

Cambridge University Press
978-1-108-01763-3 - Manual of Egyptian Archaeology and Guide to the
Study of Antiquities in Egypt
Gaston Maspero
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EGYPTIAN ARCHÆOLOGY.

CHAPTER I.

ARCHITECTURE—CIVIL AND MILITARY.

THE earlier archæologists, when visiting Egypt, concentrated their attention upon temples and tombs, giving little or no attention to the existing remains of private dwellings and military buildings. Yet few countries, nevertheless, have preserved so many relics of their ancient civil architecture. Setting aside towns of Roman or Byzantine date, such as were standing almost intact a few years ago at Koft (Coptos), at Kom Ombo, and at El Agandiyeh, one-half at least of ancient Thebes still exists on the east and south of Karnak. The site of Memphis is covered with mounds, some of which are from 50 to 60 feet in height, each containing a core of houses in good preservation. At Kahûn, the ruins and remains of a whole provincial Twelfth Dynasty town have been laid bare; at Tell el Maskhûtah, the granaries of Pithom are yet standing; at Sãn (Tanis) and Tell Basta (Bubastis), the Ptolemaic and Saïtic cities contain quarters of which plans might be made (Note 1), and in many localities which escape the traveller's notice, there may be seen ruins of private dwellings which date back to the age of the Ramessides,

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or to a still earlier period. As regards fortresses, there are two in the town of Abydos alone, one of which is at least contemporary with the Sixth Dynasty; while the ramparts of El Kab (probably First to Third Dynasty), of Kom el Ahmar, of El Hibeh, and of Dakkeh, as well as part of the fortifications of Thebes, are still standing, and await the architect who shall deign to make them an object of serious study.

I.—PRIVATE DWELLINGS.

The soil of Egypt, periodically washed by the inundation, is a black, compact, homogeneous clay, which becomes of stony hardness when dry. From immemorial time, the fellahin have used it for the construction of their houses. The hut of the poorest peasant is a mere rudely-shaped mass of this clay. A rectangular space, some 8 or 10 feet in width, by perhaps 16 or 18 feet in length, is enclosed in a wickerwork of palm-branches, coated on both sides with a layer of mud. As this coating cracks in the drying the fissures are filled in, and more coats of mud are daubed on until the walls attain a thickness of from 4 inches to a foot. Finally, the whole is roofed over with palm-branches and straw, the top being covered in with a thin layer of beaten earth. The height varies. In most huts, the ceiling is so low that to rise suddenly is dangerous both to one's head and to the structure, while in others the roof is 6 or 7 feet from the floor. Windows, of course, there are none. Sometimes a hole is left in the middle of the roof to let the smoke out; but this is a refinement undreamed of by many.

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BRICK-MAKING.

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At the first glance, it is not always easy to distinguish between these huts of wattle and daub and those built with crude bricks. The ordinary Egyptian brick is a mere oblong block of mud mixed with chopped straw and a little sand, and dried in the sun. At a spot where they are about to build, one man is told off to break up the ground; others carry the clods, and pile them in a heap, while others again mix them with water, knead the clay with their feet, and reduce it to a homogeneous paste. This paste, when sufficiently worked (Note 2), is pressed by the head workman

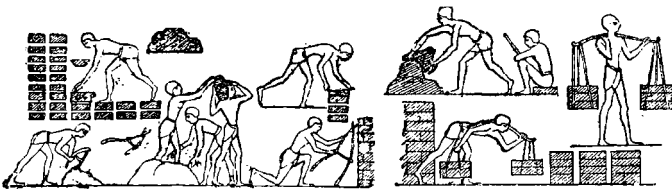


Fig. 1.—Brickmaking, from Eighteenth Dynasty tomb-painting,
 Tomb of Rekhmara.

