

active juvenile rheumatoid arthritis, another suspected autoimmune disease, have antibodies directed against suppressor T cells (SN: 11/18/78, p. 342). Now Ellis L. Reinherz of the Sidney Farber Cancer Institute in Boston and his team report in the Nov. 8 NEW ENGLAND JOURNAL OF MEDICINE on an anemic patient who had antibodies directed against her red blood cells plus a lack of suppressor T cells. In her case, a lack of suppressor T's may have let antibodies form against red blood cells.

The complex interaction between suppressor T cells and autoantibodies in various autoimmune diseases has not been fully explained, but the role of suppressor T cells in such disorders has led to a possible therapy for such diseases. Thoracic duct drainage of disordered T cells, for instance, has been shown to decrease disease activity in both lupus patients and in patients with adult rheumatoid arthritis (another suspected autoimmune disease). But such drainage is a major surgical procedure that requires prolonged hospitalization. Now S. Slavin of the Hadassah-Hebrew University in Jerusalem reports on irradiation of autoimmune patients' lymphoid tissues in an attempt to wipe out disordered T cells. He tested the idea on rats with autoimmune polyarthritis, and it brought about disease remission. Then he tested it on a small group of mice with experimental lupus, and as he reports in the October PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, it reduced their disease and increased their survival significantly compared with control mice. So "total lymphoid irradiation should be further investigated as a new approach for immunoregulation of autoimmune disorders," Slavin concludes. □

First commercial SNG

Approval to build the nation's first commercial-scale coal-gasification plant by a consortium of five interstate gas-pipeline companies was given November 15 by the nation's gas rate setting body, the Federal Energy Regulatory Commission. Using a relatively costly process, the plant would manufacture 125,000 cubic feet of synthetic natural gas per day from lignite and water.

Key among terms of the 150-page FERC order was an agreement to let the pipeline companies average in the price of the synthetic gas — expected to cost between \$5.56 and \$8.62 per thousand cubic feet (mcf) — with the price charged their customers for natural gas, now about \$1.20 per mcf. Roughly one-third of the nation's gas customers would be affected.

Plans call for constructing the plant — now estimated to cost more than \$1 billion — beside lignite strip mines in Beulah, N.D. The consortium has been planning and seeking regulatory approval for the plant for more than five years. □

A seven-foot 'hole-in-one'

About 1.5 million years ago, someone strolled among the hippopotamuses and large birds that populated the northeast shore of what is now Lake Turkana in northern Kenya. Such a scene was probably not uncommon at that time in history, but what makes this particular walk so significant is that it was etched permanently in the muddy, lakeside soil.

In what researchers are calling an archaeological first, seven of the footprints were accidentally discovered during the digging of a geological trench. And if the prints were indeed made by *Homo erectus*, as scientists believe, then they would constitute the oldest footprints yet found of a creature in the same genus as man. The creature may also have been *Australopithecus africanus* — a creature more indirectly related to human beings — "but the case is stronger for *Homo erectus* because its fossil bones are preserved in

nearby strata, but not the bones of *Australopithecus*," says Anna K. Behrensmeyer, co-leader of the expedition and currently at Yale University.

The footprints were uncovered in a bed of volcanic rock dated at 1.5 million years. The research team, which included co-leader Leo F. LaPorte of the University of California at Santa Cruz (where Behrensmeyer is also affiliated) also found fossil footprints of hippos and heron-like birds in the same area. All the prints were made in mud, which then hardened.

Behrensmeyer says the human-like prints, all made by the same individual, were about 10.5 inches long and 3.5 inches wide. She estimated the person was between 5 and 5.5 feet tall and weighed about 120 pounds. Glynn L. Isaac, project supervisor from UC-Berkeley, characterized the find as "a paleo-anthropological hole-in-one." □

Footprints, believed to have been made by *Homo erectus*, were found next to larger prints of ancient hippopotamuses along the shore of Lake Turkana in Kenya. Sharp-edged tools, characteristic of those found at other *Homo erectus* sites, were uncovered in nearby sedimentary beds by the research team, which was funded by the National Science Foundation and was part of a larger project of the National Museum of Kenya. A 600-pound cast of the footprints has been made at the museum in Nairobi.



Wide World Photo

Monkey see, monkey say

Distinguishing among the many varieties of African eagles is difficult for the human eye, but routine for the eyes of vervet monkeys. They give alarm calls only when they sight members of the two eagle species that prey on vervet young. This sophisticated appraisal of the surroundings goes beyond simple instinct, argues Peter Marler of Rockefeller University. He describes work by colleagues Dorothy Cheney and Robert Seyfarth indicating that, as a young vervet monkey matures, it sharpens its perceptions and responses to its environment.

The vervet monkey uses three different alarm calls in response to three classes of

predators, and each call evokes a particular behavior in other monkeys. Tape recordings of the calls, played when no predator is in sight, also trigger the characteristic behavior. A "snake call" for instance, makes the monkeys jump up on their hind legs and scrutinize the grass; an "eagle call" makes them rush for dense cover and a "leopard call" sends them scurrying up into the trees.

The calls of monkeys seem to be symbols for objects, according to a convention understood by other members of the species. Recent experiments in which scientists played recorded calls to monkeys in a laboratory showed that two species of