ROUND HOUSE FOR BATTLE

Here, plain to be seen, are the outlines of a round battle tower built some 6,000 years ago. Three thousand years later the same type of fortification was used and recorded in Bible history.

world," Tepe Gawra in Mesopotamia.

A joint expedition of the University Museum, University of Pennsylvania, and the American School of Oriental Research at Baghdad, has found ruins of a big round temple-tower at Tepe Gawra. The sweep of an almost perfect circle of brick foundations 60 feet in diameter has been unearthed. Outlines of 17 rooms can be traced. This big round house was built about 4000 B.C.

The field director of the expedition, Charles Bache, identified this as a fortress because of thick walls, single entrance, and stone weapons still lying in some of the rooms. It has temple features, too, suggested by the plan of the central rooms with an inner sanctum.

The discovery turns archaeologists to Bible history, where King Abimelech's wild and warlike reign ended in a fight at just such a temple-tower. That happened in Palestine, a little over a thousand years before Christ.

Abimelech and his army had destroyed one such tower, by burning it and a thousand men and women inside, according to the Bible Book of Judges. Attacking another city, he found that the men and women had fled into a tall tower in the city, and he tried to burn it, too. But a woman hurled down a stone on the king's head, and the dying Abimelech forced his armor-bearer to kill him with a sword, that it might never be said he was killed by a woman.

That this type of round temple-tower was old fashioned in Old Testament days, already several thousand years old, had not been suspected.

Digging at Tepe Gawra has been pushed through 13 levels of occupation, revealing city life at the earliest stage yet found. But more antiquity is in store for the diggers. For there remain seven or eight deeper layers of civilization which are now to be explored.

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SURGERY

Surgical Operation on Nerve For Severe Diabetes Reported

A SURGICAL operation to relieve severe diabetes was reported by Drs. Fred A. Hitchcock and George M. Curtis, of Ohio State University, at the meeting of the American Physiological Society.

The patient, one of the first to undergo this operation, which has only recently been developed through animal studies, was a young lad suffering from very severe diabetes. To control the condition he had to take one hundred units of insulin a day. This is a large dose and the cost of the treatment had become excessive for this patient. His physician had read reports of the operation performed on diabetic dogs and asked the Ohio investigators if they could not use the same surgical method to help his patient.

Arrangements were made whereby the patient became a "research project" —a human guinea pig—who let the scientists make important studies on him in return for the benefit he derived from the operation. This consisted in cutting the splanchnic nerves in the back of the chest. Following the operation the patient was able to get along on about half the amount of insulin he had been taking.

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CHEMISTRY

Chemical Yardstick Used To Classify Coal

A NEW chemical yardstick for determining the qualities of coal was reported to the American Chemical Society at its Kansas City meeting.

It allows scientists to go back through the millions of years in coal's prehistoric history and put their fingers on long past happenings that make one kind of coal differ from another.

Different kinds of coal, reported Prof. H. L. Olin of the State University of Iowa, have a strong attraction for oxygen and it is this affinity which is used as the basis for the new chemical test.

Coal, Prof. Olin recalled, is the fossil remains of ancient vegetation, and the various kinds of coal represent different ages of this fossilizing process.

Peat is a relatively young coal which has changed but little from the reeds and grasses of the bogs in which it was formed. Lignite has gone a step further in coal's life history. It has the appearance of coal but retains the woody structure of the long departed parent plants.

Going up the geological family tree of coal, the various bituminous grades and finally anthracite are reached. All the while the buried coal mass is changing chemically with a loss of hydrogen and oxygen and a concentration of carbon.

Using the chemical, potassium permanganate, as the oxidizing agent, Prof. Olin has made a study of various coals from the lignites of North Dakota to the semi-smokeless coals of West Virginia. The oxygen test, he declares, places these coals in their order of rank as determined by other less simple methods. The new development, the Iowa scientist believes, should prove useful in the work of establishing an official method of coal classification.

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