in moulds made of hard wood, while an assistant carries away the bricks as fast as they are shaped, and lays them out in rows a little distance apart, to dry in the sun (fig. 1). A careful brickmaker will leave them thus for half a day, or even for a whole day, after which the bricks are piled in stacks in such wise that the air can circulate freely among them; and so they remain for a week or two before they are used. More frequently, however, they are exposed for only a few hours to the heat of the sun, and the building is begun while they are yet damp. The mud, however, is so tenacious that, notwithstanding this carelessness, they are not readily put out of shape. The outer faces of

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the bricks become disintegrated by the action of the weather, but those in the inner part of the wall remain intact, and are still separable. A good modern workman will easily mould 1,000 bricks a day, and after a week's practice he may turn out 1,200, 1,500, or even 1,800. The ancient workmen, whose appliances in no wise differed from those of the present day, produced equally satisfactory results. The dimensions they generally adopted were 8·7 × 4·3 × 5·5 inches for ordinary bricks, or 15·0 × 7·1 × 5·5 for a larger size (Note 3), though both larger and smaller are often met with in the ruins. Bricks issued from the royal workshops were sometimes stamped with the cartouches of the reigning monarch; while those made in private factories bore on the side a trade mark in red ochre, a squeeze of the moulder's fingers, or the stamp of the maker. By far the greater number have, however, no distinctive mark. Burnt bricks were not often used before the Roman period (Note 4), nor tiles, either flat or curved. Glazed bricks appear to have been the fashion in the Delta. The finest specimen that I have seen, namely, one in the Cairo Museum, is inscribed in black ink with the cartouches of Rameses III. The glaze of this brick is green, but other fragments are coloured blue, red, yellow, or all white.

The nature of the soil does not allow of deep foundation. It consists of a thin bed of made earth, which, except in large towns, never reaches any degree of thickness; below this comes a very dense humus, permeated by slender veins of sand; and below this again—at the level of infiltration—comes a bed of mud, more or less soft, according to the season. The native builders

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FOUNDATIONS OF HOUSES.

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of the present day are content to remove only the made earth, and lay their foundations on basal ground ; or, if that lies too deep, they stop at a yard or so below the surface. The old Egyptians did likewise ; and I have never seen any ancient house of which the foundations were more than 4 feet deep. Even this is exceptional, the depth in most cases being not more than 2 feet. They very often did not trouble themselves to cut trenches at all ; they merely levelled the space intended to be covered, and, having probably watered it to settle the soil, they at once laid the bricks upon the surface. When the house was finished, the scraps of mortar, the broken bricks, and all the accumulated refuse of the work made a bed of 8 inches or a foot in depth, and the base of the wall thus buried served instead of a foundation. When the new house rose on the ruins of an older one decayed by time or ruined by accident, the builders did not even take the trouble to raze the old walls to the ground. Levelling the surface of the ruins, they built upon them at a level a few feet higher than before : thus each town stands upon one or several artificial mounds, the tops of which may occasionally rise to a height of from 60 to 80 feet above the surrounding country. The Greek historians attributed these artificial mounds to the wisdom of the kings, and especially to Sesostris, who, as they supposed, wished to raise the towns above the inundation. Some modern writers have even described the process, which they explain thus :—A cellular framework of brick walls, like a huge chess-board, formed the sub-structure, the cells being next filled in with earth, and the houses built upon this immense platform

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(Note 5). But where I have excavated, especially at Thebes, I have never found anything answering to this conception. The intersecting walls which one finds beneath the later houses are nothing but the ruins of older dwellings, which in turn rest on others still older. The slightness of the foundations did not prevent the builders from boldly running up quite lofty structures. In the ruins of Memphis, I have observed

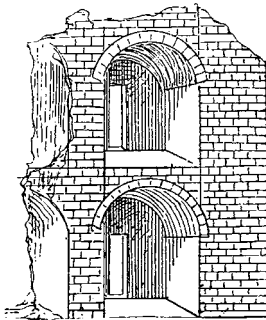


Fig. 2.—House with vaulted floors, against the northern wall of the great temple of Medinet Habû.

