

Fig. 1. A dolphin riding the bow wave of a small ship.

not topple over and out of position due to the apparent unbalanced upward force on its tail flukes. In this regard both gentlemen seem to have ignored the fact that dolphins and porpoises also have well-developed pectoral flippers. Might they not adjust the angle of attack of these pectoral flippers so as to produce an upward moment forward of their center of gravity which balances the upward moment from the tail flippers astern? Negative buoyancy, or an orientation of the total-body hydrofoil such as to produce a counteracting downward force, would, of course, be necessary in this situation to prevent the animal's being pushed to the surface.

MALCOLM S. GORDON

Department of Zoology,
University of California, Los Angeles

References and Notes

1. P. F. Scholander, *Science* **129**, 1085 (1959); W. D. Hayes, *ibid.* **130**, 1657 (1959); P. F. Scholander, *ibid.* **130**, 1658 (1959).
2. These observations were made during an expedition supported by U.S. Public Health Service grant No. RG-7114.

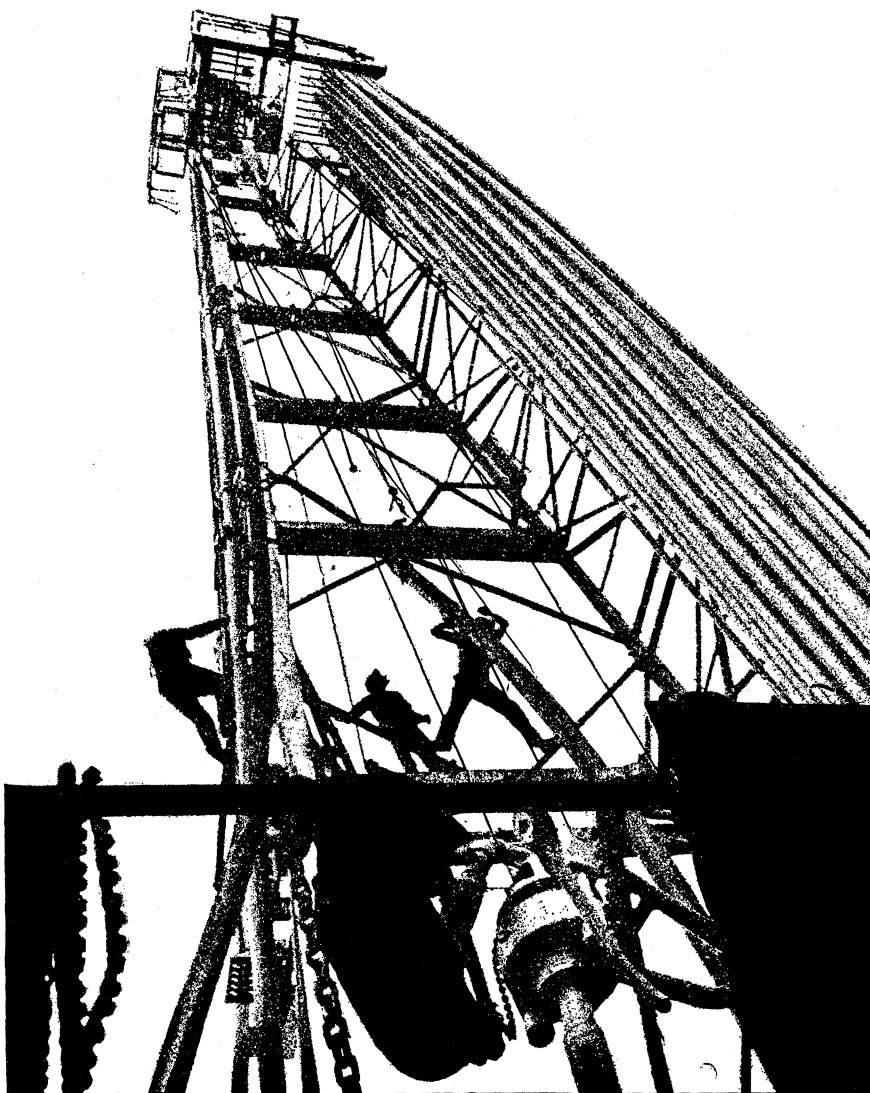
Chestnuts

Will you please ask the writers of letters on "The Chinese chestnut" [*Science* **132**, 366 (5 Aug. 1960)] what they really mean by this phrase and the phrase "the American chestnut"? I suspect that the writers are referring to *Castanea dentata* Borph. versus *C. mollissima* Blume, but they do not say so. They leave the reader to finish their work for them.

There are at least ten species of

MEETING THE CHALLENGE OF ENVIRONMENT—HIGH TEMPERATURE AND IMPACT

... second of a series



