

# Letters

## Homophobia: Effects on Scientists

"Homophobia" is the irrational, undifferentiated fear of homosexuality or of the homosexual element in oneself. Homophobic attitudes can be found everywhere, including among scientists and their institutions. These attitudes can be severely damaging to the progress of science. At the annual AAAS meeting in January, a special session was held to discuss problems arising from homophobia in the scientific workplace. Issues were raised that are of concern to all scientists.

Homophobia can be seen in the continuing denial of certain human rights to gay scientists in the United States. Under current U.S. immigration policy, foreign homosexuals are not allowed to enter this country. In addition, homosexual scientists are denied security clearances by some departments of the federal government.

More profound and widespread effects of homophobia on scientists exist, however, than these legal sanctions. Many homosexual scientists feel obliged to hide their gay or lesbian identity from colleagues for fear of stigmatization and become socially estranged, often with serious consequences. For some, the strain that results from being secretive at work about their personal lives can become so oppressive that they drop their pursuit of scientific careers altogether. For others, the choice of job location is severely constrained.

The "invisibility" of gay and lesbian scientists in the workforce has meant that many myths about homosexuality persist. Medical students do not learn about the medical problems of greatest relevance to the homosexual community. High school science students are rarely taught accurately about homosexuality in human biology courses. Historians of science continue to ignore or misinterpret the role of homosexuality in the lives and accomplishments of some of the world's greatest scientists.

In January 1975, the AAAS Council passed a resolution in support of the rights of sexual minorities. In the resolution the AAAS deplored "any form of discrimination on the basis of sexual behavior between consenting adults in private." It noted that "because of this dis-

crimination, some scientists are denied the opportunity to practice their profession and others are treated inequitably in terms of salary, promotion or assigned duties" and further resolved that the "Board of Directors be requested to charge its Committee on Opportunities in Science to take due cognizance of this resolution in its work."

At the 1980 AAAS meeting, the National Organization of Lesbian and Gay Scientists was created. Regional groups of gay and lesbian scientists have organized in various parts of the country. We plan to organize events at subsequent AAAS meetings. We also see as a primary task communicating with our heterosexual colleagues, and with society-at-large, about the effects of homophobia on their well-being.

It is to the advantage of the scientific community and all members of society to become educated about the effects of homophobia, and to acknowledge that in the acceptance of diversity lies strength and stimulation.

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## Electron Wave Photos

*Science* has now printed at least three times (1, 2) a figure that shows probability densities for the electron in the hydrogen atom as photographed from a moving mechanical model in 1931 by my colleague, Harvey E. White (3). On one of these occasions, the patterns were the cover illustration. Even then, alas, there was no mention of how or by whom these interesting patterns were constructed. In all cases, the patterns were illustrations for *Science* articles by Victor F. Weisskopf, most recently in his capacity as Pontifical Academician (2, p. 1164).

White made these photographs by spinning an appropriately shaped spindle with an electric motor, at the same time varying the polar angle of the spindle at a rate controlled by a cam. Time exposures of the spindle then gave remarkably successful representations of the

probability density for various states of the hydrogen atom. I share Weisskopf's admiration for these photographs and have used them in problem sets for students as an exercise in recognizing the various wave functions, given the mathematical formulas for constructing them.

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## References

1. Cover for 22 May 1970 issue as referred to in V. F. Weisskopf, *Science* **168**, 923 (1970); *ibid.*, **187**, 605 (1975).
2. V. F. Weisskopf, *ibid.* **207**, 1163 (1980).
3. H. E. White, *Phys. Rev.* **37**, 1416 (1931).

I am afraid that Reynolds is correct in accusing me and, indirectly, *Science* of publishing the wonderful old pictures of the hydrogen wave functions made by White in 1931. I plead guilty, and my only excuse would be the fact that those pictures have acquired such a classical reputation among all teachers of quantum mechanics that I almost feel like I have been using a famous quote whose source is known to everybody.

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## Technical "Notations"

It should be noted that the phrase beginning this sentence is enriching technical writing to an increasing extent. It is of particular importance to note that an author's weaker conclusions and observations may be brought forcefully to the reader's attention by this delightful phrase or one of its variants. We note that some editors wisely seem reluctant to curb this rewarding trend.

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*Erratum:* The correct title of the book reviewed under the heading "Memory as Cognition" in the issue of 20 June (p. 1361) is *Memory Organization and Structure*.

*Erratum:* In the News and Comment briefing, "Controversial scientist considers leaving NCI" (11 Apr., p. 156), W. B. Ligett was incorrectly identified as director of the Franklin Institute. The institute's president is Bowen C. Dees; Ligett is a vice president.

*Erratum:* In the report "Alteration in connections between muscle and anterior horn motoneurons after peripheral nerve repair" by T. M. Brushart and M.-M. Mesulam (9 May, p. 603), the key to cell types in Fig. 1 was inadvertently omitted. The dashed lines refer to (A) right peroneal, (B to D) postoperative, and (E) peroneal cells. The solid lines refer to (A) left peroneal, (B to D) control, and (E) tibial cells.