

Egyptian Towns and Cities

Eric P. Uphill



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 (Atlas of the City of the Living Pyramid
 Drawings by Eric P. Uphoff)

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In writing this study on a number of people. In the Editor of the Shire Egyptology production of the book. I thank the plans and drawings. I thank Josephine of Achaioptex (the remainder). Lastly to thank for constant help in preparation used as illustrations are in Egypt, and are intended to sites known, particularly

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Period	Approximate Dates
Pre-dynastic	5500 - 3100 B.C.
Protodynastic	3200 - 2650 B.C.
Early Dynastic	2650 - 2150 B.C.
Old Kingdom	2650 - 2150 B.C.
First Intermediate Period	2150 - 1750 B.C.
Middle Kingdom	1750 - 1350 B.C.
Second Intermediate Period	1350 - 1050 B.C.
New Kingdom	1550 - 650 B.C.
Third Intermediate Period	650 - 332 B.C.
Late Period	650 - 332 B.C.
Greece-Roman Period	332 B.C. - A.D.

1 Introduction

Egyptian hieroglyphs use two terms for an urban growth: *nḥs*, meaning a city, and *ḏm*, a town or settlement. The former appears to denote a natural growth, whether large or small, the latter a planned one.

The dwellings which composed these were called *pr*, which means house in the general sense as well as the specific building for occupation, and *ḥwt*, which covers the yard or walled enclosure as well as the house proper. Both terms were used for town houses and country villas.

Geographically Egypt falls into two parts, the Delta in the north and the Nile valley in the centre and south, that is, Lower and Upper Egypt. Throughout the historical period most of Egypt was bare, arid desert with a few oases providing the only places to support any life. Out of a total area of 386,000 square miles (1,000,000 sq km) less than 13,500 square miles (35,000 sq km) were cultivable as recently as 1947, a figure that probably exceeds that in Pharaonic times.

The earliest Egyptian dwellings appear to have been simple reed huts or even wind-breaks rather than caves as in palaeolithic Europe. Tiny groups of these, too small even to be termed villages, would have been found on the sparsely vegetated lands bordering the Nile valley and the delta, and possibly on the sand spits which rose like islands throughout the uncultivated and untamed districts which were later to form the centres of the urban population of the Two Kingdoms.

As the earliest Egyptians progressed in the art of building many materials were at hand. Various kinds of wood were available as well as reeds, rushes, papyrus and palm ribs. Two kinds of planks could be made from two species of palm tree, the date and the sism (Acacia *rotunda*) and tamarisk were other local woods useful for house building. Only later, when very large beams were needed for roofing palaces or making columns and temple flagstaffs, were cedar and other imported woods used extensively. Palm fronds, with open and closed bud, and papyrus influenced the design of column and capital.

Mud, and later mud bricks, formed the second great class of building material. Bricks (ancient Egyptian *ḥt*, Coptic *ἸϰϰἸ*, Arabic *ādāḥ*) were easily made once the technique of strength-

Introduction

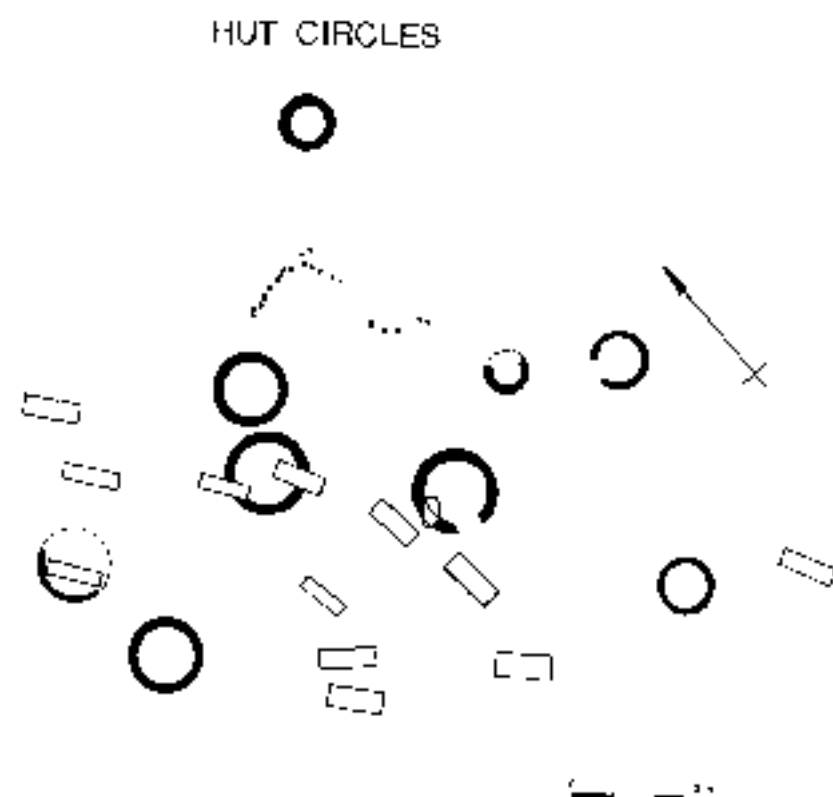
ening lumps of river clay used with, and later instead of, reeds, is known from earlier Predynastic times.

Brickmaking was a highly skilled craft, known over a long period and used for many purposes. The best bricks were uniformly made, and useful brick could be made from mud which was simply dried in the sun. Some bricks were made for special functions. Most bricks were made with saltness to the bricks.

Stone formed the third class of building material. Stone houses and domestic buildings were built entirely of stone. Limestone was reserved for column bases and capitals. Granite was used for grilles in the better built houses. Wood was used sparingly. Wooden ceilings were made from wet rot or insects, and were much wider than the walls.

Although they had certain advantages, stone houses were in general not as well suited to the climate of the region in the Predynastic times, and perhaps not as well suited to the climate of the region in the early dynastic times, except perhaps in the Nile valley. They have equalled them, nor did they appear until Hellenistic and Roman times.

Throughout the following pages the figures are calculated on a maximum of 1000 inhabitants per acre. This ratio is based on the figures for the Delta (10.6 ha) a figure of 3000 inhabitants per acre and at Amarna, where the ratio was 152 times the figure used



1. Hierakonpolis. Plan of a Neolithic village. (Drawing by Jocelyn Linzlee.)

Natural prehistory

As the first Egyptian settlers of flimsy reed shelters of which not much can be said until the advent of the neolithic, in order to deal effectively with the material after this date the site is within the framework of local regional differences.

In Upper Egypt the earliest of the culture known by the name of the Before 5000 BC cemeteries where, as at Matmar, five smaller larger community situated in a valley. While little remains were found. These consisted of typical one measuring 8 feet and 9 feet 10 inches (3 m) common throughout Egypt smaller and normally lined.

At Bahari itself several along a stretch of several miles storage pits remained, but the showed the areas of the site.

The form of these huts in a slightly later date at other round and of beehive shape. Cooking was done before the for dealing with smoke a lessened.

From the next period, Neolithic Hierakonpolis have provided. They were dated by association before 3600 BC. Built of diameters varying from 7 to 10 metres), with wall thicknesses wall heights ranged from 1.4 (84 cm). Clearly some were be a fuel store, the small

merely peripheral encampments and probably not representative of living conditions in the valley. The mud walls formed little more than a skirting for a thatched superstructure, indicated by the imprint of reed stalks pressed into the moist wall clay. One hut also had a strong untrimmed post of tamarisk wood 14 inches long by 9 inches in circumference (35 by 22.5 cm). As the entrance had to be above the sunken walling the owners had to descend a drop equal to the wall height. No traces of steps were found.

Another stage in the evolution of the Upper Egyptian house is shown at El Mahasna, the hut plans being neither round nor oval but rectangular, corresponding to tombs of approximately 3600 BC. The building technique was the same, posts with interlaced branches and mud-plastered, but the buildings were more substantial. Far more informative, however, is a house excavated at Hierakonpolis in 1979 and dated by associated artefacts to about 3700-3600 BC (*Journal of Near Eastern Studies* 39 [1980], 119-37, where it is termed structure D). It is the first rectangular Predynastic Egyptian house to be systematically excavated. Still semi-subterranean, it measured 13 feet 2 inches long by 11 feet 6 inches wide (4 by 3.5 metres) and consisted of a single room from 1 foot 6 inches to 2 feet 7½ inches deep (45 to 80 cm). It had a superstructure of post, wattle and daub construction, with mud-plastered wide sections of the type today called *serina*, attached to the north and east walls. Another innovation was the use of shaped bricks found in the plaster as well as other material. Significantly the excavator, Michael Hoffman, noted the plan's resemblance to the Egyptian hieroglyph *pr*, or 'house'. An oven built on a low platform was found inside.

