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Letters

Erebus and ozone

In "The Inferno Revisited" (SN: 6/6/92, p.376), I was struck by the comments about the theory that copious quantities of gases, whose compositions are not well understood, may be spewing from the Mt. Erebus volcano in Antarctica. Is it possible that some of these gases contribute significantly to the formation of the ozone hole over Antarctica, since they are produced in that area and would tend to concentrate there because of atmospheric wind patterns?

Keith Vinson
Alabaster, Ala.

Mt. Erebus does release gases, some of which may contain chlorine. But atmospheric scientists believe those volcanic gases do not contribute significantly to the formation of the ozone hole because they are released into the troposphere,

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Cover: An abstract mathematical portrait — a "fatal attractor" — of a rabbit heart's erratic beat provides a means by which researchers can learn to control the behavior of a chaotic system. (Inset image: William L. Ditto et al.)



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Science Service, a nonprofit corporation founded in 1921, 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 Program 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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the lower layer of the atmosphere. In order to affect ozone, they would have to rise into the stratosphere. This does not readily happen, says Mark Schoeberl of NASA's Goddard Space Flight Center. Volcanic chlorine can reach the stratosphere when it is injected by a massive eruption, such as the kind that occurred last year at Mt. Pinatubo. But even then, the amount reaching the stratosphere is only about one-tenth what humans add in the form of chlorofluorocarbons and related chemicals, says Schoeberl.

Other natural substances, such as decaying seaweed, release chlorine-containing compounds that can survive long enough to reach the stratosphere because they are inert in the troposphere. Once they reach the stratosphere, ultraviolet radiation breaks them apart, releasing their chlorine. Again, however, natural sources produce far less chlorine than do human sources, says Schoeberl.

Scientists believe the natural concentration of

chlorine in the stratosphere was about 0.7 parts per billion before chlorofluorocarbons began reaching the stratosphere. The current level is five times that amount. — R. Monastersky

Poetic paradox

With respect to your article on the prostate ("The Neglected Sex Gland," SN: 8/8/92, p.94), I though this might interest you. It started out as a sonnet, then got itself condensed.

Buried treasure
Lodged below,
Source of pleasure,
Now of woe

Erstwhile loyal,
Now apostate,
How you foil me
Now, old prostate!

David Goldstein
New York, N.Y.

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