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COVER: Britain's Advanced Passenger Train demonstrates how a train of the future can adapt to today's railbeds, with their sharp, ungraded curves—a hydraulic servomechanism tilts the train instead of the track. Engineers at the Railway Technical Center in Derby, England, have some other surprises, too, by which they hope to run 150-mile-an-hour trains on existing track without expensive modification. The aim, besides improving Britain's already excellent passenger service, is to capture part of a growing foreign market for advanced railway systems. The United States could become a major customer if efforts to upgrade America's passenger railways are accelerated. See p. 90. (Photo: British Railway Board)

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11 W. 42nd St.
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Editorial and Business Offices
1719 N Street, N.W.
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Subscription Department
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LETTERS

The nuclear power debate

Your article entitled "The Great Nuclear Power Debate (1)" (SN: 1/17/76, p. 44) fairly portrays both sides. But even the mention of the word *terrorism* means that we just aren't ready yet for absolutely safe nuclear power. I seriously believe that it is an environmentally and economically safe and justifiable alternative. But, having been a reactor operator for the past three years, I have found that the most frequent question asked is "How can this thing blow up?" The slightest mention of this idea forces me to conclude that the human race is just not responsible enough to warrant the further installation of such potential doomsday machines.

Ron Pepitone
Senior Reactor Operator
Reed College Reactor Facility
Portland, Ore.

It is outrageous for Mr. Nader and other opponents of nuclear power to imply that "Utilities are beginning to realize that nuclear power isn't the blessing it was thought to be," because "within the last two years they have canceled or delayed orders for the equivalent of 130 large nuclear plants." The major reasons for cancellation are the legal entanglements opponents of nuclear power have thrown about any new plant construction and activation. The capital required to build a nuclear plant is rather large, and not easily kept together in the face of what are now seen to be inevitable legal delays. Of course, these legal fights, whatever their merit, increase plant construction costs, sometimes to the point where the plant is not economical; but to use that increase in cost as a further argument against nuclear power is both unfair and invalid.

Jerry Pournelle, Ph.D.
Studio City, Calif.

In part one of John Douglas's summarized "Great Nuclear Power Debate," the opponent's view is reported as disparaging the solar radiant and wind energy alternative. One particular objection is stated to be cost.

If we wanted to, we could substantially reduce the expense of this alternative by eliminating the need for costly energy transmission networks and local electric utility services via inexpensive integrated solar radiant and wind energy systems designed for the on-site use of collected and converted sun and wind. Further, if said systems were also made sufficiently tall as to avoid being overshadowed in most urban locations, their energy storage requirements could be economically met with compressed air being stored in the hollow support columns of the said structures.

This approach would also assist in encouraging people to forsake much of their car travel for a life in these tall energy-collecting structures, within an elevator, walk, bicycle, or trolly ride from their jobs.

Tony Butler II
Houston, Tex.

Powers of 10

As Steven W. Siegan indicates in his letter in your Jan. 10 issue, the use of special prefixes for powers of 10 has reached the self-defeating point where it is gratifying only to Latin and Greek scholars and is mainly only an impediment to useful scientific work.

His suggestion to use "p" and "n" is interesting and reminds me of a simplification that I dreamed up shortly after World War II, when I was a civilian physicist at the Taylor Model Basin and have used since for computations with large or small quantities:

12345.0 is written $1^{4}2345$ (or $123^{2}45$, etc.)

.00012345 is written $1_{4}2345$ (or $12_{5}345$, etc.)

In addition to saving space, this has made slide rule computations considerably simpler, to me, at least.

John d'H. Hord
Ft. Walton Beach, Fla.

In a previous letter Steven Siegan suggested a notation to replace prefixes of very large and very small numbers. I would like to point out that his suggestion duplicates in essence notation already in use in computer languages. For example, his 1p17 for the number 1×10^{17} is already written as 1E17 or 1E+17, and his 7n6 for 7×10^{-6} is already written as 7E-6 or 7E-06.

Prefixes for numbers really do not present a problem for nomenclature because most people use the exponential notation in writing anyway. On the other hand, prefixes are useful in conversation, especially among scientists in fields where certain quantities are common and are well understood by those persons present.

Brian H. Nordstrom
Lecturer in Chemistry
California State University
Chico, Calif.