

THE
BIBLIOTHECA SACRA

ARTICLE I.

PROFESSOR PETRIE'S EXCAVATIONS AT HELI-
OPOLIS, THE BIBLICAL ON.

BY THE REVEREND MELVIN GROVE KYLE, D.D.,
PHILADELPHIA, PA.

RECENTLY a one-time city engineer, a man of affairs in the business world, asked me, "What does a ruined city of Egypt look like?" Such a question from such a man revealed the general lack of information on the subject among even the most intelligent who have not been in Egypt — and, alas, not a few who have been there. No really intelligent conception of the work of exploration of a ruined Egyptian city can be gained until there is first some clear vision of the appearance of the city before the spade of the excavator touches it. So, what does the ruin at On look like? It is a desert, with a wall around it, and an oasis in the middle of it.

"THE DUST OF AGES."

The desert here at On is "the dust of ages" still holding everything in its grasp. Descriptions of Egypt, and pictures of Egypt, have much to do with stone, — stone temples, stone statues, stone obelisks, gigantic stone structures of many kinds, even tombs cut in the solid rock. All this is magnificent,

but it is not Egypt. Egypt is not stone: Egypt is mud. There is more of mud than of all other things combined. The ancient Egyptians honored their gods in temples of stone, their kings, who were little gods, in statues of stone, and their dead, who according to their theology became divine, in stone tombs and sarcophagi; but they themselves, the people, lived in mud. Cities were built almost wholly of mud. The poorer suburbs and towns were of houses made of corn-stalks plastered with mud; the better buildings of the city had walls of mud brick. In either case the mud was only sun-dried. They were "dust" mixed with water, molded, and dried and hardened in the sun. When the mud walls perished, they returned again to "dust." "How long did they last?" That depended so much upon conditions that the question cannot be answered. Egypt is for the most part a rainless land; yet down north it rains in torrents, and up south it does sometimes rain most unexpectedly. Besides this, an unusually high Nile might catch the foundations of many houses in the waters of the inundation, and, by melting away the first few lower courses of mud brick, ruin a large portion of the city. No great loss ensued: it had cost but little to build the houses, it cost little to replace them. The walls were beaten down, and the place was leveled, and was considerably raised by the debris of the ruin. The new house was built upon this platform. Thus cities have literally *risen*, in Egypt, until they stood upon a mound. Every village and town of modern Egypt is thus lifted up above the plain. Thus this old city of On grew, and *arose*, if we may adapt Tennyson's lines, upon stepping-stones of her dead self to higher things. When at last the final ruin of the city came, and the place was abandoned, the waters of the inundation, and the torrential rains of the delta, and the fierce winds from the desert soon wore

down the walls of the houses and distributed the débris until the whole area was but heaps of "the dust of ages." This is On, about four square miles of "dust."

The wall of this old city, strange to say, is marked by yonder deep broad ditch, seventy feet wide by twenty to thirty feet deep; though on the western side and on a portion of the eastern side there is still a ridge which marks the ancient wall, now buried by the sand and soil drifting before the desert winds. The ditch is another tragic monument—we might almost say a melodramatic monument—of the frailty of human greatness. For these colossal walls were also of brick, made from the surface of the soil and dried in the sun. They thus are the richest of the soil of Egypt, made largely from the recent sediment brought down by the inundation. The farmers of modern Egypt, for how many centuries nobody knows, have been wise enough in their day to perceive the value of these mud bricks as fertilizer for their fields of beans and peas and clover. So they have dug out these mud bricks, reducing them again to "the dust of ages" in the process, and have spread them over their fields and gardens. So the wall of On is now in large part a moat around the heaps of ruins.

