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This Week

Articles

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Cover: The next generation of computerized and sensor-based safety features for cars should reduce the risk of air bag–caused harm, engineers say. Proposed federal standards would mandate crash tests using these newly developed dummies, which for the first time include models of small women and children. **Page 206** (Foreground photo: National Highway Traffic Safety Administration)

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Letters

A little under the weather

"Livestock's role in antibiotic resistance" (SN: 7/18/98, p. 39) describes efforts to link the feeding of antibiotics to livestock and the appearance of antibiotic-resistant strains of human bacterial diseases. How does feeding antibiotics to livestock promote the animals' growth?

John A. Covert
Livonia, Mich.

When animals are sick—even with low-level asymptomatic disease—their bodies must divert energy into fighting germs or repairing damaged tissue. When disease is headed off with antibiotics, animals can divert a greater proportion of their energy—that is, food—into growth, says Michael J. Phillips, director of the National Research Council program that issued the new report. —J. Raloff

Seeing through cats' eyes

You described how the intuition of an experienced fire-fighter saved his comrades' lives ("Seeing through Expert Eyes," SN: 7/18/98, p. 44). Experts do indeed have an edge over novices, because many of the situations they deal with could never be adequately described in a book or class. Your story called to mind an experience I had one day, entering our barn where I always milk my goats. Instead of moving directly to the milking bench, I hesitated just inside the door because I sensed something was wrong—the cats were acting strangely. Glancing around, I spotted a rattlesnake coiled under the milking bench. The cats and my intuition saved me from an almost certain bite.

Phyllis Mervine
Ukiah, Calif.

Hard criticism

The article ("As Hard as Diamond," SN: 7/11/98, p. 28) on the "harder than diamond" errors or scams was far too gentle in its reports on the track record of theoreticians helping in making materials. For 70 years, chemists using crystal-chemical theory have been enormously successful in creating not just one but thousands of new materials with desirable properties. For the same 70 years, physicists have been trying to use their extremely primitive theories to do the same. They have been unable to predict and make a single new phase. Let's stop this gross misuse of taxpayer money till someone comes up with a palpable piece of a new material of any use made on the basis of such theory.

Rustum Roy
Pennsylvania State University
University Park, Pa.

Guide and sniff

If William Dreyer's idea that olfactory receptor proteins guide embryonic development ("Dialing up an Embryo," SN: 8/15/98, p. 106) is correct, it brings up the question of which function came first. A multicelled organism would have to have some sort of system to guide development. Maybe later, this ability to recognize molecules found use in sensing external molecules. Or did a receptor system found in even single-celled organisms (which would need to sense the outside world) find use as a guidance system when multicelled organisms evolved? I wonder if similar receptor proteins are found in modern single-celled organisms.

Jonathan W. Foise
Mentor, Ohio