Kuhn

BUREAU OF HYGIENE AND TROPICAL DISEASES.

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other tests, the men who had not been driving since sleep had the best score, and those who had been driving for 10 or more hours, the worst.

The British investigations referred to concern chiefly the experience of the Health of Munition Workers Committee, and to the effects of instituting rest pauses. In addition, the importance of adequate nutrition is stressed, and it is pointed out that deficient diets may be responsible for mental depression, indigestion, fatigue, retarded learning ability, and interference with vision. At present there are, in the U.S.A., thousands of workers under greater strain and activity than they have experienced for years, without organized effort to improve their food supply.

The U. S. Public Health Service has recently made a statement on the Workers' Health and the Twenty-four-hour Schedule, which contains a number of unexceptionable pronouncements, but its conclusions on the change-over of night shifts contradict the extensive evidence obtained by the Health of Munition Workers Committee. The U. S. Public Health Service maintains that day and night shift workers ought not to change over every two or three weeks, as they find it difficult to adjust their eating and sleeping habits. They should therefore change over every two or three months. The Health of Munition Workers Committee recommended that they should change-over *every week*, for the great majority of workers, when on night shifts, never get quiet and undisturbed rest during the day; but any loss of sleep then experienced can be made up for in the alternate day-shift weeks [see this *Bulletin*, 1941, v. 16, 6]. This weekly change-over is the almost universal custom in continuous processes such as are met with in the iron and steel industry.

H. M. Vernon.

KUHN, A. Erkrankungen der Werftarbeiter der Kriegsmarinewerft Wilhelmshaven unter besonderer Berücksichtigung der Betriebsunfälle und Berufskrankheiten. (Eine Uebersicht ueber die Jahre 1930–1938.) [**Illness among Dock Workers at Wilhelmshaven, with Special Reference to Industrial Accidents and Diseases** (from 1930 to 1938).] *Arch. f. Gewerbepath. u. Gewerbehyg.* 1940, July 29, v. 10, No. 2, 133–50. [30 refs.]

The total number employed at the naval base of Wilhelmshaven rose from 11,901 (5,942 dock labourers and 5,959 otherwise employed) in 1930 to 31,193 (16,531 dock labourers and 14,662 otherwise employed) in 1935.

General ill-health.—Influenza accounted for 19·3 per cent. of illness among dock-workers, and 18·5 per cent. of those otherwise employed. This high incidence is explained by large aggregations of workers in a small space, unaccustomed and severe weather conditions, etc. *Catarrhal conditions of the upper respiratory tract* accounted for 16·3 per cent. and 14·7 per cent. respectively; *rheumatic disorders* for 8·1 per cent. of both groups. *Tuberculous and suspected tuberculous* cases totalled 438 between 1930 and 1938. *Disorders of the heart and circulation* (65 per cent. in men aged 50–60, 20–25 per cent. aged 40–50 and 10 per cent. aged 30–40) have increased during recent years, partly on account of the employment of older or previously unemployed men. *Nervous disorders* accounted for 6·5 per cent. of all cases of illness and *gastro-intestinal disorders*—acute and chronic gastritis, gastric and duodenal ulcer—for 12·5 per cent.; factors responsible included constitutional weakness, excessive use of alcohol and tobacco, irregular meals, lack of hot mid-day meals and of domestic amenities.

Accidents.—General incidence was as follows:—

	1933	1934	1935	1936	1937
Average number of workers	13,876	18,853	23,458	28,910	35,311
Accidents during work	2,562 18·4%	4,047 21·4%	4,903 20·9%	5,252 18·1%	5,456 13·6%
Accidents during transport to and from work	112 0·8%	110 0·6%	199 0·9%	259 0·9%	387 1·0%

	1933	1934	1935	1936	1937
Fatal cases	4	1	9	4	6
Completely incapacitated... ...	1	—	—	—	—
Partly incapacitated	20	39	18	38	72

Daily incidence, highest on Monday and lowest on Friday and Saturday, was ascribed to the workers' habit of using Sunday as a day of pleasure, with much alcohol consumption. *Incidence according to the nature of the work* was highest among builders' labourers, followed closely by transport workers.

Ambulant cases treated at the first aid station constituted 57 per cent. of the whole working population, but this high figure included all minor injuries; only about one-third required hospital or special medical treatment, while only 11·7 per cent. suffered from even temporary incapacity for work.

Eye injuries, especially foreign bodies, accounted for one-third of all accidents.

Industrial Diseases showed a comparatively low and not increasing incidence (see table below).

Lead Poisoning occurred less frequently than before 1920, owing partly to the cessation of shipbreaking operations, partly to decrease of the use of lead-containing paints. Preventive measures included careful choice of workers (young and weak persons, alcoholics and hypertensives being excluded); provision of extra milk; prohibition of smoking and eating in the workshops. *Respiratory catarrh* occurred in casting operations, and was especially due to sand and metal dust arising during cleaning and polishing of casts. *Asbestosis* occurred in only one case; asbestos is now little used as an isolation material. All asbestos workers are clinically and radiologically examined every six months and removed from exposure after two years. *Poisoning by benzol and its homologues*—Preventive measures include good ventilation, careful choice of workers, and blood examinations at least every six months. *Dinitrobenzol*, di- and *tri-nitrotoluol* caused no severe cases of poisoning; no blood changes were observed. Skin lesions, especially of the hands, occurred in workers using the aromatic nitro-compounds. Yellow pigmentation was due to picric acid. Hygienic measures included daily baths, daily change of clothing, exclusion of workers with sensitive skins.

Mineral oils.—Vomiting occurred in a few cases among oil tank workers; these were often found to be allergic to the smell of certain oils. Preventive measures against skin lesions included the provision of barrier creams.

