Resource management and ideological manifestation.
The towns and cities of ancient Egypt

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> You make millions of forms from your own being,
> Cities, towns, villages and the abundance of the river
> Every eye sees you on them, for you are the sundisk of the day.
> *The Great Hymn to Aton* (Davies 1908, Pl. 27, line 11)

Introduction

Egyptology has traditionally concentrated its efforts on temples, tombs and texts and tended to see the ancient landscape as one dominated by monumental architecture, its inhabitants being relegated to a scattering of unpretentious rural villages (Kemp 1977b, pp. 185f.; Bietak 1986b, p. 29). Today's scholars, however, present a vision of Egypt as a complex society incorporating a great diversity of communities, combining both rural and urban elements. An increasing focus on settlement archaeology has fuelled an interest in the social structure as well as the material remains of ancient Egyptian communities. The formulation of questions regarding ancient Egyptian culture to which this new documentation may be applied has generated an ongoing series of publications, buttressing this interest. These publications inevitably contain reminders of the necessity for the development of a strategy aimed towards the inventory and preservation of the documentation of settlement sites (Smith, H.S., 1985; O'Connor 1993b). Means of accomplishing these goals are at hand with the programs of many recent expeditions. The study of the development of the attributes and variations in settlement pattern has become a central aim in modern Egyptology.

Rural and urban

The terms rural and urban, as descriptive of agricultural contra non-agricultural settlement types, are often treated as representing well defined conceptual models. When applied to the communities of more complex cultures, however, it becomes evident that this terminology has a somewhat limited value as a tool of categorisation. Those qualities which classify a settlement as rural or urban do not exist in neat and easily identifiable clusters, but are often combined in communities where the agricultural and the urban life style meet. The phenomenon of urbanism, rather than being regarded as a specific settlement type, might instead, as O'Connor (1993b, p.

570) noted, be described as a collection of attributes which are found distributed with varying frequencies in different types of communities.

Defining the attributes of urbanism has, however, not been a simple matter. Diversity of tasks, unrelated to agriculture, found in a single community, but often related to interaction with others, appears to be one of the primary criteria for urbanism particularly when combined with a compact social environment, where a large number of households share a common infrastructure with administrative and industrial units. A social hierarchy, as a reflection of social complexity, is often visible as a differentiation in the size and quality of dwellings. A number of scholars have provided more holistic definitions of urbanism, combining these elements with others such as population size and administrative status (Grove 1972; Trigger 1972; Wheatley 1972; Bietak 1979, p. 103; Trigger 1985, p. 343; Hoffman, Hamroush, & Allen 1986, p. 175; Hassan 1993, p. 557).

The defining characteristics of urbanism are found to varying degrees in different types of ancient Egyptian communities and are seldom, if ever, totally isolated from a significant agricultural population (Hassan 1993, p. 557). The rural environment remained a significant element within the urban complex, farming villages being included, not only as districts in the geography of the city and larger towns, but also as adjunct economic units to urban settlements and thus extensions of the towns. In addition, certain parallels with modern Egypt may be expected, where a town can be populated to a large extent by agricultural workers, exchanging the convenience of living near the fields for the advantages of service and security offered by the compact environment of the town.

An added factor, encouraging the coexistence of urban and rural characteristics, is the economic structure of ancient Egypt which required the development of a bureaucracy which could reach into the corners of the most minuscule community, bringing with it systems of census, land registration, courts and cults (Kemp 1989b, pp. 111ff.). Diversity of specialisation in crafts and service such as is represented by the barber, potter, baker, weaver, carpenter, fisherman, tanner, cobbler, bird catcher and arrow maker, as well as the ubiquitous priests, scribes and local officials, (cf. *The Satire of the Trades* translated in Lichtheim 1973, pp. 184ff.) can hardly have been confined to regional and national centres. The occurrence of rural elements in an urban environment and the necessity of seeing diversity of tasks as an integral element in even the most rural of villages creates difficulties in making demarcations between urban and non-urban communities.

The recognition of the intertwining of rural and urban characteristics has led one scholar to argue that an analysis of ancient societies that emphasises urban development distorts the 'reality' of the past. In a recent collection of studies of Greek and Roman settlement systems Wallace-Hadrill (1992, p. ix) characterises a current trend in this field as the 'undoing of the separation of

town and country and the re-uniting of the town with its non-urban environment'. In the same collection, a presentation of a simulation model for ancient Greek settlement sites concludes with a commentary on the necessity to abandon the attempt to identify distinctively 'urban' phenomena, given that the problem of definition provides such an extensive range of urban attributes that only the most traditional societies are excluded from classification as urban. These authors suggest seeing the city and town 'not as an urban form but as a locus of social interaction, a place where allocative and authoritative resources are concentrated and focused' (Rihill & Wilson 1992, p. 89).

Irrespective of the value which one attaches to the urban model as a classificatory concept, it is clear that those attributes which are associated with this term take on different qualities according to cultural context and that the urban model requires a culturally specific examination and definition.

Ancient Egyptian settlement terminology

Population size and functional complexity has often been used as a measure of urbanisation (Butzer 1976, pp. 57ff.; Bietak 1979, p. 103; Hassan 1993 and comments in Smith, M.G. 1972). Data has been generated in order to crystallise the terms city, town and village. These terms have ancient Egyptian equivalents, and, although not used with the precision necessary to study population distribution or settlement ranking based on objective criteria (Bietak 1979, pp. 98ff.; Butzer 1984, col. 928), they do give insight into the conceptual value of settlement hierarchy within the context of the ancient Egyptian mentality.

It is first with the New Kingdom (*c.* 1552–1069 BC[1]) that a vocabulary which differentiated settlements according to size or rank can be discerned. Three basic terms *niwt,* *dmi,* and *wHyt* are conventionally translated as city, town and village. The term *niwt,* with the New Kingdom translation 'city' is found in the earliest text material with the meaning 'settlement' (Kahl 1994, p. 109, pp. 648f. with references). The form of the hieroglyph ⊗ is often argued as representing 'a circular enclosure divided into four parts by two intersecting roads ...' (Fairman 1949, p. 39; Atzler 1972, pp. 17ff.). A recent reinterpretation of this sign, however, (Van Lepp 1997) associates it with designs found on predynastic ceramics representing water basins and canal systems. The etymology of the term has been related to the verb *nwi* 'to care for' or 'to provide for' or with the meaning 'gathering place' (Kuhlmann 1991 p. 219).

In the Middle Kingdom this term is applied specifically to the urban centres at Memphis and Thebes (Atzler 1972, p. 23). By the New Kingdom its association with established population

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[1] The dates cited are taken from Grimal 1992, pp. 389 ff. and should be regarded as approximate prior to 664 BC.

centres gives it the meaning 'city'. Thebes in particular comes to be known as the 'southern city' (`niwt rsyt`), perhaps in contrast to the northern Memphis.

The term which would correspond to town, or possibly large village, is `dmi`. Occurring as early as the Vth Dynasty (*c.* 2510), it is derived from the verb `dmi` meaning 'to arrive', or 'to land' (Kuhlmann 1991, p. 218). The relative hierarchy of `niwt` and `dmi` is made clear in a number of texts, such as in the lines from the *Great Hymn of Aton*, cited above. In one text (Gardiner 1947, pp. 1*ff.), dated to the XXIst Dynasty (*c.* 1069–945 BC), the '`dmiw`' of Egypt are listed from south to north, including well known Egyptian settlements, as well as places which are identified as important shrines or cult places but which were probably lacking significant populations. In this same list Thebes is called 'the City (`niwt`) of Amun, Lady of all the Towns (`dmiw`)' (Gardiner 1947, p. 24*, no. 335–6).

'Village' is the common translation of `wHyt` (Faulkner 1962, p. 66) when written with the town determinative, the `niwt` sign. If, however, written with the 'people' determinative it is translated 'family', referring specifically to the family network that extends beyond the level of the household. It is regarded as a subdivision of the clan (`mhwt`), a group which is defined by blood relationship and appears to include ties outside the geographical limitations of the village (Franke 1983, pp. 219f. for this discussion). Both `dmi` and `wHyt` could be applied to smaller settlements within larger ones, such as those which grew up around the Memphite cemeteries. The hierarchical relationship between the two terms can be illustrated by their use in a Ramesside context referring to a village (`wHyt`) belonging to the town (`dmi`) of Western Thebes (cited in Valbelle 1985a, p. 86), both being part of the city (`niwt`) of Thebes.

Although these three terms can be said to reflect a hierarchy, as perceived after *c.* 1552 BC, and are, most likely, based on size and functional complexity, other terms, dealing with lower level settlement forms, are also of interest. The term `grgt` translated "settlement", appears as early as the IIIrd Dynasty (Kahl 1994, p. 649 with references) and tends to refer to those settlements which are established for a specific purpose such as the pyramid town of Cheops, known as the Northern Settlement (Stadelmann 1984, col. 10). One analysis (Garcia 1996) has suggested that the term originates as a designation for delta land areas, located along Nile branches, colonialised early in the historical period (*c.* 3150 –2700 BC) . The use of the term extends into the New Kingdom when it is used for settlements outside of Egypt (Sethe & Helck 1906–58, p. 1556).

Two additional terms complete the Egyptian settlement vocabulary, `Hwt` and `pr`. As designations of settlements they are often translated 'domain' or 'estate'. The specific distinctions between the two terms is unknown. Documented from the Early Dynastic period (*c.* 3150–2700 BC) and onward (cf. Endesfelder 1994), the domain was an economic unit consisting of one or

more settlements, fields and workshops. These estates could constitute revenue for the palace, temple, or high official.

The New Kingdom Egyptian terminology for settlement types relates to the growth of the complexity of Egyptian settlements and highlights a variety of distinctions, such as size between 'city' and 'town' (*niwt, dmi*) and, for smaller settlements, origin (*wHyt, grgt*) as well as official status and economic allegiance (*Hwt, pr*). The differentiation of ancient Egyptian settlements types as expressions of urbanism is, however, not entirely covered by discussions of functional diversity, population or nuance of terminology. The most viable system of classification is provided by the archaeological and historical documentation.

Regional administration and the walled town

Regional population centres, identified archaeologically and in later Egyptian tradition as important in the formation of the early Egyptian state, can be dated as early as the middle of the fourth millennium BC. In the north, the Delta sites of Sais (Sa el-Hagar) and Buto (Tell el-Fara'in) are associated with Syrian-Canaanite trade which, together with that coming via Wadi Tummilat, provided the Nile valley with Mesopotamian goods (von der Way 1993, pp. 67ff.).

To the south, three major sites are associated with predynastic chiefdoms: Naqada, Hierakonpolis and Thinis. Three regions, it is hypothesised, were controlled from these centres (Kemp 1989b, pp. 31ff.), with hegemony over Upper Egypt passing from Naqada to Hierakonpolis and finally to be found at Thinis no later than the Protodynastic period (*c.* 3250 BC, possibly earlier), termed Dynasty 0. The Thinite Umm el-Qaab cemetery at Abydos has recently been found to contain the tombs of the last generations of the 'proto-kings' (Dreyer 1990; Dreyer 1993; Spencer 1993, pp. 73ff. for a brief review), confirming the connection between Thinite rule and the unification of Egypt found in the Pharaonic historical tradition.

Additional regional centres were established to the south of Hierakonpolis at Edfu and, more importantly Elephantine (Seidlmayer 1996), which marked the southerly boundary of Egyptian control and appears to have served as an entrepôt for the trade with Lower Nubia, occupied at that time by the A-Group peoples, serving as middleman for the import of the exotic goods of Upper Nubia and beyond (O'Connor 1993a, pp. 12ff.).

The expansion of Upper Egyptian influence to the north, first in terms of material culture and only much later as political control, included the establishment of Delta colonies, or 'trading posts', such as the newly excavated Minshat Abu Omar (Kroeper & Wildung 1985, pp. 98f.), which could participate in the attractive Syrian-Canaanite/Mesopotamian trade.

The final conquest of the north, probably culminating with control of the sea port near Buto, and leading to political union of the land, (von der Way 1993, pp. 92ff.), entailed a

formalisation of the status of the regional centres which functioned as control points in the Nile valley and the Delta. At the midpoint between the two regions of Upper and Lower Egypt, the royal residence and administrative capital at Memphis was founded, most likely at a time coinciding approximately with the political union of the country.

By no later than the IIIrd Dynasty (*c.* 2700 BC) an administrative structure had been developed which was based on a hierarchy of control extending from the king and his court to the regional centres (Helck 1974). Egypt was divided into 42 regions, known in the literature as nomes, a term of Greek derivation. Carefully surveyed according to 'river lengths', the nomes and their officials were responsible for the control of resources, both material and manpower. The administrative status of the nomes, with their capitals functioning as important ritual and economic focal points, survived, with only minor alterations brought about by population redistribution, until Roman times (table found in O'Connor 1972, pp. 684ff.).

