Phoenician and Punic tombs in Malta

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This study examines the Phoenician and Punic tombs discovered in the Maltese Islands from various aspects. The first chapter considers the historical and archaeological background of the Phoenicians in Malta between 700 B.C. and A.D. 100. The second part (Chapters 2 and 3) deals with the correlation between the distribution of tombs and geomorphology, water resources, soils and land-use; this section also discusses which areas of the Maltese Islands were likely to be inhabited during this period. The third section of this study (Chapter 4) concentrates on the type of society which emerges from the burial evidence during the Phoenician Period. The fourth part (Chapters 5 and 6) is concerned with the dating and utilization of tombs, while it also estimates the living and buried population of the Maltese Islands; this section also attempts to calculate a potential population for the Maltese archipelago from different land-use figures. The final part of this dissertation examines with different maps the location of Punic urban and rural settlements in the Maltese Islands in relation to later historical settlement patterns during the Roman and Byzantine eras, the Middle Ages and the Modern Period.

Phoenician and Punic Tombs in Malta

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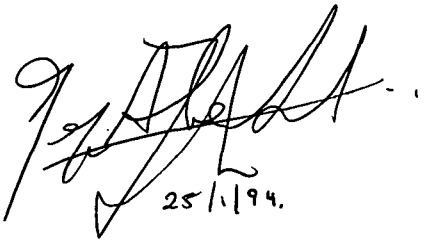
Declaration

This dissertation is the result of my work. Material from the published and unpublished work of others, which is referred to in the dissertation, is credited to the authors in question in the text.

The dissertation is approximately 38,500 words in length.



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CHAPTER 1

THE HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE PHOENICIANS IN THE MALTESE ISLANDS

The Phoenicians probably colonized Malta (*Figure 1*, p. 15) towards the end of the eighth century B.C. (Gouder, 1979: 173); Gozo, the second major island of the Maltese archipelago, was apparently occupied towards 600 B.C. (Moscati, 1987: 331; Ciasca, 1988a: 206). The earliest material culture is datable to approximately 700 B.C., as conveyed by the excavations of Tas-Silg temple and by the earliest tombs (Baldacchino and Dunbabin, 1953: 41). The dates suggested by Harden (1971: 37; 57-58) for the earliest Phoenician occupation in Malta (800/790 B.C.) are very early and have not yet been confirmed by archaeological evidence.

The first century B.C. historian Diodorus Siculus refers to the importance of the Maltese Islands during this period, stating that the Phoenician mariners used Malta as a port of refuge during their trading voyages between Phoenicia and the central and western Mediterranean colonies and vice-versa (Diod., V: v. 1-2).

Towards 550 B.C. the hegemony of the Phoenician city-states declined sharply because of the Assyrian and Neo-Babylonian empires; Carthage, one of the most powerful dependencies of Phoenicia, became an autonomous city-state, and afterwards a large maritime empire which managed to dominate most of the western Mediterranean Phoenician colonies, including Malta (Harden, 1971: 63; Bondì, 1988a: 43-44; Moscati, 1988b: 49). The exact date when Malta became a Carthaginian dependency is unknown.

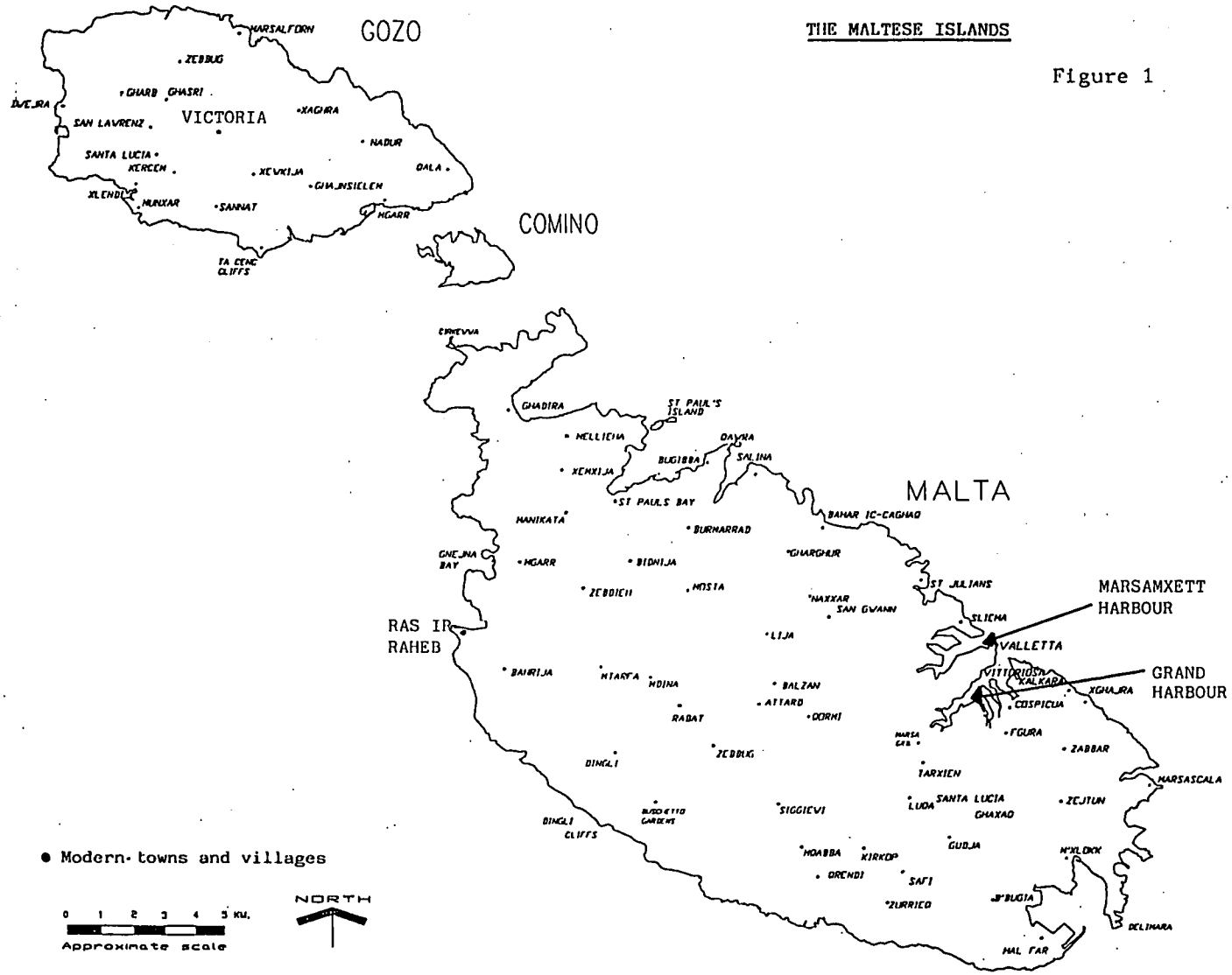

THE MALTESE ISLANDS
GOZO
COMINO
MALTA
VICTORIA
MARSALFORN
ZEBBUG
GHARB
GHASRI
XAGHRA
NADUR
SAN LAVRENZ
SANTA LUCIA
XERCEM
XEWKIJA
GHAJNSIELEM
DALA
XLENDI
MUNXAR
SANNAT
MGARR
TA CENC CLIFFS
GHADIRA
ST PAUL'S ISLAND
MELLIEHA
BUGIBBA
QAWRA
SALINA
XEMXIJA
ST PAUL'S BAY
BAHAR IC-CAGHAQ
MANIKATA
BURMARRAD
GHARGHUR
GNEJNA BAY
BIDNIJA
ZEBBIEH
MOSTA
NAXXAR
SAN GWANN
ST JULIANS
SLIEMA
MARSAMXETT HARBOUR
RAS IR-RAHEB
LIJA
VALLETTA
BAHRIJA
HTARXA
MDINA
BALZAN
ATTARD
VITTORIOSA
KALKARA
GRAND HARBOUR
XGHAJRA
RABAT
DORMI
COSPICUA
FGURA
MARSA
ZABBAR
DINGLI
ZEBBUG
TARXIEN
MARSASCALA
SANTA LUCIA
ZEJTUN
LUDA
GHAXAQ
SIGGIEWI
BUSCETTO GARDENS
DINGLI CLIFFS
GUDJA
HOABBA
KIRKOP
M'XLOKK
ORENDI
SAFI
ZURRIEQ
B'BUGIA
DELIMARA
HAL FAR
Modern towns and villages
0 1 2 3 4 5 Km.
Approximate scale
NORTH

Figure 1

According to Gouder (1979: 183), this event presumably occurred towards 550 B.C. 'when Carthage was extending her political influence and military ascendancy to control the commercial routes of the Western Mediterranean'.

Carthaginian political power in Malta came to an end in the third century B.C., when Rome clashed with Carthage in a series of military campaigns (Moscati, 1988c: 60). According to Livy, the Maltese archipelago was occupied by the Romans in 218 B.C. (Livy, XXI: v. 51), and was annexed to the province of Sicily (Bonanno, 1986: 5). In the early Roman Period, the indigenous late Punic culture was hardly affected by the new rulers (Bonanno, 1991: 11). It was only towards the end of the first century A.D. when the local ceramic repertoire became dominantly Romanized. Gouder (1979: 185) observes that 'Phoenician cultural traditions died hard, and were indeed so deeply entrenched, that they remained evident well into the Roman period'.

SETTLEMENT ARCHAEOLOGY

The earliest Phoenician settlers did not merely occupy the coastal areas of the Maltese archipelago (Gouder, 1979: 178). Archaeology has so far unearthed the remains of three nucleated settlements (*Figure 2*, p. 17), one at Rabat, another one in the Grand Harbour area, and the third at Victoria, Gozo (Gouder, 1979: 178-181). Archaeological evidence reveals that the Rabat settlement was probably the most extensive and was partly fortified (Bonanno, 1977a: 387). This area seems to have been inhabited by the earliest Phoenician settlers towards 700 to 690 B.C. (Gouder, 1979: 179).

The Harbour settlement, situated in the Marsa area, seems to have been unfortified, and was probably less extensive than the Rabat settlement. The present material evidence indicates that a group of inhabitants occupied this settlement not earlier than 450 B.C. (Said, 1992: 20).

The Victoria settlement was seemingly situated where Victoria and the Citadel stand today (Gouder, 1979: 178-179). It was probably also less extensive than the Rabat settlement and was partly fortified (Trump, 1972: 151-152). This settlement appears to have been the chief centre of Gozo and was also situated on a hilltop (Bonanno, 1977a: 387), and is argued to have been first inhabited towards 600 B.C. (Gouder, 1979: 180).

Further archaeological evidence reveals that other parts of these islands were inhabited (Said, 1990: 11-30). The location of tombs, country houses, and of other structures indicates the location of possible and probable settlement sites (*Figure 2*). However, construction works have hampered the precise location of these habitation areas.

The remains of eleven country houses indicate that one of the farming activities carried out on the islands in the late Punic Period (from approximately 300 B.C. onwards) was probably the extraction of olive oil, as indicated by the remains of several olive presses and vats, where oil was ultimately stored after extraction. Examples of typical country houses are those of Burmarrad, Birzebbugia, and of Xewkija, Gozo. So far, we are presented with nineteen country houses in Malta and with another three in Gozo (Bonanno, 1977: 76). Archaeology has not yet determined whether these houses formed part of settlement areas or else were built in isolation.

RELIGIOUS STRUCTURES

The only religious structure which was utilized during this period (700 B.C. - A.D. 100) is the temple of Ashtarte at Marsaxlokk, in south-eastern Malta. Formerly a prehistoric temple (Evans, 1971: 232), this religious structure underwent architectural reconstructions probably towards 700 - 650 B.C. (Moscati, 1971: 43). Between 350 and 50 B.C., this temple witnessed other restoration and reconstruction works, where 'the temenos was enlarged, new rectangular structures were added to the sides of the sanctuary ... and a colonnaded portico ... was built round it on three sides' (Gouder, 1979: 175).

A Punic rock-hewn shrine, possibly dedicated to Tanit, was identified in the western part of Gozo at Il-Wardija. The earliest excavation layers have so far established a date for this shrine not anterior to the third century B.C. (Moscati, 1987a: 341); this religious place shows the spread of Punic culture in Gozo at a relatively late period. This shrine, like the Marsaxlokk temple, has not yet been associated with any settlement areas.

THE TOMBS

Phoenician and Punic tombs have been identified in groups or in isolation in many parts of the Maltese Islands. *Table 1* (p. 20) does not claim to illustrate the original number of tombs; there will be countless others still awaiting discovery or which have been clandestinely destroyed. *Figure 3* (p. 21) conveys the distribution of known tombs or tomb groups in Malta and Gozo. Whenever it was not possible to pinpoint their exact position, the tombs were located by parish.

MODERN TOWN/VILLAGE	NUMBER OF TOMBS
ATTARD	16
BAHRIJA	5
BIRKIRKARA	14
BIRZEBBUGIA	2
BURMARRAD	1
DINGLI	3
GHAJN TUFFIEHA	6
GHAXAQ	3
GUDJA	5
HAL-FAR	12
HAMRUN/SANTA VENERA	12
KIRKOP	2
LUQA	7
MARSA	9
MARSAXLOKK	1
MELLIEHA	1
MGARR	33
MOSTA	13
MSIDA	1
MTARFA	15
MQABBA	6
NAXXAR	6
PAOLA	30
QORMI	9
QRENDI	10
RABAT	343
SAFI	1
SAN GWANN	2
SIGGIEWI	8
SLIEMA	5
ST PAUL'S BAY	3
TARXIEN	19
ZABBAR	3
ZEBBUG	5
ZEJTUN	10
ZURRIEQ	9
COMINO ISLAND	1
GOZO ISLAND	18
TOTAL	**650**

Table 1: Distribution of Phoenician and Punic Tombs.

The Rabat area tombs were generally found in groups; the largest concentration of tombs is that of Tac-Caghaki, which possesses 156 tombs. The burial-places around Rabat indicate that during this period the population never abandoned this settlement area; the earliest tombs are datable to approximately 700 B.C., and the latest cemeteries to approximately the end of the first century A.D. The present evidence also suggests that the Rabat area cemeteries were located outside and close to the settlement walls.

Many tombs in the Grand Harbour area have also been discovered in groups, the most extensive necropoleis being those of Ghajn Dwieli, Tal-Liedna and Tal-Horr. The earliest burials identified in these tombs have been dated to about 450 B.C. (Said, 1992: 7-11).

Comino presents just a single grave-pit (M.A.R., 1911-12: 4), which conveys the Maltese inhabitants' lack of interest in living there. In Gozo, archaeology has so far unearthed 18 tombs (*Table 2*, p. 23). Three major necropoleis were located in Victoria, while the remaining tombs were identified in isolation.

The remaining tombs found in Malta and Gozo were possibly associated with other settlements, whose inhabitants may have dwelt either in caves (Virzì-Hägglund, 1979: 396-399), or in country houses, or in hamlets still undiscovered. The location of tombs helps us to identify which were the lands likely to be chosen by the inhabitants for habitation or for the exploitation of land resources. Our analysis suggests that certain areas were intensively inhabited while others were left completely barren; there are several geological and geographical

MODERN TOWN/VILLAGE	INHUMATIONS	CREMATIONS	UNKNOWN/UNSTATED (NUMBER OF TOMBS)
ATTARD	29	8	4
BAHRIJA	2	2	2
BIRKIRKARA	51	7	5
BIRZEBBUGIA	6	0	0
BURMARRAD	2	0	0
DINGLI	3	0	2
GHAJN TUFFIEHA	13	1	1
GHAXAQ	5	1	0
GUDJA	6	4	1
HAL-FAR	20	6	2
HAMRUN/S VENERA	51	7	4
KIRKOP	2	0	0
LUQA	3	2	4
MARSA	11	0	1
MARSAXLOKK	0	5	0
MELLIEHA	1	0	0
MGARR	22	15	20
MOSTA	6	3	9
MQABBA	7	1	1
MSIDA	1	0	0
MTARFA	39	5	4
NAXXAR	13	6	0
PAOLA	47	13	9
QORMI	19	4	2
QRENDI	8	5	3
RABAT	161	82	260
SAFI	2	0	0
SAN GWANN	5	2	0
SIGGIEWI	6	1	3
SLIEMA	7	2	0
ST PAUL'S BAY	7	1	1
TARXIEN	13	19	10
ZABBAR	4	1	1
ZEBBUG	11	5	1
ZEJTUN	17	3	1
ZURRIEQ	4	10	5
COMINO ISLAND	1	0	0
GOZO ISLAND	25	12	4
TOTAL	630	233	360

Table 3: Types of burials

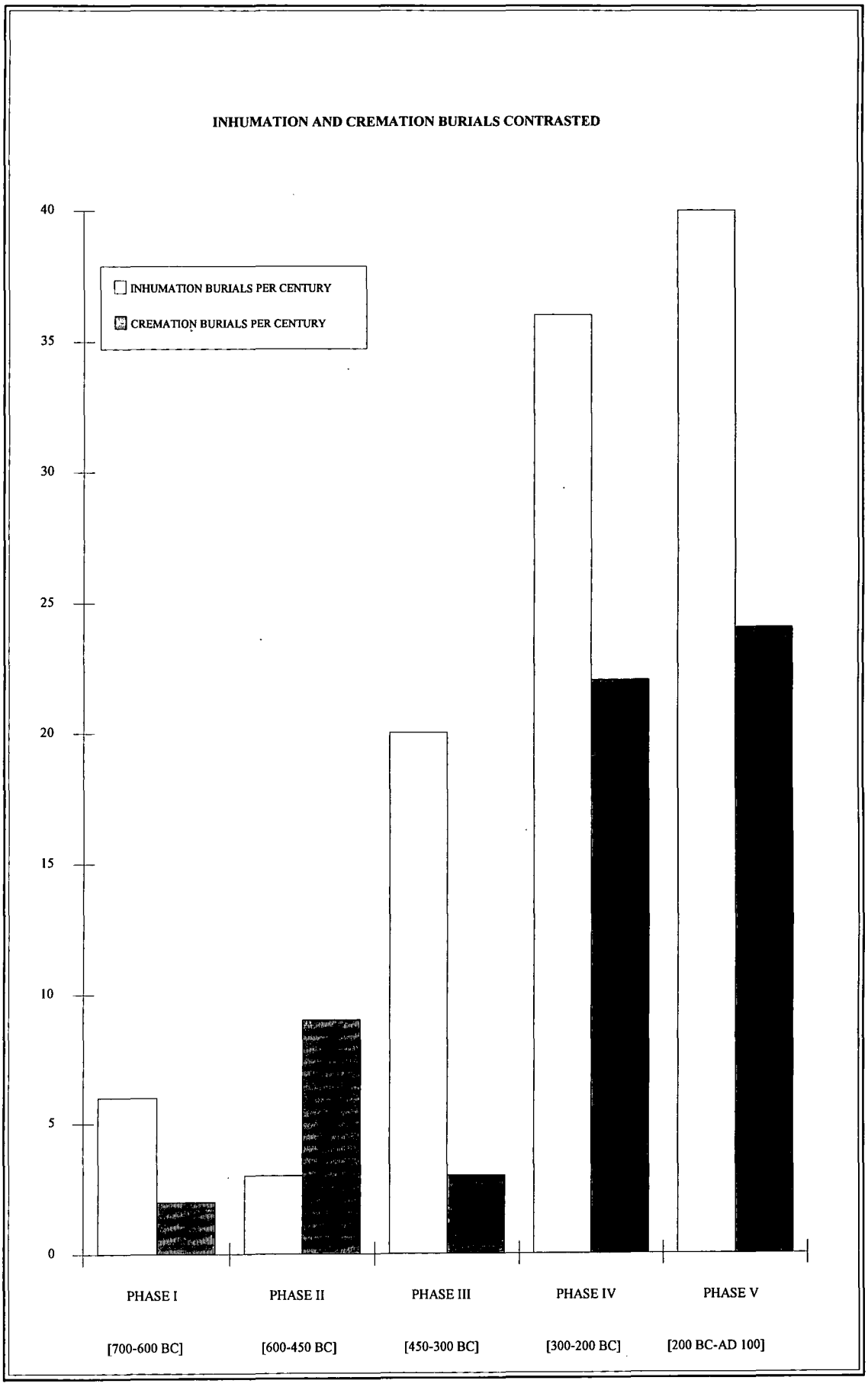

INHUMATION AND CREMATION BURIALS CONTRASTED
INHUMATION BURIALS PER CENTURY
CREMATION BURIALS PER CENTURY
40
35
30
25
20
15
10
5
0
PHASE I
[700-600 BC]
PHASE II
[600-450 BC]
PHASE III
[450-300 BC]
PHASE IV
[300-200 BC]
PHASE V
[200 BC-AD 100]

Figure 4

horizontal axis the five phases. Since the phases are not chronologically equal, they have been calibrated per century, because Phases I and IV constitute the two shortest periods and are both one hundred years long.

After A.D. 100, when culturally these islands became predominantly Romanized, the indigenous people continued to bury their dead in rock-cut tombs. Inhumation and cremation were still simultaneously practised and funerary objects, mainly consisting of Roman pottery, were still being deposited with the dead. In Malta cremation stopped at the beginning of the fourth century A.D. (Jones, 1981: 15) and communal inhumations in subterranean hypogea appeared for the first time. This marked on the Maltese archipelago the end of old pagan rites, customs and traditions and the dominance of Christianity.

CHAPTER 2

THE TOMBS AND THEIR SETTING

This chapter discusses the location of tombs in relation to the physiography, the modern census regions, the agricultural and the geological regions of the Maltese Islands.

THE PHYSICAL LANDSCAPE

The physical landscape of the Maltese Islands (*Figures 5* and 6, pp. 30-31) is divided into five major landscape types (Bowen-Jones *et al.*, 1962: 34-42):

a. *Coralline Limestone plateaux*: forming the highest areas of the islands and bounded by well-marked escarpments;

b. *Blue Clay slopes*: these divide the plateau uplands from the surrounding areas and occur similarly in valleys cut into the plateau edges;

c. *Undercliff areas*: these occur when plateaux of coralline limestone meet the sea;

d. *Flat-floored basins*: many are the result of faulting. Sometimes they occur due to erosion and subsequent alluvial deposition, and

e. *Globigerina hills and plains*: these consist of a series of low ridges and valleys.

CENSUS REGIONS

Because of various historical and demographic reasons, these islands were divided in 1931 into five census regions (*Figure 7*, p. 33):

a. *Gozo and Comino*: these consist of two islands, and hence constitute two geographical entities;

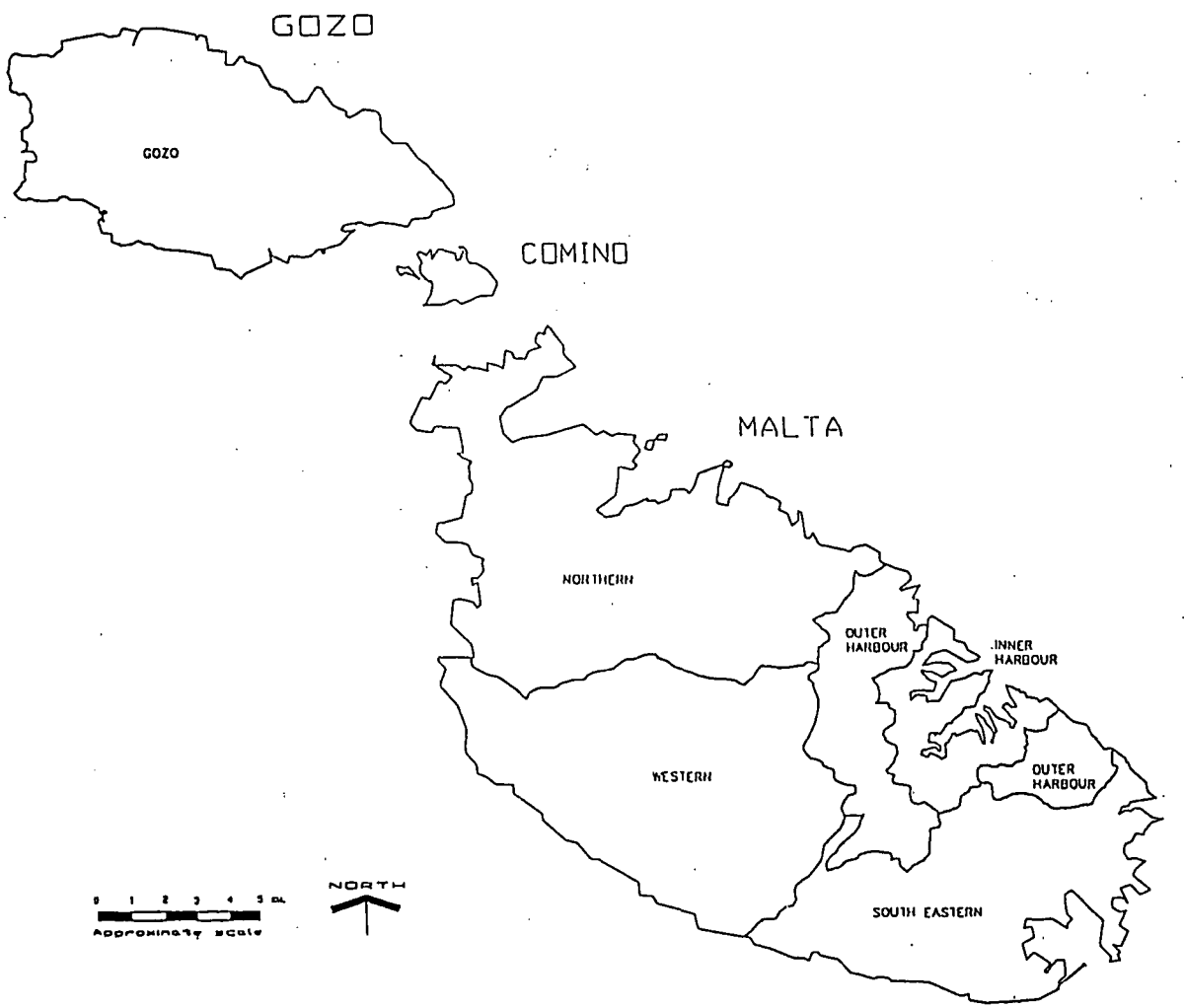
b. *Northern Malta*: comprising an extensive area between Marfa Ridge, Mosta and Fomm ir-Rih. It is characterized by low population density and by a late settlement development;

c. *Western Malta*: roughly extending from Ras ir-Raheb to the towns of Attard and Zebbug. Before the exploitation of the Grand Harbour area, this region was characterized by the largest settlements of Malta. It is still well-populated today, and sometimes the peripheral limits of certain villages coincide with those of others, like Qormi, Zebbug and Siggiewi;

d. *Harbour Zone*: comprising all the towns and villages around the Grand Harbour. It is characterized by a high population density and by settlements which mainly developed after the building of Valletta in 1571, and

e. *South-East Malta*: roughly extending between Qrendi, Marsascala and Delimara. This region consists of small independent habitation units with some major settlements scattered around. It is also characterized by the presence of good harbours in its south-easternmost part.

REGIONAL DIVISIONS OF THE MALTESE ISLANDS



after Malta Structure Plan (Report of Survey) Volume 1, August 1990: 9

Figure 7

Each region has witnessed different traditional settlement patterns. Since these regions are based on demography and parish boundaries rather than on geographical and geological characteristics, they are artificial and cannot help us much in the analysis of tomb distribution.

AGRICULTURAL REGIONS

Dewdney (Bowen-Jones *et al.*, 1962: 236-237) distinguishes eight agricultural regions in the Maltese Islands (*Figure 8*, p. 35). Malta is divided into three major agricultural regions:

a. *the Western Scarplands,* comprising the western part of North Malta and the western and central parts of West Malta;

b. *the Northern region,* comprising the central and eastern parts of North Malta, and

c. *the hills and plains of central and eastern Malta,* comprising the eastern part of western Malta, the Harbour region and south-east Malta.

Gozo is divided into five major agricultural regions:

a. *the western region,* comprising an area between Zebbug, San Lawrenz and Xlendi;

b. *the northern region,* comprising an area between Zebbug, Victoria and Nadur;

c. *the central region,* comprising an area between Victoria, Xewkija and Ghajnsielem;

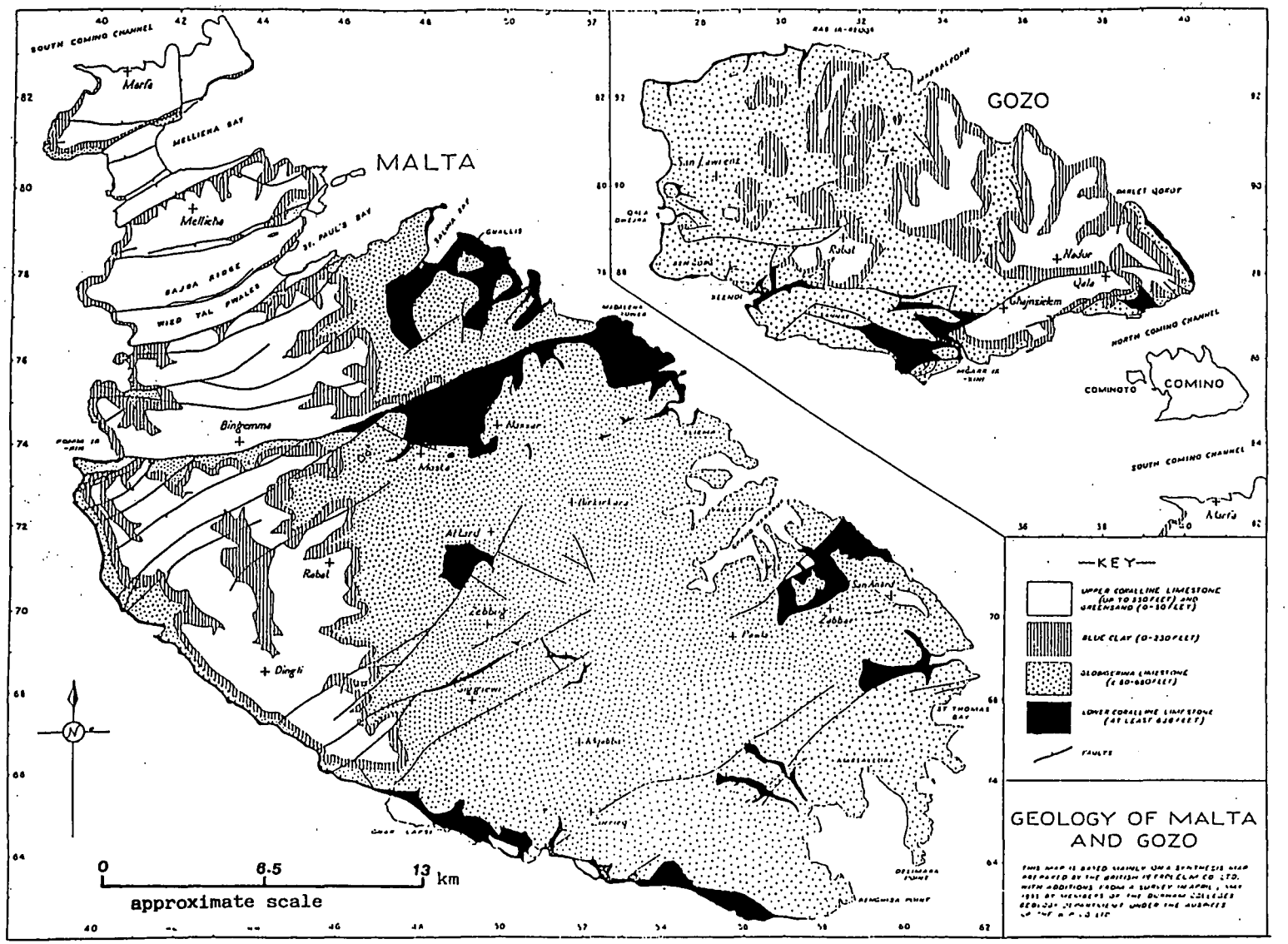
d. *the eastern region,* comprising an area between Mgarr, Qala Point and It-Tocc, and

e. *the southern region,* comprising an area between Xlendi, Munxar and Mgarr.

Since these regions are based mainly on today's local agriculture, they are unhelpful for the analysis of tomb distribution; we need to obtain less complicated and more well-defined regions based on the geology of the Maltese Islands.

GEOLOGICAL REGIONS

Figure 9 (p. 37) shows the dominant geology of Malta and Gozo, illustrated by the four main types of rock. Upper coralline limestone is not only a hard type of rock, but is also resistant to weathering effects. Globigerina is softer, more porous and subject to more weathering effects because of the high content of calcium carbonate in it which interacts with sodium chloride from the sea (Ransley, 1974: 4-8). Today, upper coralline is hardly ever used for building purposes. Up to a few centuries ago upper coralline was slightly commoner in use. Eighteenth and nineteenth century farmhouses were normally built with two types of stone: upper coralline was normally used for the foundation walls, and the rest of the construction was built with globigerina. Earlier in time we find that the fortifications erected by the Order of St John between 1550 and 1650 consisted mainly of globigerina.



after Bowen-Jones et al. 1962: 24

Figure 9

However, towards 1680 military architects realized that upper coralline was resistant to sea-spray and so the new fortifications which were located close to the sea started to be built with only upper coralline limestone (Blouet, 1984: 111).

The Maltese Islands can be divided into three basic geological regions (*Figure 10*, p. 39):

a. *the coralline region,* roughly extending from Marfa harbour to Dingli cliffs. It is the region where upper coralline mostly prevails in Malta. It can be divided into two sub-regions: the *dry coralline,* where perennial water is hardly available, and the *wet coralline,* where there is a higher presence of perennial water resources;

b. *the globigerina region,* which comprises the rest of Malta. This region extends roughly from St Paul's Bay down to Marsaxlokk harbour. It is characterized by a series of sheltered harbours, which have given rise to a number of settlements, especially in the Grand Harbour area. The globigerina region can also be divided into two sub-regions: the *dominantly globigerina,* which is characterized by the best harbours of the island, and the *less dominantly globigerina,* a smaller area which consists of a mixture of all geological deposits, and

c. *Gozo,* characterized by a mixture of all geological deposits and by a series of open harbours, especially in the southern and northern parts of the island.

Since these regions are less complicated and are defined by different geological characteristics, they are the most helpful for the analysis of our tomb distribution.

TOMB DISTRIBUTION AND GEOLOGY

Following the cataloguing process of all the tombs from the available reports, they were located on a map of the Maltese Islands (scale 1:25,000). Each was given a different number, which was preceded by an abbreviation, each standing for the census regional boundaries. So,

a. *G/C* = Gozo/Comino
b. *N* = northern Malta
c. *W* = western Malta
d. *H* = Harbour zone
e. *S.E.* = south-east Malta.

This numerical system conveys precisely the number of tombs in each census region. There are 18 tombs in Gozo and only one in Comino. North Malta presents 62 tombs, western Malta 396, the Harbour area 86, whilst the south-eastern part has 87 tombs. According to the new geological regions, the coralline region is provided with 441 tombs, the globigerina region with 190 tombs, whilst Gozo and Comino have 18 tombs.

The above estimates compared to the surface area of each census region reveal that the largest number of tombs per square kilometre is located in western Malta (6 tombs per km^2), while the smallest number is found in the north (about 1 tomb per km^2). The south-east and the harbour regions both present about 2 tombs per km^2, and Gozo presents 0.2 tombs per km^2.

According to the geological regions the coralline region presents 7 tombs per km^2, the globigerina region 1 tomb per km^2, and Gozo 0.2 tombs per km^2.

The tombs were generally cut wherever hard rock locally prevailed. There are instances when tombs were hewn in friable rock and the human osseous material and the deposited funerary objects were found, upon discovery, in a very poor state of preservation (M.A.R., 1964: 5; 1965: 4).

A close study of the geological map of these islands (*Figure 11*, p. 42) and the above tomb distribution figures reveal that the majority of the tombs were cut in the coralline limestone plateaux, thus in the harder rock-type. Other tombs were cut in the globigerina, but only few tombs were identified in blue clay, owing to its very friable nature. In Gozo, many tombs were similarly cut in the upper coralline. Lower and upper coralline are the hardest types of rock, globigerina is softer and more subject to friability, and blue clay is the softest rock-type of the islands (Ransley, 1974: 4-8).

The people who cut the tombs in the upper coralline certainly chose the best type of rock as far as protection against weathering effects was concerned. Since this type of rock normally contains pockets of solution hollows in the surface layer, this probably helped the *fossores* to spend less time in digging the tombs (De Lucca, 1992: personal communication). The grave-diggers probably made use of iron tools and may have spent not more than two weeks to dig a double-chambered tomb in the upper coralline. It was easier for them to cut the tombs in the globigerina

because it was softer. Considering the quality of this limestone, the *fossores* may have spent not more than one and a half weeks to cut a double-chambered tomb in this type of stone (De Lucca, 1992: personal communication).

In Malta, the tombs hewn in the coralline region were found at an altitude between 150 to 300m above sea-level, although the hills of this region are on average higher than 350m above sea-level. In Gozo, the tombs were situated at an altitude between 50 and 150m above sea-level, although the Gozo hills are on average higher than 250m above sea-level. In Gozo only those hills which had easier access seem to have been utilized for habitation and burial purposes. Most of the higher hills of Malta, which characterize its coralline region, are easily accessible from the adjacent valleys. In Gozo several hills have got a high presence of blue clay and consist of a series of terraces, which both generate access difficulties.

The tombs of the coralline region were generally cut on high areas. The tombs of Rabat were rarely located in the surrounding valley areas probably because the *fossores* had to secure protection for the interred bodies against rain-water seepage and other erosional effects. The lower the tomb was in a valley, the more it was subject to rain-water seepage. The globigerina region also presents clusters of tombs, like those of Ghajn Dwieli and Tal-Liedna, on hilly areas. However, there are instances of tombs being cut in valley areas, such as those of Birkirkara, Qormi and Marsa. This may indicate, either that the inhabitants of eastern Malta were not always interested in a precise landform for the location of tombs, or adequate land for burial purposes

was not always available near their dwelling areas to seek the best protection possible for the interred bodies. That the majority of the tombs in this part of the island were cut in the globigerina already indicates the problem of more rapid weathering effects.

It is not without external parallel that for burial purposes the local people seem to have preferred hilly areas. It was customary for the Phoenicians to choose similar areas not only for habitation but also for their necropoleis. The majority of the cemeteries of Carthage were located on hilly areas (Bondì, 1988: 259), and so were those of Tyre and Sidon (Ciasca, 1988: 147), and many of the necropoleis of Sicily (Tusa, 1988: 189; 197), Sardinia (Acquaro, 1988: 220) and Spain (Olmo-Lete and Aubet, 1986: 42; Aubet-Semmler, 1988: 226-242).

CHRONOLOGY AND GEOGRAPHY

The dated tombs have been located on five relief maps of the Maltese Islands, each of which conveys the distribution of the dated tombs during each phase. In these maps (*Figures 12 - 16*), the tombs are represented with a triangular black symbol, and the cemeteries with a triangular black symbol enclosed in a single circle.

Phase I

Phase I (c. 700 - 600 B.C.) presents six tombs (*Figure 12*, p. 45), four in the Rabat area, one at Dingli, and another one at Naxxar. There are three important characteristics to note: a) the location, b) the setting, and c) the rock-type. During this period, the wet coralline region was utilized both for burial and probably also for dwelling purposes; only one tomb was located in the globigerina region. Likewise, the tombs

were all identified on high areas. The tombs of the coralline region were located at an altitude between 183 - 190m above sea-level; the remaining tomb, located at approximately 122m above sea-level, was hewn in the globigerina.

In the Rabat area, three tombs were located within the 2km boundary of the nucleated settlement, whilst the fourth tomb was identified within less than 1km (see *Figure 12*). Empirical evidence on prehistoric ancient nucleated settlements (Bintliff, 1993: personal communication) shows a widely recurring cross-cultural module of a half-hour, 2 - 3km radius mixed farming territory. As for individual farms, it is normally argued that their territories are unlikely to have extended more than 1km radius. This suggests that the people who were buried in the Rabat area tombs probably lived in the nucleated settlement, although one cannot rule out the presence of other rural hamlets nearby, for instance where the farthest tomb to the north-west of the Rabat settlement is located (this area is known as Il-Qallilija). During this period it was probably much more difficult for the inhabitants to reach the Qallilija tombs from Rabat. The way leading from Rabat to Qallilija is sometimes tiring, and one may imagine how difficult and impractical it could have been for the inhabitants of the Rabat settlement to carry a dead body to its burial-place over a relatively long distance. Besides, archaeology has unearthed in this area traces of a small settlement (M.A.R., 1912-13: 1-2; 1913-14: 5). On a flat plain a person normally covers a walking distance of 1km within ten minutes. When I performed this exercise practically, I spent about forty-five minutes to reach the tombs of this area from Rabat. The remaining two tombs of this phase beyond the Rabat 3km radius probably pertained to small communities of people, whose

settlement was possibly located within the shaded 1km boundary units. Archaeology has not yet unearthed the remains of early settlements in these two localities.

Phase II

Phase II (c. 600 - 450 B.C.) conveys new developments (*Figure 13*, p. 48). There were nine tombs in Malta and another two in Gozo. The tombs of Malta were located in the wet coralline region, while those of Gozo were identified in Victoria. The tombs were situated on hilly areas and were generally cut wherever upper coralline prevailed. Moreover, the pattern of *Figure 13* suggests that by this phase the wet coralline region was becoming increasingly important, whilst the globigerina region seems to have been still barren and void of any human activities. The isolated shaded circular units situated beyond the 3km territorial boundary of the Rabat settlement do not only indicate new cemetery areas, but also the possible rise of other small rural settlements. In the Rabat area one tomb was identified in the 1km boundary, another four in the 2km boundary, and the fifth one in the 3km boundary. This map indicates that the north-western part of the Rabat settlement (Qallilija area) was becoming increasingly important not only for burial purposes, but probably also for habitation. It was presumably difficult for the inhabitants to reach the tombs of this area from Rabat. It seems that the people who were buried in the Qallilija tombs probably lived in a rural hamlet nearby (M.A.R., 1912-13: 1-2; 1913-14: 5). The tombs found near the Victoria settlement are situated less than 1km away from the settlement. This not only indicates the rise of another settlement than Rabat, but that even here the inhabitants probably used to cut their tombs within a short distance from their centre of habitation.

Phase III

During Phase III (c. 450 - 300 B.C.) the wet coralline region was probably still intensively utilized, but for the first time we have the exploitation of new land areas in the globigerina region (*Figure 14*, p. 50). In the latter region 11 tombs were located in the Grand Harbour area and another tomb was identified in the south-eastern part. The dry coralline region presents a single tomb. That Gozo is not provided with any tombs during this phase does not imply that there were no tombs or that the island was uninhabited, but that the data are probably too limited.

The tombs of the coralline region presented similar characteristics. They were located on high areas, the altitude of which varied between 150 to 200m above sea-level. It similarly appears that in the globigerina region the inhabitants often tried to cut their tombs, like those of Tal-Horr, Tarxien and Zejtun, on high areas, but others were cut in relatively low areas, like the tombs of Marsa and Qormi, the altitude of which varied between 50 to 70m above sea-level.

Figure 14 shows the increasing intensity of land-use during this phase. Near the Rabat settlement one tomb was located in the 1km boundary, another 5 were located in the 2km boundary, and another one was identified in the 3km boundary. These tombs presumably pertained to people who lived in the Rabat settlement, although one cannot rule out the presence of other rural hamlets nearby.

As regards the Harbour settlement, two independent tombs and a cemetery were identified in the 1km boundary, and another two necropoleis were

located in the 2km boundary. In the 3km boundary were located another tomb and a cemetery. The presence of small rural hamlets beyond the 3km boundary of this settlement is possible, but their existence has not yet been confirmed by means of archaeological evidence. It was probably very impractical for the inhabitants of this settlement to bury their dead more than 3kms away from this centre of habitation. Although it is geographically easy to reach the north-western and south-eastern parts of this settlement (there are no steep hills, valleys, etc.), one should certainly consider the distance. When I covered these two ways on foot, I spent about thirty-five minutes to reach the north-western tombs in the 3km boundary, and about forty-five minutes to reach the south-eastern tomb located just beyond the 3km boundary.

The other tombs located beyond the 3km boundaries of the two nucleated settlements probably pertained to small communities of inhabitants who lived in small rural villages still undiscovered.

Phase IV

Phase IV (c. 300 - 200 B.C.) presents 33 tombs, 31 in Malta and another 2 in Gozo (*Figure 15*, p. 52). In Malta, 13 tombs were identified in the wet coralline region, another 3 in the dry coralline, and 15 tombs were discovered in the globigerina region (11 in the Grand Harbour area, and another 4 in the south-eastern part of that region). This suggests that while the wet coralline region was still inhabited on a relatively large scale, the globigerina region had become equally exploited. There was also an increment in the number of tombs in the vicinity of the Grand Harbour. High areas were given primary preference, but a few others were

found in low areas. In Gozo, G5 was unearthed in Victoria and was cut in the upper coralline, while G11 was discovered in the Ghasri Valley and was hewn in the globigerina.

Regarding the tombs near the Rabat settlement, a cemetery and a tomb were located in the 1km boundary, another two tombs were identified in the 2km boundary, and another tomb was located in the 3km boundary. The regional boundaries around the Rabat settlement indicate that the land continued to be extensively utilized for burial purposes.

