

# THE ORIENTAL INSTITUTE

OF

THE UNIVERSITY OF CHICAGO

IN COMMEMORATION OF THE DEDICATION OF THE ORIENTAL INSTITUTE BUILDING , DECEMBER 5 , 1931

THIRD EDITION OF THE HANDBOOK , PRICE TWENTY-FIVE CENTS

# THE ORIENTAL INSTITUTE

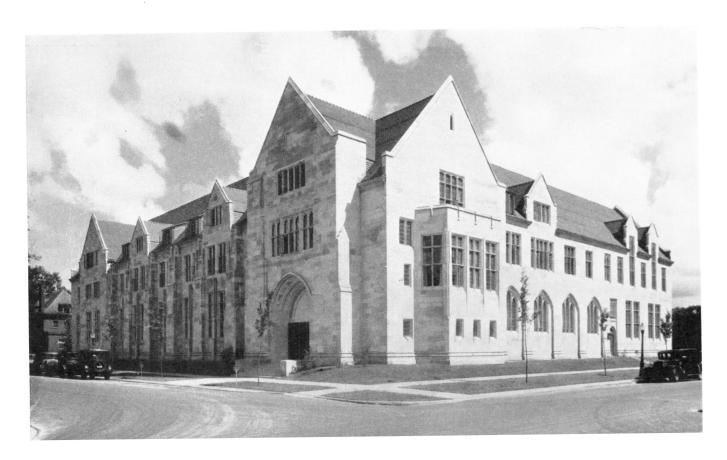
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THE NEW ORIENTAL INSTITUTE BUILDING, SEEN FROM THE NORTHWEST

through Syria, Palestine, Iraq, Persia, and Upper Egypt, are gathered for floor. The other floors are devoted to administration, teaching, and research. exhibition, study, and publication at this scientific and administrative head-

The results of the Institute's field operations, extending from Turkey quarters building. Five exhibition halls and a lecture hall occupy the ground

# TABLE OF CONTENTS

Ι.	The Purpose and History of the Oriental I	NSTI	TUT	CE			,		Ι
II.	THE FIELD EXPEDITIONS	,							5
	Egypt and Northeast Africa								5
	The Prehistoric Survey								5
	The Sakkara Expedition								9
	The Coffin Texts Project								IC
	The Abydos Expedition								12
	The Theban Tomb Paintings								14
	The Epigraphic and Architectural Survey								16
	Western Asia								20
	The Iraq Expedition								26
	Babylonian Excavations								26
	Assyrian Excavations								29
	The Anatolian (Hittite) Expedition								32
	The Syrian Expedition								37
	The Megiddo (Palestine) Expedition								38
	The Persian Expedition								49
III.	THE AMERICAN HEADQUARTERS AND THE HOME	E Ri	ESEA	RC	HES				54
	The New Oriental Institute Building at the U						ica c	ro.	54
	The Assyrian Dictionary								54
	Old Testament Studies								-58
	Ancient Arabic Documents				•				58
	The Peshitta Project								58
	The Egyptian Book of the Dead								59
	The Demotic Dictionary								59
W	THE PUBLICATIONS OF THE ORIENTAL INSTITUTE	,							60
LV.	The Field Expeditions								
	Other Projects					•	•		60 62
	Other Projects	•	-						63
$\mathbf{V}_{-}$	THE PERSONNEL OF THE ORIENTAL INSTITUTE								66

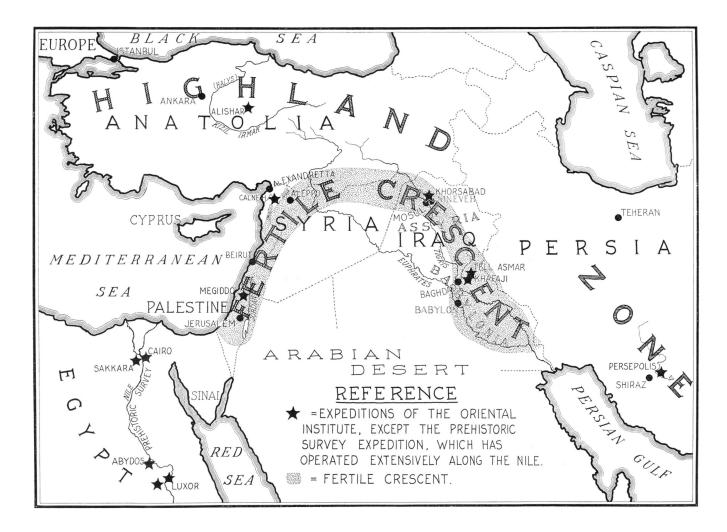


Fig. 1.—Map Showing the Field Operations of the Oriental Institute in the Near East

and the Nile Valley in the south, and the Fertile Crescent lying between the will be seen that the expeditions are strategically distributed. One at each Desert and the Highland Zone. Stars indicate the locations of the Insti- end of the Highland Zone and others at four points along the Fertile tute's field expeditions or other scientific projects. These comprise a total Crescent make six expeditions in Asia. There are likewise six expeditions of thirteen undertakings, of which twelve are still in progress. Because it in Egypt and Northeast Africa.

The entire region comprises the Highland Zone in the north, the Desert is a mobile unit, the Prehistoric Survey cannot be indicated by a star. It

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# THE PURPOSE AND HISTORY OF THE ORIENTAL INSTITUTE

The Rise of Man: A Challenge

The Oriental Institute is a research laboratory for the investigation of the early human career. It endeavors to trace the course of human development from the merely physical man disclosed by the paleontologist to the rise and early advance of civilized societies, the product of a social and material evolution culminating in social idealism.

A generation of archeological research has dispelled all doubts as to the scene of this evolution, which is now recognized as having been the ancient Near East, the region folded like a horseshoe around the eastern end of the Mediterranean. The ancient lands of this region today constitute an almost inexhaustible storehouse filled with perishing and still unsalvaged evidences disclosing early human development. Heretofore no comprehensive and systematic effort has been made to save and study as a whole these enormous bodies of perishing evidence. Fully recognized, this situation has formed a challenge to modern science and has laid upon it a twofold responsibility: first, the task of salvaging this evidence by scientifically organized and well equipped field expeditions; and second, the study, the constructive interpretation, and the correlation of the great bodies of evidence which may thus be gathered.

The Oriental Institute of the University of Chicago was organized to meet this challenge and to aid in enriching modern knowledge with a fuller vision of the rise of Man, which in itself constitutes the greatest event in the history of the universe as far as it is known to us. Lord Acton once observed that 'next to the discovery of the New World, the recovery of the ancient world is the second landmark that divides us from the Middle Ages and marks the transition to modern life.'' To the ancient world of the Renaissance, to which Lord Acton was referring, the Oriental Institute is adding a larger and a vastly remoter world, hardly discernible even to Lord Acton's generation.

# Rescuing the Original Evidence

In endeavoring to fulfil its purpose, the Institute operates from its American headquarters at the University of Chicago, where it carries on a series of researches continually fed by the foreign investigations of its twelve field ex-

#### PURPOSE AND HISTORY

peditions now operating along a front of some thirty-five hundred miles, from the southern shores of the Black Sea on the north, eastward to southern Persia (Persepolis), thence to Northeast Africa on the west and the Upper Nile on the south (Fig. 1). In these operations it is endeavoring gradually to salvage the original evidence for the compilation of a new and fuller *History of Civilization*. It is slowly recovering the fragments of the world's greatest epic, the Conquest of Civilization. In the Oriental Institute's quest for the lost books of that epic there is something of high romance which imbues the Institute's staffs both at home and abroad with an eagerness to discern more fully the causes and the nature of that mysterious and persistent buoyancy of the human spirit which, in spite of declining intervals, has made the direction of the human movement from the beginning—probably for several hundred thousand years—a rising line.

These operations involve adequate housing in the field and complete equipment with modern mechanical devices, the machinery and inventions of modern man, brought to bear upon a quest for the true story of man's rise from a dim and as yet only fragmentarily discernible past. Not infrequently these modern devices have resulted in bringing to light the ingenuity of ancient man, who several thousand years ago had already anticipated, however crudely, many of the mechanical and even intellectual developments of our present age.

This third edition of the *Oriental Institute Handbook* is intended, like its predecessors (which are unfortunately out of print), to summarize briefly the progress of Institute activities, as seen in the various scientific projects which it is now carrying on both in America and in the Near East.

# The Creation of the Oriental Institute

The action by the Trustees of the University of Chicago creating the Oriental Institute in the spring of 1919 was made possible by the generosity of Mr. John D. Rockefeller, Jr. The subsequent growth of the Institute has likewise been due not only to further support from the same generous donor but also to substantial appropriations by the General Education Board and the International Education Board, as well as to gifts from Mr. Julius Rosenwald, Mr. Theodore W. Robinson, the Hon. Robert P. Lamont, Mr. Henry J. Patten, and others, including one anonymous donor.

This support has made it possible to transform the University's Department of Oriental Languages and Literatures into an investigative body—a research group, to whose ranks have been added other specializing investigators having no teaching duties and appointed solely to carry on a series of related research projects in the vast field of early human development upon which modern life has been built up. Geographically considered, this field, as

#### THE ORIENTAL INSTITUTE

we have already indicated, is the ancient Near East, to which the Institute has dispatched thirteen expeditions and where it is now still maintaining twelve. Its permanent Egyptian headquarters are at Luxor (see Figs. 23–27); its three headquarters in Asia—one for Palestine and Syria, one for Iraq (Babylonia and Assyria), and one for Anatolia (the Hittite region)—are



Fig. 2.—The Reconnaissance Expedition of 1919/20 Meets Sheikh Suwan of the Sabkhah Arabs above Deir ez-Zor on the Middle Euphrates

Sheikh Suwan, the second figure from the left, was the head of a powerful group of Arabs. At that time he was basing great hopes on President Wilson and the Fourteen Points, knowledge of which had reached him even in this far-away Arab wilderness. His sturdy son, very proud of a new Mauser rifle, is the fourth figure from the left.

shown in Figures 45–46, 28, and 40. Its administrative headquarters, where the control of all field projects is centralized, are in the new Oriental Institute Building (frontispiece) on the quadrangles of the University of Chicago. Here also original monuments and documents from the field are studied and displayed, and the home research projects are carried on. The Oriental Institute is an integral part of the University, and its funds are intrusted to and administered by the University's Board of Trustees.

The first venture of the new Institute immediately after its foundation in 1919 was a preliminary survey of the Near East, beginning in Egypt and extending through Western Asia, especially Mesopotamia (Figs. 2–3), with the purpose of developing plans for excavation and field research. This survey, involving a hazardous journey of twenty thousand miles through regions at that time still fraught with active warfare, revealed unparalleled opportunities for archeological field work of many kinds. The story of this fruitful

#### PURPOSE AND HISTORY

venture appeared under the title, *The Oriental Institute—a Beginning and a Program* (now out of print), which formed No. 1 in the Oriental Institute's 'Communications' series. The projects which have grown out of this preliminary reconnaissance and from subsequent explorations are described in the following pages.



Fig. 3.—A Corner of Ancient Nineveh, Seen from the Platform Which Once Bore the Palace of Esarhaddon (Seventh Century B.C.)

The wall of the ancient city may be seen at the left, skirted by the dry bed of the Tigris (still farther left). The tents are those of British East Indian troops encamped A.D. 1919 on the areas once occupied by ancient Ninevite houses. The modern graves in the foreground are immediately north of the tomb mosque of Nebi Yunus on the palace platform of Esarhaddon. On the platform seen behind the tents were situated the palaces of Sennacherib and Ashurbanipal also.

#### $\Pi$

## THE FIELD EXPEDITIONS

#### EGYPT AND NORTHEAST AFRICA

#### THE PREHISTORIC SURVEY

It is obvious that the study of earliest man must carry the investigator back into the geological ages; hence the Institute's investigations in the Near East have been extensively concerned with the problems of natural science, especially geology. Under Dr. Kenneth S. Sandford of Oxford University as field director the Institute organized a Prehistoric Survey which undertook the first detailed investigation of the geological history of the Nile Valley in connection with a careful search for the earliest evidences of the appearance of man. That expedition has now completed an archeological survey of the earliest geologically dated evidences of man in Northeast Africa, extending for over a thousand miles inland from the mouths of the Nile. During the winter of 1931/32 the expedition is remaining at home to prepare the final results of its survey for publication.