The shrine or temple is one of two prominent and characteristic archaeological features of the early Egyptian town. The other is the enclosure wall. Whether designed for protection from external threat or for internal control, it is the town wall which most clearly marks the transition between the scattered agricultural villages of the Late Predynastic period, often located within the zone of the desert rim, and the compact town of the Early Dynastic period, found at the edge of the cultivation (Kemp 1977b). The town wall not only gathered together a population to serve the interests of a controlling elite, it also set limitations to population size, creating a division in the population between those inside, and those outside, the wall. These limitations, it may be hypothesised, could have affected a gradual shift of loyalties from the kinship unit which dominated the social structure found in the villages (cf. above for the discussion of the `wHyt`), to the provincial and national elite, whose prestige is affirmed by their association with the local god, to whom every man of distinction expressed a deep allegiance (discussion in Smith, M. G. 1972, p. 571).

The walled town, depicted ideogrammatically in the earliest textual material, is confirmed archaeologically at a number of sites of Early Dynastic or Old Kingdom date, such as Abydos, El Kab, Edfu and Kom Ombo (Kemp 1977b; 1985a). Two important sites with remains of town enclosures can be dated prior to the unification of Egypt: the early regional centres Naqada and Hierakonpolis.

Naqada

Naqada is located *c.* 26 km north of Thebes on the west bank of the Nile, across from Coptos, also an important Early Dynastic site. The original predynastic settlement is to be found on the edge of the desert along a long strip of terraced land (Barocas 1986). The town was identified by

mudbrick buildings found within a 2 m thick wall (Petrie & Quibell 1896; cf. Kaiser 1961; Kemp 1977b, p. 197f.; Kemp 1989b, p. 35ff.). The predynastic cemetery, found to the south of the settlement, is the largest to have survived from this period and contains a number of high status tombs in an area known as Cemetery T.

The Pharaonic town is known for the temple of the god Seth, who, according to tradition, was defeated in the contest for the kingship. It did not, however, have the status of a regional centre during Pharaonic times. Coptos, on the East Bank, became the centre of the region no later than the early Old Kingdom, with a monumental statue depicting the local god from that site dating possible as early as 3200 BC (Dreyer 1995).

Hierakonpolis

The predynastic settlement of Hierakonpolis dates back to *c.* 4000 BC and was located, like that of Naqada, on the edge of the desert, within the fan of Wadi Abu Suffian (Hoffman 1983). The floodplain is exceptionally wide for this region, *c.* 2 km, the abnormally high Niles of the period allowing cultivation far up into the wadi. This group of small settlements gradually grew into an important centre for the manufacture of many of the status items of the Upper Egyptian predynastic culture, such as stone vessels, maceheads, linen, basketry, beer, and the distinctive black-top ware (Adams 1977; Hoffman, Hamroush & Allen 1986, pp. 181f.; Geller 1989). The recognition of a ritual centre, with a large oval mud-plastered floor, wall of wooden posts, and evidence of the production of beads and stone vases, makes this site unique for the period (Friedman 1995a).

The settlements of the desert rim moved to the sand island found on the edge of the alluvial sometime around 3500/3400 BC (Kemp 1977b, p. 198; Hoffman, Hamroush & Allen 1986, pp. 183ff.). A compact walled town was established on the site as early as *c.* 3300–3200 BC, coinciding with the period associated with the proto-kings of Dynasty 0 (Hoffman, Hamroush & Allen 1986, p. 184; O'Connor 1992, pp. 84ff.). The most distinctive feature of the town site is a sand mound supported at the base by rough sandstone blocks. This mound is generally interpreted as the foundation of an early temple (discussions Kemp 1989b, pp. 74ff.; O'Connor 1992, pp. 84ff.). The mound was enclosed by its own wall, indicating a *temenos* area. Successive rectangular buildings, functioning as later temples, were built over the mound.

The temple enclosure was found in the southeast corner of the town, which was irregularly rectangular in shape, *c.* 200 x 300 m, with walls of an accumulated thickness of 9.5 m, deriving from periodic additions (Fairservis 1971–1972, p. 15). Walls from what has been interpreted as an Early Dynastic palace, with the characteristic palace façade, were recovered from under the Old Kingdom settlement (Weeks 1971–72). The so-called fort, located outside the town on the desert edge is dated to the end of the Early Dynastic period (*c.* 2700 BC).

The Old Kingdom settlement of Hierakonpolis has only been partially excavated, but enough was cleared to reveal houses, with characteristic interlocking walls, lined up along narrow, irregular streets (**Fig. 1**). The largest houses had courtyards with ovens and storage buildings. Sections of the town exhibit elements of planning, while the irregularity of the innermost parts indicates that the layout of the town was not planned in its entirety (Bietak 1979, p. 106; Kemp 1989b, p. 140f.). Besides the existence of a religious district, there is also evidence of workshop areas for the production of stone vases and for copper working (Quibell & Green 1902, Pl. 68; Hoffman 1971–72, pp. 38f.).

There is no evidence for the continued habitation of the town after the Old Kingdom. The town appears to have been abandoned, with the exception of the temple, which continued to function with the status of an important regional cult through the New Kingdom. The town site was deliberately levelled during the Ptolemaic period and reclaimed for agricultural use (Hoffman, Hamroush & Allen 1986, p. 186).

Certain parallels have been drawn between the development of Naqada and Hierakonpolis. Both began as desert rim settlements gradually moving together in a conglomerate of settlements spread over a large area at the edge of the floodplain. The next phase was that of a compact enclosed town, possibly with associated outlying villages. The move from the desert to the edge of the floodplain, which has been described as characteristic for this period, (Mortensen 1991), has been related to a number of different factors. A decline in the level of Nile flooding had made the desert rim area a less viable environment for cultivation, encouraging dependence on floodplain agriculture. This, in turn, is seen as generating more efficient water management and use of labour, requiring organisation and new social structures.

The published remains of Naqada are insufficient to draw detailed conclusions. But certain elements indicate a role as a regional centre, such as the size of the settled area, the social differentiation seen in the cemeteries, and the presence of a town wall marking off a compact dwelling area. This should be combined with a small group of mastabas, dated to Dynasty 0 or 1, which are, at times, referred to as royal burials. The status of Hierakonpolis is more clearly discerned, with an internal planning, with a functional differentiation of areas, including a religious compound, an elite residence, variation in house size and areas of manufacture of luxury goods.

Both Naqada and Hierakonpolis appear to have had the status of important regional centres during the Late Predynasti*c*. The tradition of the victory of Horus over Seth has been interpreted as indicating the dominance of Hierakonpolis over Naqada towards the end of this period. Both towns, however, became primarily cult, rather than administrative, centres during the Old Kingdom, loosing population to neighbouring towns on the opposite bank.

Abydos

A third town, Abydos, is documented as the burial place of the kings of the Ist and IInd Dynasties. Its origin appears to somewhat parallel that of Naqada and Hierakonpolis. Abydos is located *c.* 75 km north of Naqada. Sometime just prior to the unification, a group of villages merge to form a single town. The limits of the town do not appear to have been immediately defined by walls, but these are constructed sometime during the Early Dynastic period (Kemp 1977b, p. 189).

Unlike Naqada and Hierakonpolis, however, Abydos was never a political or administrative centre. This was found a few kilometres to the north at Thinis, a settlement hypothesised to have been located with direct access to waterway communication. The evidence suggests that Abydos grew up around the temple of the local jackal god Khentamentiu ("Foremost of the Westerners"), later identified with Osiris, and the associated cemetery, which contains the burials not only of the kings of the early dynasties but also a number of tombs which have been interpreted as representing several generations of protodynastic kings (Dreyer 1990; Dreyer 1993). The recent identification of the owners of these tombs indicates that the Thinite area, including Abydos as a cult centre, overtook the role of Upper Egyptian 'capital' from Hierakonpolis.

Abydos became one of the most important cult sites in all of Egypt, although never expanding to the status of a city.

The evidence points to the walled town as the typical form given the provincial centres of the Early Dynastic and Old Kingdom periods. It is characterised by a pattern of dense occupation, functional differentiation of districts, and specialised ritual and administrative sectors. Much suggests that the establishment of this kind of town was part of a national program (Bietak 1986b). This would agree with evidence indicating the creation of a number of towns, with administrative and ritual functions, during the period between the Ist and IVth Dynasties (*c.* 3150–2510 BC).

Settlement specialisation

The regional centre represented a settlement type in which the management of resources, in the form of the collection and redistribution of goods, provided the economic background for a service network in a basically non-agricultural community. In other communities priorities were given to other tasks, all of which had some form of direct or indirect socio-economic feedback into the state as their primary function. Specialised communities were established for the purpose of providing labour and/or protection for such activities as agriculture, quarrying, manufacture, import and cult activities. These communities were partly self-supporting, having access to agricultural lands and labour, as well as systems of internal administration and service, in differing proportions. They were also subsidised by the state according to a system of rations of

supplemental goods, and as such were strictly controlled with reference to population, income and expenditure.

The Domain

The enclosed town is a settlement type which can be placed with some ease in the context of the development of urbanism. The agricultural village, however, was not entirely left outside of this process. Although little is known of the form taken by the settlements of agricultural workers (but cf. Wenke, Buck, Hamroush, Kobusiewicz, Kroeper & Redding 1988), there is reason to believe that the economic unit known as the domain incorporated these settlements into an organisational form which displayed conceptual as well as, possibly, demographic features of urbanism.

A large number of Old Kingdom rural settlements were organised into domains (*Hwt* or *pr*, see above). This development began very gradually in the Ist Dynasty with Delta farms, including cattle breeding, and viticulture as well as grain production in their activities, which provided the income of the court (Endesfelder 1994 with references). The settlements of the domains of the Old Kingdom included 'new towns' (*niwwt mAAwt*) founded primarily in the Delta during a period of 'inner colonisation' of the Old Kingdom (Martin-Pardy 1976, p. 70f.). These new towns absorbed a significant influx of foreign captives and provided income for the growing aristocracy created by the development of a complex national bureaucracy.

Little is known archaeologically of the domain settlements. One example, however, may be represented by the lowest stratum of the excavation of Tell el-Dab'a, which has been identified as the 'Estate Rowaty of King Khety' (*1wt-Rawawty-3ty*). It is described as 'an orthogonal planned settlement surrounded by a thick enclosure wall'. Founded between *c.* 2160–2040 BC by one of the Herakleopolitan kings of the First Intermediate, it was still functioning in the time of Amenemhet III *c.* 200 years later. (Bietak 1986a, p. 292; 1996, pp. 6ff.). Other documentation provides information as to the size of the domains (Helck 1975a, col. 1118). The Palermo Stone and the lists of a Vth Dynasty temple describe the villages as between *c.* 5500–17,000 m² (2–6 aroura). The estates, including farming land, are listed as between *c.* 63,000–148,000 m² (23–54 aroura). One estate is said to be as large as *c.* 547,000 m² (200 aroura, Sethe 1932, p. 145:1).

There is detailed information concerning the administration and the makeup of the population of the domain taken from several sources. The domains were under officials called the 'leader of the domain' (Piacentini 1994). These men had religious functions, as priests in prominent national and local, cults, as well as administrative ones. The basic economic (taxed) units consisted of the cultivated fields and the storehouses, which were carefully documented, sealed and guarded.

The names of many of these domains have been preserved in the texts of the Old Kingdom and later. These names refer to features which were regarded as characteristic of the different domains, such as settlement type: town, settlement, fortress, domain, estate or palace. Topographical features are also included in the names: mound, 'island' (*gezira*), valley, river bank, field, hill, desert mountains, lake, acacia and sycamore trees. There are references to the products of the domain: cattle, milk, gazelle, bread, beer, grapes as well as different vegetables such as onions. Specialities of the domains might be included in the name as well in e.g. references to fishing (Jacquet-Gordon 1962, pp. 58ff.).

One text tells of the ceremonies associated with the founding of a 'new town' (Sethe 1932, pp. 295:6; pp. 293:5; Goedicke 1967, pp. 165ff.). A royal decree concerning a new town of the temple of Min at Coptos, dating to the VIIIth Dynasty (*c.* 2180 BC), speaks of the participation of the highest officials of the land, including the Vizier and the Overseer of Upper Egypt, as well as such officials as the Overseer of Towns, the Scribe of Royal Documentation and the Field Scribes for the surrounding districts, in a ceremony which marked out the division of the land. This was said to be celebrated 'like a beautiful festival of the god' (*mi Hb nfr n nTr*), with music, fine clothes and the slaughter of cattle and fowl. The division of land for the town was recorded in writing and then preserved in several copies.

