on account of silicosis in the 1932–42 period. Congestion of operations, due to great demands on capacity, has been credited with increasing the number of silicosis cases by raising the concentration of dust-producing operations per unit of shop area. A committee appointed to study the situation recommended: (*1*) no silica should be used in parting compounds; (*2*) no sand should be used as an abrasive in "sandblasting"; and (*3*) no person under 18 should work as a sandblaster, in repairing a sandblast plant, or within 20 feet of such a plant. Consideration was given to prohibiting the use of free silica in molding material as well as silica paint on cores. Certain of these regulations appear unnecessarily drastic and do not take into account the possibilities of engineering control.

E. R. A. Merewether, Senior Inspector of Factories in England, recognized this lack of engineering interest and skill when in 1942 he told an American Public Health Association audience that the time had arrived when "the doctor no longer knows everything about everything" and conceded American leadership in industrial hygiene engineering. Merewether urged the English chemists to instigate the formation of a society for "the holding of annual conferences and the publication and distribution of papers and literature on the subject of industrial health and safety,"[7] much as is done by our own American Industrial Hygiene Association and to a limited extent by the American Public Health Association. The British Occupational Hygiene Society was established on April 27, 1953, and held its first conference in November of the same year.

B. RUSSIA

C.-E. A. Winslow, who visited Russia in 1917 and again in 1936, reported major advances in public health in that country. Emphasis had been placed on the health of industrial workers. Scientific studies of many occupational hazards and of means of promoting industrial health have been conducted by various research organizations, of which may be mentioned the Institute of Industrial Diseases in Moscow, the Central Institute for Nutrition in Moscow, Pavlov Institute, the Leningrad Institute of Safety, Hygiene and Technique, and States' Scientific Institute of Labor Protection.

The Soviet state has given special attention to questions involving better labor conditions, looking toward the highest possible efficiency and production, as well as the mental and physiological well-being of the workers. Early permissible standards for air pollution in factories tended to be ultraconservative on the side of safety, and rather severe standards for industry to meet. Various motives have been suggested as having contributed to the zeal of industrial hygiene investigators. Later, however, some standards were modified to conform with experience, and there have been indications that in general the requirements have been made somewhat less rigid.[8] For instance, the maximum limit for carbon monoxide was

[7] *Chem. Age (London)*, **53**, 353 (1945).
[8] A. Metsatunyan, *Hyg. and Sanit. (USSR)*, **10**, 23 (1943).

0.02 mg. per liter, and is now 0.04 mg. per liter (approximately 35 p.p.m.), methyl alcohol was 0.03 mg. per liter and is now 0.07 mg. per liter (approximately 52 p.p.m.), ethyl alcohol was 1.0 mg. per liter and is now 1.5 mg. per liter (approximately 800 p.p.m.). Amyl and other alcohols, however, that were 1.0 mg. per liter are now 0.5 mg. per liter (approximately 280 p.p.m. amyl alcohol and 330 p.p.m. butyl alcohol). This trend, along with our own general trend downward, indicates that we may possibly reach common ground for some if not most of our thinking in regard to what constitutes a permissible and what a potentially harmful exposure. The disparity of standards for outdoor air may be somewhat greater.[9] We have seen good information resulting from research into the control of industrial health in Russia and we hope to see the iron curtain lifted sometime in the future. A free exchange of ideas among all countries regarding industrial hygiene is sure to benefit each participant.

C. GERMANY

In Germany in the year 1928 the task of collecting material and making practical observations in industrial hygiene was entrusted to the Medical Committee of the German Society for the Protection of Labor. A literature search was conducted as well as experimental investigations of the most important organic solvents. The German Health Office was established as a clearing house for information regarding chemical composition of solvents and the etiological factors of illness resulting from their use. The inspectors of factories were men with medical training but without engineering training, and as a result the control measures were largely of a medical nature. It has been stated by one of these factory inspectors that it was easier and more routine to obtain biological specimens, including blood samples, from workmen than to obtain samples of air. The literature on the results of pharmacological and toxicological investigations, upon which much of our present practice is based, is replete with such names as Flury, Funner, Koelsch, Köster, Lehmann, Müller, Wirth, Zanger, and Zernik. Priceless instrumentation, records, and intellect have been reported lost as a result of World War II. Many rules and regulations for industry have been developed over the years and are presently applied in West Germany to the use or manufacture of certain chemicals, the conduct of specific operations, or workrooms below ground. These numerous regulations are pointed toward medical examinations and mechanical safeguards for the control of any exigency rather than toward the engineering control of the environment to conform with hygienic standards. The regulations are enforced by a host of factory inspectors.

D. OTHER COUNTRIES

Not only have many of the countries of Europe, Asia, and Latin America sent selected personnel to study industrial hygiene techniques in the United States

[9] V. A. Riazonov, *Sanitary Safeguarding of Atmospheric Air*. Moscow 1954. Reviewed by F. S. Mallette, *Smog News (ASME)*, No. **54**, 2 (November 30, 1955).