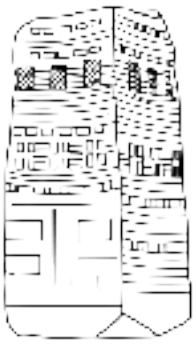
LES MAISONS-TOURS EN ÉGYPTE DURANT LA BASSE ÉPOQUE, LES PÉRIODES PTOLÉMAÏQUE ET ROMAINE

Édité par Séverine Marchi

avec une préface de
Dominique Valbelle



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PRÉFACE

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Située en bordure du delta oriental du Nil, dans la zone frontalière où se sont succédé de puissantes fortifications, depuis les mythiques « Murs du Prince » élevés au début du Moyen Empire pour prévenir une nouvelle invasion du territoire égyptien par des populations proche-orientales et le *khétem* de Tjarou au Nouvel Empire jusqu'à la forteresse de Péluse dans la deuxième moitié du premier millénaire av. J.-C., celle de Migdol se situe géographiquement à l'interface de plusieurs mondes : l'Égypte, bien sûr, le Proche-Orient et les pays de la partie orientale du pourtour méditerranéen. Dès le dernier quart du VI^e^ siècle av. J.-C., l'empire perse a généré la circulation des modèles architecturaux et des techniques de construction à travers les différentes provinces qui le composaient. Il n'est donc pas surprenant que chaque saison ait révélé des matériaux, des modes de construction et des types de bâtiments inconnus jusqu'à présent ou attestés dans des régions très éloignées des bords du Nil.

Parmi les modèles architecturaux présents sur le site de Tell el- Herr, nous avons choisi, en 2012, de privilégier celui de la maison-tour et des bâtiments élevés sur de puissantes fondations à caissons, bien représenté dans plusieurs niveaux archéologiques, et d'inviter les collègues qui avaient eu l'opportunité d'en dégager et d'en étudier récemment en Égypte ou au Soudan, afin de tenter de mettre en évidence un certain nombre de spécificités structurelles et fonctionnelles. Ces présentations archéologiques ont été complétées par deux communications portant sur l'apport respectif de l'iconographie et des papyrus grecs. L'idée de cette rencontre s'est nourrie de visites de sites et de contacts encourageants avec divers collègues. Une table-ronde cofinancée par l'Université de Paris-Sorbonne (Paris IV)[1], le CNRS[2] et le Ministère des Affaires Étrangères français[3], s'est donc tenue au Centre de Recherches Égyptologiques de la Sorbonne les 29 et 30 novembre 2012[4], avec l'accord de l'ensemble des institutions auxquelles appartiennent les spécialistes contactés[5]. Elle a été ouverte par M. Adelino Braz, responsable du pôle Sciences humaines et sociales à la Sous-direction des échanges scientifique et de la recherche.

1 Centre de Recherches Égyptologiques de la Sorbonne, École Doctorale n°1 « Mondes anciens et médiévaux », Fond d'Investissement pour la Recherche.

2 UMR 8167 « Orient et Méditerranée », équipe « Mondes Pharaoniques ».

3 Ministère des Affaires Étrangères (DGM/ATT/RECH – Pôle SHS).

4 Programme : Introduction par Dominique Valbelle, Les maisons-tours du site de Tell el-Herr par Séverine Marchi, Le quartier saïto-perse d'Héboua II par Elsayed Abd el-Aleem, Towerhouses in Tell el-Dabʿa. The Late and Ptolemaic Period par Manuela Lehmann, Maisons-tours et organisation des quartiers domestiques dans les agglomérations du Delta : l'exemple de Bouto de la Basse Époque aux premiers lagides par Grégory Marouard, Tower houses in the sacral area of the temple of Bastet at Bubastis. New results par Eva Lange, Deux maisons-tours dans la chôra d'Alexandrie par Valérie Pichot, Industry and houses? Urban space and construction methods in Kom Firin during the Saite-Persian era par Neal Spencer, Les maisons-tours de Tebtynis par Gisèle Hadjiminaglou, Les maisons-tours de l'association religieuse à Touna el-Gebel par Melanie Flossmann, Les *pyrgoi* dans les papyrus grecs d'Égypte, Les maisons-tours dans la mosaïque de Palestrina par Jean-Yves Carrez-Maratray, Les édifices sur soubassement par François Leclère et Les soubassements à caissons des palais et demeures méroïtiques : une influence des *pyrgoi* ? par Marc Maillot, Conclusions par Mohamed Abd el-Maksoud.

5 CSA, IFAO, CEAlex, BM, OIC/HeRMA (Poitiers), ÖAI, Univ. Göttingen, Freie Univ. Berlin.

Sur les treize communications présentées, quatre des intervenants n'ont pas souhaité donner un texte dans la présente publication en ligne. Notamment, Geneviève Husson[6] et François Leclère[7] s'étaient déjà exprimés sur le sujet dans les publications respectives de leurs doctorats, tandis que Elsayed Abd el-Aleem, qui traitait du site de Tell Héboua I aux périodes saïto-perses, devait réserver la primeur de ses découvertes à la rédaction de sa thèse, en cours. Neuf articles sont néanmoins présents dans cette publication dont la formule numérique a paru particulièrement adaptée à l'exercice de réflexion engagé et a été décidée par l'ensemble des participants lors de la séance de clôture. Conçu et mis en page par Séverine Marchi qui a co-organisé cette table-ronde avec moi, le présent volume est le numéro 2 d'une nouvelle revue en ligne gratuite, intitulée *Nehet*, de l'équipe « Mondes Pharaoniques » de l'UMR 8167 du CNRS « Orient et Méditerranée » et du Centre de Recherches en Archéologie et Patrimoine de l'Université libre de Bruxelles.

Les travaux évoqués ici illustrent, sur une dizaine de sites de la vallée du Nil, l'apparition dans le courant du premier millénaire av. J.-C. du modèle architectural de la maison-tour et de ses rapports avec des bâtiments également à étages, construits sur des plates-formes de fondation à caissons. On en connaît sur bien d'autres sites, tous les fouilleurs concernés n'étant pas disponibles aux dates fixées pour la rencontre ou n'ayant pas pu être joints à temps. La plupart sont néanmoins citées dans les contributions ci-dessous. Des maisons privées à un ou deux étages semblent avoir déjà existé en Égypte dès le Nouvel Empire, ainsi que le suggèrent, par exemple, les habitations figurant sur les murs des tombes de Djehoutynéfer (TT 104)[8] et de Nebamon (TT 90)[9], du papyrus de Nakht (BM 10411) ou la maquette en pierre E 5357 du Musée du Louvre.

