

so honor Katchalsky with a memorial symposium.

We ask our colleagues throughout the international scientific community to express the appropriateness of such a memorial symposium and their appreciation to the organizing committee for efforts to arrange a tribute.

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### Report on Airborne Lead

Many readers of Robert Gillette's report "Lead in the air: Industry weight on academy panel challenged" (News and Comment, 19 Nov. 1971, p. 800) have probably been left with the impression that the National Academy of Sciences lead report is biased in the direction of understating the hazards of lead in the environment. Much space is devoted to those who tried to discredit the report in one way or another. Most of the criticism relies for its impact on guilt by association. A good example is provided by Gillette's statement, "A medical consultant to the Ethyl Corporation since the late 1920's, Kehoe had the distinction of being cited in the lead panel's list of references a dozen times, more than any other researcher." This clearly implies bias on the part of the panel. It happens that no one else has provided the kind of critical data on lead metabolism in man that Kehoe has. His data are of crucial importance to the assessment of lead metabolism in man. We were looking for solid data wherever they might be found.

I am also puzzled by Gillette's sentence, "Although the panel noted that some groups of workers and children in inner-city neighborhoods might potentially be at risk, it found that the amount of lead in the air of most major cities 'has not changed greatly' in the past 15 years." This is a most curious apposition of unrelated panel conclusions. The hazard to "some groups of workers and inner city children" exists *irrespective* of any future changes in the concentration of lead in ambient air. The hazard is there today, and it will

be there a year from now, even if the concentration of lead in ambient air doesn't increase.

At the time the study was initiated we were clearly informed that we were to provide the "scientific underpinnings for a national air quality standard to control lead." This reflects our purpose accurately. We assessed as best we could the contribution of airborne lead to the total assimilation of lead by biological systems of value to man (including man himself). We indicated what level of assimilation we considered hazardous, and we provided the rationale for this in great detail. If the hazards we cited are not adequate grounds for controlling lead emissions, then the Environmental Protection Agency is more timid than I had thought.

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The criticism of the National Academy of Sciences report on the health effects of airborne lead apparently stems from the congruency of the report with what are judged to be the biases of the panel's industrial members. The hypocrisy of the criticism lies in the implication that representatives of the "public" are without bias, and therefore greater "public" representation would have resulted in a more objective report.

If there is a bias on the question of keeping the lead in, there is a bias on the question of getting the lead out. Scientists are not immunized by their profession to the emotions experienced by other men, and the environmental movement is an extremely emotional one.

The academy is on sound ground in filling appointments to its panels with a balance of conflicting philosophies. To conduct its affairs otherwise would be truly naive.

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In my long career in the field of public health, with emphasis in occupational health and air pollution, I have been witness to the biases of industrially employed experts a great many times. In fact, I have seen professionals change their outlook (and the expression of their views) on technical and scientific matters when they moved from the public to the private sector. It is pure

naiveté for the National Academy of Sciences and National Research Council not to recognize such facts. It is foolhardy to ask any biased scientist to interpret facts, the explanation of which may be variable, without taking into consideration his biases. Even in our courts of law the juries and judges evaluate the credibility of witnesses.

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### Demand for Nuclear Engineers

In these times when we are reminded daily of the unemployment situation of scientists and engineers, it is refreshing to find an area in which the situation appears to be reversed. In a recent review of the traineeship proposals that the Atomic Energy Commission's Division of Nuclear Education and Training received from departments of nuclear engineering at universities, we learned that advanced degree graduates are having no difficulty finding employment in this field. On the average, each 1971 graduate received 1.7 offers of employment and would probably have received more except for the fact that many accepted the first offer because they had heard that the job market was extremely tight.

A recent telephone survey of departments of universities offering advanced degrees in radiation science and protection indicates that graduates in this field received an average of four employment offers each. Some departments indicated that they had requests for referrals for more jobs than they could possibly fill.

A tremendous growth in nuclear power over the coming decade and an increased use of nuclear techniques in industry have been predicted. These forecasts, coupled with the present employment picture and the decrease in engineering enrollments, indicate that there will soon be a shortage of well-trained nuclear engineers and radiation protection specialists. This information should be of interest to many students now contemplating the choice of a career, and to those who are advising and motivating these students.

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