Near the harbour settlement two cemeteries were identified in the 2km boundary on the eastern side of the Grand Harbour settlement, and another necropolis was identified in the 3km boundary on the western part of the same settlement; a single tomb was located in the 2km boundary, with another two in the 3km boundary. The farthest tombs and cemeteries indicate the presence of possible rural hamlets which were occupied by a small number of families. The other independent circular units in the south-east of the globigerina region and in the dry coralline region indicate the existence of other possible rural settlements.

Regarding the Victoria settlement, one tomb was identified in the 1km boundary and the second one was discovered in the 2km region. It was probably difficult for the people to reach the latter tomb from the Victoria settlement not only because of distance reasons, but also because the way which leads from Victoria to this particular tomb is tiring to walk, especially in summer, when the weather is very hot. This tomb may have therefore pertained to a family which lived in a rural hamlet still undiscovered.

Phase V

Figure 16 (p. 55) illustrates the distribution of dated tombs during Phase V (c. 200 B.C. - A.D. 100), suggesting that by now many parts of these islands were utilized both for burial and probably also for habitation purposes. The most extensively exploited land areas were those around Rabat and the Grand Harbour. This map arguably shows the highest intensity of land-use during the Phoenician Period. The highly preferred burial areas in Malta were the south-western part of the Rabat settlement territory and the south-eastern and the western parts of the Harbour settlement territory, where archaeology has identified clusters of tombs. Within the 1km boundary of the Rabat settlement there is also the major necropolis of that area (Tac-Caghaki) which, given its proximity to the settlement, probably pertained to dwellers of that centre of habitation. It is not difficult to reach the western and south-western tombs of this settlement because there are no geological obstructions, like steep hills. To reach the necropolis of Tac-Caghaki from the Rabat settlement there is only a distance of about ten minutes. The farthest cemeteries situated within the 3km boundary of the Rabat settlement indicate the presence of possible rural hamlets still undiscovered.

This figure also illustrates the increasing importance of the Grand Harbour area. Within the 1km and 2km boundary units of this settlement archaeological explorations have brought to light three cemeteries and two tombs. The cluster of tombs identified in the 3km boundary on the western part of the Grand Harbour settlement conveys the location of a possible outer-harbour settlement. In this area archaeology has unearthed the remains of a water cistern, probably pertaining to this

period. It was discovered in 1914 at Qormi, and probably belonged to a house (M.A.R., 1913-14: 4). The possible location of another area of habitation emerges in the south-eastern part of the Harbour settlement territory, beyond the 3km boundary. In this particular area archaeological investigations have unearthed the remains of a country house, which was utilized since at least the early second century B.C. (M.A.R., 1961: 5; 1964: 6). The Grand Harbour area was becoming increasingly important probably because it was becoming more active commercially. Since the Romans were great merchants and they travelled all over the Mediterranean, it is quite likely that by now the Grand Harbour started to offer more opportunities for the inhabitants to work and settle there. This does not mean that the inhabitants of the Grand Harbour area were not involved in farming activities, but at this time there might have been a small community of people whose livelihood depended mainly on harbour activities. That the harbours of the Maltese Islands were visited by Roman cargo ships has been proved by a number of underwater explorations conducted between 1958 and 1965 (M.A.R., 1958-59: 2; 1959-60: 2; 1960: 4; 1961: 6-7; 1962: 7; 1963: 7; 1964: 7; 1965: 4-5; Bonanno, 1991: 210).

The other independent boundary units probably convey the existence of other hamlets still undiscovered, which were possibly occupied by a small number of families. Some of these tombs possibly pertained to families who dwelled in country houses (M.A.R., 1936-37: 14).

In Gozo three tombs were identified within the urban territorial limits of the Victoria settlement, whilst another one was found in the eastern part of that island, which indicates the existence of a small settlement.

RESULTS

Figure 17 (p. 58) presents an overview of the cumulative distribution of dated tombs between Phases I and V. From the pattern which emerges one can summarize that the main three districts and foci of habitation during this period were the Rabat settlement (between Phases I and V), the Harbour settlement (between Phases III and V), and the Victoria settlement (between Phases II and V). This implies that the densely populated zones were the Rabat area, the Grand Harbour area and central Gozo. The intensity of land-use around the Rabat settlement, represented by intersecting 1km boundary units, indicates either that the Rabat settlement was well-populated, especially during Phases IV and V, or there was the close presence of other rural hamlets near the Rabat settlement. The majority of the inhabitants presumably dwelled in areas which, for geographical and geological reasons, were agriculturally productive, especially the wet coralline region, the western part of the Grand Harbour area and central Gozo. For instance, the cluster of tombs located on the western part of the Grand Harbour (*Figure 17*) possibly belonged to a community of farmers who dwelled in a small rural settlement. This area was in fact one of the highly productive agricultural regions in the outer-harbour area until it was built over since the 1970s (Census of Agriculture, 1955: Appendix K, Table 10).

Figures 14 - 16 also convey the gradual expansion of the distribution of tombs in the globigerina region. It seems that from Phase III onwards this region started to attract small communities of people to settle there. The location of these tombs also indicates the existence of other minor rural settlements, whose inhabitants depended largely on

agricultural activities because:

a. many tombs were not located close to the harbour areas, and

b. many tombs were located in areas which until the mid-1970s were still regarded as important agricultural zones (Census of Agriculture, 1955: Appendix K, Table 10).

The dry coralline part of Malta is probably also characterized by a small number of rural settlements, whose inhabitants presumably depended on various farming activities. Archaeology has not yet unearthed the remains of any settlements in this region. Settlers apparently never occupied the northernmost part of this region on an extensive scale, probably because even today the land is arid and is not much suitable for farming purposes. In general, apart from the Grand Harbour, the areas which people chose preferentially for habitation (represented by 1km circular units) were probably selected chiefly for farming purposes. For instance, the western part of the dry coralline region is one of the most highly productive agricultural zones even today (Census of Agriculture, 1955: Appendix K, Table 10).

Gozo does not seem to have been occupied before Phase II. By Phase IV a small community of inhabitants probably settled in the north-west of the Victoria settlement, while by Phase V other groups of people presumably also settled in the south and eastern parts of Gozo. The location of these tombs indicates that the inhabitants who dwelt in these different areas were probably farmers. Two reasons suggesting this are:

a. only few tombs were situated in harbour areas, and

b. the tombs were located in areas which were agriculturally productive before the 1960s (Census of Agriculture, 1955: Appendix K, Table 10).

The above maps reveal that the earliest and major land utilization in these islands occurred in the wet coralline part of Malta. These figures also indicate that by Phase III the inhabitants of Malta spread eastwards, and by Phases IV and V the Grand Harbour area was intensely populated. *Figures 12 - 13* indicate that during Phases I and II the majority of the inhabitants were mainly concerned with farming, because archaeology has not yet unearthed any Phoenician tombs (datable to Phases I and II) in the harbour areas. However, the burial evidence suggests that from Phase III onwards communities of people gradually started to settle in the Grand Harbour area; these people were probably concerned not only with agriculture but also with harbour activities. *Figures 14 - 16* reveal that in the Grand Harbour area there was an increment in the number of tombs from Phase III onwards. This area seems to have become increasingly important by late Phase IV (after 218 B.C.) when the Maltese Islands became a Roman dependency. The Phase V tombs identified in this area suggest that during this period either the Harbour settlement became more populated, or this area was possibly also occupied by a number of small settlements still undiscovered, whose inhabitants were concerned with both farming and various maritime activities.

CHAPTER 3

THE TOMBS AND LAND-USE

This chapter discusses the correlation between the location of tombs and the geomorphology of the Maltese Islands. It will also treat in detail the reasons for the different tomb distribution patterns, which were described in Chapter 2. It was observed that the physiography of these islands not only affected different settlement patterns in each geological region, but also the distribution of tombs. The geology of the Maltese archipelago determines the surface availability of rain water and perennial water supply, the distribution of different soils, and hence the location of the best agricultural regions (Bowen-Jones *et al.*, 1962: 235).

THE LAND AND FARMING

Figure 18 (p. 62) uses the distribution of dated and undated tombs to suggest the intensity of land-use (represented by 1km intersecting boundary units). With the aid of recent studies on the geography of these islands, this map helps us to identify the reasons which probably influenced the inhabitants to occupy certain parts of the islands for habitation and burial purposes.

The inhabitants probably not only sought the best lands possible for habitation and burial, but also for cultivation. The Phoenicians considered farming and animal husbandry as a key component of their economy not only in Malta, but also in Carthage (Moscati, 1972: 68; Isserlin, 1983: 157), in Phoenicia (Pritchard, 1978: 68) and in the other colonies (Harden, 1971: 129-130). However, the Phoenicians are usually

seen as considering trade as an even more important pillar of their economy; tradition, the Egyptian and the Old Testament texts, the Greeks and the Romans generally considered these people not as farmers but as great merchants, whose livelihood depended on trade and commerce (Harden, 1971: 148-155; Bartoloni, 1988: 78-85; Mazza, 1988: 557-559). However, one has to consider here that this was the context in which foreigners met them because the Phoenicians have left us neither their history nor a picture of themselves.

Since the local perennial spring-water supply (see **Water Resources and Farming** below) is limited to only certain parts of these islands, it is probable that in the Phoenician Period, like today, local agriculture depended mainly on dry-farming. About 85% of all the present arable land (about 9,137 ha) is devoted to rain-fed farming, whilst 15% of all the arable land (about 1,588 ha) depend on irrigation farming (Mifsud, 1993: personal communication). Dry-farming occurs in all parts of these islands, even in areas which also support irrigation farming.

During the Phoenician Period Malta and Gozo (see **Crop Production in the Phoenician Period** below) probably had a restricted variety of crop production, because apart from the local climatic conditions (King, 1979: 268), the Phoenicians mainly specialized in the cultivation of wheat and barley, the olive, in viticulture, and they also cultivated flax for linen (Harden, 1971: 128-129).

Bowen-Jones (1962: 235-288) argues that the best rain-fed fields are located in the valley areas because rain-water, whilst naturally irrigating the fields in the slope areas finds its way into the valleys,

where it is ultimately stored (King, 1979: 268). Because of various geographical and geological reasons, Bowen-Jones (1962: 235) identifies three different types of local dry-farming: a) poor quality dry-farming; b) medium quality dry-farming, and c) best quality dry-farming (see below).

WATER RESOURCES AND FARMING

A factor which attracted communities of inhabitants to settle in the wet coralline region during this period was the presence of perennial water resources, which were important not only for domestic use, but also for irrigation. Upper coralline is a hard and a non-porous type of rock, allowing natural water to move easily into channels. *Figure 19* (p. 65) illustrates the distribution of perennial natural water channels in Malta. They are related to upper coralline and the major concentration is found around Rabat, with a decreasing presence in Siggiewi and in the dry coralline region. No water channels appear in the globigerina region owing to the very porous nature of the globigerina limestone. It seems that between 700 and 450 B.C. the inhabitants chose areas which had availability of perennial water, both for domestic use and probably also for irrigated farming. A map which conveys the distribution of natural water channels in Gozo is not yet available. On this island, perennial water channels occur in the west, in the north and in the central part towards Victoria, while they decrease towards the east and the south (Schembri, 1992: personal communication). In Gozo, 97% of the cultivated fields also depend on dry-farming, since the perennial water supply on that island is not adequate to allow extensive irrigated farming (Mifsud, 1993: personal communication).

The question now arising is from where did the inhabitants of the globigerina region gather water, since in this part of the island there was an absence of natural water channels? Presently there is no archaeological evidence, but geologically one may hypothetically identify certain rain-water catchment areas, for example at Ghajn Dwieli, Marsa, Marsaxlokk and the Sceberras peninsula (*Figure 20*, p. 67). In these areas, rain-water could have been stored in rock-cut cisterns, none of which have survived or been discovered so far. Archaeological evidence reveals that in Carthage and Phoenicia rain-water was collected in similar water catchment areas and was then stored in large rock-cut cisterns (Harden, 1971: 125). This aided communities of inhabitants to avoid having to seek sites near springs or streams (Harden, 1971: 125-126), but to spread wherever the available land permitted habitation, security and work. The Sceberras peninsula is an ideal water catchment area. Before the building of Valletta in 1566, this peninsula consisted of a series of globigerina cliffs, which decreased in height towards the point of Fort St Elmo (Blouet, 1984: 84-85). Before the commencement of the project of this new city the builders had to cut into several parts of the cliffs to obtain a uniform and linear street plan, an aim which was not successfully achieved. Historical sources convey that between 1575 and 1612 the people of eastern Malta used to gather water from Fort St Elmo area and even from Marsa (Blouet, 1984: 85).

Wherever in Gozo there was an absence of natural water channels, potable water was possibly collected in similar water catchment areas. Rain-water found its way down the hills of the island into the adjacent valleys, was possibly stored in large cisterns, and was then utilized for irrigation and domestic use.

SOILS AND FERTILE AGRICULTURAL LANDS

It has been observed earlier that the geology of these islands underlies not only the modern census and the geological regions, but also the agricultural regions and the soils. In slope areas and on the ridges, soils are normally unprotected and are more subject to wind and water erosion than those located in the valley areas (Stone *et al.*, 1975: 186). Topography generally affects the development of local soils in various ways, mainly through changes in climate, drainage conditions, effects on weathering and transportation processes (Bowen-Jones *et al.*, 1962: 85).

Figure 21 (p. 69) illustrates the distribution of tombs in relation to the major soil types of the Maltese Islands. Modern urban development on these islands does not allow us to obtain a reliable picture of the distribution of soils during the Phoenician Period.

The Maltese Islands are characterized by three major types of soils: a) the Syrosem; b) the Rendzina, and c) the Terra Soils. The Syrosem produces the carbonate raw soils, while the Rendzina has two sub-types: xerorendzina and brown rendzina. The Terra Soils produce two main sub-types: earthy terra fusca and siallitic terra rossa (Bowen-Jones *et al.*, 1962: 86-87). Lang (Bowen-Jones *et al.*, 1962: 93) defines complex soils as 'dominantly disturbed terra soils with added matter, with numerous enclaves of xerorendzinas and carbonate raw soils'. These complexes are the result of modern industrial developments, and they occur mainly near quarry and industrial areas, and also near inhabited regions (Bowen-Jones *et al.*, 1962: 93).

The local Maltese soils present similar characteristics; Lang considers these soils as young or immature because 'pedological processes are slow

in calcareous soils, particularly where acidic drainage water is very limited in quantities' (Bowen-Jones *et al.*, 1962: 83). The soils contain a low percentage of humus because they are dry, and in countries like Malta they take a long time to form. Exposure to weathering effects (like wind) and the climate, which basically consists of very dry seasons and where rain-water is not continuous even in winter, cause the soils to develop slowly and the fields not to be very deep. Although the soils may not have high clay deposits, calcium carbonate helps to capture water and makes the soils less dry, particularly in summer, and hence become easier to cultivate (Bowen-Jones *et al.*, 1962: 83). All the local soils are cultivated because they are similar, they are limestone soils, and do not pose contrasts for the farmers. Since the Maltese Islands, like southern Sicily and North Africa, constantly suffer from perennial water availability, local farmers concentrate on dry-farming. The valley areas are normally intensively cultivated; the best quality dry-farming is usually confined to the valley or basin areas, where rain-water, on its way down from the slope areas, reaches the fields in the valleys where it is ultimately stored (King, 1979: 268). On the ridges, in slope areas, and near the coastland agriculture becomes less intensive since here the fields are exposed to various weathering effects. Proximity to the coast causes the soil to absorb more sodium chloride from sea-water, and therefore becomes more saline. However, in countries like Malta salinity is not too dangerous a problem because certain soils, like the carbonate raw soils, contain a high percentage of calcium carbonate, which saturates the soil from saline minerals. Moreover, the usual September-October heavy rainfall is extremely helpful because it cleans and leaches the surface salinity which is gathered during summertime (Scicluna-Spiteri, 1992: personal communication). When the soil is not deep or

moist enough to support crop cultivation, as in the dry coralline part of Malta and in many parts of Gozo, the land is left as wasteland or is utilized for animal herding, which mainly supports the production of meat, milk and wool (Ransley, 1974: 30). Dry-farming is principally concerned with the cultivation of vines, olives, cereals and clover, whilst irrigated farming is confined to the cultivation of green vegetables, tomatoes, melons, artichokes and certain fruits (Bowen-Jones *et al.*, 1962: 198-207; 210-212; 214-215; 247-257; 275).

Figure 21 indicates that during the Phoenician Period all the above mentioned soils were cultivated probably because they had similar characteristics and did not pose contrasts for the local farmers (see discussion on pages 68 - 70). Farming in Malta and Gozo seems not to have been affected by these different soils, but by secondary factors, like perennial and rain-water availability, the location of the fields (for instance valleys and plateaux) and the depth of the fields. The farmers probably cultivated their crops most intensively in the valley areas and where there was availability of perennial water, especially in the wet coralline region, including irrigated fields. Where perennial water was not available, for instance in the globigerina region, farmers concentrated more on dry-farming. When the land did not even support crop cultivation, for instance the northern part of the dry coralline region, the land was left as wasteland or was probably utilized for animal herding, especially for the production of meat and milk. Animal herding was also important for the production of wool, which like flax and cotton was ultimately manufactured into clothes (Harden, 1971: 127). During the Phoenician period agriculture was probably of a simpler nature and was more limited in crop variety than it is today (Harden, 1971: 128-

130). The location of tombs and the intersecting boundary units of *Figures 18* and *21* not only convey the distribution of tombs, but presumably also where the inhabitants intensively cultivated their lands. The distribution of tombs likewise indicates that, given the climatic and geological conditions of these islands, most of the farmer families concentrated on dry-farming. Irrigation farming was confined only to those areas where there was availability of perennial water. These maps also convey that much of the land around the three nucleated settlements was probably intensively cultivated, suggesting that land was probably one of the inhabitants' major source of living. The proximity of the tombs to the three nucleated settlements indicates that many farmer families dwelt in the urban settlements and worked their lands close by, exactly as happened, for instance, in Carthage (Moscati, 1972: 68). Since land was considered as important, possibly even some non-farmer families owned some land.

Malta does not appear to have been an important trading or military centre like Carthage (**Chapter 2**: 60), and most inhabitants probably relied on farming. Hence, the most important factor for many inhabitants was land, as in all the other countries which relied on subsistence farming. The distribution of tombs can be linked not only to intensity of land-use, but also to land possession. Therefore, tombs were dug wherever people possessed land. Since tombs normally contained multiple burials, they were probably family tombs. So generally

TOMB = FAMILY TOMB = LANDOWNERSHIP

The tombs found scattered in many parts of these islands, which in the above maps are located beyond the 3km boundaries of the nucleated settlements and are represented by 1km boundary units, also indicate habitation and landownership - wherever communities of farmer families lived, they probably had their own lands to cultivate and in their own lands they used to cut their tombs. These farmer families could have lived in rural hamlets or even in isolated country houses. Between 1885 and 1900 Caruana identified a few tombs near certain country houses, for instance the two tombs discovered near the Birzebbugia country house (Caruana, 1898: 45). Hence, the distribution of tombs indicates three major possibilities:

a. there were people who lived in the nucleated settlements and buried their dead in the countryside;

b. there were people who lived and buried their dead in the countryside, and

c. there were people who lived in the nucleated settlements and buried their dead very near these centres of habitation.

CROP PRODUCTION IN THE PHOENICIAN PERIOD

The rapid urban and industrial development since the 1960s, the lack of proper archaeological excavations to identify ancient settlements, and the absence of archaeobotanical evidence have hampered archaeology from obtaining a complete picture about local farming during this period. However, by analyzing the local archaeobotanical evidence in relation to that of the other colonies one may acquire a picture of what the local

farmers probably used to cultivate during this period. Since the geology of these islands allows a greater production of rain-fed rather than irrigated crops, it seems that during this period there was a dominance of dry-farming. The Phoenicians, both in their homeland and in their colonies, specialized in the cultivation of cereals, mainly wheat and barley, flax (for linen cloth), vines and olives (for the production of wine and oil respectively), and they also cultivated the fig and the date (Harden, 1971: 128-130; Pritchard, 1978: 129).

The distribution of country houses in Malta and Gozo is indeed significant because it helps us to identify some of the areas which were utilized for agricultural purposes (*Figure 22*, p. 76). These farmhouses were probably also the residence of farmer families who did not necessarily live in the nucleated settlements (Bonanno, 1977: 73). The 1km boundary units around each structure may indicate the maximum parameters of the land area which the owners of these houses utilized for crop cultivation or even for animal herding. In Malta, eleven country houses were also accompanied by olive pressing plants or instruments (Bonanno, 1991: 215), indicating that:

a. the olive tree (*Olea europæa L.*) was cultivated in various parts of Malta and Gozo;

b. since the olive tree is a non-irrigated plant, it was probably cultivated where there was prevalence of dry-farming conditions, and

c. part of the farming activities carried out in some of these farmhouses was not only the olive cultivation, but also the extraction of olive oil.

The pressing plants discovered near these country houses are very similar in form and size to those of Phoenicia, Carthage and the other colonies (Pritchard, 1978: 129). Concerning the dating of these olive pressing plants and instruments, it seems that in Malta and Gozo these country houses do not antedate the early third century B.C. Their use continues in the Roman Period, and certain farmhouses were in use until the ninth century A.D. (Bonanno, 1981: 508). Therefore, there is no archaeological evidence for the extraction of olive oil before the early third century B.C. An example of a typical farmhouse is that of Burmarrad, where archaeological explorations unearthed the remains of crushing basins, hewn from a single rock, heavy stone rollers which crushed the olives, oil vats hewn from a solid drum of stone, and cement-lined tanks, which probably provided storage facilities for the olive pits and pulp (Bonanno 1977: 74). Whilst the remains of nineteen villas have been discovered in Malta, the structural remains of another three have been identified in Gozo (Bonanno, 1977: 76). The distribution of these villas indicates that the local economy should have broadened from the intensive to the extensive because farming activities, especially from Phase III onwards, seem to have spread into the drier regions of the islands. The olive tree does not need a lot of work for its cultivation; it is a native of the Mediterranean and grows only in such climates (Ransley, 1974: 28).

Although 'the olive is the only agricultural product for which we have ample archaeological evidence' (Bonanno, 1977: 75), various other crops were probably cultivated during this period. Grain crops were presumably also grown locally, and their cultivation was probably of considerable importance, as it was in the rest of the Phoenician world (Harden, 1971: 129; Moscati, 1972: 71-72). In the Roman Period a number of locally

minted coins depicted the head of the goddess Ceres and an ear of corn (Coleiro, 1971: Plate 15,4; Bonanno, 1977: 75). In North Africa and in the central and western Mediterranean colonies there is archaeological evidence that after the harvest the wheat was stored in rock-cut silos for safety and to be kept in good condition (Harden, 1971: 129; Moscati, 1972: 72). In Malta there is evidence that grain was stored in similar rock-cut silos; the Mtarfa area has so far yielded more than thirty silos, while other silo-pits were identified near the country houses of Zejtun and Birzebbugia, and in Victoria, Gozo (Caruana, 1898: 73; 75; Harden, 1971: 129; Evans, 1971: 107; R.G.D., 1973: 62). Cereals are indigenous crops to the Mediterranean and normally do not require irrigation (Ransley, 1974: 22). The cultivation of cereals in the Mediterranean is very ancient (Rowley-Conwy, 1989: 133; Van Zeist *et al.*, 1991: 248; 266; Van der Veen, 1992: 32-33; Nisbet, 1993: personal communication), and there is archaeobotanical evidence for the cultivation of different cereal crops in Malta already by the Temple Period (c. 4,000 - 2,500 B.C.) (Bonanno, 1986: 25-27).

Since the Phoenicians, both in their homeland and in their colonies, were similarly well-known for the cultivation of vines (*Vitis vinifera*) and for the production of wine (Moscati, 1972: 72), it appears that, considering the favourable climatic conditions of the Maltese Islands, the inhabitants also cultivated vines. Harden (1971: 129) maintains that 'there is no doubt that wine was a staple of Punic economy'. In the Phoenician world the vine seems to have been extensively cultivated because it is a non-subsistence crop and its final product, wine, was often sold and exported (Moscati, 1972: 26-27). Although the olive and cereals can also be market crops like the vine, they are also primary

subsistence crops and can be expected to have formed the basis for local food needs. Archaeology has not yet provided evidence for the extraction of wine from the grape in the Maltese Islands. Part of the everyday agricultural activities carried out in some of the country houses (especially between August and September) could have been the extraction of wine from the grape. The final product, wine, would then have been stored and sealed in large ceramic amphorae for exportation or local use (Moscati, 1972: 13; 1982: 257; Bartoloni, 1988: 502-503). In the Near East and in north-eastern Greece there is archaeobotanical evidence of vine cultivation already by the middle part of the fourth millennium B.C. (Renfrew *et al.*, 1986: 138; Van Zeist *et al.*, 1991: 295).

The Phoenicians also cultivated flax (*Linum usitatissimum*) for linen cloth 'so far as their exiguous terrain permitted' (Harden, 1971: 128). Since it is an indigenous plant to the Mediterranean climate, it seems that flax could also have been cultivated in these islands for the production of linen cloth. Flax requires deep soil and lots of water, and it seems that this plant was probably cultivated in the deep valleys around Rabat, where there is availability not only of rain-water, but also of perennial water. Archaeological evidence reveals that by the second millennium B.C. flax was already cultivated in Egypt and in the Middle East (David, 1986: 230; Rowley-Conwy, 1989: 134; Van Zeist *et al.*, 1991: 191). Nisbet (1993: personal communication) holds that in the first millennium B.C. flax was also cultivated in Sicily and South Italy. The Bronze Age layer of the Tarxien temples has yielded fragments of burnt fabrics made from flax or of a similar fibre (Evans, 1971: 150), indicating that flax was probably already grown locally in the late Prehistoric Period (Bonanno, 1977: 77). The same Bronze Age layer at

Tarxien has also brought to light the remains of spindle whorls, which indicate the presence of a small weaving industry (Bonanno, 1977: 77).

The Phoenicians were also renowned for the cultivation of the fig (*Ficus carica*), the date (*Phoenix dactylifera*), the pomegranate (*Malum punicum*) and the hazelnut (*Corylus*) (Moscati, 1972: 76-77; 1982: 256-258). Since the cultivation of the fig, the date and the pomegranate was widespread not only in Phoenicia, but also in North Africa (Rowley-Conwy, 1989: 134; Van der Veen, 1992: 30), it appears that, considering the local climatic conditions, the fig, the date and the pomegranate were possibly also cultivated in Malta.

The cultivation of other leguminous plants and vegetables native to the Mediterranean climate is quite possible but has not yet been substantiated by archaeobotanical evidence (Bonanno, 1986: 26). The cultivation of the lentil (*Lens culinaris*), water-melon (*Citrullus lanatus*), onion (*Allium cepa*) and garlic (*Allium sativa*), for instance, already appears in Bronze Age Sicily and South Italy (Nisbet, 1993: personal communication), as well as in Pharaonic Egypt (Rowley-Conwy, 1989: 133-134).

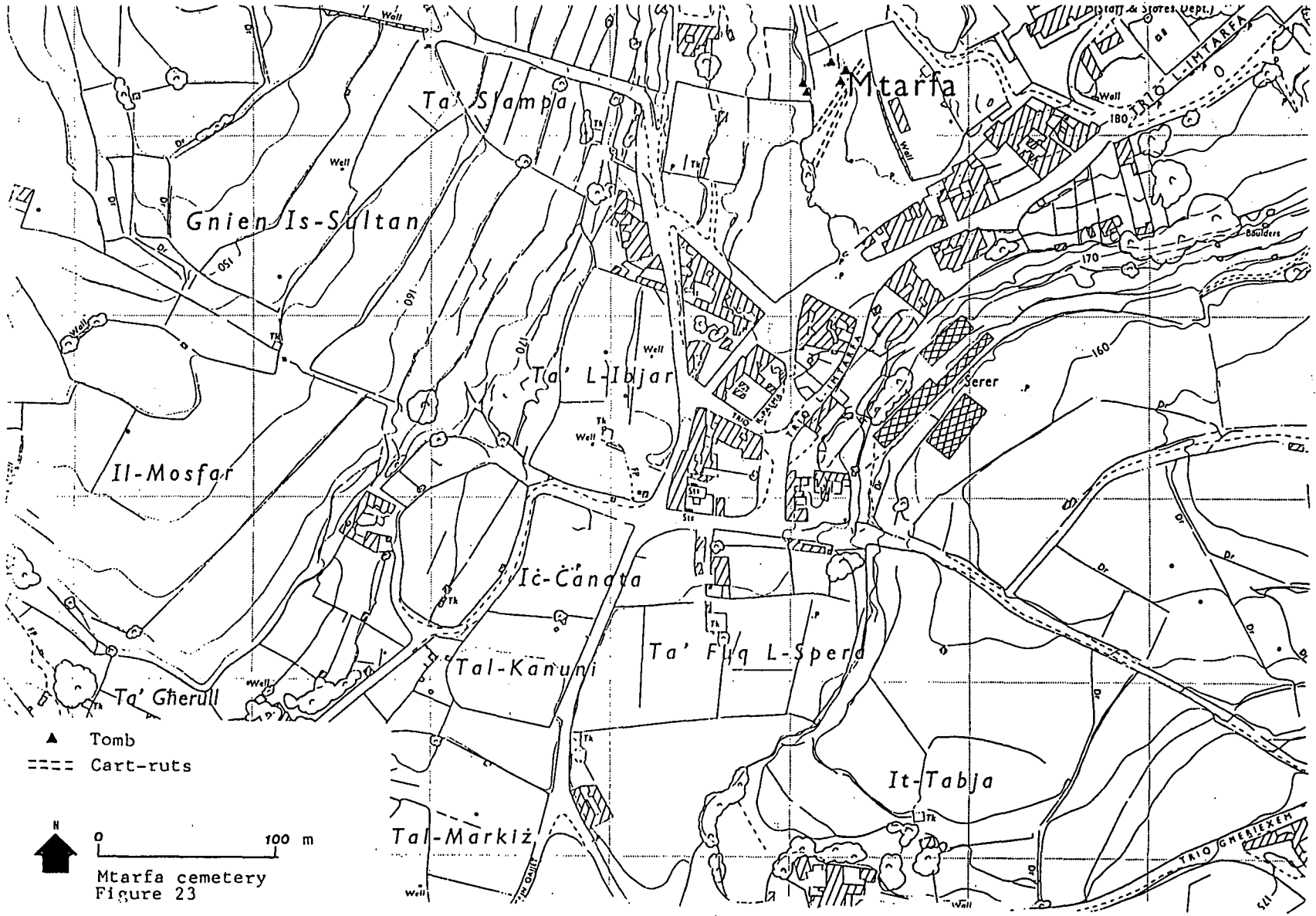
From what has been discussed so far in Chapters 2 and 3, and from the patterns which have emerged in the maps concerning land-use, it seems that during this period, especially during Phases I and II, the islands' economy probably depended largely on subsistence farming and animal herding. However, the distribution of tombs suggests that from Phase III onwards there were probably various harbour activities in the Grand Harbour area. During Phases IV and V the Grand Harbour presumably became

more important because the tombs in that area increased, which indicates that more people were living there and that they were probably not only involved in harbour activities, but also in agriculture. Where the land did not support crop cultivation, communities of farmer families could have depended on animal husbandry or even on fishing, just as happened in the other parts of the Phoenician world (Harden, 1971: 130; Moscati, 1972: 79-85; 1982: 258). But the record does not reveal such communities on the Maltese Islands except for the fishing potential available for the Harbour population.

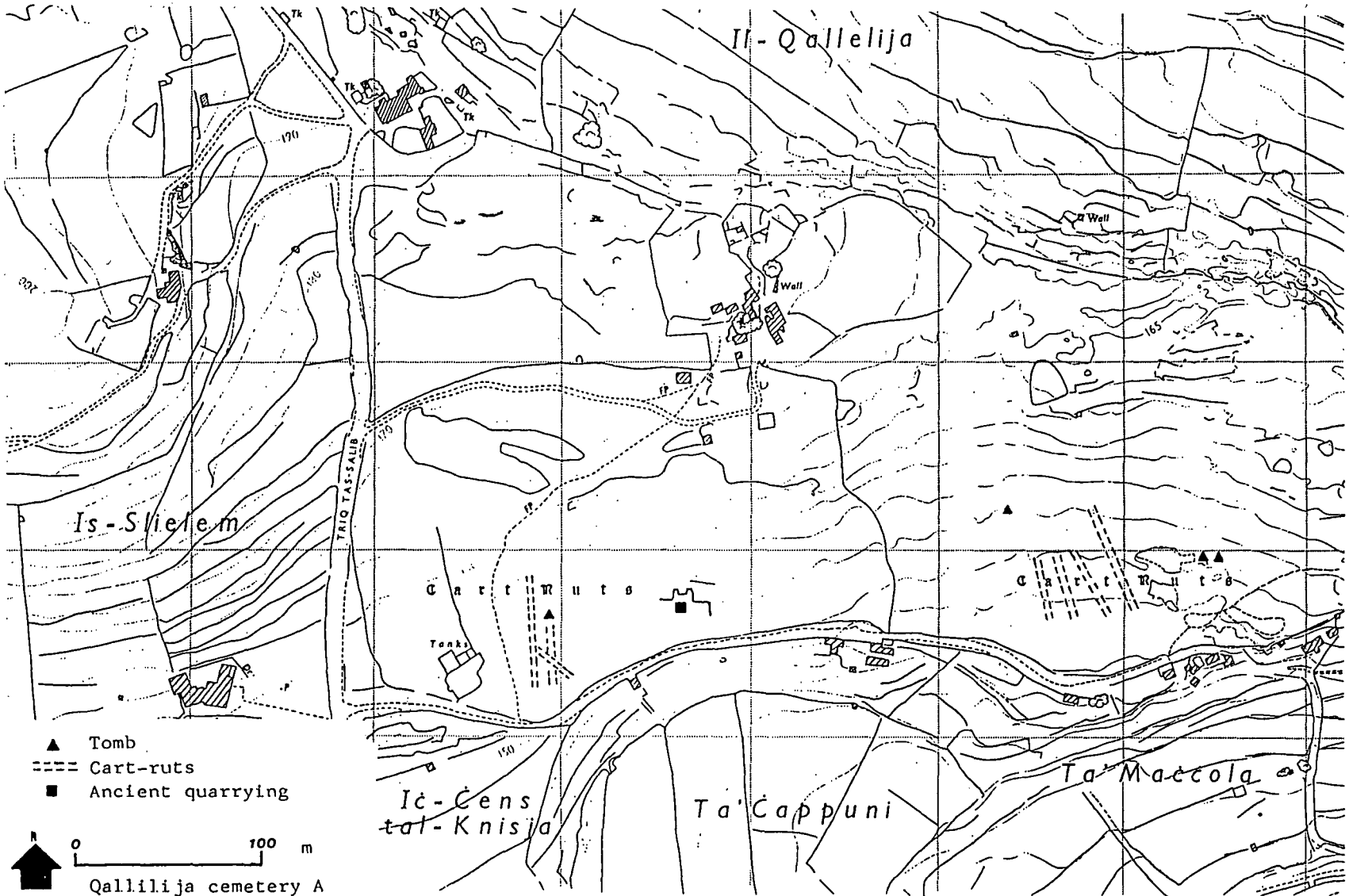
CASE STUDY

On 13 April 1993, I conducted three surveys with Ewan Anderson (Department of Geography, Durham) to study in detail the correlation between the tombs and geomorphology. This study helped me to substantiate the above discussions which considered the correlation between the distribution of tombs and geology, water resources, soils, agriculture and orientation. One of the surveyed cemeteries is situated at Mtarfa (*Figure 23*, p. 81) (Grid Reference: 452718), and the other two are located at Qallilija, Rabat (*Figures 24* and *25*, pp. 82-83) (Grid Reference of Cemetery A: 442724, 447725; Grid Reference of Cemetery B: 434730, 441732).

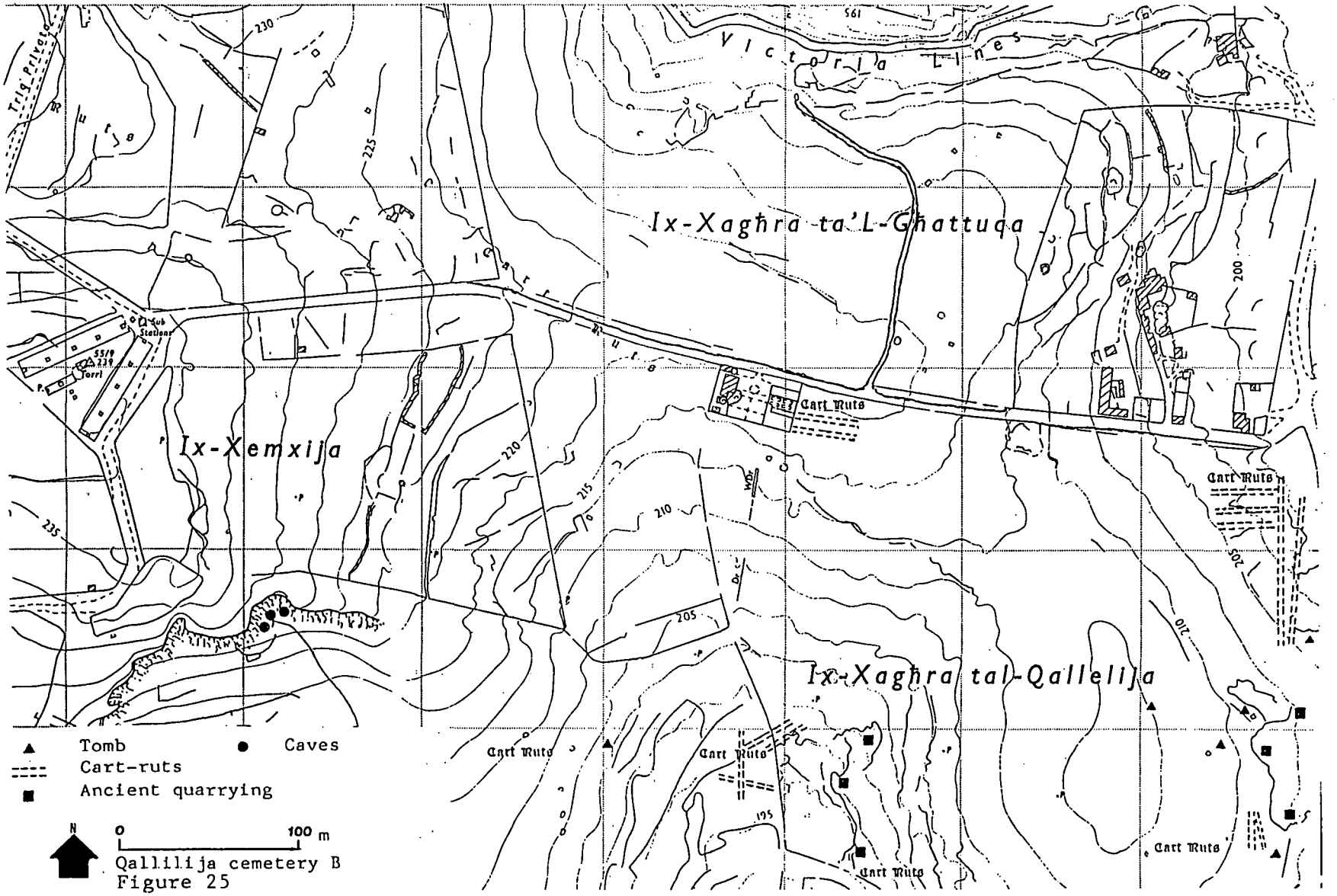
The Mtarfa cemetery (*Plates 1 - 3*, pp. 84-86) consists of four tombs, with the possibility of a fifth one still unconfirmed. Between Tombs 1 and 2 there is a distance of approximately 3m, while between Tombs 3 and 4 there is a distance of about 3.5m. Tombs 1 and 2 are situated at approximately 15m away from Tombs 3 and 4. These tombs are situated at an altitude of about 180m above sea-level. Tombs 1 and 2 consist of a shaft and chamber; access to the other two tombs is reached via an



Mtarfa cemetery
Figure 23



Qallilija cemetery A
Figure 24



Qallilija cemetery B
Figure 25

Plate 1

Mtarfa Cemetery: Tomb 1 - one of the shaft and chamber tombs.

Plate 2

Mtarfa Cemetery: Tomb 3 - one of the shaftless tombs cut in karst land.

Mtarfa Cemetery: view of the cart-ruts and the shaft tombs.

opening in the rock face, as *Plate 2* (p. 85) indicates.

Besides this, the surveyed area contains three systems of cart-ruts, probably predating the tombs, since they are interrupted by the tombs' shaft. The ruts continue beneath the modern buildings on the western side; the site is surrounded by new houses on the west and the south, and by modern fields on the north, north-west and the east.

Qallilija Cemetery A consists of four tombs (*Plates 4 - 7*, pp. 88-91), two of which have a shaft and chamber, while access to the other two tombs is reached via an opening in the rock face (like those of Mtarfa), as shown in *Plates 5* and *6*. The surveyed area also contains evidence of ancient quarrying and more than ten systems of cart-ruts, sometimes forking into one another. Tomb 1 is located about 350m away from Tombs 2, 3 and 4. Tomb 2 was identified about 110m away from Tombs 3 and 4, and between Tombs 3 and 4 there is a distance of 6m. The tombs are situated at an altitude of about 150m above sea-level. The whole area is wasteland and has not yet been affected by modern developments.

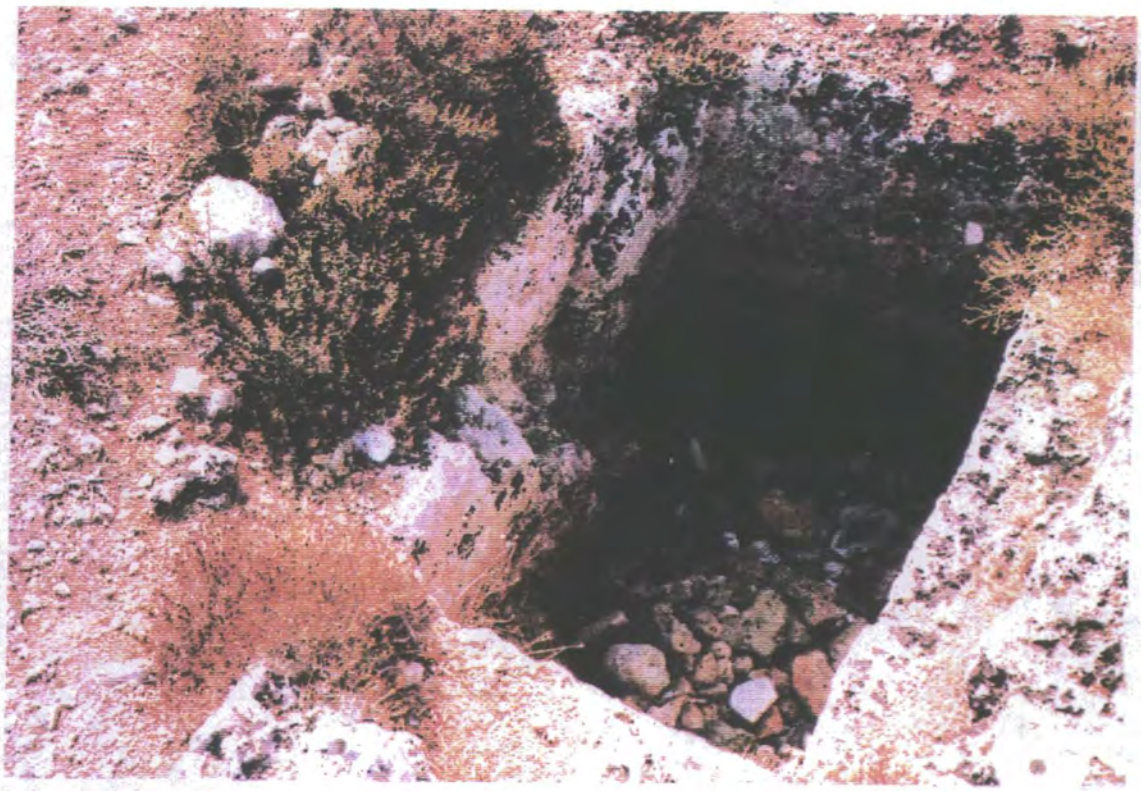
Qallilija Cemetery B (*Plates 8 - 9*, pp. 92-93) consists of six shaft tombs, which are located at an altitude of 210m above sea-level. Tombs 1 - 5 are situated close to one another, while Tomb 6 is located about 300m away from the other tombs. This site contains more than ten systems of cart-ruts, and there is also evidence of ancient quarrying. On the westernmost part, a system of three interconnecting caves were noted and Punic potsherds were observed in the topsoil layer. Since these caves seem to be ideal for habitation, they need systematic excavation to establish their date and purpose. The whole area is wasteland and there is no human activity going on.

Photo A: Qallilija Cemetery A: Tomb 1 - one of the shaft and chamber tombs.