Peu de quartiers résidentiels antérieurs à la Basse Époque ont été fouillés de manière suffisamment extensive jusqu'ici pour que l'on puisse se faire une idée précise de la hauteur moyenne des bâtiments dans les grandes villes d'Égypte. Cependant, l'analyse que propose N. Spencer de l'évolution de la topographie urbaine sur le site de Kom Firin est révélatrice de transformations majeures dans la conception de l'habitat entre le II^{e} et le I^{er} millénaire. Les vestiges en brique crue sur les sites de Kom Firin, Bouto, Tell el-Dab'a et Tell el-Herr décrits ici se situent dans une fourchette chronologique comprise entre l'époque saïte et l'époque ptolémaïque, tandis ceux de Tebtynis, Touna el-Gebel et les deux maisons tours en pierre de Marea datent exclusivement de l'époque ptolémaïque. Enfin, à partir de l'exemple du bâtiment d'El-Mouweis, le cas des palais méroïtiques est également abordé.

La répartition géographique des sites pris en compte donne la part belle à l'ensemble de la Basse Égypte, mais le Fayoum est bien représenté avec le site de Tebtynis où il est possible de mettre en évidence plusieurs catégories de bâtiments à étages. La Haute Égypte n'est évoquée qu'à travers le cas particulier des maisons du village de l'association religieuse qui bordaient le dromos et la voie processionnelle du temple de Touna el-Gebel. Le Soudan est également présent pour l'époque romaine.

Selon l'état des vestiges, la nature et l'étendue des quartiers mis au jour, les résultats présentés sont évidemment très inégaux, mais ils permettent déjà de se faire une première idée de la

6 G. Husson, *OIKIA. Le vocabulaire de la maison privée en Égypte d'après les papyrus grecs*, Paris, 1983.

7 Fr. Leclère, *Les villes de Basse Égypte au 1er millénaire av. J.-C., BdE* 144, IFAO, Le Caire, 2008.

8 PM I/1, 218 (5).

9 PM I/1, 183 (3).

diversité des caractéristiques architecturales et des fonctions que présente cette large catégorie de constructions qui se développe essentiellement à partir du VI^e^ siècle av. J.-C. L'objectif de cette rencontre étant de mettre en commun l'expérience acquise par l'ensemble des participants pour aider chacun à mieux percevoir, quel que soit l'état des ruines correspondantes, les spécificités des maisons-tours et bâtiments contemporains élevés sur des fondations à caissons en Égypte.

Les plus anciennes maisons-tours commentées ici, érigées à l'époque saïte, se trouvent donc à Tell el-Dab'a et à Bouto. La plupart de celles de Tell el-Dab'a présentent un plan carré ou rectangulaire, éventuellement en forme de L. Elles sont bâties sur de puissantes fondations à caissons qui ont parfois servi de magasins. Celles de Bouto, de plan carré à rectangulaire avec une distribution intérieure tripartite, sont bâties sur des fondations à caissons qui subsistent après un arasement intervenu plus ou moins tôt dans l'époque saïte. G. Marouard, qui a conduit une étude approfondie sur la maison en Égypte aux époques tardives, a pu mettre en évidence la relation entre ce type de construction et leur contexte urbain à Bouto comme sur d'autres sites contemporains. Sur les deux sites, les dimensions des maisons-tours varient entre 12/15 m et une vingtaine de mètres de côté.

À Tell el-Herr, se rencontrent des exemples de la période suivante. Les niveaux contemporains de la forteresse perse érigée durant la première moitié du V^e^ siècle av. J.-C, encore largement recouverts par les vestiges de bâtiments postérieurs, n'ont pas livré jusqu'à présent de vestiges de maisons-tours dans les quartiers accessibles. En revanche, les fondations de trois bâtiments attribuables à ce type ont été mises au jour dans les niveaux de la deuxième forteresse édifiée au tournant du V^e^ au IV^e^ siècle. Les deux plus anciennes furent élevées en briques cylindriques, tandis que la troisième, attribuable au deuxième quart du IV^e^ siècle et qui s'appuie sur l'arasement d'un bâtiment antérieur, est construite en briques rectangulaires. Quoiqu'elles appartiennent à deux catégories nettement différenciées, l'une d'elle de plan rectangulaire ayant une superficie au sol nettement plus réduite — 9 m sur 6 m — que les deux autres — 16,70 m sur 16,30 m et 13,75 m sur 13 m—, elles présentent toutes les trois une répartition interne tripartite, comme ailleurs.

Toutes les autres maisons-tours décrites dans ces pages datent de la période lagide pour laquelle nous obtenons donc une vision plus représentative de ce mode de construction manifestement en plein développement à l'époque, aussi bien dans d'anciennes villes du Delta et de la vallée du Nil que dans des territoires situés en bordure des terres cultivées, où l'espace ne manquait pas. L'analyse archéologique de certains de ces *pyrgoi* a permis de définir leurs fonctions. L'intérêt des exemples développés ci-dessous réside aussi dans la variété des contextes géographiques et urbains auxquels ils renvoient respectivement : le village de l'association religieuse de Touna el-Gebel aménagé le long de la voie processionnelle qui conduit vers le dromos du temple d'Alexandre IV, la partie sud de celui de Tebtynis en lisière méridionale du Fayoum, l'agglomération qui se superpose au site de Tell el-Dab'a, les niveaux ptolémaïques de la forteresse de Tell el-Herr, les quartiers situés en bordure nord-est du Kôm A de Bouto et l'agglomération de la presqu'île de Maréa qui comportait des fondations en pierre.