walls still standing from 30 to 40 feet in height. The builders took no precaution beyond enlarging the base of the wall, and vaulting the floors (fig. 2). The thickness of an ordinary wall was about 16 inches for a low house; but for one of several storeys, it was increased to 3 or 4 feet. Large beams, embedded here and there in the brickwork or masonry, bound the whole together, and strengthened

the structure. The ground floor was also frequently built with dressed stones, while the upper parts were of brick. The limestone of the neighbouring hills was the stone commonly used for such purposes. The fragments of sandstone, granite, and alabaster, which are often found mixed in with it, are generally from some ruined temple; the ancient Egyptians having pulled their neglected monuments to pieces quite as unscrupulously as do their modern successors. The houses of an ancient Egyptian town were clustered

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PLAN OF TOWNS.

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round its temple, and the temple stood in a rectangular enclosure, to which access was obtained through monumental gateways in the surrounding brick wall. The gods dwelt in fortified mansions, or at any rate in

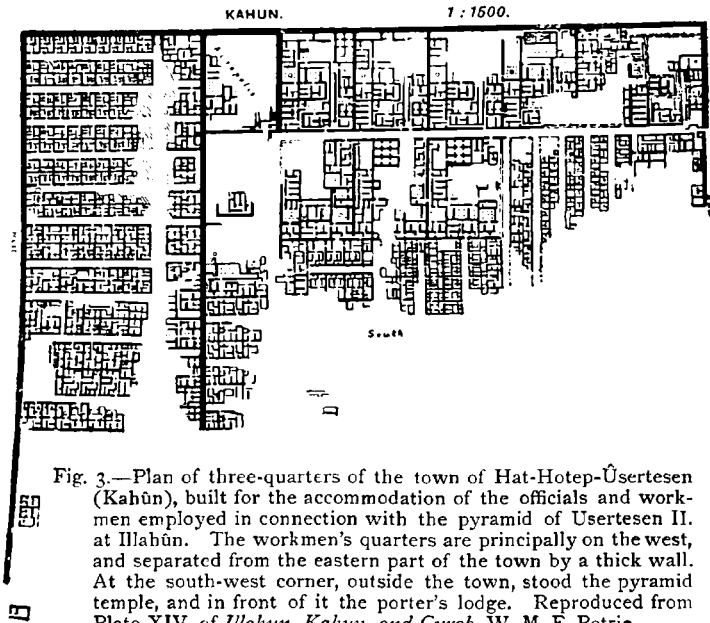


Fig. 3.—Plan of three-quarters of the town of Hat-Hotep-Usertesen (Kahûn), built for the accommodation of the officials and workmen employed in connection with the pyramid of Usertesen II. at Illahûn. The workmen's quarters are principally on the west, and separated from the eastern part of the town by a thick wall. At the south-west corner, outside the town, stood the pyramid temple, and in front of it the porter's lodge. Reproduced from Plate XIV. of *Illahun, Kahun, and Gurob*, W. M. F. Petrie.

redoubts, to which the people of the place might fly for safety in the event of any sudden attack upon their town. Such towns as were built all at once by prince or king were fairly regular in plan, having wide paved streets at right angles to each other, and the buildings in line. The older cities, whose growth had been

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determined by the chances and changes of centuries, were characterised by no such regularity. Their houses stood in a maze of blind alleys, and narrow, dark, and straggling streets, with here and there the branch of a canal, almost dried up during the greater part of the year, and a muddy pond where the cattle drank and women came for water. Somewhere in each town was an open space shaded by sycamores or acacias, and hither on market days came the peasants of the district two or three times in the month. There were also waste places where rubbish and refuse was thrown, to be quarrelled over by vultures, hawks, and dogs.

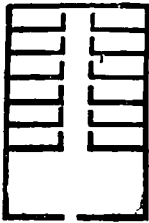


Fig. 4.—Plan of house, Medinet Habû.