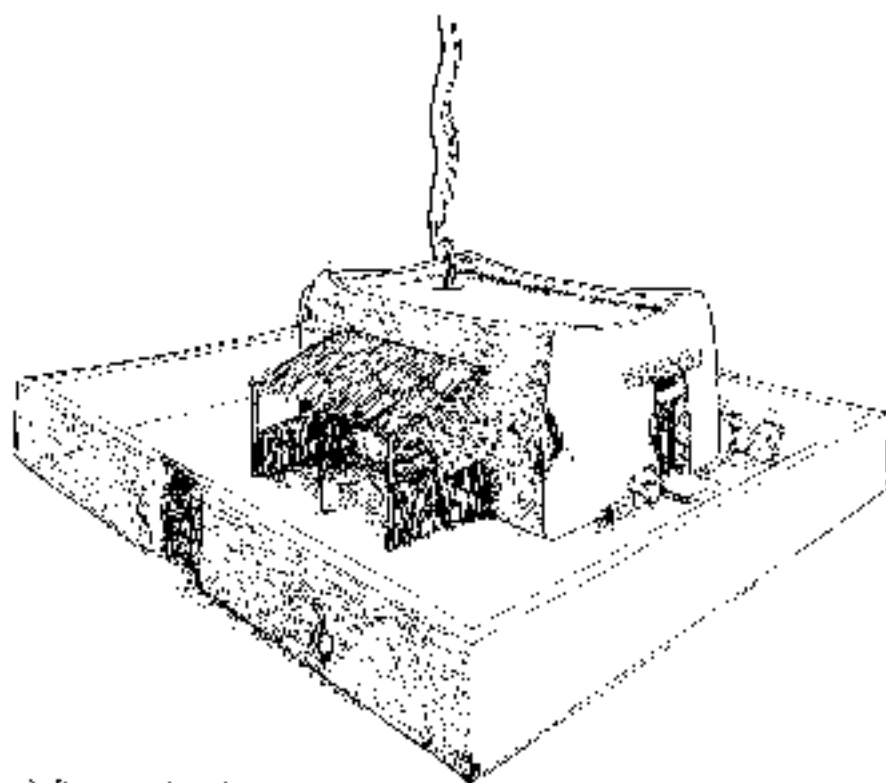
The development of the Lower Egyptian sites followed a similar pattern but with certain planning differences due to other customs and needs. The Fayum A settlements are of approximately the same age as Badarian, but of a very ephemeral character in that they produced no burials, suggesting these were peripheral settlements inhabited by some migratory people who occupied the edges of the great lake on promontories or *kouzes*. No house remains were recovered by the excavators, only the hearths and sunken granaries indicating the position of the lightly built huts.

A community which was certainly much better organised and has provided far more evidence of house building and communal planning is Merimut Beni Salams, excavated before the Second World War. The site is on the south west desert edge of the delta

and proved to have been abandoned after a long period of sand. The site covers an area by 400 metres) or about 5000 Predynastic settlement. It is regularly along a street. Remains of about 4880 BC. The plan of oval plan measuring 13 feet opening north west away from north wind. Holes containing use of partitions or screens in section of one being found may have served as work huts were ovals of 10 feet metres) or less and again a those of Mahasna. Walls sometimes prismatic brick irregular shaped mud and plastered and provided with rain water. Here the date possibly after the dwelling recalls Mesopotamian practice site was fully occupied at then the computed population people. This, as W. C. Hayes one of the largest, if not Egypt, rivalled only by Hierakonpolis.

El Omari is a similar type of Cairo. 1¼ miles (3 km) carbon 14 date for its first long enough to reach the surface over a large area and covered with wooden walls resting into the earth and surrounding storage pits cut into the ground. Hierakonpolis a much larger found which contained a fence stretched on wooden later hieroglyphic determined dead were again buried.

Mari is the logical successor with its later phase, that



2. Reconstruction of a house of the Giza period. (Drawing by John Klotz)

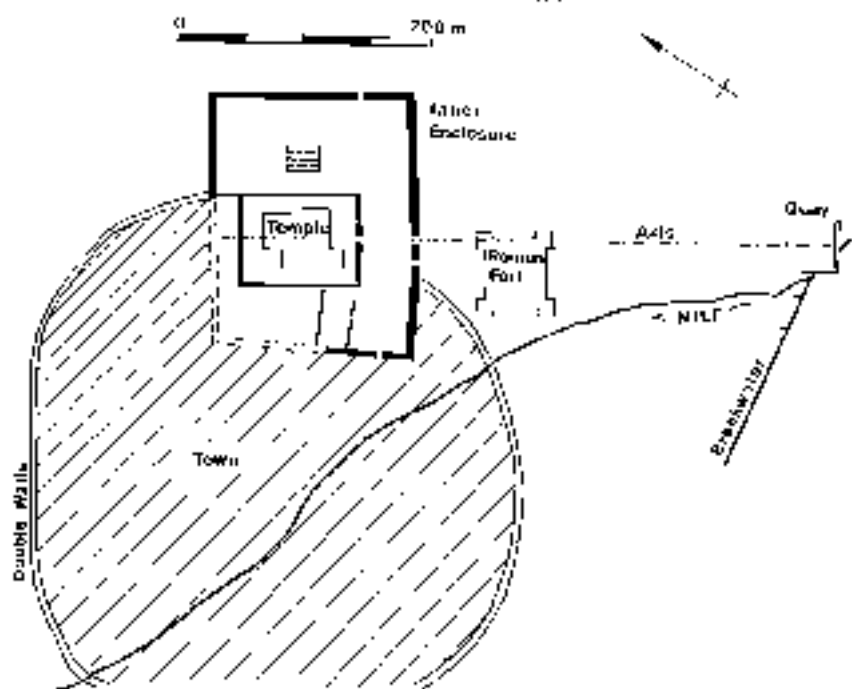
excavated before 1939. It is late neolithic in type and occupied the south end of a great basin extending from Old Cairo to Fara. The settlement lay on a very narrow low ridge between two wadis and extended roughly east-west. Implements were distributed over an area just under one mile (1.5 km) long by only 393 feet (120 metres) wide, the area covered being around 45 acres (18 ha) in all. Many wooden post ends were found marking the positions of hut walls. These were of tamarisk and from 1½ to 3 inches (4 to 20 cm) thick. Plans were confused, however, because the remains of the huts were at different levels, thus marking different points of occupation. Again, these plans proved to be oval with door openings to the south west. The entrance was about 14 feet (4.3 metres) wide and the middle of the opening contained a hearth. Clearly the large area of these entrances was not all roofed in, the hut itself taking up only a part. Three layers of buildings need not

Natural urban growth: prehistory

have meant very long occupation. The nature of the rice and mud-brick houses and the rectangular house were a prehistoric form. The prehistoric grooves 6 to 8 feet 3 inches (1.9 metres) wide have been laid in these from the beginning, and for the first time a house belonging to a class of (5.18 metres; 16 cubits?) near the beginning. This house had its door on the right side. No hearth was found inside the doorway, a circular pit and another rectangular pit has accordingly been compared. Merimde and to a clay model in the Egyptian Museum (figure 2).

After 5600 BC the two did not grow closer together. K. Gierzan in the north this development and saw the beginning, the introduction of wheat and agriculture. As a result of this rapidly and much larger settlements into existence. By the end of these must have been fortified. The scene on a Predynastic site model (figure 2) represents mud-brick, measuring about 100 feet (30 metres) long, a wooden floor and two stories. With the addition of a wall, all the essential requisites of a home. Many of these must have been found in the prehistoric, where traces of occupation stretch over an area 24 miles.

The stage was now set for the Pharaohs.



3. Nekhat (N. K. 3). Plan of the ancient walled town. (Drawing by Helmut Jäschke.)
 4. Nekhat (N. K. 3). View of the curtain wall with ironing fall. (Photograph by Eric P. Upham.)

