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COVER: Electromagnetic pulses, EMPs, which accompany all nuclear blasts, like the 1951 Nevada test shot pictured, are considered virtually harmless to living things but can cripple or kill unshielded electronics. See p. 300. (Photo: Los Alamos Scientific Laboratory)

Publisher	E. G. Sherburne Jr.
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Protein and bone loss

Your article "Building Stronger Bones for Old Age" (SN: 4/4/81, p. 119) omitted one cause of loss of bone: a diet containing high protein. Such a diet has been shown to cause loss of mineral from the bone, presumably to provide neutralization of the acid ash formed when protein is metabolized, thus keeping blood at the necessary pH level. This mechanism may explain why only about half of the subjects under investigation responded to the fluoride and calcium treatment.

Hellen M. Linkswiler reported on her study in TRANSACTIONS OF THE NEW YORK ACADEMY OF SCIENCES, Series 2, Vol. 36, No. 4, pp. 333-340, April 1974. Using 33 young adult males as subjects, she showed that with 47 grams of protein together with 500 mg of calcium taken daily, calcium balance was achieved. On the other hand, when 142 grams of protein were ingested daily, 30 of the 33 could not reach calcium balance even when taking 1,400 mg of calcium.

Several other studies support this dietary relationship.

The investigator cited in your article, B. Lawrence Riggs, might consider controlling the complete diet of his subjects while supplying the fluoride and calcium. One would expect improvement in the success ratio.

William Loran, D.D.S.
Tiburon, Calif.

Meprobamate and polygraphs

Martin Orne's conclusion that meprobamate reduces physiological responses associated with lying (SN: 4/4/81, p. 214) is in agreement with several other studies which have established that such responses can be quieted by various means. Even bio-feedback alone can accomplish that in a laboratory setting.

What your readers should understand is that these studies have utilized a particular kind of test identified by polygraph examiners as a "peak of tension" test, consisting of a series of similar possibilities, some of which the person being tested may have previously selected. It is a valuable form of testing in limited instances, but it does not include questions used as controls. It is rarely used in the field.

The form of control question test customarily used in criminal cases is what examiners call a "specific" examination. Diminished or non-existent capacity of response to disturbing questions has only one result in this test, inconclusive. However, even an examiner conducting a peak of tension test has the means to determine whether his subject is capable of producing a response. Although psychologists in a university laboratory may be compelled to always make a truth or deception decision, no trained examiner would ever attempt to reach any decision when encountering a test subject who was incapable of physiological response.

With regard to the "short period of observation" associated with Dr. Orne's work, a polygraph test in an actual criminal case generally lasts from 90 to 120 minutes.

Research on specific examinations, including extensive work done at the University of Utah, has consistently shown accuracy to be in the range of 88 to 95 percent, with no significant differences for diagnosed sociopaths or pathological liars. The use of a polygraph instrument by Dr. Orne does not mean that his methods parallel or even approximate those used in the field. I'm sure he would agree, although your article implied otherwise.

James R. Wygant
Milwaukie, Ore.

Kudos for Thomsen and SN

As a longtime admirer of Dietrick E. Thomsen's writings on astronomy and the physical sciences, I was delighted to read that he has been awarded the Dorothea Klumpke-Roberts award for 1981 (SN: 4/18/81, p. 243).

What is equally important to me, however, is that his writing typifies that of most articles in SCIENCE NEWS.

Congratulations to Dietrick and everyone at SCIENCE NEWS and keep up the good work.

David G. Brush
Woodstock, N.Y.

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