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Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the *Directory of Student Science Training Programs for Precollege Students*.

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Letters

Flying to conclusions?

To point out that the foot of *Archaeopteryx* resembles that of the perching bowerbird more than that of the predominantly ground-dwelling lyrebird ("Flight: A bird hand is worthy in the bush," SN: 2/6/93, p.87) is to overlook three things: that the foot of *Archaeopteryx* resembles neither very closely; that it is very similar indeed to the feet of small theropod dinosaurs whose fossils are of the same age as that of *Archaeopteryx*; and that there are 140 million years of evolutionary change behind every modern bird.

Dennis Hibbert
Seattle, Wash.

Charm of the versatile bacterium

The versatile bacterium *Shewanella putrefaciens* was first characterized by a colleague of mine, Charles R. Myers, one of the U.S. re-

searchers involved in studying the Black Sea in 1988 ("Minding those microbial mineral-makers," SN: 2/13/93, p.110). His original work required some interesting innovations in the methodology for both growing the bacteria and detecting the metal reduction process.

This particular bacterium is capable of manganese reduction in a most unusual way: It actually works with manganese in its solid form and uses this reaction to provide energy for its life processes. This would be much like a minute speck of dust actually performing a chemical modification of your computer screen!

Part of the charm of this organism is that the enzymes which perform the reduction — unlike those of any other bacteria known at this time — are found in the outer membrane! In addition, it is possible that the lessons learned about reduction processes from many of these microbes can be beneficial in terms of human health. This is because reductive metabolism is at the root of a number of pathological

conditions. These microbial mineral-makers are indeed versatile and interesting.

Mary L. Haasch
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Lower figure, less accuracy?

In "Depressing news for low-cholesterol men" (SN: 1/16/93, p.37), it is stated that "Among men age 70 and older, nine of 75 in the low-cholesterol group — about 16 percent — reported symptoms of mild to severe depression." A complex calculation indicates 12 percent. This lower figure may affect the statistical accuracy of the conclusions reached — that is, that low cholesterol may be related to depression in older men.

H. H. Denman
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