

TEACHER FEATURE

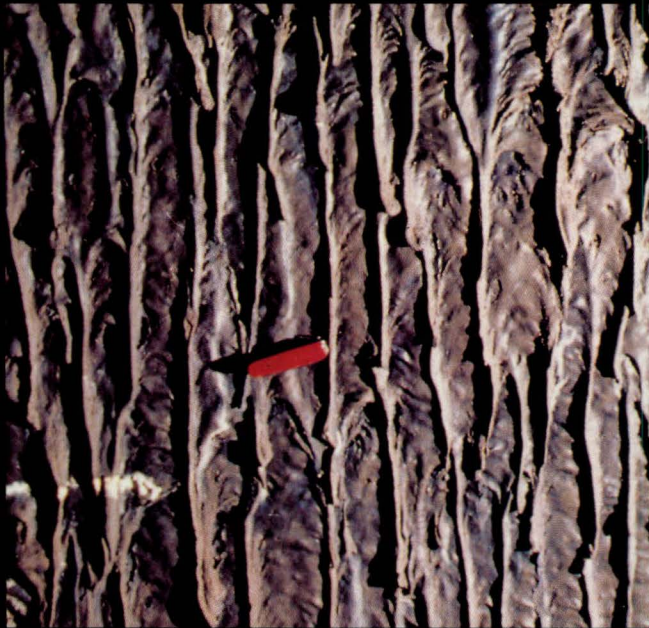
Going Down the Tubes

Photos by Bruce W. Rogers

Most of us have not had the opportunity to watch magma, or lava, flowing out of a volcanic vent, but most have seen pictures of the fiery red rivers racing down volcanoes. It is difficult to study lava flows up close while they are still hot. When they cool and harden, however, they leave a record of what happened during the eruption.

To explore a lava tube is to explore the inside of a lava flow (cover photo). As the flowing lava cools, a rocky crust forms on the surface, and a lava tube forms as the lava drains. When part of the roof caves in, it forms collapse pits or collapse trenches, in some places creating an entrance to the tube, in others a blockage.

The cascade in this photo (right) formed when lava flowed from one tube into a lower, older tube.



Inside many lava tubes, lava dripped or ran down the walls and formed dripstone...





...or dripped from the ceiling and formed lavacicles. Lavacicles are also called lava stalactites because they resemble stalactites found in limestone caves. Lava stalagmites are sometimes found where lava dripped onto the floor after it solidified.

Pull outs occur where still-hot lava peeled away from the wall, exposing older linings of harder lava.



The walls of lava tubes are marked by different lava flow levels.

There are benches as in the cover photo and the photo to the right, and balconies as in the photo below, where the flow level stayed the same long enough for the lava to cool along the walls. Sometimes benches grow together across the tube and the lava beneath drains away, forming a tube within a tube. A tube-in-tube can also form when a new flow courses down an older tube, cools, and forms a smaller tube.



For more details on lava tubes, refer to *Geology of Some Lava Tubes, Shasta County and Hat Creek Lava Tubes as Fallout Shelters*, MINERAL INFORMATION SERVICE (CALIFORNIA GEOLOGY), 1963, v. 16, no. 3.

Also, U.S. Geological Survey Bulletin 1673, *Selected Caves and Lava-Tube Systems In and Near Lava Beds National Monument*, is available through:

Books and Open-File Reports Section
U.S. Geological Survey
Federal Center
Box 25425
Denver, CO 80225

SEPTEMBER/OCTOBER 1992



CALIFORNIA GEOLOGY

\$1.50

California's Geology
Our Resources - Our Hazards

**Medicine Lake Volcano
and Lava Beds
National Monument**

CALIFORNIA
DEPARTMENT OF
CONSERVATION
Division of Mines
and Geology

PETE WILSON, Governor
STATE OF CALIFORNIA

DOUGLAS P. WHEELER, Secretary
THE RESOURCES AGENCY

EDWARD G. HEIDIG, Director
DEPARTMENT OF CONSERVATION

CALIFORNIA GEOLOGY

A PUBLICATION OF THE
DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY

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Governor

The Resources Agency DOUGLAS P. WHEELER
Secretary for Resources

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CALIFORNIA GEOLOGY (ISSN 0026 4555) is published bi-monthly by the Department of Conservation, Division of Mines and Geology. The Records Office is at 1059 Vine Street, Suite 103, Sacramento, CA 95814. Second class postage is paid at Sacramento, CA. Postmaster: Send address changes to CALIFORNIA GEOLOGY (USPS 350 840), Box 2980, Sacramento, CA 95812-2980.

Reports concerning Division of Mines and Geology projects, and articles and news items related to the earth sciences in California, are included in the magazine. Contributed articles, photographs, news items, and geological meeting announcements are welcome.

THE CONCLUSIONS AND OPINIONS EXPRESSED IN ARTICLES ARE SOLELY THOSE OF THE AUTHORS AND ARE NOT NECESSARILY ENDORSED BY THE DEPARTMENT OF CONSERVATION.

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Sacramento, CA 95814-3532

Subscriptions: \$8.00/1 yr. (6 issues); \$15.50/2 yrs. (12 issues); \$23.00/3 yrs. (18 issues). Send subscription orders and change of address information to CALIFORNIA GEOLOGY, P. O. Box 2980, Sacramento, CA 95812-2980.

SEPTEMBER/OCTOBER 1992
Volume 45/Number 5
CGEOA 45 (5) 133-164 (1992)

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GEOTECHNICA 1993

INTERNATIONAL GEOSCIENCES TRADE FAIR
Cologne, Germany

The Foreign Commercial Service in Germany, the U.S. Department of Commerce, and the Cologne Fair & Exhibitions Corporation will present the International Trade Fair and Congress for Geosciences and Technology, May 5-8, 1993. Topics will include:

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Cover Photo: Valentine Cave, a lava tube in Lava Beds National Monument, Siskiyou County, California. Lava benches on the walls mark the level of lava that once flowed through the tube. *Photo by Bruce W. Rogers.*