

pressing safety problems in the industry may, in part, be responsible for submerging any concerted interest in health problems. While no attempt is made here to detract from the important responsibility for accident prevention in the industry, it is time that programs in work-induced disease prevention begin to receive the attention they deserve. High accident frequencies cannot, by any stretch of the imagination, justify a lack of interest in healthy working conditions.

Our first conclusion—there is a basic need to recognize that construction workers are now suffering job-induced diseases and that new diseases will emerge with advancing technology.

To the casual observer or even a member of the industry itself, it is reasonable to believe that occupationally-induced diseases in construction work are not a problem. The crafts have long histories of working outdoors in the fresh air with hammers, shovels, and other tools which have in the past traditionally presented safety problems, but not health problems.

A look at the Federal or State health statistics appear to support this concept: not because there is a lack of problems, but because neither the Federal government nor the states—with the possible exception of California—keep any statistics on the subject. When no disease is reported, it is natural to conclude that none exists. However, what appears as no problem is, in reality, no information on the problem.

Experience in California supports this conclusion. In recent years, physician's reports of occupational diseases among construction workers have been coming into the State Health Department at approximately twice the average rate for all California workers. Since 1949, when recording began in California, this rate has been continuously among the three highest of all the major industries. The diseases involve the skin, the lungs, systemic poisonings, hearing loss—essentially the whole range of illnesses normally believed to lie in the exclusive province of factory workers.

Field investigations suggest that more is to come. For example, an estimate based on hearing tests conducted at construction sites by fully-qualified audiologists indicates that some 20,000 heavy equipment operators now working in the state have permanent noise-induced hearing loss. The trend toward

larger, faster, and more powerful equipment, designed without consideration for the long-term health of the operator, is expected to intensify this hearing loss problem. It also is expected to introduce silicosis for the first time as a disease of the operators of dozers, power shovels, and front-end loaders.

The equipment operator is not alone in facing these health hazards. The recent replacement of the plasterer's conventional trowel with a spray nozzle has introduced serious hearing loss problems insofar as the plaster guns that we have measured are concerned. Further, the gun application of asbestos-containing fireproof coatings continues without control and without concern. Yet, data coming in regularly from studies of men working around asbestos dust leave very little doubt that the gun operator and other craftsmen in the area are being subjected to the risk of asbestosis and lung cancer.

There are many more examples. Plastic adhesive and surfacing materials have made life an itchy nightmare for the tile setter and the cement mason. It is important to realize that much of this skin disease is accompanied by a permanent allergy to the epoxy resin hardener used in the process. The slightest further exposure to the hardener brings on a repeat case of the itch and the man is permanently disabled for any further work with the plastic.

Another example involves today's welder. There was a time when very little except ordinary steel was found on a construction job. An unprotected welder could work with very little hazard from fumes. Alloys are changing this. For instance, inhalation of the fumes from manganese steel will produce an illness which closely resembles Parkinson's disease. Consider also that nickel, cadmium, vanadium, and some other metals are toxic by inhalation.

It is clear that the pick and shovel are gone, and along with them went the fresh air and the iron man. The construction industry has entered the era of machines and chemicals, and it should recognize this.

A second conclusion—it must be recognized that the methods which have been developed for the protection of the factory worker may not be feasible on a construction job.

Most of the occupational health literature and practically all of the preventive methods in use were developed with the factory