

were found show evidence of having been transported in water.

Finding stone tools with hominid fossils has, in the past, been a criterion for deciding the man-like culture of the creatures. Dr. T. Dale Stewart of the Smithsonian Institution in Washington, D.C., says that there is no definite date when toolmaking came into existence. So far, what sets the *Australopithecus* apart from ape-like creatures like the *Ramapithecus* is the fact that the *Australopithecus* began to stand erect, began to use his hands and eventually learned to make and use stone tools.

But no evidence of stone-toolmaking has yet been found with these latest man-like fossils. If there were tools with the fossils, they, too, would probably have been transported. And Prof. Karl W. Butzer, a member of the expedition from the University of Chicago, feels if there were tools they probably would have already been found. Prof. Howell, only a little less pessimistic, believes "there is still a 50-50 chance of finding tools."

Because there is an absence of evidence of toolmaking in this find and because the exact date of tool using has not been determined, a new theory may be in the making. If no tools are found in future work, says Prof. Howell, "it will require some substantial modifications in certain theories of hominid origins, which have tended to stress capabilities for toolmaking behavior as being critical in the success of the earliest adaptation of Hominidae to life in open country environments."

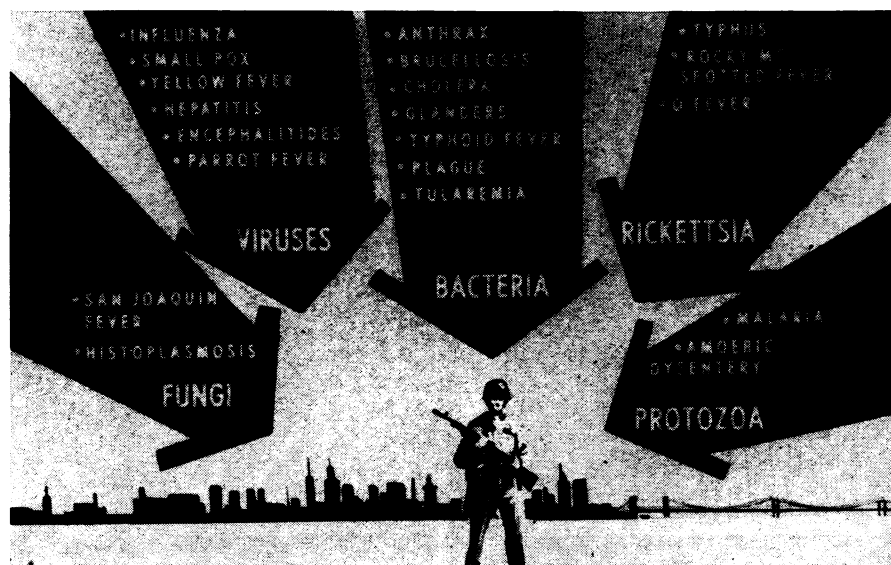
Howell's expedition has found large collections of fossils of mammals and other vertebrates in the deposits: elephants, black and white species of rhinoceroses, three-toed as well as true equids, hippopotami, pigs, giraffes, a primitive camel, antelope and diverse varieties of carnivores. The Omo beds also revealed the first and oldest documented occurrence in East Africa of the camel, a species which appears at a comparable time in Asia and eastern Europe. There is also evidence that horses first appeared in East Africa about two million years ago.

The expedition has clarified the identity of previous paleontological finds in the area and nearly tripled the total number of mammals known. Most of the mammals that have been found are extinct species.

Prof. Howell's expedition will be returning this summer to the region to look for evidence of toolmaking. Further digs for prehuman man seem unlikely in that area. The next step is finding another area with still older strata so that the gap to knowledge of man's ancestors may be closed even more. ◇

HIDDEN WARFARE

Tracking CBW



Army

Public health in reverse: They come without warning from man-made vectors.

Within the last 10 years, the Army's chemical, biological and radiological weapons program dropped the word "radiological" to become known as Chemical and Biological Warfare (CBW). But the public, and for that matter the Congress, hardly noticed it. However, more than mere semantics was involved.

The distinction today is that the radiological weapons of yesterday have evolved into colossal offensive, defensive and tactical nuclear systems quite apart from the little-heard-from development of gas and germ war capability.

But in recent months, largely as a consequence of the massive sheep kill caused by a nerve-gas accident in Utah (SN: 4/6/68, p. 327), CBW has been getting its share of attention.

Currently, a handful of Congressmen and Senators are concerned that too little is known about the military's CBW research and development program or its position in military thinking. Its budget is hidden, and except for a rare disaster such as the Utah mishap, it is little publicized.

Most vocal among the program's critics is Rep. Richard D. McCarthy (D-N.Y.). So far, a series of briefings, including discussions with the secretary of defense, the secretary of state and classified conferences with the Army provided him little of substance, but rather amplified his belief in the need for a deeper probe.

Foreign policy implications led McCarthy to discuss his concern with Sen. J. W. Fulbright (D-Ark), chairman of the Senate Foreign Relations Committee, who responded by crowding

the CBW issue into an already busy schedule of committee business. An initial hearing was held April 30; more will be held—presumably after the Senate vote on missile defense systems next month.

In addition to the more ominous spectre conjured by the possibility of global warfare involving CB weapons, McCarthy and Fulbright are concerned about the very real hazard associated with the research, production, transportation and stockpiling of these agents.

Last week, McCarthy raised a strong protest against what he described as Pentagon plans to tow 1,100 railroad cars full of World War II poison gas across country, load them aboard two old Liberty Ships, and sink them at sea. McCarthy said the Defense Department had received a waiver of normal precautions from the Department of Transportation for the shipment to the port at Earle, N.J., from Rocky Mountain Arsenal in Colorado, Pine Bluff Arsenal in Arkansas and Edgewood Arsenal in Maryland.

McCarthy expressed concern not only for marine pollution, but for the fact that the trains—restricted to 35-mile-an-hour speeds—would have to pass through some urban areas, including Indianapolis, Ind., and Elizabeth, N.J.

Because of the atypical forms of pathogens which have been adapted to the various criteria of weapon design, scientists are unable to predict the effects of biological agents. A very real possibility exists that these organisms have been so altered that there would be no way to contain the spread of