Back in Oligocene times, millions of years ago, the Nile began as a colossal stream carrying northward the drainage of all Northeast Africa across the North African Plateau (now the Sahara) to the predecessor of the Mediterranean Sea. It transported enormous masses of gravel, which now lie spread over vast areas of the Sahara (Fig. 4). Here and there lie also silicified or petrified tree trunks as much as seventy feet long, brought down on the waters of this mighty Oligocene river. There is no evidence of man's presence along this earliest Nile.

### Earliest Evidences of Man Yet Discovered in the Near East

Somewhat east of its earliest course this drainage began to cut a channel which finally deepened and expanded into the present Nile Valley. Along this later Nile the Survey discovered a stretch of over sixty miles of former Nile bed (now dry) some sixty feet in depth, and at the bottom of this gravel bed they found stone implements wrought by the hands of man and marking for us the advent of man in Egypt. The age of these implements must be Plio Pleistocene. That is, in terms of European geological history they go back to the beginning of the European Ice Age, although there was, of course, no Ice Age in North Africa. These implements are therefore the oldest human

artifacts yet found in the Near East. They may date anywhere from several hundred thousand to a million years ago.

# Discovery of the Date of the Desiccation of North Africa and the Age of the Sahara

Even more important than this new observation is a group of very instructive discoveries made by the Prehistoric Survey in the Faiyum Lake depres-

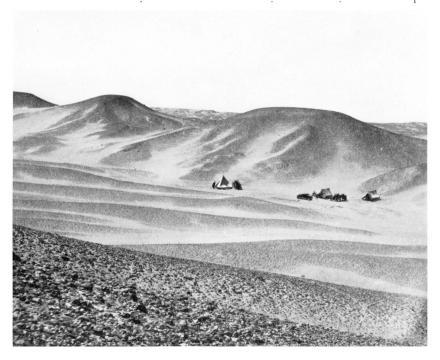


Fig. 4.— The Prehistoric Survey in Camp among the Gravel Hills and Sand Drifts in the Sahara Desert West of the Nile between Sakkara and the Faiyum

sion in the Sahara Plateau on the west side of the Nile, sixty miles above Cairo. Here successive lake terraces, discovered by the Survey, disclose the stages of the shrinking lake. These terraces, like the sinking sand in an hourglass, mark off the falling waters of the lake (Figs. 5–6) and the advancing desiccation of North Africa.

This piece of research has for the first time disclosed the date of the desiccation which created the Sahara Desert. It began in the middle of the Paleolithic or Old Stone Age. Such a tremendous change completely transformed the life of man on the North African Plateau. The discovery that Paleolithic

#### THE PREHISTORIC SURVEY

man was exposed to this change is one of far-reaching importance. We have long known that Paleolithic man on the *north* side of the Mediterranean was exposed to the advance of ice and the rigors of the Ice Age; now we see that on the *south* side of the Mediterranean Paleolithic man was exposed to desiccation that transformed his home into the Sahara Desert. What was to be the result?



Fig. 5.—The Northeast Side of the Faiyum, Showing in the Middle Distance (Extreme Right) the Curving Beach Formed in Middle Paleolithic Times by the Great Faiyum Lake

In prehistoric times, when the surrounding plateau (now desert) was covered with verdure and enjoyed plentiful rains, Mousterian man lived and hunted or fished along the margin of the ancient lake, now vanished. Mixed with the shingle of this ancient beach, the Survey found the camping grounds and stone implements of these prehistoric men.

# The Desiccation of North Africa and the Rise of Man

For ages before the desiccation set in, the entire North African Plateau was plentifully watered and was inhabited by the earliest hunters whom we know on the African continent. The evidences of their presence are distributed

across the Sahara from the Nile to Morocco. With the advance of the desiccation (Fig. 7) these hunters were forced to take refuge in the Nile Valley, where there was plentiful water. The animals which they had been wont to pursue on the plateau followed them in great numbers to the bottom of the valley. This close association of the hunter with his quarry, due directly to



Fig. 6.—A Closer View of the Shore of the Great Middle Paleolithic Lake of the Faiyum

The cultivated fields at the extreme right now cover what was the ancient lake bottom. Members of the Survey are seen leveling the top of the deposits laid down by the lake.

the desiccation which drove them both into the Nile Valley, was obviously one of the influences which brought about the domestication of animals. In a situation otherwise completely desert, the plentiful water obtainable along the banks of the Nile contributed likewise to the earliest development of agriculture, especially after the Egyptians invented the plow. Surviving evidences of these and further advances are buried deep under the Nile alluvium. In boring an artesian well at the Institute's new Luxor headquarters the drill brought up pottery from depths of seventy-five and one hundred feet.

On the basis of these two achievements—cattle-breeding and agriculture—arose in the Nile Valley the earliest known society of several million souls, a

#### THE PREHISTORIC SURVEY

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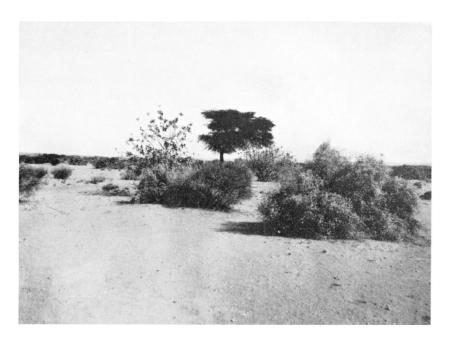


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five folio volumes of color plates and black-and-white drawings. In these facsimiles the great treasury of relief paintings at Sakkara will for the first time be adequately recorded. The expedition's headquarters (Fig. 9) are at Memphis (modern Bedrashein), and additional workrooms in one of the mastaba tombs have been assigned to it by the Egyptian Department of Antiquities.

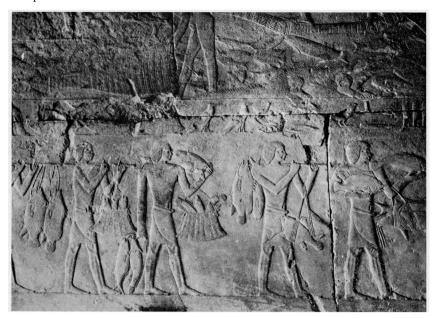


Fig. 8.—Painted Wall Relief from the Mastaba Tomb of Kagemni at Sakkara, the Ancient Cemetery of Memphis, Fourteen Miles from Cairo

The figures are a group of fishermen returning home. Such wall sculptures in the limestone masonry tombs of 3000 to 2500 B.c. depict the industrial, agricultural, pastoral, and social life of Egypt in the Pyramid Age. They form the earliest graphic revelation of the life of man. All these sculptures were colored in the hues of life, and much color still survives. The Sakkara Expedition of the Institute has been granted permission by the Egyptian Department of Antiquities to reproduce in color and in line drawings these magnificent painted wall reliefs.

#### THE COFFIN TEXTS PROJECT

From a social structure which could create the awe-inspiring array of ancient monuments still visible along the modern Nile, the ancient Egyptians gained profound human experience also. The futility of such purely materialistic conquests as the Great Pyramid was borne in upon them by the visible decay of the earliest pyramids after a thousand years. The Egyptians then began to discern inner values and gained a vision of social idealism and al-

#### THE COFFIN TEXTS PROJECT

truistic conduct. The literature that resulted had eventually a great influence on the religion of the Hebrews. The documents revealing this higher development are for the most part inscribed on the insides of beautifully painted Egyptian coffins (Fig. 10) of some four thousand years ago. About one hundred and fifty such coffins are preserved in the Cairo Museum, while many more are scattered throughout the museums of Europe and America.



Fig. 9.—A Corner of the New Headquarters Building of the Sakkara Expedition, under Construction among the Palms of Memphis

The documents themselves, known to modern scholars as the Coffin Texts, were written with pen and ink directly on the inner surfaces of cedar coffins used in Middle Kingdom burials. Beginning as far back as the twenty-third century B.C., or even earlier, and coming down into the eighteenth century B.C., these writings were afterward largely absorbed into the Book of the Dead, which cannot be understood without a thorough study of the Coffin Texts.

After nine years' work under Dr. Alan H. Gardiner and Dr. A. De Buck, the Oriental Institute has completed the copying of the thousands of lines of Coffin Texts. These copies are now being edited by the same able scholars and within the next few years will be published in a series of some five vol-

umes. When thus accessible, these texts, until now the largest existent group of unpublished documents of Ancient Egypt, will dimly reveal for the first time a new chapter in the progress of early man—the dawn of conscience.

#### MONUMENTS OF THE EGYPTIAN EMPIRE

After 2000 B.C. national developments all around the eastern end of the Mediterranean led to international rivalries out of which came the Imperial Age. Early in the sixteenth century B.C. Egypt gained a leading position and for four hundred years was imperial mistress of the ancient oriental world. As the first world-power, Egypt was able to create colossal monuments, many

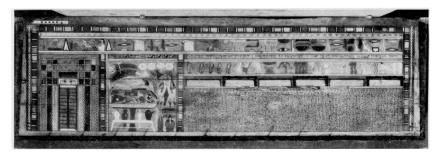


Fig. 10.—Coffin Texts and Paintings on Cedar Planks Forming the Side of an Ancient Egyptian Coffin of about  $2000\,$  B.C.

It is such texts as the above (lower right-hand portion of the plank), revealing the dawn of conscience, which the Institute's Coffin Texts Project has copied from scores of similar coffins scattered throughout the museums of Egypt and the Western world. Their publication will for the first time make available to scholars all the known surviving sources of the Book of the Dead.

of which still survive and await rescue and study. This vast group of monuments forms the largest ancient body of evidence still left unsalvaged in the Near East. It consists chiefly of inscriptions and reliefs on the walls of the great tombs and temples of the Nile.

#### THE ABYDOS EXPEDITION

In association with the Egypt Exploration Society and under the editorship of Dr. Alan H. Gardiner, the Institute is saving the records of the beautiful temple of Seti I at Abydos. The reliefs of Seti I at Abydos (Fig. 11) are among the loveliest works of art surviving from the ancient world. Many of them are superbly colored. As far as possible, these reliefs are to be published in color in a series of folios of which the first volume is slowly nearing completion. The work is being ably carried on by Miss Amice M. Calverley, as-

#### THE ABYDOS EXPEDITION

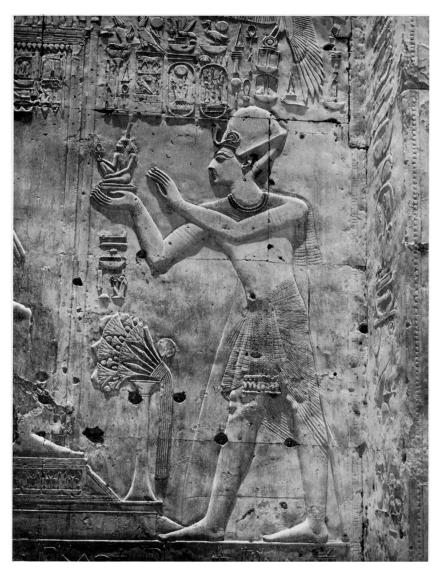


Fig. 11.—Seti I Presenting an Image of Maat (''Truth'') to the Gods. A Famous Relief on the Walls of His Temple at Abydos

These reliefs are generally considered the finest surviving in Egypt. In association with the Egypt Exploration Society of England the Institute is co-operating in the production of a series of folio volumes reproducing these great works of art in color and in line drawings.

sisted by her associate, Miss Broome, in the face of formidable difficulties which they are heroically meeting.