ANTON GAMMA AND NEUTRON DETECTORS ON A JOURNEY TOWARD THE CENTER OF THE EARTH.

Everyday, here and abroad, Anton detectors journey more than two miles toward the center of the earth. They reliably provide reproducible results under severe impact and are unaffected by temperature over the range of -55°C to $+175^{\circ}\text{C}$. Patented Anton processes eliminate microphonism, increase sensitivity and resist temperature change.

Since Anton pioneered the first well-logging nuclear detector more than nine years ago, Anton halogen quenched gamma detectors and BF_3 neutron proportional counters have been specified by the oil-well logging industry as the "rugged detectors designed for high temperature and rough field use."

Chances are—one of the 300 some odd α , β , γ and neutron detectors available from stock (or 4 to 6 week delivery) may meet your unusual environmental challenge. If not, we can help you—as we have done others—by development of detectors for your specific needs. Anton Detector data belongs in your file—send for Bulletin E2.

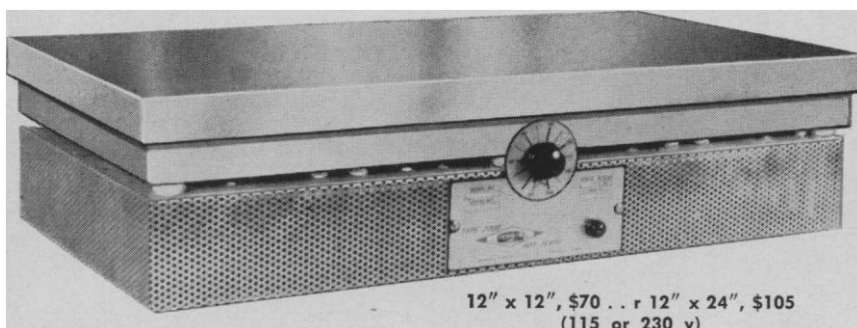


ANTON ELECTRONIC LABORATORIES INC.

1226 Flushing Ave., B'klyn 37, N.Y.

new design

**improves performance,
reduces price**



12" x 12", \$70 . . . r 12" x 24", \$105
(115 or 230 v)

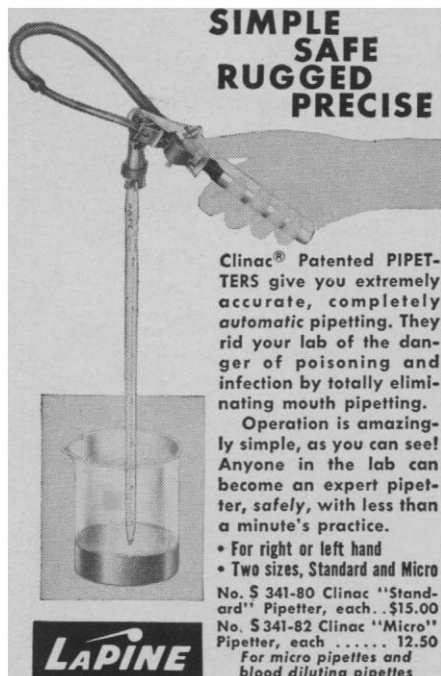


TYPE 2200 HOT PLATES

**offer precision thermostatic control
and fast heat-up over the
entire stepless range to 700° F**

Write for literature and name of nearest dealer

THERMOLYNE CORPORATION, 568 Huff St., Dubuque, Iowa
(Formerly Thermo Electric Mfg. Co.)