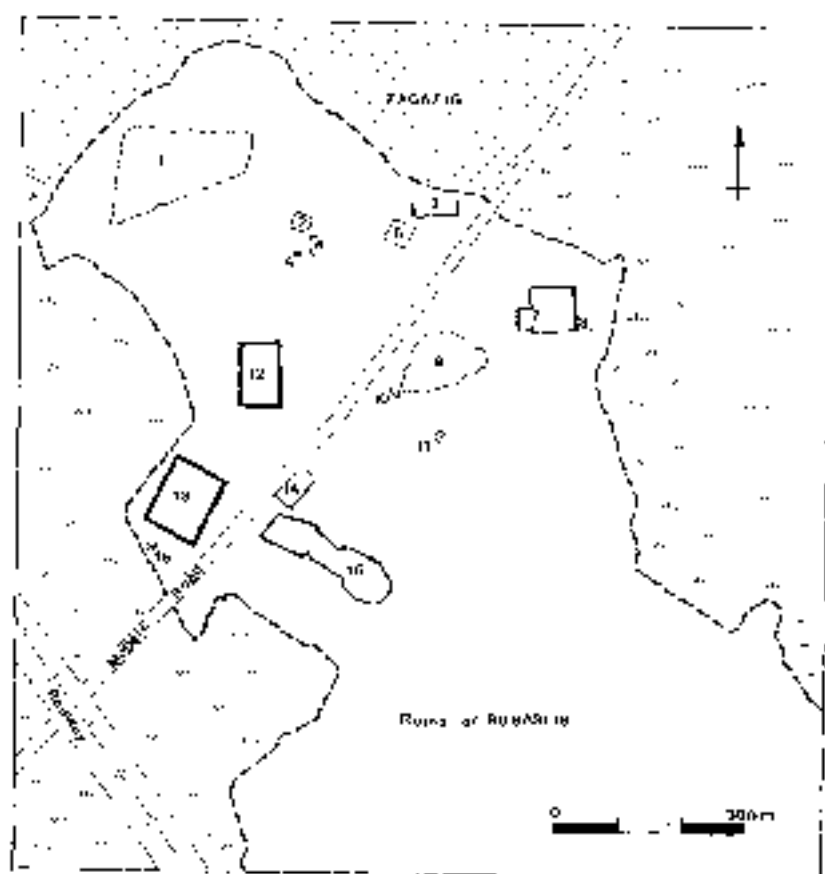


Provincial

The 30 Egyptian provinces of the New Kingdom, each had a combination of local administration. Many, if not all, rose to be and typify the standard national example was El-Kab in Upper Egypt, whose circular plan shape exactly reproduced the city (a circle around a dingy idea of cross-streets within a circle shape (figure 3). The shape of the building was not based on natural growth had been received later.

The earliest set of walls for a later regular rectangular plan in the western part of the town has the plan by Somers Clarke as the original layout. In this area, which then measured 100 metres north to south by 100 metres west. Allowing for the irregularity must have been in the region must be deducted for the 100 metres (figure 4), but on the ratio of a maximum of 2500 people to 1000 had around 6000 people. The two walls, the outer one 9 feet (2.44 metres) thick, with 10 metres on average. The 10 metres may possibly reflect 20 Egyptian cubits. The wall, inner one standing higher, probably built so for defence.

Two examples will suffice for the name capitals, one in the ancient city of Thebes, and the other the home of the ear goddess in the Kingdom times. The nominal area of at least 4900 feet (1



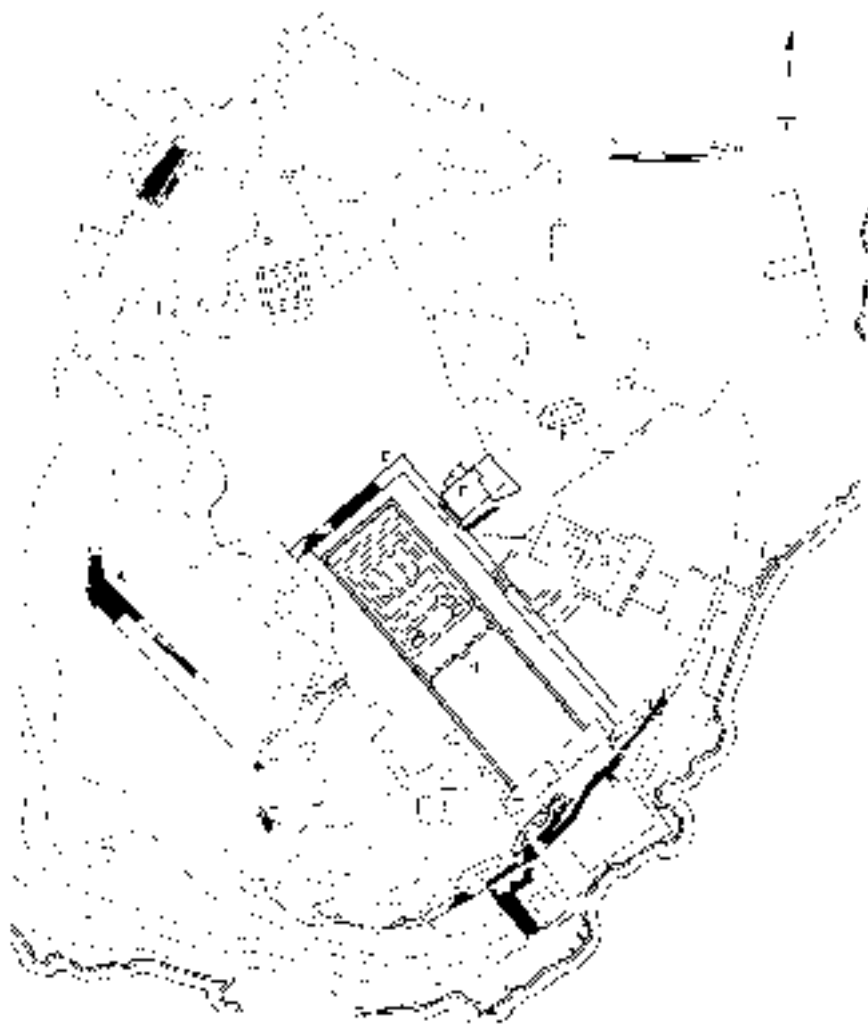
5. BUSTROS. Plan of the main building complexes at Tell Basta: 1, 2, cemeteries of cats; 3, remains of a palace; 4, probably a kitchen; 5, great building; 6, Old Kingdom cemetery; 7, New Kingdom palace and enclosure at right; 8, 9, New Kingdom enclosures; 10, 11, temples of Hathor; 12, temple of Isis; 13, temple of Eper; 14, temple of Min; 15, site of great temple of Bastet; 16, site of Anubis. (Drawing by Helen Faulkner.)



6. BUSTOS. View of Lake Quedu at Tell Basta. (Photograph by Eric P. Uphill.)

(500 metres) east-west or 75 metres up of buildings from the Old Kingdom (Habachi, *Tell Basta*, page 3, *Basta*, plate 4). To whatever extent there have been the Old Kingdom enclosures containing temple edifices of the royal residence, built an enclosure measuring 13 feet (4 metres) thick. To whatever extent there have been the Old Kingdom enclosures containing temple edifices of the royal residence, built another 280 feet (87.5 metres) east-west with a wall 13 feet (4 metres) thick. It contained a small temple of Hathor, the goddess. Thus at the end of the enclosure, there are others, seems to have been added to an existing town.

Far more imposing than the enclosure of the Old Kingdom was the great palace complex (1812-1797 BC) in the Twelfth Dynasty. The palace extends to well over 2½ acres (115 by 100 metres) in



7. Assuan. Plan of the walled town on Elephantine Island. A, town wall; B, necropolis; C, enclosure wall; D, temple enclosure wall; E, Herakleion temples; F, Amenophis III temple; G, Sakhmet temple; H, Khnum temple; I, Sennemut temple; J, terraces. (Drawing by Helena Jeschke.)

to the east. Two courtyards and up a massive mud-brick built piping to remove dirty water from layout. The scene can be judged half, which measured 70 feet (21 metres) broad and once had stone bases are about 6 feet 6 inches. The main entrance faced north due to the buildings, a common feature limestone door lintel found here enthroned at his *heb sed* or jubilee for which the palace may have been inaugurated. The excavator palace inhabited by the local no served hath functions, being used but serving as the local administrative

A very different type of city was on the border of Upper Egypt with to two factors, trade with the south African products into Egypt, and thus two urban sites, the one Elephantine, taking its name from the east bank serving the stone natural citadel measuring 3/4 mile (metres) at its widest. (Prehistoric carvings show the earliest occupation at the south end and has been systematic. It covered an area of about 4 acres and the later area of the walled enclosure (225 metres) east to west by at least south, or 11 acres (4.5 ha), with and the temple of the local ruler centre. Up to 40 feet (12 metres) Kingdom temple covered two-thirds. Middle Kingdom town was twice walls was an outer city with many houses stood in the south-west to great nobles were buried across back cliffs, but the funerary crowded city confines as well as the sacred rains near the temple temples were built by Tutankhamun Amenophis III (1386-1349 BC) U

splendid peripteral temple to the goddess Sakhmet, wife of Khnum, and also erected by Tutankhamun, has been reconstructed. The Khnum temple was rebuilt on a much greater scale in the Thirtieth Dynasty by Nectanebo II (360-342 BC) and added to by Alexander II (317-311 BC).

The other settlement for the quarry workers was under the southern end of the modern town and as such is not accessible, but a small incomplete temple of Isis built by Ptolemy III (246-221 BC) and Ptolemy IV (202-205 BC) marks the area.

Planned settlement for quarry workers

Although it is only a small village, it is very informative about urban development in the Ptolemaic period. There are no other planned settlements in the valley. The only area in the east Theban megalopolis was the home of the quarry workers in the royal necropolis.