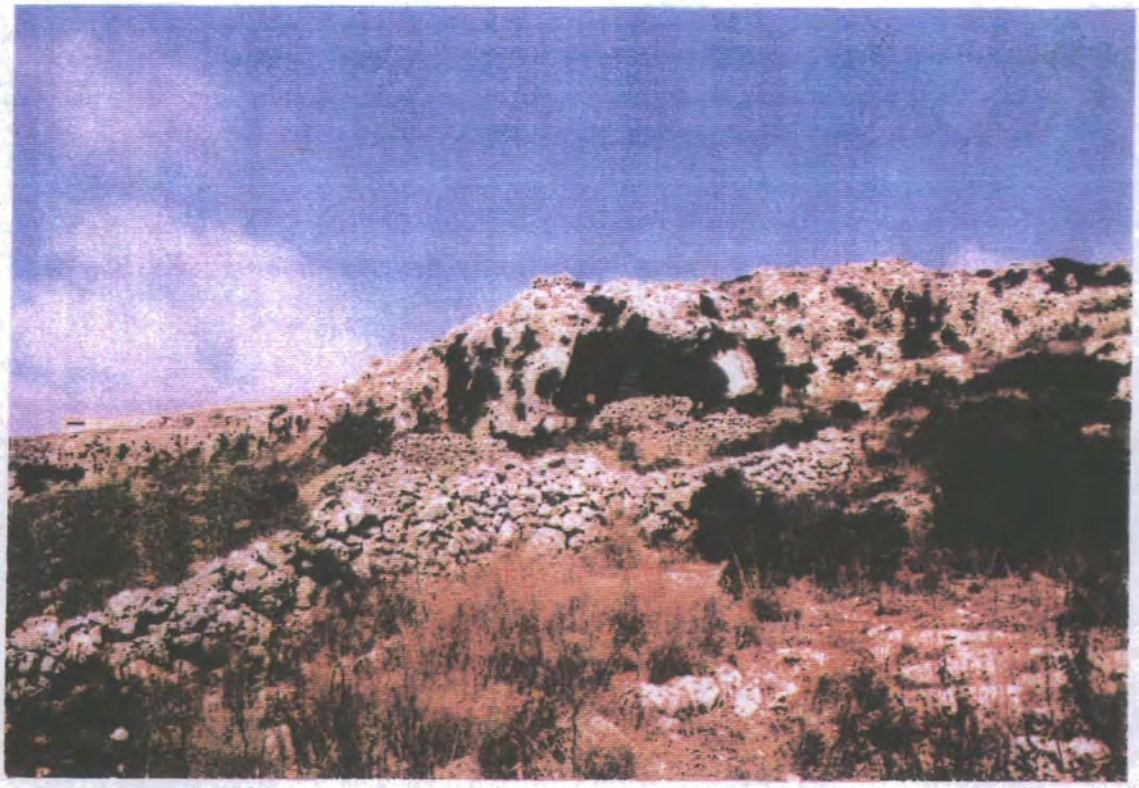
Photo B: Qallilija Cemetery A: Tombs 3 and 4 - two shaftless tombs hewn in karst land.

Qallilija Cemetery A: Tomb 4 - detail of the entrance to the burial chamber.

Qallilija Cemetery A: systems of cart-ruts sometimes forking into each other.



Qallilija Cemetery B: Tombs 1 (top) and 2 (bottom)



Qallilija Cemetery B: Caves (top) and evidence of ancient quarrying (bottom).

The shaft tombs surveyed in these three areas are not easily accessible either because the shafts contain rubbish dumps, or because sometimes there were also fig trees planted in the shaft, like Tomb 2 (Qallilija A) and Tomb 3 (Qallilija B). The shaft of Tomb 4 (Qallilija B) is partly destroyed, while the shaft and part of the chamber of Tomb 5 (Qallilija B) are destroyed and full of rubbish.

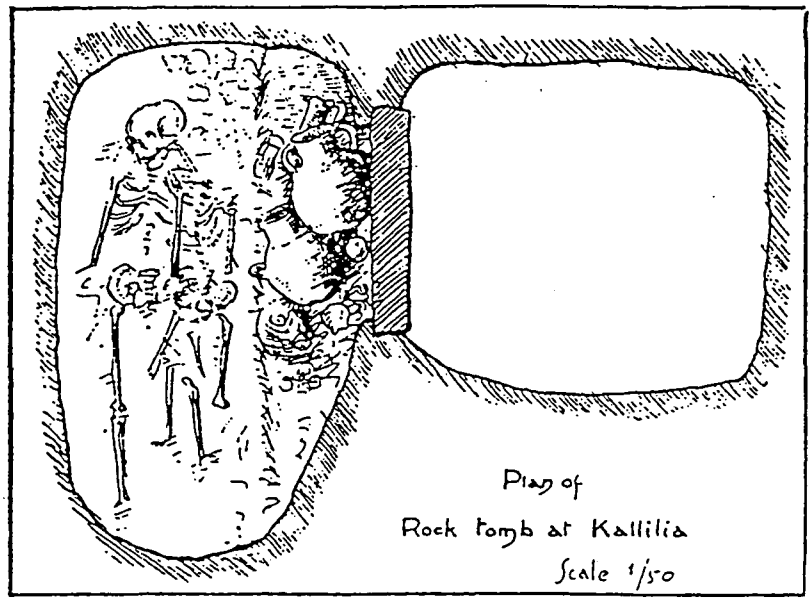
When the tombs were studied from the geomorphological viewpoint, several results were achieved. All tombs are cut in the upper coralline at an altitude varying between 150 - 220m above sea-level. No tombs are situated in valley areas, but either in slope or on plateau areas, or even in karst land. The maps convey that the tombs of each cemetery were generally cut at the same altitude. The tombs of each surveyed cemetery also followed one orientation; the Mtarfa tombs are oriented westwards, while the tombs of Qallilija A face northwards, and the tombs of Qallilija B face southwards, except for Tomb 4, which is oriented westwards.

The grave-diggers probably chose areas which already contained pockets of solution hollows in the surface layer of the rock. Solution hollows are common in the upper coralline, because in the chemical weathering of rocks, the salts, which are contained in the upper coralline, are commonly dissolved by water to form a solution. Approximately a half of each shaft (approximately 1.5m deep) is naturally cut, hence being the result of rock weathering, whilst the remaining part is hewn and smoothed by tools. The shaft tombs reveal that the grave-diggers smoothed that part of the shaft where the chamber was ultimately cut. The smoothed part of the shaft is so elegantly cut that it gives the impression of

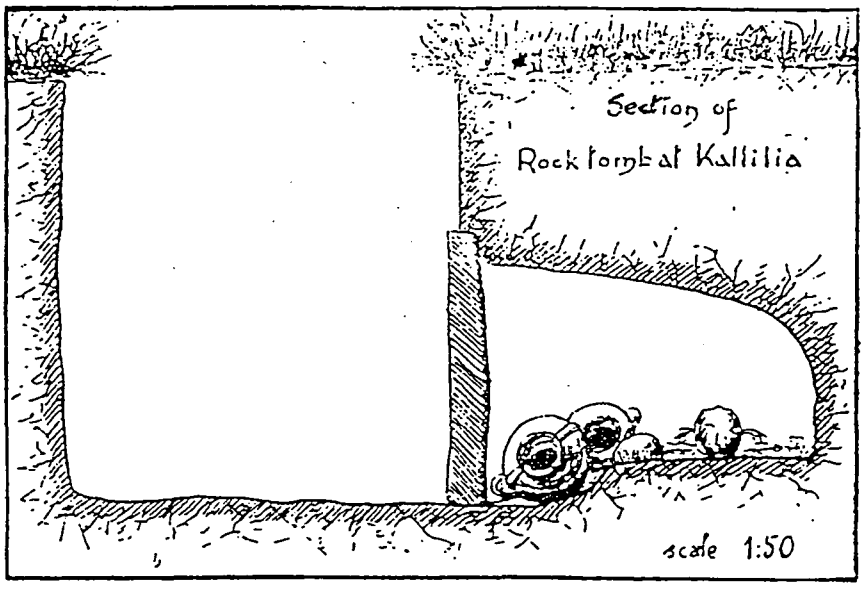
professional grave-digging. This elegance is likewise noted in the almost precise squarish, circular and rectangular form of the shafts. That the *fossores* chose such solution hollows presumably helped them to spend less time in digging the tombs. When the shaft was more than 1.5m deep, the *fossores* often cut some narrow steps in its unsmoothed part (i.e. in the natural part of the solution hollow) to facilitate access to the chamber. The surveyed shaft tombs were all single-chambered and were all identified in wasteland areas.

Another common characteristic concerns water seepage. The shafts of the tombs are normally cut in slope areas, so that when rain-water seeps into the shaft it will be collected into a single area where it will not reach the entrance of the chamber; after a burial the chamber was normally closed and sealed by a stone slab. If water managed to seep into the chamber, it was collected into a rock-cut trench, which was normally hewn just beyond the entrance or parallel to the longer axis of the chamber; its purpose was probably not to let water reach the bodies. *Figure 26* (p. 96) conveys the plan and section of Tomb 2 (Qallilija A). This tomb was discovered in 1913 (M.A.R., 1913-14: 5). The trench is hewn just beyond the entrance of the chamber. The burial material was deposited in the trench, while the interred bodies were placed on a raised platform. The surveyed shaft tombs indicate that the chambers were cut wherever water was unlikely to reach the entrance of the chamber and ultimately the interred bodies. The *fossores* probably sought the best protection possible for the dead because they located the chamber wherever rain-water seepage was unlikely to reach the bodies. Although after burial the shaftless tombs (see, for instance, *Plates 5* and *6*) were also closed and sealed by a stone slab, these were probably less protected against

Figure 26



Plan and section of a tomb discovered at Il-Qallilija.



rain-water seepage. However, Tombs 3 and 4 (Qallilija A) contained a trench just beyond the entrance, which was probably intended for similar purposes. The floors of the other two shaftless tombs (Mtarfa Cemetery, Tombs 3 and 4) were covered with soil and were therefore not examined because both are situated in a private field.

That these cemeteries present similar characteristics gives us an insight into the other necropoleis of these islands, particularly on those situated in the coralline region. Regarding geomorphology, tombs were generally cut in gentle slopes or on plateau areas, but hardly in valley areas; tombs hewn in the rock face were normally shaftless. Grave-diggers chose solution hollows when the burial chamber was to be preceded by an open shaft. Tombs in a single cemetery generally followed a single orientation (Zammit, 1931: 101-131; Baldacchino, 1951: 1-22) and altitude. *Fossores* normally chose slope or plateau areas to determine the best protection possible for the interred bodies against erosional effects, particularly rain-water seepage; trenches cut beyond the entrance or parallel to the longer axis of the chamber were probably a further means not to allow water from reaching the bodies. When the chamber contained a trench, the body was often laid on a raised platform at the back or on one of the sides of the chamber, not to be affected by accidental rain-water seepage (Zammit, 1931: 109). Many tombs were single-chambered, but when the geomorphology permitted tombs had a second or even a third chamber. Collectively, these characteristics reveal a correlation between the distribution of tomb sites and landforms, soils, orientation, altitude, water drainage and land-use, suggesting well-planned cemeteries; the uniformity of geological location, altitude and orientation of the tombs in each cemetery indicate the presence of

professional grave-diggers, who studied various aspects of the land before digging the tombs to determine the best possible protection for the interred bodies. The above observations reveal that geology not only affected the location, altitude and orientation of tombs, but also their form, their measurements and depth, and other physical features, like steps.

DEFENCE

The Rabat and Victoria nucleated settlements are the only two which provided evidence of fortification walls (Caruana, 1898: 85; Trump, 1972: 151-152). Both are situated on a hilltop which permits the erection of fortification walls. These two settlements were probably of strategic importance since they were the only settlements capable of guarding an extensive part of the islands. *Figures 12 - 16* reveal that the majority of the dated tombs in Malta and Gozo were often situated within a short distance from the fortified settlements. In Phase I (*Figure 12*) six tombs were identified less than 2kms away from the Rabat settlement, while only two tombs were found beyond the 3km boundary of that settlement. In Phase II (*Figure 13*) five tombs were discovered in the Rabat area, two tombs were unearthed within the 1km boundary of the Victoria settlement, and another three were identified beyond, but still near, the 3km boundary of the Rabat settlement. In Phase III (*Figure 14*) there were clusters of tombs within the 3km boundaries of the Rabat and the Harbour settlements, and another four tombs were found scattered in different parts of Malta. Phases IV and V (*Figures 15 - 16*) again indicate that the majority of the tombs were located within the 3km boundaries of the nucleated settlements; other isolated tombs were found scattered in various parts of the two islands. From Phase III onwards

the tombs found in Malta beyond the 3km boundary of the nucleated settlements increased in number, which indicates the rise of other possible rural hamlets. *Figure 27* (p. 99) conveys the distribution of settlements and tombs during this period. This map again suggests that many tombs were located within the 3km territorial boundaries of the nucleated settlements, mainly in the Rabat area, while a number of other tombs were found scattered on the two islands. Systematic walking revealed that the people who lived within the 3km boundary of the Rabat and Victoria settlements probably required a minimum of 35 minutes from where they lived to reach the fortified settlements. The Harbour settlement seems to have been unfortified, and it is yet unknown whether during dangerous situations it offered protection for the urban and suburban inhabitants, or whether they had either to escape to the fortified Rabat settlement, or else to seek some other means of protection. Where it was difficult for the inhabitants to reach the fortified settlements, they probably sought some other means of shelter, for example caves, which are common in Gozo, in the coralline region and in the south-eastern part of the globigerina region. The tombs identified beyond the 3km boundaries of the nucleated settlements, which may indicate the existence of rural hamlets, possibly belonged to families who either sought shelter in the fortified settlements whenever it was possible, or in nearby cave areas. Systematic walking has revealed that the people who lived in the rural areas of the coralline region had a minimum distance which varied between 2 - 3 hours to reach the Rabat fortified settlement, whilst the inhabitants of the Harbour area and south-eastern Malta had a minimum distance which varied between 4 - 5 hours to reach the same fortified settlement. On the other hand, the rural inhabitants of Gozo had a minimum distance which varied between

2 - 3 hours to reach the fortified settlement of Victoria. The 1km boundary units around the tombs of the rural areas (see *Figure 27*) may also indicate some of the areas where the rural inhabitants sought shelter during times of danger.

CHAPTER 4

THE TOMBS AND SOCIAL HIERARCHY

This chapter presents a comprehensive picture about social ranking in Malta as emerging from burial archaeology. It discusses the main factors which help us to distinguish between poor and rich burials. The second part of this chapter considers in detail social ranking during this period as emerging from the dated tombs. The third section deals with the burial pottery of Malta and the other colonies.

THE NATURE OF THE EVIDENCE

The Phoenician tombs of the Mediterranean often contained multiple burials. The presence of several burials in a single tomb may generate certain problems for an archaeologist to identify 'which grave goods go with which deceased person' (Renfrew and Bahn, 1991: 175). Single burial tombs are important because they are likely to furnish more ideas about social ranking (Renfrew and Bahn, 1991: 175).

In Malta, 83 tombs contained single burials, 61 of which were found void of any objects either because the tombs were looted many years before their official discovery, or no material was deposited with the burial. Fourteen other tombs contained only ceramic vessels, but no objects which may have symbolized status or wealth. Only 8 single burial tombs contained precious ornaments, which were made either of gold, silver, bronze or copper. Under these conditions, one is induced to study the tombs in a wider context, thus analyzing as well the relevant material identified in collective burials.

From 650 tombs, only 77 contained personal ornaments, which consisted mainly of bracelets, needles, bangles, rings and ear-rings. One may distinguish between the value of gold, silver, bronze, brass and copper objects; probably they were unequally precious metals and may have symbolized in a way the status of a deceased person. By status we here mean social and not political status, wealthy as against poor people. These tombs have not yet presented objects like crowns and signet rings, which may have symbolized the political or religious status of a deceased person, for instance a head of a country or a high priest. These 77 tombs did not necessarily pertain to important individuals who had a high political position in the society in which they lived. However, they pose a contrast between the dead buried with ceramic and vitreous vessels together with precious personal ornaments, those interred with only pottery and vitreous material or with only pottery, and those interred with no burial material at all. This particular distinction ought to be emphasized and constitutes the main argument of the subject. Renfrew and Bahn believe (1991: 175-176) that 'burials are made by living people, and are used by them to express and influence their relationships with others still alive as much as to symbolize or serve the dead'. To furnish a deceased person with a number of objects is an expression of respect for the dead (Renfrew and Bahn, 1991: 343).

A second problem concerns the distinction between 'achieved status' and 'status ascribed through birth' (Renfrew and Bahn, 1991: 176). Accurate excavations of child and female burials may provide important indications, especially if children and women were buried with rich burial goods; from these burials may emerge 'a system of hereditary ranking' since in ancient societies women and children are unlikely to

have achieved 'such a status through personal distinction' (Renfrew and Bahn, 1991: 176).

Another difficulty concerns the local excavation reports because often neither the sex, nor the age, nor even the number of skeletons in each tomb is indicated.

In ancient complex societies, money was considered as a 'symbol of value and organization' (Renfrew and Bahn, 1991: 355). In Malta, coins were minted in copper, brass, bronze, and sometimes even in gold and silver. In Malta and Gozo 8 tombs were provided with coins. Three tombs were discovered in Gozo, two at Attard, two at Rabat and another one at Tarxien. Two tombs were found intact, while the remaining six were rifled. The excavation reports fail to describe the precise context of these coins in their respective burials. Three tombs contained no human osseous material (W387, S.E.17 and G1), and the other four contained several burials: W314 had ten burials; W179, seven; G5, four interments and G11, eight burials. Tomb W392 contained a single intact burial, in which a coin was also identified. However, the excavation report did not indicate the exact location of the coin in this particular tomb (R.G.D., 1989: 81). The information gathered from the excavation reports indicates that the coins collectively belonged either to the late Punic Period or to the early Roman Period, when Malta and Gozo were still under Carthaginian cultural influence; regarding the intact burials, the coins were always found in association with other material, for instance pottery, glass vessels, or even with metal objects and precious ornaments. Since the context of these coins is unknown, it is yet

premature to determine whether they were actually meant to represent the social status of a deceased person.

Table 4 (p. 106) shows the distribution of personal ornaments and other burial objects which were unearthed from 650 tombs. *Table 5* (p. 107) conveys the same distribution, but is limited to the dated tombs. *Table 4* presents 247 objects and *Table 5* 157. *Figures 28* and *29* (pp. 108-109) graphically indicate various similarities in the data of these two tables and apparently, what can be argued for the dated tombs may also apply for the undated tombs.

Most of the material which appears in *Figure 28* is also present on a lesser scale in *Figure 29*. These two figures convey that coins were the most common. In *Figure 28* coins are presented with 19% of all the special burial finds, while in *Figure 29* they constitute 29% of all the personal ornaments and objects. Coins clearly correlate almost entirely with the dated tombs because they usually provide the date (see *Figure 33*, p. 118). Rings and needles are also relatively common. In *Figure 28* rings and needles are present at 17 and 15% respectively of all the personal ornaments, whilst in *Figure 29* they are present at 18 and 14% respectively. However, one may also realize the difference in the quantity of glass beads; in *Figure 28* there are 22 beads (9%), whilst in *Figure 29* there are only 9 (6%). Beads are important because they may have formed part of necklaces. The presence of three pebbles in tomb G15 (M.A.R., 1935-36: 25) is exceptional (1.5% of all the special finds), and yet there has been no valid explanation for their purpose. The excavation report fails to describe them; if they were hollowed, for instance, they might have been the component parts of a necklace.

Table 4

	Brass	Copper	Bronze	Gold	Silver	Bone/ Ivory	Glass	Clay	Stone	Tin	Iron	Pebbles	Material Unknown	Total
Rings	1	12	9	3	13	-	-	-	-	4	-	-	-	42
Ear-rings	-	8	1	2	5	-	-	-	-	-	-	-	-	16
Bracelets	1	5	4	-	6	-	-	-	-	-	-	-	-	16
Needles	3	8	25	-	-	-	-	-	-	-	1	-	-	37
Mirrors	-	-	8	-	-	-	-	-	-	-	-	-	-	8
Bangles	-	5	-	-	4	-	-	-	-	-	-	-	-	9
Foil	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Pendants	-	1	1	1	1	-	-	-	-	-	-	-	-	4
Hairpins	-	-	1	-	1	1	-	-	-	-	-	-	-	3
Torch-holder	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Medallions	-	2	-	1	3	-	-	-	-	-	-	-	-	6
Discs	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Cylinders	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Clamps	4	-	-	-	-	-	-	-	-	-	-	-	-	4
Coins	-	5	5	-	-	-	-	-	-	-	-	-	38	48
Bezels	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Nails	1	1	1	-	-	-	-	-	-	-	4	-	-	7
Statuettes	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Loops	-	-	-	-	-	-	-	-	-	-	4	-	-	4
Amulets	-	-	2	-	-	-	-	-	2	-	-	-	-	4
Buckles	-	2	-	-	-	-	-	-	-	-	-	-	-	2
Sarcophagi	-	-	-	-	-	-	-	4	1	-	-	-	-	5
Beads	-	-	-	5	-	-	17	-	-	-	-	-	-	22
Bands	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Pebbles	-	-	-	-	-	-	-	-	-	-	-	3	-	3
Total	10	50	58	13	33	3	17	5	3	5	9	3	38	247

Distribution of special burial finds from 650 tombs

Table 5

	Brass	Copper	Bronze	Gold	Silver	Bone/ Ivory	Glass	Clay	Stone	Tin	Iron	Pebbles	Material Unknown	Total
Rings	1	7	6	1	10	-	-	-	-	3	-	-	-	28
Ear-rings	-	5	-	2	5	-	-	-	-	-	-	-	-	12
Bracelets	-	1	2	-	6	-	-	-	-	-	-	-	-	9
Needles	2	7	13	-	-	-	-	-	-	-	1	-	-	23
Mirrors	-	-	4	-	-	-	-	-	-	-	-	-	-	4
Bangles	-	2	-	-	2	-	-	-	-	-	-	-	-	4
Foil	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Pendants	-	-	1	-	1	-	-	-	-	-	-	-	-	2
Hairpins	-	-	1	-	1	1	-	-	-	-	-	-	-	3
Torch-holder	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Medallions	-	1	-	-	3	-	-	-	-	-	-	-	-	4
Discs	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Cylinders	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Clamps	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Coins	-	5	5	-	-	-	-	-	-	-	-	-	35	45
Bezels	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Nails	1	1	1	-	-	-	-	-	-	-	3	-	-	6
Statuettes	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Loops	-	-	-	-	-	-	-	-	-	-	4	-	-	4
Amulets	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Buckles	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Sarcophagi	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Beads	-	-	-	5	-	-	4	-	-	-	-	-	-	9
Bands	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Pebbles	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Total	4	30	34	9	28	2	4	0	0	3	8	0	35	157

Distribution of special burial finds from 151 tombs

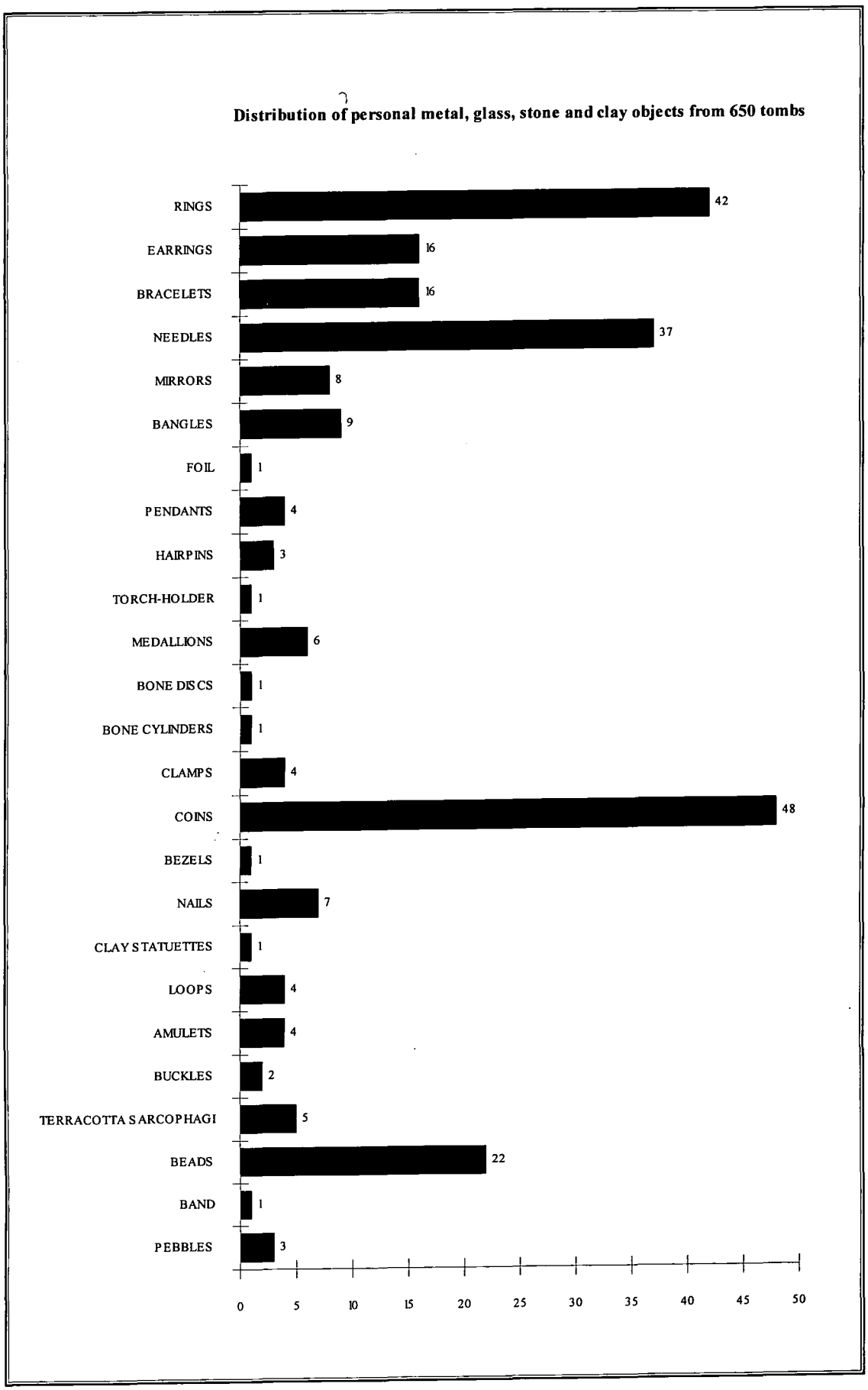

Distribution of personal metal, glass, stone and clay objects from 650 tombs
RINGS
42
EARRINGS
16
BRACELETS
16
NEEDLES
37
MIRRORS
8
BANGLES
9
FOIL
1
PENDANTS
4
HAIRPINS
3
TORCH-HOLDER
1
MEDALLIONS
6
BONE DISCS
1
BONE CYLINDERS
1
CLAMPS
4
COINS
48
BEZELS
1
NAILS
7
CLAY STATUETTES
1
LOOPS
4
AMULETS
4
BUCKLES
2
TERRACOTTA SARCOPHAGI
5
BEADS
22
BAND
1
PEBBLES
3
0
5
10
15
20
25
30
35
40
45
50

Figure 28

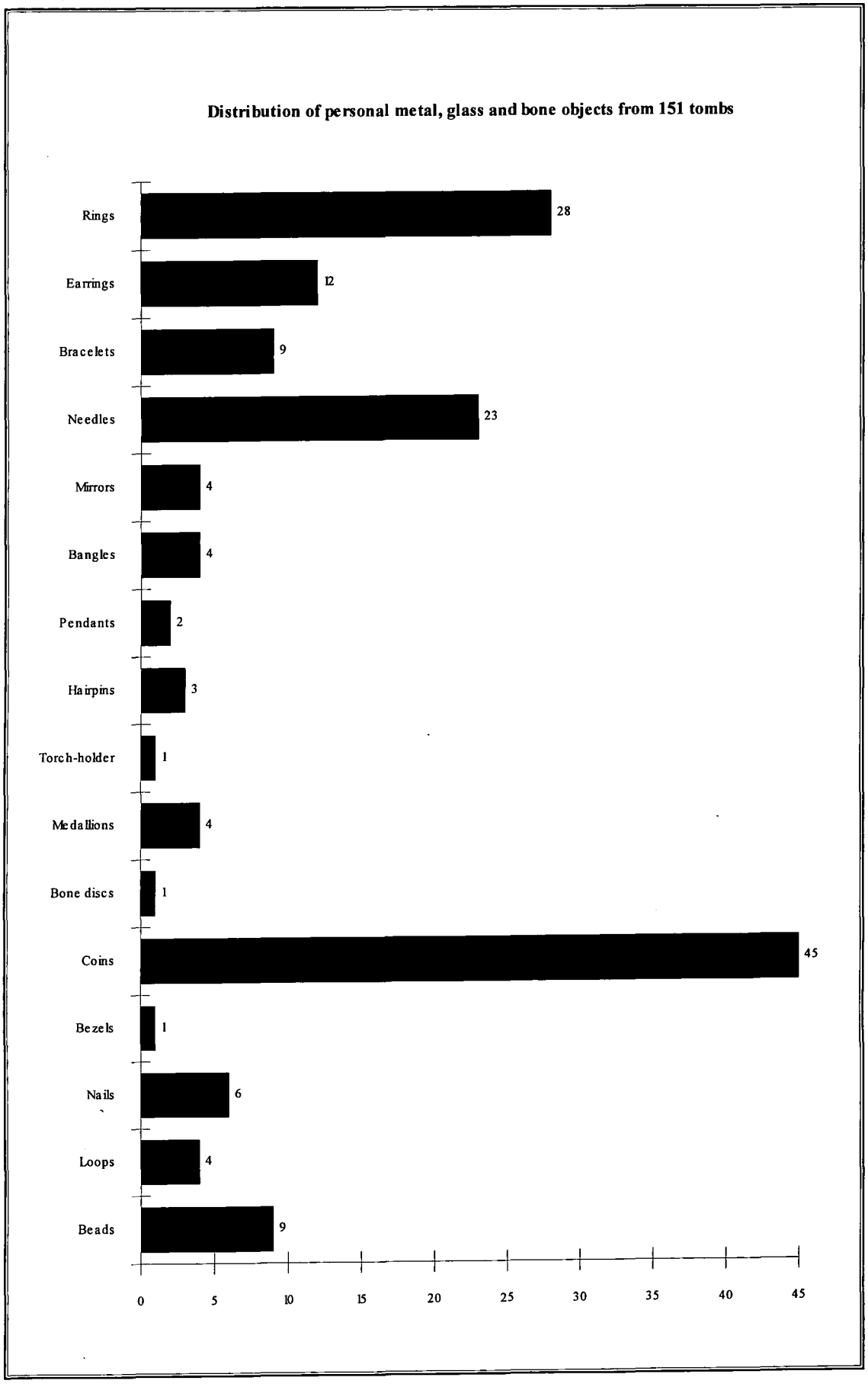

Distribution of personal metal, glass and bone objects from 151 tombs
Rings
28
Earrings
12
Bracelets
9
Needles
23
Mirrors
4
Bangles
4
Pendants
2
Hairpins
3
Torch-holder
1
Medallions
4
Bone discs
1
Coins
45
Bezels
1
Nails
6
Loops
4
Beads
9
0
5
10
15
20
25
30
35
40
45

Figure 29

Certain items, such as statuettes, amulets and buckles appear in *Figure 28* on a very limited scale (they are present in less than 3% of all the personal ornaments), whilst they are completely absent in *Figure 29*. Bracelets constitute in both figures 6% of all the personal ornaments, whilst ear-rings are present at 6% in *Figure 28* and at 8% of all the personal adornments in *Figure 29*.

It is yet unknown whether the items listed above belonged to the deceased persons when they were still alive or were brought specifically by the relatives for the burial. Certain items, like amulets, were often associated with death and were probably meant to be buried with the deceased person. A rare bronze amulet container was unearthed from a tomb at Rabat in 1968 (M.A.R., 1968: 6). The hollow tube contained a rolled-up piece of papyrus bearing a Phoenician script and a figure of the goddess Isis (Gouder and Rocco, 1975: 5-6). The text depicted on the papyrus illustrates the words of Isis (Gouder and Rocco, 1975: 12):

> *Laugh O Strong Heart at Your Enemy*
> *Make fun of, Weaken and Attack the Adversary,*
> *... Despise him, Crush him ... Tie him,*
> *Hang him over the Water.*

The shape of the amulet container and the figure of Isis are very Egyptianizing in style (Gouder and Rocco, 1975: 3). Isis was the goddess of immense magical powers and was symbolically the Mother of the Pharaoh (Orchard, 1953: 745; Desroches-Noblecourt, 1972: 187-188). The above words constitute the prayer of the dead to guide the deceased person on his way to the afterlife (Gouder and Rocco, 1975: 15).

Other personal ornaments probably intended for burial purposes were identified in tomb W283 at Ghajn Klieb, Rabat, in 1890 (Caruana, 1898: 67). These consisted of five hollowed gold beads, which probably formed part of a necklace, parts of a silver bracelet covered with gold foil, a gold ring and fragments of a gold foil. These objects were dated to the seventh century B.C. (*Plate 10* (top), p. 112). According to Gouder (1979: 178) 'the bracelet is embossed with a typically Phoenician motif of two rampant gryphons flanking a multiple palmette surrounded by a winged solar disc'. A unique bronze torch-holder (*Plate 10* (bottom), p. 112) was identified in 1950 in tomb W208 at Rabat (M.A.R., 1950-51: 3). It has been dated to the seventh century B.C., being of a well known Cypro-Phoenician type (Baldacchino and Dunbabin, 1953: 37-38). A similar bronze torch-holder, probably of Cypriot provenance (23.4 cm high), is today conserved in the Toledo Museum of Art, Ohio (Culican, 1980: 87; Plate I). Other examples of similar torch-holders were identified in Cyprus, Rhodes, Sardinia and Caere (Bonanno, 1991: 216). *Figure 30* (p. 113) conveys a putative reconstruction of the Rabat torch-holder.

MATERIAL TYPE

Tables 4 and *5* also indicate that the most common metal is bronze (a durable alloy, consisting basically of copper and tin), which is followed by copper. In *Figure 31* (p. 116), 23% of all the personal ornaments were made of bronze; *Figure 32* (p. 117) conveys that 22% of the small burial objects found in association with the dated pottery were also made of bronze. In *Figure 31*, copper objects constitute 20% of all the personal ornaments, while in *Figure 32* they are present with 19% of all the personal burial objects identified in association with the dated burials.

Gold and silver objects identified in tomb W283 at Ghajn Klieb, Rabat, in 1890 (after Gouder, 1979: 178)

National Museum of Archaeology

A bronze torch-holder discovered in tomb W208 at Rabat, in 1950 (after Gouder, 1979: 179)

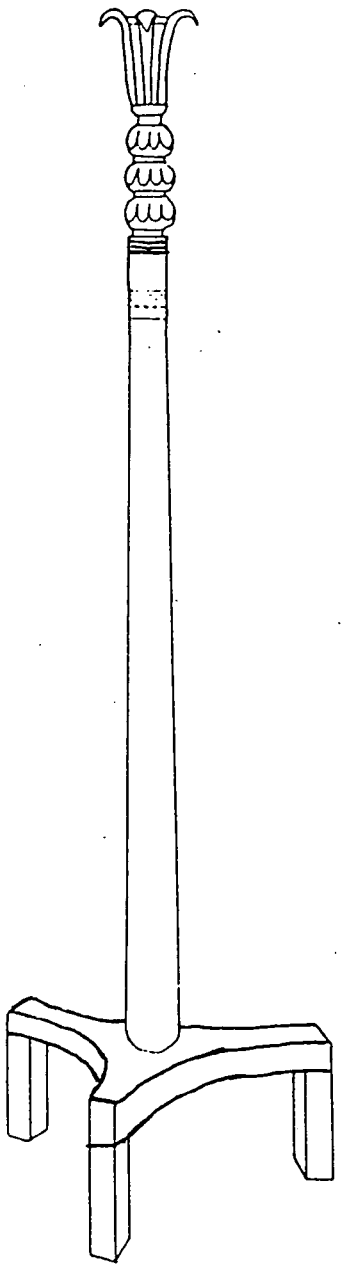


Figure 30 - Reconstruction of the bronze torch-holder found at Rabat (after Gouder, 1979: 179)

Whilst silver is also relatively common, gold is present in both tables with less than 15 objects. In *Figure 31*, gold and silver are present with 5 and 13% respectively; in *Figure 32* gold and silver are present with 6 and 18% respectively of all the personal ornaments found in association with the dated burials. Brass, tin and iron seem to have been infrequently utilized for burial purposes; in *Figures 31* and *32* these three metals are each present with less than 6% of all the special burial finds. *Figure 31* reveals that the metal type of 15% of all the personal items was not specified in the excavation reports, whilst *Figure 32* shows that 22% of the personal adornments have a material type not specified in the reports.

From these two figures and customary assumptions, it is assumed that whilst bronze and copper were probably the cheapest metals, silver and gold were more expensive and, therefore, of higher value. Iron, like brass, seems to have been either not treasured, or else it was used only occasionally for burial purposes. Ivory and bone objects were also rare; ivory was considered as very precious by the Phoenicians, especially for religious purposes (Uberti, 1988: 404), but it was suprisingly common in the seventh century B.C. tombs of Byrsa at Carthage (Lancel, 1983: 687-692). Hence, the deceased persons who were buried with gold, silver, tin and ivory objects were probably the wealthiest, and those provided with bronze and copper ornaments were probably less wealthy. Gold, silver and tin were regarded by the Phoenicians as very expensive metals. Silver ore was extracted from the mines of Spain, was shipped to Phoenicia, and was then manufactured into various precious goods (Garrido-Roiz, 1983: 858; Harrison, 1988: 83; Aubet-Semmler, 1988: 233).

Figures 33 and *34* (pp. 118-119) further analyze the statistical data obtained above from *Tables 4* and *5*. Whilst *Figure 33* considers the quantity of different objects, *Figure 34* analyzes the frequency of metal types, glass, stone, clay and ivory. These two figures contrast the quantity of personal ornaments identified in the dated and undated tombs. *Figure 33* shows that coins are the most common; their presence is heavily concentrated on the dated tombs because, as noted above, coins provide the dating of tombs. *Figure 34* conveys that bronze was the most common metal. The data obtained in *Figures 33* and *34* reveal that from the dated and undated tombs together there is an average of only 0.38 personal ornaments per tomb. However, when considering only the dated tombs, there is an average of 1 personal ornament per tomb, which similarly indicates the small number of special burial finds when related to the total number of dated tombs. *Figures 35* and *36* (pp. 120-121) show the average distribution of each group of personal ornaments per tomb. *Figure 35* considers the different categories of personal adornments, whilst *Figure 36* considers the material types. These averages indicate that only few people buried personal ornaments with their dead, either because it was not customary to deposit such objects with the dead, or these ornaments were expensive, or else these objects were available to the inhabitants on a limited scale. *Figure 34* conveys that 63.5% of all the personal ornaments were found in the dated tombs, and the remaining 36.5% were discovered in the undated tombs.