Information concerning the inhabitants of the domain settlements is found in a group of unpublished papyri known as the Gebelein Papyri (Posener-Kriéger 1975; Valbelle 1985a). It consists of four rolls containing the register of two settlements which formed a small private funerary domain. The domain was founded in the late IVth Dynasty, but the papyri date to the middle of the Vth Dynasty (*c.* 2490 BC). Known as the 'Two Stones of Anubis' and the 'Trees of Iaru', these two settlements were probably neighbours in this region of Upper Egypt. The papyri contain recruitment lists for corvée labour in the construction of a temple, including both men and women, a labour list of young men, as well as rations lists for grain and cloth. Perhaps most interesting however are the 99 columns which list the inhabitants of the two settlements, described with occupation. The occupations included baker, brewer, boatsman, oar or sail maker, boat builder, mason, metalworker, herdsman, measurer of grain, sealer of the granaries, as well as two 'nomads' (*Hry-Say*). The best represented profession is, of course that of agricultural worker, called 'the royal servant'.

The provincial character of this population may be indicated by the lack of the use of either royal or divine names in the construction of personal names, rather there is a large number of names that relate to animals (tortoise, crocodile, serpent, cow) as well as having reference to physical attributes (finger, nose, teeth, complexion).

The domain, as an economic unit in which settlements were included, represents a significant portion of the documented settlements in the Old Kingdom (cf. Zibelius 1978). The

settlements, however, outlived the domain function and a number of Middle Kingdom towns are cited as having their origins in the domains of the Old Kingdom (Helck 1975a, col. 1118; Gomaà 1986; Gomaà 1987). A variation of the domain continued to function into the New Kingdom when it was primarily associated with royal and temple land holdings. During this period, however, the domain leased land to individual farmers, rather than maintaining a relationship with entire settlements (cf. e.g. Wilbour Papyrus, Gardiner 1948; Katary 1989).

The motivation for the establishment of the domains was political as well as economi*c*. The well known text, *Instructions to Merikare* (Helck 1977; Lichtheim 1973, pp. 97ff. for a translation), relating to the events of the First Intermediate Period (*c.* 2160–2040 BC), is a treatise on kingship. Using a common literary form, the king is advised by his deceased father on ways to keep his kingdom intact. Several references are made to the town in this text. Emphasis is placed on the good that is to be gained from creating new towns and supporting those which already exist. The king is admonished to increase the number of workers, and to encourage growth, which will provide recruits for the army. The establishment of these new towns has been related to the inner colonisation of the Delta.

> Build domains (`Hwwt`) in the North!
> A man's name is not diminished by that which he does
> And townspeople (`niwtyw`) being settled are not harmed.
> (Helck 1977, p. 66)

> The Asiatic is a crocodile on its riverbank
> He snatches from a isolated road
> But he cannot seize from a town (`dmi`) of many inhabitants
> (Helck 1977, p. 59)

> Numerous townspeople are the heart's support
> Beware of being surrounded by the servants of the enemy.
> (Helck 1977, p. 64)

The king is advised to take care of the men of influence in the town, and is told to find a man among the townspeople who is the leader of a 'village/clan' (`wHyt`, see above) in order to protect him and gain his allegiance (Helck 1977, p. 6). However, he is also warned about the rabble-rouser, the violent man capable of inciting riots and mayhem (Helck 1977, pp. 9ff.).

The domains, although primarily agricultural in function, had an administrative superstructure which brought them into a network of diversity of tasks and economic status. It is one example of the manner in which urban and rural environments interacted in ancient Egypt.

The pyramid town

The walled town, associated with regional centres and the agricultural villages of the domains, had an organisation related to its administrative and economic functions. Other specialised functions created other kinds of settlements. The 'pyramid town' was an administrative unit consisting of the residence of those who served the royal pyramid cult and of the agricultural land which provisioned the settlement (Stadelmann 1984; Kemp 1989b, pp. 141ff.). The inhabitants included priests, officials and craftsmen as well as agricultural workers and the necropolis security force (Sethe 1932, pp. 16f., 157f.; Helck 1957, p. 91; Stadelmann 1981a, pp. 153ff.). A connection between the pyramid town and the royal residence, which could be located nearby, has also been discerned (Stadelmann 1984, col. 11). These towns were normally found close to the valley temple of the pyramid, not far from the floodplain, with access to supply lines (Stadelmann 1981b, p. 68).

The earliest archaeological remains of these towns are found in connection with the pyramid of Meidum, associated with the IVth Dynasty king Sneferu (*c.* 2625 BC). A section of a mudbrick wall *c.* 400 m long (Petrie, Mackay & Wainwright 1910, Pl. II) suggests a town surpassing that of Middle Kingdom Kahun (see below). Two other pyramids and their towns are associated with Sneferu at Dashur. Known only from the textual documentation (Goedicke 1967, pp. 55ff.), the archaeological remains of these towns have yet to be uncovered. (Stadelmann 1981b, p. 69). The pyramids and their towns formed one administrative unit.

A number of remains of the Giza pyramid towns have been found. A large wall in the south of Giza is contemporary with the two pyramid towns of Cheops and Chephren (*c.* 2600–2550 BC) known as *grgt mHtyt*, the Northern Settlement, and *Tniw rsy*, the Southern Embankment (Stadelmann 1981b, p. 69ff.).

The remains of a habitation site for the priests of the VIth Dynasty cult of the IVth Dynasty king Mykerinos have been discovered within the walls of the valley temple of that king (Reisner 1931, pp. 49ff.; **Fig. 2**). The earliest dwellings and granaries were found in the central courtyard (*c.* 20 m x 40 m) of the mudbrick temple. These later spread beyond the courtyard filling the temple. The deterioration of the mudbrick construction led to the rebuilding of the sanctuary, which was then confined to a small shrine at the rear of the temple. The valley temple was, by the VIth Dynasty, no longer a sacred building but a settlement with a rebuilt functional enclosure wall and gate, admitting visitors to the village and the royal shrine (cf. Kemp 1989b, pp. 147ff.).

The recovered archaeological remains of the various pyramid towns represent a small portion of what must have been relatively numerous and substantial settlements. The texts indicate that the inhabitants of the pyramid towns were privileged and originally chosen from among distant relatives to the king (Helck 1975b, pp. 107ff.). It was also the preferred residence for the

highest officials such as the vizier, who could also serve as the leading official of a pyramid town. Association with the pyramid town was regarded an honour and 42 different titles are known which relate to its administration, although many of them were likely to have been honorary (Helck 1957). The town and its residents enjoyed a number of special privileges such as tax exemption as well as exemption from any form of labour outside the town. The right to residence in the town was inherited.

Like the domains, some of the pyramid towns continued to develop after their original function ceased. The importance of these towns as growing centres of population is suggested by the use of two names of pyramid towns, *9d-swt*, belonging to Teti and *Mn-nfr* belonging to Pepi I, both of the VIth Dynasty, as names for Memphis. *Mn-nfr*, the name of the pyramid town of Pepi I, may have some association with the large New Kingdom settlement found around the Ptah temple. It is this name which provides the etymology for the name Memphis (Zivie 1982, cols 27f.).

The pyramid town of the Middle Kingdom, although documented for earlier kings, is best represented archaeologically by one of the largest town sites of the period, Kahun, located at the entrance to the Faiyum. Known in Egyptian as 'Sesostris is Contented' (*1tp-4-n-Wsrt*), this town was excavated at the end of the last century, and is currently under re-examination (Petrie 1891; Petrie, Brunton & Murray 1923; David 1996, pp. 201ff.). The original excavation revealed the strict internal planning of the town and complemented the archaeological evidence with the remains of two archives. Much of the plan of the southern half of the town has remained, however, unexcavated.

Kahun was a walled town, *c.* 384 x 335 m, built next to the valley temple of Sesostris II (Kemp 1989b, pp. 151ff.; David 1996, pp. 101ff.). It was built up of a system of parallel and cross streets with three areas being distinguishable. To the west there were rows of small houses. This area was divided off from the rest of the town by a wall similar to the enclosure wall. The northernmost area consisted of a row of seven units backed against the town wall. One of these units was the 'acropolis', a raised platform which probably supported a building similar to the other six in this row. Three additional units of similar size were located on the other side of the street to the south, giving a total of 10 large residential units, measuring an average of *c.* 42 x 60 m and containing up to 70 rooms. Another housing area, with units not dissimilar to those found in the western walled section, was found in the most southerly part of the excavation. In addition there was an area which appears to have contained larger granaries. Granary areas were also been discerned in the western area. Population estimates for Kahun vary between 3000 and 10,000 (cf. e.g. Kemp 1989b, pp. 153f.).

The town was governed by a 'mayor' (*HAty-a*) and was probably the site of several government offices. An official of the vizier was located there, as well as an administrative office

of the court. The papyri mention a variety of occupations associated with the residents. Temple personnel is an important category including doorkeepers, musicians and dancers as well as priests. Other categories such as craftsmen and soldiers were also resident in the town. Agricultural workers were also found in the town which had field holdings nearby.

The fragmentary archive texts (Parkinson 1991, pp. 88ff., for selected translations) which parallel those of the Old Kingdom funerary cult of Neferirkare (Posener-Kriéger & de Cenival 1968; Posener-Kriéger 1979), include lists of census, rations and deliveries. In addition, a part of the temple correspondence relating to economic dealings has survived, as well as several documents which deal with the transport of stone in connection with construction. Kahun also preserved portions of the temple library consisting of both literary and medical texts (Griffiths 1898; David 1996, pp. 114ff.).

The pyramid town was created for the purpose of perpetuating the royal cult by ensuring a living for those responsible for it. It appears to have undergone a development from a small walled community to a large town, strictly differentiated in working and professional classes. The concerns of the community illustrated by the archives, seems to have included agricultural and construction work as well as the celebration of religious rituals. In this sense Kahun provides one of the most complete examples of the Middle Kingdom town.

The workmen's village

The strict planning evident in the layout of Kahun is characteristic of the settlements established during the Middle Kingdom. This kind of planning is also found in residential sites, termed "workmen's villages", created for labour forces.

This type of settlement can be traced to the IVth Dynasty (*c.* 2625–2510 BC), associated with the construction of the pyramids. Remains of a work camp have been found associated with the Cheops pyramid, capable of housing *c.* 5000 workers (Stadelmann 1981b, p. 67). The original excavation report of the Mykerinos site defined additional remains as an industrial settlement (Saleh 1974). It consisted of houses constructed, not of mudbrick but of the rubble left behind after the quarrying of material for the pyramids. Twelve ovens were found in a open courtyard, suggesting some form of public kitchen. Fireplaces for the preparation of e.g. meat, and ovens for baking bread were also found. Some association with the pyramid town was concluded (Saleh 1974; cf. also Stadelmann 1984; Kemp 1989b, pp. 135f.).

The textual evidence confirms that it was common for the workers to be lodged in temporary housing near their work place. A letter to the vizier dated to the VIth Dynasty records a foreman's protest against the work force having to leave the limestone quarry at Tura to collect clothing rations at Saqqara. (Wente 1990, p. 42).

The large Middle Kingdom of Abu Ghalib, located northwest of Cairo on the desert edge, has also been interpreted as a workers' settlement (Kemp 1989b, p. 161 citing Larsen 1935). Excavated in the 30s, this town covers an estimated area of 600 x 700 m, twice the size of Kahun. Although not thoroughly excavated, rectangular units following a grid pattern were revealed. Less complex than Kahun, the town plan suggests a more homogeneous population. Bread ovens and fireplaces indicate domestic architecture. The site was originally discovered owing to the thousands of microlithic tools found on the surface, leading the excavators to expect a neolithic site (T. Säve-Söderbergh, *pers. comm.*). The microliths, however, are now thought to be related to an industrial production of stone-beads.

On the northeast edge of the Faiyum a smaller settlement site is totally homogenous in its internal planning. The site of Kasr es-Sagha (Sliwa 1986; 1992), consists of a temple and two settlements of Middle Kingdom date. It is connected to a basalt quarry by a road. The western settlement, consists of a rectangular enclosed area *c.* 113 x 80 m., with thick protective walls. The interior can be reconstructed as six rows of five units, with a wide street running along the four sides of the wall, and with three cross streets running through the settlement. Each unit consists of five rooms (7.9 x 2.1 m) fronted by a courtyard (12.9 x 5.25 m) containing an oven. Each of the 30 units could have housed up to 40 men, giving a possible, but probably overdimensioned, population estimate of 1200. An analogous settlement was found to the southeast of the temple. No granaries were found, however, suggesting that the settlement must have had an external supply source near by.