Parallèlement à cette analyse d'un certain nombre de maisons-tours présentant de nombreuses caractéristiques communes, a été évoqué le modèle architectural des grands bâtiments sur fondations à caissons qui se multiplient en Égypte et au Soudan, à la Basse Époque comme aux périodes grecque et romaine. L'exemple développé ici est celui d'un palais romain du site de Mouweis. Mais F. Leclère a rappelé que ce mode de fondation a supporté des bâtiments aux fonctions distinctes : palais, bâtiments administratifs divers, *chén'a ou'ab*, etc.

THE PALACE OF MUWEIS IN THE SHENDI REACH: A CASE STUDY

Marc Maillot *

The major discovery of the first excavation season of the Louvre Museum in Muweis (**fig. 1**), in 2007, was that of a Meroitic palace in the southern part of the site[1]. The large ruin had already been identified in 1969 and protected thereafter, but it remained of an undefined nature due to the lack of excavations.

The survey performed by A. Sokari and P. Lenoble pointed out in 2003 that here lied an important structure, as shown by the dense cover of red bricks, the presence of small black ferricrete sandstone slabs and white lime plaster fragments. Thanks to the potsherds collected on the surface and those coming from ditches recently dug inside the hill, they proposed to date the monument to the Classical or Late Meroitic period[2]. During the surface clearings performed by the present mission in January 2007, mud brick walls 1.5 to 1.7m large (four bricks of 340 x 370mm) soon began to appear. The strategy adopted then and later consisted in following the walls both on the top and at the foot of the 4m high hill.

The *kôm* is situated next to the southern limit of the archaeological site (**fig. 2**), at the margin of the monumental area located on a large central strip inside the city. It is limited on its south and west sides by agricultural fields and on the north and east sides by a small canal recently dug out, which separates the *kôm* from the rest of the city. The hill-shape of the ruin is due to natural topography, human activity and erosion; its flat surroundings are often used as a path by local farmers or shepherds and their cattle. The south part of the structure has now been completely destroyed by land reclamation and some of the building material is dispersed in the fields, such as foundation stone slabs.

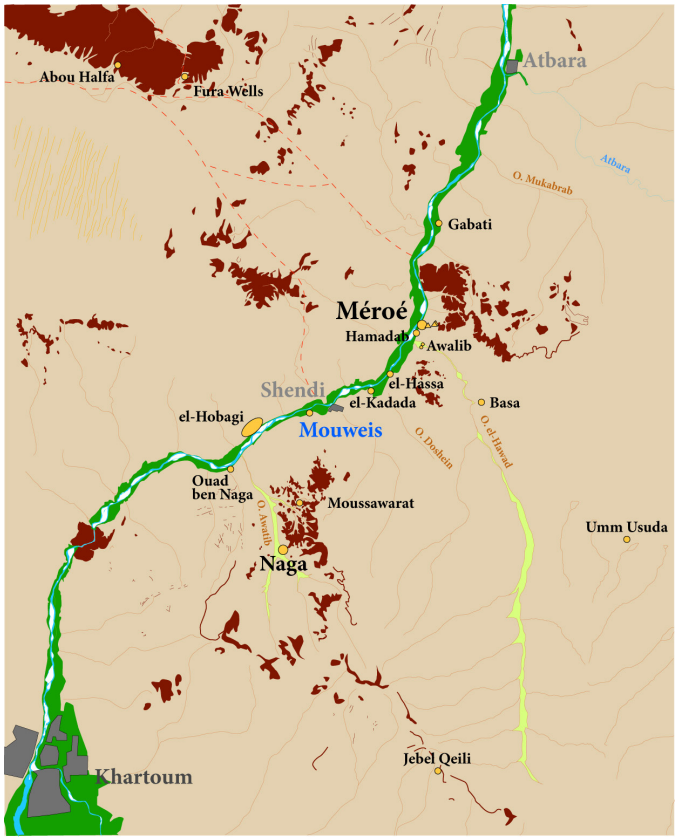

Fig. 1. General Map of the « Island of Meroe »

1 Baud 2008, p. 52-53.

2 Lenoble & Sokari 2003, p. 59, pl. 28.

Fig. 2. General view of the *kôm*, looking south-east

Hidden under the debris lies the heart of a large palatial structure which extends all over the low, flat area surrounding the hill, immediately under the surface. The present size of the building is 51.5m on its east-west axis and 49m north-south but was originally larger.

The partial plan, which displays long corridors, very elongated rooms (11 to 14m) and larger rooms in the central part of the building is strikingly reminiscent of the palace basement at Wad Ben Naga[3], hence the proposed identification for the Muweis structure. Moreover, the core rooms are distributed the very same way and generally possess similar proportions, even though their size is about 10% larger at Wad Ben Naga[4]. The similarities in plan could not be however verified in the southern part of the building, which had been completely destroyed by land reclamation. The comparison with Wad Ben Naga also allows us to infer that the two palaces were of equal dimensions, namely 60m a side. Indeed, to the present east-west length must be added on the east side a supplementary row of rooms now almost entirely vanished, nearly 10m wide i.e. pointing to an original length of 60/61m[5]. Knowing the predilection of the Meroites for royal buildings of great dimensions (40 to 65m a side) and square in plan, the structure of Muweis must have had sides of equal length. We can therefore estimate the missing portion of the southern part between 10 to 20m since its actual north-south dimensions are reduced to between 40.7m and 49.2m.

3 Vercoutter 1962, p. 277-278.

4 For preliminary comments on this structure and its comparison with the palace of Wad ben Naga, see Baud 2011.

5 *Ibid.*, p. 340.