#### THE THEBAN TOMB PAINTINGS

Under the direction of Dr. Alan H. Gardiner, who personally supported this work for years, Mrs. Nina de Garis Davies has long been occupied in

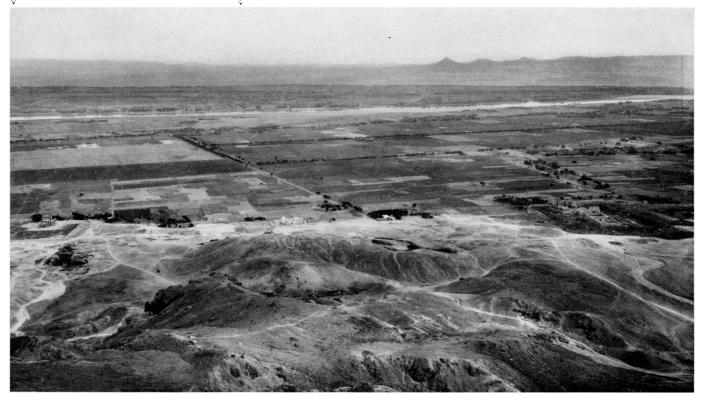


Fig. 12.—Hunting Scene from a Wall Painting in a Tomb of Ancient Egyptian Thebes, Fifteenth Century B.C. From a copy in color by Mrs. Davies.

The hunter, using a boomerang, stands in a tiny reed boat accompanied by his wife (behind him) and his little daughter (between his feet). On the bow of the boat is a decoy duck, and over him in the papyrus thicket is a wild cat (ancestor of our domestic cat) holding three captured birds. A series of 115 such paintings, faithfully copied by the gifted artist Nina de Garis Davies and edited by Dr. Alan H. Gardiner, is being published in color by the Institute in two folio volumes.

copying in color the ancient paintings (Fig. 12) on the walls of tombs in the great Theban cemetery. Mrs. Davies is now engaged in making for the Institute colored copies of a group of additional paintings, including a few from the Old and Middle Kingdoms. These copies, combined with those

Karnak and New Institute Headquarters Luxor and Its Temple



Ramesseum

Memnon Colossi Old Chicago House Medinet Habu Temple

Fig. 13.—The Nile Valley at Thebes as Seen from the Western Cliffs

The great temple of Medinet Habu, now being published by the Institute, may be seen at the extreme right. In the middle distance at the edge of the cultivation stands the first "Chicago House," recognizable by its dome, looking out between the Colossi of Memnon across the Theban plain

toward modern Luxor on the far side of the river. The Institute's new headquarters, completed in June, 1931, stand on the far bank just outside the picture. At the extreme left in the middle distance is another temple, the Ramesseum. This too the Institute plans to publish.

already made for Dr. Gardiner, will be published by the Institute under his editorship in one hundred and fifteen color plates forming two folio volumes. The first volume will appear in 1932.

#### THE EPIGRAPHIC AND ARCHITECTURAL SURVEY

At ancient Thebes (Fig. 13), known more widely to the general public as Luxor, the Institute in the winter of 1924/25 began what has become its

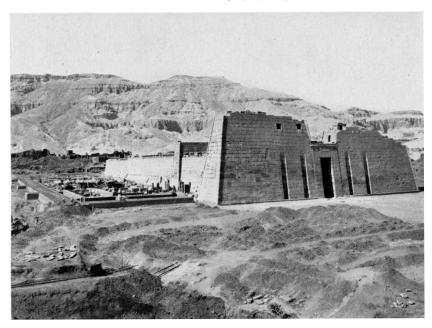


FIG. 14.—The Great Temple of Ramses III at Medinet Habu, Seen from the South About five hundred feet long and everywhere covered with sculptures and inscriptions, this temple is a veritable storehouse of historical records. The Epigraphic Survey under the direction of Dr. H. H. Nelson is making rapid progress with its copying of these for publication. In the background at the left are the ruins of the outer inclosure wall.

largest undertaking in the Near East, the Epigraphic and Architectural Survey Expedition, with which are combined the Institute's Egyptian head-quarters (Figs. 23–27). For seven years the Institute has been working at the colossal temple of Medinet Habu and associated structures (Fig. 14). Under the field directorship of Professor Harold H. Nelson it has recently issued the first volume of a series of ten or twelve folios which for all time will save to historical science the enormous body of inscribed and sculptured records covering the walls of the Medinet Habu temples (Figs. 15–16). These records,

#### THE EPIGRAPHIC AND ARCHITECTURAL SURVEY

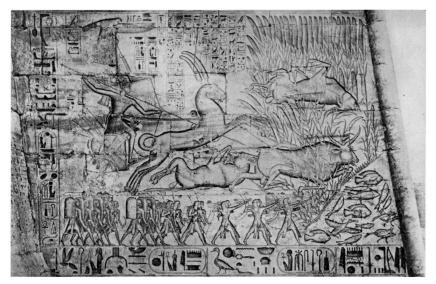


Fig. 15.—The Wild Bull Hunt, One of the Great Works of Art at Medinet Habu

The wild bulls have taken refuge in a thicket along the river, where the Pharaoh has slain
two of them and is just urging on his horses in order to dispatch a third. The movement of
the bodyguard below, the dying bull above, the eager figure of the king, and the sense of
landscape make very powerful this composition of the early twelfth century B.C.

dating from about 1200 B.C., are of fundamental importance for a number of reasons. In the first place, they disclose Europe for the first time entering the arena of oriental history and reveal to us something of those migratory movements which carried the Etruscans from Asia Minor to Italy. Furthermore, the great temple of Ramses III at Medinet Habu is the only temple of the Egyptians which has reached us in a fair state of preservation capable of revealing very fully the art and architecture of such a Ramessid structure.

The same expedition is therefore conducting extensive excavations (Figs. 17–19) in order to recover the architecture of the great Theban



Fig. 16.—High Winds, Swarms of Flies, and Intense Heat Render the Draftsman's Task Difficult

temples and their connected buildings. This project has been under the immediate leadership of Professor Uvo Hölscher. At Medinet Habu has been laid bare for the first time, in remarkable completeness, the architecture of a Pharaoh's royal palace (Fig. 20). Professor Hölscher's excavations and pene-



Fig. 17.—The Excavation of Medinet Habu

This apparently heterogeneous group is actually composed of highly organized crews of men and boys trained in the meticulous technique of excavation. The great inclosure wall is seen in the background.

trating observations have, to our surprise, disclosed quite clearly that the largest halls of this Pharaoh's palace had vaulted ceilings and were not, as we had formerly supposed, flat-roofed like Egyptian temples. This unexpected discovery is of great importance in the history of architecture; for undoubtedly these palace halls (Fig. 21), with high vaults over the central axis and lower vaults on either side, are among the ancestors of the clerestory architecture of Europe, with its high nave and lower side aisles.

# New Headquarters at Luxor

The Luxor staff has hitherto been housed in a sun-baked brick, and therefore temporary, structure on the west side of the Nile (Fig. 22). Meantime the Institute's work of salvaging the historical records and other evidence

#### THE EPIGRAPHIC AND ARCHITECTURAL SURVEY

from the temples and tombs of the Nile has developed so rapidly that in 1928 it was decided to establish permanent headquarters with appropriate buildings on the east side of the Nile at Luxor. The Institute therefore purchased a tract of three and a half acres facing the Nile on the northern fringes of the modern town of Luxor and almost under the shadow of the great Karnak temple. Here the Institute has erected a group of buildings of fireproof construction in a reserved adaptation of California-Spanish architecture suitable to a semitropical climate (Figs. 23-27). The plans and elevations were worked out by Messrs. Leonard L. Hunter and Laurence C. Woolman, formerly of the Institute's architectural staff. With a river frontage of three hundred and fifty feet, the site looks across the

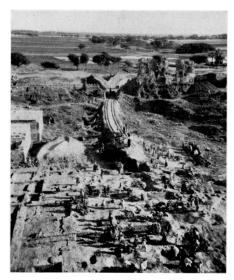


Fig. 18.—Excavating the Temple Inclosure at Medinet Habu

The débris is carried out in baskets to the dump cars waiting at the Décauville railhead and thence to the dump area outside the great inclosure wall.

Nile toward the stately panorama of the western cliffs behind which lies the Valley of the Tombs of the Kings. The Institute's former headquarters on the west bank of the Nile will be retained in modified form only until the work of publishing the records of Medinet Habu has been completed.

The epigraphic field methods by which the work of this expedition is conducted have been developed through long and careful experimentation into a



Fig. 19.—The Local Trucking Service at Medinet Habu

routine procedure which promises better and more rapid work in future seasons. The expedition is already extending its efforts to those portions of the Temple of Karnak allotted to it by the Egyptian Department of Antiquities.

It will thus be seen that, as far as the early human career in Northeast Africa is concerned, the Institute is salvaging and studying the evidence along a chronological se-

ries of periods extending from the geological ages down to the emergence of Europe in the history of the East.

#### WESTERN ASIA

# The Highland Zone and the Fertile Crescent

In Western Asia the genetic and chronological sequence in the development of civilization is not yet as clear as in Northeast Africa. We now discern that in large terms there is in the northern part of Western Asia what may be

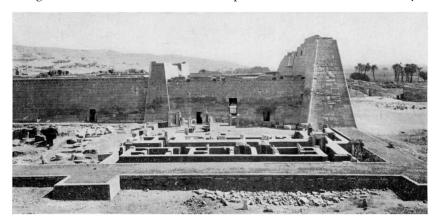


Fig. 20.—The Partially Restored Palace of Ramses III at Medinet Habu

The stone masonry temple occupies the background. In the foreground, just inside the restored base of the ancient inclosure wall, may be seen the three apartments (each with bathroom attached) assigned to the Pharaoh's three favorites. Farther back, at the right, is the Pharaoh's own apartment. At right angles to the axis of the temple ran a colonnaded palace hall with barrel-vaulted ceiling, evidenced by the holes visible where its ceiling beams engaged the temple wall. Compare the reconstruction, Figure 21. The low walls of the palace in the foreground have all been restored by Professor Uvo Hölscher, chief of the Architectural Survey of the Oriental Institute.

called a "Highland civilization," occupying a "Highland Zone" extending from the Aegean eastward and southeastward to Persia. South of that zone lies the great Semitic world; between are smaller groups of adjacent cultures. Within this area south of the Highland Zone lies a great desert bay the cultivable shores or fringes of which form a "Fertile Crescent" (see Fig. 1) where all these cultures met and commingled. The once teeming cities and towns of the ancient peoples who at various times occupied the hills and valleys of Western Asia from Anatolia to Persia are now reduced to silent mounds beneath which are buried, among other treasures, great archives of cuneiform tablets. Due to the climatic conditions and the character of the

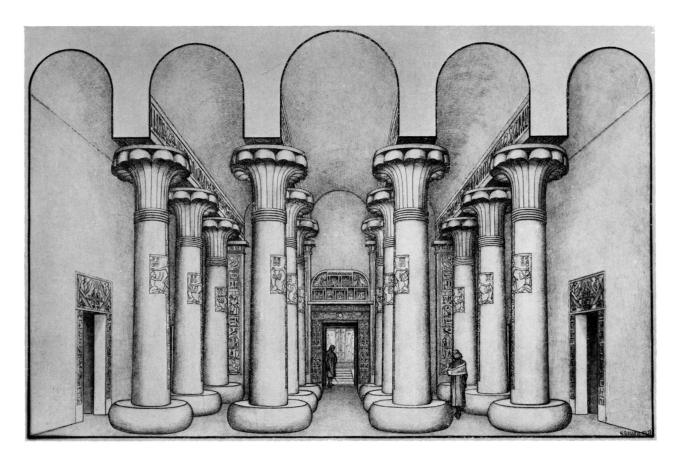


Fig. 21.—Hölscher's Reconstruction of a Vaulted Hall in the Palace at Medinet Habu

tury B.C., discloses for the first time, as noted by Professor Hölscher, the fact that such a palace hall had a vaulted roof, with a higher

This audience hall of Ramses III, built early in the twelfth cen- vault over the central nave and lower vaults on each side—the fundamental roof type in later basilica and cathedral architecture.

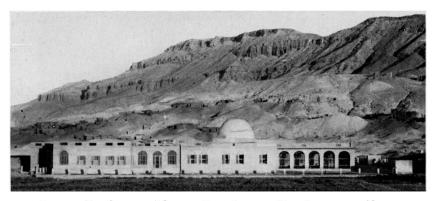


FIG. 22.—The Original "Chicago House" on the West Bank of the Nile
Of mud-brick construction, this building will be temporarily retained in modified form
pending the completion of the Institute's work at Medinet Habu. It has now been supplanted
by the new headquarters on the east bank (Fig. 23).





