



# **BULLETIN DE LA SOCIÉTÉ DE GÉOGRAPHIE D'ÉGYPTÉ**

## **COPPER DROPS AND BURIED BUILDINGS : MA'ADI'S LECACY AS A PREDYNASTIC DELTA TRADE CAPITAL**

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**TOME LXXIII**

2000

**VOL. 73**

# **COPPER DROPS AND BURIED BUILDINGS : MA'ADI'S LECACY AS A PREDYNASTIC DELTA TRADE CAPITAL**

**Luc Watrin\***

Ma'adi is the major economic power centre of the northern Nile Valley in the period of 3800-3500 BC<sup>1</sup>. This Ma'adian site has advanced, among other finds, traces of the earliest confirmed Egyptian metallurgy, the earliest known Egyptian stone architecture, and a wealth of evidence and adaptations revealing a strong Palestinian influence. This exceptional site is at present under the threat of complete obliteration by the urban expansion of Greater Cairo. The eastern part of the Ma'adi village has already been demolished by the city of New Nerco<sup>2</sup> in the 1990's, and the existing remains (the central and western portions) extend to the south and south-east of the satellite station of Ma'adi. The aims of this article are to present a summary of presently obtainable factual information on the available archaeological plans, and to make research bodies aware of its imminent disappearance at a moment when exploitation of the archaeological potential of the site remains only partially realised. Given the richness of the site and its impending destruction, we propose that the conducting of further excavations would provide dues for a greater understanding of urban and social development in this region, particularly in respect to a specific area unspoiled by ancient archaeological fieldwork and recent building operations on the Western part of the prehistoric village.

A survey conducted by the author in the mid 1990's under the supervision of Professor I. Rizkana<sup>3</sup>, director of the former excavations of Ma'adi, has demonstrated the archaeological potential of the Western periphery of the site, on a surface of 10.000 sq. m. Additionally a stratigraphic excavation strategy - nowadays a classical and indispensable digging technique, but unfortunately not practised at that time on the site - is still possible<sup>4</sup>. While the destruction of these last remains would be a major loss to the Egyptian archaeology, an operation using modern excavation techniques would facilitate the verification of the different issues pertaining to the site, enriching our knowledge of Predynastic Egypt.

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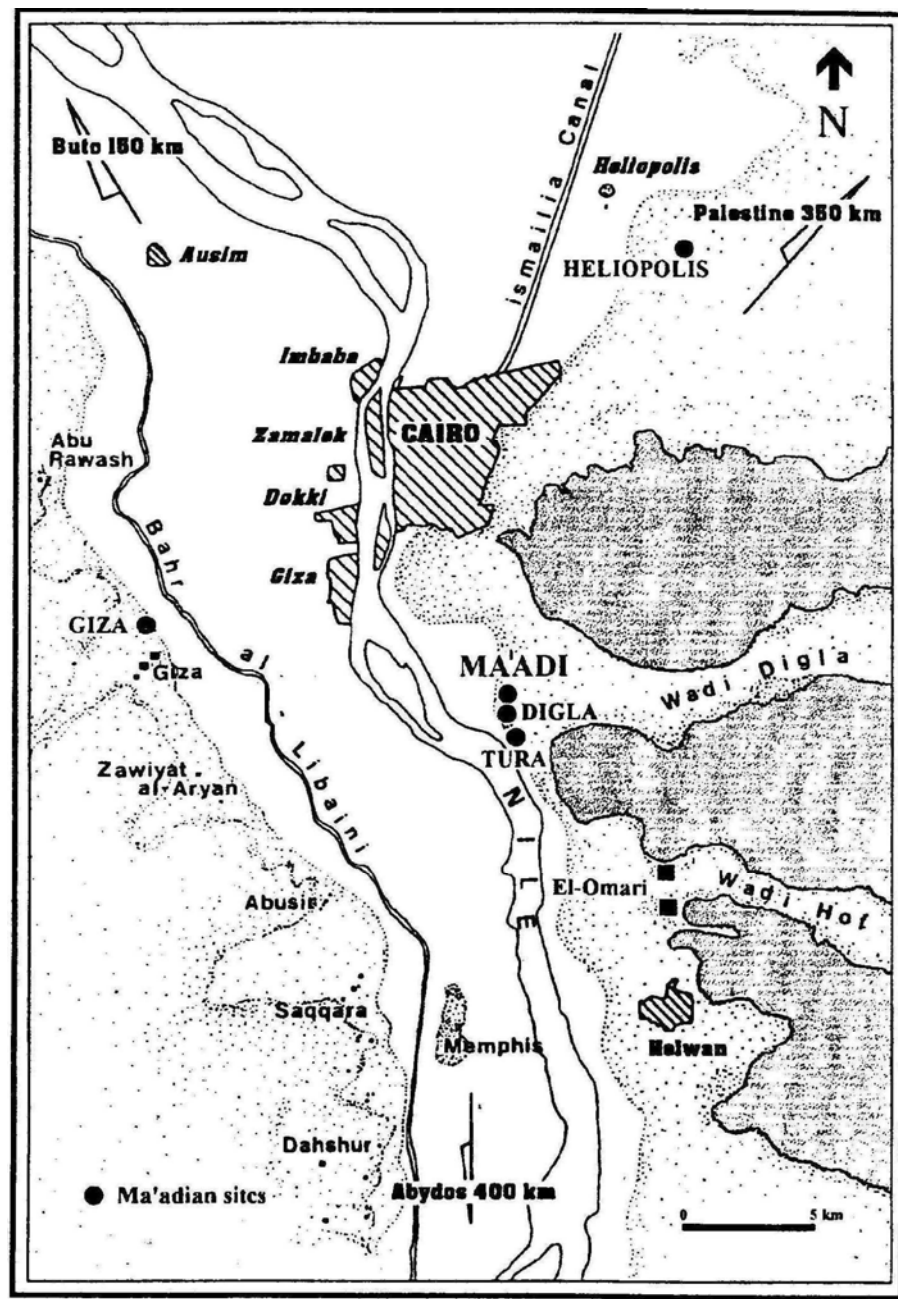
### **Modern History of an Ancient Site**

Ma'adi was discovered in 1913 by R.P. Bovier Lapierre, who published in 1926 the first archaeological documentation on the site<sup>5</sup>. In 1930, professors M. Amer and O. Menghin of the Geography Department of the Egyptian University initiated excavations on the site<sup>6</sup>, located to the south of the small modern village of Ma'adi, at the time a resort for expatriates in Egypt. It consisted of a large zone of discarded material and waste covered by a thin deposit of aeolic sand, extending for more than a kilometre in length over a low terrace of the Nile, to the North of the quarries of Tura (Fig. 1-2).

