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This Week

Research Notes

Articles

Cover: The sound of a fetus breathing can be converted into a symmetrized dot pattern, as shown. This particular technique, which depicts sound waves so that frequency information is emphasized, is one of several methods recently developed by IBM researcher Clifford Pickover for representing complex data. Such representations can be used to enhance subtle differences between waveforms and to identify patterns and trends. (Illustration: Pickover/IBM)

Departments

Letters

Extinction explanations

In "Volcanoes and Extinctions: Round Two" (SN: 4/18/87, p.248) Courtillot said, in arguing against the asteroid-impact extinction theory, ". . . the way of science is to try the simplest thing before going back to something extraordinary."

What is so extraordinary about an asteroid impact? We know they occurred on almost every major body in the solar system. We can calculate a rough approximation of the frequency of their occurrence throughout the history of the solar system. The only question is: If the last impact on the earth was 65 million years ago, aren't we about due for another one?

Jeff Sterling
Rockledge, Fla.

Why not use a combination of both theories and the evidence they are based on to explain the Cretaceous-Tertiary (K-T) extinctions? After all, Alvarez's asteroid impact site has never been positively identified (i.e., no smoking gun); and, according to the article, the volcanic evidence by itself is debatable.

A theory postulating one or more asteroid impacts occurring in the K-T time frame with resultant volcanic activity (i.e., Deccan Traps and NATIP events) could explain many of the observed phenomena (e.g., extinctions, worldwide material distribution, iridium levels, shocked material, time coincidences, causes for Deccan Traps and NATIP). The asteroid impact/volcanic activity interaction remains to be explained. Perhaps the volcanic events were triggered by impact-caused hydrodynamic ram effects occurring in the crust/upper mantle region. Or the Deccan and NATIP regions may be the impact areas themselves, perhaps for bundles of smaller asteroids rather than a few large ones.

Frederick B.M. Reimer
Los Angeles, Calif.

The idea that an asteroid impact triggered volcanic eruptions has been suggested by scientists before. However, Courtillot has concluded that the Deccan Traps, at least, were not created by an impact, because there are no characteristic impact fractures in the area.

— S. Weisburd