The first village (figure 8) was founded by Amenemhat III (1525-1518 BC) and this settlement was rebuilt by Amenemhat IV (1390-1386 BC), roughly one half a mile from the river. The village was enclosed by a mud brick wall, the founder's name being written on the bricks. The wall measured about 200 metres long and was only 3 feet 9 inches (1.15 metres) thick. A central street was built following the valley from early times and marking the lower edge of the valley where it was sited. Each house had a central courtyard. The houses were built to last and the creator Brudevick even suggests that the houses have covered the whole layout. The houses were numbered, but the numbers were submerged. The individual, however, was identified by the owners' names marked on them. The houses were built to last and were rounded to resist wear and tear. The village was the core of the first Eighteenth Dynasty settlement, comprising only twenty houses. The village was built on a level area completely and an open space for animals such as the cattle of the village. The village formed the most pressing problem of the Ptolemaic period, numbered, say, one hundred in all the Nile valley, a journey of 150 miles (240 kilometres) in depth of 170 feet (52 metres) was beyond the capabilities of the community. The village was brought by donkey and stored in large quantities. A water cistern (requisitioned work) (inscribed, porous) found here.

As the building operations of the Ptolemaic period on the west bank at Thebes, so did the village show that the first big increase in the population of the greatest of the conquerors. The number of houses was 52. The first village had been d

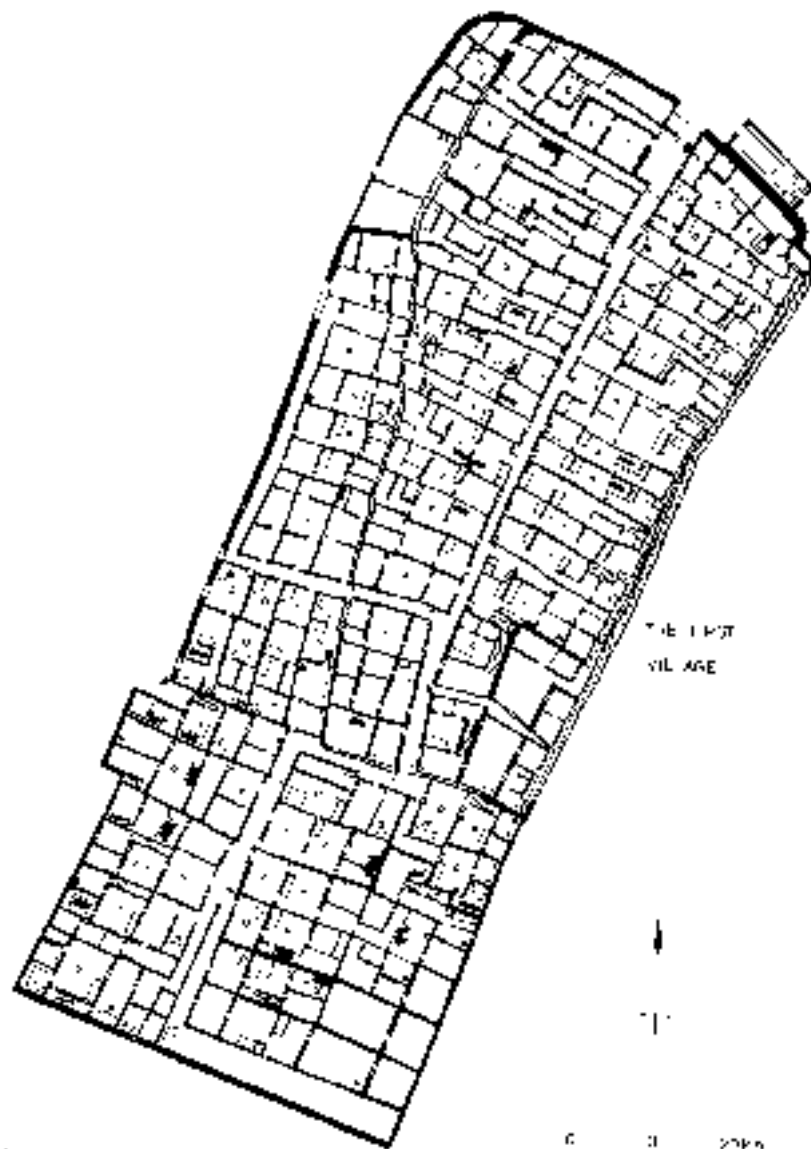


Fig. 10. Deir el Medinet. Part of the village plan showing earlier and later phases. (Drawing by H. G. G. G. G.)

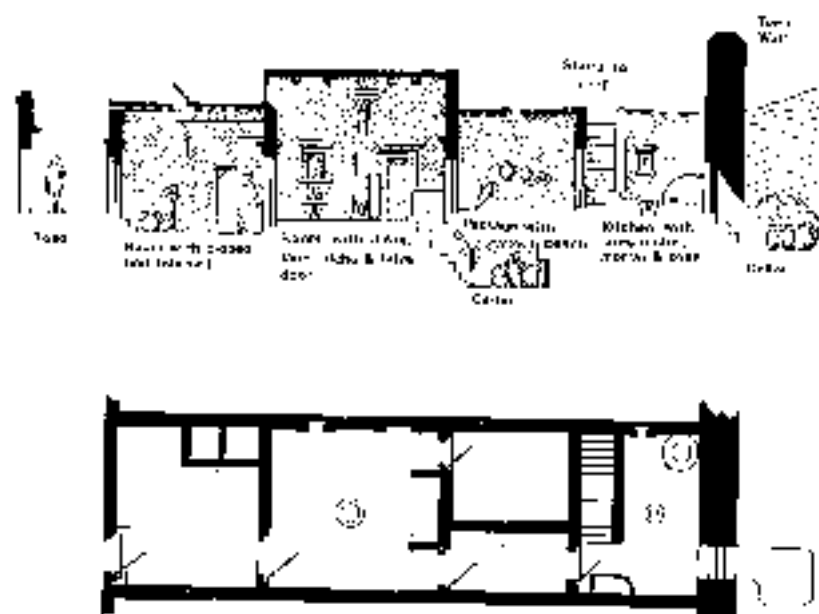


Fig. 9. Deir el Medinet. View looking towards the north. (Photograph by The P. G. Hill.)

time or in the Amarna period. Under Amenophis III, the great

Under Akhenaten (1350-1334 BC) the city was moved to Amarna to work on the new city. The houses at Amarna are perhaps brought from Memphis. Amarna are similar to those found at Thebes, but it is not certain if these were the same.

The return to Thebes was marked by the substitution of the family tomb and a general reorganisation of the city. The city of Amenhotep III of Horemheb (1321-1293 BC) was expanded to its greatest extent. Streets and ways of access were restored and new ones built. The city was built around the whole. Under the 19th Dynasty the community reached its greatest prosperity here during his reign.



10. Dan's Village. Plan and section, rooms (left) of a typical house. (Drawing by Helena Gooden.)

worked here, that is to say anything up to six hundred people based on the ratio of five to a home, under the supervision of two chiefs or "grand masters" assisted by scribes and overseers.

The layout of the village must be understood in order to see living conditions in context. There were now seventy houses within the enclosure and about fifty outside in suburbs to the north and west. The wall was now not so high and thick as that of Tutmosis and composed only of rough stones set in mud mortar. The reason for this was doubtless the feeling of security and royal control induced by the presence of the Madjat, a kind of roving police force. The walled area measured 452 feet (138.1 metres) long by 156 to 164 feet (47.5 to 50 metres) wide, a little over 1½ acres (0.65 ha).

An important difference between this village and the earlier one is in the absence of any yards for animals or house courts. Casual planning may be shown by the fact that the house of the Chief of Works, Oaha, is naturally the largest and best in the village, but situated among the poorer houses. There was, again,

Planned settlements: workmen's

only one main street but with a community reservoir lay out filled by water carriers from

Houses were probably first definitely held on an hereditary year life of the settlement. Most were built to a standard design built without foundations and The later village houses were walls with stone bases from 6 metres) high with mud brick & terraces with doors facing east lines back to back. They averaged cubits) wide, but were not too Wood was used for door posts beams, species including date carob, persim and ramar sk. measured from 10 to 17 feet (3 to 8 inches (10 to 20 cm) thick.