Fig. 23.—The New Oriental Institute Headquarters in Egypt on the East Bank of the Nile between Modern Luxor and the Great Temple of Karnak

The main building faces west and is surrounded by a large garden. The river bank to the west (at the extreme left in the upper view) has had to be faced with stone, because the force of the current at flood time would otherwise undercut the Institute's property. The building on the right (see lower view) serves as a residence unit for the staff, while the library, drafting-room, and offices are housed in the building on the left. Photographic laboratory, garage, shops, and servants' quarters are in detached buildings at the rear.

# THE EPIGRAPHIC AND ARCHITECTURAL SURVEY

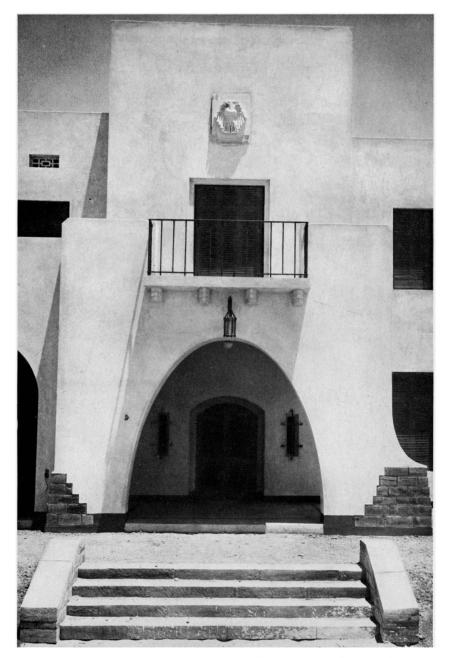


Fig. 24.—The New Headquarters at Luxor. Main Entrance of the Residence Building

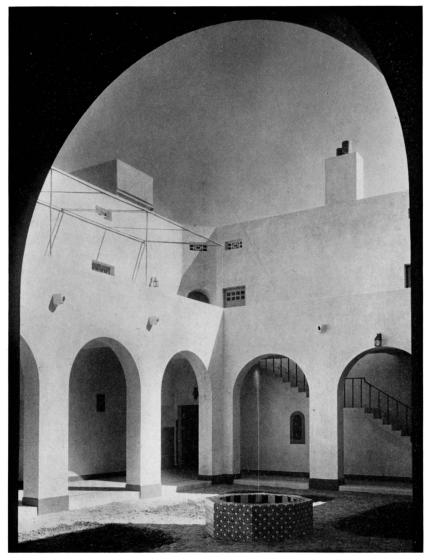


Fig. 25.—The New Headquarters at Luxor. Patio in the Residence Building

## THE EPIGRAPHIC AND ARCHITECTURAL SURVEY

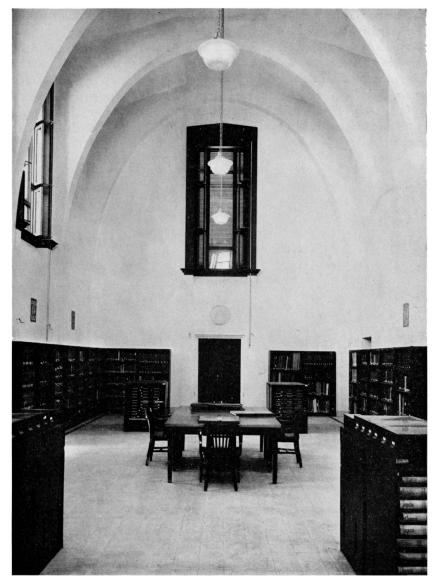


Fig. 26.—The New Headquarters at Luxor. Interior of the Library

Here is housed a collection of over four thousand volumes containing all the most authoritative archeological and historical works on Egypt and the Near East. It is open to all visiting students and scholars of every nationality.

monuments, certain kinds of written evidence, especially cuneiform tablets when they have been fired in an oven so that they become pottery, are better preserved in Asia than in rainless Egypt. The process of salvaging these Asiatic materials has still been hardly more than begun. The Oriental Institute has therefore undertaken a program of excavation. In Palestine, Syria, Anatolia, Assyria, Babylonia, and Persia it has selected a great group of historically significant or promising points at which to plant a series of expeditions, each of which is investigating a particular civilization together with its related cultures.



Fig. 27.—The New Headquarters at Luxor. Photographic Laboratory behind the Main Buildings

We must bear in mind, however, that behind this historic age of writing represented by cuneiform records there lies a period of many thousands of years of prehistoric development also which must be investigated by the Prehistoric Survey Expedition. In 1933, therefore, the Institute will shift its Prehistoric Survey from the Nile to the Tigris and Euphrates. Meanwhile study of the human career in Western Asia has not yet progressed far enough to disclose any geologically dated sequence of development such as the Institute's Prehistoric Survey has found in Northeast Africa.

# THE IRAQ EXPEDITION BABYLONIAN EXCAVATIONS

The oldest centers of early civilization in Western Asia were along the east end of the Highland Zone and in Babylonia and Assyria, which now form the modern kingdom of Iraq. About fifty miles by road, thirty-one miles by air, north-northeast of Baghdad the Oriental Institute holds a concession from the Iraq government to excavate a group of four ancient city mounds lying within a circle some fifteen miles in diameter. At Tell Asmar, the most

#### THE IRAQ EXPEDITION

important of the four, the Institute has erected extensive headquarters (Figs. 28–30) for all its operations in Iraq. From this one center Dr. Henri Frankfort, the field director of the Iraq Expedition, is able with the aid of modern transportation to carry on excavations not only at Tell Asmar but at a neighboring mound called Khafaji about ten miles distant, besides making preliminary investigations at the other two sites included in this group.

A large palace of Sumerian age (Figs. 31–33) which has already been discovered at Tell Asmar will be entirely laid bare during the season of 1931/32. Written evidence already in hand identifies Tell Asmar with ancient Ashnun-



Fig. 28.—Tell Asmar House, Constructed by the Iraq Expedition in Babylonia as Main Headquarters for All Oriental Institute Operations in Iraq

Fifty miles by road, thirty-one miles by air northeastward from Baghdad, it stands alone on the vast muddy flats bordering the Tigris in a region of the Fertile Crescent once thickly populated. The house is visible for miles across the plain, and from its tower on a clear day one can easily see the Persian Mountains eighty miles distant—the Highland Zone whose people early invaded the neighboring Fertile Crescent.

nak, a city-kingdom which once extended from the Persian frontier to the region of later Baghdad and was strongly influenced by the neighboring Highland civilization. At Khafaji a large fortified inclosure with temples and dwellings has been uncovered (Fig. 34).

The importance of these researches, as already intimated, lies in the fact that this region east of the Tigris stretches eastward toward the Persian Mountains, that is, toward the eastern end of what we have called the Highland Zone, where dwelt round-headed peoples like the Armenians. Among them developed cultures so closely related that they may as a whole be loosely called the Highland civilization. Such Highland peoples overflowed constantly into the lowlands on the south. At Tell Asmar and Khafaji we have evidence of this overflow, the influence of which extended even as far west as the region of Baghdad.

The work of the expedition has been facilitated by interesting assistance kindly contributed by the Royal Air Force with which Great Britain controls her mandate of Iraq. It is a curious fact that when an air photograph of a



Fig. 29.—The Ancient Babylonian City of Ashnunnak, Now Called Tell Asmar

This ancient city is being excavated by the Iraq Expedition, whose headquarters building (Fig. 28) visible in this air-view has been constructed at the edge of the city ruins. The area cleared at the time this view was taken (January 23, 1931) is visible at the point of what looks like an arrow but is really the excavators' railway line terminating in the spreading dump at the outer end. The "pockmarks" or "shell holes" on the mound at the right of the excavated area were made by illicit native diggers before the Institute received its concession to clear the mound. Photograph by courtesy of the Royal Air Force.

desert surface suspected of containing ancient foundations (cf. Fig. 29) has been developed in a darkroom, the lines of the ancient walls may be traced quite clearly. They are betrayed by the absence of grass. The grass of the plains is nourished by the winter rains and grows chiefly in the spring, but fortunately it never appears on the shallow ground covering the walls of an ancient site. Although the walls themselves may be invisible, their ground plan is thus revealed to the investigator by means of an air photograph.

#### THE IRAQ EXPEDITION

At Tell Asmar and Khafaji the topmost strata belong to an age before 2000 B.C., in general the age of the great lawgiver Hammurapi. It is clear, therefore, that the lower levels must be of much greater age. Indeed, the extraordinary archaic copper statues found at Khafaji (Fig. 35) cannot be dated much later than 3000 B.C. The Institute hopes that the lower levels will reveal early stages of Sumerian history and disclose especially the relations between the Sumerians and the Highland peoples on the north.

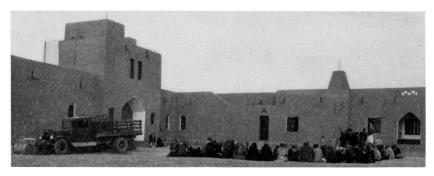


FIG. 30.—PAY DAY AT TELL ASMAR

A group of workmen squatting in the court are being paid by the field director and his staff, seen seated on the terrace at the right. The truck on the left brings daily two thousand gallons of water from a canal twelve miles away—the expedition's chief source of water, supplemented periodically by rain.

#### ASSYRIAN EXCAVATIONS

The entire region south of the Highland Zone, with the exception of arid desert areas, contains city mounds of the greatest importance for completing the larger picture of the developing civilizations which intermingled in Western Asia. Originally occupying the middle of the Fertile Crescent, Assyrian civilization was a composite drawn from the lowland South and the Highland Zone on the north. The cities and palaces of the Assyrian emperors on the Upper Tigris are therefore important sources contributing priceless evidence bearing on the rise of Man.

# The Palace of Sargon II at Khorsabad

At Khorsabad, about fifteen miles north of modern Mosul and ancient Nineveh, which face each other on opposite sides of the Tigris, the expedition has taken over and rebuilt a large native house to serve as its headquarters.

The excavations of the Institute at this site, following those carried on by the French more than eighty years ago, were begun by Dr. Edward Chiera. They yielded much additional information on the architecture of Sargon's

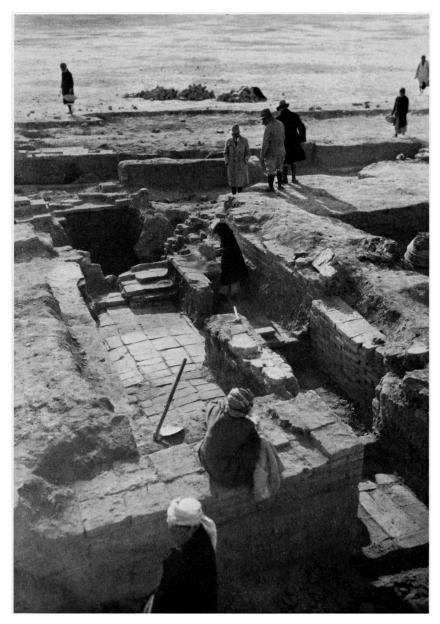


Fig. 31.—A Corner of the Palace at Ashnunnak (Tell Asmar)

There is a succession of ancient palaces at Tell Asmar, where several Babylonian kings built upon one another's structures. Out of this corner came bricks stamped with the names of Urninmar, Ibiq-Adad I, Ibalwel, and Ibiq-Adad II, kings who ruled this forgotten city in the third millennium B.c. and made each one his own alterations or additions with bricks bearing his name. Such stamped bricks are of invaluable assistance to the modern historian.

