

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 136, No. 9, August 26, 1989

E. G. Sherburne Jr.	Publisher
Patrick Young	Editor
Laurie Jackson	Managing Editor
Janice Rickerich	Production/Design Director
Bruce Bower	Behavioral Sciences
Ivan Amato	Chemistry/ Materials Science
Richard Monastersky	Earth Sciences
Janet Raloff	Environment/Policy
Kathy A. Fackelmann,	Life Sciences/ Rick Weiss, Biomedicine
Ingrid Wickelgren	
Ivars Peterson	Mathematics/Physics
Jonathan Eberhart	Space Sciences
Liz Marshall	Editorial Assistant
Ron Cowen,	Science Writer
Stephen Hart	Interns
Wendy McCarren	Books/Resource Manager
Donald R. Harless	Advertising/Business Manager

Copyright © 1989 by Science Service, Inc.,
Editorial and Business Offices,
1719 N St., N.W., Washington, D.C. 20036.
Republication of any portion of SCIENCE NEWS
without written permission of the publisher is
prohibited.

Subscription Department
231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$34.50; 2 yrs., \$58.00.
(Foreign postage \$6.00 additional per year.) Change of
address: Four to six weeks' notice is required. Please
state exactly how magazine is to be addressed.
Include zip code. For new subscriptions only call
(1) 800-247-2160. Printed in U.S.A. POSTMASTER:
Send address changes to Science News, 231 West
Center Street, Marion, OH 43305. Second class
postage paid at Washington, D.C., and additional
mailing offices. Title registered as trademark U.S. and
Canadian Patent Offices. Published every Saturday by
SCIENCE SERVICE, Inc., 1719 N St., N.W.,
Washington, D.C. 20036. (202-785-2255)
ISSN 0036-8423

Letters

Questioning AIDS findings

In "AIDS viral burden far exceeds estimates" (SN: 7/22/89, p.54), you report that, according to a recent paper by Schnittman *et al.*, the "viral burden" of AIDS patients exceeded previous estimates by about 100-fold. Further, you point out that "the new findings may help settle the contentious issue of how such a serious syndrome could be triggered by what seemed so few infectious particles."

Yet they don't settle the issue. First, Schnittman's group did not measure "viral burden" but instead measured the burden of mostly latent and a few transcriptionally active proviruses. Second, the fraction of T-cells carrying latent proviruses in AIDS patients was shown to be about 1 in 1,000 using the polymerase chain reaction, and was extrapolated based on certain standards to actually be 1 in 100. No corrections were made for the notorious false positives due to amplification

This Week

- 132 Carbon Dioxide: Where Does It All Go?
- 132 Demonstrating the disability of depression
- 133 Vitamin C protects blood from radicals
- 133 Rearranging oxygen for superconductivity
- 133 Crown-of-thorns no Johnny-come-lately
- 134 Not all plants will thrive in 'greenhouse'
- 134 Dreaming up crystals that outdo diamond
- 135 New insights into Gaucher's tricky course
- 135 Early AZT use slows progression to AIDS

Research Notes

- 141 Behavior
- 141 Biomedicine
- 143 Environment
- 143 Space Sciences

Articles

- 136 Images of Pain
- 138 Rivers in the Sand

Departments

- 131 Letters
- 140 Books
- 140 Science on the Air

Science Service Institution for the public understanding of science founded 1921; a nonprofit corporation.

Board of Trustees — *President*, Glenn T. Seaborg; *Vice President*, Gerald F. Tape; *Treasurer*, Willis Harlow Shapley; Joseph W. Berg Jr.; Edward Bliss Jr.; Robert W. Fri; David A. Goslin; J. David Hann; Milton Harris; Leon M. Lederman; Elena O. Nightingale; Ben Patrusky; H. Guyford Stever; Deborah P. Wolfe.

Honorary Trustees — Bowen C. Dees; O.W. Riegel; John Troan.

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R. Harless.



Cover: A panel of judges awarded this painting, entitled "Living With Life," third prize in the first U.S. exhibition of art created by headache sufferers. Physicians believe patient-created artwork will help them diagnose and treat chronic headaches as well as improve public understanding of this common disorder. (Painting by Tabitha Vevers)

of nonviral sequences. Almost the same estimates — namely 1 in 1,000 lymphocytes of AIDS patients carrying latent proviruses — have been reported from Gallo's and other labs since 1984. Latent proviral genes, like all other latent genes, cannot be pathogenic because they are not biologically active. Indeed, all healthy vertebrates, including humans, carry latent proviruses that are just as inactive as HIV, many of which — namely the endogenous retroviruses — are found in every single cell, not just in 1 out of 1,000. Schnittman *et al.* further report that certain fractions of T-cells express HIV RNA in 1 out of 1,000 cells and other fractions in 1 out of 100,000 cells. Gallo's and other labs studying unfractionated T-cells have reported that 1 in 10,000 to 100,000 cells express viral RNA. In fact, I estimated that the ratio of latently to actively infected lymphocytes is about 100:1 in AIDS patients, based on this previous work.

Thus, there is nothing new on the AIDS front, and HIV continues to be very, very

quiet, and in fact latent, there. Indeed, what used to be described as the very basis of AIDS pathogenesis, namely the infection of T-cells by HIV, is now described in your article as a model "reservoir" for dormant HIV proviruses — a model with which "researchers hope to learn how to maintain viral latency indefinitely in infected individuals."

Peter Duesberg
Professor of Biochemistry
and Molecular Biology
University of California, Berkeley
Berkeley, Calif.

Who sets the terms?

Your decision to follow EPA's lead in calling daminozide a pesticide (Letters, SN: 7/15/89, p.44) is understandable, as that agency seems to be a primary voice about all environmental chemicals. It does raise a concern, however.

Letters continued on p. 139

AUGUST 26, 1989

131