Neither Abu Ghalib or Kasr es-Sagha have produced textual material. The rougher quarry camps of Wadi el Hudi (amethyst) and Hatnub (alabaster) (Kemp 1987a pp. 160ff.; Shaw & Jameson 1993) contain, however, numerous grafitti inscriptions, as well as some stelae (Anthes 1928; Sadek 1980), many dating to the Middle Kingdom, and giving an impression of very complex and specialized government sponsored expeditions.

The workmen's village at Kasr el-Sagha was intended for periodic use by a shifting population assigned to process and transport raw materials. The labour force consisted, most likely, of those taken out from their villages, according to a registration list, for corvée labour. Another kind of workmen's village was established as a permanent residence site. This is true for two of the better known village settlements, those found at El Amarna and Deir el-Medina, both dated to the New Kingdom.

The workmen's village at El Amarna
The El Amarna site known as the Workmen's Village (**Fig. 3**)with associated structures and finds has been thoroughly investigated by Kemp in the 80s (Kemp 1984; Kemp1985c; Kemp 1986; Kemp 1987a; Kemp 1987b). It is associated with the royal residential capital of Akhenaten (*c.*

1352–1338 BC) and is located in the desert outside the city at a distance of *c.* 1.2 km. The settlement is enclosed within a wall *c.* 70 m x 70 m. Seventy-three identical houses, and one of slightly larger dimensions, are arranged along five streets. There is a single gateway, 1 m wide. The population has been estimated at *c.* 300–400 (Kemp 1986, pp. 1ff.; Kemp 1987a, pp. 30ff.).

Other elements associated with the village include a guardhouse, a delivery area for the rations from the city (Kemp 1984, pp. 60ff.) and quarry sites for building materials, later used as rubbish pits (Kemp 1984, pp. 81ff.). On the hill slopes to the east of the village were found groups of animal pens (Kemp 1984, pp. 40ff.; Kemp 1986, pp. 35ff.; Kemp 1987a, pp. 47ff.) and family chapels (Kemp 1984, pp. 14ff.; Kemp 1985c, pp. 1ff, 39ff.; Kemp 1986, pp. 80ff.; Kemp 1987a, pp. 56ff.). In addition, some evidence of vegetable farming, using soil brought up from the valley, was also found (Kemp 1987a, pp. 52ff.) Considerable detail concerning the life of the village has been deduced from the finds. The village has been seen as a combination of a state and private venture. Water and grain must have been provided according a system of rations, the nearest sources being *c.* 1.5 km away. A trail of sherds from water vessels appear to mark the road between the city and the village (Site X2, Kemp 1987a, pp. 87ff.). The animal pens indicate, however, the importance of livestock, particularly pigs, in the economy of the village, possibly as an 'export' item, despite the demands which they made on the water supply. A kiln indicates the production of ceramics on the site as well.

The primary activity of, and motivation for, the village appears to have been connected with the construction and protection of the necropolis area. An additional village, as yet unexcavated, may have shared this task. The village would then represent a parallel to the XVIIIth-Dynasty Deir el-Medina, with predominantly semi or unskilled labourers. There is also some indication that the village served as the home of a police contingent functioning as guards both for the village and the necropolis.

The workmen's village appears to have been established at the same time, or perhaps slightly after the city itself. It had, however, a brief existence even after the city was abandoned.

Deir el-Medina

Deir el-Medina, located on the west bank of Thebes, in the valley between Qurnet Murai and the western cliffs of Thebes, is known as the home of the workers employed in the construction of the royal tombs of the Valley of the Kings. The excavation of this site in the 20s and 30s provided not only a clear picture of its architectural development but also an enormous amount of textual material relating to the life of the village. This material has generated publications on many different aspects of village life, not least economic and legal. (e.g. Cerný 1973; Janssen 1975;

Demarée & Janssen 1982; Valbelle 1985b; McDowell 1990; Demarée & Egberts 1992; Lesko 1994).

The village, founded under Tuthmosis I (*c.* 1506–1493 BC), was surrounded by a mudbrick wall, *c.* 6.5 m high. Inhabited by primarily unskilled workers and their families, it originally consisted of *c.* 60 houses, with expansion taking place as the royal tombs became more elaborate. At its high point the village housed *c.* 120 families and contained an area of *c.* 5600 m², the houses varying in size between 40 m² and 120 m². On occasion it is possible to identify the owners of the houses, either using textual material or by the name occurring on e.g. a door post. A certain number of houses were found outside the village among the tombs and chapels belonging to the residents, located along the adjacent slopes.

This village, like that in El Amarna, was dependent on the adjacent city for provisions. Water must be brought up from the valley *c.* 2 km away, using donkeys. The donkey, which could be hired out to the water bearers, was thus an important capital investment. This is reflected in the way that cases relating to the sale and purchase of donkeys dominant the record of court proceedings for the village (cf. McDowell 1990). Other provisions, such as grain, beer, clothing et*c.* were provided on a monthly basis. The world's first recorded strikes occur when these rations are delayed or withheld during the recession of the Ramesside period (Gutsell 1986; Frandsen 1989). On at least four separate occasions the workers of the village demonstrated by putting on a sit strike in the various temples of the west bank of Thebes. Evidence from this action indicate that the point of contact with the outside world was maintained via the officials of the temple of Medinet Habu (cf. below).

The inhabitants of Deir el-Medina during the Ramesside period were relatively affluent, and consisted of skilled workers and administrators and their families. Residence in the village was primarily hereditary. They were, however, dependant on a group of workers which lived outside the village which included water-carriers, wood-cutters, fishermen and gardeners (Cerný 1973, pp. 183ff.; Kemp 1977b, p. 131).

The village was abandoned in the final years of Ramses XI (*c.* 1098–1069 BC), the last king to be buried in royal Theban necropolis. The village had, by that time, been in existence for a little less than 500 years. The royal necropolis was then transferred to the new Delta residence of Tanis and the inhabitants of the village probably moved to the settlement growing up within the walls of the temple of Medinet Habu.

The workers' village, as illustrated with the examples above, were well organised settlements, with a primarily external economic administration. The initial layout of these settlements consists of two types of housing, with the great majority being small identical units, similar to the western section of Kahun. A small number of larger units indicate the presence of responsible officials. The documentation suggests that the population living in the smaller housing

units did not necessarily consist of unskilled labour but can have had a variety of functions, as seen e.g. by the quarry inscriptions. The workmen's village at Amarna illustrates the possibilities for small scale private enterprise in the residential villages as a supplement to the support received from the city. The administrative complexity of even a small community is explicated in the extensive documentation from Deir el-Medina, recording economic and legal transactions, as well as those associated with the private life of the community such as contracts relating to marriage and inheritance.

The fortified settlement

Although the enclosure wall is a reoccurring element in the Egyptian settlement, its defensive function is not consistently documented. The First Intermediate Period (*c.* 2160–2040 BC), however, provides evidence for the fortified town. There are many indications that there was a need to create a militarised zone of occupation along the border of the eastern Delta. References to conflicts between the king's forces and a 'nomad' army are found in autobiographical texts from the VIth Dynasty, circa a century earlier (The Autobiography of Weni, Lichtheim 1973, pp. 19ff.) and Old Kingdom tomb reliefs depict the siege of a fortified town, probably in Palestine, where even the women are shown to participate in the battle (Petrie 1898, Pl. 4; Kanawati & McFarlane 1993, pp. 18f. Pl. 27, **Fig. 4a**). The *Instruction to Merikare* tells of the foundation of towns in this area for specifically defensive purposes (cf. Rowinska & Winnicki 1992).

Behold the mooring-post is driven in the eastern district which I created
From Hebenu to the Horus Road;
Being settled with residents, and filled with people
Chosen from the entire land,
To drive back attacks against them.
(Helck 1977, p. 53)

The character of this border as a settled but fortified frontier was reinforced with the reunification under the XIth Dynasty (*c.* 2040 BC). A chain of fortifications known as the "Walls of the Prince" were established by the first king of the next dynasty Amenemhet I (*c.* 1991–1962 BC).

The maintenance of secure boundaries was an important political task for the kings of the XIIth Dynasty (*c.* 1991–1785 BC). The attention of the state turned to the regulation of the traffic associated with the import of goods from the south. This led to the establishment of a series of fortresses stretching from just south of the First Cataract (Aswan) to the southern end of the

area of the Second Cataract (Semna). The primary function of these forts was the supply and protection of the river traffic, most likely from the nomads of the eastern desert.

A southern group of nine fortresses covered an river length of *c.* 65 km and were centred around the Second Cataract. One of the most northerly of these is Buhen (Smith, H.S. 1976; Emery, Smith & Millard 1979; **Fig. 5**). The Middle Kingdom fortress at Buhen had been established in the fifth year of Sesostris I (*c.* 1957 BC) near the site of an Old Kingdom trading town. Settlements and cultivation areas belonging to the indigenous C-Group were found on the opposite bank. The fortress was constructed on the flat banks of the Nile and consisted of a fortified citadel backed against the Nile, and enclosed by a mudbrick wall *c.* 150 x 138 m, and *c.* 5 m thick. The original height of the walls may have been as much as 8 m. The wall had external towers and was probably crenulated as is seen in tomb paintings depicting fortresses from the period (Newberry 1893a, Pl. 14; Newberry 1893b, Pl. 16; **Fig. 4b**). The base of the wall was protected by a ditch and a narrow brickpaved parapet wall. The parapet was pierced by arrow slots, a feature seen in the workmen's village associated with amethyst mining at Wadi el Hudi (Shaw & Jameson 1993). A stonelined passage provided the citadel with water. There was a massive gateway to the west facing the desert.

The interior of the citadel was largely occupied by rectangular brick buildings arranged on a grid pattern of streets. The garrison headquarters were vbuilt up against the main wall, with a staircase leading to the top of the wall. A building to the east has been identified as a temple. The layout includes interlocking rooms similar to those of Middle Kingdom domestic architecture, as well as a grid of walls representing the foundations of houses or workshops. A dense group of rectangular chambers may be granaries.

The citadel was surrounded on the west side with outer fortifications, enclosing an area measuring *c.* 420 m x 150 m with a series of rectangular salients backed by a 5 m thick brick wall. An escarpment was used as a cemetery area. To the north there is a construction next to the citadel wall. It is a massive block of walls *c.* 64 x 31 m, which lack doorways, suggesting a platform to support a structure raised above ground level. Similar structures, characterized by Bietak (1996, pp. 67 ff.) as an elevated fortress, with possible Near Eastern origins, have been identified at the palace sites of Tell el-Dab'a and Deir el-Ballas (Lacovara 1997, pp. 13f.) as well in the city of Heliopolis (Saleh 1983).

The initial inhabitants were composed primarily of recruits, commanded by officers who resided at the fortresses, accompanied by their families (Smith, H.S. 1976). The fort was headed by a commander (*Tsw*). His responsibilities would have been defence of the fort and internal discipline, the provisioning of convoy troops and protection of the routes leading to the fort from the desert. He would also have had civilian judicial responsibilities and was probably directly responsible for the large settlement found to the south at Kor (Kemp 1989b, pp. 178f.).

Functioning as a transit post for goods of significant value to the national economy, the fort housed officials associated with the state treasury and granaries.Titles refer to the need for interpreters, bodyguards, scribes and even gardeners. Religious officials are, however, few. The material remains from the excavation of the fort indicates that besides the military personnel there was a diversity of craftsmen, with evidence for the working of stone, copper, wood and leather (Emery, Smith & Millard 1979, pp. 93ff.).

In the middle of the dynasty the character of the fort population changed. Instead of a periodic rotation of recruits and officers there was a permanent Egyptian settlement at the fort. Genealogies have been reconstructed which indicates a continuity of habitation at this site lasting six to eight generations through to the end of the Second Intermediate Period (*c.* 1552 BC) and thus representing Egyptian officials serving Kushite as well as Egyptian rulers (Smith, H.S. 1976, pp. 80ff.).

With the decline of the Middle Kingdom, the fortresses were either abandoned, fell under the control of the Kushites (Buhen) or were reused as habitation sites by pastoralists (Mirgissa). The continuing use of some of the forts as settlement sites for ex-patriot Egyptians has also been hypothesized (Smith, S.T. 1995).

The reassertion of Egyptian influence in the area at the beginning of the New Kingdom entailed a return to the old fortress sites and the establishment of new towns in Lower Nubia. This period is characterised by the creation of a number of temples of Horus, many located within the areas of the old fortress sites. Large open town sites came to grow up around sites such as Buhen and Aniba, with a loose distribution of administrative buildings, temples, residences and small farming villages. These Nubian towns are thought to represent typical New Kingdom regional centres.

