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Getting to our inner Earth

The article "The Globe Inside Our Planet" (SN: 7/25/98, p. 58) says that researchers have found that the inner core appears to have one hemisphere manifestly different from the other and that theorists have not been able to explain how such a strange body came to reside inside Earth. An article, "Deconstructing the Moon" (ASTRONOMY, September 1998, p. 43), states that through computer modeling, several teams of planetary scientists have shown that our moon may have been created from the debris ejected into Earth's orbit following an impact of Earth with a foreign body roughly the size of Mars. "In each simulation, the impactor is destroyed, and a plume of rock, magma, and vapor is boosted into Earth's orbit. Occasionally, a fairly large rocky moon is formed. The impactor's iron core falls onto the deformed proto-Earth and sinks to its center."

If this scenario is correct, would this not provide a logical solution to the mystery of

Earth's Jekyll-Hyde core? Coming from very different origins, even though fused, the two cores certainly could have maintained some of their diverse characteristics within a common structure.

*Bruce Jennings
Sanger, Calif.*

Several researchers feel this is an unlikely explanation for the hemispherical differences within the inner core. One problem is timing. The moon-forming impact supposedly happened early in Earth's history, more than 4 billion years ago. Yet, at that time, the inner core probably did not exist, says Bruce Buffett of the University of British Columbia. Only later, when the core temperatures dropped, did the molten iron start to solidify.

There may be other ways, however, for a giant impact to leave a lasting legacy in the core. At the spring meeting of the American Geophysical Union in Boston, Satoru Tanaka and Kiroyuki Hamaguchi of Tohoku University in Sendai, Japan, proposed that an impact could have skewed the temperature distribution in the mantle, making one side hotter

than the other. The core would grow faster in the direction of the cooler mantle, perhaps leading to some hemispherical differences in the inner core, according to the researchers.

—R. Monastersky

Cat and mouse on the Web

In "Sifting through the Web's data jungle" (SN: 5/2/98, p. 278), I. Peterson describes the latest search engine strategy, which gives priority to those Web pages that are often referenced by other Web pages, indicating a level of authority. This is a very clever idea, yet it is easily exploited. To make my site look authoritative, I simply clutter the net with hundreds of useless pages that link to my Web site, and voilà, customers visit my Web site first. Next month I will probably receive E-mail from a third party offering to clutter the net in precisely this fashion on my behalf.

This ongoing game of cat and mouse reminds me of the interdependent evolution between predator and prey. Is this really serving the interests of Web customers?

*Karl Dahlke
Troy, Mich.*

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