General layout of the palace and interpretation

A bipartite monument

The building is divided into two parts by a major, continuous wall (**fig. 3**, F17) running east-west through the whole of the structure. No other wall possesses such a length (about 49m in its present state). It has no equivalent, because all the longest walls which adopts the same north-south orientation are interrupted by F17; indeed, the walls which feature on the north and south sides of F17 are never strictly aligned. The palace is therefore divided into two separate areas, the northern part which constitutes 2/5th of the building (around 24 x 61m) and the southern

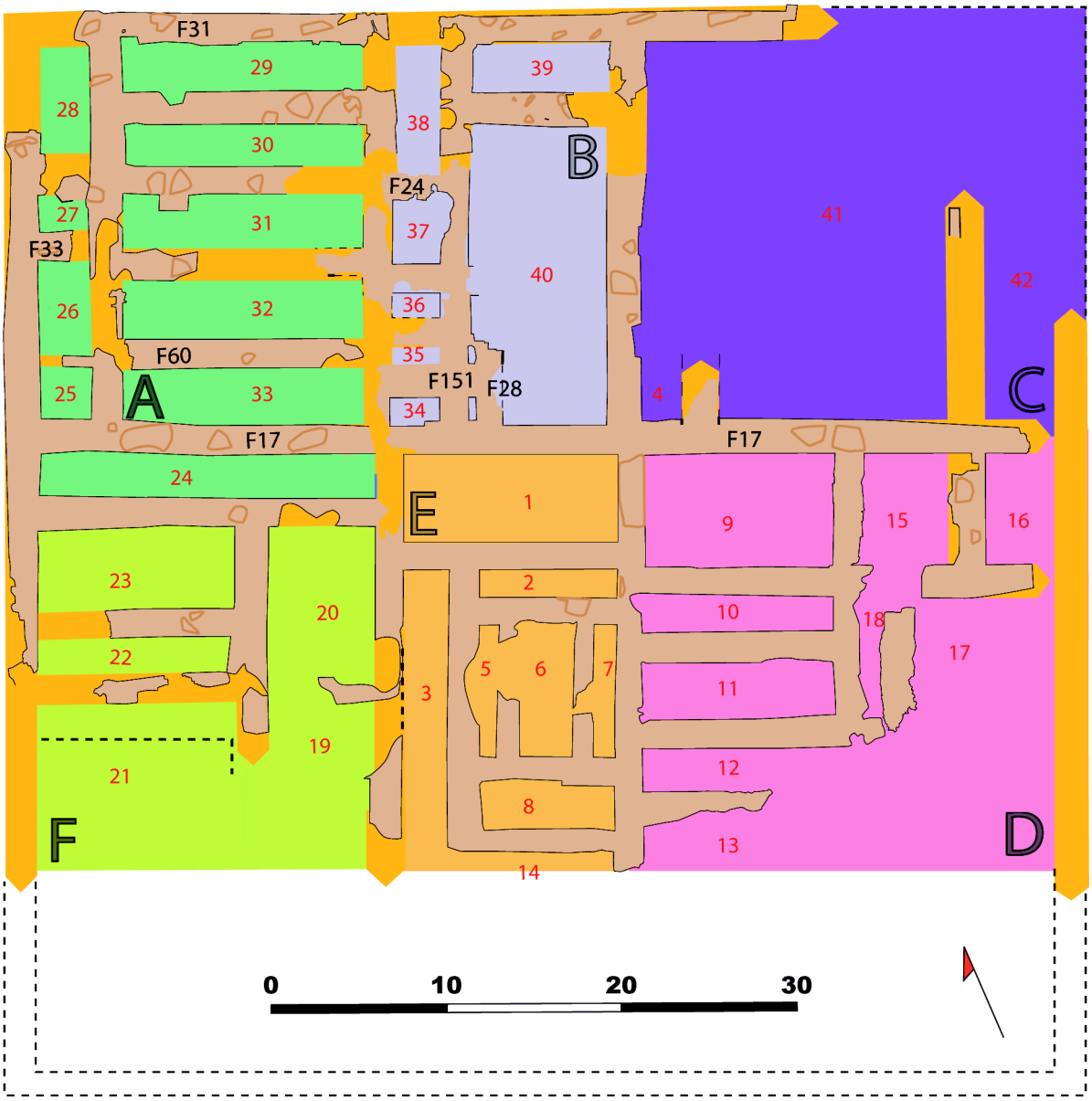

Fig. 3. General plan of the Muweis' palace

part which represents the remaining 3/5th (37 x 61m)[6]. Three sets of rooms are visible in the northern part of the palace, which we identify as A to C from west to east (A: 20.5m, B: 15.9m and C: 25.5m). Another three-sets structure features in the southern part, D to F in reversed orientation (D: 21.8m, E:12.2m and F: 19.2m).

Set A, palace north-west

The first cluster, our set A, is bipartite. On its western side, it displays a strip of four small rectangular rooms (n^{os}25-28) situated along the western outer wall of the palace (F30). These rooms are approximately of the same width (2.8m) but of various length (room 25 : 2.75m; 26: 5.25m; 27: 1.85m; 28: 5.9m). As they lack any communication between them, they can be interpreted as casemates, the function of which would be to support the western side of the palace. They are flanked on their east side by a set of five rooms (n^{os} 29-33) orientated east-west, very elongated (13.85m) and narrow, quite similar in width (2.48 to 3.35m). This set shows striking similarities to the one situated at the very same spot in the palace of Wad Ben Naga. According to this parallel, the two rooms on the north side would also function as casemates while the three southern ones would be magazines. In Muweis however they do not exhibit the dividing wall which separates a vestibule from the rest of the room, apart from room n°31 and probably n°32 (some slight traces seems to indicate the presence of a dividing wall, which is not reported on plan).

The similarity between these rooms and the storage rooms of other palatial buildings such as Wad Ben Naga remains however particularly striking[7], even if we do not possess here in Muweis any evidence of their function as magazines.

Set B, palace middle north

Set B, in the centre, is composed on its east side of a large room (n°40), certainly subdivided originally by internal walls, of which nothing remains. This set is closed on its north side by room 39 (7.7 x 2.8m). On the west side, a narrow strip orientated north-south includes five rooms (n^{os} 34-38) towards the north exterior wall (F31). This narrow strip is, to say the least, very peculiar with its five small rooms of diminishing size to the south. Wall F24 (**fig. 4**, 1.5 x 2.5m) has a curious structure as it consists in only four courses of mud brick in header/stretcher pattern at its base, topped by three (remaining) courses of red bricks – nowhere within the building the fired brick masonry is at such a low level. The whole wall, the foundations of which are rather deeply cut into the virgin soil, also rests on a layer of small red brick fragments almost 200mm thick. Wall F24 had no plaster coating and was therefore not intended to be seen; its red brick structure may be

Fig. 4. Wall F24

6 *Ibid.*, p. 344.

