

This is particularly dramatized by the experience of the cement masons, where labels are often so vague as to make it impossible for them to determine whether the surfacing material they are expected to apply on a particular job is a dermatitis-causing epoxy, a bronchospasm-causing urethane, or a relatively safe polyester.

The noise and label problems are straightforward. They follow the textbook closely. Others may not be so simple because of the mobile nature of construction work. Solutions to these will require imagination and money. Ideas from the space program are sure to be useful and we expect to see exploitation of the controlled individual environment in the form of air-supplied suits for plasterers, cement masons, and welders; and air-conditioned, noise-and dust-tight capsules for heavy equipment operators. Standards, once set, can make these easily accessible at mass-produced costs.

The logical approach is to accept the responsibility and begin to develop some standards that can be put into contracts and equipment purchase orders; otherwise the industry faces attrition of skilled manpower, higher compensation costs, hazard pay, and if the problem gets bad enough, the inevitable application of the ill-fitting industrial cookbook to these construction jobs.

A fourth conclusion—records and statistics must be kept.

I repeat, health information on working men is scarce. This is particularly so in the construction industry because even the information that is obvious in a factory is clouded by the nature of construction work.

A factory is a relatively permanent environment. Jobs acquire reputations: they smell; old timers get lung disease; this or that chemical will make you sick if you inhale it. This is epidemiology in its most primitive form, done without the help of the professionals or the government. Nevertheless, it is very effective in discovering diseases and developing control methods.

Contrast this with a construction job. The office is often a house trailer and a single craft is not likely to be on a given job for more than a year. Who now is going to do the epidemiology? Work-induced health damage suffered by a craft during the course of a single project very easily passes without notice. It is not until a series of such projects—and years—have passed that disability is

marked enough to prevent further employment. At this point, cause-effect relationships are obscure. No single event can be held responsible, and the work force has a few less craftsmen. If by some chance the illness is recognized as work-induced, the last employer may be held responsible for the entire cost of compensation. This is no solution.

For example, earth mover operators have long suspected that somehow spinal problems are connected with their jobs. This may or may not be so; there are no statistics. It is hardly possible that all equipment operators are born with bad backs. It is most likely, however, that the vibration and bouncing on some types of seats on some types of equipment are causing spinal damage. Unless it is known, first, whether or not operators are truly suffering spinal problems and second, exactly which machines and what conditions are responsible for the problems, prevention of "back trouble" will be impossible.

With computers now available, it is feasible to record the pertinent details of every job, every illness, and every death for every man working in the construction industry. This should be done by every craft union; with the cost shared by the employer. Routine computer output will then tell us whether painters die young, or equipment operators get silicosis, or plasterers get emphysema, and whether the lung cancer that has been found in asbestos insulators is being controlled or not controlled.

A fifth conclusion—uniform, reasonable regulation must be insisted on.

Competition is very real in construction. In fact, it appears to be so fierce that it often is cited as the justification for poor health and bad safety practices. For instance, the question as to why water is not being used to control dust on a given haul road very often will bring the reply that this is highly commendable; however, "it was not included in the job estimate because the competition never includes such things, and in order to bid the job successfully it was necessary to dispense with the water wagons".

This is a standard answer for many problems. Its effect is to penalize the legitimate contractors and to make the natural growth of healthy working conditions next to impossible. This fanatic interest in cost-reduction seems to be eroding the few existing health standards accepted by the industry.

For example, everyone knows that a sandblaster should wear an air-supplied helmet.