

ARCHAEOLOGY

War Hampers Archaeology

With Digging Practically at Standstill in Classic Sites Of Old World, Americans Concentrate on Home Soil

By EMILY C. DAVIS

ARCHAEOLOGISTS are blocked by this war. The amazingly rapid re-discovery of the world's buried past is being seriously slowed down.

In a world gripped by strife and uncertainty, there are undoubtedly lessons to be learned by digging up forgotten battlefields, palaces, vanished empires, and other evidences of man's struggle through civilization. Yet, except for a few lands, the United States notably among them, there is less digging by archaeological expeditions today than in many a year.

Nobody can dig in Europe, unless it is to build bomb-proofs. Well, hardly anybody. A lonely little report from a German propaganda source does say that "Norwegian archaeologists, with assistance of the German authorities, have resumed the excavations on the site of the graves of Viking kings."

Norwegians may really have hopes of finding another richly laden Viking burial ship at Oseberg, like that of a ninth century Viking queen struck by the lucky spade of a Norwegian farmer some years ago. So complete was the royal furnishing of this ship for a voyage into the future, that archaeologists have compared it to the tomb of Egypt's Tutankhamen. Like Tutankhamen's tomb, the Oseberg ship revealed to a modern world luxuries and standards of the past.

A Forgotten Science

Otherwise, a Science Service survey shows that throughout war-stricken Europe archaeology resembles a forgotten science. Expeditions have been called off, postponed, or abandoned.

Americans who have been opening up to daylight the market place of ancient Athens, summer after summer, under direction of Prof. T. Leslie Shear of Princeton University, have given up trying to work amid so much uncertainty. Athens has air-raid shelters these days—in case. Leaving a small staff to guard the grounds and the more recent discoveries, most of the expedition staff members have returned to the United States, though not for good, they hope.

In the Near East, there is actually

some effort to continue the search for buried history.

A party of Americans, excavating in Syria near the Turkish border, calmly announced their intention to keep right on digging as long as possible, regardless of French colony status and war in the Mediterranean.

These men, from the Oriental Institute of the University of Chicago, are on the track of a particularly desired missing link in ancient international politics. They do not want to give up, now.

Goal of their excavations is a city of the almost unknown kingdom of Mitanni. Once, the lords of Mitanni were so powerful in world affairs that they formed an international triangle with the other major powers—the Egyptian and Hittite empires.

Germans Had Option

For years German archaeologists held an option to dig at a mysterious Syrian mound near the Turkish border in the Khabir River valley, where an important city of this era was believed hidden. But the Germans failed to arrange the expedition. The French at length withdrew the concession, inviting America's Oriental Institute to open the mound. And now, with a modern world crisis and tangle around them, experts of the past are seeking to clear up suprisingly forgotten international tangles in 2000-1000 B. C. history.

Hope is that the Syrian mound will contain a palace and governmental headquarters of the powerful and militaristic Mitanni. Even more important for understanding their role in world history would be discovery of the correspondence files, probably buried in palace ruins. These might enable scholars to learn secrets of diplomacy and government which shaped world events in the Egyptian-Hittite-Mitanni triangle. Curiously, we may yet know more completely what happened than did people of that time.

Mitanni figures in Bible narrative as the Hurrian state and the Horite people.

The oldest steel weapon ever discovered, a battle-axe recently unearthed in Syria, has brought a flash of modern

publicity to Mitanni's munition makers. Primitive steel of the axe head is attributed to Mitannian workmanship of about 1500 B. C.

In the Near East, too, exploration of King Solomon's factory-town and seaport, Ezion-Geber, has gone right along, war or no war.

Removing tons of sand from this ruined city, in a third springtime digging season, Prof. Nelson Glueck, of the American School of Oriental Research in Jerusalem, has just completed his work. Ezion-Geber, near the horn of the Red Sea, will soon be covered by wind-blown sand again, but not forgotten. The excavations have made plain King Solomon's business executive ability and understanding of trade and industrial problems of 1000 B. C.

Viewing his copper smelting plant and other commercial ventures in the seaport, the anxious visit of the Queen of Sheba, whose trade was threatened, is far better understood, though it still



AT NAPOLEON'S HILL

A Hebrew University student solves a clay jigsaw puzzle from depths of the Palestine mound called Napoleon's Hill. The pitcher was used in the period 1200 to 1000 B.C., when the Israelites were establishing their kingdom.

remains to be learned what she won from Solomon when the Bible reports that he gave her all she desired.

On the other side of the Jordan River, in Palestine itself, the Hebrew University has managed to continue digging at a site Napoleon made famous. Napoleon's Hill, the place is called, because in 1799 Bonaparte made his headquarters on the top when he was battling the Turks.