7 Baud 2011, p. 341.

interpreted as a mean to strengthen the structure, possibly as a pillar-like foundation for a large open space situated on the first floor/raised basement. The walls of rooms 34-36 would confirm this interpretation, as they are also atypical. F151 which closes this set on its eastern side displays a change in its structure along rooms 34-36, as it included a core of red bricks (now all trench-robbed) at a low level. On its southern end, it abuts the major dividing wall F17 but covers its bench-like foundation, indicating the latter's anteriority in the building sequence of the palace walls. F151 also rests on the virgin clay surface while F17 is cut deep into it. Running parallel to F151 and very close to it on the east side is also an extra reinforcement wall, F28, chronologically later again. Given all this peculiarities, this row could be interpreted as the casemate foundations of an internal ramp, rather than a corridor. The decrease in the surface of the "rooms" would correspond to a higher level of the ramp, as it progressed southwards.

Set C, palace north-east

Set C on the eastern part includes the north-east angle of the palace structure. It is so poorly preserved that its arrangement can no longer be observed. The palatial levels are indeed almost completely destroyed here, except for the outer, northern wall (F31) and only very few inner ones. The narrow width of rooms 4 and 42 is the only certainty, but their length cannot be estimated.

Set D, palace south-east

The western half of Set D corresponds to a group of magazines, as made clear by their plan stretched in length (10.9m) for a width limited to 2.2m to 3.2m. This group also includes a larger room (n° 9) on the north, 6.5m wide but of the same length as that of the magazines. As for the eastern side of this set, things are less clear because of the poor state of preservation of the remains. Room 18 is curiously narrow.

Set E, palace middle south

Set E is tripartite. The large rectangular room 1 closes this set on its north side (12.2 x 5.1m) and a long corridor, n°3 (2.60 x 16.6m minimally), runs along its west side. The remaining part (14.9m x 7.9m) is itself divided into five small units. Two rooms are orientated east-west and situated at the north and south ends (n^{os} 2 and 8), while three others are north-south and feature in the centre (rooms 5-7). The north-south central axis of the palace cuts approximately through the centre of this group. The two narrow walls separating rooms 5-7 is a possible indication of their use as foundations for a two-row colonnade, as attested in Wad Ben Naga in connection to the main south entrance. This interpretation is strengthened by the lack of floor within these rooms. Indeed, inside the main entrance of the palace – situated in the two small rooms flanking the "coating area" of rooms 7-8 – no floor was discovered, but only a simple filling by the upper demolition down to the foundation foot. Made of a supplementary course of mud brick along the wall down to the Early Meroitic level, it was cut by the foundation of the palatial structure. Therefore, the whole area can be considered as foundation for a special room upstairs, certainly the main south entrance marked by six sandstone columns.

Set F, palace south-west

Finally, the westernmost set F is closed on its north part by a long corridor (n° 24), orientated west-east, which leads to the centre of the building (19 x 2.5m). The south part of the set displays five rooms, all rectangular in shape (n° 23: 11 x 4.4m; 22: 10.75 x 2m; 20: 8.5 x 6.15m). Furthermore, there is no communication between the rooms of set F. Unfortunately, the south-west part of the set is largely destroyed, as the walls here were almost completely washed out by a large wadi running from the top of the hill.

In this set, rooms 22 and 23 can be interpreted as supporting casemates for a large room upstairs. This arrangement is unique to Muweis since the palace of Wad Ben Naga shows at the same place the west entrance of the monument, marked by three sandstone columns. This indicates, therefore, that despite a very similar plan, the Muweis palace is not a mere duplicate of Wad Ben Naga 100 or the opposite.

The foundations of the palace: building methods

What remains of the palace walls was thoroughly studied, revealing interesting clues about the building methods.

The brick masonry

The brick module is 350 x 180 x 80mm as also attested at the palace of Wad Ben Naga and other important structures elsewhere. The brick bonding shows the usual alternation of headers and stretchers coffered with mud bricks also in the header/stretcher pattern. The thickness of the internal walls, between 1.38m and 1.58m, appears somewhat smaller than expected for monumental buildings, such as Wad Ben Naga, around 1.8m. Nevertheless, a similar width was observed in the domestic architecture of Meroe city, inside rectangular buildings[8].

A part of the foundation walls is made of red bricks laid on their side, sometimes abutting fired bricks put on their edge (westernmost wall F30). In some localized areas, these foundation courses seem to be match spots strengthened to support the second floor. Thus, several specific spots within some of the walls show this type of foundation. Walls F60 and F33 are the best examples, as well as wall F31 (junction of walls F30 and F31, set A, palace north-west). These spots are adjacent to the exterior of the palace, indicating the same function of extra support for larger rooms on the second storey or needing a special reinforcement. Moreover, we also detected several of these red brick foundation courses under internal walls of the palace (wall F24, wall F67), thereby pointing out to their use again to strengthen specific points.

Protection against water

It is only in the south-eastern part of the palace that ferruginous sandstone slabs were identified in the foundation. This peculiarity has therefore to be definitely explained by the water draining properties of this underlying 'pavement'[9]. In the same area were also discovered examples

8 Further, it was also especially observed inside the lower levels of KC100 temple, Shinnie & Anderson 2005, p. 12.

9 Baud 2011, 354.

Fig. 5. Wall F65

of the technique of filling the bottom part of a room with layers of red brick fragments, not unknown in Meroitic architecture[10]. Such is the case for the very narrow room 18, were four to five layers of brick fragments were used, usually third to half of a brick. This "fill" abuts the sandstone slabs and are also to be understood as an element of the protection system against water flowing. Similar brick fragments were also uncovered in rooms 13 and 14 at the most southerly preserved part of the palace, where most of the walls have now vanished. They are probably the last hint for the presence of narrow casemates the framing walls of which are destroyed. The fired bricks are sometimes mixed with vitrified brick fragments, most suitable as a hard material against water infiltration as well as a good way to use brick wasters. Among the building peculiarities, we can also mention a wall (**fig. 5**, F65, room 16; set D), the foundation of which is composed of two levels: the lower one consists in red glazed bricks, covered by more than a dozen layers of black ferruginous sandstone slabs. The whole foundation is dug very deep in the virgin soil (rooms 15-16)[11]. Some red bricks under the slabs bore fingerprints, this kind being usually associated with vault starters in Meroitic monumental architecture[12]. Thus, these peculiar bricks are probably brick waste, reused as a foundation. Furthermore, the bricks discovered under the slabs might suggest that a covering by vault was in use inside the palace, probably in the basement[13].