The temple town

In many ways, the earliest regional centres were temple towns. Cult centres, such as those found at Hierakonpolis and Elephantine provided the population with both prestige and identity within and outside of the town walls. The temple also generated the scribal labour necessary for the regional and national bureaucracy. As pointed out by Kemp (1972a, p. 657), the relationship between the town and the temple 'appears to have been fundamental in the fabric of ancient Egyptian society ...'. The importance of the temple as an economic factor during the New Kingdom is illustrated by two Ramesside texts which deal with the relationship between temple endowments and land ownership, the Wilbour Papyrus (Gardiner 1948; discussion in O'Connor 1972; Katary 1989) and Papyrus Harris I (Grandet 1994, Erichsen 1933).

The evidence indicates that the temple served as a focal point for urban populations particularly in the development of the national centres at Memphis and Thebes where recent excavations have begun to trace the development of settlements which are topographically associated with the temples of Ptah (Memphis) and Amun of Karnak (Thebes), dating from the Middle Kingdom through to Ptolemaic times (Jeffreys 1985; Jeffreys 1986; Giddy & Jeffreys 1991; Redford, Orel, Redford & Schubert 1991; Giddy & Jeffreys 1992; Giddy & Jeffreys 1993a; Giddy & Jeffreys 1993b; Redford 1994). As was typical for the New Kingdom, these settlements are found spread out outside the temple walls and contain elements of industrial as well as domestic architecture and finds. A similar, though more limited, development may be expected at other important town sites of this period.

The dense clustering at these sites of monumental remains as well as modern habitation, particularly for Thebes at the site of modern Luxor, has prevented a thorough investigation of these important centres. On the West Bank, however, it is possible to follow the development of the site of one temple town from its inception to the final abandonment of the site approximately two thousand years later.

Medinet Habu

Medinet Habu (**Fig. 6**) is a district on the west bank of Thebes occupied by the funerary temple complexes belonging to the Egyptian kings Horemheb (*c.* 1323–1295 BC) and Ramses III (*c.* 1186–1154 BC). The history of the site can be traced back to the XIth Dynasty (*c.* 2160 BC) when a small shrine was constructed on the site (Hölscher 1939, pp. 4ff.). This shrine was rebuilt and expanded during the reigns of Hatshepsut and Tuthmosis III (*c.* 1479–1425 BC) and has come to be known as the 'Little Temple' of Amun. Although it functioned for *c.* 250 years before the construction of the adjacent temple of Ramses III, nothing is known concerning the residence site of its staff.

The temple complex of Ramses III enclosed the earlier temple within its walls (Hölscher 1939). The area of the complex was divided up into three basic sections. The most important, inner, section consisted of the stone-built temple itself (Hölscher 1941, pp. 4ff.). This, in turn, was surrounded by a number of mudbrick buildings including related administrative buildings, workshops, storehouses, a garden, as well as a funerary palace which opened out onto the first courtyard of the temple (Hölscher 1939, pp. 37ff.; Hölscher 1941, pp. 4ff.). The Great Temple, surrounded by this area of mudbrick construction, was enclosed by the inner wall. Beyond that wall was a residential area, stables, an orchard, a stockyard as well as the earlier smaller temple of Amun, which was itself enclosed by a wall. The entire complex was surrounded by a fortification system, typical for West Bank temple complexes of the XIXth and XXth Dynasties, consisting of

the 'Great Girdle Wall', with a system of towers, a much lower outer wall and finally a moat (Hölscher 1951, pp. 1ff.).

The complex could be entered from the east where a quay served a canal leading from the Nile. The visitor would then pass a small pair of guard houses and walk through the impressive Eastern Gate, several stories high and decorated with scenes depicting the king's authority over his enemies. A similar, but better fortified, entrance opened out onto the desert to the west (Hölscher 1951).

The temple of Ramses III, known as 'United with Eternity', was the centre of a domain (see above) with lands and property. The original endowment of Medinet Habu is carefully recorded in Papyrus Harris I, dated to the reign of the son of Ramses III, together with the endowments of other large cult centres by this king. Considerable information is given concerning the material wealth of the temple and its accompanying bureaucracy. The texts are explicit in recording the temple endowments consisting of corn and cattle as well as the revenue from properties located in other parts of the country (Erichsen 1933, pp. 8f.; Grandet 1994, pp. 230f.)

> I give to you ten times ten thousand sacks of barley to provide for your daily divine offerings, to be transported to Thebes every year in order to increase the good quality seed and corn in your storehouse. (Papyrus Harris I, 7,2)

> I give to you herds from Upper and Lower Egypt consisting of cattle, fowl and small horned cattle in the 100,000s under the direction of the overseer of the scribes of cattle, the overseer of horned cattle, and an inspector, as well as numerous herdsmen as their protection, in charge of the pasture lands of the cattle ... (Papyrus Harris I 7,9)

> I give to you the vineyards of the southern and northern oases, without number as they increase in the north by 100,000s. I have equipped them with vineyard workers consisting of foreign captives and the pools that I have dug are provided with lotuses (and they have produced) Shedeh-wine and wine like flowing water for your offerings before your countenance in victorious Thebes. (Papyrus Harris I 7,10–11)

During the XXth Dynasty, which includes the last years of the activities of the Valley of the Kings and Deir el-Medina, Medinet Habu functioned as the administrative centre of the West Bank and thus was, most likely, the site for the negotiation for the Deir el-Medina strikes (Gutsell 1986). The mudbrick structures, neatly lined along a narrow strip on either side of the temple, provided housing for the necessary administrative staff (Hölscher 1951, pp. 13ff.).

The original housing of Medinet Habu, presumably intended for the attendant priests and other workers necessary for the royal cult, was not long-lived. Little more than a generation after its establishment the strict planning of the residential section broke down, suggesting that access to

this housing was no longer restricted to temple staff, but was instead taken over by a population either transferred to the area by the Theban authorities or moving in spontaneously from other districts of the West Bank.

A text found on the verso of one of the tomb robbery papyri (BM 10068, Peet 1930, pp. 83ff. for a translation) bears the title 'list of the towns (*dmiw*) of the west of the city (*imntt niwt*) from the temple of Menmaatre (Seti I) to the village (*wHyt*) of Maiunehes'. The list give the name and occupation of the owners of the houses found among the funerary temples. Consisting of 182 houses, listed from north to south, it clearly shows that the population of this area was concentrated in the south, with only 24 houses being found north of the temple of Ramses III. The remaining houses, it has been suggested, represents this second stage of the temple town of Medinet Habu (Kemp 1972b, pp. 664ff.) The list gives some insight into the diversity of the professions of the occupants of this area (Peet 1930, pp. 85f.), and is summarised in Table 1 (commentary in Kemp 1989b, pp. 306f.).

At Medinet Habu, the eventual destruction of the Great Girdle Wall to the west at the end of the XXth Dynasty (*c.* 1069 BC) indicates a threat from the nomadic peoples of the Western Desert, confirmed by the discovery of arrowheads embedded in the remains of the wall (Hölscher 1954, p. 6).

With the destruction of the wall, the mudbrick construction of the temple complex, which included almost everything except the temple itself, was destroyed leaving vast open areas inside the remains of the wall. When the area was rebuilt during the XXIst Dynasty (c.1069–945 BC), the eastern part of the complex was filled with small crowded dwellings, while exclusive villas with adjacent gardens were located in the western sector (Hölscher 1954, pp. 4ff.).

The cult of Ramses III, and thus the use of the main temple, was probably abandoned not long into the XXIst Dynasty, as there is no evidence of later kings either adding to or restoring the temple. The 'little temple' of Amun, however, that predated the XXth Dynasty construction, continued to provide a focal point for religious activity. That, combined with a walled area suitable for mudbrick construction, made Medinet Habu an attractive settlement site.

The town site that grew up around the abandoned temple of Ramses III, had two successive periods of growth. The first occurred during the XXIInd to XXIVth Dynasties (*c.* 945–715 BC). During this time the office of High Priest of Amun at Thebes, often occupied by the crown prince, served as an important jump-off point for the kingship. The choice of the outer courtyard of the temple as a burial place for one such high priest indicates the prestige of the temple area for this period. At the same time, the area inside of the wall was filled with mudbrick houses, placed along a system of irregular streets and alleys (Hölscher 1954, pp. 6ff.). At the end of the XXIIIrd Dynasty, a burial chapel was constructed for the Divine Wife of Amun', a princess

appointed as High Priestess whose political, as well as religious, status was exploited to keep the periodically rebellious Thebes in line (Hölscher 1954, pp. 17ff.).

With the victory of the Napatean kings of Upper Nubia (XXVth Dynasty *c.* 715 BC), the Theban area experienced a period of heightened prosperity manifested in the expansion of the Little Temple (Hölscher 1939, pp. 26ff.). The Napatean kings continued the tradition of the Divine Wife and more burial chapels were added to a royal funerary complex. The area within the repeatedly rebuilt walls became more densely occupied, as the streets became more and more narrow and winding (Hölscher 1951, pp. 14ff.).

There is no evidence of occupation for the years between the XXVIth Dynasty and the Roman period, extending over some *c.* 600 years. Sometime during the Roman period (from 30 BC) the site is reoccupied, the town spilling over on both sides of the ruins of the Great Wall, by then had only nuisance value, passageways being carved in the remaining sections. The housing showed some evidence of affluence with the employment of Roman technology in the supply of water for e.g. hygienic purposes. Particularly market places and the cemetery area were located outside the temple area to the north, exploiting the space once occupied by the neighbouring temple of Horemheb (Hölscher 1954, pp. 36ff.).

The last stage of the town moves, during the Coptic period (*c.* 400–800 AD), (Hölscher 1954, pp. 45ff.) into the temple itself, building narrow mudbrick houses, with cellar and two or three levels against the remaining stone walls. Windows were cut for the houses, defacing the battle scenes decorating the exterior walls of the temple. The second courtyard of the temple became the site of the main church of the community while yet another was constructed at the edge of the temple area. Medinet Habu was known in Coptic times as 'Djeme', a name which shares an etymology with the Greek *Thebais*, the source of the modern names Thebes.

The Egyptian city

The Egyptian town site was often designed in relation to a specified set of functions, whether it be religious, administrative, military, or industrial. The Egyptian 'city', defined by its relative size and complexity, had, in contrast, its primary links to two interrelated elements in Egyptian society, the kingship and the national cults associated with that institution. Both of these elements were labour intensive, and required superior production power, both qualitatively and quantitatively, in those sectors which could, otherwise, be represented by the specialised towns. Thus the Egyptian city, as it occurs from the New Kingdom onward, included 'towns' and 'villages' of the type represented in the survey found above. These smaller settlements, were, however, within the context of the city, linked together geographically and economically to the urban centre, which

was characterised by magnificent temple complexes, residential and ceremonial palaces, as well as prestigious cemetery areas.

The royal residence

Two groups of urban sites can be said, by reason of their dimensions and internal complexity, to qualify as cities. One group may be labelled 'royal residences'. It should be noted, however, that the existence of a palace site is not equivalent to the status of a royal city, as is seen e.g. with the XVIIth-Dynasty site of Deir el-Ballas (Lacovara 1997, pp. 6 ff.), which has been defined as a campaign palace for the Theban kings during the conflict with Hyksos rulers in the north.

Throughout Egyptian history the residence of the king shifted location according to various political considerations, not least the regional origin of the royal family. And thus a number of sites are known to have enjoyed periods as royal residential capitals. These include El Amarna in Middle Egypt (*c.* 1347–1330 BC); Herakleopolis in the Fayum (*c.* 2134–2040 BC) and Avaris (*c.* 1640–1550 BC), Pi-Ramses (1306–1070 BC), Tanis (1070–712), and Sais (664–525 BC) in the Delta, as well as Napata (712–657 BC) (Gebel Barkal) at the Fourth Cataract in modern Sudan. The history of these sites vary considerably. The excavation of El Amarna, for example, the most short-lived city as well as the most thoroughly excavated urban site in Egypt (cf. e.g. Kemp 1977a and below), has revealed a complete city plan.

In contrast, Sais, (the modern Sa el-Hagar) which has a history which goes back to Early Dynastic times, and which was a royal city for over one hundred years, is poorly preserved and documented. A ground plan made in the last century does show, however, the outline of a rectangular enclosure measuring ca 800 x 700 m (as cited by Baines & Málek 1980, p. 170; cf. Arnold 1992, p. 218), possibly that of the great temple of Neith. The best description of this city is that provided by Herodotus (II.169–70, II.175–6) who speaks of the temple of Athena, the Greek equivalent of the Egyptian goddess, within which the kings of the XXVIth Dynasty (664–525 BC) were buried. These royal burials have, however, escaped discovery in the few attempts at excavation and the knowledge of this habitation site is limited primarily to the personal names and titles associated with Sais preserved on objects found in museums around the world (cf. El-Sayed 1975).