The Eastern sector of the site was partially destroyed by the installation of a military base. For these reasons, the first excavators created a 10 x 10 m grid on the middle part of the prehistoric village, where in fact the greatest accumulation of anthropic deposits was observable (layers of more than one metre in depth). Two volumes published in 1932 and 1936 detail the excavations of Menghin and Amer.

In 1948, I. Rizkana from the Geography Department of the Cairo University joined the team of Ma'adi, and fieldwork was resumed by M. Amer until 1953<sup>7</sup>. The excavated surface is impressive (approximately 40.000 sq. m.). The team unearthed remains of deliberate settlement remains, the traces in negative of huts made of perishable material (pisé, wood), large pithoi/storage jars, as well as some structures (one rectangular, the others circular) dug in the rock substratum.

This settlement has been dated quite early as mid-Fourth millennium by Menghin (1934)<sup>8</sup> thanks to the imported material (notably Palestinian) (Fig. 3). The main necropolis of Ma'adi (called Ma'adi South) was identified at 800m to the south of the settlement and was partially explored (today under street 206 in the Digla quarter). Another necropolis adjacent to the village (called Ma'adi North) has also been identified. A third and more recent cemetery (belonging to the First Dynasty) was discovered by Brunton<sup>9</sup> (1938) one kilometre south of the ancient village, near the Sakanat el-Ma'adi subway station. Forty years passed with no publication. The archaeological material was stored in an excavation depot built on the site by the Cairo University. In 1984, the German Archaeological Institute of Cairo (DAI) suggested the publishing of the Ma'adi excavations. Four volumes produced under the supervision of I. Rizkana and J. Seeher were edited by the DAI in 1987-88-89-90 (MAADI I-II-III-IV). Very recently (1996), an anthropologic study, conducted by F. Hassan, I. Rizkana and Y. Fayed<sup>10</sup>, was added to this work in order to complete it.



**Fig. (1):** Location of Culturally Ma'adian Sites in the Cairo Region.

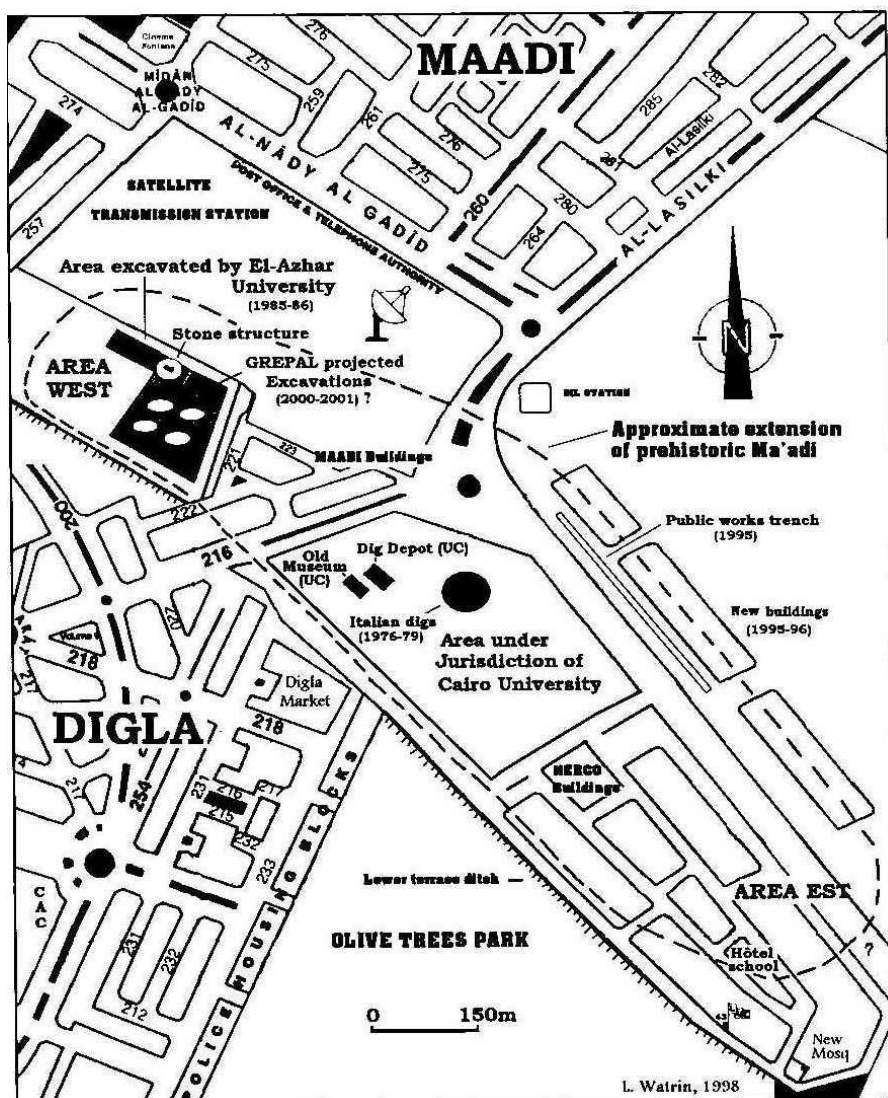


Fig. (2): Location of Prehistoric Ma'adi within Greater Cairo (1998).

At the end of the 1970's, an Italian expedition from University "La Sapienza" resumed excavations in the central sector of Ma'adi<sup>11</sup>, but its results appear to have been limited and remain unpublished. In 1985-86, an operation led by professor F. A. Badawi from el-Azhar University was conducted on the Western sector of the site, which had never been previously probed. Badawi's team unearthed a semi-subterranean stone structure (Fig. 5), but unfortunately fieldwork was not continued. Between 1994 and 1996, various surveys were led by the author at Ma'adi under the direction of the professor I. Rizkana with the goal of evaluating the site's archaeological potential. In 1994, a reinvestigation was conducted on the structure of F. A. Badawi at Ma'adi West and a drawing made in 1996 (Fig. 6). In 1995, a drawing of a public works trench north of el-Zara'a street was also made<sup>12</sup>, this sector being located on the north-eastern edge of the village<sup>13</sup>. To-date, no excavation work<sup>14</sup> (to the exception of that of F. A. Badawi) has been conducted on the western sector of the site, which appears nevertheless to be the most promising area.

### **Beyond the Grave: The Value of Ma'adi as a Preserved Protohistorical Settlement.**

Ma'adi is the only prehistoric village of the Fourth millennium Lower-Egypt preserved in its entirety, apart the site of Buto in the Western Delta, whose remains lie buried under 7 metres of sediment, and are hence only accessible through narrow trench soundings (excavations performed in the 1990's by T. von der Way and D. Faltings, DAI).

