ASTRONOMY

Meteorite Found In Western Australia

The biggest meteorite yet found in Australia, and the eleventh largest found in the world, has been discovered by accident near Forrest, about 1,000 miles east of Perth, Australia.

Its two sections, weighing about 6 and 12 tons, are about 200 yards apart. They left no craters.

Two geologists stumbled on the meteorite, known as an octahedrite, while carrying out a survey. Using small trees on the Nullarbor Plain as bearings, they unsuspectingly chose the meteorite, which appeared as a black object as an horizon marker.

The existence of the meteorite had been known for about three years and it had been sought in vain during the past two.

The meteorite is of nickel-iron alloy and contains about 12 percent nickel. Its age is estimated at "probably thousands of years and possibly hundreds of thousands of years."

It carries the markings of its flight and shows a pattern of melting that is unusual for a meteorite.

The largest meteorite previously found in Australia was the Cranbourne Stone, found in Victoria in 1854. Its five main fragments weighed more than six tons. The largest single mass of any meteorite still available for scientific examination is the 100-ton Hoba Stone in southwest Africa.

BIOCHEMISTRY

Enzymes' Tailored Forms

by Barbara J. Culliton

Man's knowledge of enzymes has increased so in the last few years that it now is possible to speak of conformers and nonconformers even among these catalysts that spark life.

Researchers from all over the world gathered in New York under the auspices of the New York Academy of Sciences recently to talk about "multiple molecular forms of enzymes," a field of growing importance to medicine and biology.

Enzymes, compounds that conduct most of the 100,000 or so biochemical processes that make the body function, interpret the genetic code every persons inherits from his parents, and carry out the orders the genes give for growth and development.

When a gene wants something done, it produces a specific enzyme to do it.

These enzymes, scientists found, take several molecular forms; forms that are organ-specific. In other words, a single enzyme, produced to perform a single task, exists in several forms, and each is active in a different way.

Deciphering the structure of enzymes has vast implications for modern science, bringing doctors closer to understanding and perhaps curing disease and geneticists closer to explaining the nature of life. The diagnostic possibilities of this many-formed enzymatic phenomenon were first recognized eight years ago by scientists studying the multiple forms of lactate dehydrogenase (LDH), a common enzyme active in the transformation of glucose to lactate and acetate.

The multiple forms of LDH, designated LDH 1, 2, 3, 4 and 5, are each related to a particular human organ. The theory governing diagnostic application is that alterations in the normal patterns of each form in serum may provide clues to diseased tissue.

If an abnormal level of LDH 1 is detected in laboratory analysis, heart disease is indicated. Leukemia patients show an increase of LDH 2. In hepatitis, LDH 5 predominates.

Tests of LDH levels are but one example of the diagnostic possibilities open with the 100 or so enzymes for which multiple molecular forms have been identified.

Although this area of biochemistry has not yet reached full maturity—the last such enzyme meeting was in 1961—scientists hope one day to know enough about the precise ways enzymes work to be able to correct disorders and replenish deficiencies.

NUCLEAR

Atom Blasts For Gas

A pair of simultaneous nuclear explosions, one more than 1.6 miles underground and the other 1,000 feet above it, have been proposed as a way to extract huge quantities of natural gas from subterranean rock.

Each blast would be 50 kilotons, about 2.5 times the size of the bomb used at Hiroshima. By breaking up tight gas-bearing rock formations, a flow of presently inaccessible gas may be made available.

A single-blast experiment, called Project Gasbuggy, is already planned by the Atomic Energy Commission for early next summer, with a Hiroshima-sized charge buried 4,000 feet below the San Juan Basin of New Mexico.

Scene of the double blast, called Rulison, would be Garfield County, Colo. The Cer Geonuclear Corp. of Las Vegas, Nev., suggested the idea to the AEC, together with the Autral Oil Co. of Houston.

PSYCHOLOGY

Suicidal Tendencies

All suicide attempts and threats can be placed on a nine-point "lethality" scale and rated for seriousness.

The lethality index, developed in California, grades the strength of an individual's drive toward self-destruction.

A threat or attempt alone will not reveal how intensely the suicidal impulse is felt, Dr. Edwin S. Shneidman, chief of the federal Center for Suicide Prevention told delegates attending a Surgeon General's Washington conference with state mental health authorities. One woman, he said, slashed her wrists to ribbons while in the presence of her physician husband—a sure sign she wanted to be saved.

The lethality index calls for such information as: How much stress does a person think he has; how many resources, personal and financial? What are his personality characteristics and do they fit the suicidal picture?

Any person, group or nation, can be rated for lethality at a given moment, just as they can be rated for aggression or bellicosity, said Dr. Shneidman But the rating is never constant.

The desire to kill oneself is not maintained for weeks and months, but nearly always passes in a matter of hours.

An individual undoubtedly has the right to kill himself in Dr. Shneidman's opinion, but since the self-destructive mood is only momentary, moralists need not emphasize that right too strongly. Besides, he said, the survivors—children and spouse—have a right to a life free of the stigma of suicide.

He also said that the reported U.S. suicide rate, now at 22,000 per year, is bound to increase in the next few years, if only because of better reporting.

The actual rate in this country is probably two to three times that figure.