At Eastern Delta capital Tanis (Tell Nabasha), only the royal burials of the XXIst and XXIInd Dynasties (*c.* 1069–715) have been properly excavated and published (cf. Brissaud 1987, pp. 7ff. with references). Other royal residential sites such as Herakleopolis (Ehnasya el-Medina; Perez Die 1995), Avaris and Pi-Ramses (Tell el-Dab'a, cf. Bietak 1996), and Leontopolis (Tell el-Muqdam cf. Redmont & Friedman 1993; Friedman 1995b) are currently being excavated.

Although little is known of either the character or the size of the populations of many of these royal cities, it can be assumed that the presence of a royal palace, and the accompanying administrative and religious institutions, would have attracted a substantial and diversified work force. Some of these cities may also have absorbed a large relocated population, particularly when significant geographical shifts were made, as with the case of the transfer of the palace authority from Thebes to El Amarna at the end of the XVIIIth Dynasty.

El Amarna

The Middle Egyptian site of El Amarna (also Tell el-Amarna) was constructed during the reign of the XVIIIth Dynasty king Akhenaten (*c.* 1353–35 BC). First excavated by Petrie (1894), followed by the excavations of Borchardt (cf. Borchardt & Ricke 1980) and of the Egypt Exploration Society (Peet & Woolley 1923; Frankfort & Pendlebury 1933; Pendlebury 1951), this site is currently being reinvestigated by the Egypt Exploration Society expedition (Kemp & Garfi 1993) led by B. Kemp (1977a; 1981; 1984b; 1985c; 1987a; 1989a; 1989b, pp. 261ff.; 1995a; 1995b).

The king's first visit to the site in the fourth year of his reign, and prior to the city's construction, is recorded on a series of boundary stelae (Lichtheim 1976, pp. 48ff.) marking the limits of the territory belonging to the royal city. Another series of stelae were added when the city was completed two years later. The total area, *c.* 16 x 13 km, included both the city on the East Bank and adjoining territory, and the agricultural land on the west. The estimated 162 km² of cultivated land within the domain of the city has given a population estimate ranging between 20,000 and 50,000 inhabitants (Kemp 1989b, p. 269).

The city itself, which, in the manner of the New Kingdom, lacked an enclosure wall, stretched along the eastern bank of the river some 5 km, extending inland *c.* 1 km. A strip of land separated the city from a semi-circular range of cliffs *c.* 10 km long and *c.* 5 km in depth. The cliffs were interspersed with wadies within which the rock tombs of both the royal family and the city's high officials were located.

The central city was concentrated around the large open air temple complexes of the cult of Aton (Pendlebury 1951, pp. 5ff.; Kemp & Garfi 1993, pp. 28ff., sheets 4–5; cf. Mallinson in Kemp 1995a, pp. 169ff.). The main road, often depicted in the tomb reliefs as important for ceremonial purposes, ran north to south. The Great Palace and the northern residential palace of the king were located on the western side of the road, facing the Nile, while the temple complexes were on the eastern side. A bridge above the road, with a balcony allowing the king to greet the people, linked the Great Palace (Pendlebury 1951, pp. 33ff., p. 56f., pp. 77f.), which had an administrative and ceremonial function, with the more private 'King's House' (Pendlebury 1951,

pp. 87ff.), found on the other side and conjoining one of the Aton temple complexes (Pendlebury 1951, pp. 92ff.; cf. Kemp & Garfi 1993, p. 59).

Industrial buildings, associated with temple activities, such as the bread ovens which produced the thousands of offering loaves, (Nicholson in Kemp 1989a; cf. Kemp & Garfi 1993, pp. 52ff., Fig. 11 p. 51; Nicholson 1995) as well as administrative buildings, such as the Records Office where the royal diplomatic correspondence was stored, were also part of the central city (Pendlebury 1951, pp. 113ff.; Kemp & Garfi 1993, pp. 61ff., Fig. 12, p. 60).

Directly to the north and south of the central city were prosperous residential areas, consisting of large villas and smaller houses, of varying sizes (cf. Frankfort & Pendlebury1933, pp. 1ff.; Borchardt & Ricke 1980; Kemp & Garfi 1993, pp. 46ff., 73ff., sheets 3,8, pp. 82ff.). It was here that the villa of the sculptor Tuthmosis was found and in it the famous head of Akhenaten's consort Nefertiti. Farther to the south, the residence of the Vizier Nakht has also been located, indicating that the highest officials of the central government resided in the city. Lacking the grid planning of the Middle Kingdom city, the houses were placed along a somewhat irregular system of streets and cross-streets. A small group of unusually large villa complexes (up to *c*. 400 m²) were found in close proximity to the residential palace of the king, found north of the city. Closer to the central city, houses of different sizes were mixed together, suggesting that construction was at least partially spontaneous. The clusters formed by groups of houses suggest distinct neighbourhoods.

The larger residences stood within an enclosed yard which could contain circular domed granaries, as well as gardens, animal sheds, other small buildings of varying functions. The most prosperous home owner could also boast a shrine at which he could worship the royal family (Peet & Woolley 1923, pp. 37ff.; Frankfort & Pendlebury1933, pp. 1ff.).

The wealth of the officials which resided in these houses, it has been conjectured, was only partly based on the rations received as salary for public service. Private property, in the form of land holdings, acquired either through leasing or inheritance, could supplement his income. These holdings could consist of a combination of plots leased from the newly established Aton domain, belonging to the cult and found on the West Bank, and land located in the provinces, the ownership of which could originate several generations earlier with a single owner but now be spread out among numerous descendants in the form of small plots. This private land ownership, with direct taxation, is distinguished from the royal lands in the administrative records (for this discussion with references, cf. Kemp 1989b, pp. 305ff.), and created close ties between the high officials, resident in the cities, and the provincial towns and agricultural villages.

Beyond the northern suburbs, two additional palace complexes were erected, in an area known as the North City (Kemp & Garfi 1993, pp. 39ff., sheets 1–2). Judging from the text material found on the site, one palace belonged to the royal women, and beyond that, facing the

river, the residential palace of the king, enclosed to the east by a double wall, was situated.

At the eastern edge of the central city, a set of buildings have been interpreted as military barracks, including stables, which might be expected given the prominent part which contingents of soldiers play in the representations of the life of Amarna found in the rock-cut tombs of the nobility. A smaller police station lay in the desert just behind the southern suburb. Neither of these building complexes were fortified (Pendlebury 1951, pp. 131ff.).

Two workmen's villages (see above) are found to the east, beyond the city. These appear to have been related to the construction of the royal as well as private, tombs which were located in the wadies. An area of cult buildings and altars were also located in this desert area (Frankfort & Pendlebury 1933, pp. 101ff.; Kemp 1984; Kemp 1985b).

No remains have as yet been identified as belonging to the agricultural population responsible for cultivation of the fields found on the western bank.

The construction of the royal city of Amarna was completed during a two-year period. The city was inhabited for less than a generation and as such should probably be regarded as a minimal version of the ideal New Kingdom royal residential city.

The temple cities

The other group of sites which fall into the category of city are those which are primarily ideological centres of a national character, with cults closely allied to the ideology of the divine kingship.

Thebes, Heliopolis and Memphis all figure in the documentation as cities of exceptional status. Although Memphis and Thebes both served sporadically as royal residences and political centres, during different periods of Egyptian history, and have extensive royal necropoli, their prestige cannot be said to be limited to their political role. As the home of the cults of Amun (Thebes), Re (Heliopolis) and Ptah (Memphis), these three cities functioned as national ideological centres. They were the objects of extensive royal patronage as each king added to, or restored, the existing complexes. These were projects that required extensive resources, while multiplying the wealth of the existing religious institutions in these cities. Memphis, for example, was the home for at least 42 different cults during the Late New Kingdom (cf. Caminos 1954, pp. 333ff.), each of which required staff and supplies. The economic needs of these cities and the manner in which they were met are partly documented in Papyrus Harris I which records the donations made by Ramses III, from his residence at Pi-Ramses in the Delta, to the cults of Egypt (Table 2). The donations consist of both land and manpower for domains whose production was then intended for the perpetuation of the cults of Amun, Re and Ptah. Thus the quantities recorded in this document represent the support derived specifically from the property of the king and exclude e.g.

the domains controlled directly by the temples themselves. This document, as well as the Wilbour Papyrus (Gardiner 1948; cf. Katary 1989), dealing with land tenancy in Middle Egypt during the reign of Ramses V (c. 1148-1144 BC), clearly identifies these three cities as the largest beneficiaries of the production of royal land holdings during this period.

These sites were also expansive in terms of their geographic definition. The core of each area consisted of at least one major temple complex. Large settlements were found near the temple but there were also significant suburban areas, often connected to yet other institutions, both religious and administrative, which added substantially to the total population.

Characteristic of Thebes and Memphis, as the location of royal funerary monuments, was an inherent division between areas associated with the temples of the gods and the ceremonial and residential palaces of the kings, and areas which were dominated by funerary cults and their activities (Figs 6,7). Each of these sectors generated settlement districts with associated agricultural areas, which were regarded as 'towns' (*dmi*), 'villages' (*wHyt*) or simply districts (*w*) of the main city. At Thebes these two areas were separated by the Nile and found on the east contra the west banks. At Memphis the main city site was located on the West Bank. The distinct east–west division between habitation and funerary areas, similar to Thebes, was created no later than the New Kingdom, when the Phchet Canal, which functioned similarly to the Nile in the transport of the divine image of Ptah on ceremonial occasions, divided the Memphite area into two regions.

Yet another element which is shared by all three of these cities is their longevity as habitation sites, with their prestige as religious centres attracting royal patronage during most of Egyptian history.

Thebes (Fig. 6)
First emerging as a political centre during the Late Old Kingdom, the successful reunification of the country by the XIth-Dynasty Theban leader Mentuhotep II (*c.* 2040 BC) placed Thebes at the centre of national politics. Although the kings of the XIIth Dynasty relocated their administrative capital to the centre of country in the town of Itjtauy, probably close to, if not identical with, Memphis, they maintained their ties with Thebes and inaugurated a renewal of the cult site of Amun at Karnak. It was this period which saw the emergence of Thebes as an urban centre.

The Middle Kingdom town was located around the temple of the period and has been observed fragmentarily in limited excavations either in, or adjacent to, the surviving complex (Lauffray, Sa'ad & Sauneron 1975, pp. 26ff.; Lauffrey 1980, pp. 44ff., 153ff.; Debono 1982, pp. 377ff.; Redford, Orel, Redford & Schubert 1991, pp. 91ff.). It has been estimated that the archaeological remains of this town created a mound *c.* 1000 x 500 m, extending far beyond the

present temple area, covering a town plan laid out according to a grid pattern (Kemp 1989b, pp. 160ff., 201f.), not dissimilar to that found at Kahun (see above). A section of the main town wall, *c*. 6 m thick, has been located to the east.

The Middle Kingdom occupation was reoriented to align with the newly built temple of Sesostris I. The excavations conducted near the Sacred Lake of Karnak, revealed an additional enclosure wal together with a street and a large rectangular building with columns, suggesting the presence of a royal enclosure within the town walls.

The Middle Kingdom town appears to have been levelled at the beginning of the New Kingdom in order to accommodate the creation of the Great Temple complex of Karnak. The new residential area that was created may be expected to have been spread out far beyond the existing temple complex, as was characteristic for this period (Kemp 1989b, pp. 202f.; Redford, Orel, Redford & Schubert 1991; Redford 1994), and some suggest that suburban Thebes extended as far north as Medamud some 8 km away, with which the most northerly temple complex was aligned.

The New Kingdom city of Thebes consisted of several elements. On the East Bank there were four temple complexes. Administrative buildings of varying character, as well as palace constructions, (Gitton 1974) are expected to have been located in the area around the temples (cf. e.g. O'Connor 1989). One settlement area, found to the north of the temple complex has an occupation history extending from the XIXth Dynasty to the Ptolemaic period, at which time it is known that the settlement shifted south to Luxor (Redford, Orel, Redford & Schubert 1991), where, during Roman times, the legion was garrisoned and a large mudbrick town was built.

On the West Bank, the constructions are primarily related to the funerary cults of the kings, such as the town associated with the temple of Medinet Habu (see above). A large palace site, Malkata, belonging to Amenhotep III, which included a large artificial harbour, was also found there (Lacovara 1997, pp. 25 ff. with references).

The population of Thebes was divided up into larger and smaller communities. One part of the population would have been located in and around the temple complexes on the East Bank, where both palaces and other buildings of the royal administration are likely to have been found. The industrial production, particularly involving the finer craftsmanship required for objects intended for ritual use, could be expected in this area as well.