11. Dan's Village. Section of a house (left) and a house (right). (Drawing by Helena Gooden.)



only, the doors being bright red. Inscriptions in red on the jambs and lintels often gave the owners' names. Jambs and columns were of stone in some of the better houses. Floors were simply of earth. Basically each house formed the standard ancient-oriental tripartite unit with a succession of three rooms of increasing privacy, as well as a passage to a kitchen and rear open area. A typical house would have the following features:

- A front reception room (figure 11) opening directly from the street and approached by several steps as it was 16 to 18 inches (40 to 45 cm) below the outside level. A door opposite the entrance led to the main inner living room and a bed-shaped shrine 5 feet 6 inches (1.7 metres) long, 2 feet 8 inches (80 cm) wide and 2 feet 6 inches (75 cm) high dominated one wall. It was approached by steps and may have served the family cult.
- A reception room up a step or two from the first chamber and at street level with one or two central columns up to 14 feet (4.3 metres) high. It invariably had a family divan 8 inches (20 cm) high and with a low wall 2 feet to 2 feet 4 inches (50 to 70 cm) high at each end. Against another wall were a small altar and offering table and slotted niches for the household deities in the form of busts (compare the Laras and Penates of the Romans).
- A small cellar often placed under the second reception room, approached by a flight of steps and covered by a wooden trapdoor.
- A small room (or two rooms) opening off the main room and serving as a bedroom cubicle or private workshop for the household women. A passage with a bench led to the rear.
- A kitchen and service area with a large domed bread oven, kneading trough and water storage facility, with perhaps another family shrine niche.
- A staircase to the flat roof, where the family could sit or store things.
- A rear cellar for food storage or a rectangular grain silo.

Windows were, as normally, set high up in the walls with stone or wooden grilles.

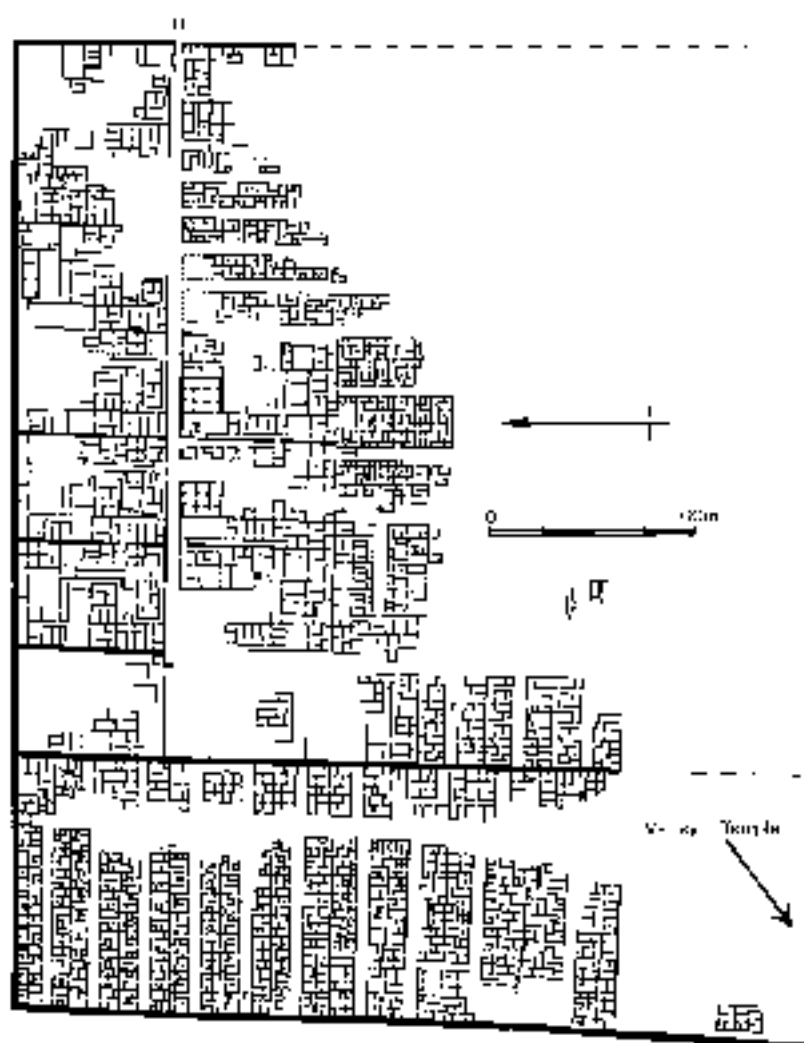
Lesser royal and frontier

Kahun has often been called a more improbably, a workman's hasty excavation by W. M. F. Petrie in 1897-1898. It is a pyramid city and probably the (1897-1878 BC), situated near the Nile waters to the east of the *Ha-Semurat-hotep* or 'The House of the Ancestress' around the massive valley rock high rocky ground and was approached by large stone blocks. Archaeological evidence shows inhabited only during the Second Dynasty, a small population living among the pyramids.

The plan (figure 12) is divided into three parts. That to the west, with its wall 100 metres (300 cubits?) east to west and 100 metres (300 cubits?) east to west by approach south, although only 800 feet (240 metres) long.

The total area would thus have been 100 acres (9.5 ha), and with the included nearly 35 acres (about 14 ha) in all. If there were the temple and its approach the size. This may be compared to the temple of Nuserre at Abu Gurob, which measured 984 feet (300 metres) long and 100 feet (30 metres) wide. The city walls appear to have measured 100 feet (30 metres) at the base and would (as they were) 6 feet (6 metres) high. They were flanked by towers of strongly different sizes of houses.

In the western quarter the plan with evenly spaced houses



12. Kitchen plan of the Giza Dynasty residence rows. (Drawing by Helena Jansche.)

Egyptian architects had evolved thousand years before Hippodamus averaging about 150 feet (46 m) west wall and run toward long side the north wall and cross the east wall a single night-watchman could patrol streets 15 feet (4.6 m) from a main north-south road 20 feet wide in an age when a donkey was the main beast of burden.

Drainage was not neglected: a stone channel running down the side of the street for dirty water from cleaning buckets formed the paving, which was made of mud bricks.

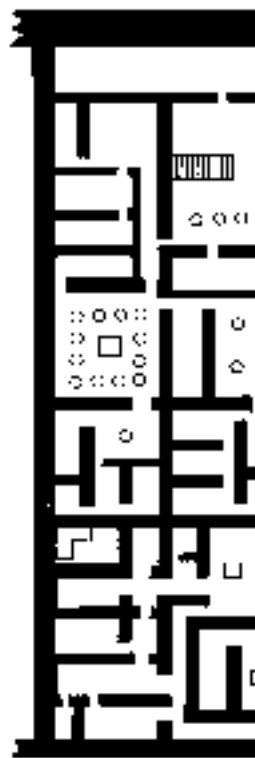
All the house units here followed a standard plan, being grouped together in sets of three along the street. The architect used rooms of 13 by 7 feet (4 by 2 cubits) and 2 cubits. The smallest dwelling had two rear rooms opening from a larger room with a staircase (13 by 7 feet). Smaller rooms were tiny, or larger 13 by 7 feet (4 by 2 cubits) had larger and more numerous rooms with varied designs sometimes with an entrance. With a passage to the street, it may thus have been for officials. The largest was for overseers: it had a passage to the street and a larger room opening from it and a staircase to further rooms. These courts were shaded. Some rooms were roofed with reed thatching or with a variable timber beam roof with reed thatching common. Doorways were arched (1.05 metres; 2 cubits) wide. No stairs were used, but the considerable number of floors of a room or two in some cases went up in two flights and averaged 71 cm. House plans were so regular that they could be superimposed on a single row, superimposed on a grid of two (2.5 to 5 etc.) a north-south road. These houses contained more rooms and passages.

