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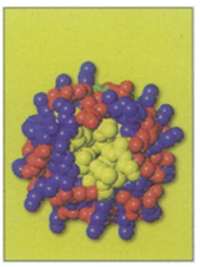

Cover: Scientists use a variety of techniques to create proteins that resist high temperatures. A computer program chose the core amino acids (yellow) that stabilize this metal-ion-binding protein. **Page 296** (R.S. Farid, Rutgers University)

Letters

Upstream sources of drugs

I noticed an error while reading "Drugged Waters" (SN: 3/21/98, p. 187).

Your sentence says, "It laced some groundwater at concentrations of up to 4 milligrams per liter, or 4 parts per billion (ppb)." Milligrams per liter is equivalent to parts per million; micrograms per liter is equivalent to parts per billion.

Garrett J. Ervin
Kalamazoo, Mich.

You are correct—concentrations reached 4 micrograms per liter, or 4 ppb. —J. Raloff

I have been a nurse for 25 years and have resided in both Minnesota and Florida. In both states, nurses and pharmacists routinely dispose of over-the-counter and controlled substances in the toilet. I personally have flushed countless drugs into the sewer system, all the while having a bad feeling about doing so.

I firmly feel that this practice should be examined—I can't help but believe that we are directly contaminating our water supply and environment.

Susan J. Fuller
Riverview, Fla.

I wonder if the researchers have considered an additional source of the drugs which they've identified: expired medicine thrown down the toilet. While the number of doses may be much lower, the resultant concentration would be much higher, since the body has not metabolized the drugs.

Is anyone currently trying to correlate concentrations of drugs in the environment with epidemics of diseases such as breast cancer and prostate cancer? Low exposures over long periods of time might explain many cases of these diseases. Such exposures would certainly be consistent with differences in sewage treatment processes in different countries and the corresponding differences in disease rates.

Jim Sobek
Indianapolis, Ind.

Despite the idea that the higher the concentration, the more toxic the effect, the reality is different. At varying concentrations, chemicals produce different deleterious (or beneficial) effects in different organs and in different species. This is an important concept that is often disregarded.

It is also of concern that the Food and Drug Administration and the Environmental Protection Agency do not double-check, at least at random, to see whether the concentrations of drugs in the environment correspond to those reported. We have seen how private interests (notably, the tobacco industry) can be protected to sell a product. In a few years, we may see more effects of environmental mismanagement.

Eugenia Harnagea Theophilus
Morgantown, W. Va.