Trodden by Napoleon

Under Napoleon's feet then lay hidden ruins of a town which had been fought over in raids and battles several thousand years before his campaign. Napoleon would have been interested, had he known. He encouraged archaeology.

Called today Tell Jerisheh, the old name of the buried town is quite unknown. Prof. Eliezar L. Sukenik, Hebrew University archaeologist, is working with student assistance to probe the entire history of the site. In four seasons, he has traced its story back to somewhere between 2000 and 3000 B.C., which is before the days of Abraham.

Evidence that the town played a strategic role is revealed by the fortifications of different eras. Located as it was near the Yarkon River, where merchant ships could reach it from the sea, this unnamed town feared sea raiders particularly, and at least once was destroyed by them. Last inhabitants appear to have been Israelites, whose boundary reached the Yarkon River region.

Work in United States

In the United States, the roll call of expeditions taking the field to unearth the country's prehistory reveals not quite "business as usual," but at least expeditions in a great many states.

One spotlight is on New Mexico, where Dr. Frank C. Hibben of the University of New Mexico has been finding that there were Americans even older than the famous Folsom hunters, who are now widely accepted as having been here in the Ice Age, 20,000 years ago.

Sandia Man, still older, is revealed by his distinctive weapons, found by Dr. Hibben in a cave in the Sandia Mountains. But Sandia Man himself is missing to date, and is still being sought.

Folsom Man, likewise, is a missing man of early America, still known entirely by his tools and camp ground debris. The search for his burying ground, if he did indeed bury the dead, is one goal of the Smithsonian Institution expedition of Dr. Frank H. H. Roberts, Jr., at the Lindenmeier site in Col-



DISSECTING AN INDIAN MOUND

Halfway in the excavation of a large, flat-topped mound in Butler County, Kentucky, archaeologists have uncovered old floor levels on which the ancient Indians had built living or ceremonial structures. The earth pillars left standing serve as a check on previous work in the excavation as progress continues.

orado. At this site, Folsom Man first became a full-fledged personality, by reason of Dr. Roberts' unearthing of a variety of the hunters' tools, the evidence of their stone-working right on the spot, the traces of their paint for decoration, and other clues which an expert can build into a picture of American life in the Ice Age.

Rescuing Indian settlements from the path of farm plows, from rising waters of newly constructed dams, and other hazards that would wreck pages of history forever, is still proceeding, with help from WPA and CCC workers.

Because of the national defense program, long-buried secrets of the Tennessee Valley will come to light faster. Speed-up in building TVA dams means corresponding speed-up in excavating Indian village sites and burial mounds in the path of reservoir construction, Prof. T. M. N. Lewis, University of Tennessee anthropologist, has declared. Prof. Lewis is directing this WPA-financed archaeology project.

Much information about the earliest group of Indian pioneers who settled in the valley is being found in digging at the Watts Bar area, he states. Probing here, the archaeologists have struck what appears to be the focal point for

Indians of the region. In the Kentucky Dam area, also, excavation work with a field crew of more than 100 is being pushed.

Says Prof. Lewis: "The archaeological program, which has resulted in the University of Tennessee obtaining one of the finest study collections of Indian artifacts in the United States, began as the result of a protest by a Knoxville group. They had learned that the TVA construction work would flood unexplored mounds and village sites in the Norris reservoir area, and urged that archaeologists hurry to rescue this endangered chapter of American prehistory."

A Kentucky Archaeological Survey, directed by University of Kentucky scientists and made with WPA aid, has not merely explored Indian mounds in approved and precise archaeological techniques, but has pioneered by excavating one of Kentucky's largest earth mounds in a fashion never attempted before on so large a scale. Profile cuts into the mound revealed the layered sequence of its history, and then, encountering tombs and other features, the excavators isolated these fully and skirted them in the digging. Later the tombs were individually dissected and investigated for a

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Todd used a similar idea, operated pneumatically, like the player piano. Probably because of its complexity when air-operated, it has never been used since.

Dr. Irvine C. Gardner, chief of the optical instruments section of the National Bureau of Standards, will head the party. Accompanying him are Dr. E. O. Hulbert, of the Naval Research Laboratory; the Rev. Dr. Paul A. McNally, S. J., director of the Georgetown University Observatory; Dr. Carl C. Kiess, spectroscopist, and Dr. Theodore R. Gilliland, radio research specialist of the Bureau; and Richard H. Stewart, staff photographer of the National Geographic Society.

In addition, a group from the Amateur Astronomers Association, in New York, led by Charles A. Federer, Jr., editor of the magazine *Sky*, will leave early in September for Campina Grande, Brazil, a city of about 90,000, through which the National Geographic party will pass on their way to Patos.