Outside walls were, as usual,

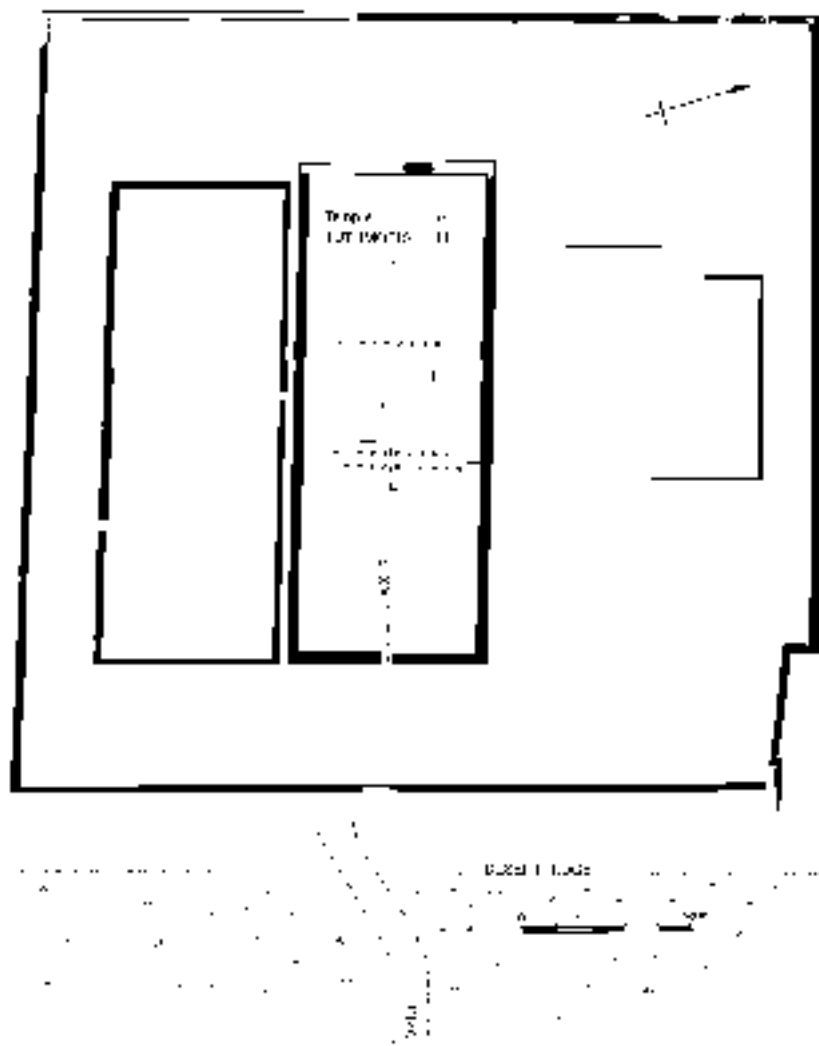
had paintings as well as *daēos*, in red, yellow and white, showing household scenes such as jars on stands or the occupants. Columns were octagonal with slightly tapering bases 20 to 24 inches (50-60 cm) across the bottom, their centres placed at 3 or 4 cubit (about 6-8 foot; 2 metre) distances. The shafts were about 10 inches (25 cm) in diameter. In many chambers conical-topped granaries were found, measuring 5 feet 3 inches to 6 feet (1.75 metres) in diameter. Doors had wooden frames, bolts and thresholds, with stone sockets for the pivots.

The buildings of the eastern quarter were divided into eight basically different types by Petrie. For most purposes these may be reduced to six types classified as: the so-called acropolis and adjacent guard building to its south, together with six other similar mansions along the north wall and three more to the south of a great east-west road in the north sector; the houses built against the inner wall dividing this quarter from the western; the storerooms behind the great southern mansions; the workmen's street behind the great southern houses; five similar streets of workmen's houses on the east of the city; some further undesignated byroads at the extreme east side of the city.

The house on the raised rock platform at the north-west of this quarter, which Petrie called 'the Palace', is no larger than those alongside it and is so placed simply to allow for the natural topography of the site, which also causes a slight jog in the town wall at this point. Each of these ten great houses exceeds any of those at Amarna in scale and complexity, not excluding the vizier's, and one might hazard a guess that they were intended for royal princes rather than nobility. They measured 138 feet wide (42 metres; 80 cubits) by 198 feet long (60 metres), thus covering over half an acre (0.2 ha), and contain around seventy large courts, rooms and passages on the ground floor alone. Even assuming that they were entirely single-storied, the number of inhabitants in each must have been very great, one alone covering an area equal to fifty of the smallest workmen's houses or fifteen of the medium-sized dwellings. The only entrance was from a single door surmounted by a stone lintel representing a rolled-up mat covering. Passages led to three different quarters basically representing the offices and business parts, the servants' quarters, and the private family rooms. Most spectacular of the apartments were: the *mandara* or court 113 by 37 feet (19 by 11 metres) with nine columns along the south side; a west atrium type court 32 feet (10 metres) square with a central sunk stone water tank ringed by twelve palm columns; the main living hall of about 25



13. Kahun... Comparative plans of houses by G. L. G. Jaroschick.



14. Gurob, House of the Theban nomadic residence (excavated by Maximal Jaschinski).

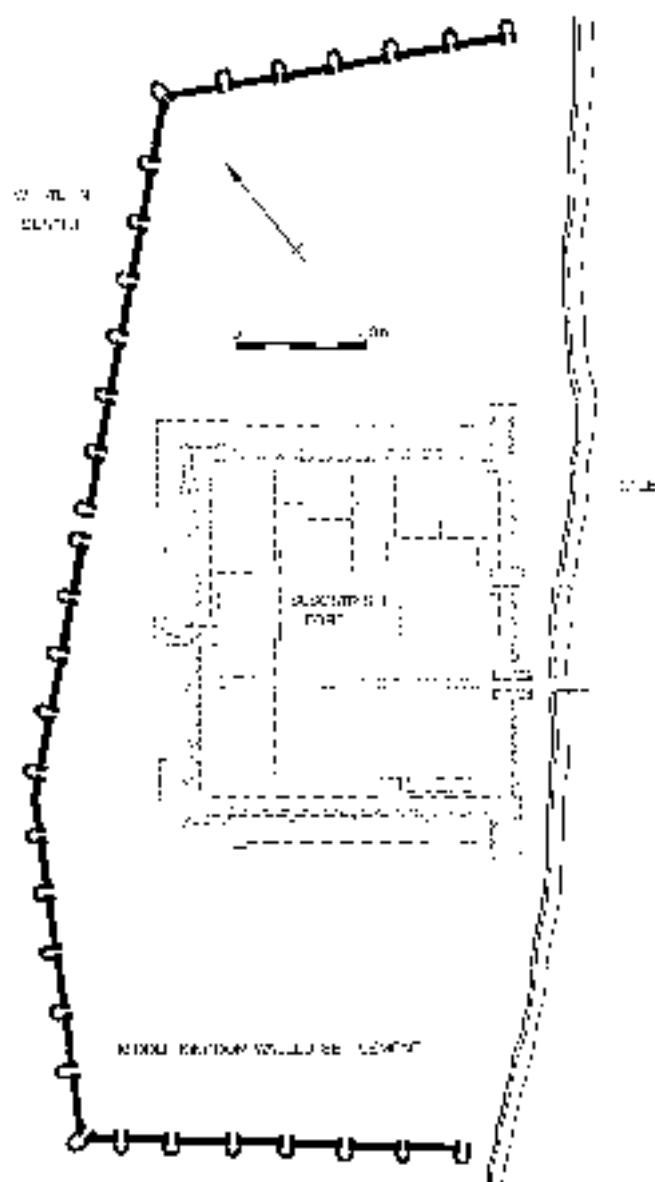
feet (8 metres) square with an open-air courtyard; and the master's house, presumably a wind chute for a windmill.

Such was the city of Kahun, which had 145 rooms, claiming he had cleared the city, whose total rooms he put at only half to two thirds and his houses, ten or twenty larger and raised by more than he allowed.

Allotting an average of five smaller houses and a maximum of one hundred for the mansion, the following figures are obtained: in all for the area Petrie cleared for the whole urban area if it corresponds well with an estimate in *Egyptian Architecture*, volume 1, which this estimate was based on. A density allocation for a given minimum, given the ratio of postulated house area of 32 ac to total city area would indicate a maximum on the present site, more than offset a somewhat smaller area.

Gurob is a very different site (1889-90). A later season in 1921-22, which lies just south of the other end, from Kahun, of a different name is as yet unknown but (150-1450 BC) and lasted until 1202 BC), when it became unoccupied as late as Ramses III of Aegean pottery here in the temple, only foreign trade but that the damage done to the temple by another Queen Tye seems to have been if she did not actually live there.

The main urban area (figure measuring about 776 feet (237 metres) deep, a little over 1000 feet (305 metres) wide, measurements taken across the walls, they are of variable thickness



15. Buhen. Plan of the outer wall enclosure of the Middle Kingdom fortress. (Drawing by Helmut Fischer.)

their very ruinous state. Inside the lesser one, the central one with the temple 100 cubits broad (171 feet) is not so clear but was possibly a 10 feet (3 metres) or more thick. To the right of the temple may have been a sacred lake, but another small lake in the rest of the enclosure, if not present, may have been occupied by houses, but we cannot speculate on their form or their number.

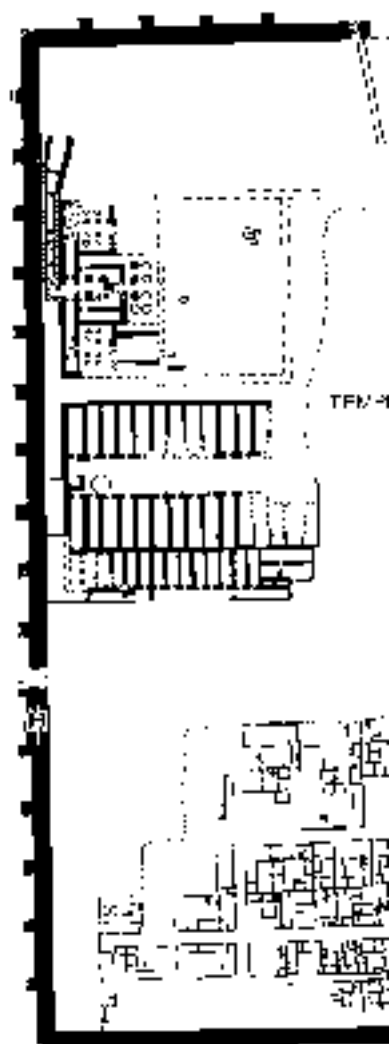
Evidence of metalworking and other crafts indicate the functions of some of the buildings. These could have been built as a model and the layout copied throughout the country in the Middle and New Kingdoms.