Another part of the population would have been located on the West Bank, not only in the town of Deir el-Medina, where part of the royal necropolis work force resided, but also in the towns built in conjunction with the funerary temples to accommodate the personnel necessary to run the cults, such as at Medinet Habu (see above).

Villages, supplying the needed labour for the fields, would have been located on both sides of the river, as part of the agricultural domains (cf. above), which belonged to the temples and palaces, as would have had other service functions. One can expect, for example, districts allocated to such trades as embalming, such as are known from the documentation of the communities of the Late Period, as well as districts specialising in other trades or specific commodities.

New Kingdom Thebes would then have been a conglomerate of different kinds of communities, which together with the complex of temples and palaces generated its identity as a 'city'. At the present time archaeology can only provide a piecemeal reconstruction of the interrelationship of these different communities.

Heliopolis

The site of Heliopolis (Tell el Hisn) is essentially covered by the urban expansion of modern Cairo, ca 15 km to the southwest. The geographical boundaries of the ancient city are impossible to determine, but some (cf. Saleh 1981) suggest that they may encompassed an area *c.* 20 km long. Known for its many obelisks, Heliopolis was called *Iwnw* 'The Pillar' in Pharaonic times. The Greek Heliopolis relates to its role as the centre of the solar cult of the god Atum-Re (see Zibelius 1978, pp. 19ff. for textual references of the Old Kingdom and Gomaà 1987, pp. 177ff. for the Middle Kingdom).

The earliest archaeological remains in the vicinity consist of predynastic burials (Naqada I and II; Debono & Mortensen 1988). The first architectural remains, are of a IIIrd Dynasty date and are contemporary with the identification of Imhotep, the architect of Djoser, as the High Priest of Re, 'The Great Seer' (Moursi 1972, pp. 12ff.).

The capital of the thirteenth Lower Egyptian nome, the importance of Heliopolis was never primarily administrative but rather was based on its role as the theological arbitrator in a country of originally heterogeneous religious traditions, and thus as the centre of the country's intellectual elite. The influence of this elite is demonstrated by the role which the Heliopolitan solar theology plays in the development of the ideology of the kingship.The king, as the son of the solar deity Re, maintained a special relationship to the Heliopolitan cult. Sesostris I (*c.* 1962–1926 BC) proudly records his reconstruction of the temple of Atum (Lichtheim 1973, pp. 115ff.). An architectural model of the temple records the piety of Seti I (*c.* 1294–1279 BC). Recent excavations have revealed temples buildings, a possible fortress and associated domestic buildings of late Ramesside date (Ramses III–IV 1186–1148 BC) (Saleh 1981; Saleh 1983; Tawfiq, al-Azam & Raue 1995).

This background can, perhaps, help in visualising the prestige enjoyed by this city when considering the few remains of ancient Heliopolis. Originally excavated at the beginning of the

century by Schiaparelli (1903–1906) and Petrie (1911/12, cf. Petrie & Mackay 1915), the temple, and possibly town, enclosure was trapezoid-shaped and measured *c.* 900 x 1000 metres, giving it an area *c.* three times the size of that of the Great Temple at Karnak, but somewhat comparable to the Middle Kingdom city at Thebes (cf. below). The wall surrounding the complex was 30 m thick, at either end of the east–west axis of the complex was a gate. The western gate was preceded by a sphinx allé some 500 m long. Within the temple area was a mound, with a diameter of 600 m and surrounded by a brick wall, 65 m thick, which is likely to have been the well known 'High Sand', representing the mound of creation, which was visited by the XXVth-Dynasty Napatean king Pije (*c.* 747–716 BC) after his coronation at Memphis (Lichtheim 1980, pp. 76f.). The obelisk of Sesostris I was found on the western edge of the mound and at one time had been accompanied by at least 15 others, the earliest dating from the VIth Dynasty (*c.* 2460–2200 BC). A pair erected by Tuthmosis III (*c.* 1479–1425 BC) are now to be found in London and New York where they are each known individually as 'Cleopatra's Needle'. A ground plan and inventory of temple belongings was made in the XXVIth dynasty (Ricke 1935).

Although the archaeological finds say little of the population of Heliopolis, the donations made to the temple during the late Ramesside period, indicate that this city, which derived its status from the activities of its 'academic' community, was of a size which matched the grandeur of the temple complex. Ramses III's contribution of a work force of over 12,000 to different minor domains and their various personnel indicates that there was a substantial population to be supported, as does the figure of 103 towns which contributed to the maintenance of Heliopolis. This should be compared to the 65 towns (of which 9 were foreign) sending subsidies to Thebes and the much smaller donation made to Memphis by only one town. These comparative figures may indicate that Heliopolis had fewer internal resources upon which to draw as compared to Thebes, or Memphis, which had a strong independent economic base (cf. below).

The city of Heliopolis is said to have been destroyed as it lay in the path of Cambyses, the Persian conqueror of the XXVIIth Dynasty (525 BC). Although the layman population of the city of Heliopolis appears to have dispersed, the intellectual life and reputation of the temple did not diminish. Heliopolis continued to function as an ideological and educational centre, a sister city to Memphis, until Ptolemaic times. The construction of Alexandria, however, and the creation of its famous library and accompanying philosophical schools, appears to have contributed to the decline of Heliopolis' status as the intellectual centre of Pharaonic Egypt. One of the last records of the city is to be found in the narrative of Strabo (17, 27–29) who visited Egypt in *c.* 25–19 BC and recorded his observations in his *Geography*. He notes that the city was deserted, while observing the ruins of temples and obelisks, two of which had already been installed at Rome by this time. Seeing what he describes as the remains of large houses belonging to the priests of the cult, Strabo

relates the traditions which place Plato and the fourth century mathematician and astronomer Eudoxus as students in Heliopolis.

Construction needs, especially to the south at Babylon (Old Cairo) where the Roman garrison of Memphis was largely relocated, caused the ruins seen by Strabo to be dismantled, leaving little of the once impressive temple to be found by Schiaparelli and Petrie.

Memphis (Fig. 7)

Memphis played a special role in Egyptian history, functioning not only as the first known royal residence, and centre of the cult of Ptah, but also as an important economic centre, and the one of the last bastions of Pharaonic culture.

Located *c.* 30 km south of the apex of the Delta (Jeffreys 1985, p. 4), Memphis has a history which extends throughout the Pharaonic period and somewhat beyond. Founded in the early years of the Egyptian state, tombs associated with the reigns of the kings of the Ist and IInd Dynasties (*c.* 3150-2700 BC) are found in the Memphite necropolis of Saqqara . The city of the Old Kingdom, the site of which is as yet unidentified (Jeffreys 1997), was made up of populations associated with the central and local administration, the palace, the temple cults of the city and the royal funerary cults of the pyramids found in the nearby necropolis (cf. e.g. Helck 1975b). The continuous construction work and the quarries on the East Bank were also important sources of non-agricultural employment in the Old Kingdom period (cf. Jeffreys 1985, pp. 9f. for the possibility that the quarry sites were included in the Memphite nome).

The movement of the city site to the east, thought have been brought on by the eastward drift of the sand dunes, coinciding with the movement of the Nile (Jeffreys 1985, pp. 48ff.; Jeffreys & Tavares 1994), appears to have occurred sometime in the early Middle Kingdom, as indicated by settlement remains just south of the Ptah temple (Giddy & Jeffreys 1992 p. 2). The Middle Kingdom stratigraphy included a layer of destruction of possibly Second Intermediate date, corresponding to the capture of the city by the Hyksos rulers of Avaris (*c.* 1670 BC). There is also evidence of habitation for the early XVIIIth Dynasty, continuing into the Ramesside period (Jeffreys 1985, p. 17; Jeffreys, Málek & Smith 1986 p. 5; Jeffreys, Málek & Smith 1987, p. 15; Jeffreys & Málek 1988, p. 17; Gidday & Jeffreys 1993b).

The archaeology of New Kingdom Memphis has begun to be examined in connection with the excavations of the Egypt Exploration Society. The XVIIIth-Dynasty city was called *Mn-nfr*, identifying it with the pyramid town of the VIth Dynasty king Pepi I (*c.* 2400 BC). The settlement was located near the enclosure of the Ptah temple which was known in ancient Egyptian as *Iwt-kA-PtH*, the Ka-house of Ptah, giving the name by which the country was known to the Greeks, *Aigyptos*. The Nile, now 3 km east of the site, probably ran along the edge of the city ruins, as

indicated by resistivity tests as well as the identification of the national Nilometer (Jeffreys 1985, pp. 48ff.).

The earliest surviving monumental remains on the site date to the Ramesside period, and are found in the Ptah temple enclosure (Anthes 1959; Anthes 1965; Jeffreys 1985, pp. 33ff.), replacing the constructions of earlier kings. These buildings are joined by a number of small temples outside the enclosure, also of Ramesside date (Jeffreys 1985, pp. 20ff.). The ceremonial palace of Merenptah was found to the east (Jeffreys 1985, pp. 19f.; cf. O'Connor 1991).

By no later than the XXVIth Dynasty (664–525 BC), the temple was accompanied by a stall, the famed *sêkos*, and a display enclosure (cf. Strabo XVII.1,31; Jeffreys 1985, pp. 22f.) belonging to the holy bull Apis and his mother the Isis cow, whose cult dates back to the Ist Dynasty (cf. Thompson 1988, pp. 191ff.). The continuity of royal endowments during this period is documented by a stela of the XXVIth-Dynasty king Apries (589–570 BC) (Jeffreys 1985, p. 24) which dedicates all the lands and marshlands around Memphis to the temple, and, in the manner of Old Kingdom decrees, exempts the field workers from any other labour than that associated with the temple lands (Gunn 1927).

The archaeological remains of the city, as uncovered by Petrie (1909a; 1909b; Petrie, Mackay & Wainwright 1910), although centred on the Ramesside temple, reveal the plan of the Late Period and Ptolemaic city. The temple complex to the south is balanced by an area of almost equal size to the north consisting of an enclosure within which a palace of XXVIth-Dynasty date was found. It has been identified as the military citadel (Jeffreys 1985, pp. 40ff.) and is evidence of the significance of the city as a military stronghold (Badawy 1948, pp. 53ff.).

Late Period and Ptolemaic Memphis can be reconstructed using a combination of archaeological and papyrological documentation, the later consisting primarily of Demotic and Greek material. The city ruins are located on series of mounds, which, it has been suggested, were probably less prominent in ancient times than they are today (Jeffreys 1985, p. 4). The city was protected from the annual flooding by a dike *c.* 5 km long, running north to south (cf. Thompson 1988, pp. 10ff. for this reconstruction). Documented by the texts of the Ptolemaic period, the dike may have been a characteristic feature throughout the history of Memphis (Jeffreys 1985, p. 53f.).

The Greek documentation provides the names for the different sections of the dike which related to the adjacent districts. To the south, there was an area possibly settled by the descendants of Levantine immigrants (Thompson 1988, pp. 82ff. for a discussion of the ethnic minorities in Memphis). Located in the same area as the Hathor, later Astarte, temple, it may be equated with the district called the Aphrodision, described in the Greek papyri as consisting of private housing, workshops and hotels, built up against the temple walls. A house model of the Late Period from Memphis shows a three story mudbrick building with flat roof, wooden balconies and window grills (Petrie, Mackay & Wainwright 1910, Pl. 38). Here, as elsewhere in

the city, the residential area was divided into districts which were enclosed by walls. Eight such enclosures have been identified (Thompson 1988, p. 19; citing EES Report 1983/4, 4). Trade specialisation, as well as ethnic origin, may have determined the character of these districts, which according to Demotic material, were divided internally according to a grid pattern.

Beyond the quay, located on the stretch of the dike belonging to the Ptah enclosures, the longest section of the dike, 1,150 m, fronted on the palace and citadel area. It may be here that the holy ibises (Smith, H.S. 1974, pp. 22ff.) were bred. Just beyond this area to the north were the Carian and Greek quarters, inhabited by the descendants of mercenaries brought to Egypt in the sixth century BC (Herodotus II.154). Greek texts document the existence of other ethnic quarters but with no indication of specific location within the city. Memphis is well known for its multicultural character, dating from as early as the XVIIIth Dynasty, but certainly well established with the time of the Saitic mercenaries and the later role of the city as the capital of Persian Egypt (Ray 1988, pp. 272ff.).

The palace gardens, which were also exploited for commercial use, were located beyond the city stretching perhaps 1 km north (Thompson 1988, p. 39f.) Indications of the industrial activities of the city have been located in the vicinity of the river bank where there is evidence of metal works, mainly weapons manufacture as well as faience production, glass-making and the manufacture of terra cotta for pious tourists (Thompson 1988, pp. 19f., 65ff.). Shipbuilding, which had been an important industry in the city since the New Kingdom, continued into the Ptolemaic period (Jeffreys 1985, pp. 48f.). Some housing and at least one market, were also found close to the river's edge (Thompson 1988, pp. 59ff., 72). The city's facilities for the Hellenic population, such as the theatre and the gymnasium, although known to have existed, have not been localised. Two baths of late Ptolemaic date were, however, found to the far south (Jeffreys 1985, p. 17f.).

