

**OF THE WEEK**

Placebo effects not just in the mind	164
Fossils, geology hold clues to dinosaur life	164
NAS issues attack of Soviet abuses	165
Extensive drilling yields Icelandic information	165
The distant quasar	166
Tapping the resources of the Southeast	166
Avoiding earthly contaminations	167

**RESEARCH NOTES**

Behavior	168
Botany	168
Biomedicine	174
Space Sciences	174

**ARTICLES**

Tolling damped sinusoids	169
Art treasures provide key to Peruvian past	171

**DEPARTMENTS**

Letters	163
Books	175

**COVER:** More than a millenium before the establishment of the better-known Inca empire, the Nazca civilization was flourishing along what is now Peru's southern coast. Among their other accomplishments were creation of huge figures drawn in the desert for some unknown reason and development of a lively gold-working tradition marked by fearsome symbolism, as in this mask with snakes' heads for hair. Glimpses into this and other mysterious Andean civilizations are offered by a current exhibit of Peruvian gold. See p. 171. (Photo courtesy of the California Academy of Sciences and the Royal Ontario Museum)

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<b>Editor/Staff Writer</b>	Jane M. Livermore
<b>Books</b>	Donald Harless
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# LETTERS

**The bagel: Boo and bravo**

I would like to correct several misleading statements in the article "Disposable Fusion Reactors" (SN: 8/12/78, p. 106).

- The cost of a tokamak installation is estimated to vary roughly as the square of its size, while the fusion power output increases as the cube, so that the cost per unit of power output should *decrease* with increasing size—and not the opposite as stated by your article.

- The reason for preferring superconducting magnets is not that they can withstand higher stress than does copper, as implied by your article, but that superconducting magnets have no resistive power dissipation. The hundreds of megawatts of power that are dissipated in normal-conducting coils make impractical tokamak power reactors with copper coils, notwithstanding the claims of your article. The objective of a fusion power plant ought to be the production of energy, not its consumption.

- Contrary to the statement on p. 111, the fusion laboratories are not "terrified... of building a machine that might actually make fusion power." As demonstrated during the last two years in several DOE and Euratom fusion laboratories, the key to that practical fusion machine is plasma heating by neutral-beam injection, rather than by the relatively feeble effect of ohmic heating.

D. L. Jassby  
Princeton, N.J.

The article by Janet Raloff was enlightening, to say the least.

With the energy problem so fundamental to our economy and our future, it is incredible that men with the credentials of Robert Bussard and Bruno Coppi have not been able to obtain subsidy for their work with "toy" fusion reactors.

To predicate support for the project on an evaluation of whether or not their reactor will work appears to be ridiculous. Even if their reactor does not work, there is no way they can avoid generating, at low cost, valuable information on fusion-plasma physics that would shorten the time-frame and the overall cost of this branch of energy research and development.

Whether or not we pursue this, it's a good bet that the Russians will.

Robert Bussard and Bruno Coppi should receive immediate support not only for the work on their disposable fusion reactors but also for their "fission cousin."

Both men have limited life-spans. Also, in view of what appears to be DOE oppo-

sition, their work might have to be subordinated to an agency other than the Department of Energy to avoid red-tape or other obstruction. This work should be considered supplemental to, rather than conflicting with, the DOE program.

Preston J. Rossman  
Chicago, Ill.

**Lighting the solar fire**

Your recent article "Solar Sales Heating Up" (SN: 7/8/78, p. 28) paints a glowing picture of the solar energy industry in the United States. Although there was tremendous growth in 1976 to 1977, growth has slowed drastically from April 1977 to present. The Congress and President Carter, having raised our expectations, are now stalling on solar and energy conservation tax incentives contained in the National Energy Act while debating oil and natural gas issues.

Passage of these incentives is important to the solar energy industry and to the total energy situation in our country. The longer it takes, the less are our chances of reaching the short range goal 2.5 million solar energy installations by 1985.

Francis E. O'Connor, Commissioner  
Department of General Services  
Nassau County Energy Administrator  
Mineola, N.Y.

**Thank you!**

As a recent subscriber, and strictly "lay" reader of SCIENCE NEWS, I don't expect my remarks to carry much, if any, weight amid the many erudite letters you must be used to receiving — but I cannot resist expressing my sincere gratitude and appreciation to Jonathan Eberhart for "Semicentennial: Baltimore to Venus Attempt" (SN: 7/29/78, p. 78).

My copy of the July 29 issue arrived Monday, August 7, and as usual I began with the letters, proceeding page by page (baffled by the PETRA piece), letting my mind absorb (and expand like a sponge) ideas, findings, conjectures, possibilities and confirmations of wondrous matters, until I reached Mr. Uhler's account of the "Venus probe" of 1928.

The opportunities to laugh until the tears flow and the diaphragm aches are few and seldom; this article should hold me for a long time.

I've never before written a "Letter to the Editor" (although frequently moved to do so by outrage or dissent), but this time I just had to say "Thank you."

Toni Brown  
Los Angeles, Calif.

Address communications to Editor,  
Science News, 1719 N Street, N.W.  
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Please limit letters to 250 words.

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