No Egyptian site has to-date yielded such a preserved predynastic settlement as is found at Ma'adi. The only village contemporary with Ma'adi which clearly conserves the remains of dwellings (with the exception of one isolated dwelling at Hierakonpolis found by M. A. Hoffman<sup>15</sup>) is the Upper-Egyptian site of Hammamiya. Built on a rocky spur and partially reoccupied by a necropolis of the Old Kingdom, this Naqada Ic-IIa<sup>16</sup> village features the remains of nine circular adobe huts, some of which are clearly dwellings. With this noteworthy exception, Badarian and Naqadian settlements are today most probably under modern cities, covered by alluvial deposits, or destroyed by wind-erosion as well as by peasants searching for natural fertilisers (*Sebakhin*). A typical case is that of the Upper-Egyptian site of el-Adaima, excavated by a French team since 1991<sup>17</sup>, which we also participated in. The necropolis is partially intact (75% of graves robbed) and shows the presence of

abundant funerary goods including Nubian<sup>18</sup> and Lower-Egyptian imports (SP 404). The most ancient settlement of el-Adaima identified to-date (Naqada IIa-b and situated on "Zone 1001"), is located at the summit of a sand dune and marked by a series of large depressions which are the negatives of adobe dwellings; the earth itself having been collected for fertiliser. The only undamaged spaces are a succession of courtyards that have shown the presence of some secondary domestic features (such as small enclosures marked by lines of stakes, grinding stones, B-class storage jars, animal or infant burials).

The study of an ancient prehistoric society through examination of burials only (as is too often the case in Egypt) is insufficient. For this very reason, the existence of well-preserved settlements, such as those at Ma'adi calls for unusual caution and exceptional efforts. Domestic architecture will necessarily be one of the main topics of research on this period for years to come.

#### **The Importance of Patience : Chrono-stratigraphical Control In the Ma'adi Excavations.**

The main problems concerning the site of Ma'adi are stratigraphical and chronological. The excavations having been carried out with minimal stratigraphic control, it has been difficult to determine the different phases of occupation. Yet the anthropic accumulation is approximately one metre deep in the central part of the settlement. Our own investigations demonstrate the existence of at least twelve archaeological strata in this sector<sup>19</sup>.

Ma'adi represents most certainly the only stratified site in Egypt for this period that is (1) reasonably easily accessible, and (2) that could provide new information on the evolution of domestic occupation, architecture, and associated material culture. Stratigraphy and ceramic seriation in future excavations could more firmly establish the chronology and demonstrate the gradual changes in material culture.

The observations made by K. Bittel in 1931<sup>20</sup>, based on a limited selection of the material, lead to the conclusion that the material in all strata was homogeneous. This approach is unfortunate, as it led to the abandonment of all stratigraphic control of the site. The use of more recent excavation procedures on the site will doubtless yield a more definitive anthropological record.

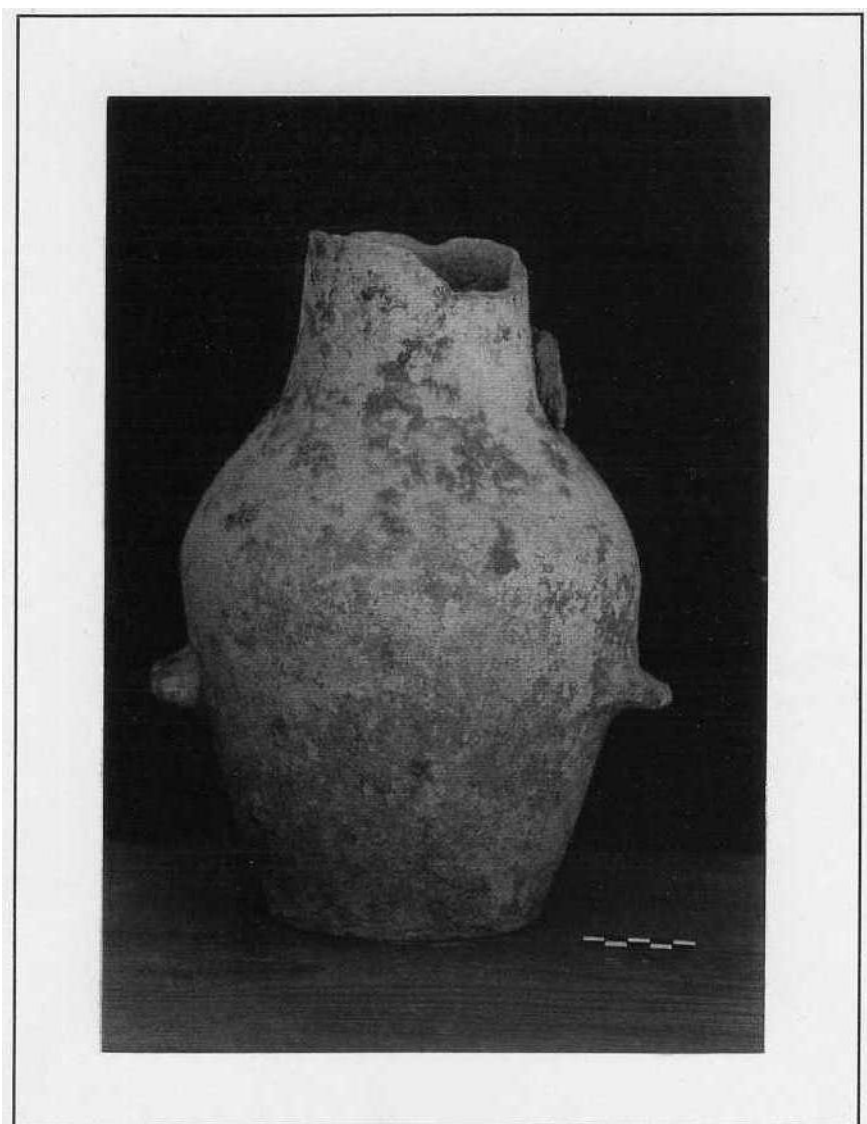


Fig. (3): Southern Levantine EB Ia1 Jar Imported at Ma'adi.



Nonetheless, observations made in 1995<sup>21</sup> in a public-works trench parallel with Zaraq' street (running east to west between the motorway and the satellite station on the edge of the site's central zone) allow us to consider interesting new elements concerning the Ma'adian stratigraphy. This stratigraphy revealed at its base two construction layers covered by successive dark occupation layers and lighter dumping layers, confirming the minimally documented observations made by the Italian excavation some 100 metres to the west<sup>22</sup>. The observation of the ceramic fragments unearthed in this zone would confirm the rarity of open-mouth containers (bowls, basins) and the abundance of closed-mouth containers (ring-based jars in redware and small globular jars in blackware). The latter two forms, which represent more than three-fourths of the site's ceramics, are represented here in equal proportion<sup>23</sup> (based on some 1000 sherds), and appear in all of the layers. The upper and most recent layers offer some blackware sherds with a pointed base<sup>24</sup>. It is noteworthy that this type of pointed-base blackware is found on the Delta sites (*i.e.* Tell el-Eswed A<sup>25</sup>) contemporary with Naqada IIb, the period following Ma'adi (see *infra*). It is probable that these pointed-based blackware vases evolved from the more common round-based blackwares. Though the correlation has gone unnoticed, we have before us a chronological indicator of great importance.

