LETTERS

Auto Pollution Research

In the article "Auto pollution: Research group charged with conflict of interest" (News and Comment, 24 Aug., p. 732) by Deborah Shapley, the relationships that exist within the CRC-APRAC (Coordinating Research Council–Air Pollution Research Advisory Committee) program between technical people in industry and the government are distorted. The first prerequisite in solving any complex problem is to obtain the facts, and this must not be confused with the separate job of interpreting these facts.

As president of CRC, I would like to emphasize that CRC does *not* interpret research results. The CRC-APRAC research program was initiated and continues with only one basic purpose—to develop factual research data. It has always been clearly recognized that each of the participants is free to interpret the facts in his own way and that each would be expected to conduct independently his own related research. Each party has done exactly that.

To obtain the needed facts in the soundest manner it is necessary to get the technical people in both industry and government to select the air pollution research programs needed and to recommend where this research should be conducted, utilizing the expertise of independent, nationally recognized research organizations. By the use of the best research talents in the country, there can be no question of bias nor dispute as to the facts. To obtain the facts is the function of CRC-APRAC. The CRC is not a trade organization. It is a nonprofit independent research organization directing scientific cooperative research.

We take issue with the obvious implication that the organizations chosen to conduct research are manipulated by those who are sponsoring the research. APRAC works with only the most competent investigators in the country. To imply that 12 universities, two government laboratories, the National Academy of Sciences, and more than 20 private research organizations are developing biased research information is irresponsible.

Government and industry independently turn to the same organizations for the same reasons CRC-APRAC does—to obtain expertise, experience, and facilities. These are the nation's top research organizations, and they are proud of their independence and reputation. Their credibility represents the very lifeblood of their existence.

By fostering the posture of arm's length confrontation between government and industry, the article serves to break down a proven system of cooperation, which has been developed over the years and is based on a feeling of mutual respect between technical people in industry and government.

The fundamental truth is that government and industry both serve the public, and both have a responsibility to present their thinking and outline their positions on how to solve the problems. This is a fundamental part of our system of government. If it is to work properly it is necessary that there be agreement on the basic facts, followed by independent interpretation and utilization of the facts.

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Deborah Shapley's report on auto pollution research contains many insinuations about the objectivity of government research and development (R & D) as opposed to that of industry. However, it is all too readily assumed that the source of R & D funds carries with it the obligation that the results somehow match the major sponsor's wishes. This is an insult to the scientific community. The funding that CRC-APRAC (Coordinating Research Council–Air Pollution Research Advisory Committee) provided for auto pollution research has permitted a broader study of problems than would have been possible with government funding alone. The Environmental Protection Agency (EPA), as the guardian of air quality, still has the last word on what the regulations will be (unless Congress changes the laws) and has the obligation to defend them when challenged. That significant disagreements among investigators in this field occur only underscores the need for more vigorous research. We live in a technological society dependent upon vigorous industrial participation. To be effective, regulatory policies must take into account the realities of the scientific uncertainties on the one hand and the economic impacts resulting from overkill on the other. The CRC-APRAC approach, although imperfect, has the potential for keeping open lines of communication and making possible

the exchange of ideas for the mutual resolution of air pollution problems.

The quote of some unnamed EPA official that "The only thing worse than an unemployed aerospace engineer . . . is an unemployed aerospace engineer who has gone to work on the environment" only belies the fact that quite a few former "aerospace engineers" are currently applying their professional skills within EPA and its state counterparts and within the ranks of its contractors. The technical community is trying to respond to national needs. EPA should be encouraging the participation of talented people, regardless of what they may have been involved with at some earlier time. It might lead to useful innovation. Fortunately some leaders in EPA recognize this.

Finally, the suggestion that the National Institute of Environmental Health Sciences should become a "third party" for resolving conflict in auto emissions research would be acceptable for the health effects aspects, but clearly inappropriate for the issues related to technology. In this respect, it is interesting to note that EPA, through an interagency R & D agreement, has given NASA's Lewis Research Center in Cleveland, Ohio, a major role in developing alternative power sources for automobiles.

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Copyright Laws

Photoreproduction of journal articles for personal use is a common practice. Many individuals obtain so-called "fair use" copies through libraries. In the current reporting on this aspect of the copyright controversy, one reads or hears that proposed changes in the law may terminate *copying by libraries.* It should be made clear that, although libraries may provide the service, the photoreproductions are requested by a library's patrons. People will suffer the loss, not the libraries. These same people are the ones who should make their voices heard concerning the future of "fair use" copying.

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Screwworm Control

In their article "Genetic control of insect populations" (15 Dec. 1972, p. 1164) Smith and von Borstel assert that "Ten billion irradiated adult *Cochliomyia* are now released yearly along the Mexico-Texas border, effectively controlling the natural screwworm [fly] population on both sides." This was true in 1971, but not in 1972. In 1971, there were 473 confirmed screwworm cases in American livestock. The total for 1972 exceeded 90,000 (*1*), and infestations were found not only in Oklahoma, but even in Kansas and Arkansas, hundreds of miles from the Rio Grande. Clearly, a massive breakdown in the "sterile male release" program occurred. And just as clearly, no one has gotten to the bottom of it.

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1. *Coop. Econ. Insect Rep.* **23**, 155 (1973).

As Calman points out, serious outbreaks of screwworm infestation occurred in 1972. Even when the release of sterile males was doubled along the Texas-Mexico border, control was not accomplished (*1*). It is important to emphasize, however, that the fault is not due to a failure of the sterile male principle, but to a failure in its application. In our article we predicted that sexual isolation or incompatibility could occur in the screwworm fly and result in an outbreak of screwworm infestation. In this case three alternatives seem possible: (i) The wild population contains genetic types which no longer mate with released flies. These flies would have a tremendous selective advantage in nature. (ii) Laboratory flies are no longer adapted to wild conditions because of the pressures imposed by rearing constraints. (iii) Both populations are evolving simultaneously in these opposing directions. Established genetic methods should be utilized to monitor both wild and laboratory populations to ascertain when genetic changes occur. The lack of genetic monitoring is a major defect in most sterile male programs at this time.

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References

1. *Nature (Lond.)* **242**, 493 (1973).