was sent with the caption "Double Helical Structure of an fd Virus." The reporter in his story introduced an error by describing the picture as that of a DNA molecule.

GEORGE W. STROKE
Department of Electrical Sciences, State University of New York, Stony Brook 11790, and *Department of Surgery, Harvard Medical School, Cambridge, Massachusetts 02138*

Research on Narcotic Antagonists

Allen Hammond's description of the current status of narcotic antagonists (News and Comment, 6 August, p. 503) correctly indicates that very little research has been done on extending the duration of action of existing antagonists, mainly because of lack of funds and lack of enthusiasm on the part of the pharmaceutical companies.

Recognizing an urgent need for action, New York City, with the help of the Ford Foundation, has recently approved six research proposals in this area at the total cost of $384,000 for the first year. Money for initiating additional projects is now available. Information about the submission of proposals is available from the undersigned.

LAWRENCE BERGNER
New York City Department of Health, 125 Worth Street, New York 10013

Two Kinds of Perpetual Motion

Concerning which law of thermodynamics would be violated by a perpetual motion machine, both David (Editorial, 28 May, p. 901) and Moeller (Letters, 15 Oct., p. 227) are partly right. The confusion probably arises from a distinction, which was first made by Ostwald, between two kinds of perpetual motion (*1*). Perpetual motion of the first kind (energy creation) would violate the first law of thermodynamics, while perpetual motion of the second kind (entropy reduction) would violate the second law.

DAVID L. WILSON
Division of Biology, California Institute of Technology, Pasadena 91109

Reference

1. M. Planck, *Treatise on Thermodynamics* (Dover Publications, New York, ed. 3, 1926), pp. 89–90.