SCIENCE NEWS®
The Weekly Newsmagazine of Science

A Science Service Publication
Volume 135, No. 24, June 17, 1989

This Week

Research Notes

Articles

Cover: Biologists are studying the mechanics of movement in living creatures to explain the evolution of their physical features. Here, a ground squirrel runs on a treadmill with clocks in the background as researchers measure how the animal's stride frequency and limb orientation vary with its speed and gait. (Photo: Andrew A. Biewener/University of Chicago)

Departments

Subscription Department
231 West Center Street, Marion, Ohio 43305

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ISSN 0036-8423

Letters

Twirling twigs

James Franklin, who asserts that the direction a vortex takes down a drain is dictated by chance, not the Coriolis force (Letters, SN: 4/22/89, p.243), should take a photo-safari tour in Kenya. My own visit there last October included a stop in the village of Nanyuki, which straddles the equator. Tourists routinely have their photo taken there, one foot in each hemisphere.

A standard feature of such stops is the demonstration of the Coriolis force by a local native equipped with a plastic dishpan, a hole punched out of its bottom. The man corks the hole, fills the pan with water and picks up a few twigs or pieces of straw, which he floats on the water surface. He then marches 20 paces south of the equator, followed by a dozen tourists, and pulls the plug. The twigs turn counterclockwise as the water runs out. He repeats the demonstration 20 paces north of the equator. The twigs swirl clockwise.

When we asked him to repeat the demonstration *on* the equator, he obliged, and the twigs did not move as the water drained out. Having bought trinkets and soda, I joined two other groups as he went through the entire demonstration twice more. If this "Coriolis force" demonstration seems a matter of chance, I must report that the twigs behaved exactly the same way three times in a row. The man stated that the speed of the twigs' rotation correlates to "latitude," the distance from the equator.

Robert L. Goldemberg
South Hackensack, N.J.

Chemical system clarified

Regarding "Oscillating chemical waves process images" (SN: 2/11/89, p.94), describing the work done by Lothar Kuhnert and us, we would like to clarify the following. The chemical system described is used at the Institute of Biological Physics, Academy of Sciences USSR, for elaborating highly paralleled methods of image processing. These may be used both in computers and in the bioelectronic molecular systems being developed where the connection of the elements remains one of the unsolved problems. The results obtained demonstrate that the connection by molecular diffusion may by sufficient (e.g., for image processing).

Unfortunately, two mistakes have crept into your short description of image processing in the B-Z reaction. The medium becomes orange not at low bromide-ion concentrations but at higher ion levels. The exposed zones remain orange (and not blue, as written in SCIENCE NEWS) because light both increases local bromide concentrations and delays the onset of the blue-producing reaction set. The unexposed zones turn blue sooner.

K.I. Agladze, V.I. Krinsky
Institute of Biological Physics
USSR Academy of Sciences
Pushchino, Moscow Region