policy might be improved: in addition to broadening the indirect cost base, it was suggested that cost-sharing formulas should favor maintenance commitments over acquisition costs.

Technical understanding should be required of users. For a variety of reasons, from raising performance standards to reducing casual maintenance costs, it is wise to limit access to users who have completed a course (formal or not) in instrumental methods and maintenance.

Responsibility for an instrument should be assigned to an individual with an active, vital interest in its performance. Committees or uninterested individuals make poor custodians.

Department chairpersons, and others, should consider alternative facilities before attempting to establish any in-house laboratory. There are many accessible instruments on campus and off. One way to encourage their use is to hold an annual, campus-wide or wider, instrument fair or awareness course, in which prospective users and laboratory directors get together.

The group also made some specific tips: limit the number of manufacturers so as to cut down on the number of test instruments, spare parts, and service calls; protect instruments from power and other system failures; and follow a regular schedule for parts replacement and servicing.

Laboratory maintenance is not a glamorous or exciting subject, but its importance is hard to overstate. The fact is that, for the remainder of our professional lives, we are going to take better care of our laboratories, or many of us will do without.

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## Cotton Dust Standard

Hans Weill states in his letter of 5 November (p. 518) that his 1977 testimony at the Occupational Safety and Health Administration (OSHA) hearing on its then proposed cotton dust standard "supported the 1978 [OSHA] cotton dust standard." In fact, Weill's testimony in 1977 did not support the 200 micrograms (μg) per cubic meter ($m^3$) standard adopted by OSHA the following year. Indeed, his interpretation of the data collected at three cotton mills for the industry-funded study gave support to those who found the OSHA standard excessively stringent. Weill reported finding a "mill effect," which he characterized as "an important confounding variable in prevalence studies" (*1*, p. 3). He stated that, when the exposure and health effects data were analyzed separately for each mill, he "could not demonstrate an effect of current dust exposure beyond the mill effect" (*1*, p. 2). This was in sharp contrast to the highly reliable linear dose-response relationship found by Merchant *et al.* (*2*), which served as the basis for the exposure limit chosen by OSHA.

At the request of the Amalgamated Clothing and Textile Workers Union, John Peters of the Harvard School of Public Health (*3*) reviewed the raw data collected by Weill and evaluated Weill's conclusions. Peters found that there were several factors in the study which made "drawing conclusions by comparing mills highly questionable." He noted that Weill's choice of three exposure categories served to mask the effect of very high exposures occurring in one plant. Peters demonstrated that the addition of a fourth gradient of exposure to the analysis "could explain the so-called mill effect . . . [and] confirm the data generated by others that cotton dust at levels of 0.2 $mg/m^3$ and greater produces health effects that should be prevented" (*3*).

Weill testified in 1977 that a "level of cotton dust exposure which carries an acceptably low risk of byssinosis will fall between 200 μg and 500 μg per cubic meter" (*1*, p. 2). This was consistent with the industry's position in favor of a 500 $\mu g/m^3$ limit. According to Merchant's dose-response curve (*2*), this would have doubled the risk from 12.7 percent at 200 μg to 26 percent at 500 μg.

Weill also states in his letter that his finding of a "mill effect" has been "widely accepted." Yet OSHA, in adopting the 200-μg limit in 1978, rejected the "mill effect" and adopted Peters' supplemental analysis of the raw data as indicating a correlation between exposure and adverse health effects.

In their 3 December letter (p. 951), S. P. Hersh and R. E. Fornes of North Carolina State University (NCSU) also describe themselves as unbiased members of the National Academy of Sciences (NAS) panel. Notwithstanding the issue of financial support, Hersh in fact testified (*5*) for the textile industry at the 1977 OSHA hearing supporting a dust limit (in weaving) of 900 to 1200 $\mu g/m^3$, consistent with the industry's choice of 100 $\mu g/m^3$. A 1200 $\mu g/m^3$ limit would produce a byssinosis prevalence rate of 14.6 percent, according to Merchant (*2*), or more than double the rate produced at the dust limit eventually chosen by OSHA (less than 7 percent). When interviewed, I referred to this testimony but was only quoted regarding issues of financial support. Taken out of context, this latter quote implied a general criticism of NCSU that is certainly not appropriate. On the contrary, various members of the NCSU faculty have made substantial contributions toward the solution to occupational hazards in the textile industry, for which textile workers are grateful.

On the larger issue of the NAS panel's conclusion that the link between dust exposure and chronic lung disease is yet to be confirmed, I believe the panel misinterpreted a number of studies demonstrating the chronic effects of exposure to cotton dust. The panel dismissed the work of Bouhuys and his co-workers Beck and Schachter, whose studies showing the progressive loss of lung function among retired cotton textile workers were brought to the panel's attention. These results have once again been reported (*6*) and were characterized in an editorial by Epler as "contributing valuable information for the kind of precise definition of occupational lung diseases needed by clinicians and administrative agencies" (*7*). It is not surprising, therefore, that the NAS report's conclusions were rejected not only by panel member Kilburn (in his minority report), and by Merchant, Schilling, Beck, Schachter, and Wegman [as reported by Marjorie Sun (News and Comment, 24 Sept. 1982, p. 1232)], but also, according to Frank Press' introductory letter, by "some of the reviewers of the report" with whom the "authoring Committee [was] not able to resolve completely their differences of opinion."

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