letters

quotes from the monograph by Larry R. Lyons and Donald J. Williams. I would suggest that he read the paper "Magnetic field line reconnection experiments and restivity, heating and energy flow" by Stenzel and his colleagues. Here the authors provide *quantitative* experimental measurements of the energy balance within the plasma during the reconnection process. They find that during reconnection more than 80% of the electromagnetic power input $-\nabla\cdot(\mathbf{E}\times\mathbf{H})$ is dissipated and goes into particle heating ($\mathbf{E}\cdot\mathbf{J}$) and particle acceleration, with the bulk appearing as heating. Here it should be noted that all of the terms were directly measured. I therefore conclude that while it may remain to be seen that stored magnetic field energy can be transferred to particles in space, it has certainly been observed in the laboratory.

Reference

1. L. R. Stenzel, *et al.*, J. Geophys. Res. **87**, 111 (1982).

N. C. Luhmann Jr
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Los Angeles, California
7/85

Serendipity

We are collecting data on:

▶ references in the literature to the role (however limited or extensive) of chance in the advance of science, engineering and technology

▶ personal experience of serendipity unrecorded, or incompletely referred to, in published papers.

We would be grateful for any well-documented information that readers can supply. Please send such material to Rustum Roy at 202 Materials Research Laboratory, Pennsylvania State University, University Park, PA 16802.

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SDI clarification

I wish to make sure that my remarks quoted in a July Washington Reports story (page 58) are not misinterpreted as a statement of support for the implementation of the Strategic Defense Initiative program. My position is that most of us need to await the data from The American Physical Society's study of directed-energy weapons before either condemning the project or advocating the expenditure of large sums of money on its behalf.

If people as knowledgeable as Nicolaas Bloembergen and C. Kumar N. Patel need more time to study the problem, it's hard to imagine how the rest of us can make an informed judgment simply by reading the newspapers.

Arno Penzias
Bell Laboratories
7/85

Correction

October—The cover painting is by Julius Paulsen. □

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

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I certify that the statements made by me above are correct and complete.

G. F. Gilbert, Treasurer