The presence of different ornaments in a small number of tombs (12% of the total number of excavated tombs) indicates that in Malta they were not commonly utilized for burial purposes. Although bronze and copper

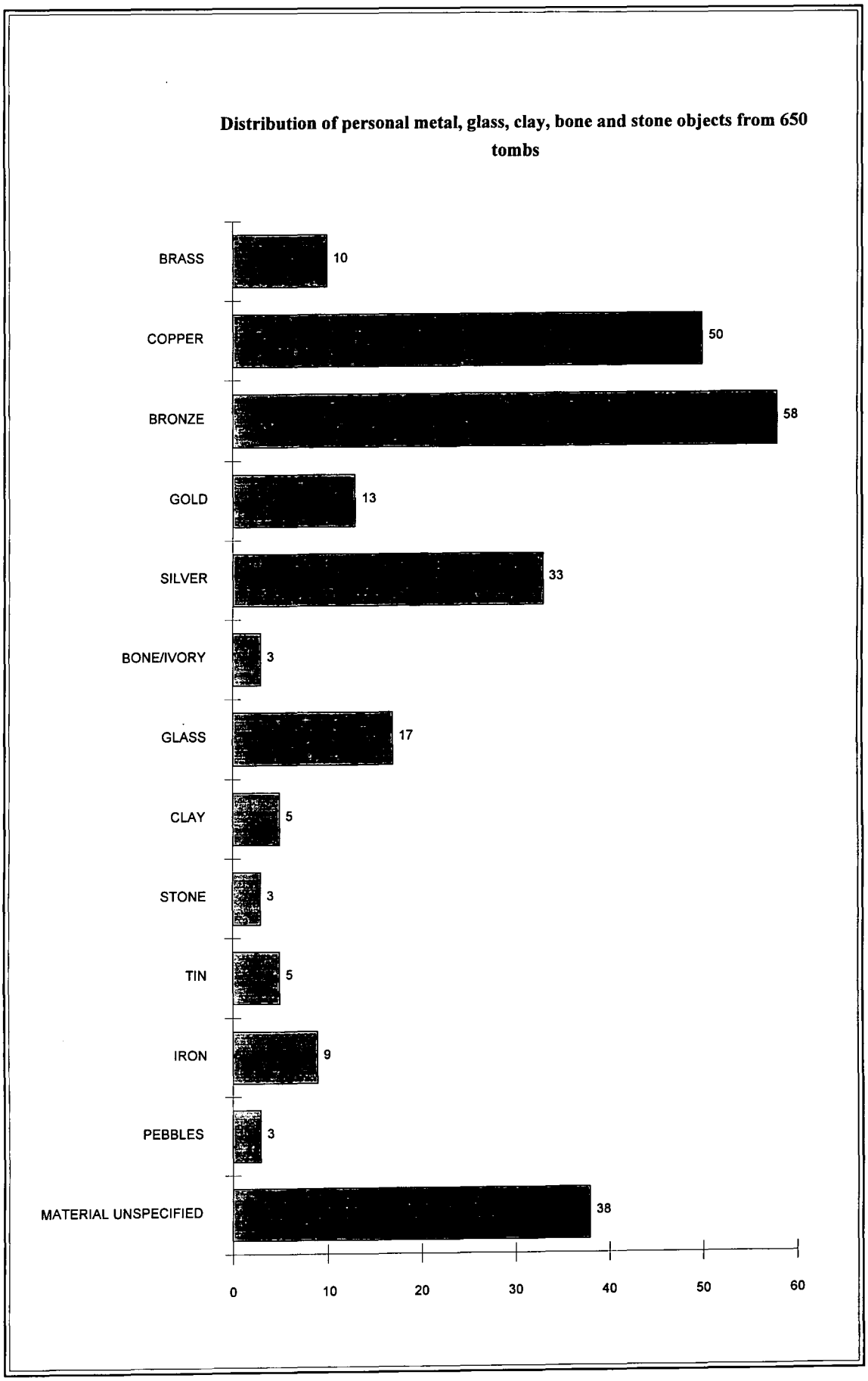

Distribution of personal metal, glass, clay, bone and stone objects from 650 tombs
BRASS
10
COPPER
50
BRONZE
58
GOLD
13
SILVER
33
BONE/IVORY
3
GLASS
17
CLAY
5
STONE
3
TIN
5
IRON
9
PEBBLES
3
MATERIAL UNSPECIFIED
38
0
10
20
30
40
50
60

Figure 31

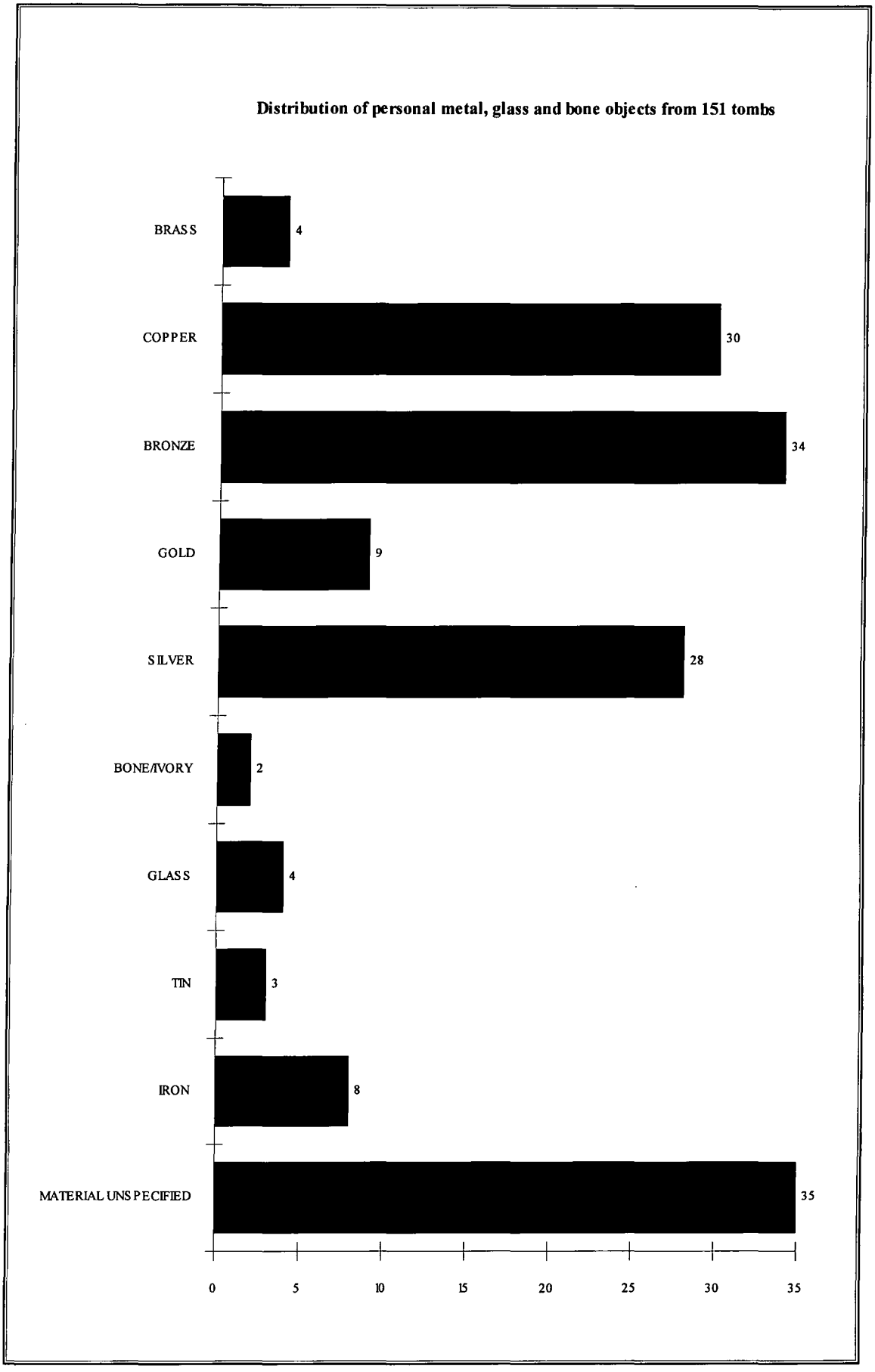

Distribution of personal metal, glass and bone objects from 151 tombs
BRASS
4
COPPER
30
BRONZE
34
GOLD
9
SILVER
28
BONE/IVORY
2
GLASS
4
TIN
3
IRON
8
MATERIAL UNSPECIFIED
35
0
5
10
15
20
25
30
35

Figure 32

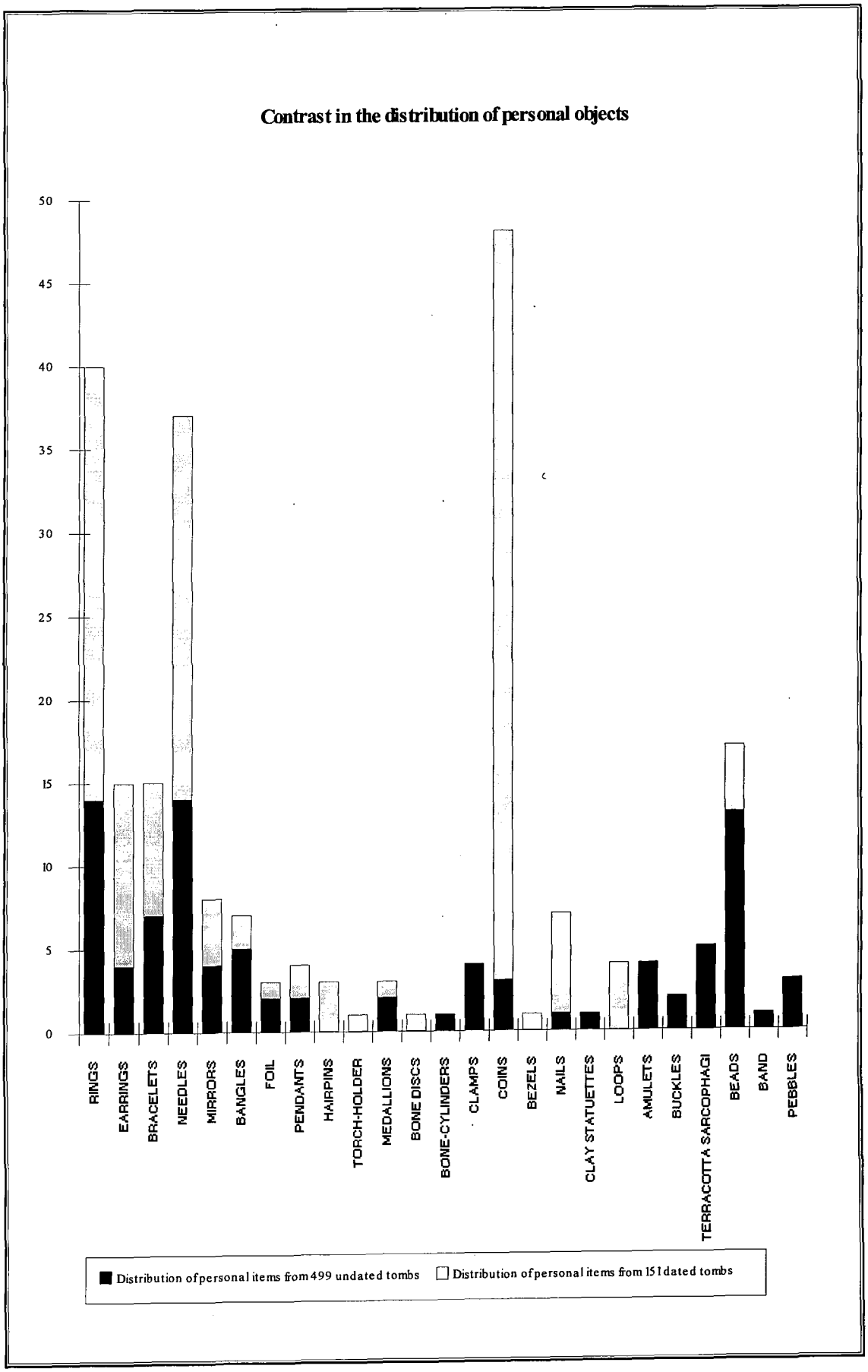

Contrast in the distribution of personal objects
50
45
40
35
30
25
20
15
10
5
0
RINGS
EARRINGS
BRACELETS
NEEDLES
MIRRORS
BANGLES
FOIL
PENDANTS
HAIRPINS
TORCH-HOLDER
MEDALLIONS
BONE DISCS
BONE-CYLINDERS
CLAMPS
COINS
BEZELS
NAILS
CLAY STATUETTES
LOOPS
AMULETS
BUCKLES
TERRACOTTA SARCOPHAGI
BEADS
BAND
PEBBLES
Distribution of personal items from 499 undated tombs
Distribution of personal items from 151 dated tombs

Figure 33

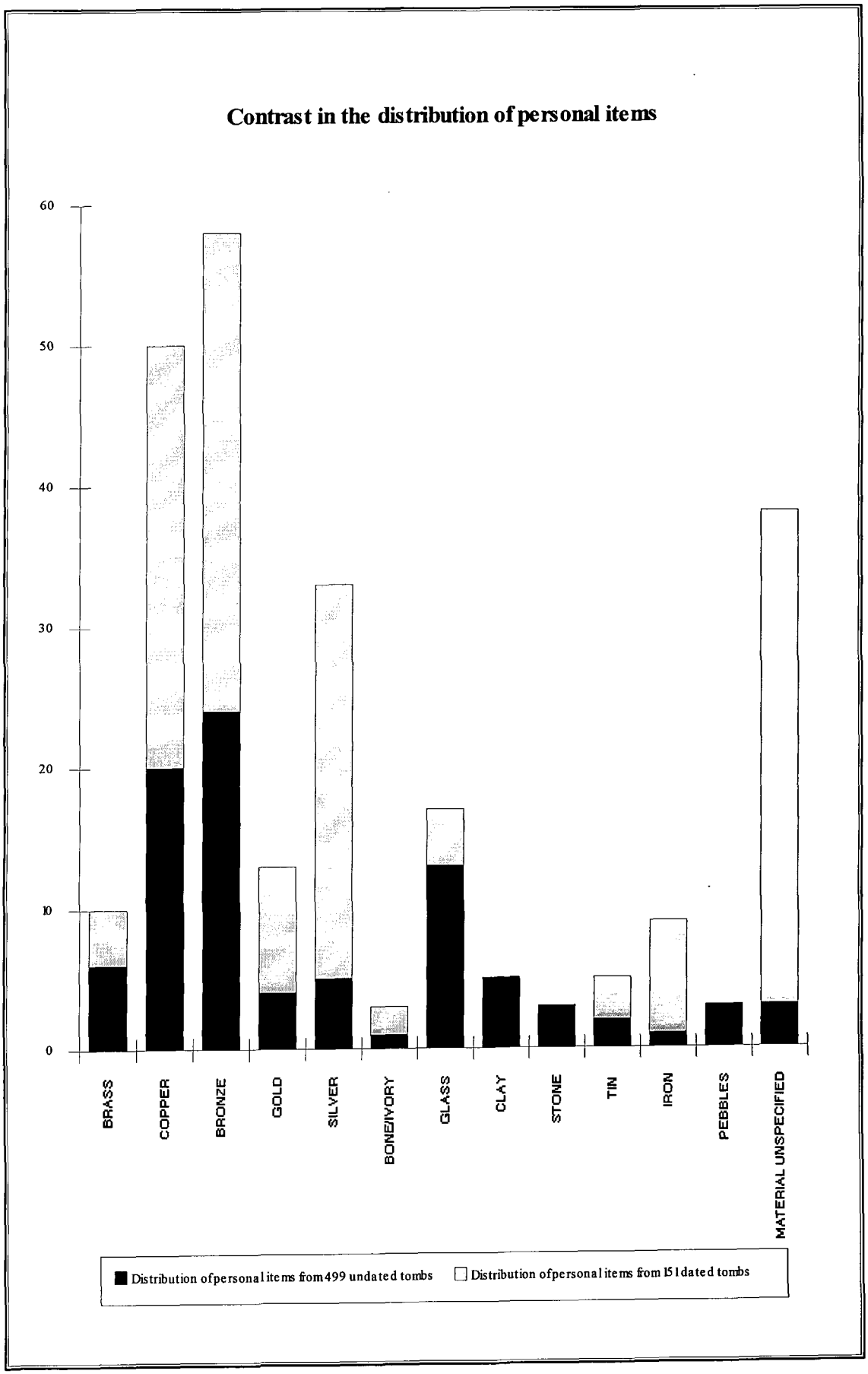

Contrast in the distribution of personal items
60
50
40
30
20
10
0
BRASS
COPPER
BRONZE
GOLD
SILVER
BONE/IVORY
GLASS
CLAY
STONE
TIN
IRON
PEBBLES
MATERIAL UNSPECIFIED
Distribution of personal items from 499 undated tombs
Distribution of personal items from 151 dated tombs

Figure 34

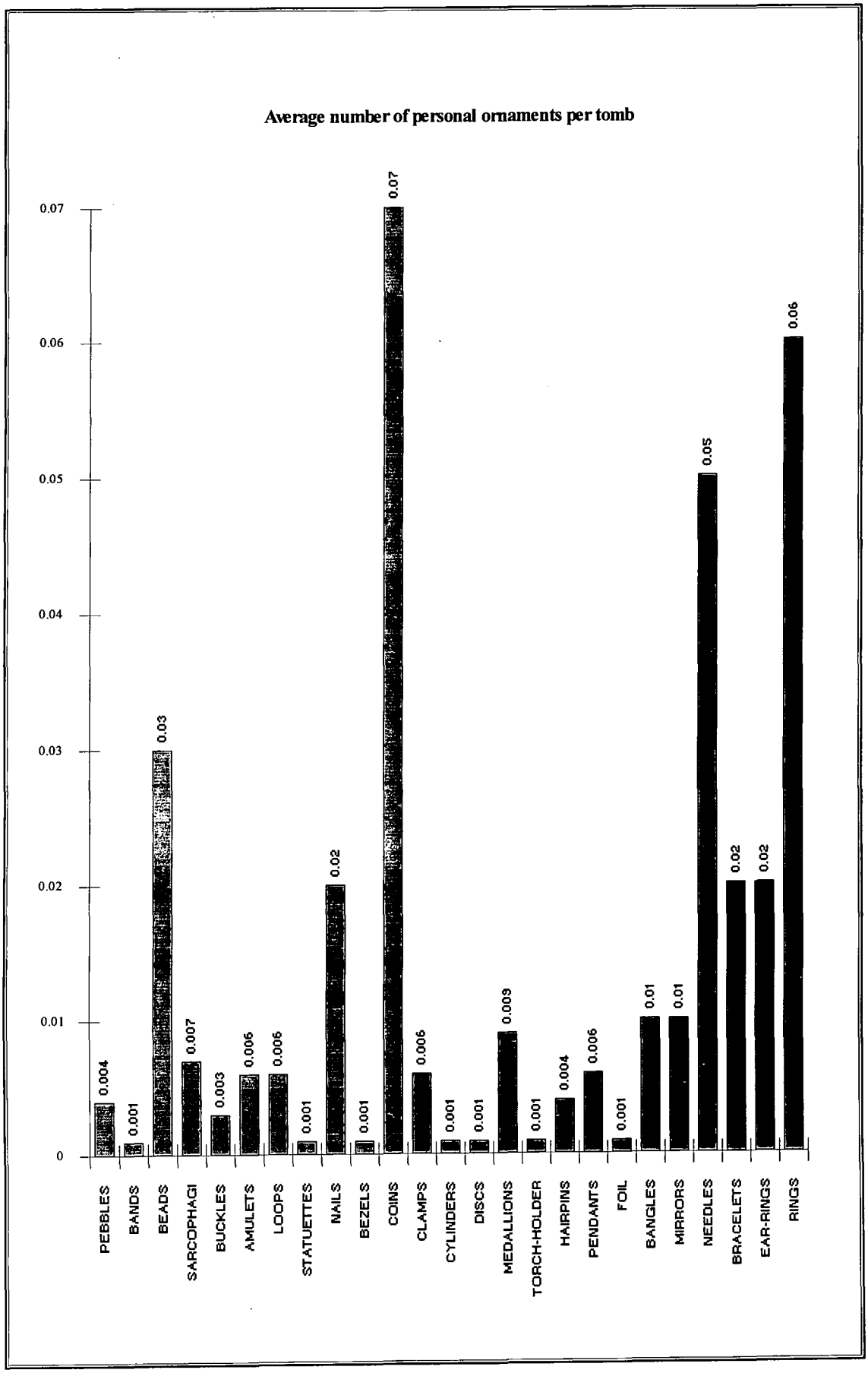

Average number of personal ornaments per tomb
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
PEBBLES 0.004
BANDS 0.001
BEADS 0.03
SARCOPHAGI 0.007
BUCKLES 0.003
AMULETS 0.006
LOOPS 0.006
STATUETTES 0.001
NAILS 0.02
BEZELS 0.001
COINS 0.07
CLAMPS 0.006
CYLINDERS 0.001
DISCS 0.001
MEDALLIONS 0.009
TORCH-HOLDER 0.001
HAIRPINS 0.004
PENDANTS 0.006
FOIL 0.001
BANGLES 0.01
MIRRORS 0.01
NEEDLES 0.05
BRACELETS 0.02
EAR-RINGS 0.02
RINGS 0.06

Figure 35

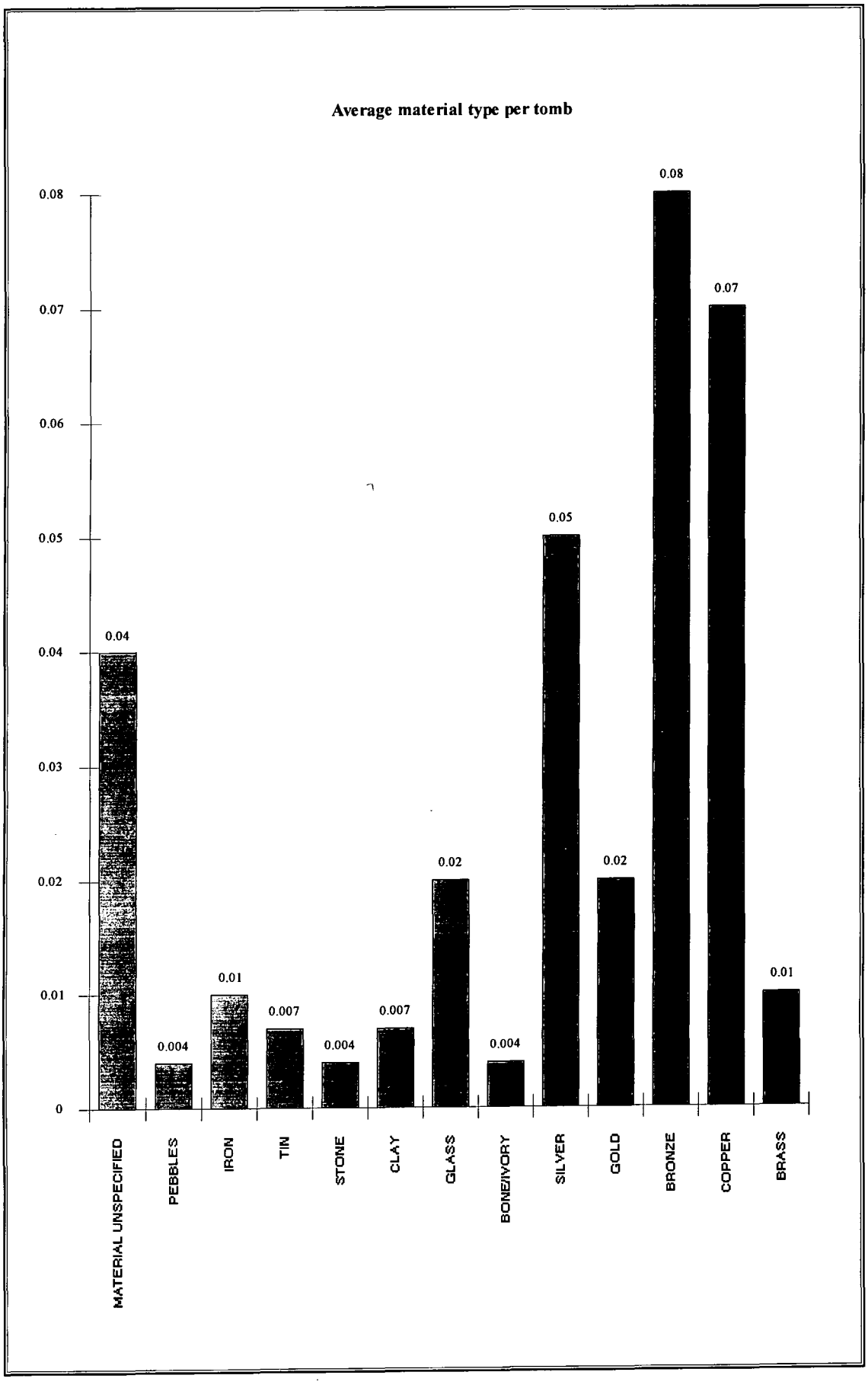

Average material type per tomb
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0.04
0.004
0.01
0.007
0.004
0.007
0.02
0.004
0.05
0.02
0.08
0.07
0.01
MATERIAL UNSPECIFIED
PEBBLES
IRON
TIN
STONE
CLAY
GLASS
BONE/IVORY
SILVER
GOLD
BRONZE
COPPER
BRASS

Figure 36

were probably not as expensive as gold and silver, many people seem to have been unable to deposit with their dead bronze and copper ornaments.

Figure 37 (p. 123) conveys that most of the tombs were provided with only coarse pottery; there were 87 dated and 134 undated tombs in this category. This implies that 34% of all the tombs contained only coarse pottery. Another 78 tombs were provided with coarse pottery and with various personal ornaments (12% of all the tombs); there were 48 dated and 30 undated tombs in this category. The burials of another 9 tombs (1.3% of all tombs) were furnished with coarse and fine ceramic vessels; there were 3 dated and 6 undated tombs in this category. The Phase I burials identified in tomb W208 were not only remarkable for their wide range of precious items and coarse pottery, but also for the fine quality of two imported ceramic vessels, which consisted of a protocorinthian kotyle of the late eighth century B.C. and of a Rhodian bird-bowl of the early seventh century B.C. (*Plates 11 and 12*, pp. 124-125). Two tombs (0.3% of all the tombs) were provided with coarse and fine pottery, together with several personal ornaments; one of them was dated and the other was undated. Three tombs were provided with personal ornaments only (0.5% of all the tombs); one of these tombs was undated and the other two were dated. The burials of another 10 tombs (1.5% of all the tombs) were provided with no burial material. This chart also illustrates that nothing is known about the remaining 327 tombs (50.3% of all tombs), either because the tombs were found rifled, or else the excavation reports failed to furnish the necessary information.

Figure 37 reveals that during this period the majority of the inhabitants buried with their dead only coarse pottery, whilst only 2% of the total

HISTOGRAM OF TOMBS BY CATEGORY

Figure 37

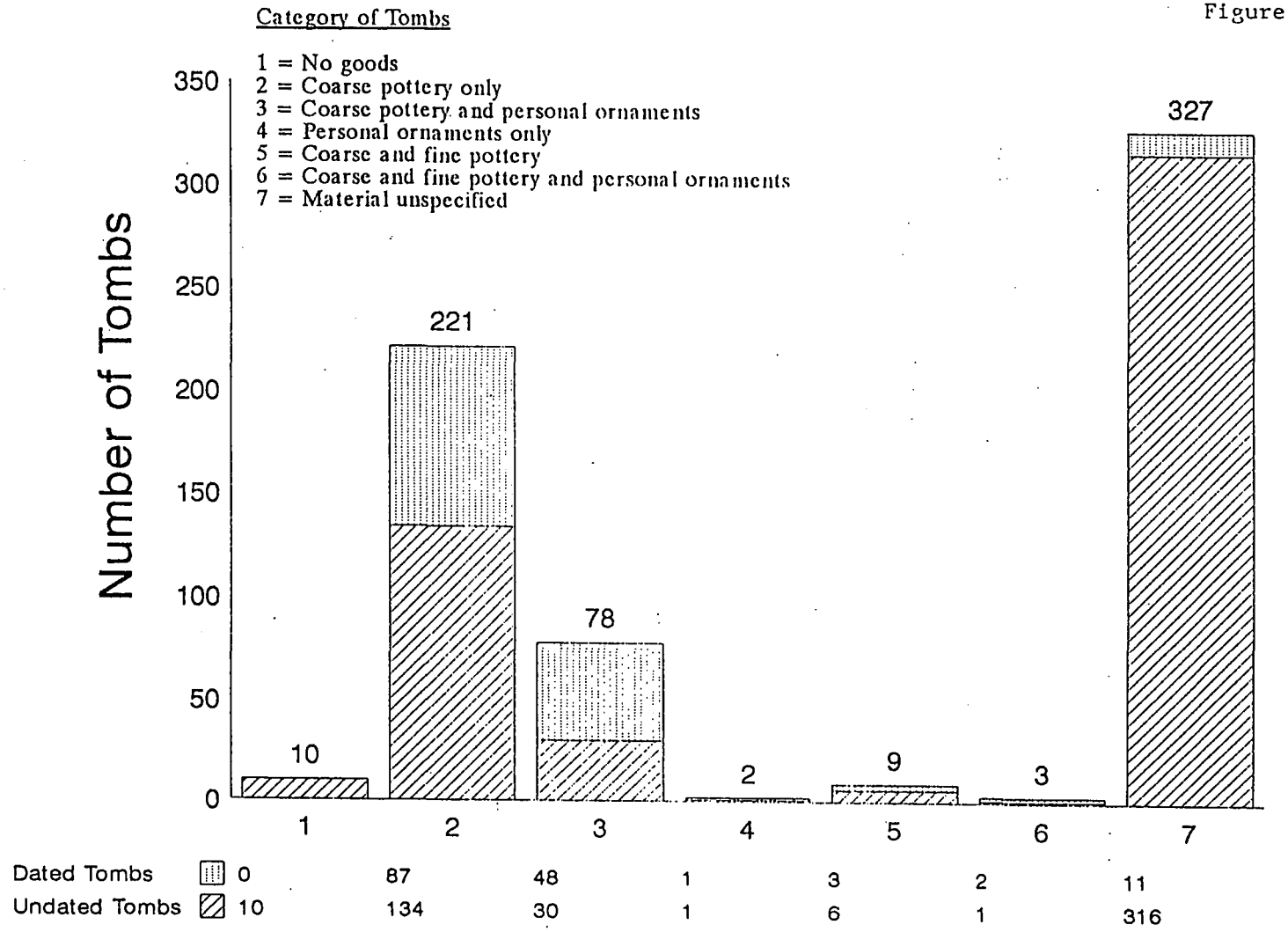
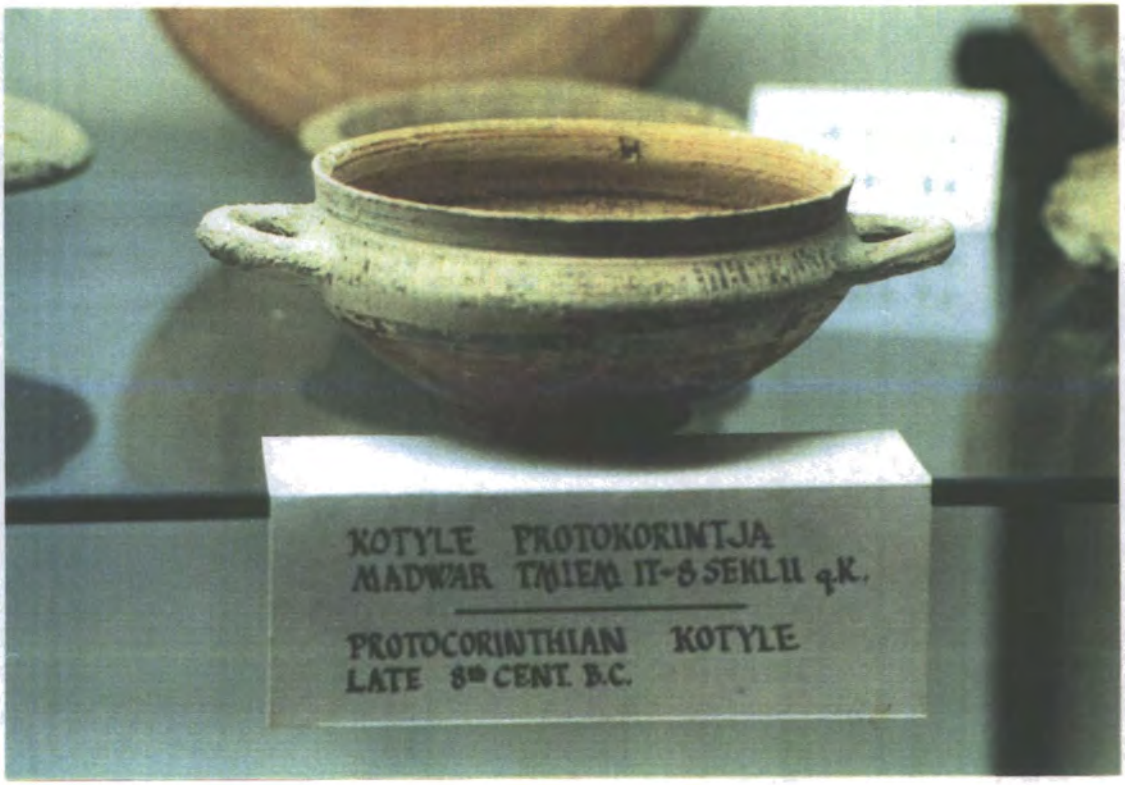


Plate 11



A Protocorinthian kotyle of late eight/early seventh century B.C., found in a tomb at Ghajn Qajjet, Rabat in November 1950. (National Museum of Archaeology, Valletta).

Plate 12

A Rhodian bird-bowl of the seventh century B.C. found in a tomb at Ghajn Qajjet, Rabat, in November, 1950. (National Museum of Archaeology, Valletta).

buried population was furnished with fine pottery; about 12% of the total buried population were also provided with personal ornaments. These percentage figures convey the small number of individuals who were furnished with fine burial material; the people who were buried with fine pottery and personal ornaments were possibly the wealthiest or socially elevated inhabitants of the islands, while those who were interred with only coarse pottery were possibly less wealthy or influential.

In Malta, certain people seem to have been unable to bury with their dead a wide selection of ceramic vessels. The body deposited in N56 was accompanied by a copper bracelet, and the only pottery items identified in association with the osseous remains consisted of a cup, a saucer, a jar and an oenochoe (M.A.R., 1967: 4-5).

It is difficult to determine the number of pottery vessels buried with each deceased person, either because the tombs were found rifled, or the excavation reports did not provide the necessary information, or else the tombs contained several interments and the pottery of one burial was found in association with that of other burials. Tomb W179 contained seven contemporary burials, and the excavation report failed to sort out the pottery items according to each interment (Zammit, 1931: 118-121). Similarly, there were six burials in N55 and in S.E.68 (M.A.R., 1949-50: 3; 1963: 6), and there were eighteen interments in H19 (M.A.R., 1960: 8).

BURIAL FORM

Although the majority of the inhabitants were buried in shaft and chamber tombs, four were identified in simple grave-pits (W213, W237, W89 and

G16), and another body was deposited in a silo-tomb (W349). In the Phoenician world, grave-pits did not necessarily pertain to poor people or to those who could not afford to have a shaft and chamber tomb. In Sardinia, the Phoenician necropoleis of Monte Sirai, Bitya and Paniloriga, consisted of soil or rock-cut depressions; they were all cremation cemeteries and many burials were furnished with various silver adornments (Bartoloni, 1983a: 69-70). In Spain, several rock-cut grave-pits identified in the cemetery of Almuñécar also contained rich burial material, including local and imported ceramic ware, jewellery, painted ostrich eggs and alabaster cinerary urns (Pellicer-Catalan, 1963: 17).

In the Phoenician world, including Malta, the principal methods of burial were inhumation and cremation. The former seems to have been commoner; the body was usually wrapped in a shroud and was ceremoniously interred in the tomb's chamber (Moscati, 1972: 572). Sometimes, the inhumed body was also laid in a wooden coffin or in a terracotta sarcophagus (Moscati, 1972: 572). Although cremation was less popular, yet it seems to have been practised all over the Phoenician world. The body was cremated and its ashes were normally deposited in a cinerary urn; the urn was then buried in the tomb's chamber (or in a grave-pit) together with various pottery objects and personal ornaments. According to Harden (1971: 96), cremation reached the eastern Mediterranean countries 'with the barbaric invasions in the twelfth century, and at Hama, Carchemish, Deve Huyuk, and elsewhere in Syria and Turkey there are many cremation cemeteries of various dates between the twelfth and the seventh centuries'. Concerning the Phoenician world, Harden (1971: 96) argues that 'we need not be surprised that cremation, as a rite, appears alongside inhumation in

seventh century or earlier interments at Carthage and that at Motya the burials in the early cemetery on the island were predominantly cremations'. In the western Mediterranean Punic colonies (for instance, Carthage, Spain and Sicily) cremation seems to have become less popular since the late sixth century B.C., but appears to have become increasingly popular, through Greek influence, from the early third century B.C. onwards (Harden, 1971: 96).

OTHER INDICATORS OF RANKING

Other possible indicators of social, political or religious ranking are the sarcophagi. Anthropoid and non-anthropoid coffins have been identified all over the Phoenician world and were occasionally reserved for the burial of important persons (Moscati, 1972: 567-569). They were common in the Near East, Carthage and Spain, but were less popular in the central Mediterranean colonies. The idea of burying the dead in such coffins owes its origins to the Near East (Moscati, 1988a: 292). The Phoenicians inherited this idea from the neighbouring Egyptians, who used to bury important people, like the pharaohs, in anthropoid sarcophagi. Phoenician kings and princes were occasionally buried in marble, stone, basalt, or even in terracotta sarcophagi, whereby the facial image of the coffin was presumably meant to represent the actual face of the deceased person (Moscati, 1988a: 292-299). Occasionally, smaller anthropoid sarcophagi were used as cinerary urns. Certain coffins also contained inscriptions or even some decorative motifs (Moscati, 1972: 568). Examples of sarcophagi in the Near East are those of Ahiram of Byblos, conserved in the Beirut National Museum, of Tabnit, king of Sidon, today found in the Istanbul National Museum, and of Eshmunazer II, king of Sidon, which is preserved in the Louvre, Paris. While the first one has

been dated to the twelfth century B.C., the latter two were ascribed to approximately 500 and 490 B.C. (Moscati, 1988a: 292). The earliest sarcophagi bear several Egyptianizing motifs, especially in the rendering of the face and the hairstyle. From the fourth century B.C. onwards, under the influence of Hellenism, the rendering of the face, the hairstyle and the drapery folds gradually followed the Greek fashion (Moscati, 1988a: 295-297).

From Malta and Gozo there is evidence of five terracotta and three stone sarcophagi. The only two surviving terracotta coffins, one of which is anthropoid, are conserved in the Valletta National Museum. The third anthropoid sarcophagus was discovered and published in the seventeenth century by Abela (1647: 153). The seventeenth century description concerning the discovery of another anthropoid sarcophagus in Gozo by Agius De Soldanis (1746: 30) is unclear. The fifth terracotta sarcophagus, also discovered in Gozo, was identified in grave-pit G16 in 1890; it consisted of three parts and contained an inhumed skeleton (Caruana, 1898: 51). Each of the stone sarcophagi contained the remains of a human skeleton; the first one was identified in 1890 at Buskett, Rabat, the second sarcophagus was discovered in 1931 at Qrendi, and the other one was found at Xlendi, Gozo, in 1923. They were simple in form and contained neither a lid nor any decorative or epigraphic motifs (Caruana, 1898: 47; M.A.R., 1923-24: 3; 1930-31: 6).

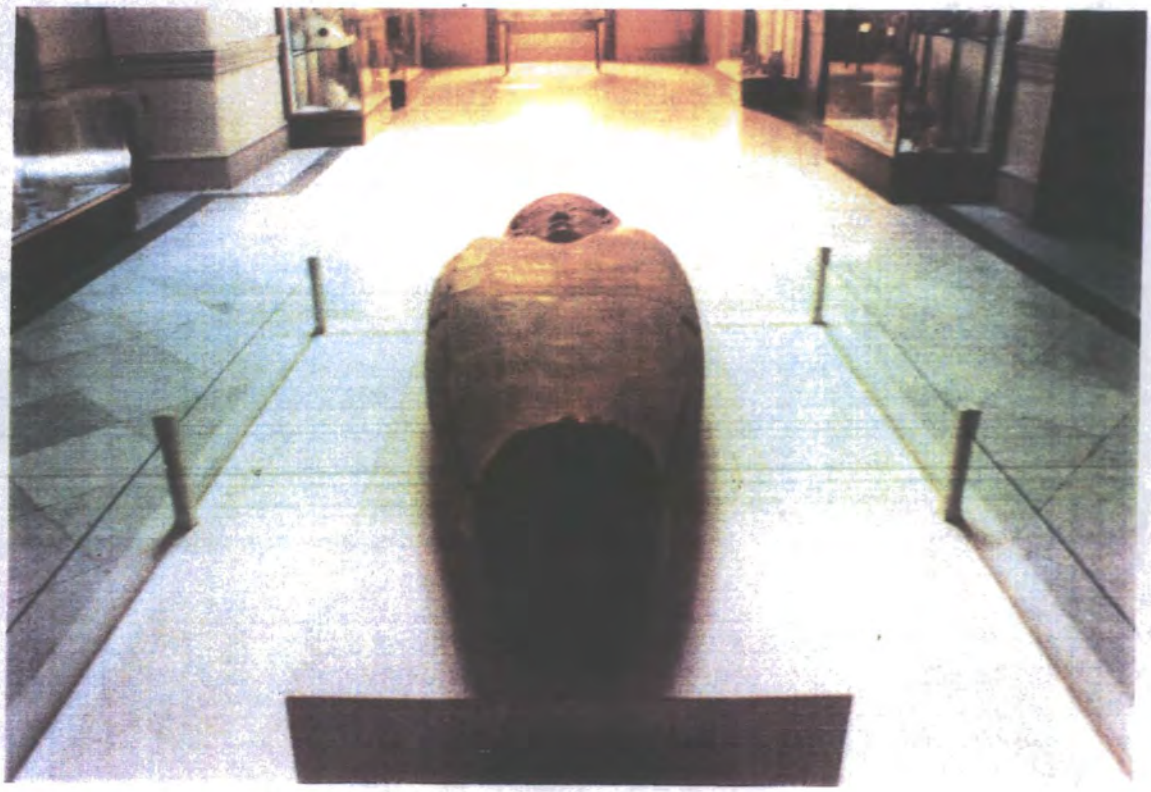
The three terracotta sarcophagi discovered in Malta were all derived from the cemetery of Ghar Barka, Rabat. The tombs in which these coffins were found appear to have been located close to one another and each contained a single inhumation. About the typology of the tombs, nothing has been

specified, but through Abela (1647: 153) we learn that one of the tombs consisted of a square shaft and chamber. The anthropoid sarcophagus exhibited in the Valletta Museum is datable to the fifth century B.C. (*Plate 13*, p. 131). The rendering of the face and the hairstyle portray clear Egyptianizing, Ionian and Rhodian motifs, suggesting either that the coffin was imported from the east or it was manufactured locally at a time when these islands were still under Phoenician cultural influence (Gouder, 1979: 177). It is a life-size coffin, where only the unbearded face, the hair and the toes appear; no inscriptions or any decorations are visible. The non-anthropoid sarcophagus exhibited in the same museum is rectangular in shape and is covered by three terracotta slabs. This sarcophagus, datable to between 300 and 260 B.C., rests on four small legs, and was probably intended for an inhumation burial.

The presence of only three sarcophagi and their derivation from the same cemetery indicate that the tombs in which these coffins were found were possibly intended for a particular class of people, for example priests or major landowners. The stone sarcophagi and the two Gozo terracotta coffins may have been intended for similar people. The available reports and descriptions fail to provide a coherent account about the discovery and precise provenance of the Gozo terracotta sarcophagi.

Other possible indicators of social ranking are the rock-cut carvings representing the facial image of human beings. In Malta and in the Phoenician world these were unusual and their exact purpose has not yet been exactly determined; these were meant either to represent the actual face of the dead person or else served apotropaic purposes to scare away the evil spirits. Whatever their purpose, the fact that in Malta they

The anthropoid sarcophagus discovered at
Hal-Barka, Rabat, in the eighteenth century.
(National Museum of Archaeology, Valletta).



have been identified in only five tombs may indicate for the deceased person a high social status. The burial context of these carvings in relation to the material unearthed from the tombs is unknown because four were found rifled, whilst concerning the fifth tomb no information about the burial material was provided in the excavation report. The presence of only seven rock-cut carvings (the chamber of S.E.39 had three carvings) suggests either that in Malta these were unusual as far as Punic burial customs were concerned, or they were reserved for a particular class of people. These carvings presented clear Egyptianizing motifs and characteristics in the rendering of the face as well as in the hairstyle (Culican, 1976: 75).

THE DATED TOMBS AND SOCIAL HIERARCHY

The above tables and figures reveal that what can be argued for the dated tombs may also apply, with certain differences, for the undated sample. The following study discusses social ranking in Malta in relation to time and space as emerging from the dated tombs. This study analyzes comparatively Malta's social hierarchy with that of the other Phoenician colonies.

Figure 38 (p. 133) contrasts the distribution of the dated wealthy and non-wealthy tombs during each phase. However, the five phases are not chronologically equal. Since Phases I and IV are the shortest periods, the remaining three need to be calibrated per century to understand better any changes which occurred from one phase to another. *Figure 39* (p. 134) contrasts the distribution of the dated wealthy and non-wealthy tombs during each phase calibrated per century. It appears that the

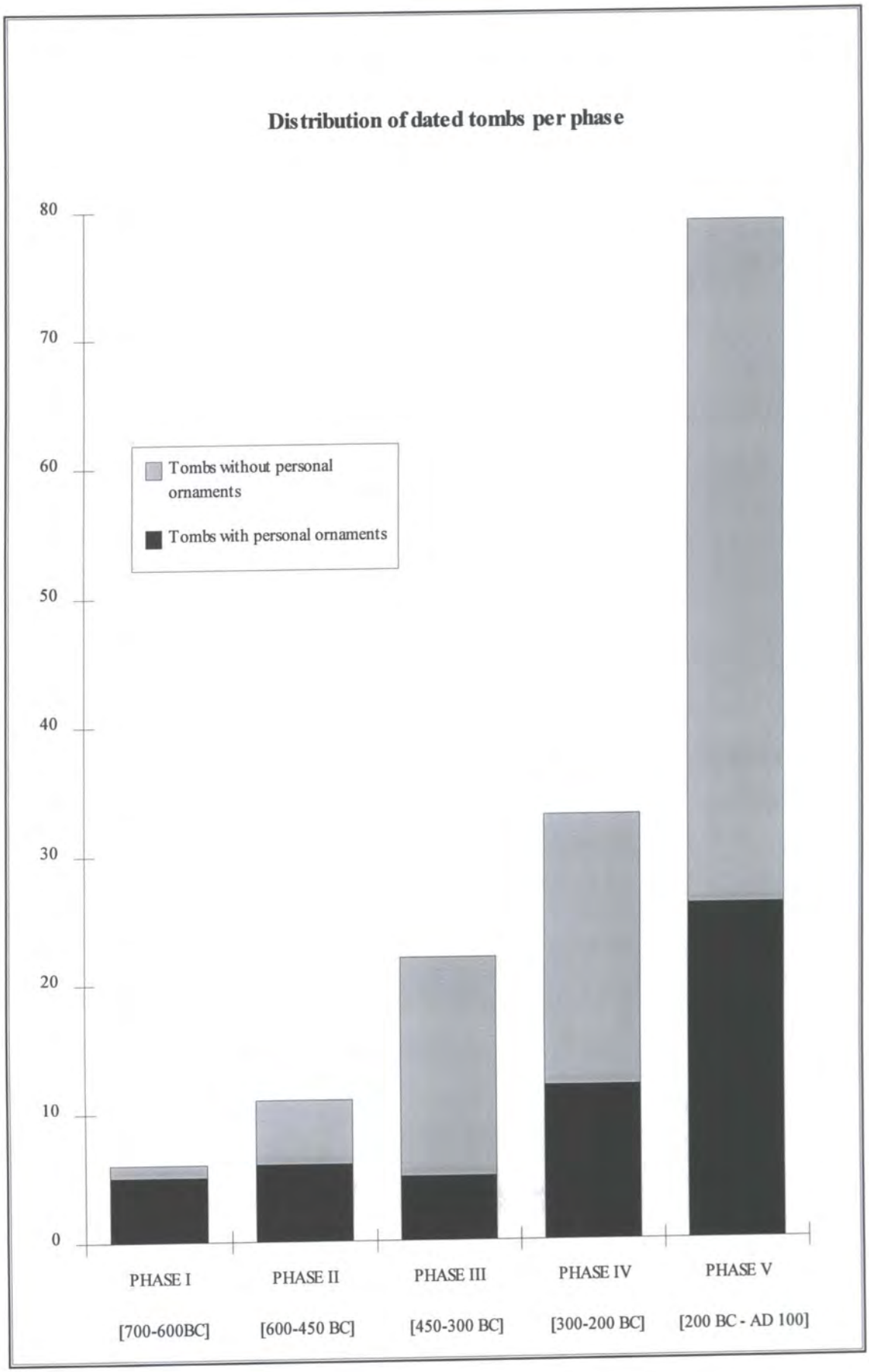

Distribution of dated tombs per phase
80
70
60
50
40
30
20
10
0
Tombs without personal ornaments
Tombs with personal ornaments
PHASE I
[700-600BC]
PHASE II
[600-450 BC]
PHASE III
[450-300 BC]
PHASE IV
[300-200 BC]
PHASE V
[200 BC - AD 100]

Figure 38

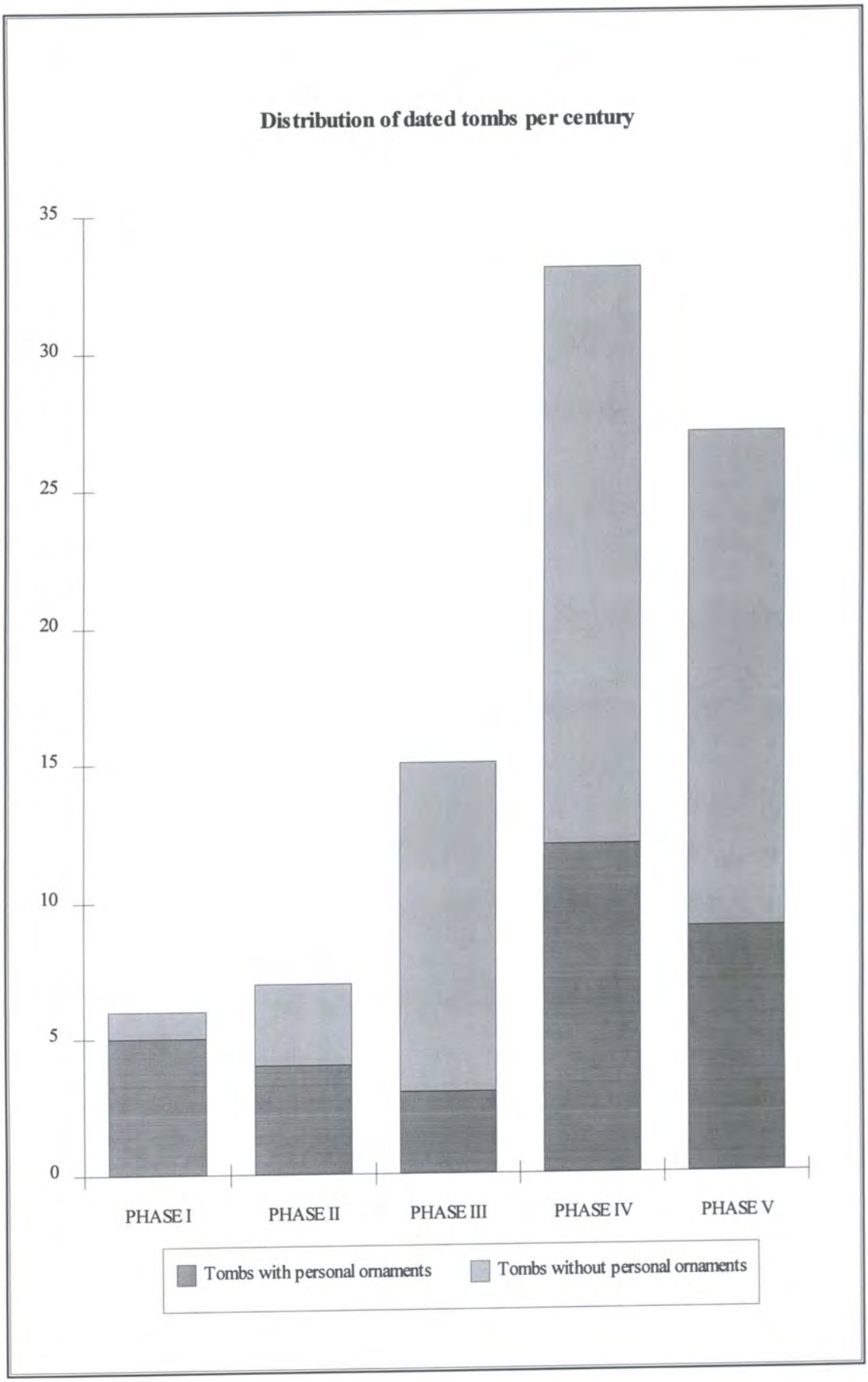

Distribution of dated tombs per century
35
30
25
20
15
10
5
0
PHASE I
PHASE II
PHASE III
PHASE IV
PHASE V
Tombs with personal ornaments
Tombs without personal ornaments

Figure 39

number of tombs per century increased from one phase to another up to Phase IV. However, from Phase III onwards there was probably a relative decline in the number of wealthy tombs when compared to the total number of dated tombs per century; there were 5 wealthy dated tombs out of 6 tombs in Phase I and 6 wealthy dated tombs out of 11 tombs in Phase II (4 wealthy tombs per century), but there were 5 wealthy dated tombs out of 22 tombs during Phase III (3.3 wealthy tombs per century), 12 wealthy dated tombs out of 33 tombs in Phase IV, and 26 wealthy dated tombs out of 79 tombs during Phase V (8 wealthy tombs per century). *Figure 39* suggests that during the first two phases most of the tombs contained wealthy burials, but between Phases III and V the wealthy tombs appear in relative minority.

