Schools, annual, Boston, Mass. (R. H. Sullens, 840 N. Lake Shore Dr., Chicago 11, Ill.)

27–31. Temperature—Its Measurement and Control in Science and Industry, natl. symp., Columbus, Ohio. (C. M. Herzfeld, National Bureau of Standards, Washington 25, D.C.)

30–1. Southern Soc. for Philosophy and Psychology, Atlanta, Ga. (D. R. Kenshalo, Dept. of Psychology, Florida State Univ., Tallahassee)

April

3–6. Massachusetts Institute of Technology, centennial celebration, Cambridge. (Office of Public Relations, M.I.T., Cambridge 39)

3–15. Medical Conference, 11th, Nassau, Bahamas. (Bahamas Conferences, P.O. Box 1454, Nassau)

4–6. Electromagnetics and Fluid Dynamics of Gaseous Plasma, intern. symp., New York, N.Y. (J. Fox, Microwave Research Inst., Brooklyn 1, N.Y.)

4–7. Society of Automotive Engineers, natl. aeronautic meeting, New York, N.Y. (E. W. Conlon and G. W. Periman, 485 Lexington Ave., New York 17)

4–8. National Council of Teachers of Mathematics, 39th annual, Chicago, Ill. (F. A. Janacek, J. S. Morton High School, Cicero 50, Ill.)

5–8. Water Relations of Plants, British Ecological Soc., symp., London. (F. H. Whitehead, Botany Department, Imperial College, Prince Consort Road, London, S.W.7)

6–7. Council on Medical Television, annual, Bethesda, Md. (Institute for Advancement of Medical Communication, 33 E. 68 St., New York 21)

7–8. Eastern Psychological Association, Philadelphia, Pa. (C. H. Rush, P.O. Box 252, Glenbrook, Conn.)

7–9. American Assoc. for Cancer Research, 52nd annual, Atlantic City, N.J. (H. J. Creech, Secretary-Treasurer, Inst. for Cancer Research, Fox Chase, Philadelphia 11, Pa.)

7–9. Fleming's Lysozyme, 2nd intern. symp., Milan, Italy. (R. Ferrari, Organizing Committee, Via Modica 6, Milan)

8–9. Histochemical Soc., 12th annual, Atlantic City, N.J. (H. W. Deane, Albert Einstein College of Medicine, Bronx 61, N.Y.)

9–13. American Assoc. of Cereal Chemists, annual, Dallas, Tex. (J. W. Pence, Western Utilization Research & Development Division, 800 Buchanan St., Albany 10, Calif.)

9–13. American Industrial Hygiene Assoc., Detroit, Mich. (W. S. Johnson, Bethlehem Steel Co., Bethlehem, Pa.)

9–15. American Institute of Nutrition, Atlantic City, N.J. (A. E. Schaefer, ICNND, Bldg. 16A, National Institutes of Health, Bethesda 14, Md.)

10–14. American Soc. of Civil Engineers, Phoenix, Ariz. (W. H. Wisely, 33 W. 39 St., New York 18)

10–14. Detection and Use of Tritium in the Physical and Biological Sciences, intern. symp., Vienna, Austria. (Office of Special Projects, U.S. Atomic Energy Commission, Washington 25, D.C.)

(See issue of 17 February for comprehensive list)

Letters

Drug Industry and Government

With reference to your recent "Science in the news" article [*Science* **132**, 1536 (1960)] commenting about government intervention in the drug industry, could it be that the author displayed just a little cynicism (which is perhaps too common these days) in saying: "There is the danger not of cordiality between the regulators and the regulated, which is useful, but of the regulators' coming to forget that, despite the room for a great deal of useful cooperation, the regulators and regulated do, or should, after all, represent opposing interests and opposing points of view"?

It does not seem to me that a really objective observer could conclude that the interests of the Food and Drug Administration and of the pharmaceutical industry are opposed. Rather, our interests are really identical: to provide the best medicine for those in need of it, or, putting it another way, to protect patients from bad medicine.

If the views of the industry and the government differ from time to time, I think such differences are largely confined to the question of how we attain our common objective. This may be a fine point, but it is one that is useful in the interests of clarity.

AUSTIN SMITH
Pharmaceutical Manufacturers Association, Washington, D.C.

DNA's and RNA's

In the realm of biochemistry, names (of substances) are used to designate products in which substantially all the molecules in a sample are the same, or at least potentially the same, through tautomerism. To speak of a *mixture* of structurally different molecules, as though they were all the same, causes misleading muddlement. The same principle holds for alphabetical abbreviations such as ATP, ADP, AMP, TPP, FAD, and TPN. For example, AMP stands for adenosine-5′-phosphate. If it were used indiscriminately to designate the 5′- compound, the 3′- compound, the 2′- compound, or the 2′, 3′- phosphate, this could only cause confusion.

A widespread violation of this principle, which can only result in confused thinking, particularly on the part of unsuspecting biology students, is the use of the designations DNA and RNA as though they, too, represent single species of molecules. This is particularly objectionable because there must be a multitude of DNA's and RNA's and

their biological functioning depends specifically upon the existence of a great diversity of molecules. To speak of *a* DNA or *the* DNA's is proper, but to refer simply to "DNA" as though it designated a chemical substance is unfortunate and leads to mixed-up thinking on the part of those who may not be fully initiated.

ROGER J. WILLIAMS
Clayton Foundation Biochemical Institute, University of Texas, Austin

Stimulus Generalization Gradients

In a recent report [*Science* **132**, 1769 (1960)] Eliot Hearst compares the stimulus generalization gradients obtained in the case of each of a concurrent pair of responses, one response being maintained by an appetitive reward, the other by aversive reinforcement. From his results he concludes that aversive reinforcement produces greater generalization (flatter gradient) than an appetitive reward. This conclusion is not warranted from the data presented because there is not even an attempt to equate the drive level corresponding to the two responses.

Since the earliest Pavlovian work it has been known that increased hunger (deprivation) flattens the generalization gradient of an alimentary conditioned reflex. Hearst could have readily manipulated the flatness of his appetitive gradient in this fashion. In the case of the aversively maintained response, the relevant drive variables are the intensity of the electric shock, the number of shocks received, and the time since the delivery of the last shock. Of these, the first is particularly significant. By decreasing the shock intensity in conditioning the avoidance response, a sharper gradient would have been obtained.

The equating of drive between positively and aversively reinforced habits is certainly unattainable in practice, and probably even in principle. Thus, Hearst's conclusions would in any case be questionable. The report would have had some factual value, however, if the deprivation schedule of the food-reinforced response and the electric shock parameters had been clearly described in the text. The absence of this information means that the data are not even reproducible by the noninitiated reader.

MICHAEL F. HALASZ
Department of Psychology, University of Chicago, Chicago, Illinois

I am glad to have the opportunity to make some additional comments on our stimulus generalization data and to answer several points raised by Michael Halasz.

1) Since appetitive and aversive