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Incorporating Science News Letter

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COVER: The surface of an aged human uterus has cells with very few microvilli, indicating decreased secretions in the uterus. This is one of the many changes that takes place in the human reproductive system with aging, and which may ultimately be controlled by chemicals in the brain. See p. 297. (Scanning electron micrograph: R.W. Steger, Wayne State Univ.)

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LETTERS

Reversed-depth illusion

The depth-reversal illusion that Stuart Grover noticed in several of the Viking orbiter photographs of Mars (Letters, 10/16/76) is actually well known to perceptual psychologists. Richard L. Gregory, in his book *Eye and Brain*, discusses this striking illusion, and cites a reference to it by the 19th century writer David Brewster. The explanation of this phenomenon agrees with Grover's conjecture regarding the direction of illumination. To quote Gregory: "... light normally falls from above. . . . When, however, illumination is from below, we tend to get reversed depth."

Ironically, Gregory has chosen a model of the lunar surface to illustrate the illusion, and concludes his discussion of it by saying, "It might even be a perpetual hazard in space travel."

Robert Carroll
Brooklyn, N.Y.

Stuart Grover's recent letter concerning the illusions in Martian photographic features caught my eye and recalled a source of embarrassment to me several years ago. My colleague and I were examining the first scanning electron microscope pictures we had made of aluminum surfaces. The surface, at 50,000× magnification, appeared to consist of rolling hillocks. We created an elaborate theory around this and other observations which proved to be incorrect. Finally, after making the proper analogy between the electron beam-produced images and images from reflected light—and by holding the pictures in the proper orientation, the features became what they really are, shallow bowl-shaped depressions.

Bernard R. Baker
Center for Technology
Kaiser Aluminum & Chemical Corp.
Pleasanton, Calif.

Oxygen therapy

The article on oxygen therapy (SN: 9/16/76, p. 254) interested me a great deal as my father used a newly developed Union Carbide "oxygen walker" for over a year prior to his death from emphysema in 1970.

The "walker" was filled from a liquid oxygen tank and its use enabled him to retain mental alertness and a certain degree of physical mobility in spite of the emphysema and the tranquilizing medications that he was receiving. The Veteran's Administration

provided the equipment and thus he was spared the financial burden of using oxygen. In summary, the oxygen therapy, while in no way extending his life, allowed him to participate fully in the life that he had remaining.

Molly Gordon
Bainbridge Island, Wash.

Cryptography

One of your readers in the Oct. 9 issue mentions The National Puzzlers League as an organization for those who would like to try their hand at cryptography. That organization is devoted to puzzles including cryptograms. But, for cryptograms and all other phases of cryptography, the more appropriate organization is The American Cryptogram Association which publishes a bi-monthly magazine, THE CRYPTOGRAM, edited by Eugene Rogot, 9504 Forest Road, Bethesda, Md. 20014.

As for the use of random key numbers pointed out by another reader, I, as a cryptanalyst, find that a moot question concerning security in messages. I disagree with the statements made in the book recommended, *The Codebreakers*, by David Kahn. Such security may be mathematical, but mathematics is not the final word on the construction and solution of ciphers.

David Shulman
New York, N.Y.

Hooked handedness

The work by Levy and Reid on hooked handedness (SN: 10/16/76, p. 247) is hampered by small sample size and failure to account for the manner in which children have been taught to position their hands and paper when learning to write. I remember the school-board-mandated instructions designed to produce good penmanship for first grade under which I learned to write: The paper shall be placed on the desk and angled to the left so that the lower left corner of the paper is at the midline of the stomach.

Such a paper position is comfortable only for right-handed persons. Therefore, the lefties among us were forced into hooked handedness because the anatomy of the arm left no more choice than did the school board's absolute decree on paper position.

Doug VanWormer
Reno, Nev.

Regarding the hooked handedness article: I am left-handed. When I was learning to write my teacher directed me to reorient my paper to an angled position opposite that for the right-handed pupils. It was simple: I now write nonhooked. But would I have done so without direction?

Margie M. Meyer
Lakewood, Colo.

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