Another discovery in this same trench consists of several fragments of stone axes. This discovery would abate Seeher's idea of a technological replacement of these tools by copper versions. Nonetheless, these stone axes originate in the lower and middle levels of the site. At the same time, the upper levels repeatedly reveal some "copper drops", metallurgical remnants apparently not present in the more ancient levels. These observations may indicate that the metallurgy at Ma'adi made its appearance in an advanced phase of the site (without doubt linked to the relationship that Ma'adi had established with Palestine in EB Ia1, from where originated both the copper and the metallurgical techniques), phase during which the copper tools may have coexisted with — or replaced — those in stone.

### **The Ma'adi Timeframe : A Chronological Brainteaser**

The absolute chronology of Ma'adi is established by a group of radiocarbon datings which yield a sequence of 3800-3500 BC.

The chronology of Ma'adi in relationship with the other Delta sites or with the peripheral cultures (Upper Egypt, Palestine) is complex, and has been the subject of much disagreement in scientific communities. The occupations that precede Ma'adi are el-Omari and probably the most ancient phase of Buto village (Buto Ia). Ceramic studies of Ma'adi and notably the presence of a Palestinian jar bearing strongly-indented ledge handles<sup>26</sup> (indicating a very early Early Bronze I phase as found in the most ancient levels of Afridar in the Gaza region) attests to a relationship between Ma'adi and Palestine in the course of the EB Ia1 (c. 3650-3500 BC) and in this period exclusively (Fig. 4).

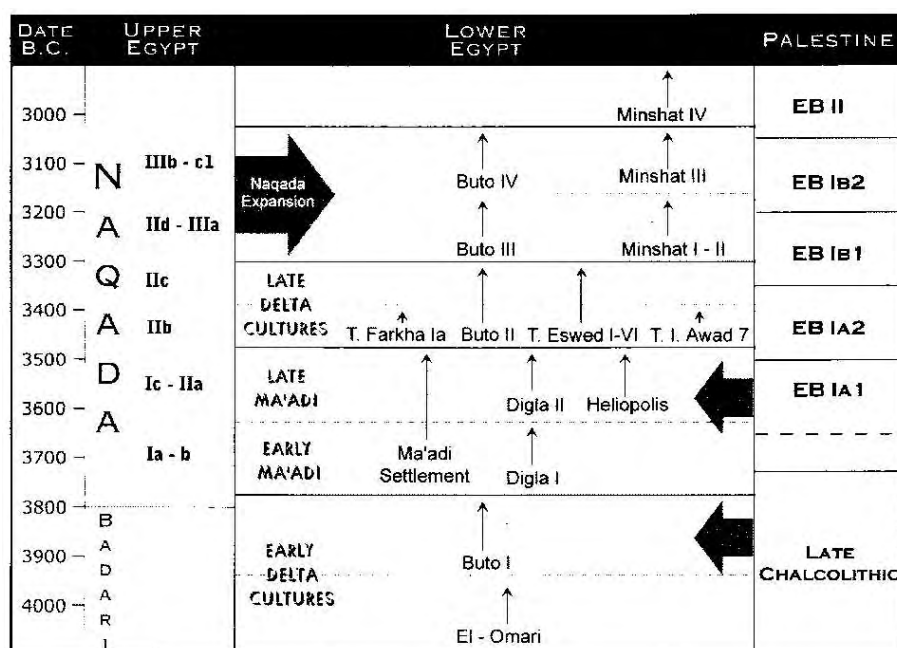


Fig. (4): Relative Chronology of Lower Egypt.

The accepted relative chronology of Ma'adi is that of W. Kaiser, established according to the corresponding chronologies of Upper-Egypt and placed in a timeframe contemporary with Naqada Ib-early IIc<sup>27</sup>. This analysis is based firstly on the presence at

Ma'adi of imported or locally imitated B-class Naqada wares, which appeared in the south between Naqada Ib-IIb. The chronology of Ma'adi based exclusively on the study of B-class wares is thus vague and imprecise. The analysis is based secondly on the presence of Palestinian "wavy-handled" ware at Ma'adi, which appears locally imitated in the Naqada necropolis in Naqada IIc. As a result Kaiser dates the closing of Ma'adi in the end of Naqada IIb/early Naqada IIc. We demonstrate below the error inherent to such an analysis.

Ma'adi must be placed in a sequence contemporary with Naqada Ia-IIa (L. Watrin)<sup>28</sup> rather than Naqada Ib-IIc (W. Kaiser). Lower-Egyptian basalt vases reflecting the shapes of standardised Ma'adian ceramics appear in tombs as early as the Naqada Ia period (*i.e.* Naqada 1676). These exportations attest to a relationship between Ma'adi and Upper-Egypt beginning during this period. The apogee of exchanges between Ma'adi and the Naqada sphere would nonetheless appear to be in Naqada Ic, a period in which are found numerous Lower-Egyptian exports in Middle and Upper-Egypt, such as the basalt vases and metal tools (*i.e.* Matmar 3131, tomb which must be dated in Naqada Ic).

If Ma'adi opened earlier than was previously supposed (Naqada Ia rather than Naqada Ib), it also closes earlier, at the end of Naqada Ic or in the course of the Naqada IIa period (rather than Naqada IIb-IIc). Indeed, no fossil contemporary with the Naqada IIb or Naqada IIc periods has been discovered at Ma'adi. For instance, no D-class sherd (*i.e.* with spiral painting) appearing in Upper-Egypt in Naqada IIb-c has been found at Ma'adi, despite their abundance in other Delta sites following Ma'adi (*i.e.* Buto II). Such is also the case in the lithic industry where productions typical of Naqada IIb-c are totally absent (rippleflake knives, V-shaped fish-tail knives, pear-shaped maceheads, zoomorphic palettes...). Imported or copied from the southern models, the Ma'adian maceheads are of the "flat-top variety", and the palettes of the rhombic type ; artefacts that indicate in Upper-Egypt an early chronology of Naqada Ia-Ic. The only tool clearly imported from the Naqada sphere is a U-shaped fish-tail dagger, a model appearing in Naqada Ia-IIa. Lastly, the Delta productions contemporary with Naqada IIb, for instance the Roulette ware with zigzag motif, are totally absent at Ma'adi.