Casemates and storage rooms

Buildings including a foundation platform are common in the monumental architecture of the Meroitic period[14]. Wad ben Naga is one of them, as numerous structures in Meroe city, such as the M750 palace where all the rooms in the basement are without communication. B1500 in Djebel Barkal has his first functional level raised on a 1.80m platform. This holds true for the palace of Muweis, which displays a number of casemate rooms. Indeed, even though some walls are preserved to a height of 2m above the foundations (which are cut across Early Meroitic domestic structures), doors are entirely missing. In addition, none of the excavated mud brick walls bears a coating, and no floor or surface of any kind has been met within a number of rooms.

10 Shinnie & Anderson, *op. cit.,* p. 45-46, fig. 35.

11 See Bradley 1984, p. 285-286; Hintze 1984, p. 335-336; Fitzenreiter 1999, p. 34-35.

12 Woolley 1911, p. 11-12.

13 Baud, *op. cit.*, p. 353.

14 For various parallels: *Ibid.*, p. 349-352.

These observations convey the idea that these rooms are casemates designed to strengthen the structure and support the upper storey(s). This has been made clear, among other examples, for rooms 25-28 of set A. In Muweis such rooms were left empty while examples from Pharaonic Egypt show that they were normally filled to the top with all-comers, *i.e.* the remains of earlier demolished buildings or construction waste[15]. Although there are debris filling the Muweis rooms, their high density in broken, sometimes coated red brick shows that is merely the result of the later collapse of the building. It is therefore likely that a covering by vaults, attested in the Egyptian Delta[16], but also in Lower Nubia during the Meroitic period (see Ash-Shaukan[17]) was in use here and has abolished a systematic cell-filling in the basement.

The palace thus stood on a platform built of casemate rooms, a raised foundation at least 2m high. Above this platform stood a first level, equivalent to the ground floor of Wad Ben Naga, then a second level if we follow this parallel[18]. It is from this upper level, devoted to royal pageantry, that certainly comes the mass of plastered brick found in the room debris.

The results of season 2011 now lead us to nuance this interpretation. Indeed, the presence of functional rooms in the basement is now confirmed by the discovery of floors in some rooms. Such is the case for rooms 9-12 in set D where they are approximately at the same height (asl 370.93m). The floor levels here were littered with potsherds and animal bones while slight traces of fire could also be identified, indicating a continuous occupation between the very end of the first century B.C. and the beginning of the first century A.D. This dating is the result of the accumulation of the sherds inside the stratified floor levels, producing a restrained chronological sequence. The persistent lack of any door can probably be explained by the very poor state of preservation of their eastern parts, were accesses are expected – unless they were provided through the upper storey.

Apart from these regular floors and occupation layers, surfaces of unusual type or unusual cleanliness were also brought to light. The most intriguing floor is certainly that of room 6, which is made of a succession of hard whitewashed clay surfaces[19] covered with a 3-4cm thin layer of sandy clay mixed with great amounts of water, hence the numerous cracks. This is the result of several renovations, indicating the continuous use of this surface. The stratified floor levels include fragments of handmade pottery and animal bones, but they mainly consist in coating. All this tends to indicate a sort of small workshop in this room, possibly related to the repeated production of coating and/or its preparation[20]. This probably explains the lack of any kind of more specific material (except for the pottery), which remains a curiosity.

Another moot point is the level of the floor of room 3, a long corridor in set E, situated 57cm below the local norm. Additionally, this floor again lacks traces of occupation, including potsherds. It can therefore hardly be interpreted as a corridor leading to the upper storey, as it had been at Wad Ben Naga[21], an assumption which is also contradicted in Muweis by the

15 Leclère 2008, p. 660.

16 Spencer 1996, p. 57.

17 Jacquet 1971, p. 121-125.

18 Baud 2011, p. 349-350.

19 For this type, see Ahmed 1992, p. 99-103.

20 Vercoutter 1962, p. 281-284, fig. 11-33; also, for the coatings on white mortar, in palatial structures, see Donadoni 1993, p. 101-115. About the usual concentration of pigments in working areas, see Kroeper 2006, p. 287.

