable that reinsurers should be called upon to meet the negligence of the primary insurers when they failed to ensure that their commercial interests were reasonably protected, and themselves failed to heed the readily available knowledge of industrial hazard.

Most of all, it is remarkable that Lloyds names should be held personally liable when so many on whom they rely appear to have failed in their duties of care.

To exemplify the cavalier attitude to safety, in the key case (Borel v. Fiberboard et al. Sept. 10, 1973) Borel was diagnosed as suffering from asbestosis by a doctor employed by an insurance company. Borel protested that basic safety equipment, like masks initially were not available and then had to be specially requested and were intolerable for prolonged wear. He stated that his clothes were stiff with asbestos dust at the end of each working day, when legal ventilation requirements limited dust exposure to levels where this would have been impossible.

Commercially, it would have been prudent to have insisted on the manufacturer adopting the necessary safety procedures and to have excluded Mr. Borel from further cover, as it would have been prudent to have excluded all other employees so affected, and particularly all those who were smokers. Borel, pitifully, but convincingly stated that he did not know what asbestosis was and the Court concluded that the manufacturer's warnings were totally inadequate. It is debatable whether reinsurers on the other side of the Atlantic should be held liable if proper precautions failed to be taken because the original insurers were negligent in their duty. However, until the Outhwaite syndicate recently protested its reinsurance liabilites on the basis of inadequate disclosure such matters have never been addressed.

Outstanding questions regarding names liability are:

(i) if manufacturers well knew the inevitable consequence of

not complying with legal safeguards and yet failed to do so, should claims have been made on insurers since the outcome could not be regarded as fortuitous? Indeed, recent American judgements, in relation to pollution claims (the Shell Oil trial in California and the Diamond Shamrock trial in New Jersey) reinforce the concept that a fortuitous outcome is a central requirement of a viable insurance contract.

(ii) if manufacturers failed to disclose information in their possession germane to the risk, whether they have breached the fundamental requirement of "utmost good faith" and prejudiced their contracts of insurance.

(iii) whether primary insurers were liable for illegal industrial practices and properly paying awards of punitive damages.

(iv) whether primary insurers sought to minimise their risk by insisting on prudent industrial practices, and if they did not whether they exercised due diligence.

(v) whether insurers or reinsurers sought to stratify the known risks, e.g by raising the premium for smokers and workers with already established lung disease, or

excluding them from their policies?

Envoi

It has long been known that workers with nickel carbonyl (nickel refiners), arsenic (weed killers), haematite quarry workers and persons working with chromates all have a high incidence of lung cancer and it is obvious that such workers too require very carefully controlled working environments.

Malcolm P.I. Weller.

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