**SIMPLE
SAFE
RUGGED
PRECISE**

Clinac® Patented PIPETTERS give you extremely accurate, completely automatic pipetting. They rid your lab of the danger of poisoning and infection by totally eliminating mouth pipetting.

Operation is amazingly simple, as you can see! Anyone in the lab can become an expert pipetter, safely, with less than a minute's practice.

- For right or left hand
 - Two sizes, Standard and Micro
- No. S 341-80 Clinac "Standard" Pipetter, each..\$15.00
No. S 341-82 Clinac "Micro" Pipetter, each 12.50
For micro pipettes and blood diluting pipettes



ARTHUR S. LAPINE and COMPANY
6001 South Knox Ave. • Chicago 29, Illinois
In the East: Tenso-Lab, Inc.
Irvington-On-Hudson, New York • Phone LYric 1-8900



**PARR Sodium Peroxide
Combustion Bombs**
A size for every laboratory need

**No. A116AC
42 ml. Bomb
Electric Ign.**

Samples weighing up to one gram are rapidly and completely oxidized in the A116AC bomb preparatory to determining Sulfur, Halogens, Arsenic, Boron and other elements in almost any combustible material. Smaller samples can be treated in any of six similar PARR bombs in 22, 8 and 2.5 ml. sizes, both flame and electric ignition types.

Ask for Specification 2000



INSTRUMENT COMPANY
MOLINE, ILLINOIS

Castanea Mill., the genus of chestnuts, in the temperate regions of the Northern Hemisphere. Three species occur in China, Japan, and Korea, and there are possibly half a dozen more in the eastern United States. To attempt to distinguish chestnuts as shrubs or trees is scarcely scientifically accurate, as one of the writers shows. In the United States there are several native shrubby chestnuts. One of the writers, incidentally, implies that "the spreading chestnut tree" of Longfellow's poem belonged to the genus *Aesculus* L., possibly *A. hippocastanum* L., instead of *C. dentata*. I agree, but it would be interesting to know whether this is an ascertainable fact.

G. NEVILLE JONES

Department of Botany,
University of Illinois, Urbana

G. Neville Jones is obviously justified in criticizing us for not using Latin names. However, each of us knew what we were referring to when we said "American chestnut" or "Chinese Chestnut." I felt that if I used the Latin names I would be trying to make people think I am a scientist, which I am not. I am just a plain old nut grower who subscribes to a magazine called *Science*.

Regarding Longfellow's chestnut tree, it is not hard to pin it down as a horse chestnut. It was located in Cambridge, Mass., within view of Longfellow's house, and did indeed shelter a blacksmith's shop. The village authorities chopped the tree down in 1876, over the vigorous protests of Longfellow and others. They said it was a menace to those driving under it with heavy loads. My source for that information is *The Horse and Buggy Age in New England* by Edwin Valentine Mitchell.

ROBERT RODALE

"Organic Gardening," Organic Park,
Emmaus, Pennsylvania

Hybrids and Growing Practices

In his recent article, "Hybrid corn and the economics of innovation" [*Science*, 132, 275 (1960)] Griliches treats the use of hybrid seed as if it were an isolated practice. Actually, many practices in proper combination are needed to produce a good corn harvest. True, adapted hybrids have the genetic potential to respond to high levels of plant nutrients and to adequate supplies of soil moisture; yet where these are not present the hybrid has little if any superiority over good old varieties.

On the dark-colored soils of the corn belt the hybrids gave an immediate response on many farms because of the excellent soils. But elsewhere it was much more difficult to get the same effects because the other soil management practices had to be devel-