Phase I (700 - 600 B.C.)

In Phase I, 5 tombs contained fine ceramic vessels, metal objects and other personal ornaments. The latter two collectively consisted of 5 gold beads, a gold foil, a gold ring, 3 silver rings, a bronze torch-holder, 2 bronze bracelets, a copper bracelet and 4 iron loops. The distribution of these metal items is best illustrated in *Figure 40* (p. 136). The remaining tomb of this phase contained only coarse pottery.

Figure 41 (p. 137) conveys that during Phase I silver was the most common metal and was followed by gold. There were 3 bronze objects, 4 iron items and a single copper ornament. The relatives of the deceased persons were possibly wealthy enough to deposit such burial material in the tombs because most of the Phase I ornaments were made of gold or silver, and both were considered by the Phoenicians as expensive metals

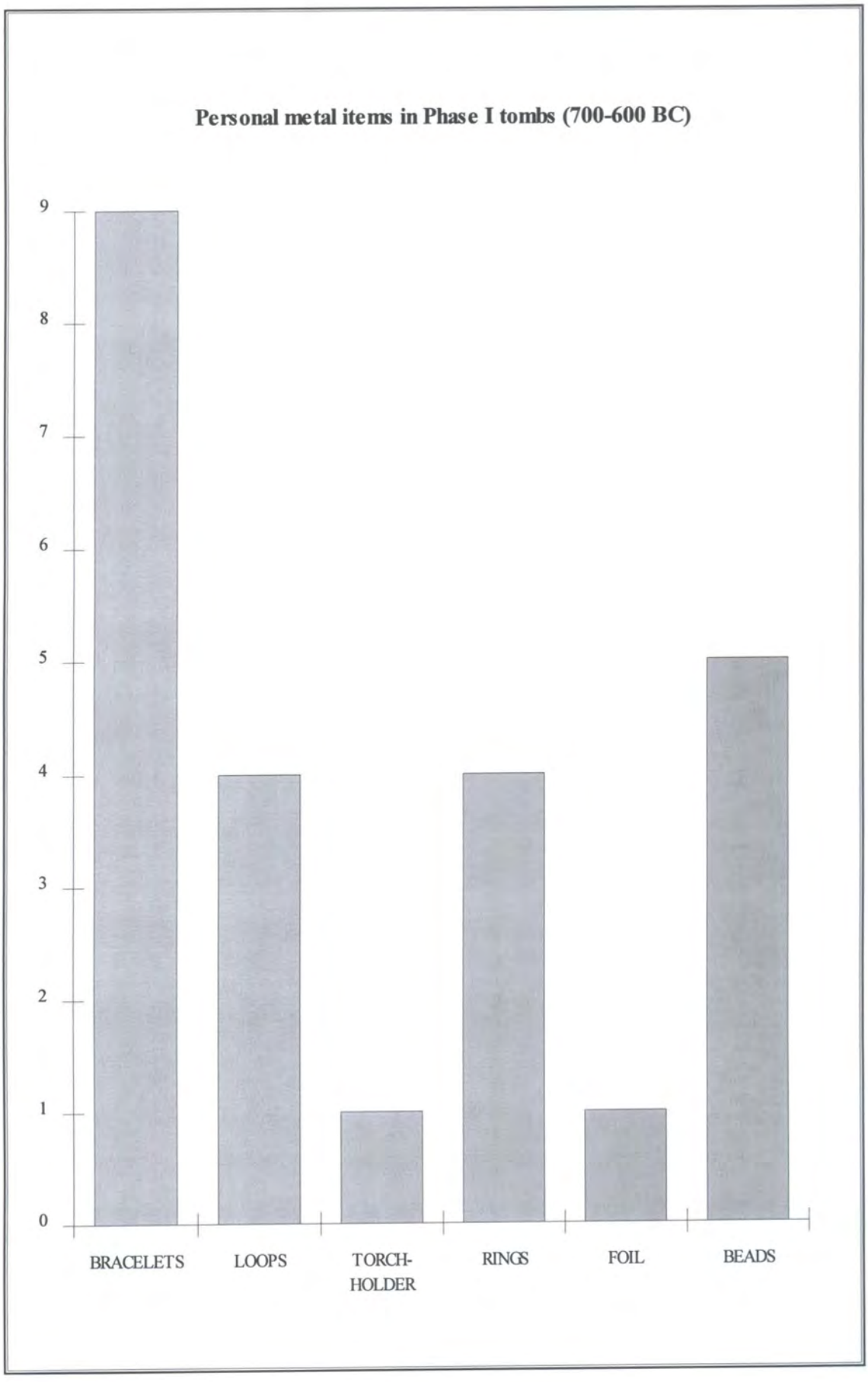

Personal metal items in Phase I tombs (700-600 BC)
9
8
7
6
5
4
3
2
1
0
BRACELETS
LOOPS
TORCH-HOLDER
RINGS
FOIL
BEADS

Figure 40

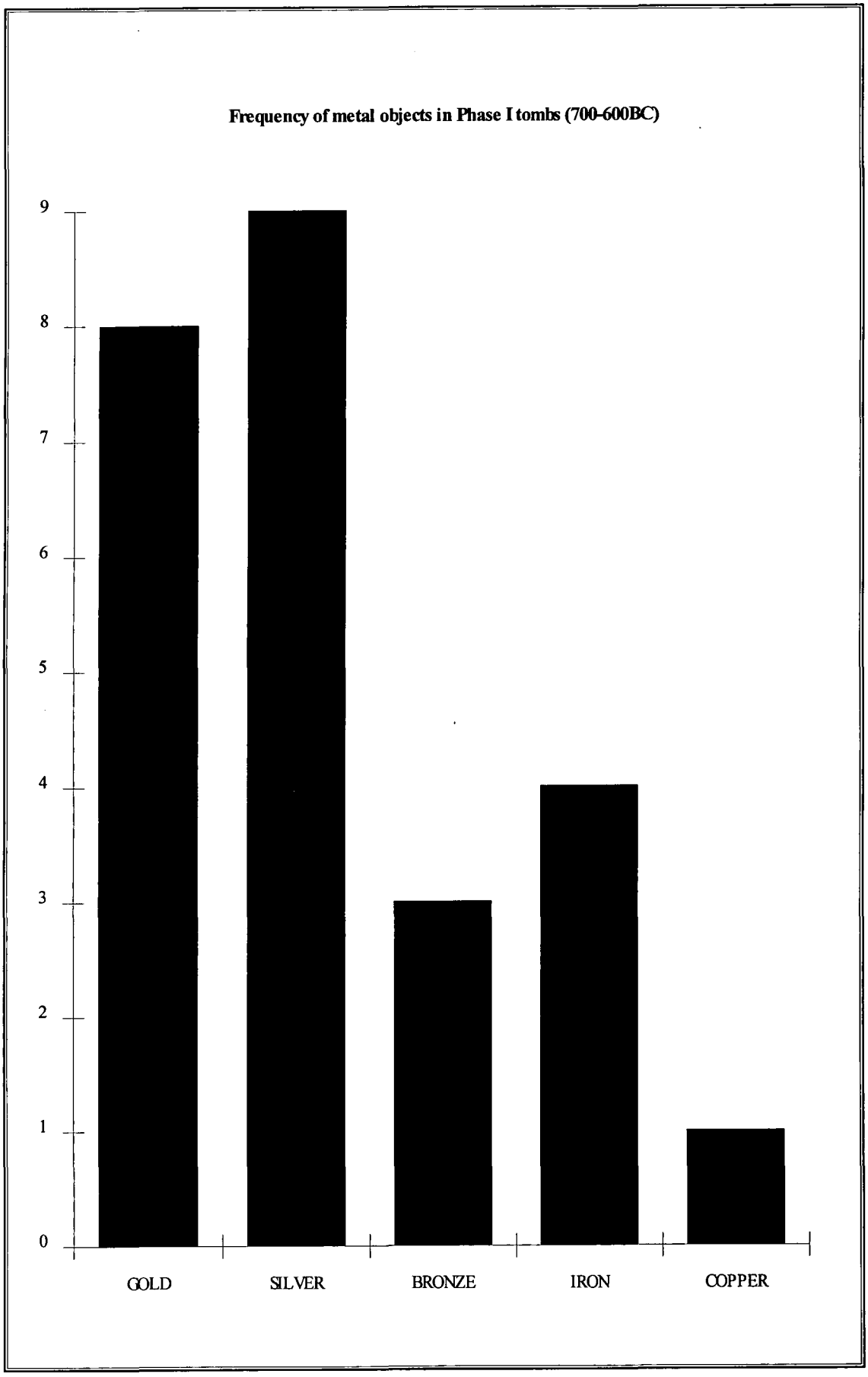
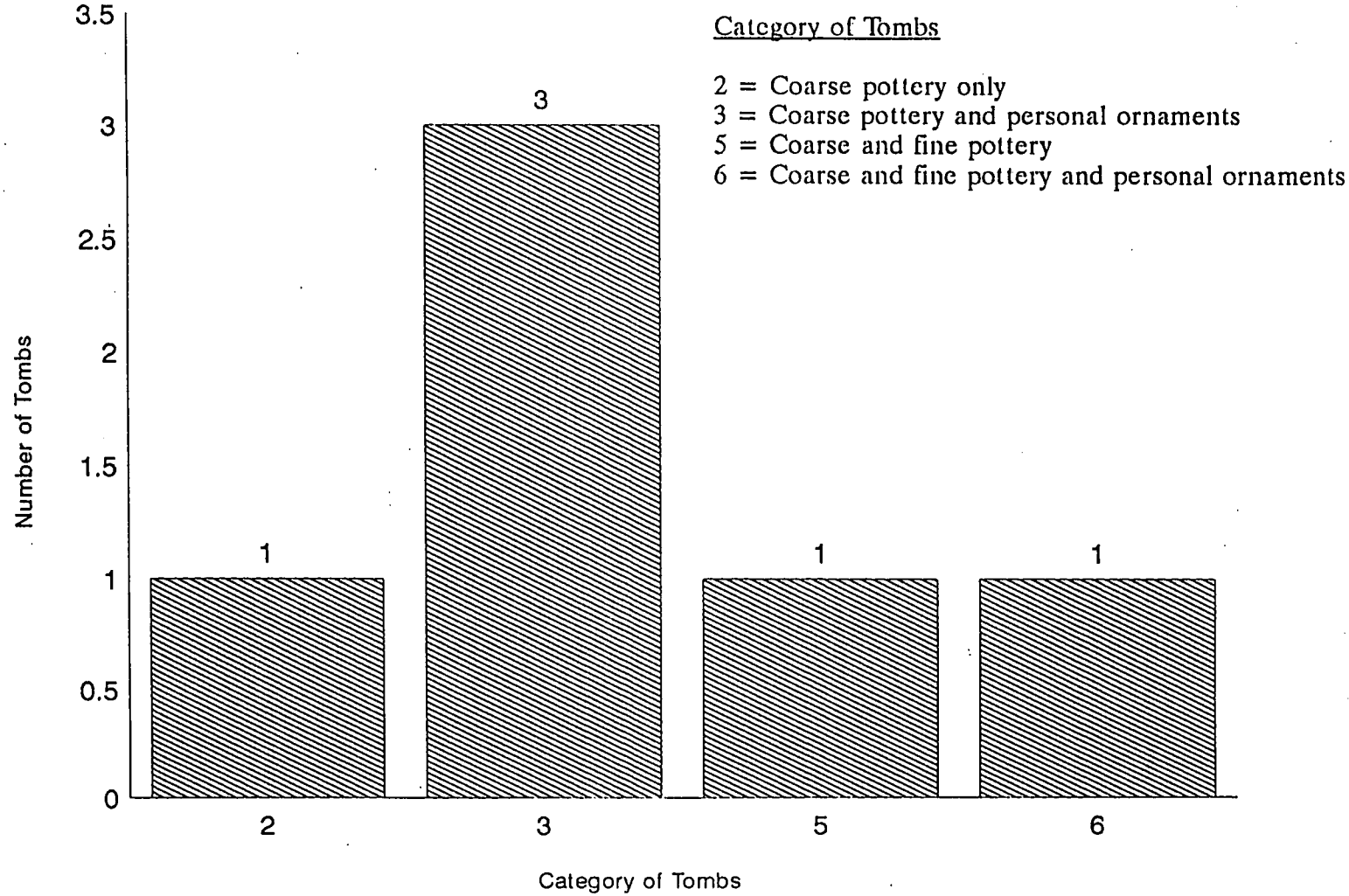

Frequency of metal objects in Phase I tombs (700-600BC)
9
8
7
6
5
4
3
2
1
0
GOLD
SILVER
BRONZE
IRON
COPPER

Figure 41

Histogram of Tombs by Category

Phase I (700-600 BC)

Figure 42



(Harden, 1971: 151). The wealthiest tombs were found in the Rabat area, and another one was identified at Naxxar.

As *Figure 42* (p. 138) indicates, one tomb contained only coarse pottery, while another three were provided with coarse pottery and various personal ornaments. A single tomb was furnished with coarse and fine ceramic items, while another one was provided with coarse and fine pottery, together with various personal ornaments.

Phase II (600 - 450 B.C.)

Phase II presents 6 dated tombs (4 tombs per century) which were furnished with fine ceramic objects and personal adornments. From these tombs, the following ornaments were identified: 4 silver ear-rings, 3 silver medallions, 3 silver rings, 2 silver bangles, a copper bangle and a tin ring. *Figure 43* (p. 140) conveys the distribution of these objects during Phase II, whilst *Figure 44* (p. 141) illustrates the distribution of personal ornaments during this phase calibrated per century. *Figure 44* indicates that there were 3 rings and ear-rings, 2 bangles and 2 medallions per century. This chart conveys that during Phase II there was a smaller number of ornaments than in Phase I.

Figure 45 (p. 142) conveys the distribution of material types during Phase II. There were 12 silver objects, a tin ornament and a copper item. *Figure 46* (p. 143) shows the frequency of material types during Phase II calibrated per century, indicating that silver was still very common, whilst copper and tin were probably of minor importance (there were less than one copper and one tin object per century). *Figures 41* and *46* also convey that in Phases I and II silver was probably the most

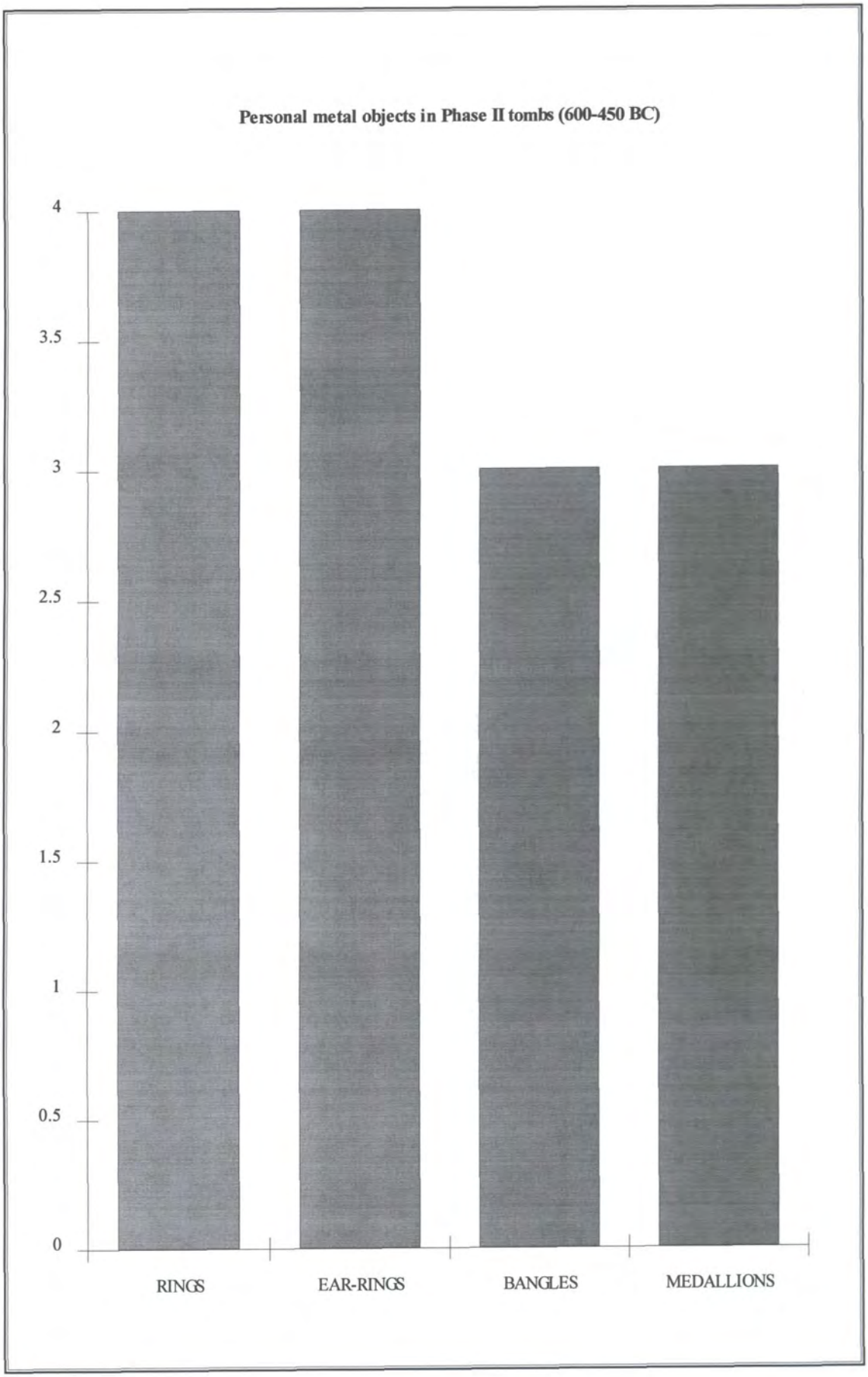

Personal metal objects in Phase II tombs (600-450 BC)
4
3.5
3
2.5
2
1.5
1
0.5
0
RINGS
EAR-RINGS
BANGLES
MEDALLIONS

Figure 43

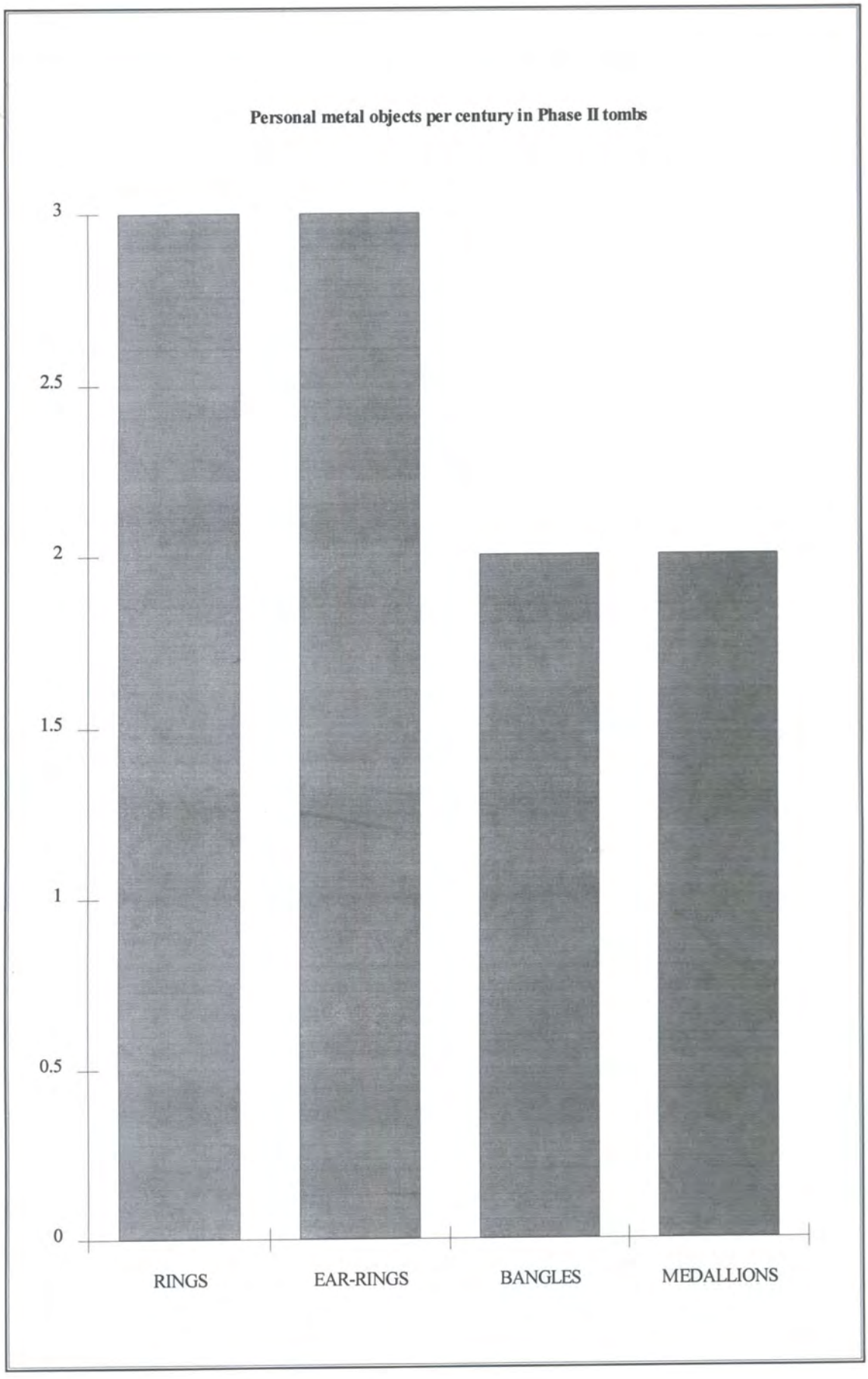

Personal metal objects per century in Phase II tombs
3
2.5
2
1.5
1
0.5
0
RINGS
EAR-RINGS
BANGLES
MEDALLIONS

Figure 44

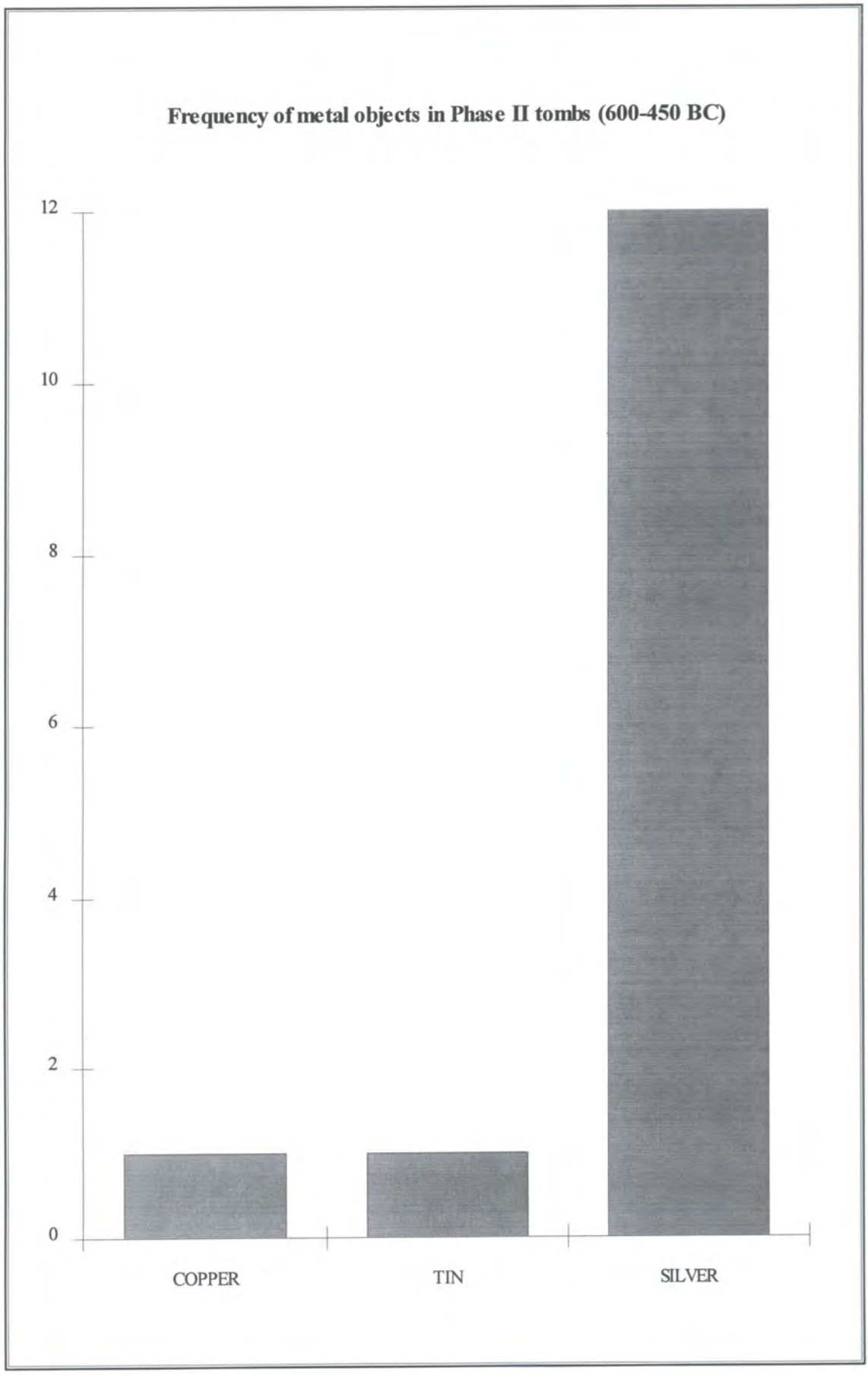

Frequency of metal objects in Phase II tombs (600-450 BC)
12
10
8
6
4
2
0
COPPER
TIN
SILVER

Figure 45

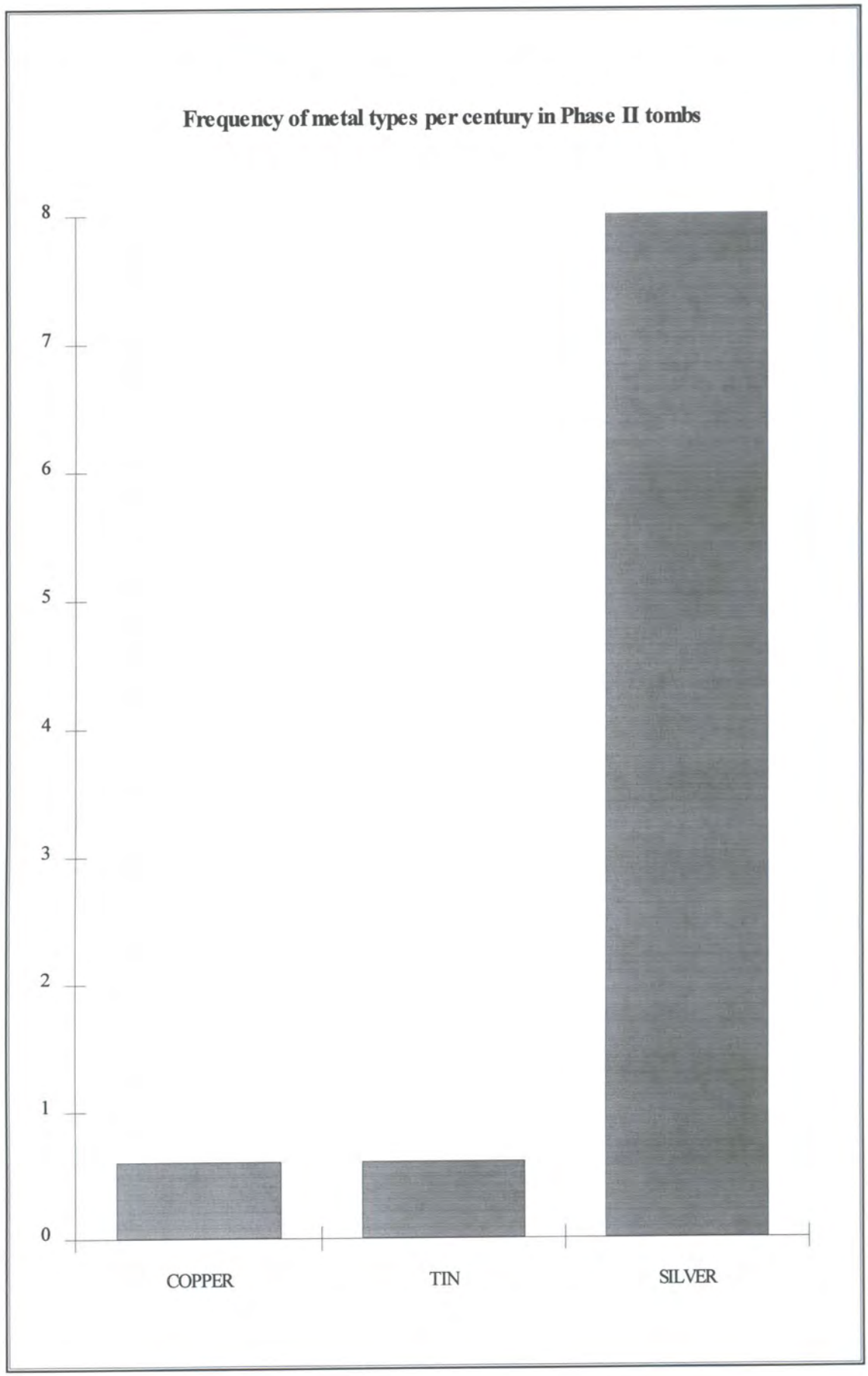

Frequency of metal types per century in Phase II tombs
8
7
6
5
4
3
2
1
0
COPPER
TIN
SILVER

Figure 46

common metal for burial purposes. Phase I presents 9 silver objects and Phase II 8 silver ornaments. Between 700 and 550 B.C. this metal was also common for similar purposes in Sardinia (Bartoloni, 1983: 69-70) and in Spain (Harrison, 1988: 50).

Regarding their location, four tombs were identified in the Rabat area, another one in Siggiewi, whilst the sixth tomb was discovered in Victoria, Gozo. Up to the end of Phase II in the Rabat area there was not only the largest number of tombs, but also the largest number of wealthy tombs. Tomb G18 was discovered near the Victoria settlement.

Figure 47 (p. 145) reveals that 5 tombs contained only coarse pottery, another 3 were provided with coarse pottery and personal ornaments, 2 tombs contained coarse and fine pottery, while the burial of one tomb was furnished with only personal ornaments. *Figure 48* (p. 146) conveys the distribution of tombs by category during this phase calibrated per century. During Phase II, the tombs containing only coarse pottery increased, while the tombs provided with coarse pottery and personal ornaments decreased; the number of tombs furnished with coarse and fine pottery remained basically the same. This suggests a relative decline in the number of wealthy burials because during Phase II people seem to have deposited more coarse pottery than fine pottery and precious ornaments.

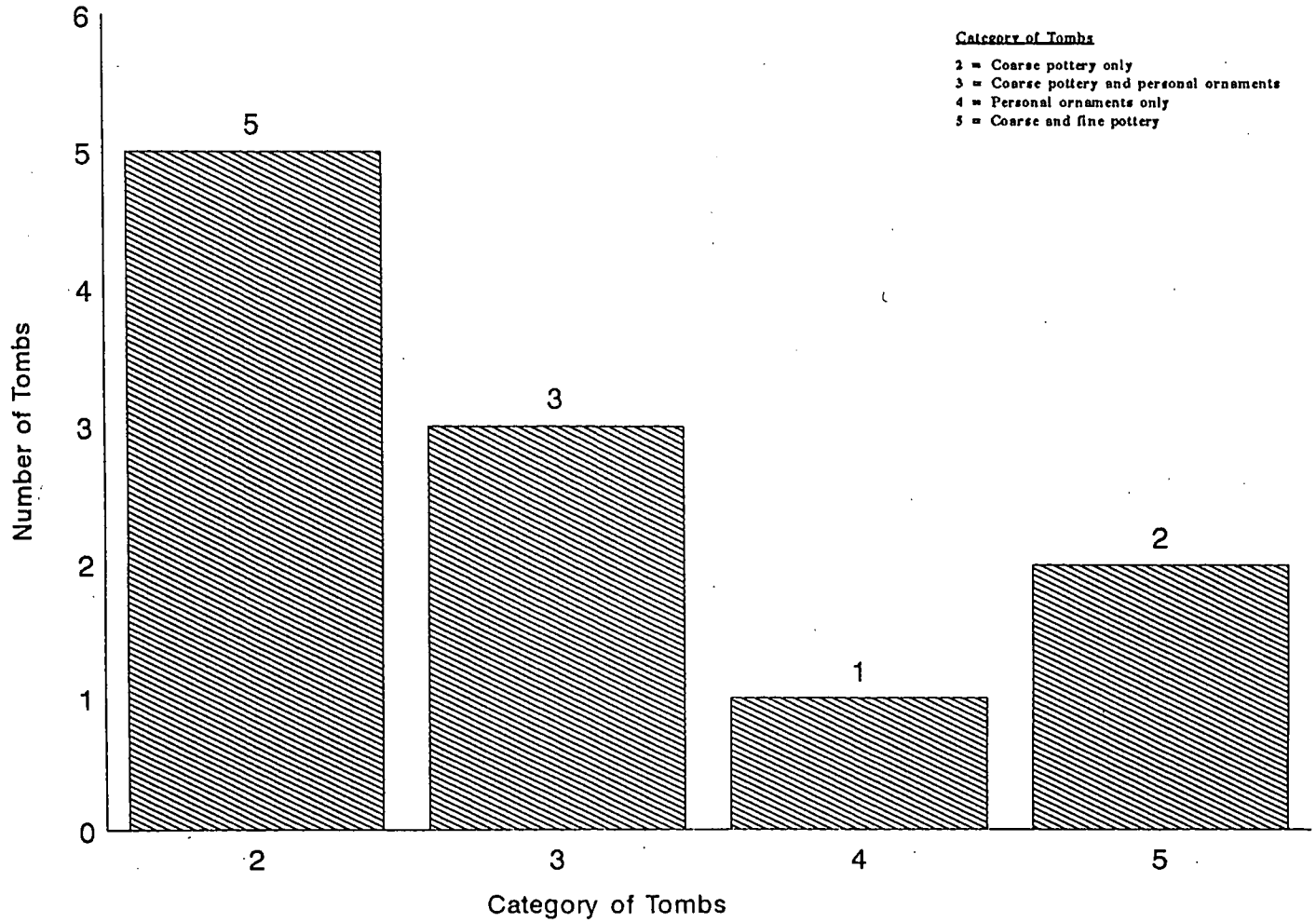
Phase III (450 - 300 B.C.)

Although the number of tombs increased during Phase III (see *Figures 38* and *39*), the number of wealthy tombs per century decreased slightly from that of the previous phase. Whether this implies a cultural decline

Histogram of Tombs by Category

Phase II (600-450 BC)

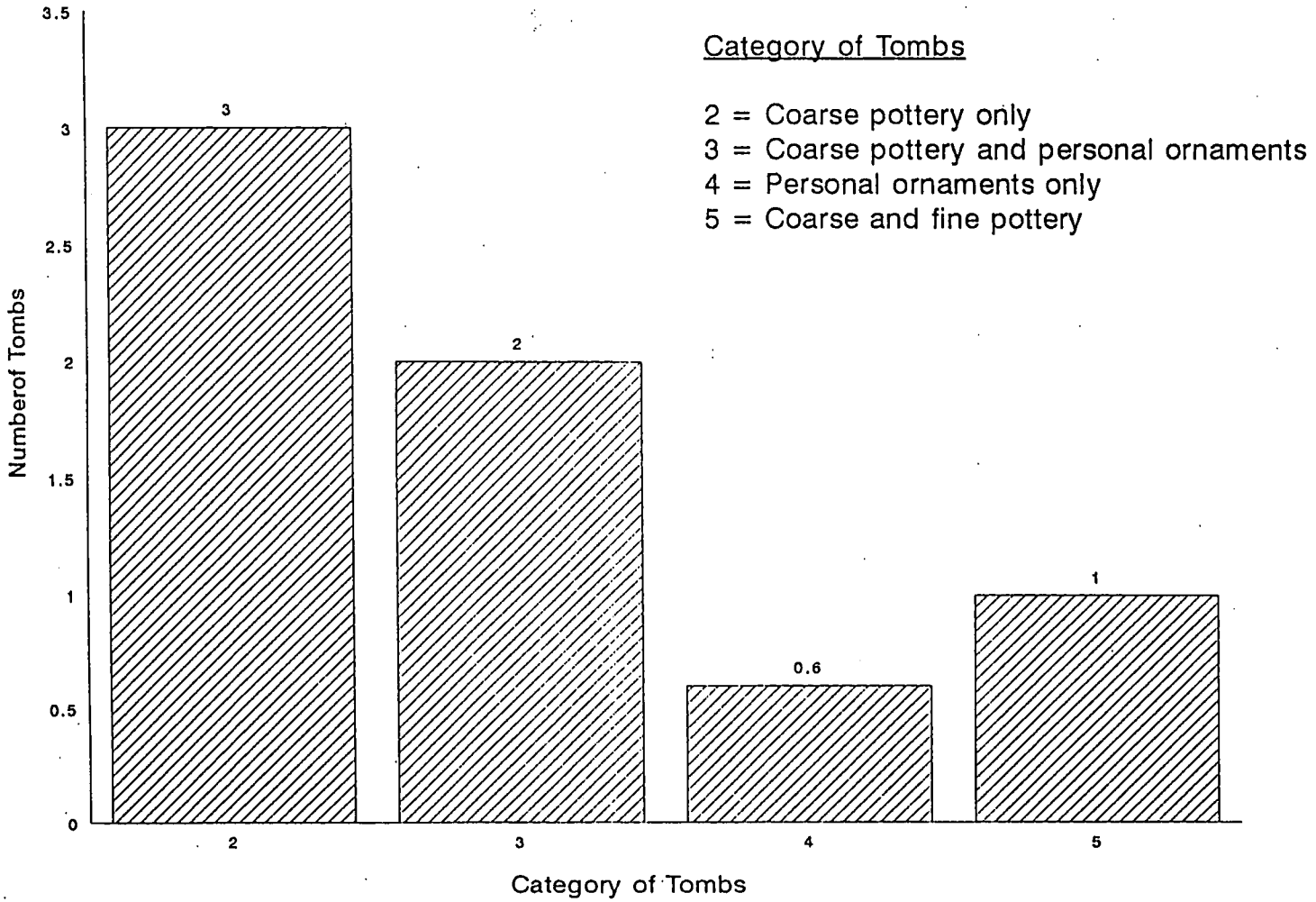
Figure 47



Histogram of Tombs by Category per Century

Phase II (600-450 BC)

Figure 48



in Punic burial customs is still unknown. This also indicates that while the number of wealthy families decreased between Phases II and III, there was a possible rise in the number of non-wealthy (farmer-class) families.

Figure 49 (p. 148) shows that from 5 tombs, 11 metal ornaments were identified, which consisted of 3 silver rings, a silver ear-ring, a bronze ring, a bronze needle, 2 copper rings, a copper ear-ring and 2 copper needles. *Figure 50* (p. 149) conveys the same data calibrated per century. It indicates that there were 4 rings, 2 needles and a single ear-ring. The information of *Figure 50* reveals that during this phase there was a decreasing number of personal ornaments.

Figure 51 (p. 150) shows that during this period most of the burial ornaments were made of copper (5 objects), whilst the increasing popularity of bronze (2 objects) is also noticeable. While Phase I presents 9 silver ornaments and Phase II 8 silver adornments per century, Phase III presents only 4 silver objects per century. *Figure 52* (p. 151) conveys the frequency of metal types during Phase III calibrated per century. Copper is present with 3 objects per century, and bronze with a single object; this same figure indicates that silver ceased to be the most common metal when its frequency is compared to that of the previous two phases. Either silver was becoming more expensive or it was becoming unimportant for burial purposes. *Figure 52* also suggests that while the population increased the popularity of silver declined; probably precious metals like gold and silver were coming into Malta in limited amounts and were not available to all the inhabitants. So, the decreasing use of silver during Phase III does not necessarily imply a decline in social status, but possibly also restricted availability.