Buhen's first Middle Kingdom fortress was preceded by the building of the inner enclosure in the joint rule of Amenemhat I and Senusert I (1971-1928 BC). It was discovered by Emery, who discovered it, before the fortress was built, a Vercouter for the extra-mural enclosure of Mirgissa. Equally, at both Buhen and Mirgissa there must have been trading posts. Buhen needed defence as well as the town, if such it was, was thus a fortress although it was planned, had a wall 100 metres long enclosing an area 100 metres to south by 400 feet (150 metres) wide. The walls. The layout thus covered the inner fort after that was built (100 metres). The tower wall was 100 metres thick, and strengthened by projecting 21 feet (6.5 metres) thick. As later at Mirgissa, on the west side, the positions of the towers. Indeed the wall itself is missing in places. It is calculated that to defend this wall 276 men would be required, not counting the towers. This does not allow for the river and the marshes into consideration, and there were

inhabitants, a population of from 1500-2000 seems to be a minimum estimate: based on acreage estimates, even allowing for the inner fort, the higher figure seems likely. Several Middle Kingdom houses and administrative buildings existed alongside the north-west of the inner fort, but these probably date from the time of the second outer enclosure wall system built during the time of Sesostrius III (1878-1841 BC) when the whole area was virtually turned into a fortress. It is not possible to be certain of the functions of the outer enclosure because it is too denuded, but serpentine walls dating probably to the first enclosure period may be compared to similar ones at Mirgissa, where Vercoerter found central rectangular blocks of brick buildings were surrounded by these walls against which stone huts were built for individual soldiers' families. A strong internal east-west wall may therefore have divided off such a camp area from the bigger houses and administrative blocks. At Mirgissa the lower town had a great enclosure area whose brick wall ran for over 1650 feet (500 metres) north of the hilltop fortress. The outer settlement here may well have been a trading post also.

Sesebi (figure 16) was a new town built by Akhenaten at the beginning of his reign between the Second and Third Cataracts. Its walls form a rectangle 885 feet by 655 feet (270 by 200 metres), 13 acres (5.4 ha). They were 15 feet (4.6 metres) thick and still stood 13 to 16 feet (4 to 5 metres) high at the time A. M. Blackman excavated the site in 1936-7. They were also strengthened at regular intervals by massive buttresses 10 feet (3.05 metres; 6 cubits) wide and projecting 8 feet 6 inches (2.65 metres). Four gates, one in each wall, gave access to the interior. They were paved with stone, doubtless to allow wheeled vehicles through, and had a drainage channel beneath the paving. The north-west quarter was entirely taken up by a large tripartite temple with a spacious forecourt 158 feet by 103 feet (48.2 by 31.5 metres), originally dedicated to the Cheban Triad by the king when he still called himself Amenophis IV. The rest of the northern quarter was too denuded to form any idea of its original use, but this could have also been reserved for official buildings rather than housing.

It is the slightly smaller southern quarter which contained the dwellings of the inhabitants. These were disposed in an ordered street system and were constructed with rather thin walls. As they had been continually altered throughout the town's existence their planning was confusing but there was once again a regular street grid for the tightly packed homes, which had no grounds



16. Sesebi. Plan of the Eighteenth Dynasty

owing to lack of space and were often built back to back. The excavators deduced upper floors from stairs and fallen column bases of first-floor rooms. Many cellars were provided, while the whole area was separated by a wide street from the town wall as customary in military installations. A rough count suggests up to 24 houses could have been built in a 64-foot (50 metres) square (about 7.7 acres), or, less certainly, sixteen larger ones, with four to eight to twelve such squares available according to whether the north quarter alone, or the eastern half of the central zone also, was used for official buildings. This gives totals of 192 or 128 and 288 or 192 houses. Allowing five people to a smaller, or eight people to a larger, house, the total inhabitants would have been 960 or 1024, 1140 or 1536. The population may thus have been in the order of 1000 to 1500, which, on a ratio of about 180 to the acre (0.4 ha), is well within the 250 limit.

The *First World* administrative cities were another type of settlement established by king Sesosis III to establish firmer and more direct government control over Egypt. There were several of these, the most famous being the northern one, later enlarged to form the capital of the Hyksos invaders in the seventeenth century BC and known to history as Avaris, while another possibly existed under Amenemhat III at Hawara. The name means 'House of the Messengers', derived from the fact that they served as bases for royal runners. Avaris is almost certainly represented by the Middle Kingdom site of Khata'na, centred on the great 60-acre (24 ha) mound of Tell el-Da'ra, and at its peak covered 500 acres (202 ha), double the site of Qatna in Syria, the largest Hyksos period Asiatic town defended by a mighty earth rampart. If a sense Khata'na represents the growth of many urban settlements from at least as early as the First Intermediate Period until the beginning of the New Kingdom, but the Sesosis town, like the monuments of his predecessor Amenemhat I here, must have been a formidable planned foundation, with a triangular harbour covering about 100 acres (40 ha) set beside it in a low depression.

Towns for fun

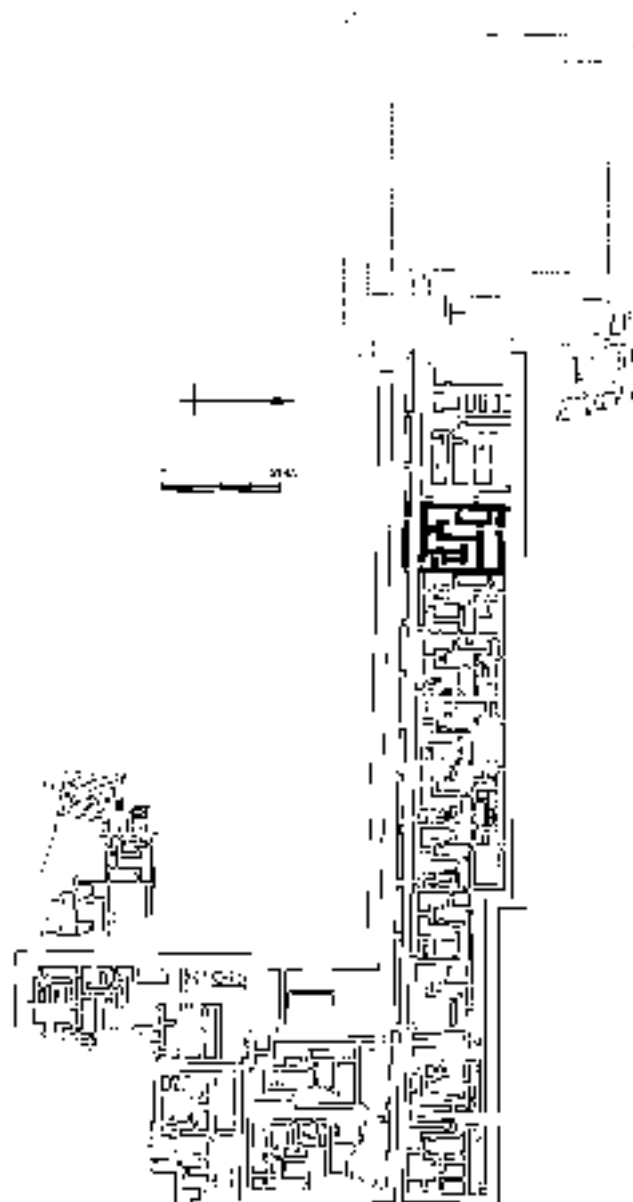
The Pharaohs even established needs for the hereafter, settling enormous extensions of the mud whereby the priests of their *Ka* in their mortuary temples. One excavated, that of the Fourth, the whole complex being cleared.

It was first built at the end of the First Intermediate Period, and apparently flourished until the end of the Sixth Dynasty, and soon covered with sand. The site was certainly never re-occupied. It is of Kabon. Only fifteen houses were covered, was relatively small.

The main walled area was roughly rectangular, the length of the northern area, measured to the eastern boundary wall, the average width far less than the length, only about 138 feet (42 metres). Part of the plan is now buried by modern cemetery. The rectangular shape for this section would be only around 1½ acres, and may belong to the adjacent to the north (BC), attached to his valley to the east.

The thick enclosure wall was about 6 inches (2.5 metres; 5 cubits; 15 metres) high originally, and one storeyed houses for main part. The entire layout was designed by a regular intersecting by their own granaries and residences.

