LETTERS

Lasker Award and Opiate Receptors

When the 1978 Lasker Award for Basic Medical Research was given to Hughes and Kosterlitz (Aberdeen) and to Snyder (Johns Hopkins) for work on opiate receptors and enkephalins, I felt decidedly uncomfortable, but not for the reasons discussed by Jean L. Marx (News and Comment, 26 Jan., p. 341) involving Candace Pert.

True enough, Pert has made notable contributions and, as Snyder says, it would have been appropriate for her to share the award. But something else was missing, and my misgivings were voiced, perhaps inadvertently, by Pert herself, when she cited "a discussion of the opiate receptor problem by one of the pioneer opiate researchers, Avram Goldstein of Stanford" which "eventually led to her opiate work with Snyder."

Those of us (and many others) who have been teaching pharmacology in the 1970's are keenly aware of the remarkable progress made by *five* groups (not two), beginning with Goldstein's identification of opiate receptors by the use of drug stereoisomers. Why then was he excluded, as were Terenius of Uppsala and Simon of New York University? All of this work is inextricably linked, as the writings of these men and women have shown continually.

I do not quite know what the Lasker Foundation should have done—taking all of the above in means a pretty big gang—at least seven. But life is perhaps not so much unfair as it is unruly; science as well as art mirrors life, and the prize-giving foundations may have to join in.

THOMAS H. MAREN
Department of Pharmacology and Therapeutics, College of Medicine, University of Florida, Gainesville 32610

Treatment of Mental Disorders

In her article "Mental disorders: A new approach to treatment?" (Research News, 5 Jan., p. 36), Gina Bari Kolata provides an informative review of recent work in which choline is given to increase brain acetylcholine content and function. However, the first two and last two paragraphs, and the title, of this article distort the historical perspective. The idea that brain neurotransmitter synthesis and function can be increased by administration of dietary precursors is not new and was first demonstrated for tryptophan and 5-hydroxytryptamine (5HT). In 1961 Hess and Doepfner (*1*) showed that, in rats treated with a monoamine oxidase inhibitor, tryptophan administration raised the 5HT content of the brain and caused hyperactivity. Clinical studies using this principle were performed by Coppen and associates (*2*) and Pare (*3*) who, only 2 years later, reported that tryptophan was capable of potentiating the antidepressant action of monoamine oxidase inhibitors. In 1967 Coppen's group tested tryptophan alone and claimed that it has an antidepressant action (*4*). There are now more than 25 papers in the literature on the antidepressant action of tryptophan, although there is not yet any consensus about its efficacy. The concept of precursor loading is also an important element in the successful treatment of Parkinsonism with L-dopa and of postanoxic myoclonus with 5-hydroxytryptophan. Thus, the use of choline is not a new approach in treatment. I am not trying to minimize the importance of the work Kolata describes but am pointing out that it is the application of a principle, pioneered almost 20 years ago, to a new system.

SIMON N. YOUNG
Department of Psychiatry, McGill University, Montreal, Quebec, Canada H3A 1A1

References

1. S. M. Hess, W. Doepfner, *Arch. Int. Pharmacodyn.* **134**, 89 (1961).
2. A. Coppen, D. M. Shaw, J. P. Farrell, *Lancet* **1963-I**, 79 (1963).
3. C. B. M. Pare, *ibid.* **1963-II**, 527 (1963).
4. A. Coppen, D. M. Shaw, B. Herzberg, R. Maggs, *ibid.* **1967-II**, 1178 (1967).

Air Quality and Plants

EPA's decision to change current primary (health) and secondary (welfare) standards for photochemical oxidants (smog) from the current 0.08 part per million (ppm) to 0.12 ppm is one that will lead to increased oxidant injury to many native and cultivated plants. This will result in increased aesthetic injury and economic yield losses, as it is well known that many plants are injured by low concentrations of oxidant pollution (0.04 to 0.08 ppm for 3 hours is a threshold for sensitive plants). There is also evidence that the severity of certain plant diseases is increased when plants have been injured by oxidants.

In view of the fundamental importance of plants to human welfare and existence, it is difficult to understand why there is no mention of the possible effects of increased ambient oxidants on plants in Eliot Marshall's article (News and Comment, 1 Dec. 1978, p. 949). In spite of many published reviews and articles on air pollution effects in plants, the area where EPA's decision will have the greatest impact is overlooked.

Until there is a general awareness, on the part of EPA, the scientific community, and the general public, that plants are injured by low concentrations of oxidants, we will see continued erosion of air quality and resulting reduction in life quality.

WILLIAM J. MANNING
Department of Plant Pathology, University of Massachusetts, Amherst 01003

Reference

1. W. J. Manning and W. A. Feder, *Effects of Air Pollutants on Plants*, T. A. Mansfield, Ed. (Cambridge Univ. Press, London, 1976), pp. 47–60.

Meat or Vegetables?

Eric Jakobsson states (Letters, 1 Dec. 1978, p. 930) that problems with meat consumption ". . . might be solved by public policy and private decisions to replace meats with grains as our major dietary protein source" because of "epidemiological data in which incidence of cancer of the large intestine in national populations is correlated with per capita meat consumption. . . ."

Correlations do not establish cause and effect. If one is insistent, however, in using correlations as clues, then one should evaluate more than one reference, as has been done in a recent paper (*1*). Enig *et al.* (*1*) state that "If there is a relationship between dietary fat and cancer, our analysis indicates that processed vegetable fats should be more carefully investigated." Per capita vegetable fat consumption in the last 60 years has tripled while animal fat consumption has declined (*2*).

Private decisions on what foods to eat or not eat are made each day by all consumers. These choices are some of the few things left that are not regulated. Let's keep it that way until there is sound, undisputed evidence to do otherwise.

RICHARD J. EPLEY
Department of Food Science and Nutrition, University of Minnesota, St. Paul 55108

References

1. M. G. Enig, R. J. Munn, M. Keeney, *Fed. Proc. Fed. Am. Soc. Exp. Biol.* **37**, 2215 (1978).
2. *Handbook of Agriculture Charts, Agriculture Handbook No. 504* (Department of Agriculture, Washington, D.C., 1976).