Now, about the oasis in the center of the city. It is neither more nor less than more "dust" irrigated. Since the houses were built of bricks made from the mud of the surface of the Nile Valley, and so contained the richest of the soil, the only reason that the ruin of the city is now for the most part desert is, that the mound of many cities upon which the last one was built is now above the utmost reach of the inundation or of convenient irrigation. The rains come only during a short season, and for the most of the year these heaps are as dry as the sand of the Sahara. But the oasis; what then makes

the oasis? Ah, that is the secret of the old Egyptian cities — the entrancing secret that has brought to this place Professor Petrie, one of the world's greatest archæologists and the world's most experienced excavator. The oasis is a low place which is reached by the waters of the inundation or by easy irrigation. It is an oasis at On: at Memphis it is a lake. Whether an oasis or a lake, this low place marks the site of the great temple of the old city.

“But were not the Egyptians great engineers? Why did they thus build their temples on such low ground?” They were great engineers, among the greatest the ancient world produced. But there was a greater engineer, nature herself, by the operation of the power of God through her laws, which defeated them in a way of which they seem not to have dreamed. The temples were built upon the level ground, but natural laws in operation throughout millenniums of time have changed the level of the whole surface of the land. The inundation is a flood of muddy water. Muddy water leaves a sediment wherever it flows. The faster it flows, the less is the deposit: the slower it moves, the greater is the amount of sediment it leaves behind. Thus the whole surface of the valley has arisen by this deposit of sediment, less rapidly where the current of the river runs in its channel, much more rapidly in the still waters of the overflow, which sometimes lie for weeks with no perceptible current. Thus the land has arisen more rapidly and the bed of the river more slowly, but both have risen. In the course of millenniums this change in level has amounted to eight or ten feet for the bed of the river, and still more in places for the surface of the fields. But the temple, being of stone and swept clean day by day, stayed down where it was built and gained nothing by the annual deposit from the inundation. That is why it is

now represented by an oasis or a lake in the center of the ruins of the city. This is true in some measure of all the oldest temples which were built in the valley near the river.

But this is not yet all of the strange story. The Nile never keeps within its channel. When it is high enough to run over its banks upon the land it does so, but at all times it runs under the banks through the porous soil. This is called its "infiltration," and it results in the Nile, at any given time, extending as far beyond the channel on either side as the stage of water at the moment will admit. The higher the level of the water, the farther the infiltration reaches, but always *at the same level as the water in the river*. So, as the channel of the river, century by century, lifted the river itself higher and higher, the level of the water of infiltration kept pace until, at last, it was above the floor of the temple even at the season of the lowest Nile. Then gods and goddesses, priests and ceremonial, were driven out, and the temple was abandoned. Nature religion was thus driven out by nature's God.

So our old temple at On is to-day under the green fields of the Khedive's tenants.

"SQUATTERS."

With the exception of those green fields which cover the temple, the whole area of the ancient city continues to this day as barren as the desert. But, like the desert, it is not entirely forsaken. There are some squatters upon it. A village has occupied one small quarter, in order to be above the inundation and to save cultivable land. Back of this village in the "dust" is another, a corn-stalk village, of the Bedouin, and between that and the west wall are the camps of some roving bands of these Ishmaelites of the desert. And

yonder, beyond the government canal near the west wall, are still other squatters, who have built for themselves a low, rambling, one-story house of mud brick. They have taken the trouble also to dig ditches in front, to inclose a small yard (not a lawn!), and within that a still smaller private inclosure is made by a mud-brick wall. That is Professor Petrie's camp. Not much of the money of the Excavation Fund is spent in providing accommodations for the archæologists. Indeed "efficiency," about which we hear so much in these days, and economy are practised to the utmost. The Professor is as good a business man as excavator. So a small mud house is erected, consisting of a series of little rooms, "state-rooms" they would be called on shipboard, judged by their size only. They are sufficient in number to accommodate the archæologist and his helpers, allowing one "state-room" to each, one for a dining-room and general reception-room, and still another for the cook with his pots and pans. The brick for the house were made and dried on the spot. A large brick-yard is only a half mile distant, but it is cheaper to make the brick on the ground than to transport them. So they are made on the ground.

