

you have, the safer you are," Levy says.

Levy and his colleagues tested two malarial parasites for proteolytic enzymes. One of the parasites is found in humans, the other in monkeys. As they report in the Feb. 22 *NATURE*, they found an enzyme that acts under acidic conditions, is very stable and exists for weeks. It is an acid proteinase. Evidence for a proteolytic enzyme in malarial parasites was reported a decade ago, but the enzyme was unstable and disappeared overnight. Levy and his co-workers also report that their acid protease is potently inhibited by a number of chemical inhibitors, known as pepstatin, chymostatin, antipain and leupeptin.

Since publishing their findings in *NATURE*, they have also found that

some of the inhibitors will inhibit growth of the parasites in red cell cultures and hence prevent the spread of malarial infection.

The next steps will be injecting the inhibitors into animals and hopefully eventually into people to see whether they will stop the spread of malaria. The inhibitors, of course, would also attack proteolytic enzymes in the red cells of animals and people. But Levy says that this action shouldn't be a problem. "The rationale behind the approach," he explains, "is that over a short period of time the parasites absolutely have to use their proteolytic enzymes, whereas over a short period of time the red cells could presumably do without theirs. If that statement is not true, then everything we're doing wouldn't work anyway." □

NASA tightens up

Now that U.S. manned space flights have all but ended until the space shuttle takes off in 1979, NASA has decided to gather in its troops. In a top-level reorganization effective March 15, it will be restructured as an agency with two overlapping arms, one of them divided into research and development areas and the other in charge of the 10 major NASA field centers.

For most of its life, NASA has been organized largely as a program-oriented body, with parts of the work farmed out to regional centers which were otherwise at least semi-autonomous. The key feature of the reorganization is the creation of the office of Associate Administrator for Center Operations, to be filled temporarily by Deputy Administrator George Low, which will knit the centers much more closely with Washington headquarters.

Symptomatic of the need for reorganization following the manned space flight push has been the departure of several top officials including Associate Administrator Homer Newell and Associate Administrator for Manned Space Flight, Dale Myers.

Supersonic space plane

The X-24B wingless aircraft made its first supersonic flight on March 5, reaching 1.12 times the speed of sound, about 740 miles per hour, and an altitude of 60,800 feet over Cuddebock Dry Lake in California.

The joint Air Force-NASA craft is the successor to the "manned lifting bodies" that at one time were the leading candidates for the design of the space shuttle to carry men back to earth from orbit. Used as a shuttle, they would fly up to orbital height using a rocket engine, then glide back down to an unpowered landing. The emphasis of the present X-24B operation is on using it as a research craft in studies of future hypersonic vehicles capable of cruising at speeds above Mach 5.

On to Saturn . . . maybe

The decision has been all but made to send Pioneer 11 as man's first visitor to Saturn. Though the official word is not due until the end of this week at the earliest, the signs have all been pointing to the ringed planet. As long ago as several weeks, a preliminary vote among project officials was "11 to one in favor" according to one participant, while another described the chances this week as "about 80 percent certain." The spacecraft will first fly by Jupiter on Dec. 3, but it must take a particular path past the planet in order to use Jupiter's gravity to swing it towards its 1979 rendezvous with Saturn.

A new dinosaur rears its snout



Univ. of Utah

The start of a new dinosaur: Pieces of hip bones and a smaller jawbone.

Tyrannosaurus rex, *Allosaurus*, *Triceratops*—dinosaurs that roamed the earth 100-million years ago. Now, add a new name to the list—*Stokesosaurus clevelandi*. A new genus and species of dinosaur has been discovered, the first one in 75 years, by James H. Madsen of the University of Utah.

Since the 1920's paleontologists have been working in the Cleveland-Lloyd quarry in central Utah, the largest dinosaur graveyard in the United States. The site has yielded numerous specimens and much information about the ancient reptiles. Three years ago Madsen identified three skeletal fragments of what he believed to be an entirely new genus of dinosaur. Since then he has been accumulating evidence to verify his hypothesis. His finds are described in detail in the January *JOURNAL*

OF PALEONTOLOGY.

The two hip bones and a jawbone with which Madsen has been working show certain features that do not exist on similar specimens from the quarry. There is a protruding ridge on the hip bone, for instance, and the jaw contains one less tooth than the allosaur. This, according to Madsen, indicates a more advanced form of predator with a shorter snout. The bulldog-faced *Stokesosaurus*, he says, was probably most closely related to the flesh-eating tyrannosaur. It is believed to have lived 140 million years ago when Utah resembled today's Amazon basin. When full-grown *Stokesosaurus* was thirteen feet long, five feet tall and fed on small reptiles and tiny mammals. Madsen hopes the entire skeleton can be reconstructed eventually. □

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