21 Vercoutter 1962, p. 279.

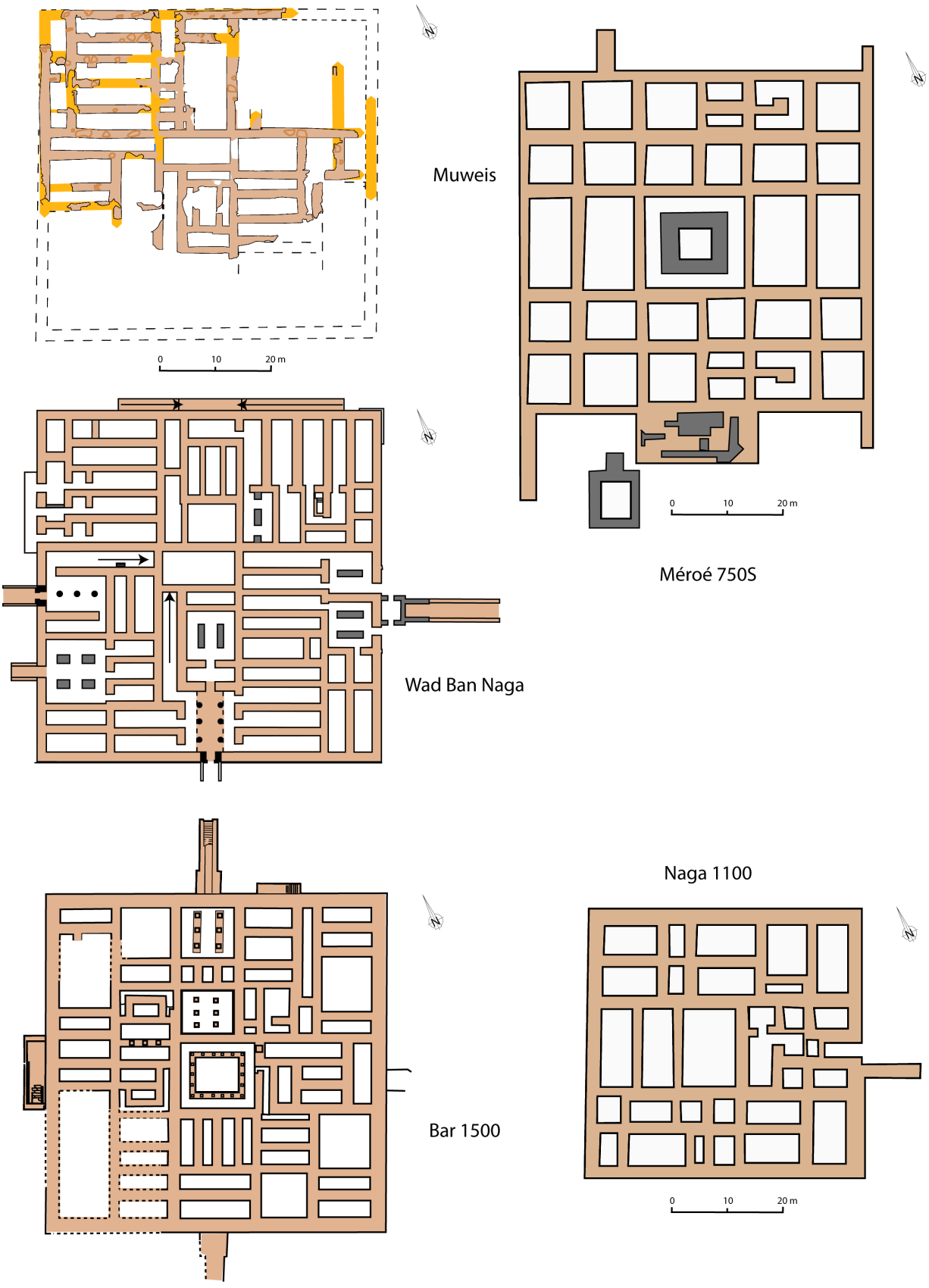

Fig. 6. Meroitic palaces

horizontality of the floor (at least in the spot where it could be investigated). Like all the other rooms which did not show any trace of occupation, its floor may only have been in use during the process of construction.

An Egyptian influence ?

Meroitic palaces in the Butana or in the Djebel Barkal show the same specificities: huge dimensions (50 to 60m), square in plan with several floors and a important part of the basement rooms without access (**fig. 6-7**). This choice of structures on casemate foundations , also called "cellular platforms" is in no way a model which can be attributed to late periods.

This building style is particularly well attested in the Egyptian Delta since the beginning of the New Kingdom with the Tell el-Dab'a[22] and Deir el-Ballas[23] palaces. If the origin of this architecture remains unclear, a Hyksos – and thus Levantine[24] – influence is regarded as the most serious runway, the earliest structures of Tell el-Dab'a belonging to the end of the Hyksos period - to Dynasty XVII. This pattern is also often considered as a type of construction particularly widespread in the Late Period, at which time the solution is found very regularly in monumental installations, especially on sites of the Delta[25]. On several occasions these structures have been uncovered at Tell Defeneh, Tell Maskuta, Tell el-Balamun, Tanis, Naukratis, etc[26]. Particularly large and composed of dozens of casemate foundations, they are often equipped with a sloping ramp which materializes the front entrance and above all the main central axis.

The distribution of casemates is usually symmetrical on each side of the central axis, and the organization of these spaces provides a relatively accurate reflection of the room organization on the first floor[27]. This pattern can also be found in the rest of the Egyptian territory[28], for example in Kôm el-Ahmar or Qasr'Allam[29] . Among these structures, some buildings were particularly massive, and their main feature was an elevated platform. In most of these cases, only the foundations remained, composed of a network of thick walls separating casemates filled in with sand and earth. This kind of construction was already used in earlier times, especially for palatial buildings[30], but this solution seems to become widespread among common housing[31], especially during the Graeco-Roman period[32]. As for their Sudanese counterparts, an Egyptian influence, especially concerning the later palaces such as Wad Ben Naga, must be investigated, even if some elements inside these structures would tend to indicate an Hellenistic influence[33].

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22 Bietak 2005, fig. 15-16.

23 Lacovara 1997, fig. 1.6.

24 Aurenche 1981, p. 206-209, 7; Oren 1984, p. 37-56.

25 Marouard 2010, p. 381-382.

26 Spencer 1999.

27 Leclère 2008, p. 660-668.

28 Traunecker 1987, p. 147-154, fig. 2-3; Redford 1994, p. 1-10, pl. CXVI. In the Bahariya oasis at Qasr 'Allam, of the 25th Dynasty: Pantallacci & Denoix 2007, p. 315-317, fig. 34. We can also mention, in Middle Egypt, Hermopolis Magna: Bailey 1991, pl. 30b and 28-29 and Müller 2010, p. 238-239.

29 Smoláriková 2008, p. 101-122.

30 Jánosi 1996, p. 93-98; Lacovara 1996, p. 139-147; Kemp 1977, p. 71-82.

31 Herbich & Spencer 2006, p. 17; Forstner-Müller *et al.* 2007, p. 100, fig. 4; Hartung *et al.* 2003, p. 211-219, pl. 38, 39 and 42.

