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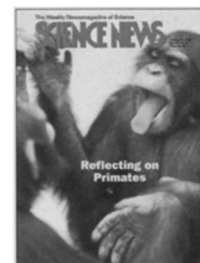
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Cover: Experiments with mirrors have suggested that apes and other nonhuman primates can discern motives and strategies. Now, some scientists are challenging that idea. (Photo: Donna T. Bierschwale, courtesy of The University of Southwestern Louisiana New Iberia Research Center, Laboratory of Comparative Behavioral Biology)

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Letters

Not a double, that's the trouble

I was surprised to see you refer to an increase in seawater temperature from 25°C to 50°C as a doubling ("Did hurricanes blow dinosaurs away?" SN: 9/23/95, p. 204). Temperature ratios only have meaning on an absolute scale. In this case, the temperature rose by 8 percent.

Marvin E. Kahn
Germantown, Md.

Calculating cause of speedy stones

Those racy stones of Racetrack Playa ("Icy theory explains strange sliding stones," SN: 9/16/95, p. 182) could indeed be moved by ice.

Growing up in New England, I watched how surface ice melts—usually from the bottom up. If playa ice sheets melt this way, a film of water would form beneath them, causing the

coefficient of friction to plummet.

For a short time, even such subtle forces as capillary action and thermal gradients, not to mention wind, could send the ice sheets—stones and all—skimming wildly. A transitory wet undersurface would also explain the deep trails in the otherwise dry, hard ground.

David L. Sieving
Pasadena, Calif.

The sliding rock phenomenon is most likely an aerodynamic process.

Racetrack Playa is essentially a channel between ranges. A very large vortex, coursing through the playa, could pull air down swiftly and powerfully over the sides of the ranges and out across the playa. As one of these lines of flow bears down on a boulder, vorticity and low pressure are created on the top of the boulder. Higher air pressure beneath the boulder nudges it upward enough to start it moving, especially if there

are pits on its upper surface.

It may seem unreal that wind could lift a rock even a few millimeters, but tornadoes coursing city streets lift things far heavier than boulders. The 1979 tornado in Wichita Falls, Texas, displaced heavy granite tombstones in a hillside cemetery.

The character and condition of the substrate are also important. Ice, moisture, and smooth clay all contribute to the potential for sliding, but the sudden thrust and the pressure differential are probably the most important factors.

Marion Whitney
Shepherd, Mich.

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