

ARCHAEOLOGY

Turning Back Time

Archaeologist Makes It Possible For You To Journey Out of Twentieth Century to Mesopotamia, 3000 B.C.

By EMILY C. DAVIS

EVER AMUSE yourself wishing for a vacation from the twentieth century? Actually get back to one of those long-ago times that seem so much more romantic than this prosaic Age of Efficiency and Gadgets?

If so, with all the glamorous places of the past to choose from—ancient cities of Greece, amazing scenes of Egypt, castles of knighthood days in England—did you ever, honestly, think of saying:

"I'll take a ticket to Mesopotamia, please, and make it about 3000 B. C.?"

A hundred to one, you never did.

But that is only because Mesopotamia 3000 B. C. has never been revealed until now, says Prof. E. A. Speiser, University of Pennsylvania archaeologist. If he could choose, he would go straight back there, not stopping off at any of the alluring points, not even to see Cleopatra meet Antony, nor to help Alexander the Great celebrate any victories.

For if the trip could be managed, he could witness one of the major events in the long drama of human progress. He would see how man escaped from a million years of the slow, chrysalis stage of being prehistoric. He would be there to see with his own eyes mankind stepping out into the enlightened era of history.

That was one of the exciting times to be alive in the world, says Prof. Speiser. Finding that thoughts and speech could be written down for other people to read miles away, years afterward, was a discovery so big that it swept people up into a different way of living. And just about the same time came another cultural bombshell—the Age of Metals. Then the first industrial revolution happened.

Nothing Else Like It

Life changed so radically that Prof. Speiser declares:

"Nothing like it is seen again until we get down to within earshot, so to speak, of our own times."

It is only because Ur and Kish and Tepe Gawra and other great cities of that age stayed buried so long, that the public dropped them out of its wishing journeys.

Mark Twain knew nothing of the adventurous possibilities of Mesopotamia 3000 B. C., when he chose to let his roving imagination carry him, as a Connecticut Yankee, back to King Arthur's court. A bewildered Yankee, trying to introduce modern improvements into cities along the Tigris and the Euphrates, could have had amusing experiences, worthy of a Mark Twain pen. But Mark lived too soon to write that tale.

Even today, only the archaeologists know very much about that life of 5,000 years ago. And the greater part of their knowledge has been dug up in the past ten years.

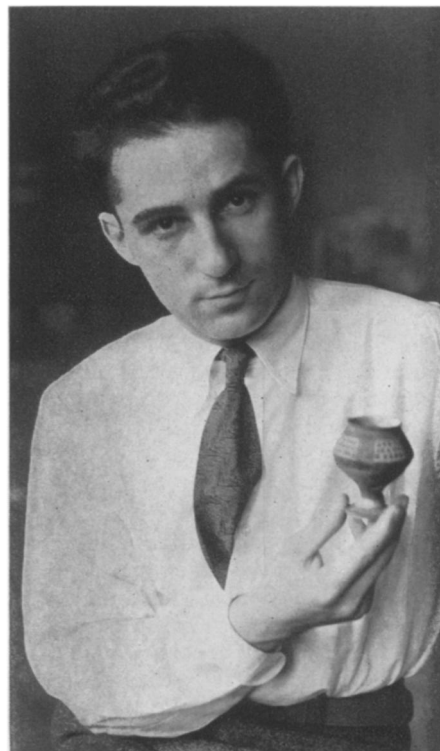
Right now is Mesopotamia's comeback. Twelve years of unearthing Ur of the Chaldees ended last year, and that job is done. Kish has been dug out in ten years of hard work, beginning 1923. Tepe Gawra is still news, for a dispatch only a few weeks ago tells of deeper layers being probed there, and another thousand years of antiquity seem likely to be added to a city that already is known from 3700 B. C.

Make City Live Again

The expeditions, digging persistently, often wearily, through thick blankets of earth over the humps of ruins, are carried along by the thrill of what they are doing for history. When they hold in their hands some crushed bowl or tissue-frail golden headdress, or tarnished dagger, they can see the ash-can object vividly in their minds as it once looked, fresh and restored to its proper setting in life.

These faded and broken relics and the maze-like stumps of buildings, interpreted through the knowledge of experts, are making Mesopotamia real again. And the country has a charm of novelty and strangeness that, Prof. Speiser believes, will more and more capture the public's fancy, just as it has already enthralled its discoverers.

At about 3000 B. C.—the time Prof. Speiser likes best—the stage in Mesopotamia is all set for important events. Suppose you arrive there ahead of time, as Prof. Speiser recommends. You choose an air survey of the Fertile Crescent first, to get your bearings.



PROF. E. A. SPEISER

He discovered the ancient city of Tepe Gawra, and recommends "Mesopotamia 3000 B.C.," for excitement. He holds in his hand a beautiful little chalice used in that great age.