The valley city was separated from the necropolis community, found to the west at Saqqara, by a canal, running north–south (cf. Jeffreys 1985, p. 4; Thompson 1988, p. 10). Once having crossed the canal by boat, a number of roads led up to the escarpment which fronted the necropolis. Two enclosures, the Anoubieion and the Boubastieion, belonging to the jackal god Anubis and the cat goddess Bastet, each with a sacred animal cemetery, were built over, and adjacent to, the pyramid complexes of the VIth Dynasty (Smith, H.S. 1974, pp. 29ff.; Jeffreys & Smith 1988). The Anoubieion was an important administrative centre for the necropolis, and contained a registry, a representative of the nome government, a police station and a prison. Houses, mills and storehouses were found inside the enclosure and the population was made up of those who worked with the mummification of people and animals as well as with occupations, as gleaned from the documentation by Thompson (1988, p. 26), such as potters, shepherds, barbers, grain merchants, water carriers, cloth merchants, doctors and dream interpreters.

These two enclosures guarded the brick-paved avenue, lined with sphinx statues, which led into the desert, and the Sarapieion, the site of the burials of the Apis bull. To the north, yet other animals cults with cemeteries, those of the Baboon and Ibis of Thoth, the falcon of Horos, and the Isis cow, mother of Apis, were found (Smith, H.S. 1974, pp. 21ff.; Thompson 1988, pp. 21ff., 212ff.).

The Sarapieion was the centre of the necropolis community found scattered around the various enclosures. The life of this community can be fragmentarily reconstructed by two archives, one, primarily Demotic, belonging to Hor of Sebennytos, an official of the cult of Thoth (Ray 1976; Ray 1978) and the other Greek, centring on the son of a Macedonian soldier and devotee of Serapis, Ptolemaios (Lewis 1986, pp. 69ff.; Thompson 1988, pp. 213ff. with references), providing important insights into the complexities of the lives of the individuals of the period.

The two urban areas, one located around the palace and the temple enclosure and the other placed in the necropolis, formed the main city of Memphis. Like Thebes and Heliopolis, the estates and other agricultural lands associated with the economy of Memphis expanded its territory.

Attempts to reconstruct the original size of greater Memphis fall back on the information given by Diodorus Siculus (I.50,3–5), writing at the time of the Roman conquest, who gives the city a circumference of 150 stadia which Jeffreys (1985, pp. 6f.) estimates at 13 km north to south and 6.5 km east to west, including gardens and suburbs. Thompson (1988, pp. 32ff.) converts this to a circumference of *c.* 30 km and an area of c 50 km², of which *c.* 6 km² would have been within the dikes, and 4.5 km² or 75 per cent would have been available for residential areas, the remaining areas being taken up with temple or administrative enclosures. The necropolis area, however, according to Thompson, would only have had an estimated 9 hectares of housing areas.

Estimates of the population of Memphis give figures in the range of 50,000–200,000 including the agricultural population found outside the main city areas (cf. discussion in Thompson 1988, pp. 33ff.). The number of professions found in the city has also been calculated by combining Memphite material with the archives of the rural estate of Zenon of Philadelphia, providing a number of 343 occupations, with priests and temple workers occupying a special position, and the likelihood that over 50 per cent of the population should be counted as farmers on crown land (Thompson 1988, pp. 37ff.).

The pattern of ownership of agricultural holdings of the Memphite area at this time was not dissimilar to that found in earlier periods, consisting of royal lands, temple lands, that which had been deeded to military settlers (cleruchies) and private estates. The archives provide information on a rich variety of agricultural produce, wheat, barley, emmer wheat, lentils, chickling, fodder crops, vineyards, flax and oil crops. The necropolis suburbs may have been the site of orchards and vineyards as well. Gardens had an important commercial value as well, not

only for their edible produce but also for the production of the seedling trees sold for the ornamental parks and temple and private gardens so important to the Egyptian aesthetic sense.

These lands were also used for livestock, particularly goats which provided milk, cheese, hair and hides, and sheep for wool, but also draft animals, such as cattle, mules, donkeys and horse. Pigeon and poultry raising is documented, as is bee-keeping.

An important industry which linked Memphis with the surrounding countryside was textile manufacture, both of woollen and linen garments (Thompson 1988, pp. 46ff.; cf. Giddy & Jeffreys 1993b for evidence of textile manufacture in the New Kingdom). Here the interests of private enterprise and state control often coincided, as rurally supplied raw materials was transformed into yarn, cloth and garments in city workshops, sometimes owned by rural estate lords. The processing of flax involved castor oil and natron, both controlled by state monopolies. Thus fine byssus linen produced in some of these shops, mandatory for the Egyptian priesthood, provided profit for both the private and state sectors.

One other industry was characteristic for Memphis at this time, it was that of the mortuary trade, for both the sacred animals and the human population (Thompson 1988, pp. 155ff.). A number of the major deities of Egypt were represented by sacred animals, the most favourite being the bull. Sacred bulls were to be found in a variety of temples in Egypt, the Memphite Apis, being the most important of these. The burials were an occasion of national importance, close to that of the royal funerals themselves.

Other animals, such as cats, ibises, baboons and falcons were produced en masse in the Memphis area for the purchase of touristing pilgrims hoping to get the attention of the deity of their choice by paying for the mummification and burial of a sacred animal. The volume of this religious commerce can be exemplified by the estimated 10,000 ibises which were killed and mummified per year, later to be discovered in the millions in the catacombs of Saqqara (cf. Ray 1976, pp. 136ff.). Association with the animals cults of Saqqara provided numerous opportunities for lucrative employment (Smith, H.S. 1974, pp. 22ff.).

In Memphis, as in other Egyptian towns and cities, there was a need for professional embalmers for private funerary needs. For the Ptolemaic period, the documentation of this sector of society is confused by the manner in which Middle Egyptian, Demotic and Greek terminology are interwoven. Individualised information is found in a Demotic archive from Memphis which represents the records of one family, covering five generations and *c.* 130 years (cf. Thompson 1988, pp. 155ff.). The records consist of various kinds of legal contracts and give a picture of the economic possibilities involved in that particular trade, with upward mobility of at least one member being documented. Potential income for the embalmers, in the form of rights to the future funerary preparations of a specified sector of the population, defined either in terms of districts or families, was jealously guarded. Although it might be expected that this occupational group, which

could be organised into associations of a guild character, would belong to a lower level of society, it is evident that the embalming industry, at least in Memphis, offered possibilities of accumulated wealth and status.

The conquest of Egypt by the Roman emperor Augustus did not entail an immediate decline for the city and the population appears to have remained stable during the first two centuries of Roman rule (Bagnall & Frier 1994 for discussions of the population of Roman Egypt). The foreign districts of the city are no longer recognisable however, their names being replaced by numbers, and ethnic diversity now masked by the use of names of Greek or Greco-Egyptian origins. The majority of the primary economic activities of the city continued under the Romans, but the city did lose its status as an important garrison, with the Roman legion moving south to Babylon.

The town and city in ancient Egypt

The towns and cities of ancient Egypt were products of a society that was structured around a well developed internal economic system. This society was administered from a series of provincial capitals, a number of which grew out of regional centres many of which had, in turn, an origin in a cluster of late predynastic settlements. There are early signs of the use of state-established settlements as a political and economic tool in order to ensure the logistical support of special interests such as the royal court, temple and royal funerary cult. The agricultural village, as an important resource, was incorporated into the economy of the specialised town, not only through taxation but also though a system whereby the settlement would be bound to the beneficiary of its production, as part of an administrative unit, known as the domain.

Other special needs generated other types of settlements, such as those associated with industrial production or special construction, such as the workmen's villages of the quarries or of the necropolis of El Amarna and Thebes, or those which were generated by the frontier garrisons. Even communities closely associated with the kingship could be organised as economic institutions, and thus function as contributors to the national economy. Characteristic for those settlement types which Kemp (1989b pp. 137ff.) has characterised as 'model communities', particularly as is found in the Middle Kingdom, is the well thought through layout arranged within a square or rectangular enclosure wall, along streets and cross-streets.

The town, as the first level of urban society, was organised around principles of specialisation, which facilitated production of goods and services. Self-sufficiency, in the form of access to agricultural land holding and workshops, provided internal support, while subventions, supplementing the needs of the community were available through the redistribution of a surplus collected via a system of regional and national taxation.

The temple was an important focus for ancient Egyptian communities throughout Egyptian history, beginning with the regional centres which often had the shrine of the local deity as their focal points. The cults of those settlements were particularly enhanced when local deities were projected into the roles of divine kings. This is certainly the case with the cults of Thebes, Heliopolis and Memphis, in each case the home of a divine creator-king, and is reflected in the theology formed for the short-lived creator-cult of the Amarna god Aton. The ideological association between the kingship and the cults of these national centres not only created a bond between the mortal and divine representatives of the kingship, but also ensured a continuing investment in the material prosperity of the cult that transcended the shifting geographical foci of power. The combination of kingship and national cult, supported by a population of priests, administrators, artisans as well as a large 'proletarian' labour force involved in construction, supply and maintenance, created the preconditions for the Egyptian city of the New Kingdom, with the large temple complexes functioning as the urban centre, and clusters of districts of varying character spreading out as suburban extensions.

The relationship between the city and the small-scale community was evidenced in a a number of ways. The population of the Egyptian city, diverse in its makeup, maintained a pattern of family connections and hereditary land ownership which linked together the provinces and the cities, both economically and psychologically. Even within the cities, divisions into quarters and districts, indicates that a sense of local community was maintained, probably manifested in some form of district administration. A system of royal endowments, which pledged the production of provincial domains to the support of the national cults, emphasised the interdependence of city and country, as the Temple Cities maintain the balance of the cosmos and the rural villages fed the nation.

The gradual dissolution of the concept of the kingship, and its ties to the well-being of the nation, that accompanied the integration of Egypt into the Mediterranean world, eliminated the cultural and economic dynamic upon which the Pharaonic city was created and maintained, transforming it into an anachronism that was unable to survive unless transformed by the trappings of Christian ideology.

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Religious officials	49	Gardeners	5	Porter	1
Herdsmen	18	Brewers	4	Guard	1
Scribes	13	Attendants	3	Doctor	1
Fishermen	12	Potters	3	Goldworker	1
Copper workers	9	Bee-keepers	2	Gilder	1
Medjays (Police)	9	Incense roasters	2	Measurers	1
Sandal-makers	8	Woodcutters	2	No title	1
Administrative officials	7	Chief Gardeners	2		
Agricultural workers	6	Chief storeman	1		
Washermen	6	Chief workman	1		
Chief stablemen	6	Chief porter	1		

Table 1. The occupations of the house owners of Medinet Habu. Summary of 'list of the towns (`dmiw`) of the west of the city (`imntt niwt`) from the temple of Menmaatre (Seti I) to the village (`wHyt`) of Maiunehes' (Peet 1930, pp. 83ff.)

	THEBES	HELIOPOLIS	MEMPHIS
People	86,486	12,963	3079
Cattle	421,362	45,554	10,047
Garden lands (in aroura)	433	64	5
Fields (in aroura)	864,168	160,084	10,154
Boats (qrr, mnS)	83	3	2
Carpentry shops	46	5 1/2	-
Towns of Egypt	56	103	1
Towns of Syria and Nubia	9		
Nubia			

Table 2. Crown subsidies under Ramses III. Papyrus Harris I (Erichsen 1933; Grandet 1994).

Captions for illustrations

Fig. 1. Hierakonpolis with the partially excavated Old Kingdom town. After Trigger, Kemp, O'Connor & Lloyd 1983, p. 97.

Fig. 2. The valley temple of Mykernios. After Trigger, Kemp, O'Connor & Lloyd 1983.

Fig. 3. The workmen's village of El Amarna. After Stead 1986, p. 7.

Fig. 4a. A Palestinian fortified town of the Old Kingdom. From the tomb of Inti. After Petrie 1898, Pl. IV.

Fig. 4b. A Middle Kingdom fortification. from Beni Hassan, tomb no. 17. After Newberry 1893b, Pl. IV.

Fig. 5. The fortress of Buhen. After Kemp 1989b, p. 170.

Fig. 6. The New Kingdom city of Thebes. After Kemp 1989b, p. 205.

Fig. 7. Ptolemaic Memphis – the valley city and the necropolis area. After Thompson 1988, p. 11.