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**COVER:** The space shuttle left the ground last week riding piggyback with a 747 airplane—presently its only link with flight. Six safety and stability tests of the shuttle-on-plane arrangement are planned before the shuttle is manned. See p. 134. (Photo: NASA)

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# LETTERS

**Search for superheavies**

Your brief article "Element 126: 'No Evidence'" (SN: 2/5/77, p. 35) misstated the essence of our findings reported in the Jan. 31 *PHYSICAL REVIEW LETTERS*. We never said "none of the superheavy elements are present in the giant-hole inclusions studied." Instead, our conclusion was that "with 98 percent confidence, none of the superheavy elements ( $Z = 105$  to  $129$ )\* are present in the giant halo inclusions studied at levels which are at least a factor of 10 less than that reported in Ref. 2." (The first experiment which was done at Florida State University is referenced in the footnote.) Since the detectable levels in our experiment were about  $5 \times 10^9$  atoms, we could not say that "none are present" as this implies not even one atom. The search for superheavy elements will continue, but scientists will never be able to sift through all the atoms of the earth and say that "none exist."

\*These include all the superheavy elements proposed to exist by Gentry et al. *PHYS. REV. LETT.* 37, 11 (1976).

C. J. Sparks Jr.  
*Metals and Ceramics Division*  
*Oak Ridge National Laboratory*  
*Oak Ridge, Tenn.*

**Unemployment in science**

In the short article "Employment in the Sciences" (SN: 1/29/77, p. 73), you point out that scientists occupy a unique status in the United States in that they have low unemployment. This appears to be true but not if you consider only full-time employment. In the most recent issue of "The Report on Chemist's Salaries and Employment Status, 1976," the American Chemical Society survey discloses that among Ph.D.'s 7.5 percent have less than full-time professional employment. These include those that have managed to get part-time or subprofessional jobs, postdoc's, and fellowships, as well as the officially unemployed, which was listed as 1.4 percent. The reason that most unemployed chemists, and I am sure other scientists as well, are not actually unemployed is that there are these less than full-time professional jobs available which bring in about the same amount of income as unemployment insurance. It is fortunate indeed that these types of jobs do exist and that chemists and other scientists are willing to take them. It would be well if all the unemployed in the nation could be offered

the same type of opportunity to avoid the degrading experience of having to exist on handouts from the government.

Alan C. Nixon  
Berkeley, Calif.

**Mysticism and behavior**

I have seldom seen scientific bigotry more blatantly represented than in a recent story you reported (SN: 1/22/77, p. 58) about a group of psychologists concluding that mysticism among today's youth is a result of environmental stress and "psychic disorder." The psychologists seem to have forgotten that what they are treating wholesale as a behavioral deviation is often grounded in an alternate view of reality far older and more deeply proven than their fifty-year-old science can claim to be.

Carolyn Gilman  
St. Paul, Minn.

Only by being selective of particular forms of mysticism is it possible to conclude that "it implies repudiation of some important aspect of society." Speculation as to possible relationships is a vital tool to the theoretician formulating rational and experimental data into a hypothesis. How close he comes to achieving an expression of actual relationships may depend upon his mystical abilities. In the science of questing, mysticism can be a valuable tool, along side of speculation, reason, and experimentation.

David Livingston McCallum  
Pico Rivera, Calif.

**Ideological traps**

The two alleged weaknesses of the to-be-published *Values in the Electric Power Industry* (SN: 1/15/77, p. 44) can hardly be taken seriously by parties who have not fallen into ideological traps.

The first trap is "need." Need can be measured only with respect to purpose. In a free society, individuals determine their own purposes. Therefore, if for some purpose, they desire more electricity, for that purpose they need it.

The second trap is "proof." Despite the attempted application of the concept in many spheres of life, the concept of proof is well-nigh limited to logical and mathematical constructs. For most everything else we rely on evidence rather than proof. Having had sufficient evidence in my own experience of the validity of economy of scale when applied to a water system, I am willing to acknowledge the probability of its equal application, with possible variations, to an electricity system. Hence, I am willing to accept standardized costing practices as a substitute for detailed examination.

David Livingston McCallum  
Pico Rivera, Calif.

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