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Commentary

Perspective on Chemicals and Health

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It seems to me that what we are attempting at this meeting is an evaluation of the potential health hazards of plastics (or polymers) and their precursors (monomers), catalysts, and additives. These health hazards run the gamut from well-recognized, requiring some degree of control, to the purely speculative, where the necessity for control may be open to considerable discussion and debate. Obviously the degree of control necessary even in those cases where it is obvious that some control is necessary can also lead to honest differences of opinion which in turn can lead to discussion and debate. It would appear that at our level this discussion and debate should be as unimpassioned and objective as we can make it.

I think it might behoove all of us to read the Report of the Panel on Chemicals and Health of the President's Science Advisory Committee, entitled "Chemicals and Health," dated September 1973. That report contains some very interesting and illuminating discussions which help us to keep our own thinking in an appropriate perspective. For instance the Panel poses the question, "What adverse impacts do uses of chemicals exercise on man's health today?" The Panel then proposes that the firmest basis for answering this question is to begin from estimates of death linked to chemical causes. Even acknowledging all of the inaccuracies inherent in such estimates, the Panel concludes that even if each such estimate were halved or doubled, the end conclusion reached would not be altered. Based on the available data outlined elsewhere in the report, their conclusion is that most deaths linked to chemical impact occur primarly because of an individual's own actions, as in smoking cigarettes and in the abuse of alcohol and illicit drugs.

This is not to say that deaths are the only measure of adverse impacts of chemicals on health. Obviously sickness and disability may also result from chemical impacts, but these are much more difficult to assess, and thus conclusions reached from such analyses are on a much less firm foundation and, therefore, subject to far more discussion and debate, which, because it is less firmly founded, is more likely to be subjective and impassioned.

In discussing decision-making, the Panel has included an excellent chapter dealing with judgments about risks and benefits. They point out that our ability to make risk-benefit or cost-benefit analyses at its present stage of development is truly in the black art era. We need to examine various mathematical models that have been proposed to test their validity and applicability, but we should not delude ourselves that they, in any way, approach an exact science at this time.

They point out that an examination of almost all cases of recent crisis-laden decisions shows that many of these were based on scientific data from recently completed experiments. Such data, they point out, are by definition unconfirmed, are not always fully explained or interpreted as to meaning, and may or may not

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always be consistent with previously developed data. Such recently developed data may point toward an implied hazard but not a demonstrated one.

In further discussing decision-making, the Panel points out that scientific investigators, the press, and government agencies each seem to have distinct responsibilities and roles. They feel that the scientific community should take an active role in interpreting data in ways meaningful both to the public and to those agencies responsible for regulatory decisions. Bold and aggressive measures should be taken to brief members of the press on factual material and on the results of interpretation. Scientists involved should insure a deliberate review of new data both for the press and for regulatory decision-makers. Premature statements by scientists before deliberation in the company of their peers should be avoided.

As far as the press is concerned, the Panel believes they should not only provide information, but also should undertake special efforts at public education on the scientific basis for regulation and on certain special issues surrounding it. Publication of tentative, unreviewed data in the lay press because of the zeal of either a scientist or a journalist is thought of as highly undesirable. If such does occur, balanced coverage should include the views of other scientists competent to make comments.

As for their part, government regulatory agencies should make publicly available a "white paper" on each decision which makes understandable to the public the kinds of considerations, scientific data, and rationale which was used in arriving at the decision.

The Panel further points out that scientific knowledge is dynamic rather than static, so that it should not surprise us that regulatory decisions are not made once and for all time. Rather, we should anticipate regulatory reversals, rather than be surprised by them.

I realize that we in this meeting are not in the regulatory decision-making process, but rather much further back up the line. Rather, we are in the phase of data presentation and peer review.