32 Wilson 1982, p. 5-9, pl. III, VIII and IX; Mumford 2002; Hartung *et al.* 2003, p. 217-219, pl. 38c and 39a.

33 Hinkel & Sievertsen, 2002, p. 70; Török 1976, p. 71-103.

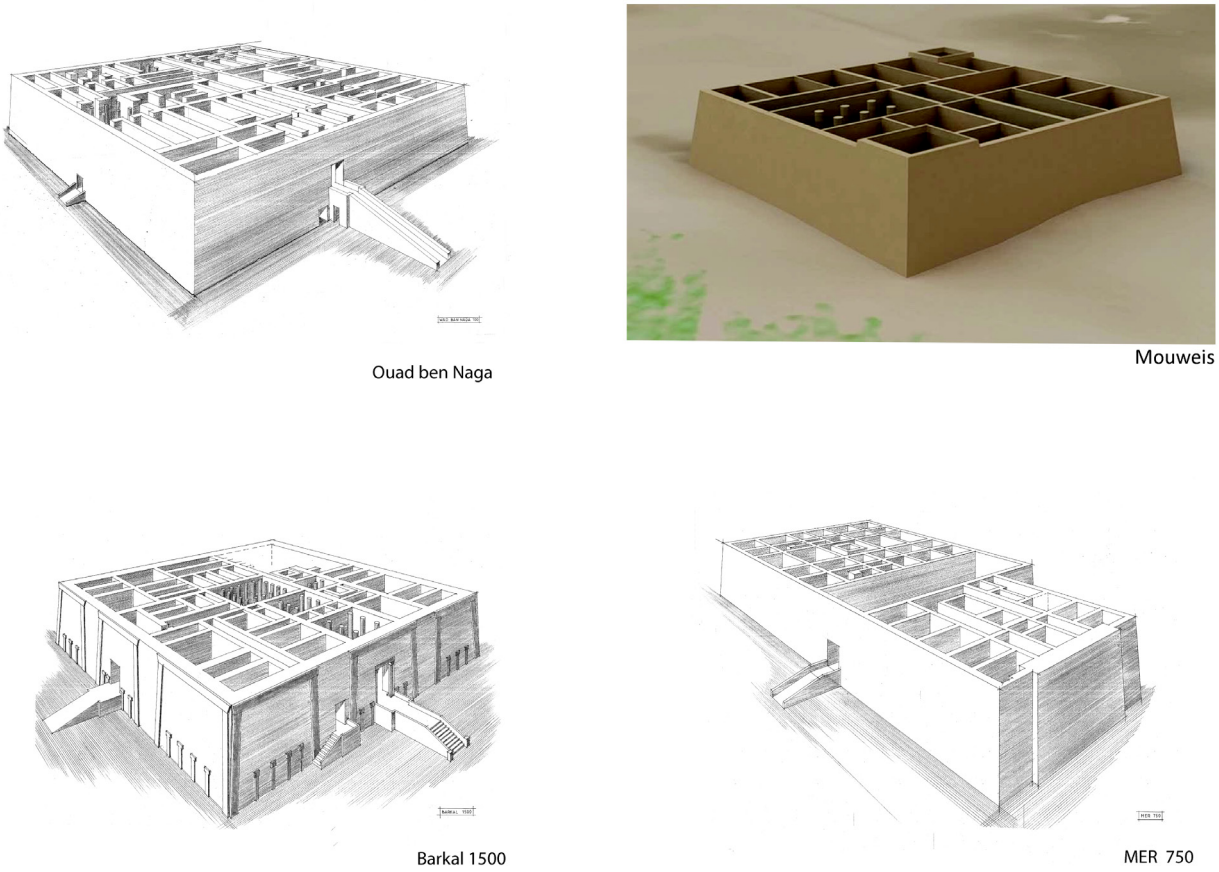

Fig. 7. 3D elevations of Meroitic palaces

Control of urban expansion

The development of the casemate foundations is not restricted to the palace structures. It can also be witnessed for large residences, and especially in peripheral areas with a strategic importance, such as in Lower Nubia[34]. Considering the different surveys and excavated sites, the distribution of urban settlements seems centralized around large towns surrounded by satellite sites. Moreover, few of these sites seem to have been occupied over an extended period, as in the case of Karanòg[35]. Several descriptions of the Lower Nubia settlements seem to reflect a colonization of strategic areas, and in this frame, the structures of Karanòg reflect particularly well the desire to prioritize important administrative centers by the establishment of large buildings dedicated to storage and administration.

Thus, Meroitic casemate structures would be major economic centers, dedicated to the centralization of goods. The vertical development of these structures could also be a sign of a strong desire to control urban expansion, these buildings being deliberately spaced from the common living areas, which develop more randomly (see Gaminarti[36]). This model suits particularly well to these peripheral complexes. We do not pretend here to assert any

34 Edwards 1996.

35 Woolley 1911.

36 Adams & Nordström 1963, p. 26-28; Edwards 1996, p. 68-70.

development model, the architectural data available is at this stage too fragmented to achieve a comprehensive understanding.

The casemate model is thus placed in continuity with earlier forms, the construction techniques of which being well mastered. This hypothesis seems even more justified in areas where urban development should be strongly conditioned by flood. The solution of a construction based on such foundations had the advantage of being easily implanted in an urban network, while providing a certain majesty to the building. When structures couldn't grow horizontally, complexes were developed vertically with a probable increase of storeys, thus requiring powerful foundations. It also appears that the development of this plan corresponds to a will of structuring urban space in peripheral areas. Casemate structures would emerge as pioneer installations[37], possibly dedicated to local governors or administrative functions. These plans have the advantage to develop vertically and thus contain the horizontal expansion of the city.

Conclusion

The great resemblance between the palaces of Muweis and Wad Ben Naga would indicate a similar date for these buildings. The latter can be securely dated to the reign of Amanishakheto thanks to inscriptional evidence, but this may be true only for its final decoration and may not concern the construction phase nor the possible earlier phase of the building which remains to be studied[38]. In this chronological period of the early 1st century AD, the existence of two similar palaces on two sites distant of 30km only is intriguing[39], especially if one adds the palace of Damboya close to el-Hassa, 50km more to the north, dated to the end of this same century[40], as well as the Meroe royal buildings. Political relays and storage places for valuable and common products, these structures would thus constitute a network which could be explained by the ambulatory nature of the Meroitic monarchy[41] and/or by the rise of powerful governors controlling urban centers of the Butana reach on behalf of the central power[42].

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37 Marouard 2010, p. 389.
38 Vercoutter 1962, p. 282-284, p. 294-296 and pl. 20a.
39 Baud 2010, p. 241-243.
40 Lenoble & Rondot 2003, p. 106-111.
41 Török 1992, p. 111-126; Török 2002, p. 16-18, n. 54.
42 Edwards 1996, p. 26-27.

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