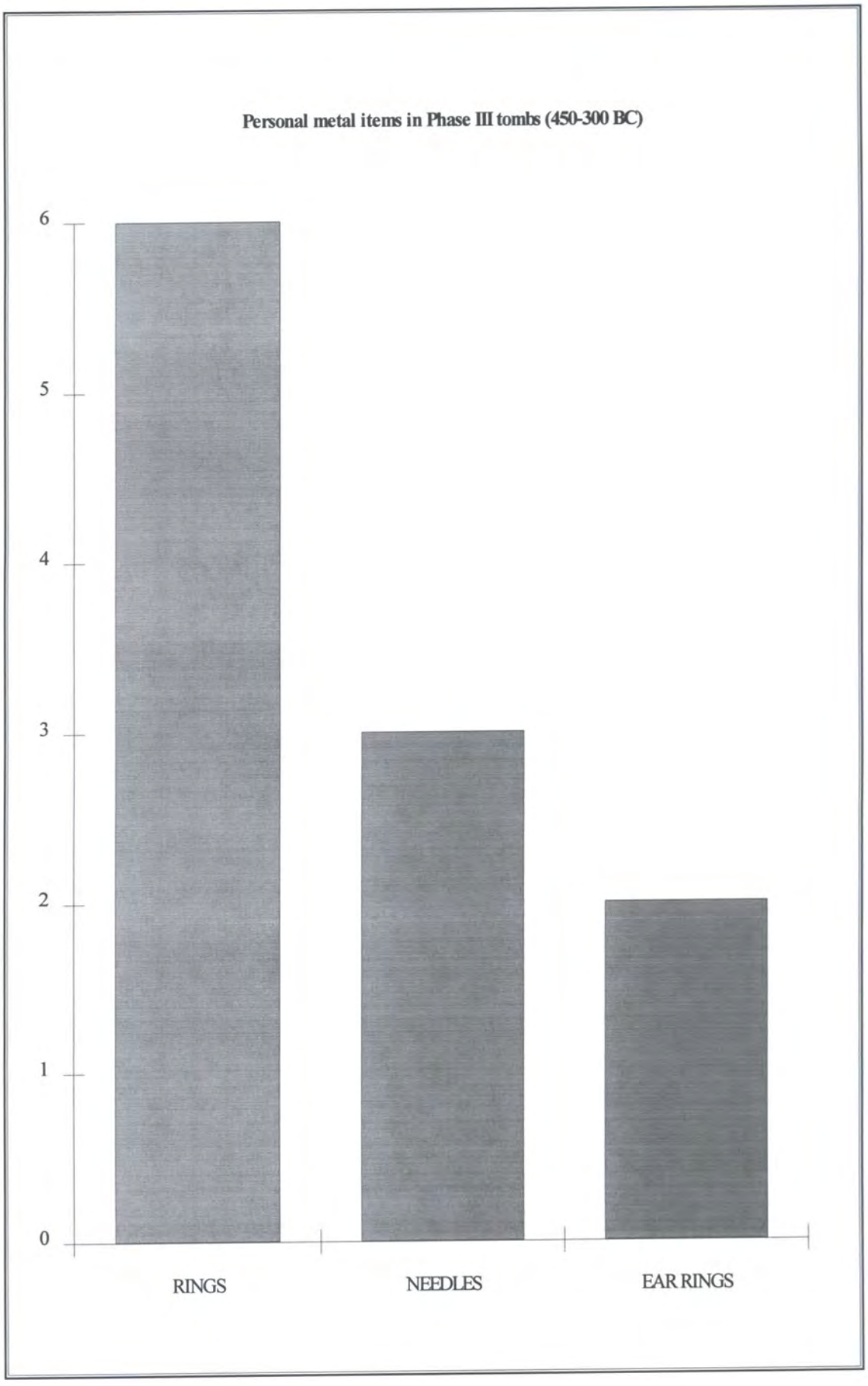

Personal metal items in Phase III tombs (450-300 BC)
6
5
4
3
2
1
0
RINGS
NEEDLES
EAR RINGS

Figure 49

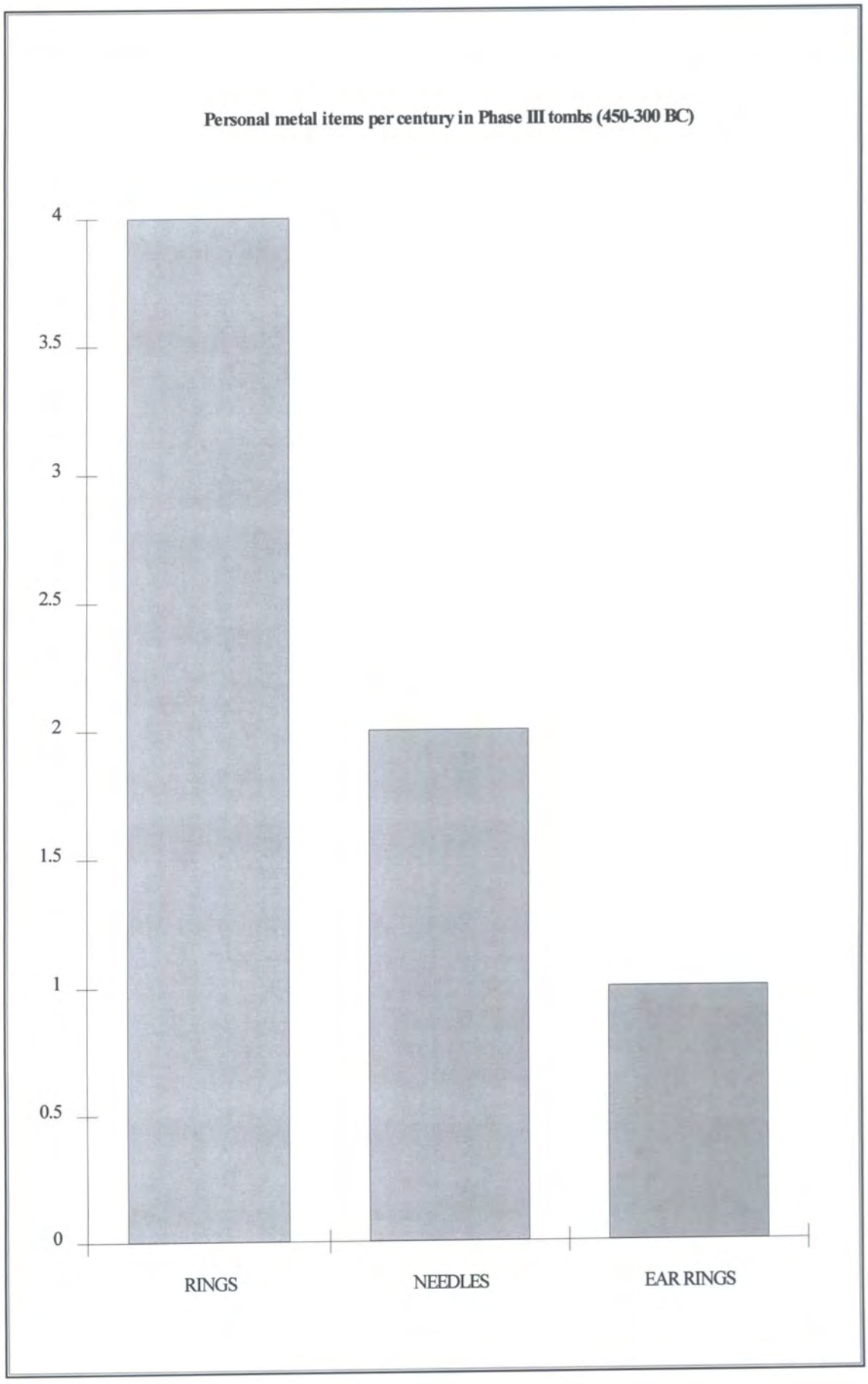

Personal metal items per century in Phase III tombs (450-300 BC)
4
3.5
3
2.5
2
1.5
1
0.5
0
RINGS
NEEDLES
EAR RINGS

Figure 50

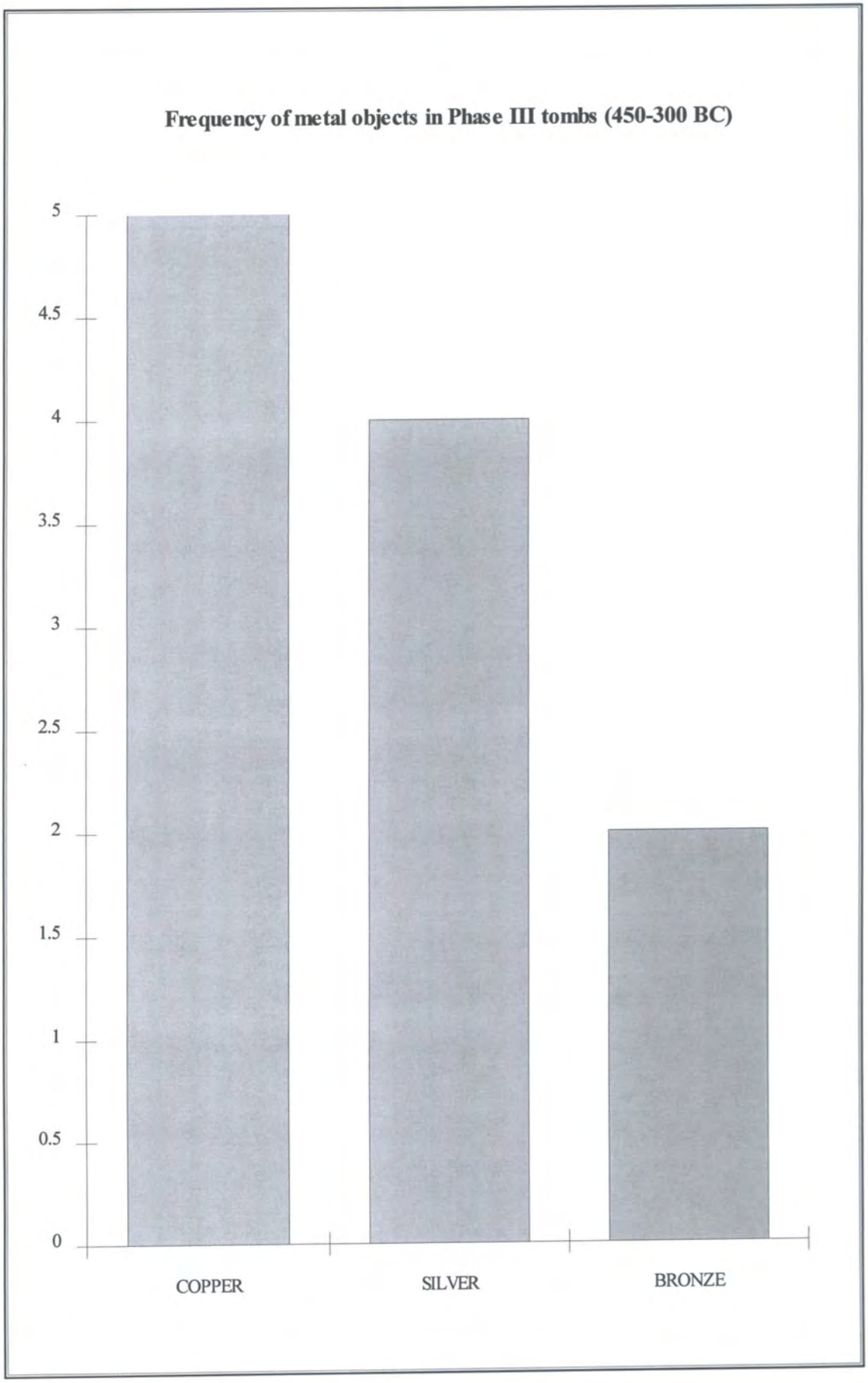

Frequency of metal objects in Phase III tombs (450-300 BC)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
COPPER
SILVER
BRONZE

Figure 51

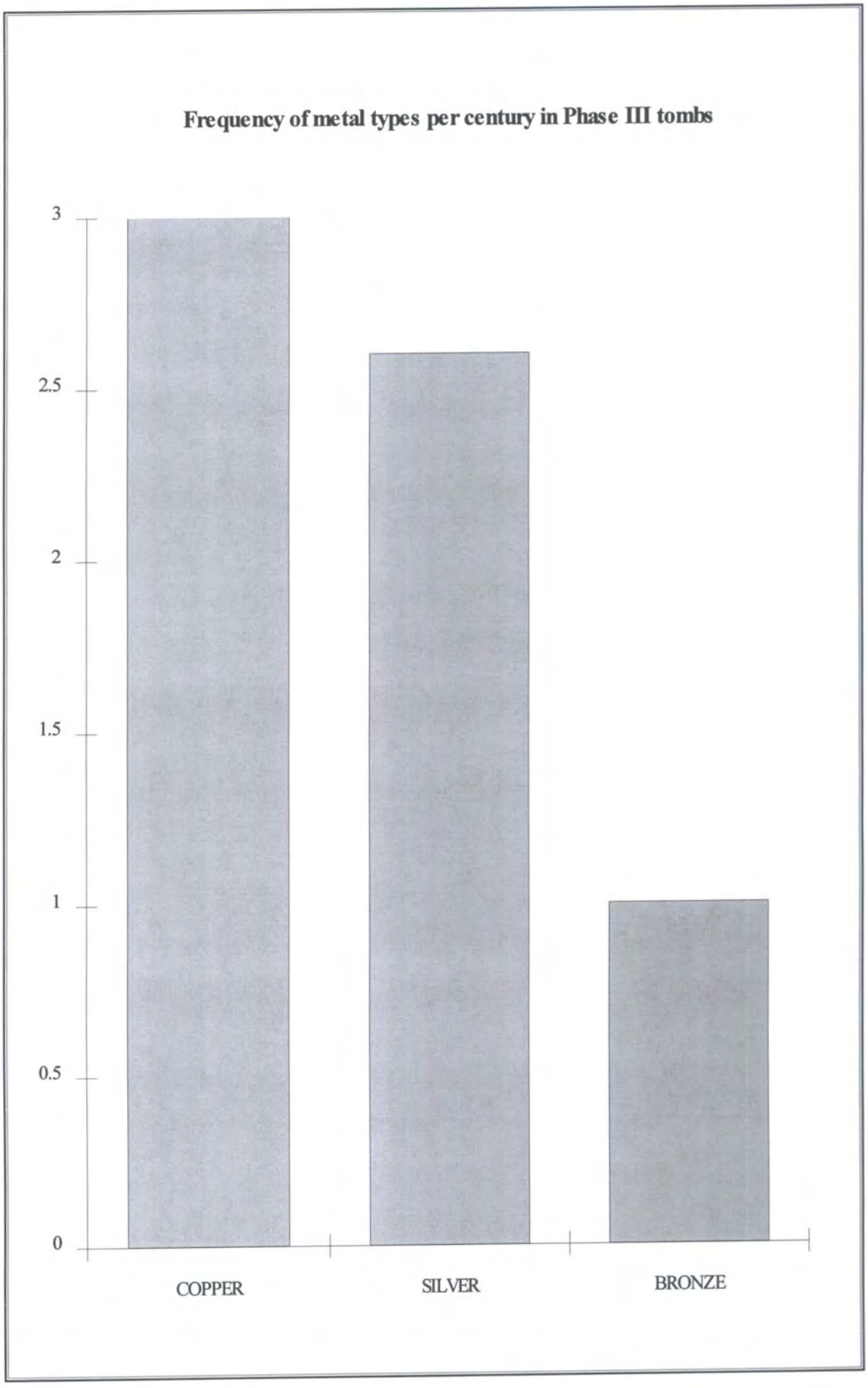

Frequency of metal types per century in Phase III tombs
3
2.5
2
1.5
1
0.5
0
COPPER
SILVER
BRONZE

Figure 52

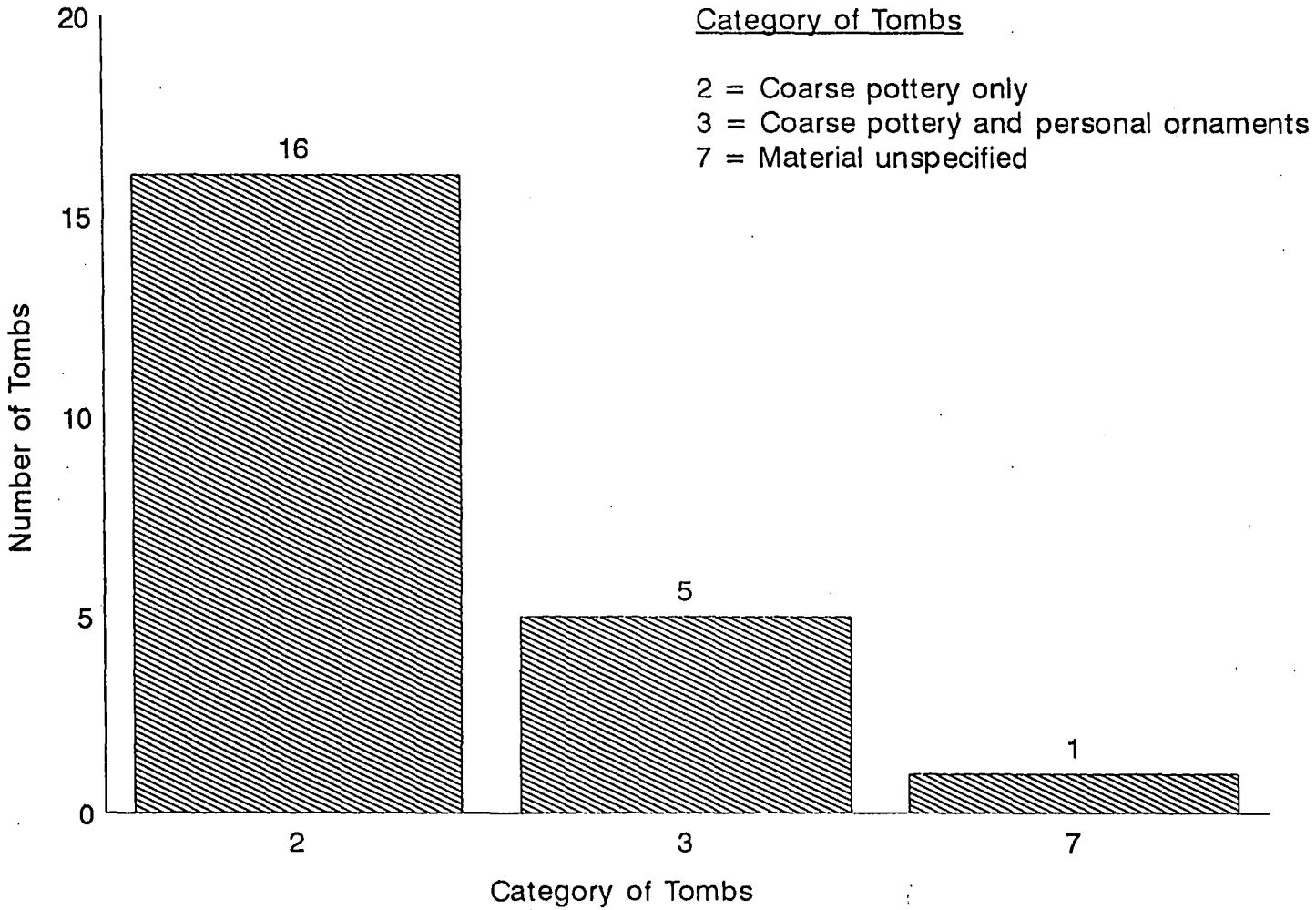
The five Phase III tombs were identified in different areas of the Maltese Islands. W356 was found in the Rabat area, W379 at Zebbug, H59 at Paola, S.E.13 at Tarxien, and N55 at Naxxar. This indicates that from Phase III onwards the local inhabitants, including a group of wealthy people, probably started to settle in different areas of the Maltese Islands and not only in or near the Rabat settlement (see **Chapter 2**: *Figure 14*). From Phase III onwards the tombs not only increase in number (see *Figures 38* and *39*), but are also located in various parts of the Maltese Islands.

Figure 53 (p. 153) conveys the distribution of tombs by category during this phase, indicating that 16 tombs contained only coarse pottery, while another 5 were provided with coarse pottery and personal items. Although the remaining tomb was dated in the excavation report, nothing was specified regarding its burial material. *Figure 54* (p. 154) illustrates the distribution of tombs by category during Phase III calibrated per century. It shows that 11 tombs contained only coarse pottery, while another 3 were furnished with coarse pottery and personal ornaments. The remaining category (where the burial material was unspecified in the excavation report) presents less than one tomb per century. The latter histogram reveals that between Phases II and III there was a massive increment in the number of tombs containing only coarse pottery, while the number of tombs furnished with coarse pottery and personal ornaments remained relatively similar. Most of the buried people were provided with only coarse pottery, because this was probably not very expensive. That by Phase III less people were able to bury personal ornaments with their dead indicates a relative decline in the level of wealthy burials; Phase I presents 5 wealthy tombs, Phase II 4 tombs per century, and Phase

Histogram of Tombs by Category

Phase III (450-300 BC)

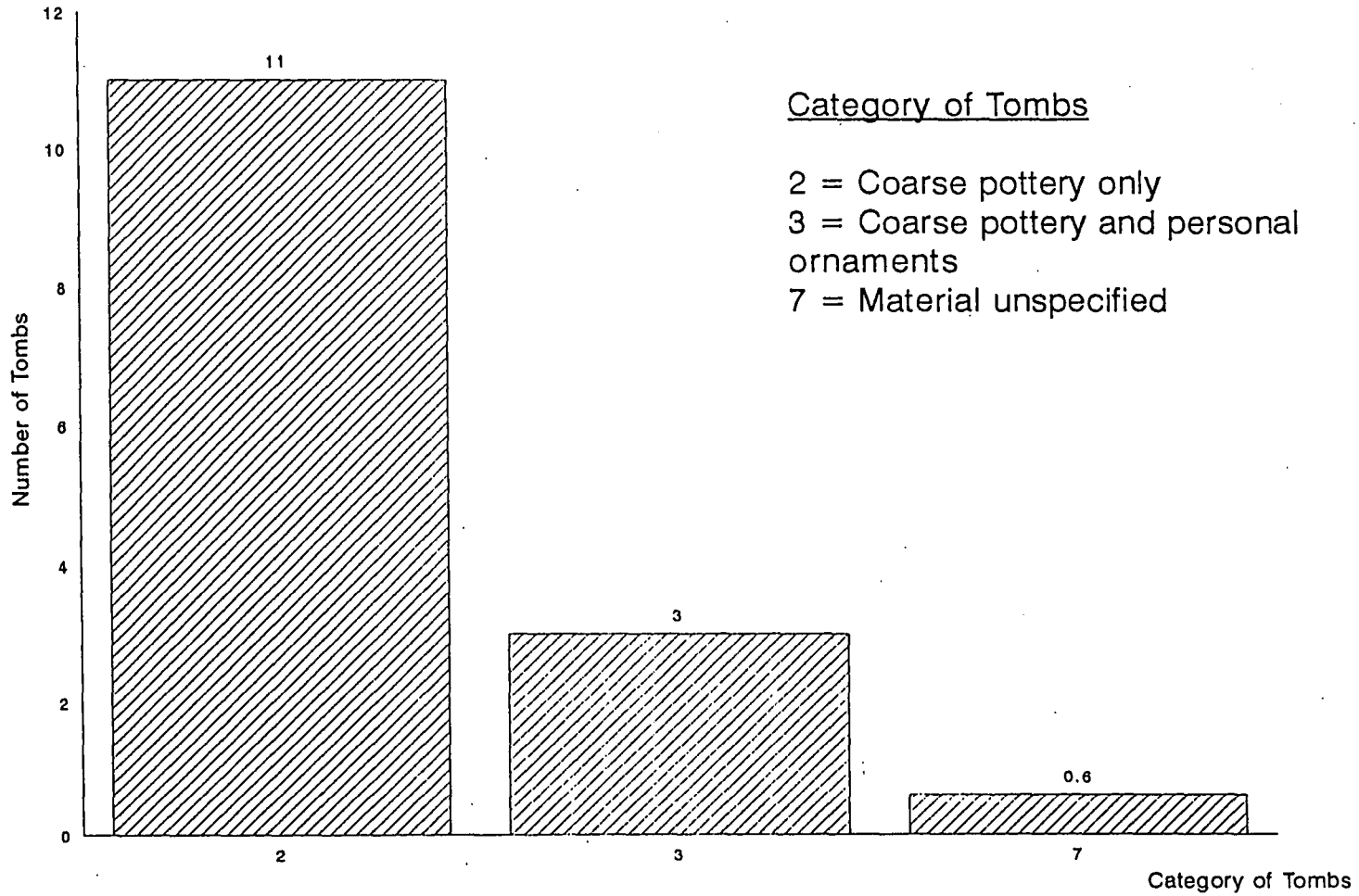
Figure 53



Histogram of Tombs by Category per Century

Phase III (450-300 BC)

Figure 54



III 3 tombs per century. Mathematically, this implies that between Phases I and II the number of tombs containing only coarse pottery increased by 200%, and between Phases II and III they increased by 266%.

Phase IV (300 - 200 B.C.)

In Phase IV there was a further rise in the number of tombs; the tombs furnished with personal ornaments by now increased to twelve. None of these tombs yielded fine ceramic vessels. The personal ornaments identified in these tombs collectively consisted of 12 bronze needles, a copper ring, a brass ring, 3 bronze mirrors, a silver hairpin, a silver pendant and 4 coins, whose material was not specified in the excavation reports. The distribution of these items is conveyed in *Figure 55* (p. 156).

As *Figure 56* (p. 157) indicates, the majority of the metal burial ornaments were made of bronze; there were 15 bronze objects, 3 copper objects, a single brass and 2 silver ornaments. There was probably a higher demand by people for cheaper objects than for gold and silver. Either silver was becoming more expensive for most of the people, or it gradually became more unpopular for such purposes, or else it was becoming increasingly unavailable.

Five tombs were located in the Rabat area, another two in the Grand Harbour area, another tomb was found in Zurrieq, while W386 was unearthed at Attard, S.E.68 at Zejtun, and G11 at Ghasri, Gozo.

Figure 57 (p. 158) conveys the distribution of tombs by category, indicating that 18 tombs contained only coarse pottery, while another 12

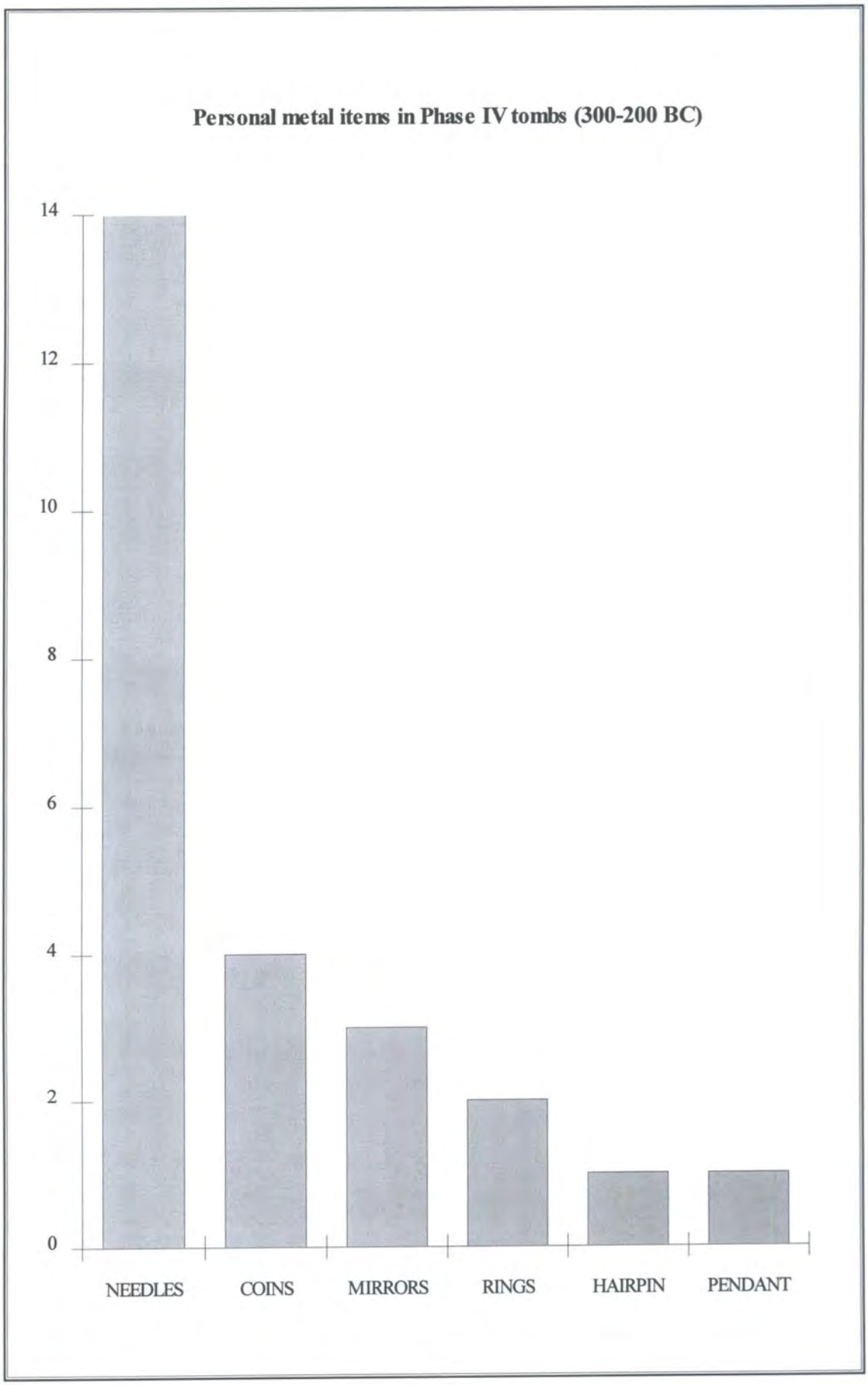

Personal metal items in Phase IV tombs (300-200 BC)
14
12
10
8
6
4
2
0
NEEDLES
COINS
MIRRORS
RINGS
HAIRPIN
PENDANT

Figure 55

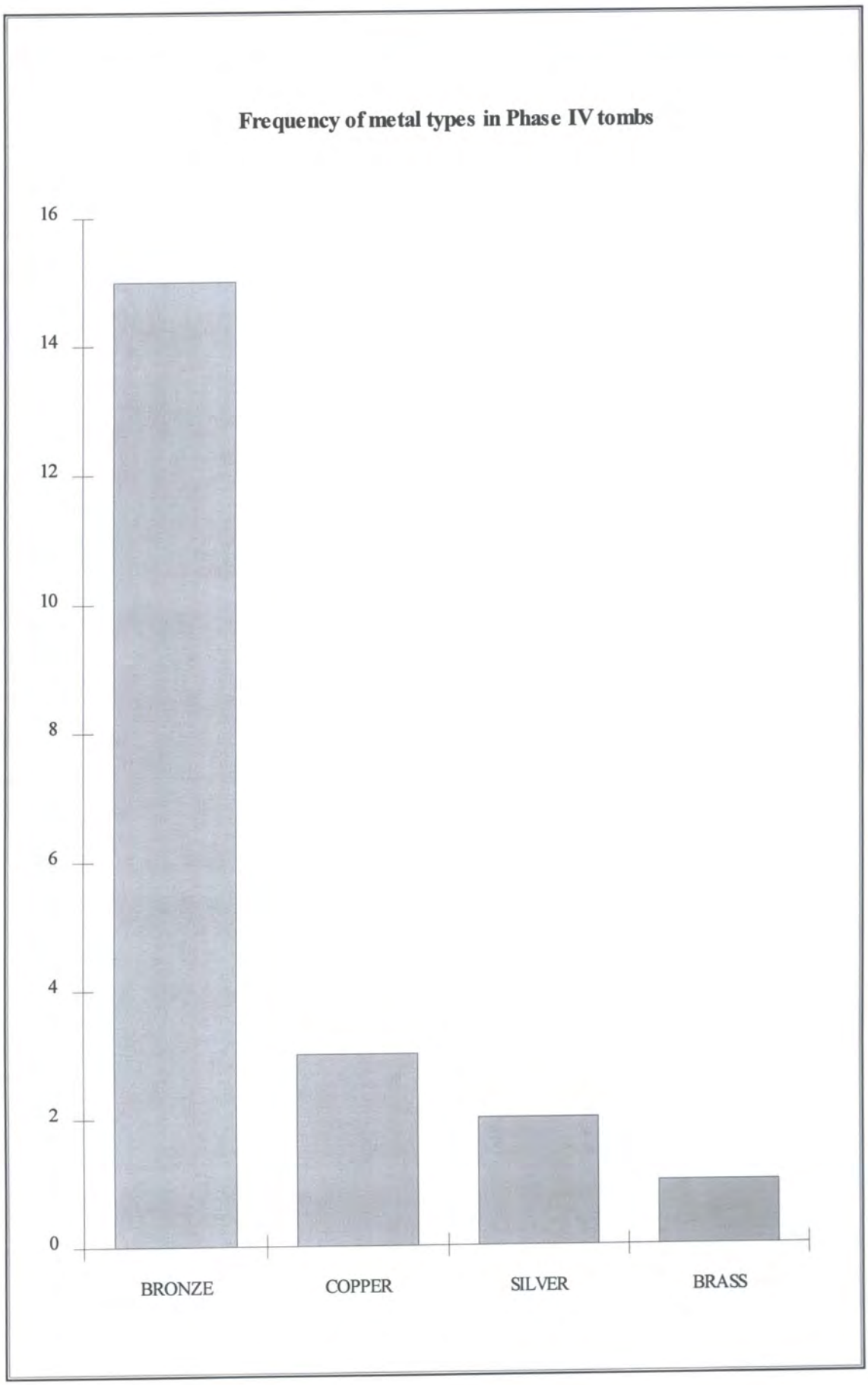
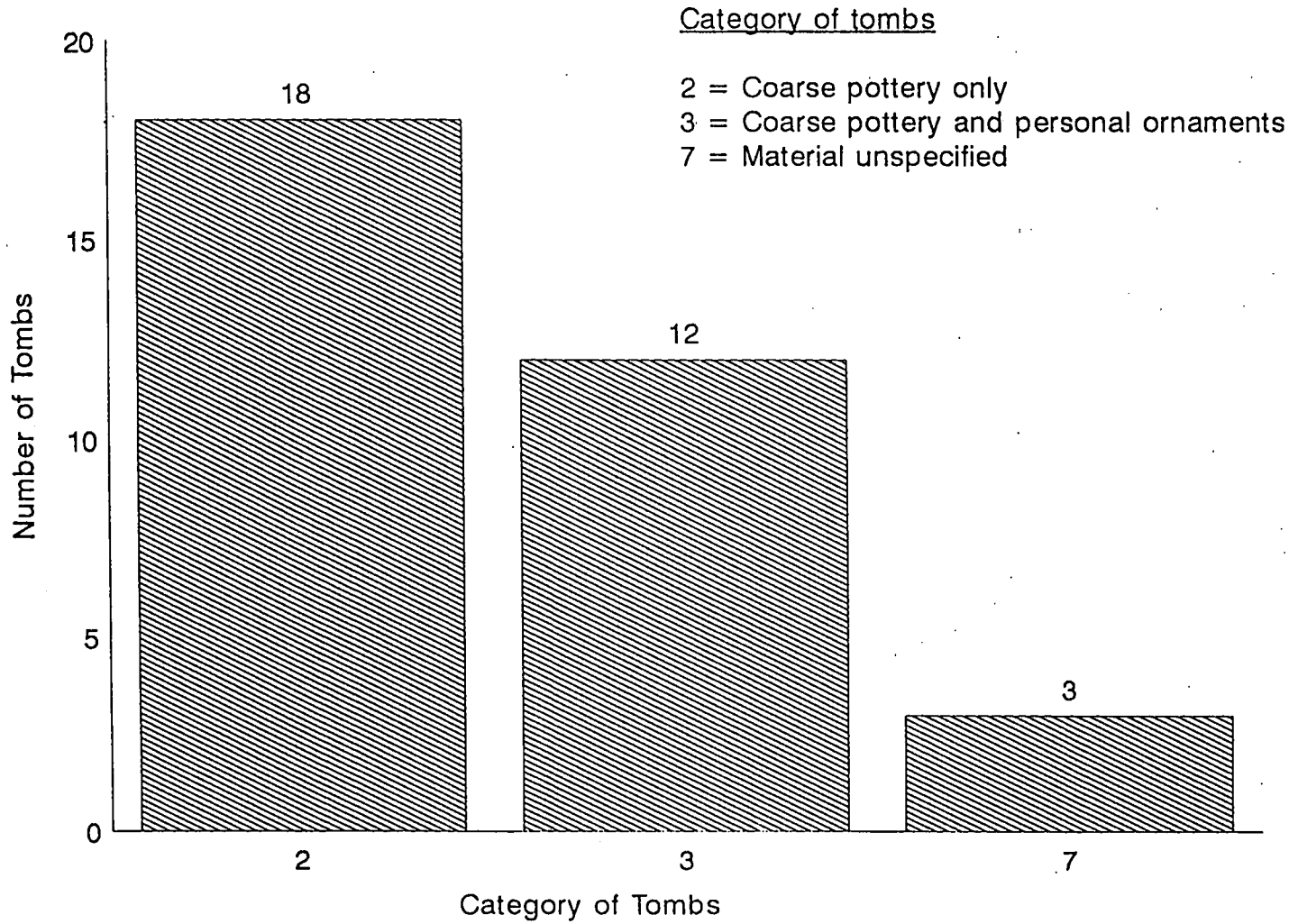

Frequency of metal types in Phase IV tombs
16
14
12
10
8
6
4
2
0
BRONZE
COPPER
SILVER
BRASS

Figure 56

Histogram of Tombs by Category

Phase IV (300-200 BC)

Figure 57



were furnished with coarse pottery and personal ornaments. The remaining 3 tombs were empty or else nothing was specified about their material content in the excavation reports. This figure shows an increment in the number of tombs containing only coarse pottery, and in the number of tombs furnished with coarse pottery and personal ornaments. Between Phases III and IV the tombs furnished with only coarse pottery increased by 70%. During Phase IV only about 1/3 of the tombs contained wealthy burials (hence only about 1/3 of the total local population could afford to bury wealthy objects with their dead). This seems to have been a normal social pattern even in other Mediterranean countries because in ancient Greece, for instance, archaeological evidence has revealed that the 'hoplite class' of wealthy landowners and aristocrats normally consisted of about 1/3 of the total population (Bintliff, 1993: personal communication).

Phase V (200 B.C. - A.D. 100)

In Phase V there was a marked decline in the number of wealthy and non-wealthy tombs (there were about 9 wealthy tombs per century). The burials identified in 26 tombs were furnished with metal, glass and bone adornments; the burials of the remaining tombs were provided with only coarse pottery. *Figure 58* (p. 160) illustrates the distribution of metal, glass and bone objects found in Phase V tombs; by now there was also the introduction of mirrors, glass beads and coins. The purpose of iron and brass nails, which occur in six different cases, is still unclear. From these 26 tombs the following material was identified: 5 bronze rings, 5 copper rings, 4 bronze mirrors, a brass ring, 2 gold ear-rings, 4 glass beads, an iron needle, 5 bronze needles, a bronze

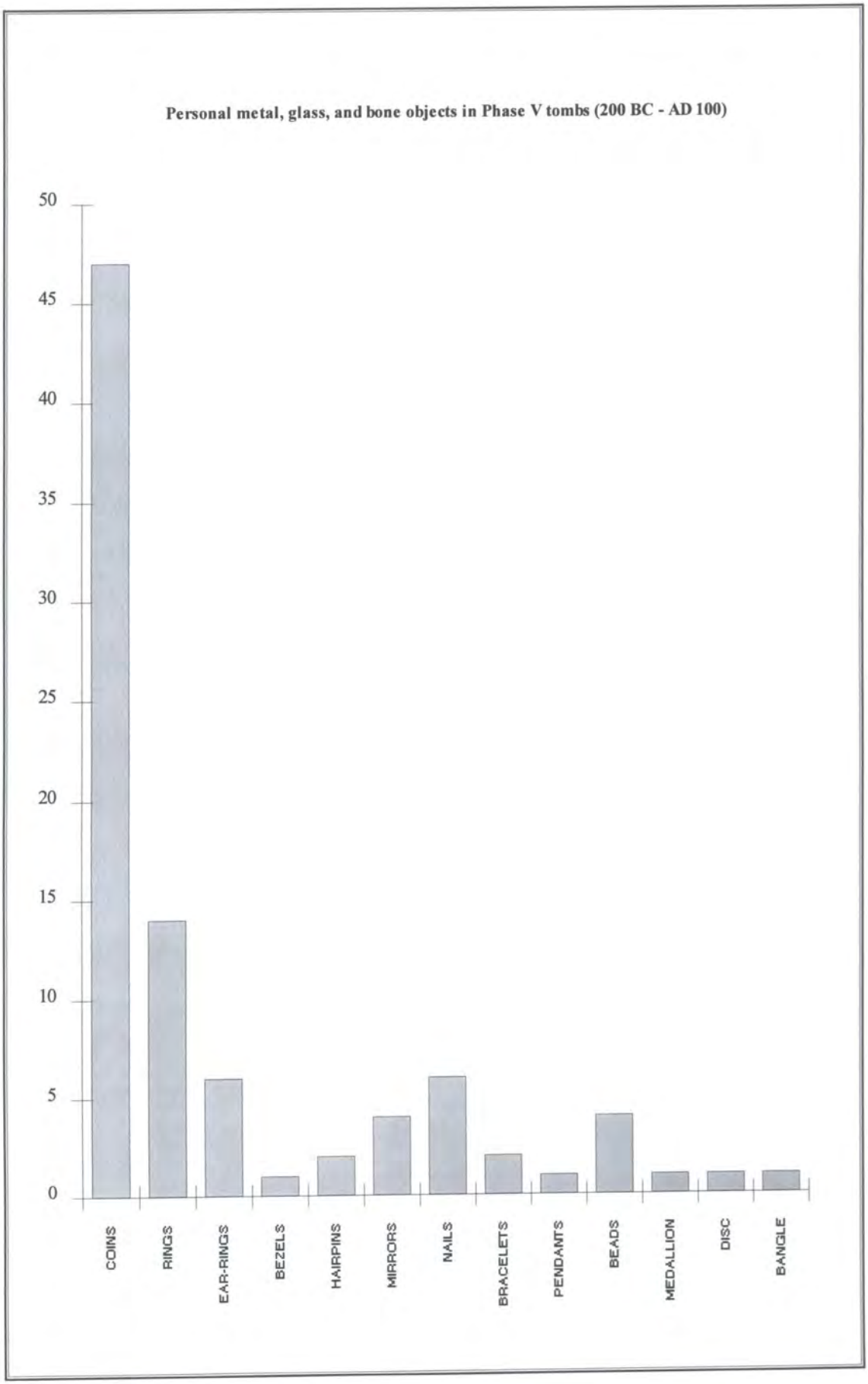

Personal metal, glass, and bone objects in Phase V tombs (200 BC - AD 100)
50
45
40
35
30
25
20
15
10
5
0
COINS
RINGS
EAR-RINGS
BEZELS
HAIRPINS
MIRRORS
NAILS
BRACELETS
PENDANTS
BEADS
MEDALLION
DISC
BANGLE

Figure 58

hairpin, 3 iron nails, a brass nail, 2 tin rings, a silver ring, a copper medallion, a bone disc, a copper bangle, 4 copper ear-rings, 5 bronze coins, 5 copper coins, 2 brass needles, 5 copper needles, a copper nail, a bronze nail, a copper bezel, a bronze hairpin, 2 bronze bracelets and a bronze pendant. The metal type of the remaining 37 coins was not specified in the excavation reports. *Figure 59* (p. 162) conveys the distribution of personal ornaments and objects during Phase V calibrated per century. This figure conveys that there were 16 coins, 5 rings, 4 needles, 2 nails and ear-rings, a single mirror, one bead, while bracelets, hairpins, discs, bezels, pendants, medallions and bangles are presented with less than one object. This figure also shows that coins were the most common.

Figure 60 (p. 163) conveys the dominance of bronze (25 objects) and copper (24 objects) during Phase V. There were one silver and two gold items; brass, tin and iron were also uncommon during this phase. *Figure 61* (p. 164) shows the distribution of material types per century, indicating that while bronze and copper are the most common metals, silver, gold, tin and iron occur in smaller quantities. It also reveals that the material type of another twelve objects was not specified in the excavation reports. Probably, bronze was by now the cheapest metal, while gold and silver were more expensive or the least available metals.