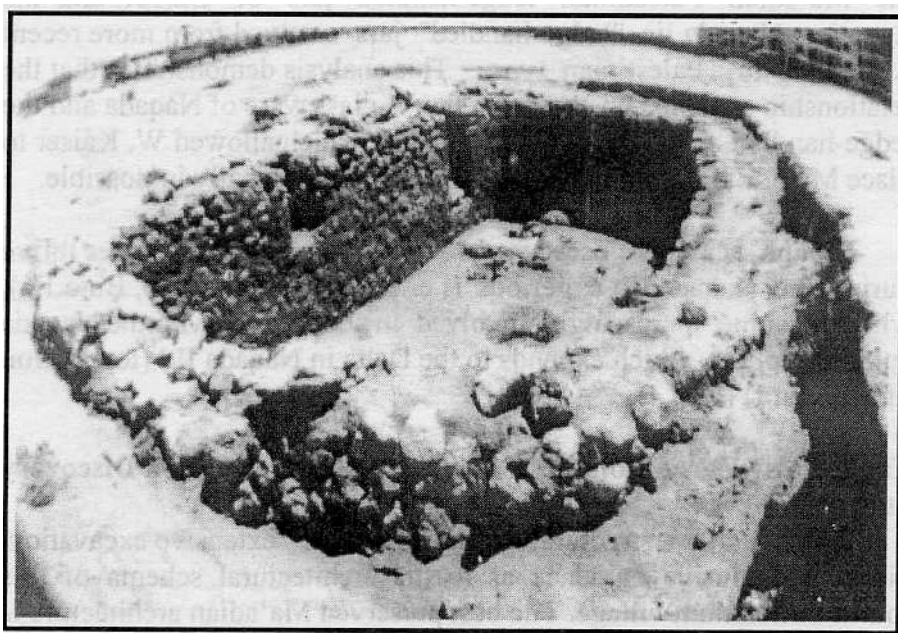
A comparison of the Palestinian ledge-handled ware found in Upper-Egypt presents some interesting contrasts with the Palestinian ledge-handled ware found at Ma'adi (Fig. 3). The morphological evolution of these ceramics provides valuable information as to the period and localisation of their production. In Upper-Egypt, the first W-class ware (Petrie's types W1-2) found in Naqada IIc tombs are more probably importations from Palestine than Egyptian productions imitating Palestinian forms. The imitation of Palestinian "wavy-handled" vases by Naqadian potters begins with class W3 (Naqada IIc). These first clearly Egyptian W-class vases are derived from the Palestinian W1 type jars, which issue from EB Ia2 (c. 3500-3400 BC) — for example at 'En Besor-Site H<sup>29</sup> — or even early EB Ib1 (c. 3400-3300 BC). In contrast, the Palestinian importations of Ma'adi find their closest parallels in the more ancient sites of EB Ia1 (c. 3650-3500) southern Palestine — for example at Lakhish<sup>30</sup> — a period in which Ma'adi maintained intense relationships with this region ; a period corresponding to the Naqadian chronology of Naqada Ic-IIa. We find thus a chronological gap of some 100 to 250 years between the Ma'adian Palestinian ledge-handled jars of EB Ia1 and the Egyptian Naqada IIc "ledge-handled" jars evolved from more recent EB Ia2-EB Ib1 Palestinian types. This analysis demonstrates that the relationship established between the W-class ware of Naqada and the ledge-handled ware imported at Ma'adi, which allowed W. Kaiser to place Ma'adi's closing in Naqada IIc, is chronologically impossible.

Though Ma'adi closes around Naqada IIa, other Delta sites thrive during the Naqada IIb-c periods (*i.e.* Tell el Farkha Ia-b, Buto IIa), which become increasingly involved in commerce with the Naqada cultural sphere, which expands to the Delta in Naqada IId (foundation of Minshat I)(Fig. 4).

### **The Nile's Early Stone Architecture ? : F. A. Badawi's Discovery at Ma'adi West.**

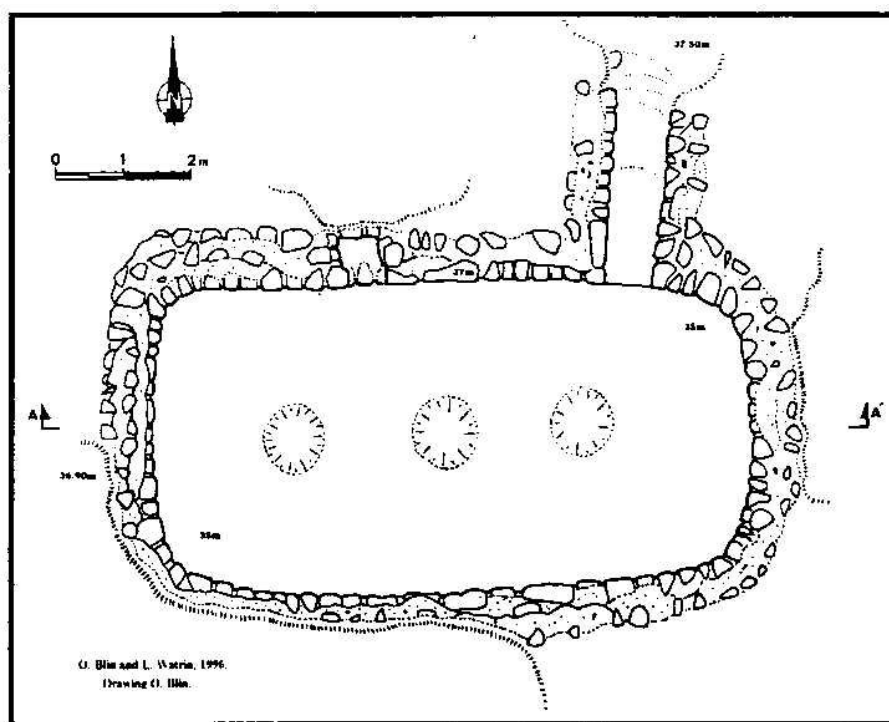
The Ma'adian structural remains, despite extensive excavation, yield inconclusive evidence as to the architectural schema of this fourth millennium village. The best preserved Ma'adian architecture is composed of semi-subterranean structures carved into the bedrock. These structures are elliptical, rectangular, or sub-rectangular in form, some of which include stone walls. The presence of a great silo-jar *in*

*situ* in the largest elliptical semi-subterranean structure<sup>31</sup>, and Ma'adian pottery in the other structures, allow us to confirm their contemporarity with the prehistoric village. Four of these five subterranean structures have been destroyed by the spread of the modern town of Ma'adi (they are actually buried under the buildings of street 216, in the south-eastern angle of the satellite station). The fifth structure was discovered more recently by an Egyptian team under the supervision of F. A. Badawi in 1985-1986<sup>32</sup> (Fig. 5). We have elsewhere underlined that the links drawn between the semi-subterranean structures of Ma'adi unearthed by M. Amer and the Chalcolithic subterranean architecture of Wadi-Beersheva excavated by J. Perrot are invalid ; their constructions differing in plan, function, and chronology (*i.e.* the subterranean structures of Wadi-Beersheva date from the Early Chalcolithic, fifth millennium). In contrast, the structure unearthed by Badawi at Ma'adi West presents some architectural likenesses to the Post-Chalcolithic subrectangular constructions (defined by E. Braun as "sausage shape") which appear in Early EB I Palestine from 3650 BC (see *infra*).