The lower classes lived in mere huts, which, though built of bricks, were no better than those of the present fellahin. At Karnak, in the Pharaonic town; at Kom Ombo, in the Roman town; and at Medinet Habû, in the Coptic town, the houses in the poorer quarters have seldom more than 12 or 16 feet of frontage. They consist of a ground floor, with sometimes one or two living-rooms above. The middle-class folk, as shopkeepers, sub-officials, and foremen, were better housed. Their houses were brick-built and rather small, yet contained some half-dozen rooms communicating by means of doorways, which were usually arched over, and having vaulted

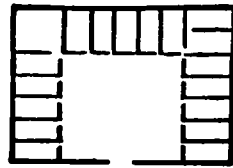


Fig. 5.—Plan of house, Medinet Habû.

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DOMESTIC ARCHITECTURE.

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roofs in some cases, and in others flat ones. Some few of the houses were two or three storeys high, and many were separated from the street by a narrow court, beyond which the rooms were ranged on either side of a long passage (fig. 4). More frequently, the court was surrounded on three sides by chambers (fig. 5); and yet oftener the house fronted close upon the street. In the latter case the façade consisted of a high wall, whitewashed or painted, and surmounted by a cornice. Even in

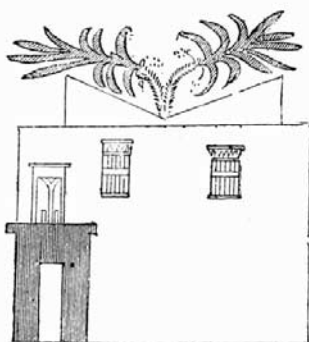


Fig. 6.—Façade of a house toward the street, second Theban period.

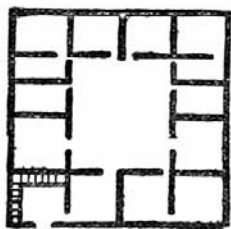


Fig. 7.—Plan of central court of house, second Theban period.

better houses the only ornamentation of their outer walls consisted in angular grooving, the grooves being surmounted by representations of two lotus flowers, each pair with the upper parts of the stalks in contact (see figs. 24, 25). The door was the only opening, save perhaps a few small windows pierced at irregular intervals (fig. 6). Even in unpretentious houses, the door was often made of stone. The doorposts projected slightly beyond the surface of the wall, and the lintel supported a painted or sculptured cornice. Having crossed the threshold, one passed successively through

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two dimly-lighted entrance chambers, the second of which opened into the central court (fig. 7). The best rooms in the houses of wealthier citizens were sometimes lighted through a square opening in the centre of a ceiling supported on wooden columns. In the Twelfth Dynasty town of Kahûn the shafts of these columns rested upon round stone bases; they were octagonal, and about 10 inches in diameter (fig. 8). Notwithstanding the prevalence of enteric

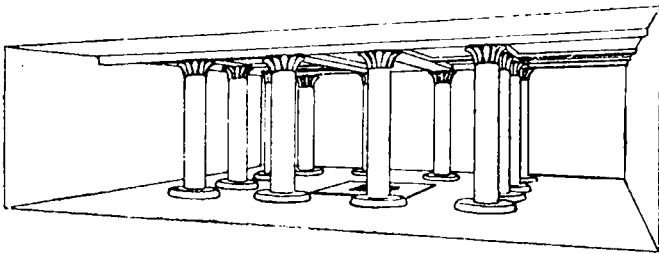


Fig. 8.—Restoration of the hall in a Twelfth Dynasty house. In the middle of the floor is a tank surrounded by a covered colonnade. Reproduced from Plate XVI. of *Illahun, Kahun, and Gurob*, W. M. F. Petrie.

disease and ophthalmia, the family crowded together into one or two rooms during the winter, and slept out on the roof under the shelter of mosquito nets in summer. On the roof also the women gossiped and cooked. The ground floor included both store-rooms, barns, and stables. Private granaries were generally in pairs (see fig. 11), brick-built in the same long conical shape as the state granaries, and carefully plastered with mud inside and out. Neither did the people of a house forget to find or to make hiding-places in the walls or floors of their home, where they