REFERENCES

- M. Kuratsune, Y. Nakamura, M. Ikeda, T. Hirihata, in Dioxin 86. Proceedings of the VI International Symposium on Chlorinated Dioxins and Related Compounds (Abstract, Fukuoka, Japan 1986), p. FL17; P. Gustavsson, C. Hogstedt, C. Rappe, Am. J. Ind. Med. 10, 341 (1986); D. P. Brown, Arch. Environ. Health 42, 333 (1987); P. A Bertazzi, L. Riboldi, A. Pesatori, L. Radice, C. Zocchetti, Am. J. Ind. Med. 11, 165 (1987).
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, Suppl. 7 (International Agency for Research on Cancer, Lyon, France, 1987), pp. 322–326.
- R. D. Kimbrough et al., J. Natl. Cancer Inst. 55, 1453 (1975); D. H. Norback and R. H. Weltman, Environ. Health Perspect. 60, 97 (1985); C. V. Rao and A. S. Bancrji, Cancer Lett. 39, 59 (1988).
- 4. E. Schaeffer, H. Greim, W. Goessner, Toxicol. Appl. Pharmacol. 75, 278 (1984).
- N. Ito, H. Nagasaki, S. Makiura, M. Arai, Gann 65, 545 (1974).
- PCBs, PCDDs and PCDFs: Prevention and Control of Accidental and Environmental Exposures (World Health Organization, Copenhagen, Denmark, 1987).

The statement by L. W. Robertson *et al.* (Letters, 20 Sept., p. 1334), in response to the editorial by Philip H. Abelson ("Excessive fear of PCBs," 26 July, p. 361) to the effect that the more highly chlorinated congeners of polychlorinated biphenyls (PCBs) remain in the environment is not necessarily correct. Several groups have discovered that anaerobic bacteria (1–5) and fungi (6) can

reductively dechlorinate even the most heavily chlorinated PCB congeners. For example, a *Pseudomonas* strain is able to degrade 2,4,5,2',4',5'-hexachlorobiphenyl (4), and PCB congeners containing up to five chlorines are metabolized by *Alcaligenes* Y42 and *Acinetobacter* P6 (5). Most of the PCBs in Aroclor 1242 are reductively dechlorinated under anaerobic conditions (3), and the anaerobic dechlorination of Aroclor 1260 has been observed by several groups (1). The resulting less toxic, lightly chlorinated PCBs are known targets for aerobic bacterial oxidative biodegradation (1, 2), resulting in the total breakdown of the biphenyl ring system.

This tandem biomechanism of anaerobic reductive dechlorination of PCBs in aquatic sediments followed by oxidative biodegradation in aerobic environments, resulting ultimately in the elimination of PCBs, has apparently existed in the environment for years, but was only recently uncovered (1-6).

> GORDON W. GRIBBLE Department of Chemistry, University of Hawaii at Manoa, Honolulu, HI 96822

REFERENCES

1. D. A. Abramowicz, Crit. Rev. Biotechnol. 10, 241 (1990).

- D. J. Hardman, *ibid.* 11, 1 (1991); J. F. Brown, Jr., et al., Science 236, 709 (1987).
- 3. J. F. Quensen, J. M. Tiedje, S. A. Boyd, Science 242, 752 (1988).
- 4. L. H. Bopp, J. Ind. Microbiol. 1, 23 (1986).
- K. Furukawa, N. Tomizuka, A. Kamibayashi, Appl. Environ. Microbiol. 38, 301 (1979).
- 6. J. A. Bumpus et al., Science 228, 1434 (1985).

Clarification: In the cover caption for the issue of 6 September (p. 1069), the magnification for the image of the mite *Procthaelaps regalis* was approximately 400 times its actual body size (actual length was about 500 micrometers).

Erratum: The Author Index for volume 253 (27 Sept., p. 1601) covered the months July through September 1991, not "August-September," as printed.

Erratum: In the article "Natural language processing" by A. K. Joshi (13 Sept., p. 1242), "(S/P)" should have been "(S/NP)," throughout the right-hand column on page 1244. In the same column, in line 14, "function composition" should have been "function application," and in the example sentences (b) through (g), the leftmost open parentheses should not have appeared.

Erratum: An item in the 27 September ScienceScope (p. 1475) misstated the federal agencies that manage 90% of federal land. Those agencies are the Department of Defense, the Department of the Interior, the Forest Service, and the Tennessee Valley Authority.

Erratum: The color photograph accompanying a ScienceScope item on computational mechanics (18 Oct., p. 365) should have been credited to the San Diego Supercomputing Center. The photograph is a graphic rendering of the brain and not a simulation of Alzheimer's disease, as the caption suggested.