Nine tombs were found in the Rabat area, three at Attard, and another three at Paola. Two tombs were identified at Tarxien, another two at Hamrun, while only one tomb was discovered at Zejtun, Qrendi, Mqabba and Zurrieq. Two tombs were discovered in Victoria, Gozo, while in the neighbouring Ghasri there was only one. *Figure 62* (p. 165) illustrates

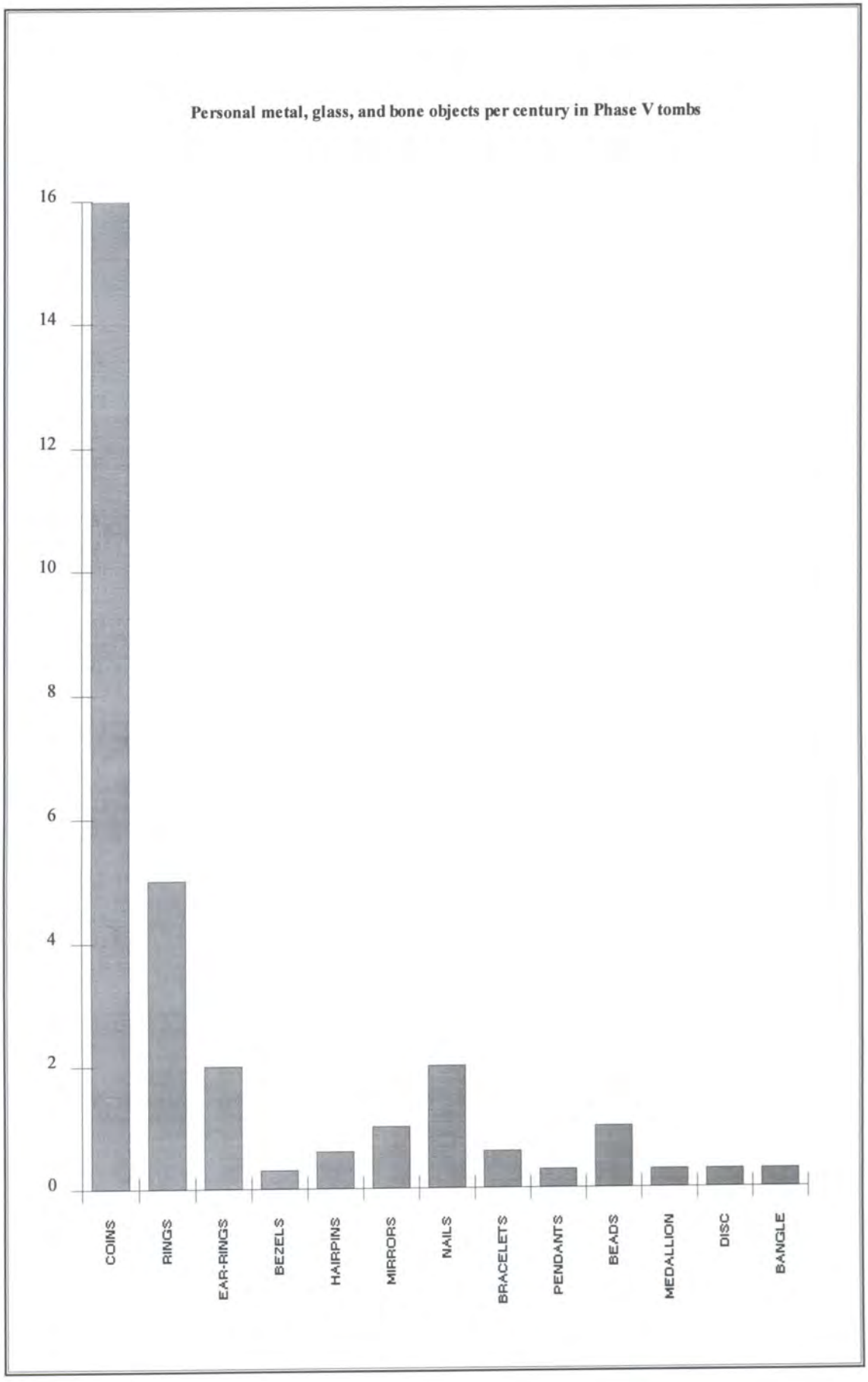

Personal metal, glass, and bone objects per century in Phase V tombs
16
14
12
10
8
6
4
2
0
COINS
RINGS
EAR-RINGS
BEZELS
HAIRPINS
MIRRORS
NAILS
BRACELETS
PENDANTS
BEADS
MEDALLION
DISC
BANGLE

Figure 59

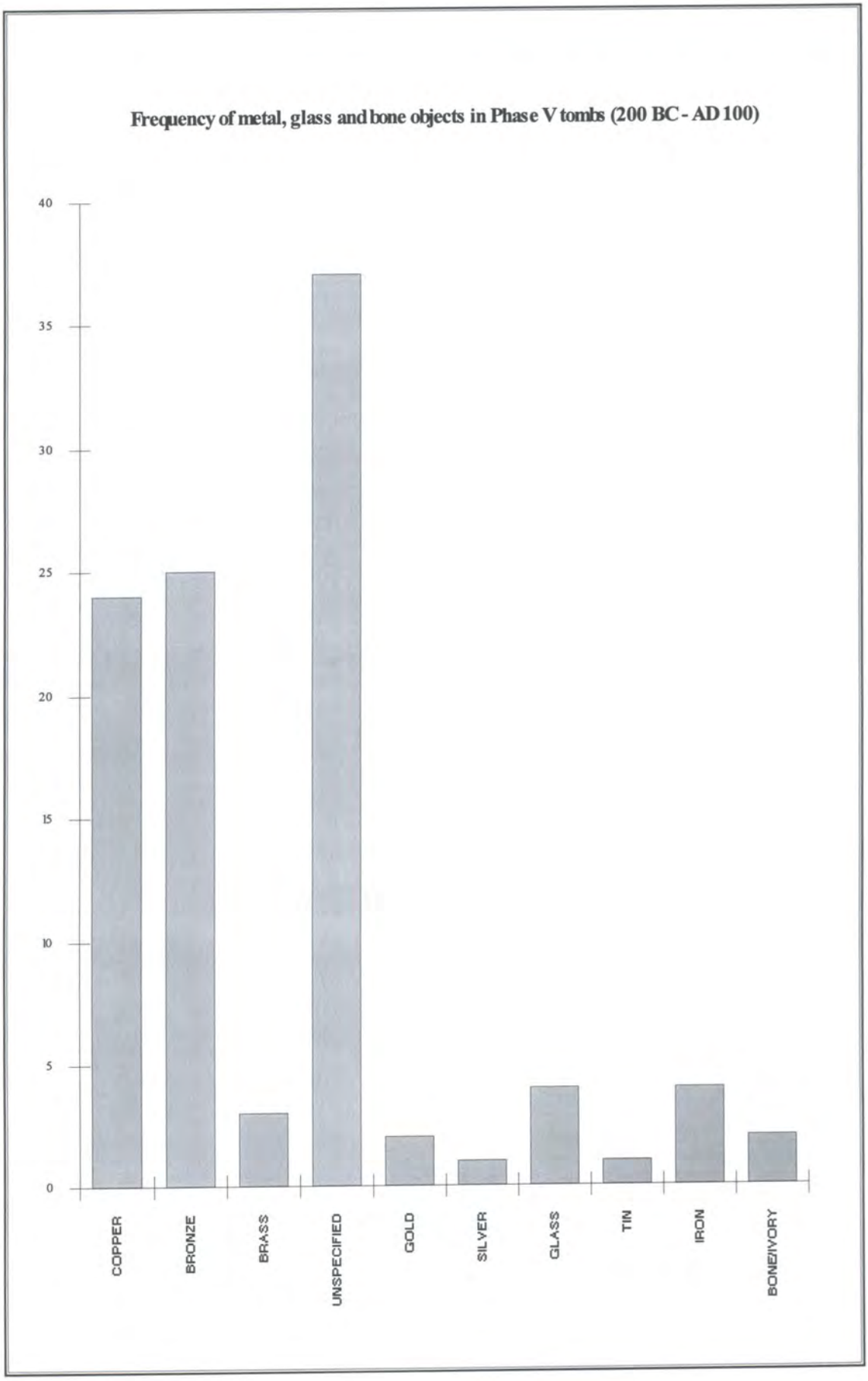

Frequency of metal, glass and bone objects in Phase V tombs (200 BC - AD 100)
40
35
30
25
20
15
10
5
0
COPPER
BRONZE
BRASS
UNSPECIFIED
GOLD
SILVER
GLASS
TIN
IRON
BONE/IVORY

Figure 60

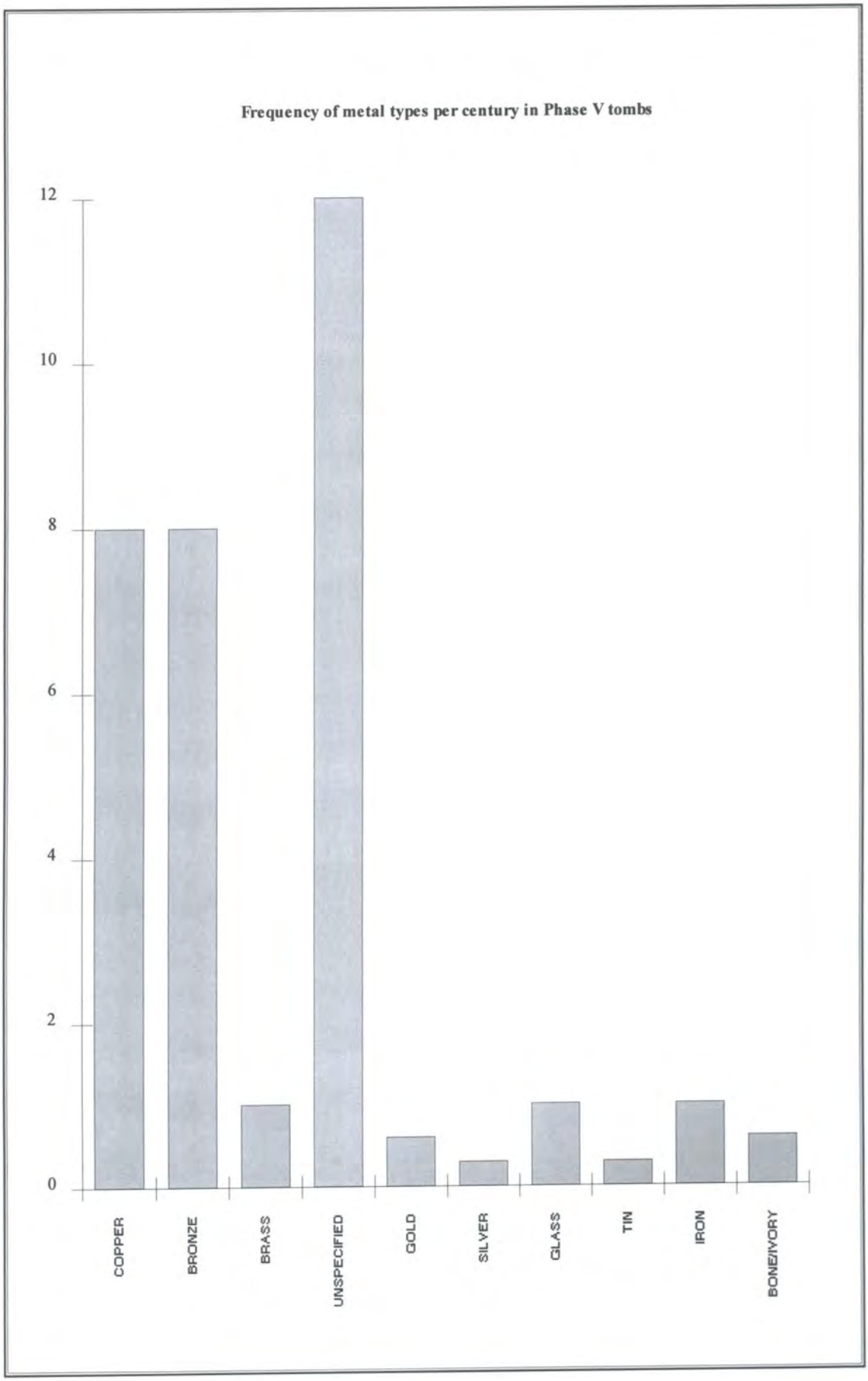

Frequency of metal types per century in Phase V tombs
12
10
8
6
4
2
0
COPPER
BRONZE
BRASS
UNSPECIFIED
GOLD
SILVER
GLASS
TIN
IRON
BONE/IVORY

Figure 61

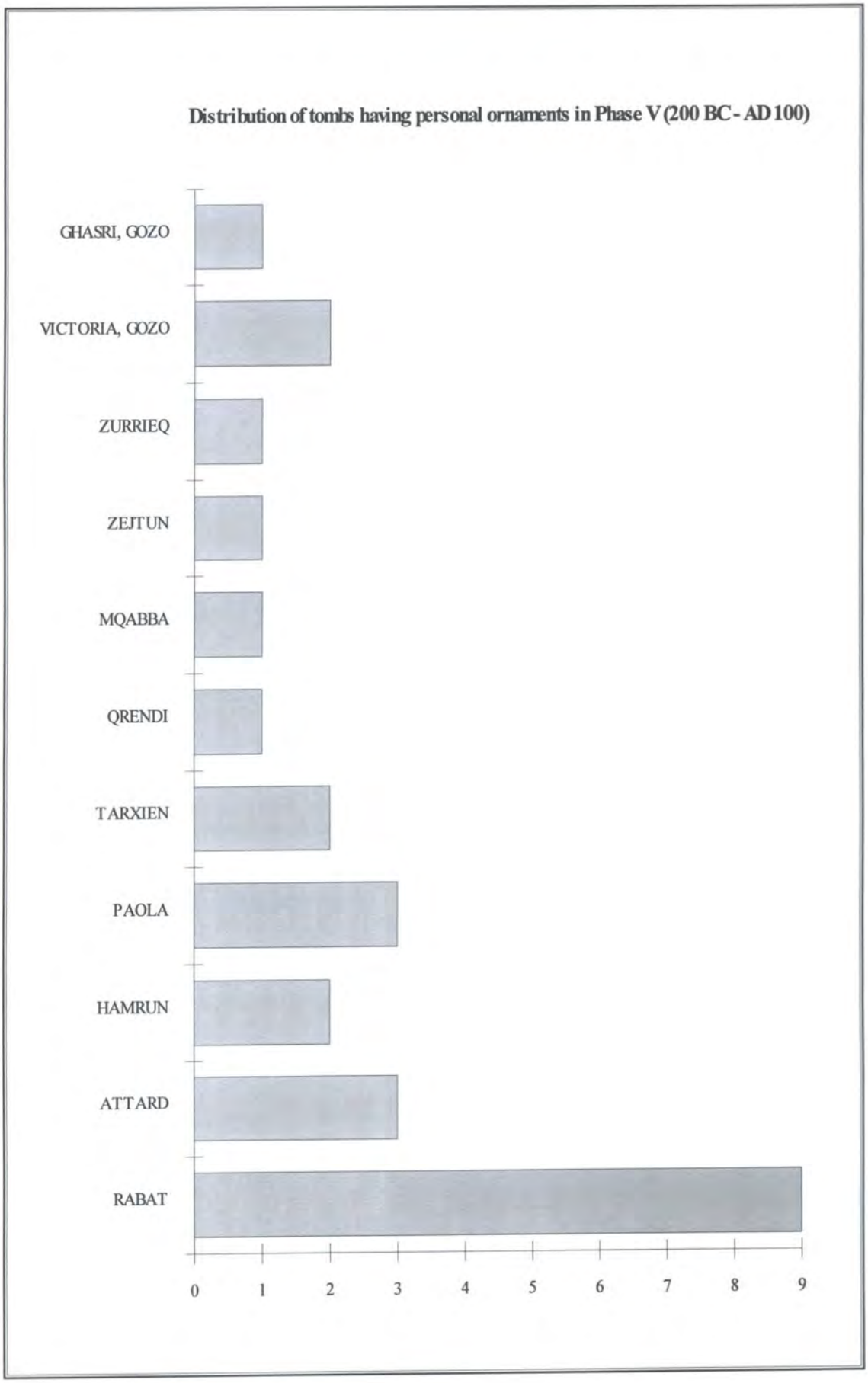

Distribution of tombs having personal ornaments in Phase V (200 BC - AD 100)
GHASRI, GOZO
VICTORIA, GOZO
ZURRIEQ
ZEJTUN
MQABBA
QRENDI
TARXIEN
PAOLA
HAMRUN
ATTARD
RABAT
0
1
2
3
4
5
6
7
8
9

Figure 62

the distribution of these 28 tombs. It indicates that most of the tombs were located in the Rabat area and the same may apply for Gozo, because most of the wealthy tombs there were found near the Victoria settlement. The number of wealthy tombs decreased in the other localities of the two islands; the more an area of habitation was away from the major nucleated settlements of each island (Rabat and Victoria), the lesser amount of wealthy tombs one may find. *Figure 63* (p. 167) illustrates the same distribution of tombs during Phase V calibrated per century. It indicates that while the Rabat area presents the largest number of tombs, Zurrieq, Qrendi, Zejtun, Mqabba and Ghasri present less than 1 tomb per century.

Figure 64 (p. 168) illustrates the distribution of tombs by category, indicating that 46 tombs were provided with coarse pottery, another 25 with coarse pottery and personal ornaments, and another tomb was furnished with only personal ornaments. The remaining 7 tombs were either found rifled or nothing was specified about their material content in the excavation reports. However, the data of this figure need to be calibrated per century. *Figure 65* (p. 169) shows the distribution of tombs by category during Phase V calibrated per century, revealing once more that a number of tombs (15 tombs) contained only coarse pottery. It also suggests that in Phase V there were less tombs than in the previous phase. In Phase IV 18 tombs contained only coarse pottery and in the final phase there were 15 tombs per century. While Phase IV presents 12 tombs for the third category, Phase V presents 8 tombs per century. Although there is a decreasing number of tombs between Phases IV and V, yet the numerical figures which appear in these two histograms are very similar to one another. During this phase only about 1/3 of the tombs

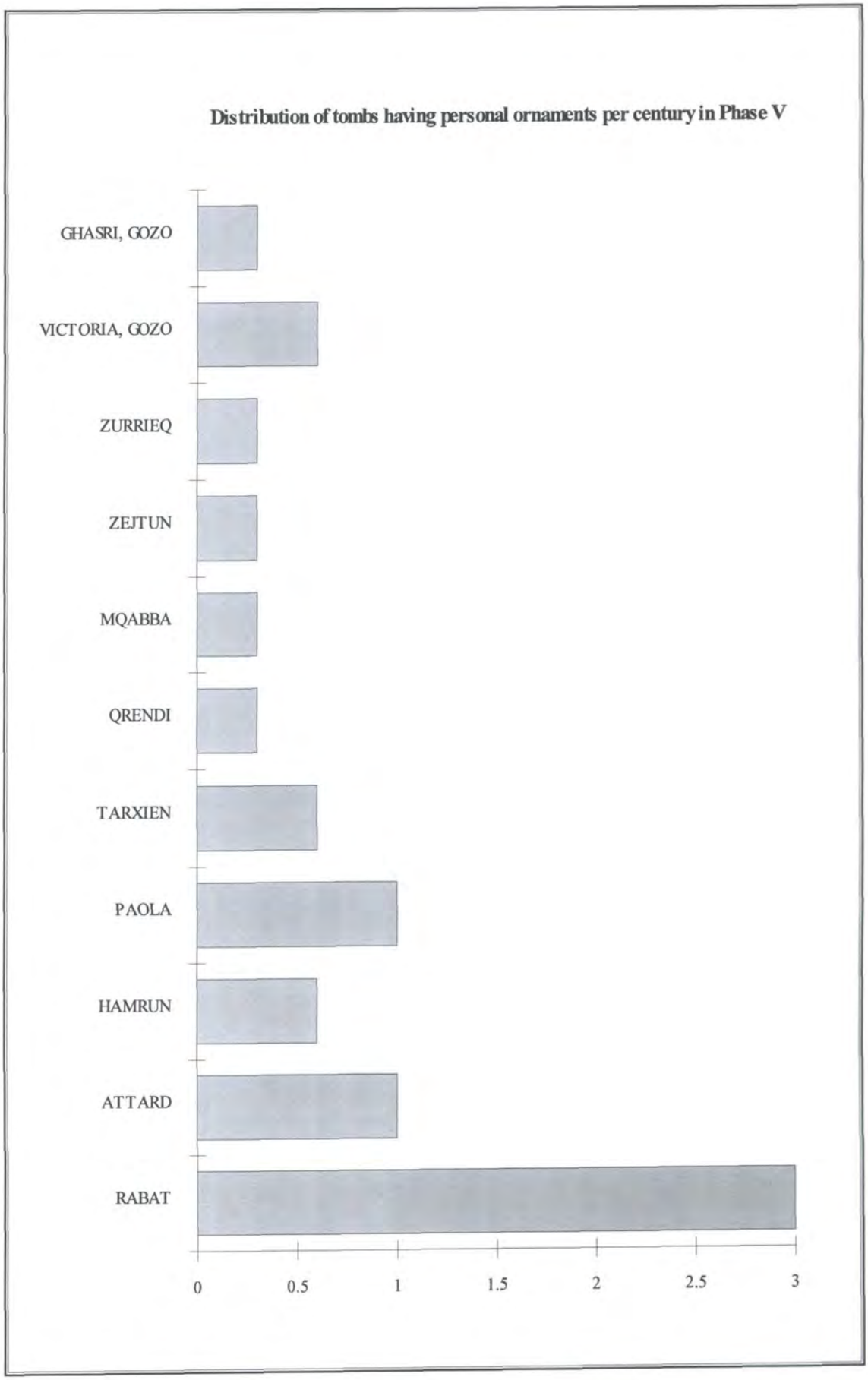
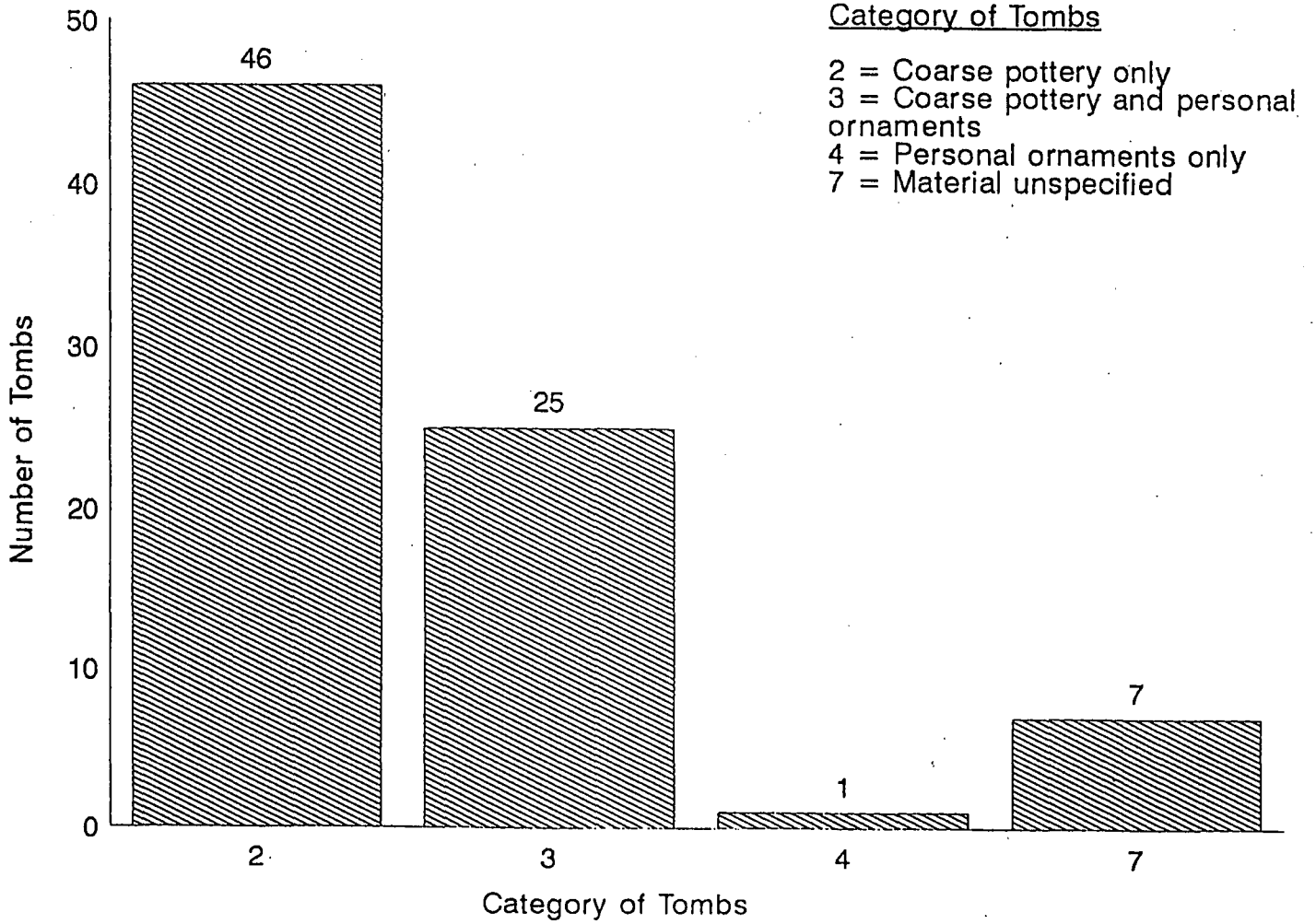

Distribution of tombs having personal ornaments per century in Phase V
GHASRI, GOZO
VICTORIA, GOZO
ZURRIEQ
ZEJTUN
MQABBA
QRENDI
TARXIEN
PAOLA
HAMRUN
ATTARD
RABAT
0
0.5
1
1.5
2
2.5
3

Figure 63

Histogram of Tombs by Category

Phase V (200 BC - AD 100)

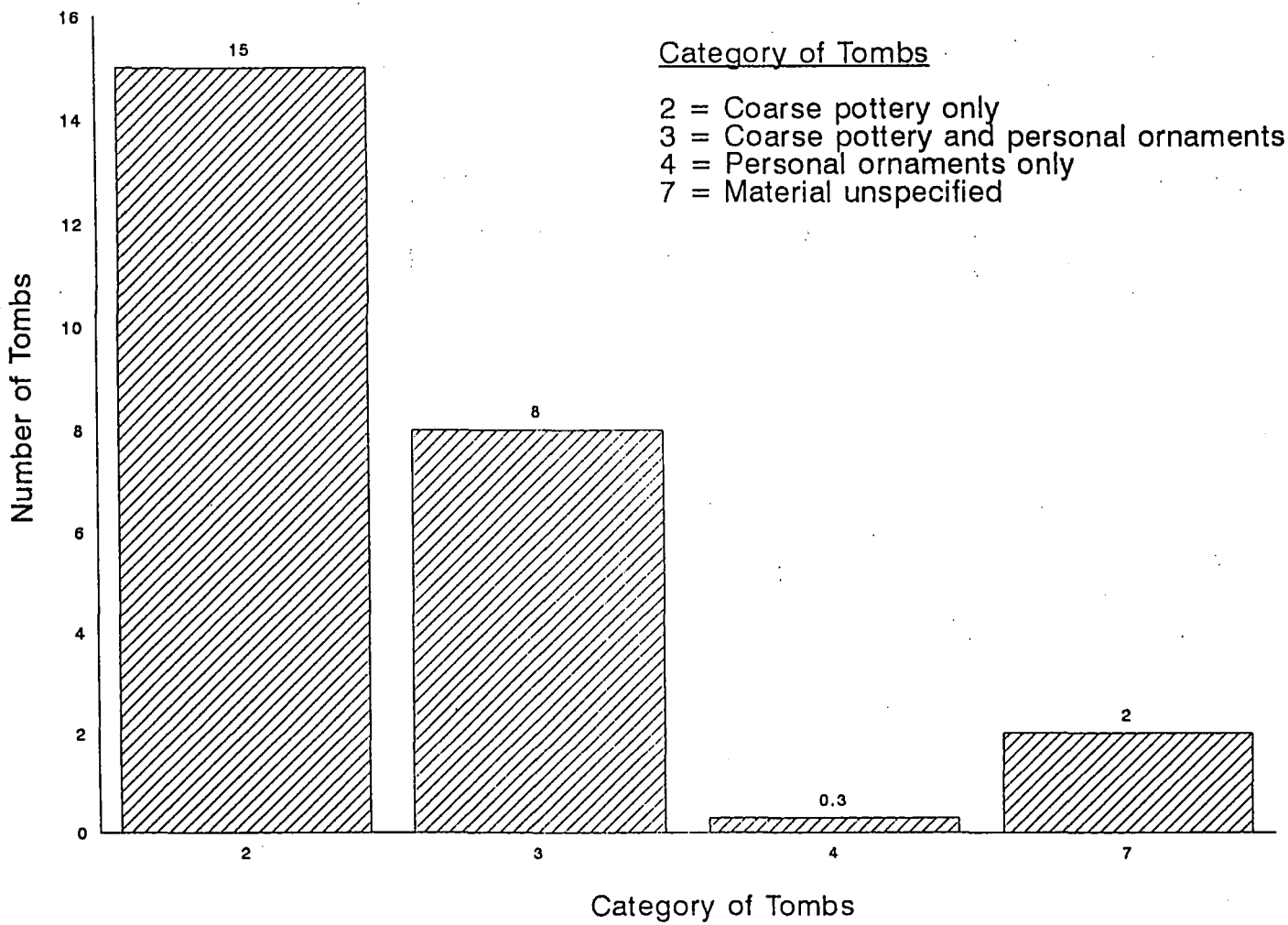
Figure 64



Histogram of Tombs by Category per Century

Phase V (200 BC - AD 100)

Figure 65



contained wealthy burials (see *Figure 39*). It seems that between Phases IV and V only about 1/3 of the total local population could afford to bury wealthy objects with their dead. This pattern is again similar to that of ancient Greece, since wealthy landowners and aristocrats formed about 1/3 of the total population of Greece (Bintliff, 1993: personal communication). This suggests that in Malta, at least from Phase IV onwards, there was probably the same type of social pattern, whereby approximately 1/3 of the total population of Malta consisted of wealthy and influential landowners.

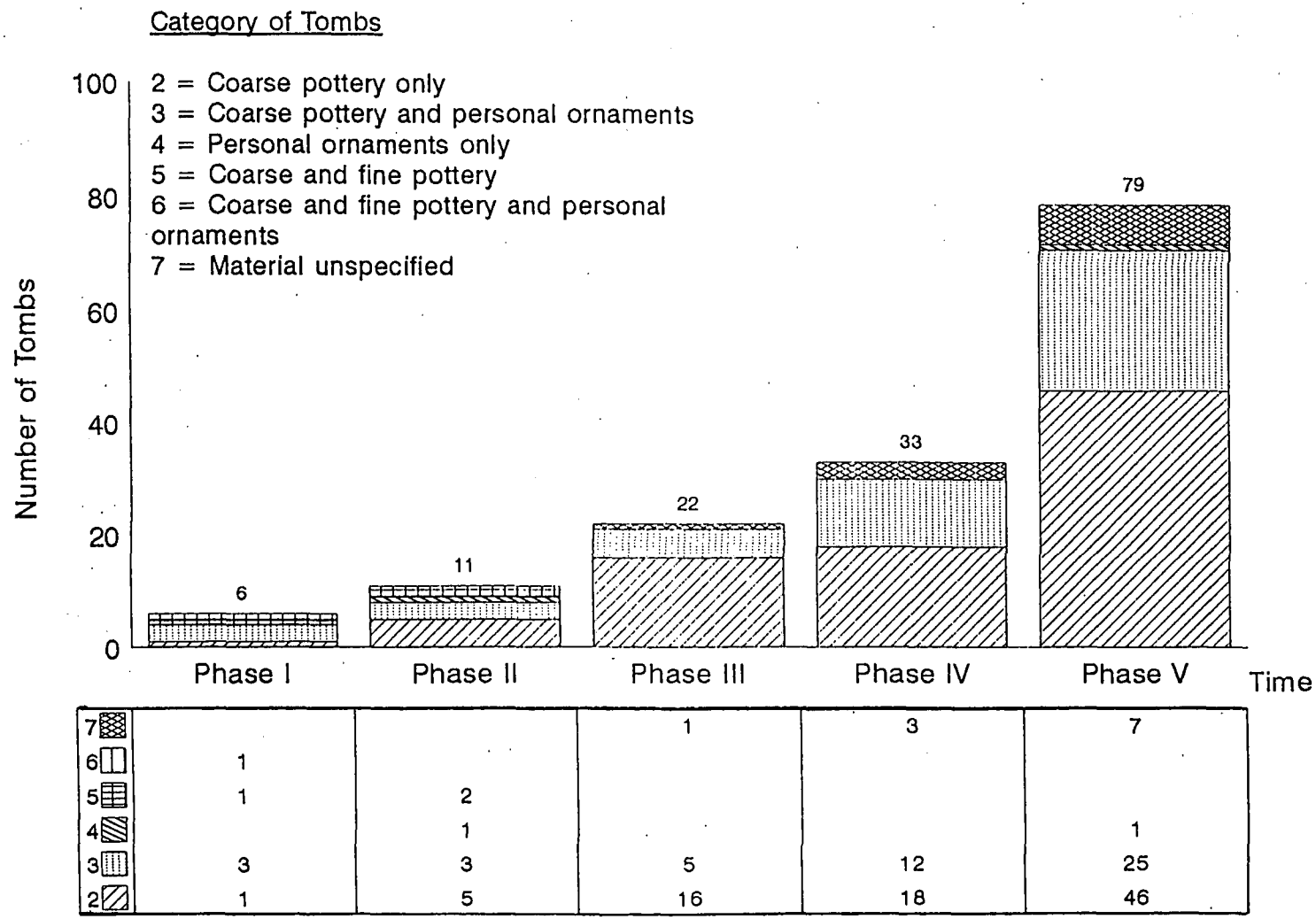
The pattern which emerges from these figures indicates:

i) the number of tombs increased from one phase to another, but as *Figure 39* suggests the tombs whose burials were furnished with personal ornaments were dominant in the small number of dated tombs of Phases I and II, but afterwards appear in a minority between Phases III and V; in Phase I only 1 tomb was provided with only coarse pottery, while another 5 were furnished with fine ceramic vessels, or with personal ornaments, or with both. Phase II presents 4 wealthy tombs per century, Phase III 3 wealthy tombs per century, Phase IV 12, and Phase V 9 wealthy tombs per century. *Figure 66* (p. 171) conveys the distribution of the dated tombs by category between Phases I and V. This histogram reveals that during this period 87 tombs were provided with only coarse pottery, while another 48 were furnished with coarse pottery and personal ornaments. Two tombs contained only personal ornaments, and another three were provided with coarse and fine pottery. One tomb was furnished with coarse and fine pottery, together with

Histogram of Tombs by Category

Phases I and V (700 BC - AD 100)

Figure 66

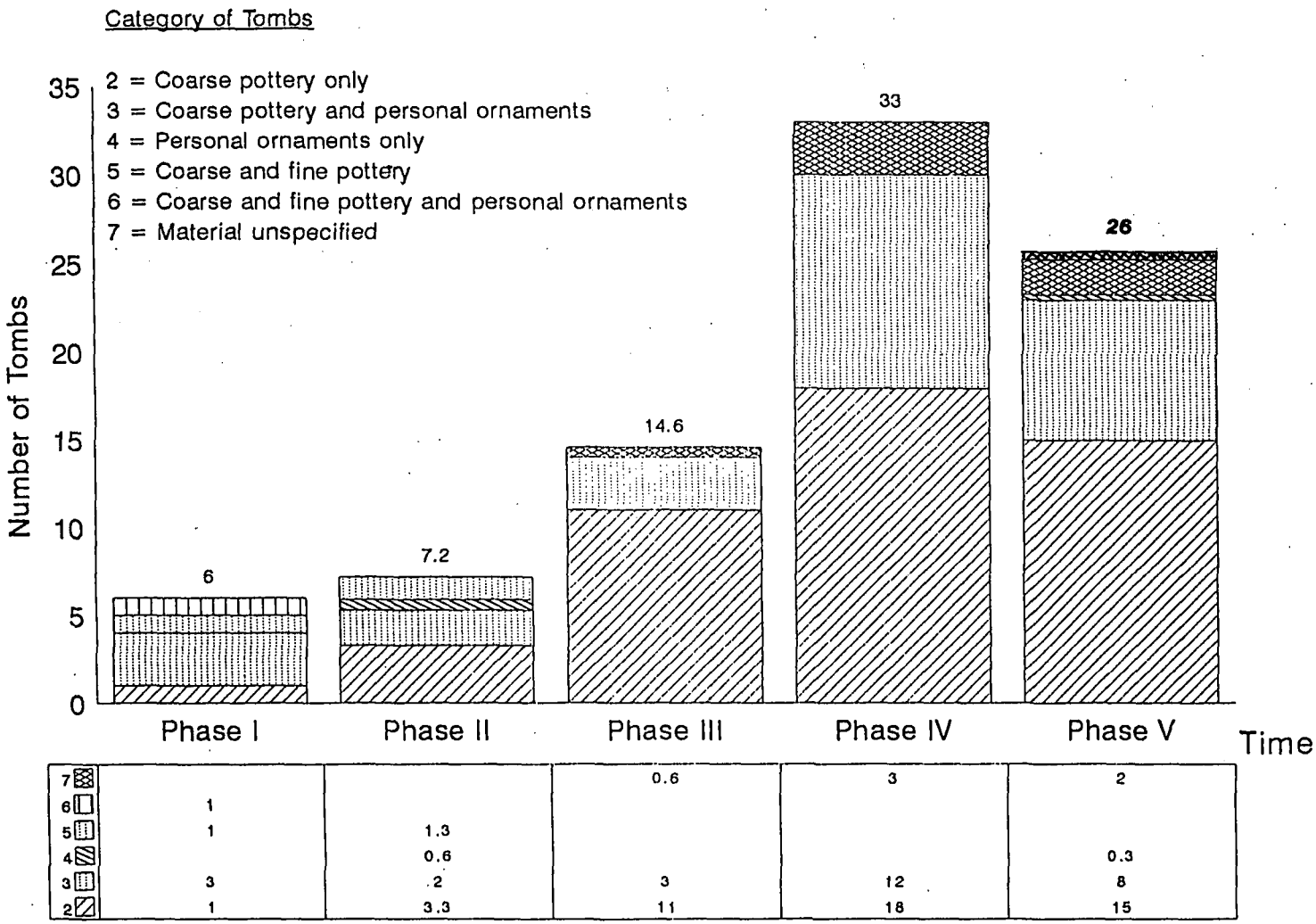


	Phase I	Phase II	Phase III	Phase IV	Phase V
7			1	3	7
6	1				
5	1	2			
4		1			1
3	3	3	5	12	25
2	1	5	16	18	46

Histogram of Tombs by Category per Century

Phases I and V

Figure 67



various personal ornaments. However, the data of this histogram need to be calibrated per century. *Figure 67* (p. 172) reveals that 48 dated tombs were furnished with only coarse pottery, and another 28 contained coarse pottery and personal ornaments. It also shows that the number of tombs increased between Phases I and IV, but there was a relative decline during Phase V. The enormous rise in the number of tombs (including wealthy tombs) between Phases III and IV is of considerable relevance. Phase IV is not only a period of cultural and trading contacts with North Africa and Sicily, but also the period during which these islands became a Roman dependency. This suggests an increase in population, which was probably effected by the arrival of new settlers in Malta. In Phase III there were 3 wealthy tombs per century, while Phase IV presents 12 wealthy tombs; this indicates that some of the new settlers who came to Malta by the end of Phase IV were presumably wealthy and could afford to bury various personal ornaments with their dead. *Figure 39* also suggests that the wealthy tombs are substantially prominent in Phases I and II, but they appear in relative minority between Phases III and V. Archaeological evidence reveals that most of the early tombs (datable to between 700 - 500 B.C.) of the major Phoenician colonies, like Carthage, Spain, Sicily and Sardinia, were also substantially rich (Moscati, 1972: 270-273; Bartoloni, 1983: 69; Ciasca, 1988: 142-151; Fantar, 1988: 172-180; Tusa, 1988: 190). However, from the beginning of the fifth century B.C. onwards the wealthy tombs in these colonies start to appear in relative minority; it seems that from c. 480 B.C. onwards the people in the Punic world started to deposit in their tombs more coarse pottery

rather than rich personal ornaments and fine pottery. The reason why in Malta the wealthy tombs are so prominent in Phases I and II is probably because it was customary for most of the people, as it was in several other parts of the Phoenician world, to deposit wealthy burial objects in their tombs.

From the dated wealthy tombs one can guesstimate the likely number of all wealthy tombs (including the undated) during each phase. To work out these figures, one needs to know first the distribution of the undated tombs per phase. Since it is difficult to locate the undated tombs in their proper period, one has to work out their frequency during each phase by dividing the number of dated tombs per phase by the total number of dated tombs (151), and then multiply the resultant figure by the total number of undated tombs (499). There were 6 dated tombs in Phase I, 11 in Phase II, 22 in Phase III, 33 in Phase IV, and 79 tombs in Phase V. So,

Phase I: 6 ÷ 151 = 0.04

0.04 x 499 = 20 undated tombs

Phase II: 11 ÷ 151 = 0.07

0.07 x 499 = 35 undated tombs

Phase III: 22 ÷ 151 = 0.15

0.15 x 499 = 75 undated tombs

Phase IV: 33 ÷ 151 = 0.22

0.22 x 499 = 110 undated tombs

Phase V: 79 ÷ 151 = 0.52

0.52 x 499 = 259 undated tombs

To calculate the frequency distribution of wealthy tombs (dated and undated) for each phase we need first to take the total number of wealthy undated tombs and assign them to each phase on the basis of the ratio of wealthy dated tombs per phase (5:6:5:12:26) to total wealthy dated graves (54), and then divide the total wealthy undated tombs by this ratio to get the estimated wealthy undated per phase. Then we add the wealthy dated tombs per phase and the wealthy undated tombs assigned to each phase to get the likely number of wealthy tombs (dated and undated) during each phase. Hence we end up with two different sets of statistics: a) wealthy tombs compared to only dated graves, and b) wealthy tombs of dated plus assigned wealthy per phase from the undated. From the total number of tombs there were 77 wealthy tombs: 54 were dated and 23 were undated. *Figure 38* (p. 133) indicates that there were 5 wealthy dated tombs out of 6 dated tombs in Phase I, 6 wealthy dated tombs out of 11 dated tombs in Phase II, 5 wealthy dated tombs out of 22 dated tombs in Phase III, 12 wealthy dated tombs out of 33 dated tombs in Phase IV and 26 wealthy dated tombs out of 79 dated tombs in Phase V. The 23 undated wealthy tombs are distributed per phase as follows:

Phase I: 5 ÷ 54 = 0.09

0.09 x 23 = 2 undated wealthy tombs

Phase II: 6 ÷ 54 = 0.11

0.11 x 23 = 3 undated wealthy tombs

Phase III: 5 ÷ 54 = 0.09

0.09 x 23 = 2 undated wealthy tombs

Phase IV: 12 ÷ 54 = 0.22

0.22 x 23 = 5 undated wealthy tombs

Phase V: 26 ÷ 54 = 0.48

0.48 x 23 = 11 undated wealthy tombs

If we then add the number of wealthy dated tombs and the wealthy undated tombs assigned to each phase, we will obtain the total number of wealthy tombs per phase as follows:

Phase I: 5 dated wealthy + 2 undated wealthy = 7 wealthy tombs

Phase II: 6 dated wealthy + 3 undated wealthy = 9 wealthy tombs

Phase III: 5 dated wealthy + 2 undated wealthy = 7 wealthy tombs

Phase IV: 12 dated wealthy + 5 undated wealthy = 17 wealthy tombs

Phase V: 26 dated wealthy + 11 undated wealthy = 37 wealthy tombs

Since the five phases are not chronologically equal, the above estimates need to be averaged per century:

Phase I: 7 wealthy tombs per phase

= 7 wealthy tombs per century

Phase II: 9 wealthy tombs per phase

= 6 wealthy tombs per century

Phase III: 7 wealthy tombs per phase

= 5 wealthy tombs per century

Phase IV: 17 wealthy tombs per phase

= 17 wealthy tombs per century

Phase V: 37 wealthy tombs per phase

= 12 wealthy tombs per century

These estimates indicate that between Phases I and III the wealthy tombs per century were fairly constant, but they increase sharply in Phase IV (more than three times as much) and decrease again in Phase V.

To calculate the percentage of wealth during the five phases we need to divide the wealthy tombs (dated and undated together) per phase by the number of dated tombs plus the undated assigned to each phase, and the resultant figure is then multiplied by 100:

Phase I: dated and undated tombs = 6 + 20 = 26 tombs

7 ÷ 26 = 0.27 x 100

= 27% wealth

Phase II: dated and undated tombs = 11 + 35 = 46 tombs

9 ÷ 46 = 0.20 x 100

= 20% wealth

Phase III: dated and undated tombs = 22 + 75 = 97 tombs

7 ÷ 97 = 0.07 x 100

= 7% wealth

Phase IV: dated and undated tombs = 33 + 110 = 143 tombs

17 ÷ 143 = 0.12 x 100

= 12% wealth

Phase V: dated and undated tombs = 79 + 259 = 338 tombs

37 ÷ 338 = 0.11 x 100

= 11% wealth

These figures reveal that during the first two phases the percentage of wealth in the Maltese Islands was relatively higher than that of the later phases (Phase III - V); Phase I presents 27% of wealthy tombs and Phase II 20% of wealthy tombs, while Phase III presents a relatively sharp decline in the percentage of wealthy tombs (7%). During Phase IV the number of wealthy tombs increased to 12% and remained relatively similar in Phase V (11%). The sharp decline in the percentage of wealthy tombs between Phases II and III (20% and 7% respectively) indicates a social change because while between Phases II and III the number of wealthy tombs per century remained relatively constant (6 and 5 respectively), the number of non-wealthy tombs per century increased (see *Figure 39*). One can also notice this decline in the quality of the burial pottery; imported fine ceramic vessels decreased from Phase III onwards and instead there was an increasing demand for locally manufactured coarse ware. This decline in burial material did not only affect the quality of the ceramic repertoire, but probably also the value of personal burial ornaments (see *iii* below). The number of wealthy families during each phase does not seem to have remained static because as the

population grew the percentage of wealth increased or decreased through time. The relative decline in the percentage of wealth from Phase III onwards does not seem to reflect an economic decline because this phase suggests an expansion of settlements which continues during Phases IV and V. Nor does this same decline from Phase III onwards express a symbolic change (the way status is conveyed) because between Phases III and V people still continued to bury wealthy objects in their tombs. As *Figure 39* indicates, the population expanded in the middle and lower classes, but the status group did not expand in the same way.

