

ents should not be familial relations; and (iii) adequate input from knowledgeable experts concerning the soundness of the research design and the assessment of risks to human subjects.

MARY B. MAHOWALD
Center for Biomedical Ethics,
Case Western Reserve University
School of Medicine,
Cleveland, OH 44106

JUDITH AREEN
Georgetown University Law Center and
School of Medicine,
Georgetown University,
Washington, DC 20057

BARRY J. HOFFER
University of Colorado School of Medicine,
Denver, CO 80220

ALBERT R. JONSEN
School of Medicine,
University of California,
San Francisco, CA 94143

PATRICIA KING
Georgetown University Law Center,
Washington, DC 20057

JERRY SILVER
Case Western Reserve University
School of Medicine,
Cleveland, OH 44106

JOHN R. SLADEK, JR.
University of Rochester
School of Medicine,
Rochester, NY 14642

LEROY WALTERS
Center for Bioethics,
Kennedy Institute of Ethics,
Georgetown University,
Washington, DC 20057

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The Theory of the Majoron

In M. Mitchell Waldrop's article "Possible first hints of double beta decay" (Research News, 30 Jan., p. 534), one point should be clarified. The theoretical model that might explain such results, should they be confirmed, was not forwarded only by European physicists in 1981. The early ideas concerning the ramifications of the breaking of lepton number symmetry were published in a paper (1) by Chikashige (then at the Max

Planck Institute), Mohapatra (University of Maryland), and Peccei (then at the Max Planck Institute). This model, although very interesting, projected little in the way of physically observable consequences. A completely different model, based on the breaking of the same symmetry, was forwarded (2) by Gelmini and Roncadelli while they were at Max Planck. This model is rich in phenomena that could signal physics beyond the standard model. Subsequently, but independently, Georgi and Glashow (Harvard University) and Nussinov (Tel Aviv University) developed a similar model (3). It is also important to note that the particular model that our experiments test, as well as other similar experiments, is the Gelmini-Roncadelli model. It is even referred to as that in the paper by Georgi, Glashow, and Nussinov.

F. T. AVIGNONE, III
Department of Physics and Astronomy,
University of South Carolina,
Columbia, SC 29208

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Retraction of Research Findings

In his editorial, "Fraud in science" (9 Jan., p. 141), Daniel E. Koshland, Jr., approves the procedures recently adopted by the National Institutes of Health and various universities to deal with scientists caught reporting falsified research findings. While these retributive steps seem appropriate and may be sufficient to alert investigators intimately connected with the area of research in question, more must be done. Specifically, the general reader of the published scientific literature must be able to learn that an article he or she has read has subsequently been retracted.

The National Library of Medicine has instituted such a capability through its MEDLINE system for on-line access to references and abstracts. When the user retrieves a reference to an article that was later retracted, it displays prominently the phrase, "retracted in . . .," followed by a journal reference. The published *Index Medicus* now also carries retractions. Thirty-six such retractions have been identified since the policy was begun in the summer of 1984. A similar procedure is in place for handling published errata (and, when possible, the correction is actually made in the citation or the abstract).

The ability to correct the on-line file quickly is a great advantage of electronic information retrieval. MEDLINE is updated monthly, both with new references and with any retractions or errata that have come to our attention. Corrections of essential data, such as a dosage figure, are made immediately.

The current system, useful as it is, has one drawback: it requires a printed statement of retraction, withdrawal, or erratum signed either by the article's author or the journal's editor. The statement must be published, but we welcome an advance copy, proof sheet, or letter so that we can make the change as quickly as possible.

We believe that this approach offers MEDLINE users more protection against misinformation—deliberate or accidental—than would be possible by simply browsing through the literature. A more aggressive approach by the Library would risk placing us in the inappropriate role of censor.

The Library welcomes the advice of scientists on how we can improve the procedure. We also ask the help of editors in sending us timely notice of retractions and errata.

DONALD A. B. LINDBERG
National Library of Medicine,
Bethesda, MD 20209

Erratum: The article "Back to the energy crisis" by Mark Crawford (News & Comment, 6 Feb., p. 626) overstated American imports of petroleum and petroleum products for the years 1977 and 1985. Imports in 1977 averaged 8.8 million barrels per day as opposed to 8807 million barrels as stated. By 1985 imports had fallen to 5.07 (rounded) million barrels per day, not 5067 million barrels daily. The United States' use of petroleum—not foreign consumption as stated in the article—is projected to hit 17.7 million barrels per day in 1995. U.S. imports could then reach 9.8 million barrels a day.

Erratum: In the caption for the picture accompanying the article by John Walsh "Teacher certification program under way" (News & Comment, 20 Feb., p. 838), National Science Teachers Association executive director Bill G. Aldridge was incorrectly identified as NSTA president.

William A. Chapman, AAAS Comptroller and an employee of AAAS since 1973, died suddenly on 25 February at his home. William D. Carey, AAAS Executive Officer, said that Chapman had been an outstanding senior staff officer. "We worked as close partners for more than a dozen years," he said, "and the shock of his death is hard to absorb. It's a severe loss for AAAS, not just because he carried an important part of our institutional memory but even more because of the exceptional standard of professional ethics to which he was wholly committed."