LETTERS

Sulfuric Acid Emissions from Cars

Thomas H. Maugh's article on the resolution of the automotive sulfuric acid issue (Research News, 21 Oct., p. 280) is a reasonable exposition of the better-publicized projects. However, his implication—that results from two major tests of roadway emissions contributed in a major way to the decision by the Environmental Protection Agency (EPA) not to regulate this pollutant—is incorrect in my view. Results from the two roadway tests were not available when this decision was made.

EPA's Los Angeles Catalyst Study (LACS) and the General Motors (GM) Sulfate Dispersion Experiment were useful in confirming computations of potential ambient air concentrations from measured emission rates from automobiles. However, the essential components were always the emissions factor data themselves, a good model capable of predicting roadway concentrations, and an assessment of the health effects resulting from these concentrations. By comparison with this work, the roadway emissions tests were secondary and mainly needed for improvement of dispersion models.

I would rate the following as the most significant contributions in the sulfuric acid issue: (i) development of a crowded urban expressway driving simulation; (ii) development of effective methods to collect and measure sulfuric acid emissions; (iii) determination of thousands of sulfuric acid emission rates from hundreds of cars in a variety of driving patterns; and (iv) development of effective models to predict ambient concentrations from emissions data and of a method to calculate the probability that a particular ambient level would occur.

Still unresolved is the dilemma of publicity. Seeking media attention for research projects can seriously complicate the process of regulation. As Maugh's exposition demonstrates, some EPA projects not directly involved in rulemaking are more free to advertise and often obtain greater attention.

RONALD L. BRADOW
Mobile Source Emissions Research Branch, Environmental Monitoring and Support Laboratory, Environmental Protection Agency, Research Triangle Park, North Carolina 27711

Emissions data from individual cars and a knowledge of the health effects of sulfates are of little value unless there is an accurate model to show how the sulfates will accumulate near the roadway. The GM study showed that the previous model was grossly incorrect, and the LACS study provided a way to test new models and verify results with individual cars. These studies pull together all the data and thus seem to be the appropriate projects upon which to focus.—T.H.M.

Computer "Therapy"

Perhaps Joseph Weizenbaum's concern about the merits of current or future computer "therapists" (Letter, 28 Oct., p. 354) would be more credible if he did not put words in the mouths of unspecified individuals vaguely described as "a whole generation of workers in that branch of computer science known as artificial intelligence." His statement, "But the to us obvious truth that computers perform calculations and that there are crucial differences between calculations and judgments is dismissed as mere superstition and even species chauvinism . . ." certainly does not represent my opinion, and I am an artificial intelligence researcher. Whether computer programs of any conceivable sort "can actually serve the therapeutic function intended for the client-therapist interaction" is indeed a problematic question. Weizenbaum's attempt to settle this question by fiat ("Lest this mistaken idea be let stand. . .") hardly does it justice. Computers are not people, of that we are sure. Let us admit some ignorance yet about what benefits they may offer and dangers they may pose to society in the future.

JOHN GASCHNIG
Department of Computer Science, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213

. . . Whether a "client" could know or care about or be cared for by a computer is, it seems to me, an empirical question, not one that can be answered by fiat or by reference to a speculative assumption made by a theorist, however persuasive the assumption might be.

An individual's feeling of self-worth or worthiness to be cared about may or may not depend on whether the therapist nourishes emotional processes. For many, the *realization* of the possibility of being worthy may depend more on cognitive processes than on emotional ones. That, too, seems to be an empirical question—one that might, in fact, be investigated by a computer "therapist."

JAMES M. VANDERPLAS
Department of Psychology, Washington University, St. Louis, Missouri 63130