#### THE IRAQ EXPEDITION

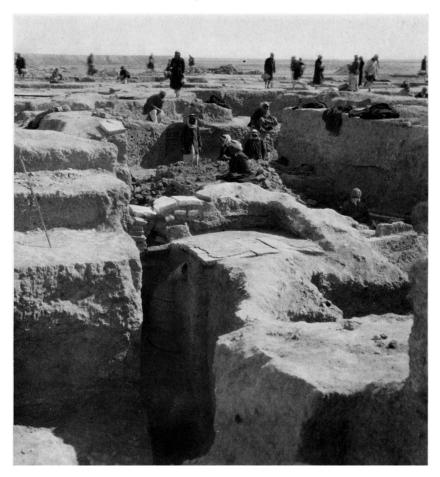


FIG. 32.—Excavation of the Palace of King Urninmar at Ancient Ashnunnak

The Iraq Expedition is just clearing a bathroom in this palace of the third millennium B.c.
We see in the center the baked tile floor of the bathroom plastered with bitumen. The floor is
provided with drain tiles to carry off the water from the shower bath.

palace and resulted also in the discovery of a series of relief sculptures valuable for the history of both art and civilization. Perhaps the most notable piece among these sculptures is a huge winged bull, partly in the round, which once adorned an entrance of the palace (Fig. 36). Such a winged bull was called by the Assyrians and Hebrews a *cherub*, a term which was curiously misunderstood by older biblical interpreters and by early Christian art. Among other pieces from Khorsabad, the Iraq government allotted to the Institute the colossal figure of the bull, which, equipped with wings and



Fig. 33.—Cpening a New Area in the Ashnunnak Palace

The workmen are still near the surface. Even at that level the remains are dated as over 2000 B.C. by the evidence found. Each man in this group has been trained to his task, so that the evidence is carefully preserved and examined. It is easy inadvertently to cut through an ancient brick wall, barely distinguishable from the enveloping débris, and thus to destroy valuable scientific evidence. In the right foreground a workman is scrutinizing some small fragment which he has just found.

human head, stands some sixteen feet high and weighs forty tons (Figs. 37-38). This impressive monument has now been set up to form the end of a splendid vista introducing the Assyrian Hall (Fig. 39) in the new head-quarters of the Oriental Institute on the quadrangles of the University of Chicago.

# THE ANATOLIAN (HITTITE) EXPEDITION The Excavation of the City Mound of Alishar

The most important of the Highland peoples (referred to in connection with the Iraq Expedition) were the Hittites, whose chief states and leading cities

## THE ANATOLIAN (HITTITE) EXPEDITION

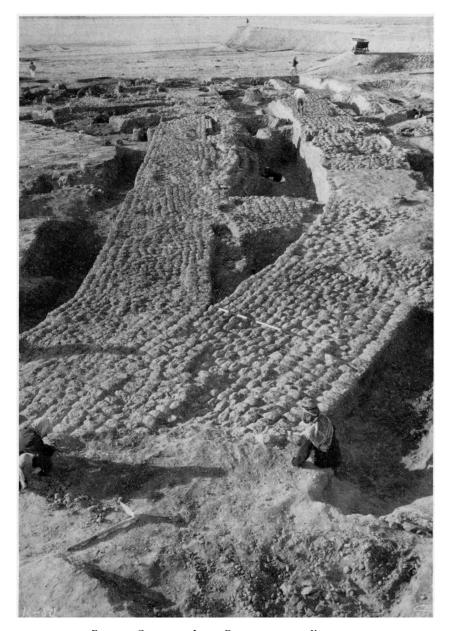


Fig. 34.—Outer and Inner Fortifications at Khafaji

At the mound of Khafaji, ten miles from Tell Asmar, the Iraq Expedition is clearing another ancient Babylonian site. The main building disclosed is a temple dating from about 3000 B.C. It contained the copper figures shown in Figure 35. Dr. Conrad Preusser was in charge of this excavation.

were in Anatolia. For the past five years the Oriental Institute has been actively engaged in exploration and excavation in this region. Having found and placed on the map scores of ancient settlements and town sites forgotten since antiquity, the Anatolian Expedition, under the field directorship of

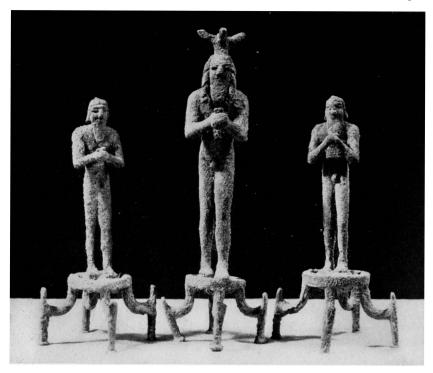


FIG. 35.—Archaic Copper Figures of about 3000 B.C., Excavated at Khafaji These figures represent three bearded old men standing in the posture of worship. Cast solid before hollow casting was known and before the introduction of bronze, these statues are among the most remarkable archaic works of art yet discovered in ancient Babylonia.

Dr. H. H. von der Osten, selected for excavation what it considered an exceptionally important site, a great mound (Fig. 40) near the village of Alishar, one hundred and twenty-eight miles east-southeast of Ankara.

The recent decipherment of Hittite cuneiform has made it possible to read that people's clay-tablet records. These had heretofore been found in only two places in Asia Minor—at the ancient Hittite capital of Hattushash and at a commercial settlement now known as Kül Tepe. The Institute's discovery in 1930 and 1931 of cuneiform tablets at the Alishar mound has therefore added a third Hittite city to those already known to have left such records.

## THE ANATOLIAN (HITTITE) EXPEDITION

One of the tablets from Alishar contains the name of a very early Hittite king, enabling us to date it from a stage of Hittite history reaching back toward 2000 B.C.

The Anatolian Expedition in its Alishar excavations (Fig. 41) has done pioneer work in careful plotting of all the ancient levels. It has thereby dis-



Fig. 36.—The Excavation of the Palace of Sargon II (Eighth Century B.C.) at Khorsabad, Fifteen Miles North of Nineveh and Mosul

In the foreground may be seen *in situ* the great fragments of stone belonging to the tremendous Assyrian winged bull now in Chicago. The largest fragment, itself weighing nineteen tons (crated), lies behind the block containing the front legs of the animal. The excavations were under the direction of Dr. Edward Chiera.

closed for the first time the successive stages of ancient life in Anatolia, from the Stone Age at the bottom—some eighty feet below (Fig. 42)—to the latest Seljuk Turkish levels at the top, a range of some five thousand years. Pottery sherds form the archeologist's "index fossils" for dating the levels in an ancient city mound, just as the fossils found in rocks date a stratum for the geologist. The Anatolian Expedition's careful consecutive identification and listing of the pottery types from Alishar now make available for the first time

in Hittite territory the history of the pottery, so fundamental to further archeological investigation of the region.

## Modern Survivals of Hittite Speech

In the course of his explorations of eastern Anatolia Dr. Jules Mészáros, director of the Ethnographical Museum at Ankara, found within recent years



FIG. 37.—THE FRONT LEGS OF THE GREAT BULL

TO Mr. Delougaz, seen here seated atop the block, belongs the credit for the successful transport of the bull from Khorsabad some sixteen miles to a river steamer on the Tigris in the face of almost insurmountable difficulties, such as moving a 19-ton load on a 5-ton truck!

a village in which a small group of old people, both men and women, was speaking a language quite diferent from that of the surrounding inhabitants. By Institute appointment made early in 1929, Dr. Mészáros proceeded to record very fully this almost extinct language by taking down tales and poems dictated to him by these people, to analyze its grammar, and to compile a dictionary. His results are already in manuscript and will be published by the Institute. There can be little doubt that the investigation of this tiny, hitherto unnoticed linguistic island will reveal the last surviving remnants of ancient Hittite speech. In the opinion of Dr. Mészáros his studies will bring better understanding of ancient Hittite documents and thus add largely to our knowledge of historical events. The modern remnants of speech may aid also in reconstructing the phonetics of ancient Hittite.

It is of interest to note in this connection that at the International

Congress of Orientalists held at Leyden, Holland, in September, 1931, two members of the Oriental Institute read papers on the so-called Hittite hieroglyphic, which scholars are still unable to read. The first of these papers, presented by Dr. Emil Forrer, carries us a long way toward the decipherment of this baffling system of writing. The second paper, by Dr. I. J. Gelb, furnishes another substantial contribution to the same problem. Both essays are being published by the Institute.

## THE SYRIAN EXPEDITION

#### THE SYRIAN EXPEDITION

The ancient Hittite Empire not only included all of what is today Asia Minor or modern Turkey but extended southward into Syria, at present a French mandate. In North Syria, therefore, we find great numbers of ancient city mounds once inhabited by the same Hittite people whom the Institute is investigating in its Anatolian excavations at Alishar. Being on the southern

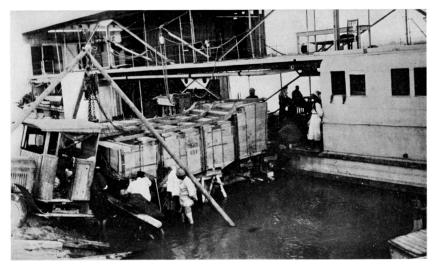


Fig. 38.—The Last Precarious Stage in Loading the Largest Fragment of the Bull upon the Tigris River Steamer

Had a single strut or cable given way at this point, this block, weighing nineteen tons (crated), would have been irretrievably lost at the bottom of the river.

periphery of the ancient Hittite Empire, these mounds may be expected to furnish inscribed monuments and cuneiform records of the greatest value in reflecting the social, commercial, and political intercourse between the Hittite Empire and its neighbors in the Imperial Age.

About halfway between Aleppo and Alexandretta, at the point where the excellent highroad connecting these two cities crosses the Afrin River, there lies an ancient mound (Fig. 43) which the Oriental Institute's explorations have identified as probably the important ancient city of Calneh, referred to by the Hebrew prophets Amos and Isaiah as one of the powerful western enemies of Assyria. Early in the summer of 1931 the French government of Syria granted to the Oriental Institute a concession to excavate this mound, which is today called Chatal Hüyük, and also a neighboring mound called Tell Jedeideh. As this handbook goes to press, the Institute's new Syrian

Expedition is constructing at Tell Jedeideh field headquarters from which the expedition expects to excavate simultaneously both of these mounds. The staff of this expedition will be partially identical with that of the Anatolian Expedition, and actual excavation is expected to be under way during the winter of 1931/32.

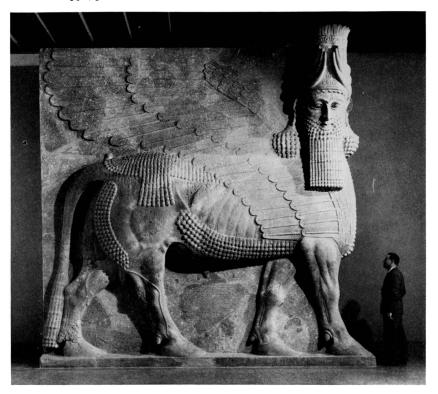


Fig. 39.—The Great Winged Bull as Installed in the New Oriental Institute Building at Chicago

These mysterious creatures are the "cherubs" of the Old Testament, so seriously misunderstood by later Christian art. The figure served as the sculptural embellishment forming one side of a palace gateway in the residence of Sargon II (eighth century B.C.) at Khorsabad (Fig. 36). It is carved in calcareous stone similar to alabaster. It is sixteen feet high and weighs forty tons.

