# Letters

## AAAS Meetings: Complex and Diffuse

The problems of increasingly larger AAAS meetings are complex, partly because the annual meeting itself is complex. There are three main elements at each meeting. First, there are persons attending annual meetings of their scientific society. Second, there are those concerned with symposia presented by the sections. Third, there are persons concerned with the overall AAAS symposia and with science education, rather than science as such.

To limit the size of the conventions but still keep the maximum breadth, the third element should remain, though I must admit I have never attended any teacher-oriented symposia. Maybe this audience should go elsewhere, such as National Science Teachers Association conventions. The second element could be more rigidly controlled by arbitrary assignment of convention time to the various sections. One year section A might be given 3 days on the program; section B, 2 days; and section F, 1 day. Naturally part of this time would overlap. Still, the present system where each section is permitted to fill as much or as little of the program as it desires makes no sense. There should be a means for deciding that in a particular year the annual convention will devote more time to astronomy and dentistry and less time to chemistry and statistics. Flexible programming among the several sections would permit the convention to head for where the action is in any given year.

This would mean that the sections would have to suggest good general ideas. Sections vary widely and one gains the impression that in many of them the largest society does virtually everything. It might help to encourage the individual societies to meet elsewhere. Many small societies choose the AAAS for their meeting so that members can attend two conventions at once. Since not every member comes annually, their attendance would probably be as good by meeting 1 year out of 3 with the AAAS. If different small societies were present each year, there would be more spice and opportunity to arrange novel symposia. AAAS could assist by advising the smaller and less experienced groups on the procedure of putting together a convention. A convention bureau would seem to be a logical addition to AAAS activities.

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## A Breath of New York

"We're on our way to a public catastrophe. . . . Carbon monoxide levels in New York City are approaching the lethal level," said Myron Tribus, dean of the Thayer School of Engineering at Dartmouth, according to an item in "News in Brief" (24 Nov., p. 1029). In fairness to Tribus, the actual transcript of his statement, issued in New York at the time the Commerce Department's Panel on Electrically Powered Vehicles released its report, was carefully qualified so that in its full context it was not nearly as alarming as it might appear to readers of *Science*. Nevertheless, a brief review of carbon monoxide in urban atmospheres is in order. Carbon monoxide first became a matter of concern in New York City in 1923. At that time Henderson and Haggard (*1*) analyzed samples of air taken on Fifth Avenue and concluded that concentrations of 100 parts per million were a common occurrence in streets where traffic was heavy, and that from 200 to 300 parts per million were not unusual. In 1928 a U.S. Public Health investigation in 14 different cities, including New York, concluded that (*2*):

> The average of 141 tests made in city streets at peak hours of traffic showed a contamination of 0.8 part of carbon monoxide per 10,000 parts of air (80 parts per million). . . . The figures for street air, when viewed in the light of present standards of exposure to carbon monoxide, do not reveal the existence of a health hazard from this source in our city streets.

When this was written, there was a total of 20 million automobiles, trucks, and buses registered in the United States compared with over 90 million today. What has happened to carbon monoxide levels in the meantime? Investigations carried out by Colucci and Begeman (*3*) of the General Motors Research Laboratories, in New York City between 1962 and 1964, indicate that in the most congested areas, such as Herald Square and Columbus Circle, carbon monoxide concentrations at pedestrian breathing height often exceed the New York State standard of "15 ppm for eight hours not to be exceeded more than 15 per cent of the time," but do not exceed the California standard of 30 parts per million for 8 hours. This has been confirmed in 1967 by investigations carried out in New York City (*4*).

It is of considerable significance that although we have over 4½ times as many vehicles registered today as in 1928 when Bloomfield and Isbell published their report (*2*), the average concentrations found in New York City appear to be lower now than they were then. This may be partly due to the fact that today's automobiles emit lower concentrations of carbon monoxide than the cars of the mid-20's (*5*), and partly due to the saturation effect; that is to say, crowded city streets when packed to capacity may contain about the same number of vehicles today as they did then.

Another possible contributing factor may be that the mobility provided by wider streets, one-way traffic, and the introduction of express highways, permits operation of vehicles in a regime where the concentration of carbon monoxide in exhaust is lowered and vehicle spacing permits more effective dispersion of exhaust gases in the atmosphere. This is a factor to be taken into account in future city planning. With respect to future trends, it is estimated that 1968 cars will show over 50 percent reduction in carbon monoxide over their predecessors, and it is expected that carbon monoxide emissions will continue downward as car manufacturers gain experience with engine modifications.

Although carbon monoxide levels in New York City have been a matter of concern to public officials and to the automotive industry for many years, the