**Fig. (5):** Stone Semi-Subterranean Structure Discovered at Ma'adi by F.A. Badawi (1986).

Excepting a short archaeological note<sup>33</sup>, this stone structure discovered by F. A. Badawi at Ma'adi-West has neither been the focus of any report, nor an appropriate dating. Our 1996 survey extended to this sector and allowed for a drawing and measurements to be made of the partially refilled structure (Fig. 6). The stratigraphy of this sector, in contrast to that of Ma'adi Centre, is quite thin. The remains of the excavation cross-sections reveal that the upper layers of the ground are composed of a sedimentary layer of sand and ashes, and containing archaeological material exclusively from the prehistoric period. The stratigraphical relationship with the stone structure is nonetheless impossible to establish because of the destruction of the upper layers in course of a past excavation<sup>34</sup>.



**Fig. (6):** Structure Excavated by F.A. Badawi (1986).  
Simplified Plan of its Present State (1996).

The structure is semi-subterranean, its shape is elliptical, and it is entirely built of stone. Its entrance is defined by several steps carved into the bedrock. Its external dimensions are 10.50 m x 5.50 m, and its preserved height is 2 m. The walls are between 0.60 m and 0.80 m wide and built of roughly hewn limestone blocks of varying size. A doorway 2.50 m long by 0.80 m wide is located near the eastern angle of the northern side. It shows on its western face remains of mudplaster (at least two phases). A niche 0.50 m x 0.50 m was built in the upper part of the northern wall. On the beaten-earth floor of the structure remain traces of a white plastered floor. Series of small, shallow holes are dug into the ground along the northern wall of the structure and in the south-eastern section. These are most likely accommodations for jars. Along the central east-west axis of the structure are three great pits of 0.80 m in diameter and of about 0.70 m in depth. It is quite probable that these pits served to erect wooden posts for the bearing of a roof, and possibly a second floor (?). Along the lines of a roof, F. A. Badawi details that he found fragments of reeds and baked-earth<sup>35</sup>. All the corners, both internal and external, of the structure are rounded. It is interesting to note that the white plastered floor, the stone walls, and the sausage shape are all traits of Early EB I Palestinian architecture.

The closest parallel for the Badawi structure is that of another semi-subterranean structure on the Ma'adi site. This structure — the greatest of four structures excavated by Amer in 1940<sup>36</sup> — is of a roughly rectangular form and of reduced dimension (4 m x 2.50 m). Its conception presents similarities to the larger Badawi structure : a hollow carved in the ground with limestone and mudbrick walls raised against the inner sides. The Amer structure, more crude in its construction, appears as something of a prototype for the more elaborate Badawi structure built on the western edge of the village. This evolution of semi-subterranean structures, perhaps originating as storage space and evolving into public spaces or possibly dwellings, and yet conserving conceptual and physical similarities of construction, allow us to speak of the ensemble as a Ma'adian architecture.

In seeking further parallels for this Ma'adian architecture, we may consider the structures of Northern Palestine (*i.e.* Yiftah'el II)<sup>37</sup>, on the

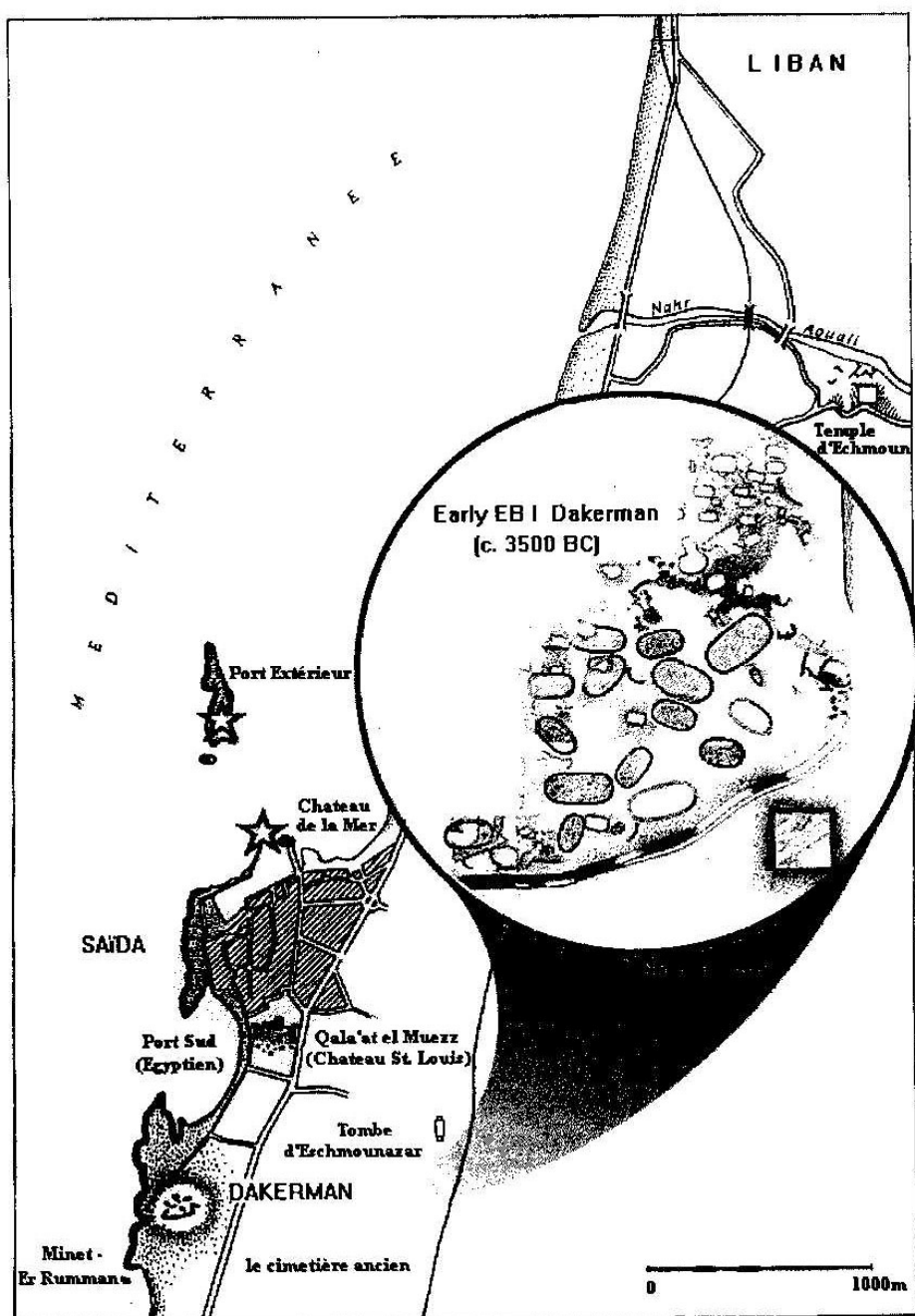
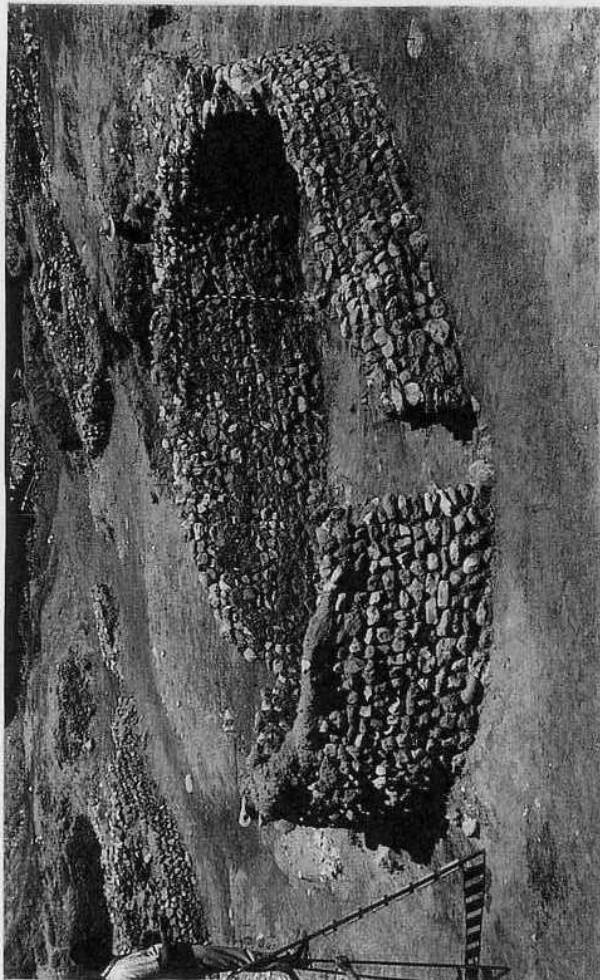


