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Letters

Sodium and sleep

Thank you for reporting some of our research findings in SCIENCE NEWS (SN: 7/3/82, p. 10). Unfortunately the article contained several inaccuracies which I would like to clarify.

A low-sodium diet causes mild hypovolemia which activates the sympathetic nervous system resulting in increased blood levels of norepinephrine, not reduced levels as reported. Also we did not suggest high levels of plasma norepinephrine caused sleep problems, rather that high norepinephrine levels represent changes in sympathetic nervous activity which may disturb sleep.

Our laboratory has previously observed a relationship between the decreased quality of sleep and the increase of plasma norepinephrine that occurs with normal human aging. We believe that plasma norepinephrine is a marker of sympathetic nervous activity, being high during stress-induced sympathetic arousal and low during pharmacologic sympathetic inhibition. If higher norepinephrine levels do indeed reflect heightened sympathetic activation it is reasonable to hypothesize the sympathetic tonus may interfere with sleep and promote nighttime wakefulness.

Obviously one could argue that disturbed sleep could be causing the observed increases in norepinephrine. However, no relationship was observed between plasma norepinephrine and bedtime, rise time, stages of sleep, spontaneous or induced wakes from sleep or a full

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Cover: In laboratory studies, scientists are finding subtle effects on lobster behavior of effluents from offshore drilling. (Photo by Linda Golder and Scrantz, Marine Biological Laboratory Woods Hole, *Oceanus*)



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night of sleep deprivation in our laboratory.

We utilized a low-sodium diet to test whether manipulation of the sympathetic nervous system as measured by plasma norepinephrine might affect sleep and found that low-sodium diet caused both elevations of plasma norepinephrine and disturbed sleep patterns in young normal males similar to those we observed in aged normals. This suggests that increases of sympathetic nervous activity may impair sleep patterns irrespective of whether that increase in tone is the result of aging or of dietary restriction of sodium. If changes of sympathetic tone do indeed affect sleep patterns, it becomes important to consider the side effects on sleep of therapies that alter sympathetic activity, such as low-sodium diet.

Michael V. Vitiello, Ph.D.
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Seattle, Wash.

An illicit marriage

I was astonished to find in your generally accurate journal the nonexistent word "pruritis" — a rash (SN: 9/18/82, p. 189). You are at least consistent using pruritis in the second column. The word pruritis means an itch which may or may not come from an obvious rash. The 'itis' ending comes from the Greek — 'itis' a feminine adjective ending which agrees with the Greek word 'nosos' meaning disease. Thus, neuritis is a disease which almost always now implies inflammation, so the word means disease of the nerves. Pruritus is one of the commonest er-

rors. It seems to have an uncanny way of popping up where it shouldn't since if it means anything, it means inflammation of the nonexistent "prur". Pruritus is good Latin. Pruritis is Latin and Greek, a generally frowned upon illicit marriage of which, however, there are a great many common examples, like appendicitis. A few months ago the NEW ENGLAND JOURNAL OF MEDICINE made the same mistake, but they did not answer my letter, perhaps because of embarrassment.

The term "hysterical gonorrhoea" is likely to produce laughs also.

William B. Bean, M.D.
University of Iowa
Iowa City, Iowa

Relative rotation

A rotating universe? (SN: 8/7/82, p. 84.) Rotating with respect to what? Rotation is a relationship to something outside or independent of the rotating body. Since nothing is outside or unconnected with the universe, rotation is impossible or meaningless.

Stated differently, to measure a rotating body one needs a second, independent body from which one can observe and measure the rotation. Where is that platform with respect to the universe?

An appearance of rotation calls into question the universe model on which it is based.

Alfred N. Bederman
Wilmette, Ill.

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