Pneumatic machine injuries, characterized by changes in the joints, and necrosis of the wrist bones, were confirmed by X-ray examination in only one case (described in detail), though 22 per cent. of 118 workers investigated complained of subjective symptoms. Vaso-motor disturbances (pallor and "deadness" of the fingers, especially of the left hand) were found in 62 per cent. of these workers. (See also this *Bulletin*, 1931,

Workers receiving Compensation.

	1930	1931	1932	1933	1934	1935	1936	1937	1938
Incapacity due to:—									
Lead	2	2	1	—	2	—	—	6	1 (1)
Manganese	—	—	—	—	—	—	—	—	—
Benzol and its homologues... ...	—	—	2	2	7	16	34 (2)	4 (2)	2 (1)
Aromatic nitro and amido compounds	—	—	8	—	—	—	—	50	+3 (1)
Halogenated hydrocarbons... ...	—	—	—	—	—	—	—	2	3
Carbon bisulphide	3	—	—	—	—	—	—	—	—

	1930	1931	1932	1933	1934	1935	1936	1937	1938
Chronic skin lesions from galvanising	—	—	—	—	—	1	3	—	—
Asbestosis	—	—	—	—	—	—	—	1 (1)	—
Severe skin lesions, necessitating change or cessation of work... ...	—	—	—	—	—	—	—	2	2
Chronic skin lesions from mineral oils, tar, etc.	1	—	1	—	—	2	—	8 (1)	3
Compressed air injuries	—	—	—	—	—	—	—	1	—
Infectious diseases	—	—	4	4	—	1	1	3	6

v. 6, 25, 321; 1933, v. 8, 399; 1938, v. 13, 273.]

The high incidence of accidents and infectious disorders shown in this review is ascribed to the variable and unstable conditions of work and living, which require constant attention to hygiene and sanitary measures; the low incidence of industrial diseases shows the success of such measures where they can be fully carried out. *Ethel Browning.*

LEINOFF, H. D. **Acute Coronary Thrombosis in Industry. I. Direct Nonpenetrating Injuries, with Report of Cases.** *Arch. Intern. Med.*, 1942, July, v. 70, No. 1, 33–52, 4 figs. [Refs. in footnotes.]

A series of 18 cases is reported in which symptoms resembling those of acute coronary occlusion followed direct non-penetrating injuries of the chest and in which electrocardiograms revealed changes associated with myocardial damage. Some of the patients recovered entirely but most showed a residual cardiac disability. The great majority were over 40 years of age. The series illustrates the difficulty in arriving at a decision, for compensation, whether or not the disability is to be attributed to the injury. The possibility of heart damage should always be borne in mind in cases of chest injury and electrocardiograms should be taken. The author stresses the importance of the history first obtained from the patient since the needs of the moment and not future benefits are then uppermost in the patient's mind.
R. T. Grant.

HYGIENE, DISEASES AND ACCIDENTS OF SPECIAL INDUSTRIES AND OCCUPATIONS.

MEIKLEJOHN, A. **Some Medico-Legal Aspects of Silicosis.** *Medico-Legal & Criminol. Rev.* 1942, Apr., v. 10, No. 2, 78–86.

In the Workmen's Compensation Act, 1906, certain industrial diseases were included in the Third Schedule, and power was given to the Secretary of State by Section 8 to add other diseases to the Schedule. A Departmental Committee appointed to consider what further diseases could properly be included, reported that fibroid phthisis was a specific and sufficiently distinguishable trade disease, but that there were serious difficulties in recommending its inclusion in the Schedule. In 1918, therefore, an additional Act, The Workmen's Compensation (Silicosis) Act was passed, giving power to the Secretary of State to make schemes for compensation of workmen in any specified industry or process involving exposure to silica dust, who should be certified in a prescribed form as suffering death or disablement from silicosis or silicosis and tuberculosis.

The first Scheme to provide compensation was that applied to the refractories industries in 1919. No compensation was payable, however, under this scheme in respect of silicosis accompanied by tuberculosis, except under certain specified circumstances, but a Departmental Committee which subsequently investigated the working of the Scheme recommended that silicosis with tuberculosis should be included. The Committee also recommended the establishment of a Medical Board on the lines of the South African organization to carry out medical examinations and issue certificates. A number of Acts were subsequently passed consolidating the position, and in 1931 compensation schemes were put into operation for the refractories, sandstone, metal grinding and various other industries. Since then further amendments and extensions have been enacted and now there are briefly two kinds of scheme:—(1) those (*e.g.*, the Refractories and Sandstone Schemes) in which a Compensation Fund has been set up for the industry with the co-operation of the employers in the industry, out of which the compensation due under the Scheme and other expenses are paid; (2) those (*e.g.*, Metal Grinding Industries and Various Industries Schemes) where the liability is placed, as under the Act, on the employer who last employed the workman in the process.

These schemes apply to certain occupations and processes and to them only. Moreover it has been held by the Court that the words used in describing the processes specified in the scheme are to be interpreted in the technical sense in which they would be understood in the trades concerned and not in the wide sense in which they might be understood by the general public. Furthermore, the schemes are limited as to date of application and of time relative to the date of injury. These details constitute a "legal title antecedent to a claim for compensation." In the same way a medical title to compensation must be established. Every certificate of compensation issued by the Medical Board must be on the authority of not less than two members of the Board, which consists of a Chief Medical Officer and eight other medical men constituting four panels operating in different areas. Salaries and expenses are defrayed by a Medical Expenses Fund established under the Scheme and administered by Trustees appointed by the Home Secretary. The total expenditure incurred in this way is about £18,000 per annum. The decision of the Medical Board as to the issue of a certificate is final and conclusive. The medical officers are impartial, acting judicially; where two members who have to sign a certificate are not agreed the case must be referred to