It was my privilege to spend most of the season of 1912 at Heliopolis with Professor Petrie. On the 26th of February, a cold, dismal, winter day with a chilly west wind, the Professor set out from the camp to survey the site of the great work upon which he was about to enter. "Survey" means, first of all, at an archæologist's camp, very literally to "look over." Much may be seen concerning a ruined city by simply walking about with one's eyes fixed upon the ground. These reddish pieces of pottery so abundant on the surface are modern. Countless seasons of Bedouin "squatters" who have broken their pots here, and of village women who have

trudged back and forth, occasionally letting a jar fall, have left these fragments. But there are other pieces here. This handle of a grayish Greek amphora is from the eighth century B.C. There is another, and another. There are many of them. Many flat sherds, also, of the same pots are mingled with the modern reddish fragments. Ah, here is a curious, squat little vase with handles. It is of the peculiar pottery usually attributed to the Hyksos. Yonder a piece of the city wall also is visible. Those large brick are certainly of the eighteenth or nineteenth dynasty. Modern times here mingle with the ancient world from the eighth century B.C. back to the remote and uncertain age of the Hyksos invaders. The Romans are not in this company at all, nor the Copts, nor that mixed population which grew for centuries after the Christian era. "Ah," said the Professor, "that is good. We will not have to dig through twenty feet of Roman rubbish to reach the ancient history of Egypt." This old city has been practically abandoned since the Persian invasion. This is ideal for the archaeologist, whose greatest bugbear is the mingling, sometimes the inextricable commingling, of the ages. So we learn much human history in this first morning walk.

But "survey" has also, for the excavator, the more technical sense in which it is used by the engineer. Every field and piece of ground which is to be excavated must be literally measured and plotted by days of work with rod and line and level. The highest point near the middle of the ruin is taken as that with which the level of every other point will be compared. This wearisome, dusty work was done, and the "squatters" were ready to begin.

PROSPECTING FOR HISTORY.

The popular notion is, that the one great desire of exca-

vators is for "finds" — treasures of literature, art, and architecture. These are the things in which the public are chiefly interested, and which afford the large cash returns with which to make more excavations and to interest the readers of Reports so that they will subscribe more money for still more work to get more "finds," and so make another popular thrill. This is the treadmill circle around which the excavator must run. But the real value to the world of even these startling finds is, that they are witnesses in the story of the world's achievements. Often the unattractive object which the relic hunter would not buy, and of which the public hears or remembers little or nothing, tells more of human history than the statue or the necklace that is worth thousands of dollars. Beyond even such unattractive "finds" there are walls, houses, gateways, ruined foundations, fragments of obelisks, buried forever in the muddy water of the infiltration and which can be examined only with the fingers, that may make possible the writing down of more human history than a museum full of relics. The fact is, that the excavator is really *prospecting for history and hoping for "finds" to pay expenses.*

Here, for example, are these broken walls of houses upon which the work is begun near the camp. An inner wall is here clearly marked, running east and west. As it parallels the temple area, where is now the oasis, it is plainly the wall of the temenos inclosure, the sacred precincts surrounding the temple itself. Here first the Professor sought within these sacred precincts for the houses of the priests, and he was not disappointed. That low ravine-like channel running parallel to the wall on the side towards the temple area proves to be a street. On either side of it the banks, when disturbed, reveal the walls of houses. The temple area is very large, a

quarter of a mile wide by three-quarters of a mile long, with a still further long approach before it on the east. It might be expected that so large a temple would have many priests. This temenos wall inclosing so large a space has further confirmed that expectation. And here, row upon row, are the houses within the sacred place. Houses of the priests of On! "The priest of On" lived somewhere among these. But during the millenniums of the glory of this temple there were thousands of priests who ministered here. Though "the priest of On" may have been high priest, as he very probably was, from the definite article before his name, there is yet little likelihood of finding anything concerning him. But, who knows? Surprises always await the excavator. Exploration of ruins is a lottery. There are many blanks, but some great prizes.