It is not possible to say what the original storeys as the walls are too low for arrangements, but the absence of a floor. The mud-brick walls were about 1¼ metres (3-4 cm) thick. The mortar consisted of the following elements: coarse sand (hydrated calcium sulphate), lime (hydrated calcium sulphate), coarse sand and small stones.



17. Giza. Plan of the inner row of Qurna Khemwas. The dashed outline denotes the position of the house shown in figure 19. (Drawing by Hecate Jankovic.)

Towns for funerary priests

aluminum with iron axides, and the salts which make this climate, including rain, for

The houses may be divided into two groups: mansions in the so-called valley temple; larger houses in the queen's tomb; smaller houses in the causeway. A subway under the causeway

Starting from the north-west to the south (number 1), open to the sky, was a guard chamber or for temple entrance. A row of houses, the largest house being 49 feet north-south (17 by 17 feet) like all the other houses in this row, was reached from the south street on the east side of the wall. There were also gates in the wall giving access to the west side. The eastern arm also serving the eastern arm of the tomb has a gate opening at the east side of the tomb area which could be used when the two quarters of the

The next six houses were 11 by 15 feet (11 by 15 metres), and had 19 rooms: a porter's lodge (23), two communicating bedrooms, a kitchen giving access to a kitchen (24), domestic offices (30). The kitchen features, the kitchen being placed so that the prevailing north wind would carry the smells. Many ovens found by the excavators contain the ashes of the last 100 years. The reception room space occupied by grain bins.

The four smallest houses were 14 by 34 feet (14 by 10.5 metres). A door socket was found here, a modern feature in the houses of the southern houses of the east side of the wall or across the causeway approached by twelve rock-cut steps from the south, being roofed with a east-west street from the valley temple courtyard which had grain bins

Towns for funerary priests

last place among these with
it, but also priests and officials
walls of the temple enclosure
features in common with such
Tumilat, where Ramesses had
massive wall for the town, its
foundations were like.

The inner walled enclosure
and contained the temple,
administrative offices of the
and covered about 6 acres (2.4
16¼ acres (6.5 ha) in all, was

18. Giza. View of the Fourth Dynasty houses in the town of Saqqara, looking west (Photograph by Eric P. Uphill).

to the north was a massive water tank or reservoir 95 feet by 27 feet (29 by 8 metres). The mansion in the south-west corner of the town may have belonged to the official in charge of the granaries and storerooms; a large recess found in the east wall of room number 182 is deep enough for a seat and contained a dais. Another mansion with twelve rooms (numbers 152-63) measured 73 by 49 feet (22.5 by 15 metres) and contained remains of mural decoration.

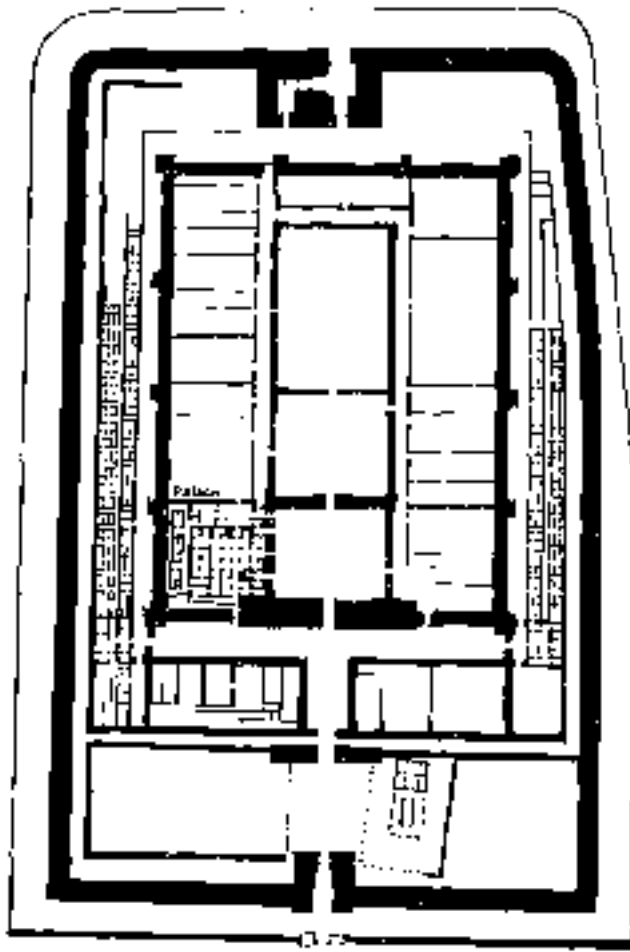
If twelve people are allowed for the west house, ten each for the row of six, eight for the smaller houses at the end of the north quarter and up to twenty for each of the five mansions in the east sector, a total of two hundred people is reached for the town, considerably below the maximum density suggested of 250 to the acre.

Papyrus Harris (which details the king's gifts to the Egyptian temples) shows that Ramesses III gave 160 towns in Egypt and nine more in Syria and Kush to his great religious endowment. Besides being dedicated to the principal gods of Egypt, these also served the royal funerary cult on a scale as yet unequalled in history. Most of the 113,433 workers and their families probably lived in them and many, if not all, of these settlements may have been built or rebuilt by the king.

Medinet Habu, the King's Theban funerary temple, occupied

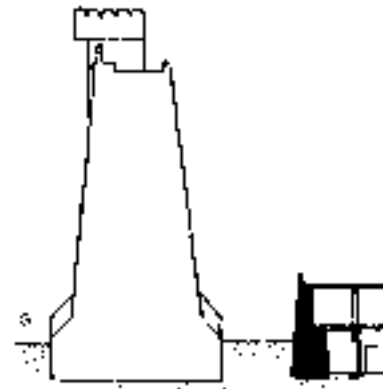
19. Giza. Isometric reconstruction of a town (Scale 1).





20. Medical Hebou Plaza showing the housing zone in the literary complex. (Barringer III.) (Drawing by Helmut Giesecke.)

Living for funerary process



21. Medical Hebou. Plan and section finished.

50 feet (about 16 metres) high, 10 feet thick at the base, with an outer wall. Two more 'aerial' palaces or shrines of the great east and west.

The town lay between the inner wall that ran inside a colonnade (a way for the people) and the foot of the main outer wall. This self-contained urban entity lay nowhere measured more than 100 feet, including the street and the

architect had to make the houses long and narrow to fit in the maximum number. Their entrances were set in the longer sides facing inwards towards the inner enclosure, one row served by blind alleys that communicated only at the ends with entry areas and exits, and which measured 5 feet (1.5 metres) wide compared with the 20 feet (6 metres) of the roads. Each housing block was thus completely cut off from the other and self-contained. The considerable differences in design also suggest alternative functions or that two different classes of people lived in the two zones. The approach route from the fortified area to the outer houses possibly indicates their use by guards or temple patrols, assuming they were not simply stores, while those within, looking towards the temple, would seem to be connected with priests and temple officials. One resident here a little later, in the reign of Ramesses XI (1098-1070 BC), was the scribe Butehamun from Deir el-Medina village, who moved in here for safety and lived in a house with a four-columned and a two-columned room. The houses themselves were substantial (figure 21). Those in the inner zone measured about 53 by 21 feet (16 by 6.5 metres) and had a central entrance hall or court with a mast at the back supported by two octagonal columns. Six more side rooms and a staircase leading to either a first floor or a flat roof completed the design. The outer zone houses, measuring 35 by 21 feet (10.7 by 6.5 metres), were very different and consisted of an entrance hall leading to a rear room with up to nine cell-like side rooms, all of which could have been brick vaulted. These again may have had a first floor.

Imperi

Capitals

One fundamental question for Egyptologists is whether the Egyptians consider to be the two factors should be understood that Egypt needed two capitals. Upper and Lower Egypt vary from age to age. In ancient times would be where the king was, does not necessarily equate with the word. As regards the question resolved by reference to two their names. 'Ruler of Heliopolis' must indicate where the seats of the third candidate for a capital, must be Memphis. The Baldwin cities used before or after the capitals serving short term.

Classification is also difficult. Some were natural growths over many intensive royal planning and no capital more than anywhere else in the second category of urban

Heliopolis, Egyptian Heliopolis, New Kingdom Egypt. Its main square (sq km) in the early twentieth century extended 26 miles (41 km) from a port on the Nile at what is now a growth on a trade route out of the and, in addition to having been famous for its astronomical site, the temple site go back to the Third Millennium there was a major community. The few visible remains are at the creator god, but much of it has been carried off for building Alexandria. Nevertheless some of the fact that the Late Period (664-332 BC) extend 3400 feet east to west (measures by 900 metres), and the

sample content of Egyptian Towns and Cities (Shire Egyptology)

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