A bird's eye view shows a surprising number of flat-roofed cities scattered over the plain, along both sides of the parallel streams, the Tigris and the Euphrates. The cities are set artificially high on platforms of earth, a "foreign" looking feature. The flood protection commission, or whatever the city fathers call it, has seen to raising the streets. Mesopotamia remembers one great Deluge, centuries back, when the Euphrates buried cities like Ur under eight feet of barren mud.

You can walk in imagination in a number of the cities to study their personalities, by archaeological knowledge. But the ones you would probably ask for first would scarcely be worth touring. Babylon is not yet on the map and Nineveh is still in the country town stage in 3000 B. C.

Tepe Gawra—Prof. Speiser's pride because he discovered it and worked there himself—is quite a place to see in the year 3000. For centuries it has had

city planning, its residential district, market section, temple area. Its residential streets are lined with bay-window brick houses. The whole town is brick. All Mesopotamia is built of brick, for stone is not one of the land's resources, and mud decidedly is. Chariot traffic rolls down the streets with the creaking of copper and wood disk wheels and the clattering hoofs of asses, horses, and oxen.

Temple on Platform

Tepe Gawra has not set its temples high on terraced platforms. But go south to Kish or Erech and you can see a temple like that, and it is worth taking in. It is a novel thought in religious architecture, and destined to become traditional through the Babylonian, Assyrian, and Chaldean eras. The idea is invented by Sumerian immigrants who are the dominant race in Mesopotamia about 3000 B. C. Coming from the mountains, they feel desperately far from heaven in the flat plains, so they begin building terraces for their temples. A few centuries hence, Ur will raise one of these imposing ziggurats or stage-towers. And later still Babylon will build its Tower of Babel, same style. Even in 1935 A. D., church steeples will be reaching skyward by the same old Mesopotamian custom.

Art work displayed in city market places is worth close examination. Goldsmiths display delicate flower-ornaments for women's hair, and all sorts of jewelry. Inlay artists work patterns in shell to make beautiful household things. Copper

workers cut metal as if it were lump stone, hammering out blades and nails and kitchen pots. The artisans are exceptionally clever with clay, making images, for example, that are decidedly modernistic, as the world 5,000 years hence will use that superior-sounding term. The art of painted pottery is at a higher stage in these Sumerian cities than it will be again until the Greeks come along over 2,000 years later, with their genius for vase painting.

If you have time to detour to visit ruins, the Mesopotamians of 3000 B. C. can take you out to Jemdet Nasr, a city already abandoned. Or to old Shirupak, traditional city where the Sumerian Noah, Zi-ud-su-du, is said to have built an ark and escaped a Deluge.

People Shadowy

Impressive as all the sight-seeing is, the people and cities remain shadowy in some ways. Remember, you are seeing only what the archaeologists can help you to see, by honest magic. That means you cannot talk with these people. The archaeologist does not know what their speech was like. They are prehistoric. They cannot communicate to the future—except through human memories—the names of their kings, the dates of their wars, or the crises of their history. Crude and obscure pictographs they do use to help remember facts and figures. But writing is not yet the universal key to communication that it is going to be—soon.

Says Prof. Speiser:

"When, by 3000 B. C., a complete

system of writing is evolved, then history begins.

"When we learn that the first independent ruler of the city of Ur was a certain Mesannipadda, that the language he spoke was Sumerian, that he made war on the people of Erech, and that he gave costly presents to his wife, whom he mentions by name, we realize at once that quiet and anonymity have departed forever, and history is upon us in full sway. It all began the moment the past had broken its silence."

Literary Revolution

Now as you watch the changing events in the cities, you see a literary revolution.

Kings no longer need depend on ministers and criers to reach their public. They take to dictating grandiloquent statements, which they order carved on stone monuments, or clay tablets, or even on cliff-sides. The satisfaction of being royal deepens, now that a king can tell the world his mighty doings forever.

Statecraft becomes more modern, as demands and agreements can be written with strokes of a stylus in damp clay and referred to later from the official files. The first peace treaty is written somewhere about this time. But judging by one of these treaties found 5,000 years later, putting promises in writing is no international cure-all. This early treaty—2900 B. C.—signed by the cities of Lagash and Umma after a bitter civil war, sets down emphatic terms and even threatens a curse if the vanquished people of Umma dare to break the terms. But soon after, the treaty is just a scrap of clay for all the battling cities think of it.

Business dealings become more systematic with the aid of writing. The temple priests who do a big business in tribute payments, rendered in terms of live stock, grain, and other goods, build up efficient office records, kept on thousands of small clay tablets.