But we are only prospecting, in order to find the great deposits of history here, and will return to uncover them completely in proper order. Professor Petrie now took his diggers far away, a mile or more to the eastern wall of the old city. If one stands at a point on the line of the axis of the green temple area which runs through the center of the ruins of the city, and looks toward the east, he will find a great break in the wall exactly in front of him. Of course the eastern gateway of the city was here. Many years of exploring work have given the Professor such skill in locating ruins that, having carefully surveyed the place and measured the ground for the pit to be dug, the workers came down exactly upon the foundations of the south leg of the great pylon. The brick wall of the city abutted upon the place, but every stone of the pylon had been removed by those who have used the ruins as a stone quarry. The carefully cut niche at the bottom of the pylon in which the foun-

dation deposits had been placed was found entirely filled with clean sand. Every tool was dropped, and the workmen gathered about while Professor Petrie put his hand into the sand to search for the precious little treasures once put there. Carefully he searched every part of the depository, but the sandy receptacle was empty. Those who had taken away the stone had known also to rob this treasure box. Nothing was left to us but a sigh of disappointment. Such is the experience of an excavator.

Work at the south side of the gateway was more encouraging. A building of Rameses II., with some of his titles on the side posts of the gateway, was found and largely excavated. An irrigation ditch which must not be disturbed prevented the work at one side. The building was empty.

Again the diggers are moved, — this time to the center of the ruins. It will be a surprise to learn that, important as was On in the old time, and great as is the ruin which has continued down to these days, almost nothing has been learned concerning this place. Many years ago Lepsius surveyed the site and left a diagram which reveals little that cannot be seen in a few hours' examination of the site to-day. A few years ago the great Italian archæologist, Schiaparelli, did some work here which strangely has remained unpublished. But some things were given out which told of a remarkable inclosure wall of the great temple, a wall perforated with curious tunnels. The wall was about 130 feet broad and seemed to be a great circle or oval. The next point now in the prospecting for history was to cut this great wall. The "tunnels" were quickly found. It was also soon found that the diggers, seeing that the Professor was interested in "tunnels," had set themselves to oblige him by *digging one on their own account*. Query: Did Schiaparelli's diggers do the

same? However, the most careful search now made by several transverse cuttings showed conclusively four things: (1) that these so-called tunnels were only heaps of sand and mud composing a central core about which the bricks were laid on the sloping sides; (2) that thus the wall was not a perpendicular, but a sloping wall; (3) that there was no gateway on the axis of the temple opposite the great pylon on the east; (4) that the wall was an oval about 400 yards in its shortest diameter and of a length not yet determined.

Our prospecting for history is now coming to a climax; our search for great events in this old city seems about to be rewarded with startling success. It only remains to call to mind that out to the northeast some four miles, in 1906, Professor Petrie uncovered the ruin known as Tel el-Yehudiyeh and found what he believed to be an Hyksos camp, one of the fortified camps occupied by those invaders at their entrance to the land, at a time when they were still "bow people," who surrounded themselves with the sloping walls employed for defense with the bow. Professor Naville from his study of the great Harris papyrus, believed this place to have been in early times a sacred place immediately connected with On itself. It was also very near, and the Hyksos certainly did not always remain there under the very shadow of the great capital, but before they became masters of Lower Egypt must have become masters of On. When it is noted that the great wall at Tel el-Yehudiyeh and at On is the same in size, in construction, in shape, and in the peculiarity of having no gateway, it becomes a probability not likely to be overthrown (but which only the completion of the excavations can fully and finally substantiate), that the great wall surrounding the temple here at On is another Hyksos camp, made by those Bedouin invaders when they first became mas-

ters of the Capital of the North. This is an encouraging beginning of this wonderful work of excavation of one of the most extensive ruins in Egypt. Our prospecting has brought us to this place in history as a starting point under those very kings in whose dynasty Joseph became prime minister and was given as wife the daughter of "the priest of On." There certainly is earlier history here than this, but this makes a very dramatic starting point.

Additional pits near the obelisk discovered the foundations of a mate to that famous monument, and finally the gateway of the temple itself. Here we stand ready to enter within the sacred precincts at the beginning of the season of 1913.