

to stop the industry's decline. Reorganization, with the establishment of new plants in distressed areas, did much to relieve the situation and was of the utmost importance in meeting the sudden increase in demand during the recent war. Recommendations to bring plant up to date, provide additional furnace capacity and rolling mills, and modernize iron foundries were made in 1945 by the Federation and the Joint Iron Council as a means of increasing production and overcoming the serious shortage of labour. Although it is difficult to differentiate between the iron and steel industry and the metal and engineering trades, the former is essentially concerned with the manufacture of steel ingots, plates, and castings and the production of iron castings. The initial process is the production of pig-iron from the smelting of iron ore, and a description is given of the working of a blast furnace. The various processes used in the manufacture of steel—the Bessemer, the open-hearth, the crucible, and the electric-arc furnace—are also described, and attention is drawn to the health hazards involved. The physical demands of the industry are heavy and are not improved by the environmental conditions under which some of the work has to be performed. Recommendations made in 1947 by the Joint Advisory Committee included: (1) provision of better amenities and more comfortable and healthy working conditions; (2) improvement in the appearance of iron foundries; and (3) improvement in atmospheric conditions by prevention or removal of dust, smoke, and fumes.

Compared with other industries the accident risk is

significantly high, particularly in respect of accidents due to handling goods, to gassing, and to molten metal or corrosive substances. Certain industrial diseases are especially frequent in the iron and steel industry. In 1937 the industry was responsible for 82% of cases of industrial cataract and 100% of cases of nickel-carbonyl poisoning notified, while tenosynovitis of the wrist, "beat hand", "beat knee", and "beat elbow", which are predominantly diseases of miners, are found to a moderate extent in heavy metal workers. Carbon monoxide gassing is a constant source of danger in blast furnaces, and the smelting of metals may also produce the hazards of carbon dioxide, sulphur dioxide, hydrogen sulphide, and, occasionally, arsenious oxide poisoning. Steel dressing and the cleaning of castings with hand tools produces a dust of silica particles from the sand in the moulds, and, until a harmless substitute is found for making moulds, the risk of silicosis will continue. Sand blasting used to constitute the chief silicosis hazard, but this has been greatly reduced by replacement of the sand by steel shot. There is an increased liability in the industry to respiratory and rheumatic diseases, due probably to the environmental factors of rapid changes of temperature and exposure to weather, and to the heavy nature of the work, as well as to the irritant matter inhaled in the form of dust and fumes. Many occupations in this industry show significantly high death rates from cancer of the lungs and respiratory passages, and the author suggests that the frequent breathing of hot air and gases may, in itself, be harmful and capable of producing tissue changes.

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**Correction.**—Dr. Buckell writes: "I am very sorry an error has got through all our checking. In my paper on 'The Toxicity of Methyl Iodide' [July, No. 3, Vol. 7] line 43 (first column) page 123 should read '0.15-0.22 grams per kg. body weight.'"