ARCHAEOLOGY

Writing of Ancient Slave Confirms Old Testament Story

CONFIRMATION of Old Testament history is coming to modern science through the writing of a humble slave.

So archaeologists now realize, as they proceed with translation of Hebrew inscriptions discovered early this year at ruins of the Old Testament fortress of Lachish, in Palestine.

The discovery is proving to be the most important of a century in Palestine archaeology, stated L. Harding, assistant director of the British expedition finding the inscriptions, in an interview with a Science Service representative.

The documents, which are hailed as actual contemporary records of current events, paralleling incidents in the reigns of Bible kings, are written with ink on pottery, in the Hebrew language.

Translation has proceeded far enough to show that a consecutive series of documents is the work of a slave of a keeper of the guard, at the fort outside Lachish.

One of these documents, Mr. Harding stated, criticizes a man named Urijah for undermining the courage of the Jews.

The Old Testament book of Jeremiah cites the tragic story of this prophet Urijah, who prophesied downfall for Jerusalem and the land of Judah, as Jeremiah did, if they pitted their feeble strength to revolt against Babylonia. The slave's writing shows the opposition feeling which was held by some of the people. The date of the document is 597 or 598 B.C.

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GENETICS

Hereditary Defects Crop Out Anew In Each Generation

HEREDITARY diseases and defects, such as hemophilia or "bleeders' trouble," are not always due to defective traits in the inheritance of the sufferer. Hemophilia is sometimes called the "king's disease" because the Spanish and Russian royal families have it as a hereditary factor.

A considerable number of all cases originate in persons with no family history of such defects, simply by mutation, or the tendency for new evolutionary characters to crop out in lines where they previously have not existed.

This conclusion has been reached independently by two English scientists, Dr. L. S. Penrose of the Royal Eastern Counties' Institution at Colchester, and Dr. J. B. S. Haldane of University College, London, who have published their results jointly. (*Nature,* June 1).

Two hereditary defects were studied: hemophilia, or the inability of the blood to clot, resulting in excessive bleeding from trifling wounds; and epiloia, a condition in which tumors of the skin, brain and sometimes of the heart and kidneys, are liable to be associated with epilepsy and mental deficiency. Persons afflicted with either of these disorders naturally have a high mortality rate, and as a rule do not reproduce, at least in severe cases. Yet the number of hemophiliacs and epiloiacs remains distressingly large.

The explanation, in the opinion of Drs. Penrose and Haldane, is that these defects arise by mutation in previously healthy stock. They estimate that in each generation about 25 per cent. of all cases of epiloia are "sporadic and are presumably due to mutation." In the part of England covered by the study, about one person in every 30,000 of population has epiloia. This, the two investigators conclude, "implies a mutation rate of about one in 120,000 per generation."

Similarly, hemophilia, though an hereditary trait, is so disabling that the marriage rate of hemophiliacs is very low, and their reproduction rate presumably even lower. Dr. Haldane estimates that "the frequency of hemophilia in London males certainly exceeds one in 100,000 at birth and may well exceed one in 30,000. A rough estimate of the mutation rate is one in 50,000 to 100,000 per X-chromosome per generation."

This study is considered to be of importance far beyond its immediate medical and sociological interest. Hitherto there has not been even an approximate estimate of how fast the human race "mutates," although data on mutation in other organisms have been obtained. Drs. Penrose and Haldane, as one outcome of their studies, estimate that "man seems to be somewhat more mutable than Drosophila," the tiny insect most used in genetical researches.

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PALEONTOLOGY

Relief Workers Unearth Bones Believed Mastodon's

WORK of uncovering the remains of a prehistoric animal tentatively identified as a mastodon is proceeding rapidly. Two huge jaw-bones, about three feet long and perfectly preserved, have been dug from the bottom of an FERA drainage ditch near Savannah, Ga., and several enormous bones, apparently ribs, have been uncovered.

The legs of the animal are believed to lie in a spoil bank just off the narrow ditch, and work there has just begun. Identification has been tentatively made from one perfect tooth discovered when the relief workers dug the ditch several weeks ago.

After the identification, Lane Mitchell, assistant state geologist, was sent to take charge of the work. The FERA workers, at first, failed to recognize the importance of their find, and many of the bones were crushed with their heavy shovels, and tossed aside.

The bones are extremely brittle, but are approximately in the same form as when the animal died. They have not become fossilized.

The remains were discovered four feet under the surface, resting on a bed of white sand, apparently the bottom of some prehistoric lake. They had been covered with a black clay, which helped preserve them. The upper stratum in this section is another layer of white sand.

The formation is identical with that of the Hainer's Bridge section where mastodon bones were discovered 112 years ago. That spot is a little more than a mile from the present discovery.

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