Fig. (7): Map of the Region and Site of Sidon-Dakerman (Libanon).





**Fig. 8. An Early EB I Stone Dwelling Discovered in Libanah by R. Saidah (1979).**

The function of this structure has yet to be determined. The use of stone rather than mudbrick and the quality of the finish (the internal walls of the structure were repeatedly mudplastered) suggest a public or worship function. The northern interior of the building features a waist-high niche where incense or some other substance was burned. According to Badawi<sup>41</sup>, the discovery of a statuette in copper (another material linked to Palestine), representing a woman carrying a child, was also found on the ground in the building. This figurine presents some likenesses with terra cotta statuettes from a Naqada Ic-IIa tomb of El Mahasna (H 41)<sup>42</sup>. Next to the western side of the building and along its axis were discovered some thirty jar-silos as well as a few others to the North and to the East whose stratigraphical relationship with the building is uncertain<sup>43</sup>. The Ma'adian subterranean structures being widely spaced, we may hypothesise that each structure was associated with a particular group of dwellings to serve as storage or shelter.

Only the publication of F. A. Badawi's excavations and the reopening of further research on the site can confirm this chronology and the interpretation of this structure that we present as prehistoric. If confirmed as predynastic, this structure, would represent the most ancient stone construction yet discovered in the Nile Valley.

### **Urban Expansion on Ancient Ma'adi : The Narrowing Hope of Reopening the Site to Research.**

The site of Ma'adi faces imminent encroachment of modern Ma'adian urban expansion, and this, despite efforts made by the University of Cairo and by the SCA (*i.e.* construction of a fence around the central zone of ancient Ma'adi). In search of a greater understanding of the Predynastic Nile Valley, GREPAL<sup>44</sup> ranks among the numerous archaeologists, Egyptologists, and researchers that hope for a rapid reopening of this key site of Lower-Egypt.

A survey conducted in the beginning of 1994 on the Western sector of the site, south of the surrounding wall belonging to the satellite station, re-examined the semi-subterranean stone structure discovered

by Badawi. The survey noted a series of small mounds on the southern side of Badawi's structure. It is highly possible that these mounds are ground-level manifestations of the buried remains of the prehistoric village<sup>45</sup>. This hypothesis could be confirmed by an investigation that would first take the form of an archaeological diagnostic operation (through series of trenches, or through an excavation in open area). Confirmation of the potential wealth of the site would accordingly lead to a programmed excavation. The surface is at least of 10.000 sq. m. (a four-sided polygon of 100 m x 100 m). The average elevation of the low terrace at Western Ma'adi is about 37 metres. The site seems to have benefited from good fossilisation conditions (it was sealed by aeolic sand deposits).

The study of the stratigraphy of the site and of associated finds underlines the necessity of statistical and computational tools; the amount of ceramic and lithic is so large that the evaluation through non-statistical techniques would yield a slow and unsatisfactory result. The perspective of a stratigraphic approach in compu-statistical context would allow the establishment of typo-morphological criteria of the ceramic assemblages and other finds, and would illustrate the evolution of cultural facets during a given period. The conclusions would then be compared to those obtained on currently excavated Delta sites (*i.e.* Buto, Kom el-Ezzat). Once the new data is obtained and evaluated, Ma'adi would become one of the major milestones in the chronology of the Fourth millennium.

The prehistoric settlement of Ma'adi is located today in the Southern outskirts of Cairo. Partially destroyed by the development of the modern town of Ma'adi, it extended over 1.200 m (E/W) and was 250m large (N/S) ; it was built on a low terrace of the Nile. The Eastern and middle sectors of the site were obliterated by the residential complex of Digla-Ma'adi. Only the Western part is today intact, but is itself under threat of destruction. The history of the site of Ma'adi mirrors that of Predynastic Lower-Egypt. Previous works have unearthed a village with a unique architecture in the Nile Valley. The presence of a semi-subterranean stone structure, possibly

belonging to a Palestinian group, testifies to a high degree of social integration. The use of modern means of research and excavation would allow the speedy obtainment of results, enabling us to clarify the various pending issues concerning intra and supra-regional history, as well as gathering new data on the later prehistory of Lower-Egypt. In this respect, the "Ma'adi Project", finalised by the GREPAL in 1996, which proposes the continuation of the Ma'adi West excavations of F. A. Badawi in association with El-Azhar University, the University of Cairo, the Supreme Council of Antiquities, and eventually a Western institution<sup>46</sup>, seeks the reopening of archaeological research at Ma'adi. The "Ma'adi Project" details a rescue operation that must take place before the total destruction of the Western zone of ancient Ma'adi.