## THE MEGIDDO (PALESTINE) EXPEDITION

The Institute's excavations at Tell Asmar and Khafaji in ancient Babylonia, at the eastern end of the Fertile Crescent, and at Khorsabad in ancient Assyria, at the center, are balanced at the western end of the Fertile Crescent by its investigations in Palestine. These last are of importance to the Insti-



Fig. 40.—General View of a Portion of the Anatolian Expedition's Excavations at the Alishar Mound

The expedition's headquarters are visible in the middle distance

tute for many reasons, among them the extraordinary history of the Hebrews. Perennially involved in the colorful history of the East during the Imperial Age is the famous battlefield of Armageddon, or Megiddo, in Palestine. This plain, lying inland from Haifa, received its name from the strong fortress city of Megiddo (Fig. 44) which dominated the plain and commanded the pass over the Carmel Ridge flanking the plain on the south. It was through this very pass that Allenby advanced to his great victory on the plain of Armaged-



Fig. 41.—Excavating at Alishar during a Heavy Windstorm

These excavations are seeking to disclose the development of Anatolian civilization, with the special purpose of disengaging the successive stages of Hittite culture. The recent discovery of a group of cuneiform tablets is expected to be of great value in this task.

don at the close of the World War. The Institute has recently acquired control of the entire site of the historic city, an area of over thirteen acres, and is now engaged in stripping off systematically stratum after stratum of the débris

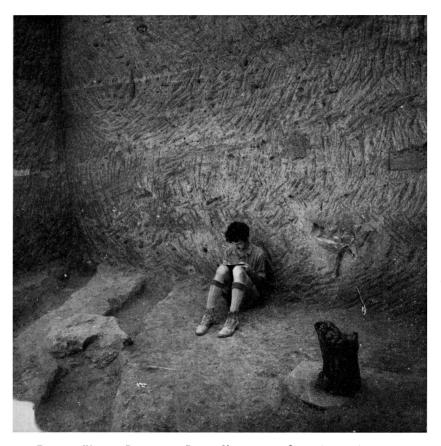


Fig. 42.—Wooden Post from a Buried House of the Stone Age at Alishar

Eighty feet down in the great city mound of Alishar, the Anatolian Expedition found the remains of a Neolithic (Late Stone Age) house. The walls seen in the photograph are the solidified débris of later buildings, not the walls of the Stone Age house itself. The base of a fallen wall of the latter may be seen at the left. The roof of the house fell in thousands of years ago, but the stump of a wooden post which once supported the roof is shown here as it was found, still standing on its stone base.

(Fig. 45) which marks the successive cities built one above another on this ancient site.

Thus far the excavation has descended to the stratum of the Hebrew kings.

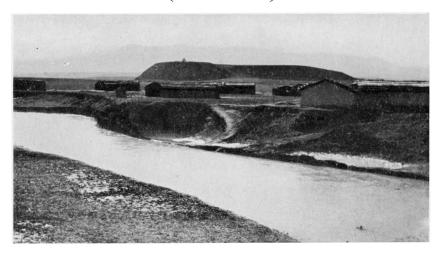


Fig. 43.—The Syrian Mound Which Probably Covers Ancient Calneh of the Bible Called today Chatal Hüyük, this mound in North Syria, halfway between Aleppo and Alexandretta, may perhaps be the ancient biblical Calneh. Its area is about thirty-five acres. Together with a neighboring mound called Tell Jedeideh, it will be excavated by the Institute's Syrian Expedition.



Fig. 44.—The Great Palestinian Mound under Which the Famous Fortress City of Armageddon (Megiddo) Is Buried

The expedition house is seen at the left. The top of the mound is about thirteen acres in extent, and the accumulated rubbish of ancient ruins is forty to fifty feet in depth. When the Institute began work here the mound was covered with growing grain cultivated by peasants such as are seen here in the foreground. The mound was then expropriated and purchased by the Palestine government with funds furnished by the Oriental Institute. The expedition of the Institute has been at work here five years clearing and studying the successive strata of the ancient ruins.



FIG. 43.—The Syrian Mound Which Probably Covers Ancient Calneh of the Bible Called today Chatal Hüyük, this mound in North Syria, halfway between Aleppo and Alexandretta, may perhaps be the ancient biblical Calneh. Its area is about thirty-five acres. Together with a neighboring mound called Tell Jedeideh, it will be excavated by the Institute's Syrian Expedition.

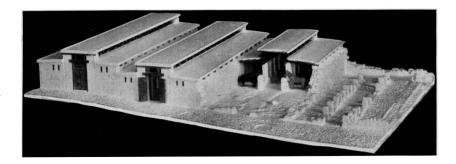


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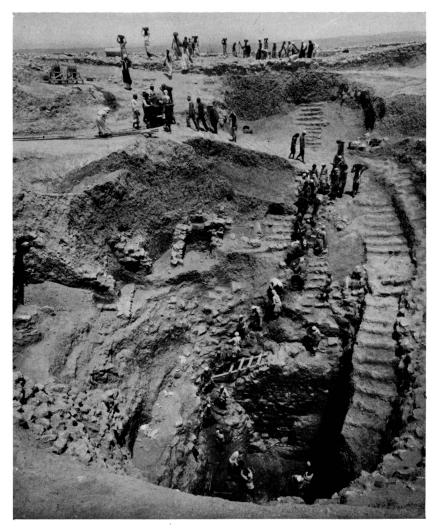


Fig. 47.—Excavation of the Newly Discovered Water System of Ancient Armageddon (Megiddo)

An enormous pit, entirely filled with rubbish when discovered, descends to a depth of about one hundred and twenty feet below the top of the mound. The ancient staircase winding about this pit, down which the women of antiquity went to draw water, is plainly visible at the right. At the bottom a huge tunnel led sideward to a point where there was probably an opening through the city wall. In a niche in the rock wall near the outer end of the tunnel lay the bones of a sentinel with his spear still beside him; he had seemingly perished at his post. This water system recently discovered is the largest ancient work of engineering as yet found in Palestine, and its earlier stages reach far back of the occupation of the country by the Hebrews.

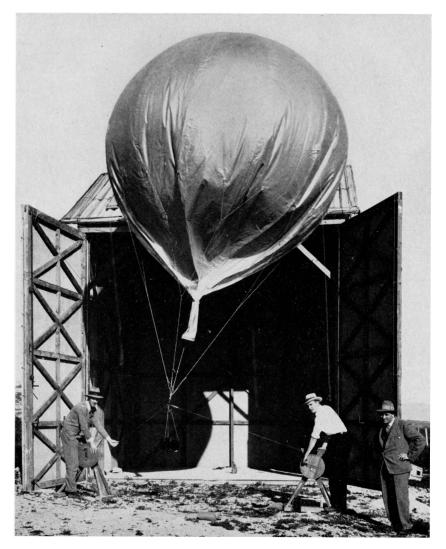


Fig. 48.—Balloon for Archeological Photography from the Air

The balloon, here shown ready for ascent, is of a type used for meteorological observation, but Mr. Guy has adapted it for making air views for his archeological record. The reel on the left carries several hundred feet of strong cord. The reel on the right carries a similar amount of electric cable, through which the shutter release on the camera is operated from the ground. The battery stands below this reel. The electric connections can be seen close to the ring above the camera, which is three-point suspended. Examples of the work of this device are shown in Figures 49 and 51.



Fig. 49.—Mosaic Photograph of the Streets and Houses of Ancient Armageddon

This photograph is put together from a large number of sections photographed from the air by means of a camera carried by a meteorological balloon (see Fig. 48). The original mosaic measures about four feet two inches across. In the upper right-hand corner may be seen the oblong rectangular Stables of Solomon (see Fig. 46).

Stables have been uncovered (Fig. 46) in which Solomon kept his blooded horses, imported from Egypt for sale to the Hittites. A portion of a monumental record of the Pharaoh Shishak, who captured Jerusalem under Solomon's son, has also been discovered. In the southwest section of the city the excavations of 1930-31 revealed an ancient water system dating back to the



Fig. 50.—Headquarters Buildings of the Palestine Expedition of the Oriental Institute at Armageddon (Megiddo)

We look northeastward, with the hills of Nazareth on the horizon at the extreme left. The round-topped Mount Tabor is in the middle, and at its right is the mountain called Little Hermon. Below is the Plain of Megiddo or Armageddon, the battlefield of the ages. The latest battle fought here was that between the English and the Turks in 1918. The expedition house faces the plain. Smaller buildings in the rear are garage, shops, and living-quarters for the servants. The isolated tall building in the central foreground is the hangar for the meteorological balloon used in taking air photographs (see Fig. 48). On the left is an unfinished tennis court to be used by the scientific staff. The railway in the foreground extends around three sides of the mound for expeditious removal of the débris (see Fig. 45).

Canaanite kings of pre-Hebrew days (Fig. 47). This consists of a huge square shaft, its upper part lined with stone masonry, the rest of its depth cut into the native rock, penetrating one hundred and twenty feet below the top of the mound to the level of the groundwater which still runs in at the bottom. A winding stairway descends all the way from the top. At the bottom a horizontal passage or tunnel leads for over one hundred and sixty feet toward the city wall, then expands into a huge chamber some seventy-five feet long, twenty-five feet high, and fifteen feet wide, all cut in the solid rock beneath the city. Presumably this was connected with a postern gate, for a niche at the end of the great chamber contains the bones of a sentry who had died at his post. His spear lies beside him, and the wall is still blackened by the

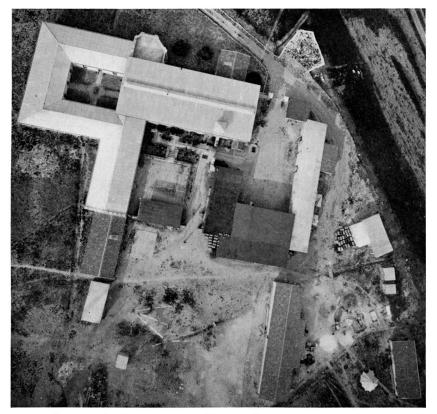


Fig. 51.—The Buildings of the Megiddo Expedition from the Air

This view is a good illustration of the work which may be done by the use of the meteorological balloon (see Fig. 48) employed by this expedition for photographing the city plan as fast as its ancient streets are excavated.

smoke of the torch which lighted his post in the pitch dark chamber. It is to be hoped that subsequent excavations will reveal the secret opening leading to the outside of the city wall. This water system, which was inherited by Solomon and probably was expanded by him in his development of the city, would appear to be the greatest piece of pre-Hebrew engineering yet found in Palestine.

An interesting innovation at this site, where the excavations are in the charge of Mr. P. L. O. Guy, has been the use of a small captive balloon (Fig. 48) for securing air photographs, which are of great value to the archeologist. Mr. Guy has adapted a meteorological observation type of balloon which, though not large enough to carry an operator, will nevertheless carry a came-

ra controlled from the ground. A small hangar (seen in Fig. 50) has been built for the protection of this balloon, which now makes possible a series of very useful air photographs (Fig. 49) forming a regular part of the record of the Megiddo excavations, showing the varying ground plan of the city as the clearance proceeds and descends from one chronological level to another. So



Fig. 52.—Skeletons of Early Predecessors of the Hebrews at Megiddo

Staff members and their Egyptian helpers, seated in the court of the expedition house, are engaged in the conservation and study of the largest and most important group of ancient bodies yet found in Palestine. These bones, especially the skulls, will make it possible to determine the race of the pre-Hebrew inhabitants of Megiddo.

far as the Oriental Institute knows, this is the first instance of the application to archeological excavations of a method of air photography much employed during the World War.

The systematic clearance of such a city mound, revealing for the first time in stratum below stratum the successive ground plans and the age-long growth of a Palestinian city, is a task of many years and requires an extensive expedition house (Figs. 50–52). Since the previous handbook was issued it has been necessary to enlarge the original structure. As a result the Institute now has the first adequate archeological field headquarters yet erected in Palestine.

#### THE PERSIAN EXPEDITION

The immediate value of such field work is illustrated by the incorporation of the results of the Institute's researches at Megiddo in the admirable *History of Palestine and Syria* by Professor A. T. Olmstead, a member of the Institute. Although begun by Professor Olmstead long before his connection with the Institute, this work is an example of the interpretative reconstructions de-

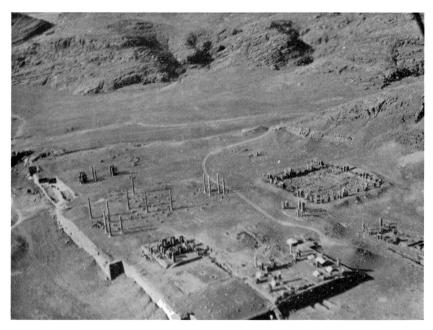


Fig. 53.—Air View of Part of the Great Palace Terrace at Persepolis

The palaces of the Persian emperors, burned by Alexander the Great, are now being excavated by the Oriental Institute. The vast terrace wall at the left is in places fifty feet high. In the right-hand foreground are the tents of the expedition, used before its members moved into the newly excavated harem building of Darius the Great (partially visible at the extreme right).

veloped as historical volumes in which it is hoped that the researches of the Institute may always culminate.

