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COVER: Although scientists had tried to grow endothelial cells — cells that line blood vessels — in culture for 50 years, they did not finally succeed in doing so until 1973. In the five years techniques for endothelial cell culturing have been available, they have shed a lot of light on the role of blood vessels in heart attacks, stroke, bleeding diseases and other pathological conditions. See p. 346. (Scanning electron micrograph of a lung artery endothelial cell in culture: Una S. Ryan, University of Miami School of Medicine)

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LETTERS

Second thoughts on solar

The boner of accusing Archimedes of setting fire to the sails of Roman ships by sunlight focused off a batter of *convex* mirrors (SN: 4/22/78, p. 248) is too obvious to need correcting. But the hoary legend needs to be put to rest. Since the sun subtends an angle of one-half degree, its image focused by concave mirrors would fill one-half degree. To produce appreciable heat, the mirrors would have to be so close to the sails that the job would have to be an inside job. The perpetrator might as well have used his cigaret lighter.

But, on further thought, perhaps there was something to the story. Perhaps Archimedes' agent drove the ships away by radiation pressure!

William A. Calder
Avondale Estates, Ga.

You said Montezuma Castle is in New Mexico (p. 248). But it is in Arizona, five miles northeast of Camp Verde.

It's a five-story twenty-room cliff dwelling in a cave, high in a limestone cliff.

Montezuma's Castle (as you have mentioned) is called Montezuma Castle.

Carolyn Riggs
Flagstone, Ariz.

The cover of the April 22, 1978, SCIENCE NEWS displays an image of the sun which was obtained by the National Research Lab's Coronal XUV Spectroheliograph carried onboard Skylab. However, the caption fails to include this recognition; but it does identify the photo as a NASA photo and a courtesy of Motorola caption.

We feel that your subscribers would be better served if the credit recognized the experimenter whose expertise made the original image possible. Two of the images (top and bottom picture) on page 252 were obtained by the same experiment. As a matter of interest the false color image is made from the same image as the cover.

R. J. Shumacher
Project Manager
Apollo Telescope Mount
Naval Research Laboratory
Washington, D.C.

Your pictorial on solar power satellites (p. 256) was very useful, but it may have done an unintentional disservice to this exciting idea by linking it to development of a Heavy Lift Vehicle. Such a vehicle would itself be a multi-billion-dollar investment, which is why this approach is promoted by aerospace companies such as Boeing. An HLV would, in fact, be needed for a ground-launched system of solar power satellites.

But there is a cheaper and easier way. The work of Gerard O'Neill and others has indicated that solar power satellites can be built sooner, **at a much lower total cost, from lunar raw materials. Existing space shuttle technology would be adequate to establish a small lunar mining base, an electromagnetic catapult to shoot the packets of lunar soil into space, and the orbiting facilities to process the soil into its component oxygen, aluminum, titanium, silicon, and other elements, and fabricate the power satellites.**

An HLV is not needed to haul millions of tons of raw material into space when limitless quantities are already there, waiting to be used. HLV development may be worthwhile in itself, but it is not required for a solar power satellite system.

Peter H. Shaw
Guttenberg, N.J.

As is the case with a SCIENCE NEWS double issue, you've excelled yourself again! I thought Viking was good, then the astronomy issue, but this solar issue was fantastic! Very well done!

Perhaps a future double issue could deal with the shuttle or computers.

Keep up the good work.

Perry Glen Moore
Nashville, Tenn.

Third thoughts on est

I would like to take exception to Joel Greenberg's article on est. His intention was probably to present a balanced discussion, but as is the case with articles on controversial organizations like est, he falls far short.

First, he devotes fully one-sixth of the article to "seven reported cases of persons who experienced psychotic episodes after undergoing est." Now, if you take 100,000 people and put them through any kind of experience, some small percentage are going to flip out. It could be a cooking class, or a course on home economics. It doesn't matter. There's always going to be somebody living right on the edge. If Kirsch and Glass discovered 500 other similar cases, there might be cause for concern. But seven cases ... ? I find the article very much weighted by spending so much time and detail on such a disproportionate sampling.

By contrast, how many patients who are seeing psychiatrists commit suicide? A higher percentage, I would assume.

John C. Harrison
San Francisco, Calif.

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