School Books

School books are written, for some one soon discovers how helpful they would be. On clay bricks, the priest-schoolmasters of Nippur and other cities write lessons to be studied. What lessons? Not much different from lessons thousands of years later—grammar rules, multiplication exercises, history dates and names of kings, geography facts.

The old art of sending verbal messages becomes the new art of letter writing. And these people with their new-found literary accomplishments write business letters and love letters just about like those of later ages. Even the little



FROM A KITCHEN

A copper frying pan of Tepe Gawra. Blades and nails, as well as kitchen things were hammered from this metal.

touches "keep well for my sake," and "I went to Babylon but did not see thee; I was greatly disappointed," appear near the dawn of letter writing.

As for the industrial revolution, brought in by metals, Prof. Speiser says: "When copper first finds its way into the principal centers of the ancient world, late in the prehistoric period, no one can suspect that the first great industrial revolution will be made of just this sort of reddish stuff.

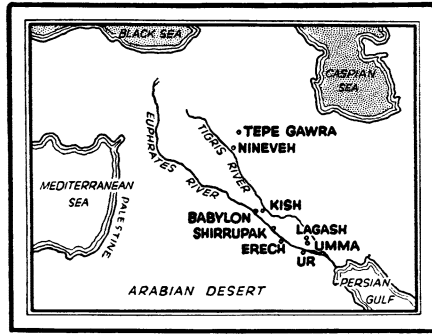
"To the craftsmen who hammer it into shape, the metal is merely a costly substitute for stone; a rarity and nothing more, incapable of disturbing the even tenor of contemporary life.

"But at length the discovery is made that when the metal has been reduced and then remelted, it can be cast so as to yield any desired shape. No longer like rigid stone, the copper becomes pliable and strangely responsive. In other words, some one has stumbled upon the basic principles of metallurgy.

"Event follows upon event with alarming rapidity. Home industries receive a powerful impetus. Foreign contacts acquire a new meaning. Stone users are no match in battle with the wielders of the new copper weapons. Possession of the metal becomes a stark necessity, and, since the known mines are limited in number and restricted to a few locations, there is a mad scramble to control the sources of supply. Distances are disregarded in the search for new deposits. In the heat and dust of this upheaval whole nations are shifted and transplanted almost overnight.

"When the smoke has at last cleared it is an entirely different world that faces the unknown future; a restless world constantly on the move. Life is no longer, as it has so long been, peaceful and leisurely and on the whole uneventful."

Describing the scenes as they are eventually, in 1935, Prof. Speiser says:



SCENE OF ESCAPE
The Land of the Two Rivers, Mesopotamia, where man escaped from the chrysalis stage of being prehistoric, and stepped out into the enlightened era of history.

"You cannot mistake the main outlines of the historic revolution, once you have been fortunate enough to excavate such a place. First you are impressed by the beauty and restraint of the prehistoric civilizations. Then you come to a place where these come to an end. A few feet of earth, and you have ascended to a different world. Across that enormously significant border are the foundations of modern life. Great wealth and industry and skill, and with it all a feeling that everything is somehow in a state of flux. And the ground is green with copper."

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PHYSICS

Stratosphere's Height Above Earth Found To Be Variable

STRONG evidence that the base of the stratosphere varies greatly in height is contained in preliminary results of the Massachusetts Institute of Technology's recent sounding balloon investigation of weather conditions as high as 15 miles above the earth.

Investigations so far completed of the sensitive instruments carried aloft at St. Louis, Mo., a few months ago indicate that the base of the stratosphere suddenly shifts in height in ranges varying from 25,000 feet (4.7 miles) to 40,000 feet (7.5 miles), according to Prof. Carl G. A. Rossby, meteorology director at the Institute.

Extraordinary fluctuations in temperature, ranging from 36 degrees below zero Fahrenheit to 78 degrees below, were also recorded at the base of the stratosphere, that layer of the atmosphere

where temperature no longer decreases with greater height.

Temperature, humidity and air pressure readings were automatically made during active storm conditions by means of highly sensitive, featherweight instruments carried by the balloons. Swelling as they rose until they burst in the rarefied air of the stratosphere, the balloons then parachuted the instruments to earth where they landed safely in shock-absorbing split-bamboo frames.

Find 29

Of the 35 balloons released last November, 29 were found within 100 miles of St. Louis and returned to the Institute, where their precious instruments have been partially calibrated by Prof. Rossby.

From these studies, scientists hope to learn, among other things, whether violent changes in the stratosphere accompany temperature fluctuations and at what approximate level the greatest cold is found.

While the data previously obtained are still being studied, another investigation, the third, is planned for next week, provided that weather conditions are favorable. Since these investigations are being carried on under active storm conditions, "favorable" in this case, means the worst possible.

Chris Harmantas, who is in charge of field operations, has already left for St. Louis with 36 new sounding balloons.

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