Science News Letter, September 7, 1940

GEOLOGY

Life Founded Upon Rock, Is Argument of New Book

ASK FOR bread, and you must first receive stones. For there can be no bread without there first being stones.

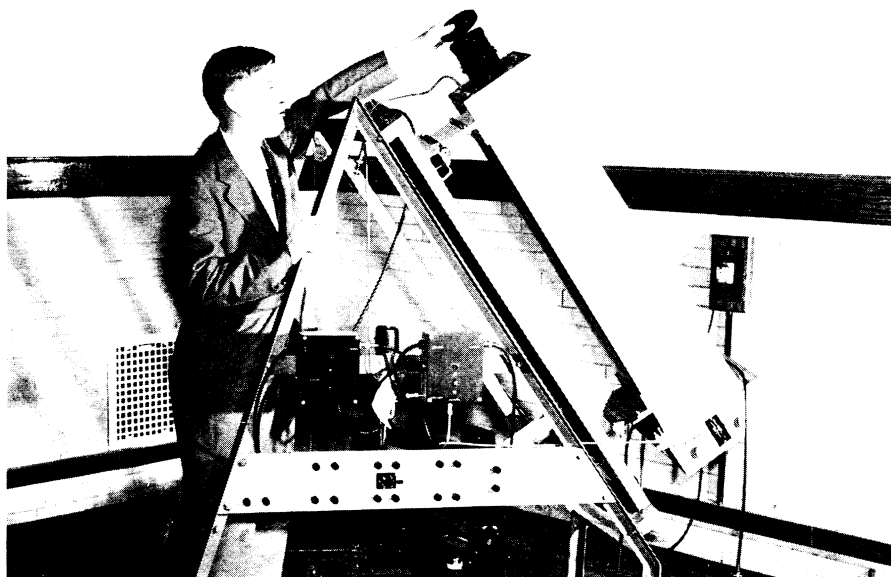
Such is the argument which opens the first chapter of a new volume, *The Rock Book*, by Dr. Carroll Lane Fenton and Dr. Mildred Adams Fenton.

Rocks, declare the Fentons, "decide what shape the earth shall have, how its outer part shall shift and what its surface shall look like. They also determine what plants and animals shall do on this planet, telling where, when and how they may live."

This claim is substantiated by rapid examples: Plants must have minerals, which can come only from dissolved, broken rocks. Animals' habitats are determined in one way or another by rocks, from the barnacle on the seashore ledge to the cony among the tumbled mountain stones. Man himself has lived successively in rock caves, stone-built castles, and apartment houses of reinforced concrete—which is an artificial stone. A modern knowledge of rocks (and their offspring, soil) is indispensable for successful farming, mining, engineering, industry of all kinds. Life indeed is founded upon rock.

Science News Letter, September 7, 1940

An insect "zoo" of living *pests* that damage crops was a feature of the New York State fair at Syracuse in August.



TO PHOTOGRAPH THE HIDDEN SUN

Dr. Irvine C. Gardner, leader of the National Geographic Society-National Bureau of Standards Solar Eclipse Expedition, makes final adjustments to one of the specially built cameras with which the expedition will photograph the eclipse on Oct. 1. The camera will take 12 to 15 photographs of the corona, the halo that extends outward around the sun but which can be seen only during total eclipses, during the moon's five-minute blackout of the sun.

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set of records pronounced unique in American archaeology.

In Oklahoma, to take another example, Indian villages and cliff dwellings in the path of Grand River Dam are being examined while they can be, by WPA workers directed by Dr. Forrest E. Clements of the University of Oklahoma. Indians of Oklahoma are shown here as trading with tribes as far away as the Gulf of Mexico. They are also shown as skilled in cloth making and many crafts. No more than six months of exploration is expected at one area, where the work of the dam will have to proceed.

Mexico, like the United States, is keeping up its archaeological field work in

more or less usual manner, with the excavation and repair of Indian temples, pyramids, and monuments.

Rated one of the youngest sciences, archaeology has made amazing strides in the Herculean task of digging up buried history the world over, and some archaeologists think it a good thing to have a breathing spell from so much digging. Now is the time, they philosophically say, to study valuable evidence that has been unearthed and carried safely to laboratories, and to write more fully what it all means.

Science News Letter, September 7, 1940

Alaska bought more than \$44,000,000 worth of goods from continental United States last year—a record.

● RADIO

E. K. Cohan, director of engineering of the Columbia Broadcasting System, will describe the new 50,000-watt transmitter to be constructed on Long Island Sound, as guest speaker on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, Sept. 12, 4:00 p.m. EDST, 3:00 EST, 2:00 CST, 1:00 MST, 12:00 PST.

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