#### THE PERSIAN EXPEDITION

Whereas the Hittites must have been in Anatolia at the west end of the Highland Zone as early as 3000 B.C., if not earlier, the outstanding people at the east end of the Highland Zone were the Persians, who were very late intruders. The Highland civilization of this region, known as Elam in pre-Persian days, was of great importance for its influence on early Babylonia. As already mentioned, the Institute is investigating several sites in the neighbor-

ing lowlands which the Highland invaders founded as they shifted thither. In the study of the rise of civilization it is indispensable to investigate the earliest discernible civilization at the eastern end of the Highland Zone—a civilization of very remote pre-Persian days.

High on a plateau among the Persian mountains, some forty miles from Shiraz, stands Persepolis, the magnificent capital of the Persian emperors. Its

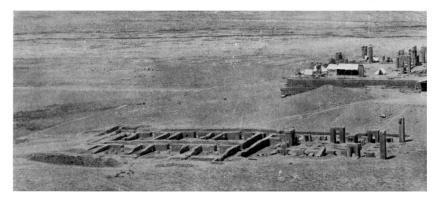


Fig. 54.—General View of the Harem of Darius the Great at Persepolis

The stately royal apartment with its enormous stone doorways, at the front (right end) of the building, had not yet been excavated when this photograph was taken. The façade (at extreme right) was built up between two enormous stone piers recognizable by their tallness. The harem apartments, six in number, occupy the rear (left end) of the building. These apartments are being restored to their original height and roofed for occupancy by the expedition during the excavation of Persepolis. Meanwhile the expedition has been living in the tents seen in the background.

chief founders were Darius and Xerxes, rulers known to every schoolboy as the Persian emperors whom the Greeks fought at Marathon and Salamis in the early fifth century B.C. We are all familiar with the picture of Xerxes sitting enthroned on the heights of Aigaleos and looking down upon the Bay of Salamis as his international fleet, the greatest armada the Mediterranean had ever seen, was scattered and destroyed by the little fleet of Athens and her allies. It was chiefly these two emperors—Darius, the greatest organizer of the ancient world, and his less gifted son and successor, Xerxes—who built the vast palaces of Persepolis.

The spacious terrace (Fig. 53), where the silent colonnades of these ruined but still imperial palaces now stand, is one of the most impressive places in the world. When once the power and life which surged through its now buried or fallen ruins had vanished, Persepolis passed into an oblivion from which it is only now emerging as a result of scientific interest on the part of the Western world and of the annihilation of distance by the modern magic

#### THE PERSIAN EXPEDITION

carpet, the airplane. In the autumn of 1930 the Secretary of State at Washington announced to the Associated Press that by unanimous vote the Persian cabinet had granted to the Oriental Institute of the University of Chicago a concession to excavate and restore Persepolis. At that time funds were not in



Fig. 55.—Ruins of the Royal Apartment in the Harem Building of Darius the Great before Excavation

The front of the building was at the left, with two huge stone piers standing one at either end of the once colonnaded portico in front. Incisions visible on their inner surfaces show where the crowning cornice rested. Ancient sculptures still remain within the two doorways at the right.

hand for undertaking this concession, but the need was shortly met by a gift from an anonymous source new to the Oriental Institute.

Dr. Ernst E. Herzfeld, professor of oriental archeology at the University of Berlin and the ablest living specialist in Persian archeology, was appointed field director of the Institute's new Persian Expedition. After going over the site in a preliminary way, Professor Herzfeld concluded that it would be possible to utilize as living-quarters for the expedition a portion of one of the ancient palaces, the floors of which were still encumbered with several feet of rubbish, mostly architectural wreckage. The clearance of these accumulations revealed a series of six apartments, all alike—obviously the rooms of the ladies of the harem (Fig. 54). During this preliminary clearance a number of interesting and important discoveries were made. Among them was a knob of artificial lapis lazuli bearing an inscription, "Knob of lapis lazuli of the house of Darius," which showed that the apartments (Figs. 55–56) belonged

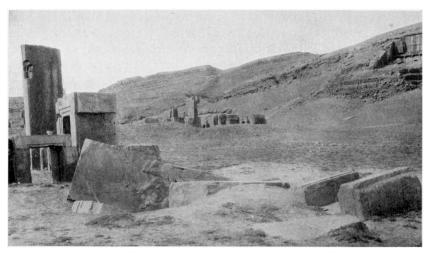


Fig. 56.—Fallen Stone Doorways of the Royal Apartment in the Harem Building of Darius the Great at Persepolis

The figure of Darius fighting a lion appears on one of the prostrate blocks. The Oriental Institute plans to re-erect all these fallen portions of the building and to restore the connecting walls.

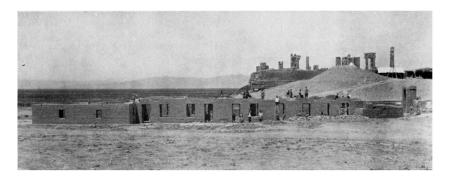


Fig. 57.—Partly Restored Rear Portion of the Harem Apartments of Darius the Great at Persepolis

The huge stone doorway leading to the large royal apartment is seen at the right. The windows visible in the restored walls are modern insertions which did not exist in the original structure. When this building is roofed the expedition will move into it from the tents seen on the terrace in the background.

#### THE PERSIAN EXPEDITION

to the palace of the great emperor Darius, the organizer of the Persian Empire, who once lost a small frontier detachment in fighting the Greeks at Marathon. This harem portion of Darius' palace is being rehabilitated (Fig. 57) to serve as the expedition's headquarters during the period of the excavation and subsequently as a place in which to house the finer sculptures unearthed by the excavation.

A glance at the map (Fig. 1) will make clearer the field operations of the Institute. Each expedition, except the Prehistoric Survey, which deals with too extensive an area, is indicated by a star. The distribution of the field operations may thus be clearly seen: two expeditions on the Highland Zone, one at each end; four expeditions on the Fertile Crescent, one at each end and two near the middle; six projects on the Nile and in Northeast Africa.

## III

# THE AMERICAN HEADQUARTERS AND THE HOME RESEARCHES

## THE NEW ORIENTAL INSTITUTE BUILDING AT THE UNIVERSITY OF CHICAGO

The preceding brief sketch of the field activities of the Oriental Institute will doubtless make it evident why its first American headquarters in Haskell Hall have been outgrown. With the breaking of ground in April, 1930, and the completion in April, 1931, of the new Oriental Institute Building (frontispiece and Figs. 58–59) there has been created at the University of Chicago the first specially planned and equipped research laboratory devoted to the study of the rise of Man. For the first time in the history of modern research, the synthetic study of early man himself has been granted a home beside the laboratories of the natural sciences in a correlated effort to reconstruct through pure research the epic of mankind's long and mysterious development.

Apart from an unusually attractive lecture hall, the main floor of this new building is given over to a series of five exhibition halls in which are displayed representative collections of objects from the field, some acquired by purchase but most of them drawn from the Institute's field expeditions. These and the study collections, which together formerly constituted the Haskell Oriental Museum, so named from its original location, have now become the Oriental Institute Museum. It is in charge of Dr. Watson Boyes as secretary. In the high, well lighted basement are found the preparator's shops, together with photographic and photostatic laboratories, and also abundant space for housing and organizing the material constantly accumulating from the field excavations. On the second floor is situated a beautiful library reading-room two floors in height (Fig. 60), with Gothic trusses supporting the roof. A "minstrels' gallery" serves as stackroom. The remainder of the second floor is given over to faculty offices and studies, museum accessioning and photographic file rooms, editorial offices, administrative headquarters, and a handsomely furnished common room. On the third floor are found additional faculty offices and a suite of rooms given over to the Institute's Assyrian Dictionary project described below.

## THE ASSYRIAN DICTIONARY

Following in general the same methods of compilation employed by the great Oxford English Dictionary, the Dictionary of Ancient Egyptian at Ber-

## THE ASSYRIAN DICTIONARY

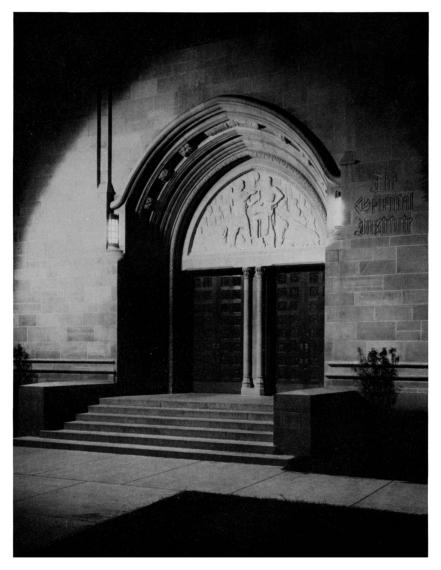


Fig. 58.—The New Oriental Institute Building. Night View of the Main Entrance
The sculpture in the tympanum has been illustrated on the cover. Its interpretation will be found on the inside of the cover.

#### HOME RESEARCHES

lin, and other similar projects, the Oriental Institute in 1921, under the direction of the late Dr. D. D. Luckenbill, began the compilation of the first complete Babylonian-Assyrian¹ dictionary as yet attempted. After the lamented death of Dr. Luckenbill, this vast project was intrusted to Dr. Edward Chiera, whose indefatigable energy and judicious introduction of time- and labor-

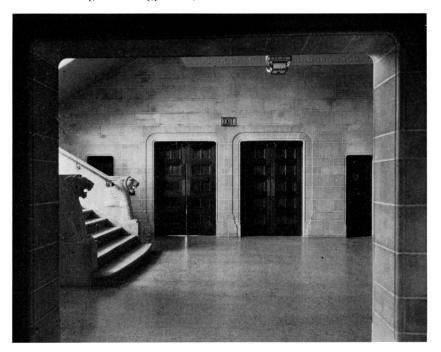


Fig. 59.—The Lobby of the New Oriental Institute Building, Looking from the Lecture Hall toward the Main Entrance

The lion terminals of the stairway balustrades are copied in stone from Assyrian originals.

saving devices has already brought substantially nearer the time when we may expect the publication of a cuneiform dictionary based on all the known original Western Asiatic sources. The files of the dictionary already contain over one million cards, each card representing a single occurrence of a particular word. Probably a million more such references will be required before the actual dictionary volumes themselves can be blocked out and the word discussions prepared for publication.

<sup>&</sup>lt;sup>1</sup> The term "Akkadian," scientifically correct as a designation of the main nucleus of the linguistic sources employed in compiling this dictionary, has not yet gained wide currency, though now used by many scholars.

## THE ASSYRIAN DICTIONARY



Fig. 60.—The New Oriental Institute Building. West Wall of the Library

## HOME RESEARCHES

#### OLD TESTAMENT STUDIES

Dr. J. M. P. Smith has embodied the results of his researches on Hebrew law in a volume called *The Origin and History of Hebrew Law*, which the University of Chicago Press published in November, 1931.

He has also been engaged in making many emendations to his American translation of the Old Testament, which has now been combined with Pro-



"Bimeby Brer Lion git so mad he jump in de spring headforemos"

Fig. 61.—Exploits of "Brer Rabbit" as Illustrated in an Arabic Manuscript of the Thirteenth Century of Our Era

fessor Goodspeed's translation of the New Testament into a new onevolume edition of the Bible, published in November, 1931.

He is also a member of the commission engaged in revision of the standard American revised version of the Old Testament, an enterprise which is expected to occupy five years.

## ANCIENT ARABIC DOCUMENTS

Little known in America is the fact that the so-called "Uncle Remus stories" of our South had their origin in ancient Egypt and Assyria. These same stories found their way

into Arabic literature. The Institute's possession of a group of original manuscripts in this field (Fig. 61), together with photographs and photostats of all similar manuscripts of importance in European libraries, has placed its Arabic specialist, Professor Martin Sprengling, in a position to prepare a final Arabic text and to make analytical studies which will throw new light on the ancestry of these fascinating animal fables.

Besides the Arabic manuscripts of the well known Arabist and former librarian of the famous Khedivial Library at Cairo, Professor B. Moritz, the Institute has recently acquired also a group of Arabic papyri of very early date. In preparing these manuscripts for publication Professor Sprengling has discovered that they contain some of the earliest known literary documents of Arab civilization. In addition to these projects he has completed some valuable researches, recently published by the Institute, on the origin and early history of the alphabet.

