

Dogger turns rocker with meteorite find

One of the world's rarest classes of meteorites is that of carbonaceous chondrites, black, easily crumbled objects containing a few percent of carbon often in the form of complex organic compounds. Traces have been reported of high-molecular-weight hydrocarbons similar to those found in crude petroleum, as well as such structures as amino acids. Known carbonaceous chondrites are rare in part because they are difficult to recognize even if someone has seen them fall, but also because they disintegrate rapidly from weathering on the ground.

The latest addition was made by an Australian "dogger," a hunter of wild dogs, who discovered what he thought was an unusual rock while plying his trade on Western Australia's Nullarbor Plain. Roughly disk-shaped, it is about six centimeters across and three centimeters thick, and weighs 16 grams. Fortunately, the dogger was enough taken with his find to send it off to researchers in Perth for analysis. According to John de Laeter of the Western Australian Institute of Technology, chairman of the state's meteorite advisory committee, the rock is only the second carbonaceous chondrite found in Australia, and only the 39th in the world.

The anonymous dogger is also apparently the first person to pick up a carbonaceous chondrite by chance, rather than because someone observed its glowing descent through the atmosphere and sought it out. This poses a problem for scientists, however, since it is difficult if not impossible to determine how long it has been on the ground, weathering, picking up foreign material and changing its isotopic abundances. At least it has a name, after the spot where it was found: Lookout Hill. □

Toward a 200-mile zone on U.S. seas

The National Advisory Committee on Oceans and Atmosphere (NACOA), apparently reacting to slow progress in international Law of the Sea negotiations, has recommended that the United States immediately enact a 200-mile Economic Resources Zone off its shores. In this zone, preferential rights for U.S. fishing interests would be enforced, offshore oil and gas drilling by private companies would be encouraged, and a "model system" for rational use of all natural resources would be developed. For areas outside the zone, NACOA recommends that legislation be passed to encourage and regulate deep seabed mining by U.S. industry and that the National Science Foundation encourage participation by foreign scientists in ocean research.

In transmitting the NACOA report to the President and the Congress, Secretary of Commerce Rogers Morton appended some choice comments regarding the recommendations, which strongly contradict current Administration policy. He called unilateral action on the 200-mile zone "extremely dangerous and incompatible with the thrust of the Law of the Sea negotiations." Seabed mining may be legal for industry to pursue, in theory, but prior international agreement "is in the interest of all nations." □

Another trace of Jupiter

Jupiter, for the most part, is a ball of hydrogen with a little helium thrown in. Traces have been found, however, of methane, ammonia, ethane, acetylene, phosphine and water vapor. Now there is another: carbon monoxide.

For all the accomplishments of the Pioneer 10 and 11 spacecraft, it has been ground-based observers who have provided most of the trace-element data. The CO was detected in high-resolution spectra made by a research team from Jet Propulsion Laboratory and the University of Texas's McDonald Observatory, using the university's 2.7-meter telescope and a Connes-type Fourier spectrometer.

The spectra revealed a carbon monoxide column abundance of about 5×10^{17} molecules per square centimeter, reaching down at least 50 kilometers into the atmosphere, a depth at which the atmospheric pressure is about twice that at sea level on earth. The mixing ratio of carbon monoxide to molecular hydrogen is about 10^{-9} , estimates JPL's Reinhard Beer, who headed the team, in *ASTROPHYSICAL JOURNAL LETTERS* (200:L167).

The spectra were made at a five-micrometer wavelength, which allows relatively deep penetration thanks to relatively long-lasting breaks in the cloud deck. □

ABSTRACTS

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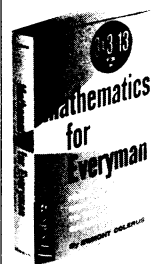
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