## References :

1. I Would like to express my warmest thanks to professors I. Rizkana and Y. Fayyad from the Geography Department of the University of Cairo. I would also like to thank the members of the GREPAL, and especially N. Collins, O. Blin and P. Brihaye, for their assistance in this work.
2. This part of the village, which is supposed to be the most ancient, has yet to be excavated. It is possible that it may include a post-Omarian occupation phase contemporary with Buto Ia.
3. L. Watrin. Some preliminary results are presented for the first time in this article.
4. With the exception of an Italian excavation by the University "la Sapienza" (1977-1984) which was never published.
5. R. P. Bovier-Lapierre, *P. CIG*, (1926), 306.
6. O. Menghin and M. Amer, *Excavations at Ma 'adi*, 2 volumes, (Cairo, 1932 and 1936).
7. M. Amer and I. Rizkana, *BFACU* 15, (1953), 97ff.
8. Menghin, *Mitt. Kairo* V, (1934), 113-114.
9. G. Brunton, *ASAE* 39, (1939), 419-425.
10. F. Hassan, I. Rizkana and Y. Fayed, *Dental Conditions of the Population of Maadi Culture as Affected by the Environment*, Geographical Research Series n°1, (the Egyptian Geographical Society, Cairo, 1996).
11. I. Caneva and al., *AAR* 5, (1987), 105-114.
12. Watrin, in *preparation*.
13. L. Watrin and O. Blin, 1996.
14. March 30th, 1999.
15. Structure roughly "rectangular" (4 m x 3.5 m) built with posts wattle and daub, semi-subterranean, associated with an oven and a large storage jar dated Naqada Ib-c by M. A. Hoffman (*JNES* 39, (1980), 127-135).
16. It succeeds to a Badarian occupation and is covered by a Naqada IIb layer (presence of D-class ceramics with a spiral decoration). Caton Thompson dates this village SD 35-45 (Brunton and Caton-Thompson, *The Badarian Civilization, Part II, The Predynastic Settlement : North Spur Hemamieh*, (1928), 69-95).
17. B. Midant-Reynes and al., *Egyptian Archaeology* 9, (1996), 13-15.
18. Midant-Reynes, *Archéologia* 283, (1992), 26, Fig. 4 (rightmost vase with black wavy-line motif).
19. Watrin, *The Western Quarter of the Prehistoric Settlement of Ma 'adi*, Projected Archaeological Rescue operation, GREPAL (1996), 14, pl. 1a.
20. Rizkana and Seeher, *Maadi I*, (1987), 19.
21. Watrin, at the demand of and under the supervision of I. Rizkana, 1995.
22. Caneva and al., 1989, in *Late Prehistory of the Nile Basin and the Sahara*, (Poznan, 1989), 287.
23. The published sample only took into account complete vases and not the totality of the sherds. Therefore it is biased, as remarked by Rizkana and Seeher (*Maadi I*, (1987), 23).
24. Only one jar of this type has been discovered at the Digla cemetery (WD-26) (Rizkana and Seeher, *Maadi IV*, (1990), 79). The others come from the Ma'adi settlement (Rizkana and Seeher, *Maadi I*, (1987), Pl. 6-7).
25. E. van den Brink, *MDAIK* 45, (1989), 68, Fig. 8f.
26. Rizkana and Seeher, *Maadi I*, (1987), pl. 77:3.

27. Kaiser and Habachi, *MDAIK* 41, (1985), 46. See also Schmidt, in Brink, *Nile Delta in Transition*, (1992), 32.
28. See Watrin in *Pottery As an Economical Parameter Between Palestine and Egypt During the Fourth Millennium BC : From the Palestinian Presence in the Nile Delta (c. 3900-3300) to the Egyptian Rule of Southern Palestine (c. 3300-3000 BC. In press in the Proceedings of the 1<sup>ST</sup> Congress on the Archaeology of the Ancient Near East. May 1998, Rome.*
29. E. Macdonald, *Beth-Pelet II, Prehistoric Para*, (1932), pl. XXV, n°63.
30. O. Tufnell, *Lachish IV*, (1958), pl. 56, 26.
31. *Idem*, 49-50.
32. F. A. Badawi, *MAVV* 12, (1987), 58-60.
33. *Idem*, note 13.
34. The excavations of the professor F. A. Badawi are in the course of publication with the collaboration of the author and of the GREPAL.
35. *Idem*, 59.
36. Rizkana and Seeher, *Ma'adi III*, (1989), 51-54, Fig. 18 and pl. XV.
37. E. Braun, *Yiftah 'el*, (IAA, 1997), 18.
38. R. Saidah, , *Berytus XXVII*, (1979), 29-76.
39. H. Khalaily and Z. Wallach, *Excavations and Surveys* 18, (1998), 100 and 154.
40. Badawi gives no specific information on these jars; one can consequently think that they are of the same type as the pithoi associated with domestic structures of the site.
41. Badawi, pers. comm. 1998.
42. Ayrton and Loat, *El Mahasna*, (= EES 31), (London, 1911), pl. XVI.
43. Nonetheless, according to Badawi (pers. comm., 1996) the stratigraphical relationship between these jars and the structure remains difficult to establish.
44. A research project on the unexcavated Ma'adi West has been elaborated by the GREPAL (Groupe de Recherche Européen Pour l'Archéologie au Levant, 10 rue de la Côte d'Argent, 92410 Ville d'Avray, France), an independent group founded in Paris in 1995 by professional archaeologists specialising in rescue excavations of protohistorical sites.
45. The archaeological finds consisted of lithic (blades, arrowheads...) and ceramic (pithoi fragments, as well as globular jar and bowls...). This material is similar to those characterising the assemblage from the prehistoric settlement at Ma'adi. No other material belongs to a later occupation period if not for some modern overburden.
46. The "Ma'adi Project", researched and finalised by the GREPAL, has been officially proposed to the IFAO and the DAI in 1996. The IFAO, under the direction of N. Grimal, found little interest in the project or in the region or time period concerned therein. In contrast, our project is currently under consideration for collaboration by the DAI, whose scientific commission under the direction of R. Stadelmann assured us that the project is "of great interest to us".