## THE PESHITTA PROJECT

The English translations of our Old Testament are based on Hebrew manuscripts which are known to contain many ancient errors in scribal copying.

#### THE EGYPTIAN BOOK OF THE DEAD

One way to correct these is to study such ancient translations from the Hebrew as the Greek or Syriac versions. The ancient Syriac translation is called the Peshitta. Its text has never been carefully determined on the basis of all existent evidence. One valuable means of establishing the text of the Peshitta is the study of a Syriac commentary on it called the *Storehouse of Mysteries*, written by Barhebraeus in the thirteenth century of our era. The important manuscripts of this work, some twenty in number, are now scattered over Asia, Europe, and America. The Oriental Institute has furnished the editors, Professors Martin Sprengling and William C. Graham, with photographs of these. Volume I of their work, which has just appeared, covers Genesis–II Samuel. It includes photographic reproductions of the pages of the oldest manuscript, collation of the others, full translation, and notes.

#### THE EGYPTIAN BOOK OF THE DEAD

In connection with the Egyptian religious sources which we know as the Coffin Texts, it is important to note that the Institute possesses a long and unusually beautiful roll of the so-called Book of the Dead, the collection of prayers, charms, etc., which succeeded the Coffin Texts as a means of salvation for the dead. This manuscript, which belongs to a relatively late period, was presented to the Institute by Mrs. Elizabeth Milbank Anderson and has therefore been called Papyrus Milbank. The papyrus has been unrolled by the skilful Berlin preparator, Dr. Hugo Ibscher, and mounted in sections between plates of glass. With funds donated by Miss Minna Roman, it is being edited for publication by Dr. T. George Allen, who has already made good progress in his arduous task. As work on the Coffin Texts advances, complete translation of the Book of the Dead will become more and more feasible.

#### THE DEMOTIC DICTIONARY

The recent death of Professor Wilhelm Spiegelberg, of the University of Munich, the leading demotic scholar of the present generation, left unfinished his *Demotic Dictionary*. In accordance with the wish of Professor Spiegelberg, expressed before his death, Associate Professor William F. Edgerton of the Oriental Institute was asked by Professor Spiegelberg's family to carry to completion this important work. It will first be issued in an abridged edition by the Oriental Institute, and it is hoped that funds may be available later for an edition in fuller form.

## IV

# THE PUBLICATIONS OF THE ORIENTAL INSTITUTE

The Oriental Institute seeks to present the results of its activities in the field and its researches at home in forms suitable to both specialists and the general public. Its productions fall into five series. For the general reader the "Oriental Institute Communications" (OIC) offer illustrated reports describing the progress and the results of Oriental Institute activities, especially those of its field expeditions. Another series, "Ancient Records," presents in English translation the ancient oriental documents on which modern knowledge of the history and culture of the world's earliest civilizations is based.

The other three series are intended rather for the specialist. The "Oriental Institute Publications" (OIP) contain primarily source materials. In that series are published (1) final accounts of discoveries made by the Institute's field expeditions, (2) original documents or other objects already housed either at the Oriental Institute or elsewhere, and (3) linguistic or archeological compilations intended as reference works.

Interpretations of source materials are presented in two series, "Assyriological Studies" (AS) and "Studies in Ancient Oriental Civilization" (SAOC). The former comprises philological researches dealing chiefly with cuneiform grammatical and lexicographical material. The latter contains monographs dealing with other culture phases of the ancient Near East.

Volumes and monographs already issued in these five Oriental Institute series up to December 1, 1931, number altogether thirty-four. Five of these volumes, namely, Dr. Breasted's Ancient Records of Egypt, were printed before he had organized the Oriental Institute. All the rest have grown directly out of the Institute's activities. Several other works are in press, others are in preparation, and numerous others are already in prospect. All are published by the University of Chicago Press. Classified according to their subject matter, these publications fall into the following groups:

## THE FIELD EXPEDITIONS

## SURVEY OF THE NEAR EAST IN 1919/20

The Oriental Institute of the University of Chicago—A Beginning and a Program. By James Henry Breasted. 96 pages, royal 8vo, paper (OIC No. 1, out of print)

Oriental Forerunners of Byzantine Painting. By James Henry Breasted. 105 pages, 23 plates, 58 text figures, 4to, boards (OIP Vol. I) \$4.00

An account of the expedition, with special attention to wall paintings found in a fortress at Sālihîyah on the Euphrates.

#### EGYPT AND NORTHEAST AFRICA

#### THE PREHISTORIC SURVEY

- First Report of the Prehistoric Survey Expedition. By K. S. Sandford and W. J. Arkell. 52 pages, royal 8vo, paper (OIC No. 3) \$1.00
- Present Developments in the Study of Paleolithic Man in Egypt. By K. S. Sandford (OIC, in preparation)
- Prehistoric Survey of Egypt and Western Asia. I. Paleolithic Man and the Nile-Faiyum Divide; a Study of the Region during Pliocene and Pleistocene Times. By K. S. Sandford and W. J. Arkell. 77 pages, 11 plates, 1 map, 4to, cloth (OIP Vol. X) \$5.00
- Prehistoric Survey of Egypt and Western Asia. II. Paleolithic Man in the Cairo District: The Bovier-Lapierre Collections. By Paul Bovier-Lapierre and K. S. Sandford. Geology in collaboration with W. J. Arkell (OIP Vol. XVII, in preparation)
- Prehistoric Survey of Egypt and Western Asia. III. Paleolithic Man and the Nile Valley between the Second Cataract and Luxor. By K. S. Sandford and W. J. Arkell (OIP Vol. XVIII, in preparation; other volumes in the series are in prospect)

#### THE SAKKARA EXPEDITION

Painted Relief Sculptures of Old Kingdom Egyptian Tombs at Sakkara. By Prentice Duell (OIP, 5 large folio volumes in prospect)

## THE COFFIN TEXTS PROJECT

Egyptian Coffin Texts of the Middle Kingdom. Edited by Alan H. Gardiner and Adriaan De Buck (OIP, 5 folio volumes in prospect)

#### THE ABYDOS EXPEDITION

#### IN ASSOCIATION WITH THE EGYPT EXPLORATION SOCIETY

Relief Sculptures of Seti I from His Temple at Abydos, Egypt. By Miss A. M. Calverley, edited by Alan H. Gardiner (OIP, 6 large folio volumes in prospect)

#### THE THEBAN TOMB PAINTINGS

Ancient Egyptian Paintings, Chiefly from Theban Tombs. By Nina de Garis Davies, edited by Alan H. Gardiner (OIP, 2 large folio volumes in prospect)

#### PUBLICATIONS

#### THE EPIGRAPHIC AND ARCHITECTURAL SURVEY

- Medinet Habu, 1924–28. By Harold H. Nelson and Uvo Hölscher. 50 pages, royal 8vo, paper (OIC No. 5) \$1.00
- Medinet Habu Studies, 1928/29. I. "The Architectural Survey." By Uvo Hölscher. II. "The Language of the Historical Texts Commemorating Ramses III." By John A. Wilson. 33 pages, 3 plates, royal 8vo, paper (OIC No. 7) \$1.00
- Medinet Habu Reports. I. "The Epigraphic Survey, 1928–31." By Harold H. Nelson. II. "The Architectural Survey, 1929/30." By Uvo Hölscher. 69 pages, 4 plates, royal 8vo, paper (OIC No. 10) \$1.00
- Medinet Habu. I. Earlier Historical Records of Ramses III. By the Epigraphic Survey, Harold H. Nelson, Field Director. xviii+10 pages, 54 plates, 2 text figures, large folio, cloth (OIP Vol. VIII) \$20.00
- Medinet Habu. II. Later Historical Records of Ramses III. By the Epigraphic Survey, Harold H. Nelson, Field Director. 76 plates, 6 text figures, large folio, cloth (OIP Vol. IX, in press; other volumes in the series are in preparation and in prospect) \$30.00
- Medinet Habu Architectural Survey. I. Plates. By Uvo Hölscher (OIP Vol. XXI, in preparation)
- Karnak. I. The Temple of Ramses III (OIP, one of a group of large folio volumes in prospect)

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#### ASSYRIAN EXCAVATIONS

Khorsabad, 1929. By Edward Chiera (OIC No. 13, in prospect)

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- Explorations in Hittite Asia Minor, 1929. By H. H. von der Osten. 196 pages, royal 8vo, paper (OIC No. 8) \$2.00

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#### EXCAVATION

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- Researches in Anatolia. IV and V. The Alishar Hüyük, Seasons of 1928 and 1929.

  Parts I and II. By Erich F. Schmidt. With a chapter by Wilton Marion Krogman (OIP Vols. XIX and XX, in preparation)

#### SURVEY

Researches in Anatolia. Survey of the Alishar Square. By H. H. von der Osten and Others (OIP, in prospect)

## THE MEGIDDO (PALESTINE) EXPEDITION

- The Excavation of Armageddon. By Clarence S. Fisher. 78 pages, royal 8vo, paper (OIC No. 4) \$1.00
- New Light from Armageddon. Second Provisional Report (1927–29) on the Excavations at Megiddo in Palestine. By P. L. O. Guy. With a chapter on an inscribed scaraboid by W. E. Staples. 68 pages, royal 8vo, paper (OIC No. 9) \$1.00

Megiddo. By P. L. O. Guy and Associates (OIP, in prospect)

#### THE PERSIAN EXPEDITION

Persepolis. By Ernst E. Herzfeld (several volumes in prospect)

## OTHER PROJECTS

## PUBLICATIONS OF SOURCE MATERIAL

#### WRITTEN DOCUMENTS

#### COPTIC

The Proverbs of Solomon in Sahidic Coptic According to the Chicago Manuscript.

Edited by William H. Worrell. xxx+107 pages, 1 plate, 4to, cloth (OIP Vol. XII)

\$5.00

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#### CUNEIFORM

- The Annals of Sennacherib. By Daniel D. Luckenbill. 196 pages, 4to, boards (OIP Vol. II) \$4.00
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#### OTHER OBJECTS

Ancient Oriental Seals in the Collection of Mr. E. T. Newell. By H. H. von der Osten (OIP Vol. XXII, in preparation)

### TRANSLATIONS

- Ancient Records of Egypt. Vols. I-V. Historical Documents. By James Henry Breasted. 1,774 pages, royal 8vo, cloth, sold only in sets \$22.00
- Ancient Records of Assyria and Babylonia. Vols. I and II. Historical Records of Assyria. By Daniel D. Luckenbill. 801 pages, royal 8vo, cloth, sold only in sets \$8.00 \$10.00
  - Special library edition on all-rag paper. Vols. I and II

#### **STUDIES**

#### LINGUISTIC

The Assyrian Dictionary. By Edward Chiera and Associates, continuing the work of D. D. Luckenbill (*OIP*, in prospect)

## OTHER PROJECTS

- Die sogenannte hethitische Bilderschrift. By Emil Forrer (SAOC, in preparation)
- Hittite Hieroglyphs. I. By Ignace J. Gelb. xx+88 pages, royal 8vo, paper (SAOC No. 2; Part II in preparation, other parts in prospect) \$1.50
- Beiträge zum assyrischen Wörterbuch. I. By Bruno Meissner. 92 pages, royal 8vo, paper (AS No. 1; Part II in press, other parts in prospect) \$1.00
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  By Arno Poebel. 47 pages, royal 8vo, paper (AS No. 2) \$1.00
- Das appositionell bestimmte Pronomen der 1. Pers. Sing. in den westsemitischen Inschriften und im Alten Testament. By Arno Poebel. 86 pages, royal 8vo, paper (AS No. 3, in press) \$1.00
- Demotisches Handwörterbuch. By Wilhelm Spiegelberg and William F. Edgerton (OIP, in prospect)
- The Alphabet: Its Rise and Development from the Sinai Inscriptions. By Martin Sprengling. 71 pages, royal 8vo, paper (OIC No. 12) \$1.00

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## V

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John Merlin Powis Smith, Professor of Old Testament Language and Literature; Editor of the American Journal of Semitic Languages and Literatures

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HAROLD HAYDEN NELSON, Professor of Egyptology and Field Director of the Epigraphic and Architectural Survey Expedition

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[ 66 ]

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