The above percentage figures suggest that during this period the population was possibly divided into two main social classes. The first one consisted principally of landowners and other wealthy people, who were probably also the leading people (*protoi*) of these islands, while the second class consisted mainly of peasant farmer-class people. In the Phoenician city-states and in the colonies there were also two main social classes: the upper class, which consisted of wealthy merchants and landowners, and the lower class, which consisted of common people who were free citizens, like farmers. The wealthy people were usually involved in the administration of the colonies or the city-states, while the common people, who were free citizens, enjoyed full political rights of the city-state or the colony (Harden, 1971: 72). Below these two classes, there was another one consisting of foreigners and slaves. In Phoenician society these were not regarded as free citizens, and therefore did not enjoy the political rights of the city-state or the colony in which they lived (Moscati, 1982:

248-252). Since the Maltese archipelago was one of the Phoenician dependencies, it is quite likely that there prevailed the same type of social organization. Phase III indicates (*Figure 39*) a change in the social organization of the islands; between Phases III and V the non-wealthy tombs increased, while the wealthy ones always appear in relative minority. The Punic tombs throw light on the social situation of the Maltese Islands (possible rise of farmer-class people from Phase III onwards), in correlation with the local demographic situation (for example, rise in population), but do not necessarily reflect a political change afterwards because the non-wealthy population increased while the rate of wealthy tombs remained relatively constant from one phase to another, especially between Phases IV and V. From Phase III onwards there was possibly the expansion of a farmer-class society which became far more populous than the wealthier one. *Figure 67* indicates that between Phases III and V between 50 and 70% of the buried population was furnished with only coarse pottery (these tombs possibly correspond to the farmer-class people), while between 22 and 35% of the buried population was furnished with coarse pottery and personal ornaments, which indicates higher status. The rise in the number of tombs between Phases IV and V may be attributed to the period when the islands became a Roman dependency in 218 B.C. During Phase V these islands were probably much more involved in trade and maritime activities, as the underwater explorations mentioned above in Chapter 2 have revealed;

ii) the majority of the wealthy tombs in Malta and Gozo were located in the Rabat and Victoria areas, hence near the fortified nucleated settlements of the Maltese Islands (*Figure 68*, p. 184);

iii) silver, the only metal appearing in all phases, seems to have been quite common in the first two phases, but its presence started to decline from Phase III onwards. There were 9 silver items in Phase I and 8 objects per century in Phase II, but there were only 2 items per century in Phase III, 2 in Phase IV, and less than a single ornament per century in Phase V. From Phase III onwards there was an increasing demand for bronze and copper adornments. Gold was common only in Phase I, while there were 2 gold items in Phase V. The latter metal did not appear at all between Phases II and IV;

iv) coins and glass beads were deposited only in Phase V burials;

v) personal ornaments and other related metal objects prevailed in all types of tombs and were probably never limited or reserved to particular types of burial;

vi) as *Figure 67* indicates, there were more fine ceramic vessels in the tombs of Phases I and II than in those of the latter three phases. Most of the fine ceramic vessels were imported either from one of the colonies or even from Greece. For instance, Greek imported pottery was relatively common during Phases I and II, but it started to decline from Phase III onwards, while contemporaneously it remained considerably common in the other

colonies. In Malta, Greek imported pottery was generally identified wherever personal ornaments prevailed, therefore in association with the richer burials. Since this fine and decorated burial pottery was imported, it could have been very expensive for the common people. During Phase III, there was probably emphasis on locally manufactured pottery under Punic influence, but from Phase IV onwards imported ceramic material from Sicily and North Africa reappeared in the tombs. This imported coarse ware was generally simple in form, hardly bearing any decorations, and was not always found in association with the richer burials. Given the nature of the present evidence, I am unable to comment upon whether the metal, glass, bone and clay burial objects and adornments dealt with above were imported or were else manufactured locally. The two reasons are: a) insufficient information in the excavation reports, and b) I have been denied access to study the relevant material stored in the reserve collections of the National Museum of Archaeology.

vii) as already noted in *Figure 37,* the majority of the dated and undated tombs together (228 tombs) present only coarse pottery. This pottery was normally manufactured locally, but sometimes it was also imported from North Africa or even from Sicily. It was usually undecorated, although sometimes certain vessels were decorated with simple motifs, generally consisting of red circular bands. The usual burial pottery consisted mainly of amphorae, lamps, oenochoi, aryballoi, plates and cups. When the body was cremated the human osseous remains were deposited in a cinerary urn. The above figures indicate that most of the interred

individuals were buried with only coarse pottery because this was not very expensive, especially when considering that it was generally manufactured locally.

The above mentioned characteristics suggest a kind of hierarchy among those buried in the tombs. Although from the burial evidence of Phoenicia, Carthage, and their respective colonies and dependencies one may acquire a broader view, because tombs may have been relatively richer, yet in the local tombs one is able to distinguish between *poor* and *rich, important* and *unimportant* people, but not the actual identity of their political status. A small number of people were buried in sarcophagi (anthropoid and non-anthropoid), a few others were furnished with rock-cut carvings and even with mural decorations in their funerary chamber (M.A.R., 1909-10: 5-6), whilst others were provided with various personal adornments. The majority of the total buried population between Phases III and V was probably interred with coarse pottery, while only a small part of the total buried population was presumably interred without any burial material.

BURIAL POTTERY

This comparative study concentrates on the burial ceramic kit of Phoenicia, Carthage and their dependencies. It also deals with the different types of personal ornaments, which the Phoenicians used to bury with their dead. In the second part of this chapter it was mentioned that in the Maltese Islands the most common burial pottery vessels consisted of amphorae, lamps, oenochoi, plates, dishes, cups, aryballoi, and in the case of cremation burials, cinerary urns. From Phase IV onwards clay unguentaria seem to have gone through a continuous

typological development until they became dominantly Romanized in the first century A.D. Since the excavation reports are often confusing, it is very difficult for us today to determine precisely the average ceramic kit which the inhabitants used to deposit with their dead. Besides, many tombs were found rifled and the pottery of one burial was often identified in association with that of other burials. Sometimes, tombs were found to contain several burials which were chronologically contemporary. However, the frequency of certain items indicates that in Malta the average ceramic kit consisted of at least an amphora, a lamp, an oenochoe, a plate and some additional vessels, like aryballoi. Since these were the most common pot-types identified in most of the tombs, it seems that these formed part of the usual ceramic material likely to be deposited with the interred bodies. In the absence of more accurate excavations, archaeologists will probably be unable to determine the exact type of average ceramic kit.

In Carthage the average burial ceramic kit of the fourth century B.C. consisted of an amphora, a lamp, a plate, two pitchers, two small jugs, and occasionally two or more terracotta figurines; sometimes, glass and alabaster vessels, masks, bronze objects, coins and various jewellery items were also utilized for burial purposes (Moscati, 1972: 571). The fourth century B.C. cremation burials of Sardinia were sometimes inferior to the contemporary ones of Malta; the ceramic kit of each burial normally consisted of not more than five items. However, in the cemetery of Sulcis the cremated bodies were interred with a ceramic kit, which consisted of not more than ten pottery objects (Bartoloni, 1983a: 53). Between 200 B.C. and A.D. 50, the cremation burials of Sardinia hardly contained any pottery objects (Bartoloni, 1983a: 53).

The quality of the ceramic repertoire and of the personal ornaments unearthed from the earliest cemeteries of Phoenicia (datable between 850 and 550 B.C.) was arguably of a higher standard than that of the later royal tombs (datable between 550 and 300 B.C.). The material derived from the archaic tombs of Byblos and Sidon, datable to the end of the second and the beginning of the first millennia B.C., was arguably wealthier than that of the later royal tombs (Ciasca, 1988: 142-146).

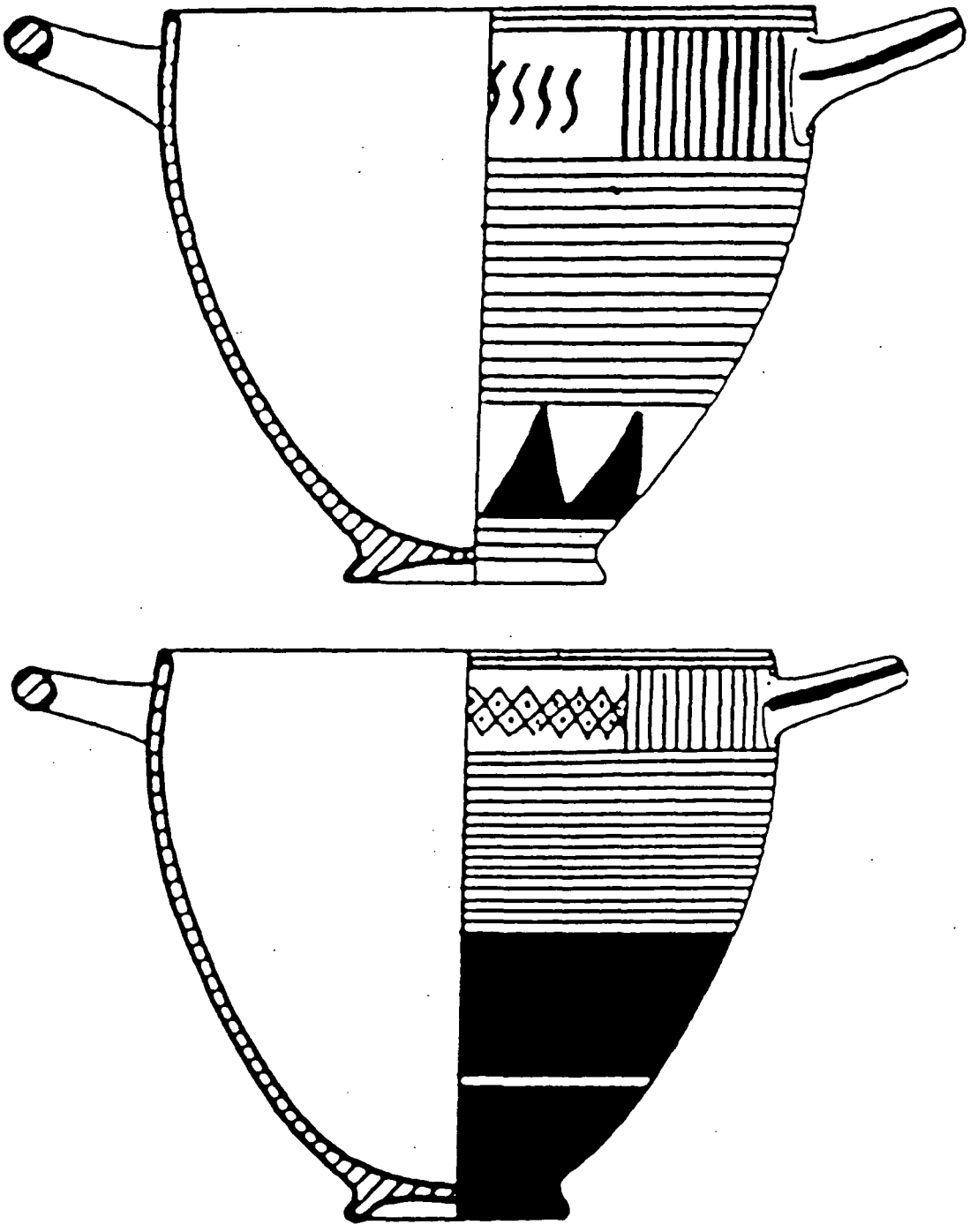
In the second part of this chapter it has been argued that in Malta the frequency of silver started to decrease from approximately 450 B.C. onwards. The same probably happened in the archaic tombs of Bitya, Monte Sirai and Paniloriga, in Sardinia (Bartoloni, 1983a: 69): while silver was commonly utilized for funerary purposes between the seventh and the sixth centuries B.C., gold was practically absent, except for occasional burials (Bartoloni, 1983a: 69). In the same country, gold objects became relatively common after 550 B.C. in the shaft inhumation graves, while contemporaneously silver probably became less frequent (Bartoloni, 1983a: 69). In Spain, many Phoenician burials, datable between 800 and 650 B.C., were also furnished with various precious metal, alabaster and ivory objects. The tombs of Almuñécar, for instance, besides the fine quality of pottery, jewellery, metal objects and painted ostrich eggs (Harrison, 1988: 50; Aubet-Semmler, 1988: 233), also contained elegant alabaster and marble cinerary urns, many of which carried hieroglyphic inscriptions (Pellicer-Catalan, 1963: 10). Some of these urns, certainly of Egyptian origin, also carried the names of certain pharaohs, who ruled over Egypt between the sixteenth and the eighth centuries B.C. (Negueruela, 1981: 213-215). The two protocorinthian cups identified in tomb 17B of the same necropolis were dated to the first half of the

seventh century B.C. and both belong to the protocorinthian sub-geometric style (Pellicer-Catalan, 1963: 37; Olmo-Lete and Aubet, 1986: 21). These two cups are similar in form and decoration to the one discovered in a tomb at Mtarfa in 1927 (*Plate 14*, p. 188; *Figure 69*, p. 189). The Maltese example is datable to approximately 650 B.C. and was probably imported (M.A.R., 1926-27: 8). At Carthage, similar protocorinthian vessels have been identified in the Tanit sanctuary and in tombs 27 and 301 of the Dermech necropolis (Pellicer-Catalan, 1963: 37-38). The cemetery of Almuñécar, which consisted of twenty grave-pits, was explored by Schubart and Niemeyer in 1963 (Pellicer-Catalan, 1963: 9-10).

It has been observed that in Phoenicia and in certain colonies there were generally very rich burials between 850 and 600 B.C.; yet, the situation was sometimes completely different elsewhere. For instance, the late eight and early seventh century B.C. cremation burials of Mozia, all of which were deposited in ordinary grave-pits, were each furnished with two or three ceramic objects (Tusa, 1988: 190). However, certain burials were also provided with imported ceramic vessels; for instance, within a single burial, fifteen ceramic vessels, including six imported Corinthian cups and jugs, were identified (Tusa, 1988: 190).

One cannot either generalize that the later Punic tombs, datable from 550 B.C. onwards, were relatively poorer than the earlier ones dealt with above. Concerning the tombs of Malta, there was probably a general decline in the use of silver, which for the Phoenicians was one of the most valuable metals, and an uninterrupted rise in the use of bronze and copper ornaments, which were probably cheaper. Many of the Punic burials identified in Palermo, datable between 550 and 350 B.C., were provided

Figure 69



Two protocorinthian cups discovered in tomb 17B from the necropolis of Almunecar in Spain (c. 690-650 B.C.) (after Olmo Lete and Aubet 1986, 21).

with a large quantity of imported Greek ceramic ware or with locally manufactured pottery under Greek influence (Tamburello, 1969: 39-43; Tusa, 1988: 196); certain burials were also furnished with silver adornments (Tamburello, 1967: 354-378).

The Punic burials identified in the cemetery of Monte Luna, in Sardinia, were generally provided with a wide range of imported Greek and local Punic-Hellenistic ware; certain burials were also furnished with gold, silver, ivory, iron and bronze ornaments and other objects, for instance amulets, mirrors, coins and *strigiles* (Costa, 1983: 745-746). This necropolis has been dated to a period ranging between 500 and 200 B.C. (Costa, 1983: 746-750). In the cemetery of Nora, the third century B.C. child burials identified by Nissardi in 1901 were also furnished with amulets and jewellery, but not with any ceramic vessels (Bartoloni and Tronchetti, 1981: 37).

Hellenistic and Campanian ware was also identified in the tombs of Lilybaeum (Sicily), a settlement which was inhabited by the Carthaginians of Motya following the latter's destruction in 297 B.C. Occasionally, the dead were also accompanied with metal ornaments and other items, like bronze mirrors and coins (Bisi, 1970c: 524-559; 1971a: 662-762). The small quantity of vitreous material in the tombs of Lilybaeum was observed previously by Marconi (1949a: 189).

Masks, representing the facial image of human beings, have been occasionally identified in the tombs of Phoenicia, Carthage, Motya, Cyprus, Tharros, Sulcis, Ibiza and Cadiz. The facial image of these masks probably served apotropaic purposes to scare away the evil spirits

(Culican, 1976: 73). Certain burial masks unearthed from Phoenicia have been dated to a period ranging between 800 and 400 B.C. (Ciasca 1988b, 354). The masks discovered in Phoenicia and Cyprus are very Egyptianizing in style, particularly in the rendering of the eyes (Ciasca, 1988b: 354-356).

The distinction between the wealthy tombs of Malta and those of Phoenicia, Carthage and the other dependencies is well-marked. *Figure 37* has revealed that in the Maltese Islands only 14% of the total number of tombs were furnished with precious grave goods; the material burial evidence indicates that the tombs of the other colonies were relatively wealthier, and their burial ceramic repertoire was often of a finer quality than that which prevailed locally. Presumably, the level of wealth achieved in the Maltese Islands during this period was comparatively inferior to that of elsewhere in the Phoenician world. The same histogram has also revealed that the burials of 78 tombs were furnished with coarse pottery and personal ornaments, another 3 contained only personal ornaments, 9 tombs were provided with coarse and fine pottery, while the burials of another 2 tombs were furnished with coarse and fine pottery together with various personal ornaments. Although of strategic importance, it seems that the Maltese archipelago was one of the minor dependencies of Phoenicia and, later on, of Carthage. The Maltese Islands were possibly ruled either by the local wealthy people, or by a Carthaginian governor (known as *shofetim*), who did not necessarily live in Malta, but possibly in one of the major colonies or even in Carthage, just as happened in certain other Phoenician colonies, like Sardinia (Moscati, 1982: 252). There is some evidence that the

Maltese trend of many rich burials in early periods leading to a more balanced "class structure" in later periods, is found elsewhere in the Phoenician world. But this is as yet of unclear significance.

CHAPTER 5

THE TOMBS: THEIR DATING AND USE

This chapter discusses the principal methods employed in the dating of tombs and studies particular patterns concerned with the utilization of burial-places in the Maltese Islands.

THE DATING OF TOMBS

The Phoenicians frequently used their tombs for successive burials and the previous interments were often disturbed by themselves; it was their custom to clean the tomb-chamber from previous burials for reutilization (Ciasca, 1982: 153). They simply removed previous interments into one of the corners of the grave, mixing the material of the third burial, for example, with the first and the second ones. This happened in Malta and in the other Phoenician colonies (Bondì, 1988: 248-283).

Following the discovery of a tomb, one of the greatest problems to solve is the sorting out of the pottery items in a precise chronological order, according to each interment (Ciasca, 1982: 153). Frequently this will be difficult, especially when several burials in a single tomb are chronologically contemporary to one another. At Rabat, tomb W314 contained ten burials, all datable to Phase V (M.A.R., 1907-08: 7-8).

Another major difficulty concerns the excavation reports. In Malta, the Museum Annual Reports normally present a brief descriptive account of the discovery, often without any cartographic references, plans, diagrams or cross-sections of the layers identified in particular tombs. The reports of Sicily and Sardinia are relatively better, although sometimes they

also lack a good scientific approach. Hundreds of tombs in the Near East and North Africa were discovered before 1940 and the available reports are often confusing. In Spain many tombs have unfortunately experienced the same fate, when they were discovered by inexperienced people. However, about Phoenician Spain one needs to consider the amount of modern research and excavation work which has been, and is still being, undertaken by German and Spanish archaeologists.

In Malta and Gozo many tombs have been discovered illegally (Said, 1990: 4-5) or were even destroyed before the authorities concerned took the necessary measures to undertake decent excavations and to preserve the funerary material (M.A.R., 1987: 73).

Under these circumstances, it is difficult for an archaeologist to study the burial material properly and to date the tombs. In the absence of good excavation work and excavation reports, one is induced to study properly the actual burial material, which is usually kept in the custody of an archaeology museum. In Malta, the majority of the material is stored in the Valletta National Museum, while other amounts of pottery are found in private collections. However, I was denied access to the reserve collections of the this Museum by the Director and much of the work concerning the dating of pottery has been left undone.

SCIENTIFIC DATING

Scientific analysis may help us to obtain the precise dating of a burial or a tomb. Samples of bones may be submitted to Carbon-14 to obtain the dating of a skeleton (with a difference of ± 100 years). Other osseous analysis may furnish the reasons for a person's death: whether he

suffered from a particular illness, whether he was killed or else died by natural death; similar analysis can also determine the length of the deceased's lifetime (Renfrew and Bahn, 1991: 386-395). Anatomical analysis may equally detect particular deformities in the body and can also reconstruct the face (Parkes, 1986: 5-34). Carbon-14 dating (Renfrew and Bahn, 1991: 121-128) helps us to obtain a reliable chronological order in the number of burials in a tomb.

Samples of pottery can be dated by Thermoluminescence dating (Renfrew and Bahn, 1991: 129), while Neutron Activation Analysis can determine whether certain pots were manufactured locally or were else imported (Parkes, 1986: 154).

Having submitted several samples to different scientific analyses, one can determine the dating of a number of tombs. In my case I was denied permission to obtain any samples and the only way to examine part of the burial ceramic assemblage was by way of secondary sources: the Museum Annual Reports and other relevant published literature. Between 1955 and 1965 the Museums Department published in its Annual Reports the photographs of all the pottery items unearthed from the Phoenician tombs during those ten years. Zammit (1931: 101-131) published the photographs of the ceramic repertoire unearthed from six tombs at Rabat. Additionally, the photographic material and the drawings of several pottery items pertaining to two important Punic cemeteries in the Harbour area were published in a separate detailed study (Baldacchino, 1951). Collectively, these photographs and diagrams have aided me to date 151 tombs and burials; these tombs and burials were either wrongly dated or else were never dated before in any of the above mentioned reports and

publications. The analysis and dating of the ceramic assemblage followed mainly Culican's methodology (Culican, 1982), which was based on typology rather than on scientific dating. Culican studied the main lines of the typological development of the Phoenician pottery in Malta, and he distinguished five different periods (Chapter 1: 23-25). The phases defined by Culican represent three major stages of development:

Stage A: when the local late Bronze Age pottery became dominantly Phoenicianized during the seventh and early sixth centuries B.C. This process occurred during Phase I and early Phase II.

Stage B: the local ceramic assemblage gradually followed the Punic ceramic typology, when countries like Malta, Sicily, Sardinia and the North African continent became Carthaginian dependencies. In Malta, this process largely occurred between Phases II and IV, during which there was a continuous typological development of local versions of Punic pottery.

Stage C: this was characterized by the Hellenization, and later on by the gradual Romanization, of the late Punic pottery through trading contacts with the Roman world.

Culican studied the evolution of the local Phoenician pottery in the light of the ceramic typological development which occurred in the major central Mediterranean colonies, namely Sicily, Sardinia and Carthage (Sagona, 1992: personal communication).

Although pottery should ideally be studied under laboratory conditions and not by means of photographs or diagrams, one has to consider first the available sources. To study pottery properly and scientifically, an archaeologist needs to view and touch his vessels to analyze the clay, the slip, any decorations and the shape of the pot. From photography, especially black and white photography, one can neither identify the exact type of paint or slip, nor can one study the interior part of the pot and the type of its clay, but just the outer part. In the photographs which I examined, the pottery is usually exhibited collectively and not separately according to each interment. Thus, the study of an archaeologist is here hampered in two ways, firstly because he obtains only a general idea about the pottery, and secondly because the material is not exhibited accordingly as it was in the tomb upon discovery. In spite of such limitations, these reports and separate publications have aided me to date pottery on the evidence of typology, by analyzing and comparing the local ceramic repertoire with that of Phoenicia, North Africa, Sicily, Sardinia and Spain. Each pot which appeared in the photographs or diagrams of these reports and publications was considered independently from others and I tried to find the best or nearest example for each pot which occurs elsewhere in the Punic world. For this exercise I also consulted Pierre Cintas' *Ceramique Punique,* a 1950 handbook on Phoenician pottery. For further comparative studies the initial reports of Tharros, Olbia, Monte Sirai and Mozia, four important Phoenician settlements in Sicily and Sardinia, were also consulted. The dates which were finally reached were examined by Antonio and Claudia Sagona, two Phoenician ceramic experts from the University of Melbourne. They obtained similar results with minute differences: 'On the whole, your identification of tombs seems adequate ... In general, the range of

time dealt with and the phases emerging from the pottery photos you have sent, I can't see any glaring problems with' (Sagona, 1992: personal communication).

UTILIZATION OF TOMBS

The second exercise, concerned with the utilization of graves, was also limited to the dated tombs. *Figure 70* (p. 199) illustrates the distribution of the dated tombs during each phase. This chart graphically shows how many tombs were in use during each phase. Although in reality there are not more than 125 dated tombs, those reutilized in different phases have been recounted in the list. For example, a tomb which was used during three different phases has been counted three times, each time for each phase (*Table 6*, pp. 203-205). Hence, we end up with having 151 tombs. *Figure 70* similarly conveys that there was an increase in the number of dated tombs from one phase to another. Phase I presents 6 tombs, while there were 11 tombs in Phase II, 22 in Phase III, 33 in Phase IV and 79 tombs in Phase V. However, the data of *Figure 70* need to be calibrated per century because the five phases are not chronologically equal. *Figure 71* (p. 200) conveys the distribution of the dated tombs during each phase calibrated per century. This histogram shows that there was an increase in the number of tombs from one phase to another, with a slight decrease in Phase V. Phase I presents 6 tombs, Phase II 7 per century, Phase III 15 per century, Phase IV 33, while Phase V presents 26 tombs. From this chart we can also calculate the growth percentage of the dated tombs from one phase to another by means of the formula (p. 202):

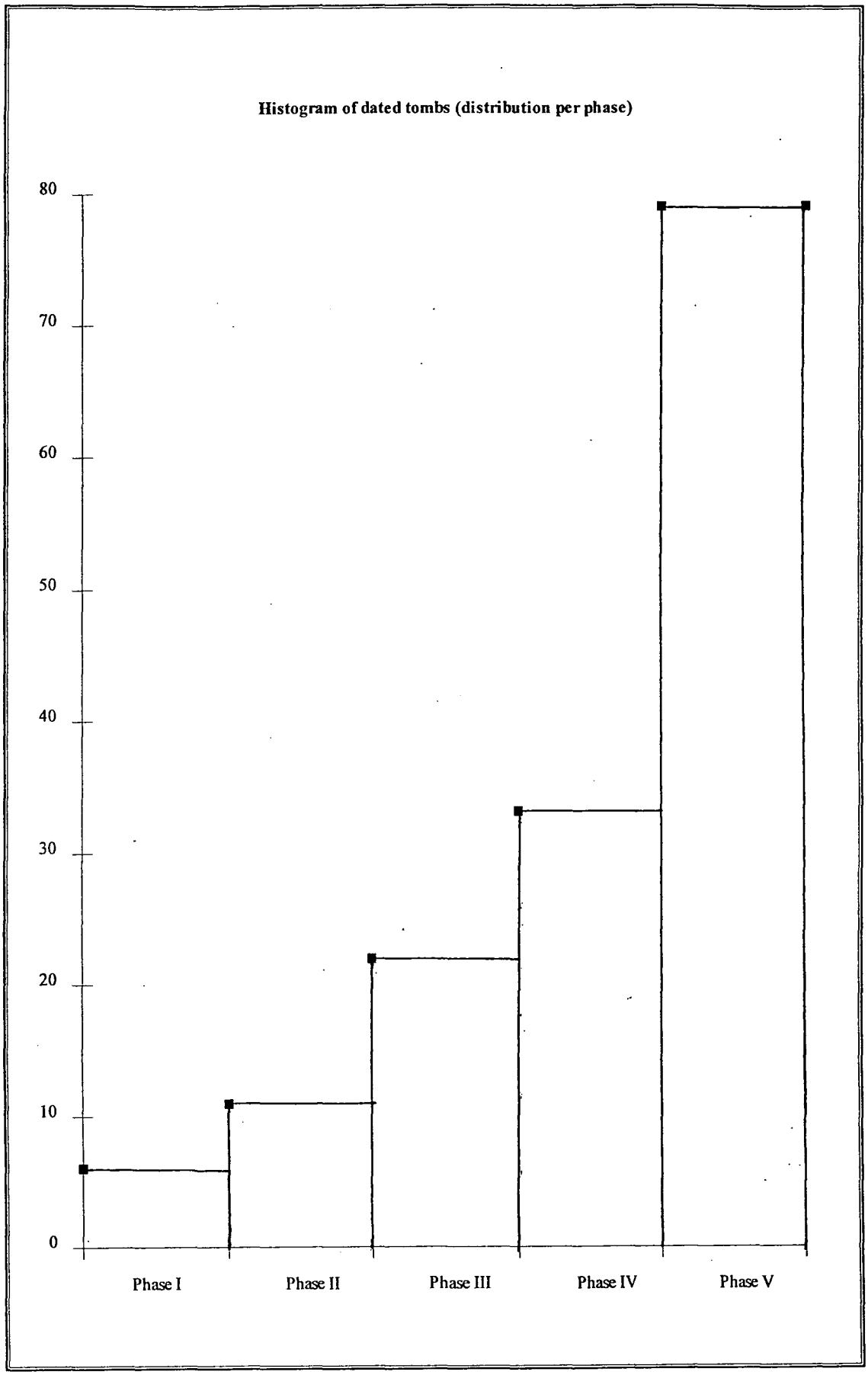

Histogram of dated tombs (distribution per phase)
80
70
60
50
40
30
20
10
0
Phase I
Phase II
Phase III
Phase IV
Phase V

Figure 70

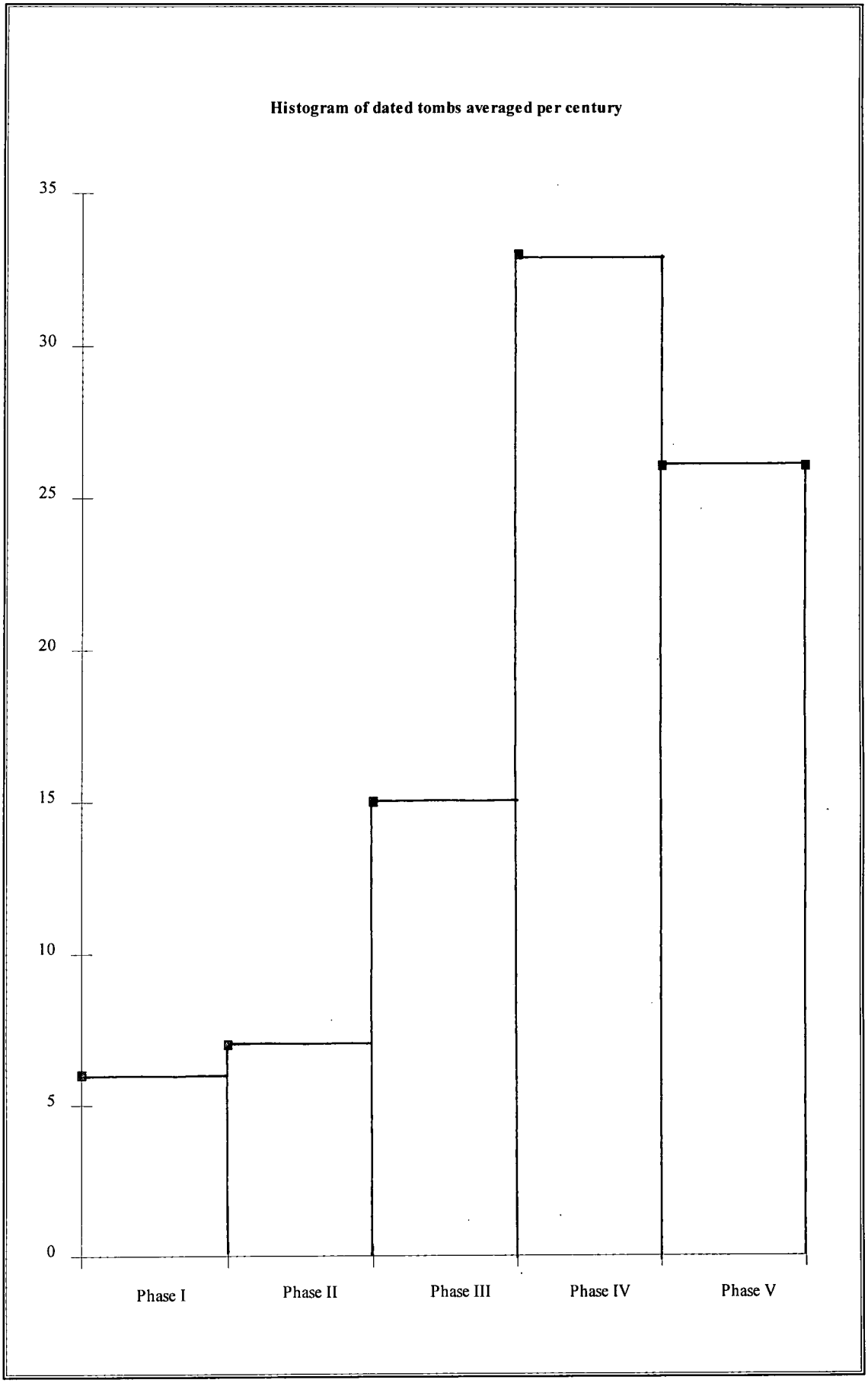

Histogram of dated tombs averaged per century
35
30
25
20
15
10
5
0
Phase I
Phase II
Phase III
Phase IV
Phase V

Figure 71

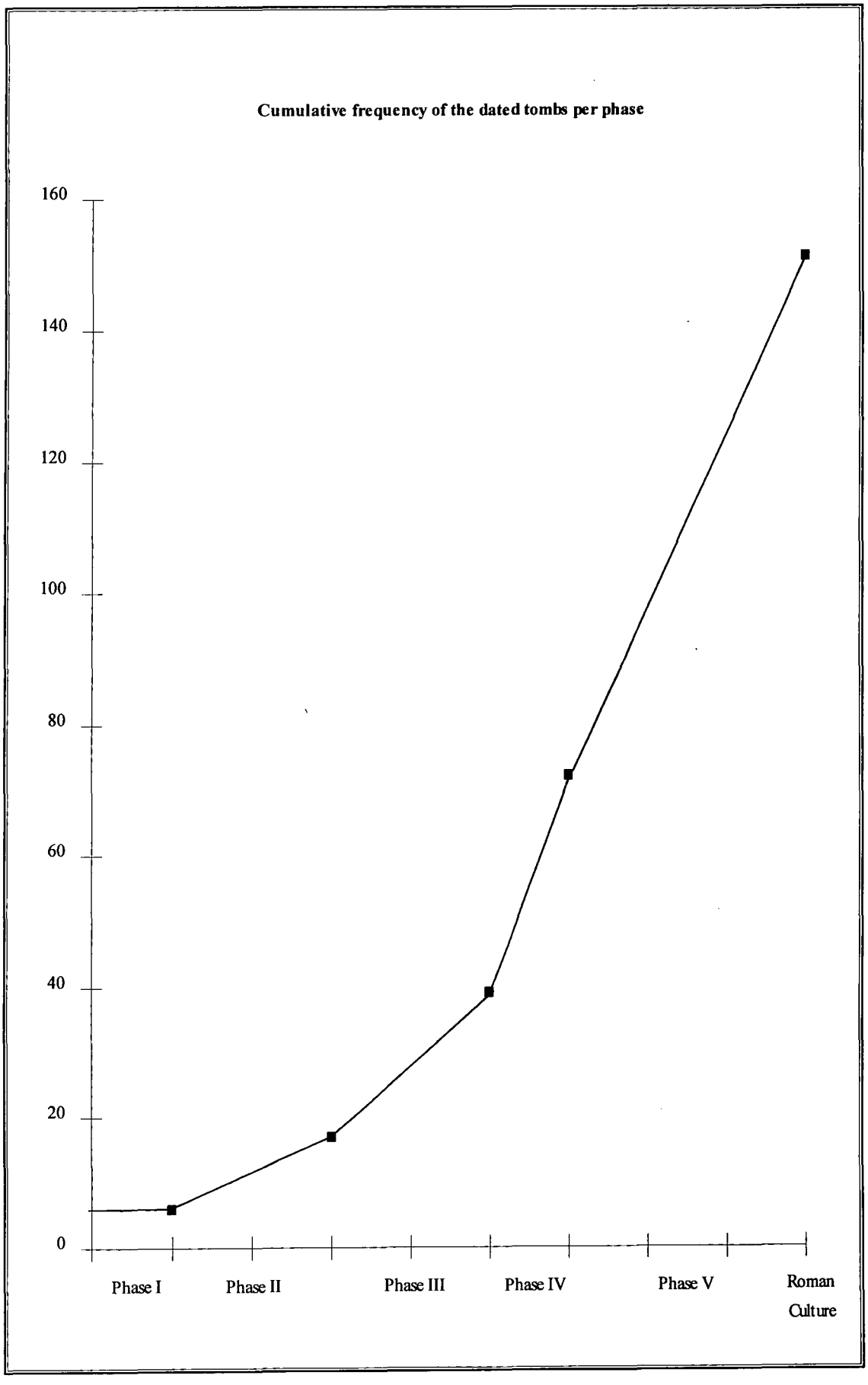

Cumulative frequency of the dated tombs per phase
160
140
120
100
80
60
40
20
0
Phase I
Phase II
Phase III
Phase IV
Phase V
Roman Culture

Figure 72

$$\text{Percentage growth of tombs} = \frac{\text{Phase}_{(n+1)} - \text{Phase}_{(n)}}{\text{Phase}_{(n)}} \times 100\%$$

Between Phases I and II the growth percentage was of 16.6%. Between Phase II and the end of Phase III the growth percentage was of 114.2%, while between Phases III and IV the growth percentage was of 120.5%. Between Phases IV and V there was a decrease of 27%.

Figure 72 (p. 201) shows the cumulative frequency of the dated tombs per phase. The end of Phase I presents 6 tombs and the end of Phase II presents 17 (6 + 11). There was a further increment of 22 tombs (17 + 22 tombs) by the end of Phase III. The end of Phase IV presents 72 tombs (39 + 33), and Phase V 151 (72 + 79). *Figure 72* (calibrated in real time) shows that between Phases I and III the number of tombs increased, with a relative sharp rise during Phase IV, but the slope of Phase V indicates a relative decline in the number of tombs, as *Figure 71* also shows.

There seems to have been no particular chronological pattern for the reutilization of tombs. It happened during all phases without intervals and in all parts of the islands (Ciasca, 1982: 153). Reused tombs were generally utilized over two phases, but 6 tombs (W264, W361, H3, H4, S.E.13 and S.E.68) were reutilized over three phases. The latter four were used successively between Phases III and V. W361 was used for the first time in Phase I, then during Phases IV and V; tomb W264 was utilized in Phases I, III and V. *Table 6* illustrates the utilization of the dated tombs during each phase.

TOMB	PHASE I	PHASE II	PHASE III	PHASE IV	PHASE V
N56	+				
W283	+				
W358	+	+			
W264	+		+		+
W361	+			+	+
W208	+				+
W213		+			
W369		+			
W323		+			
W370		+			
W237		+			
G3		+			
G18		+			
W219		+	+		
W379		+	+		
W344		+			+
W242			+		
H5			+		
H15			+		
H49			+		
H55			+		
H59			+		
H78			+		
H79			+		
H80			+		
N55			+		
N60			+		
S.E.11			+		
S.E.14			+		
W356			+	+	
W243			+	+	
H61			+	+	
H3			+	+	+
H4			+	+	+
S.E.68			+	+	+
S.E.13			+	+	+
H60				+	
H63				+	
H65				+	
H69				+	
H70				+	
H71				+	
H74				+	
H75				+	
H77				+	
S.E.54				+	
S.E.72				+	
S.E.74				+	
N62				+	
N58				+	
N59				+	+
W176				+	+
W177				+	+
W178				+	+
W179				+	+

TOMB	PHASE I	PHASE II	PHASE III	PHASE IV	PHASE V
W180				+	+
W386				+	+
W392				+	+
S.E.48				+	+
G11				+	+
W89					+
W122					+
W123					+
W173					+
W181					+
W285					+
W310					+
W214					+
W225					+
W259					+
W277					+
W312					+
W313					+
W314					+
W342					+
W380					+
W381					+
W382					+
W383					+
W384					+
W385					+
W393					+
W375					+
N51					+
N62					+
H2					+
H8					+
W387					+
W388					+
H10					+
H11					+
H12					+
H13					+
H19					+
H32					+
H34					+
H72					+
H62					+
H64					+
H73					+
H76					+
S.E.1					+
S.E.5					+
S.E.12					+
S.E.17					+
S.E.15					+
S.E.31					+
S.E.46					+
S.E.47					+
S.E.77					+

TOMB	PHASE I	PHASE II	PHASE III	PHASE IV	PHASE V
S.E.82					+
S.E.83					+
S.E.69					+
S.E.62					+
S.E.65					+
S.E.74					+
G1					+
G5					+
G12					+
G17					+
S.E.41					+

Table 6 - Utilization of the dated tombs during each phase

In North Africa, Sicily, Sardinia and Spain, many tombs were reutilized for successive generations (Tamburello, 1967: 363-364; Acquaro, 1988: 264-266; Fantar, 1988: 172). Normally, only grave-pits were not reutilized, which usually consisted of rock-cut cavities or else of soil depressions. There appears to be no valid reason to argue why certain people were buried in shaft and chamber tombs while others were interred in simple burial cavities. Grave-pits did not necessarily pertain to poor people, because in them one may find rich burial material. The early grave-pits of Monte Sirai were furnished with several pottery items and silver personal ornaments (Monte Sirai, 1965; 1966; 1967; Bartoloni, 1983a: 38). In Malta, the interment identified in W213, apart from having a wide selection of pottery objects, also contained two silver rings and three silver ear-rings (M.A.R., 1937-38: 3-4).

A large number of shaft and chamber tombs probably served as family graves. These tombs were sometimes furnished with a second or even with a third chamber to accommodate more burials. Characteristic of this type are those of Palermo (Tamburello, 1967: 288-297; Moscati, 1987: 183; Tusa, 1988: 196), Lilybaeum (Marconi, 1949a: 189; Bisi, 1971a: 662-762;

Tusa, 1988: 196), and Erice (Bisi, 1970: 31-42). In Spain, most of the chamber tombs of Almuñécar were successively reutilized over various generations; there was also an extensive reutilization of graves in the necropoleis of Villaricos and Ibiza (Bondì, 1988: 283; Aubet-Semmler, 1988: 232-233; 238-240).

In Phoenicia many tombs were reutilized for successive generations, for example those of Sidon (Ciasca, 1988: 146) and the late shaft graves of Tyre (Moscati, 1972: 248). Moreover, between 600 and 250 B.C. there was a massive reutilization of graves in Carthage and in other North African dependencies (Fantar, 1988: 168-180).

Reutilization of tombs caused the rifling of previous burials and this is one of the major reasons why many tombs in Malta and in the other Phoenician colonies were generally found disturbed. Although previous burials may have been removed properly and reverently into one of the corners of the same grave, today, given the nature of the evidence, it may prove very difficult to us to identify between different burials or even to date them. By means of scientific experiments, proper excavations and serious ceramic typological studies, one may arrive at a reliable date range for most of the Phoenician and Punic necropoleis in the Mediterranean.

CHAPTER 6

POPULATION ESTIMATES IN PHOENICIAN AND PUNIC TIMES

This chapter considers different methods for estimating the population of the Maltese Islands during the Phoenician Period. The first part of the chapter deals with partial population estimates as emerging from the tombs and the human body counts. The second part attempts to calculate a potential population for these islands from different land-use figures.

BASIC DATA

The most important data are:

a) there are 650 tombs in Malta and Gozo, in which 863 bodies have been recorded;

b) from 650 tombs, only 151 have been dated; the dated sample yielded 376 bodies which were divided for each phase as follows: 11 bodies in Phase I, 18 in Phase II, 47 in Phase III, 63 in Phase IV, and 237 in Phase V;

c) there are 499 undated tombs which collectively yielded 487 bodies;

d) under Iron Age Mediterranean farming conditions, a working model of an average farmholding possibly covers an average land area of 5.4 ha, which could provide a typical farm for a family with reasonable subsistence security (Bintliff, 1993: personal communication);

e) there is a maximum of about 60% (18,960 ha) of cultivable land in the Maltese Islands (Ransley, 1974: 22);

f) a generation is taken to equal 25 years (Bintliff, 1977: 83);

g) in a case study from the tombs in Bronze Age Greece, each family produced an average of 5 living persons and 5 dead bodies per generation (Bintliff, 1977: 83), and

h) the dated tombs were distributed for each phase as follows: 6 in Phase I, 11 in Phase II, 22 in Phase III, 33 in Phase IV and 79 in Phase V. The phases are not chronologically equal and the number of tombs for each phase needs to be calibrated per century to understand better the growth of tombs from one phase to another. The dated tombs were distributed per century as follows: 6 in Phase I, 7 in Phase II, 15 in Phase III, 33 in Phase IV and 26 in Phase V.

REAL BODY COUNTS

From the distribution of the dated tombs per phase, one can obtain a set of burial population estimates by simply adding up the number of bodies for each phase from the excavation reports (*Table 7*).

Phases	Number of tombs per phase	Number of tombs averaged per century	Real body counts per phase	Real body counts averaged per century
I	6	6	11	11
II	11	7	18	12
III	22	15	47	31
IV	33	33	63	63
V	79	26	237	79

Table 7 - Real Body Counts

To understand properly the growth of the burial population between Phases I and V, the real body counts need to be calibrated per century because the phases are not chronologically equal to one another (*Table 7*,

column 5). The real body counts averaged per century convey that the burial population increased from one phase to another from Phase I to Phase IV, correlating with the fact that the number of tombs averaged per century increased between Phases I and IV. But whereas the number of tombs decreased in Phase V, body counts per century continued to rise. This suggests that during Phase V the tombs were accommodating more burials.

From the real body counts averaged per century, we can also calculate the number of living families per generation for each phase, by dividing the number of bodies per generation by 5. A family produced an average of 5 living persons and 5 dead bodies every generation. The number of living families per generation is obtained in *Table 8*:

Phases	Bodies per phase calibrated per century	Bodies per generation	Families living per generation
I	11	3	0.55
II	12	3	0.6
III	31	7.75	1.55
IV	63	16	3.15
V	79	19.75	3.95

Table 8 - Families Living per Generation

POPULATION GROWTH

From the real body counts, one can also estimate the population growth by the formula:

$$\text{Population growth} = \frac{\text{Phase}_{(n+1)} - \text{Phase}_{n}}{\text{Phase}_{n}} \times 100\%$$

The burial population growth between Phases I and II increased by 9%, and between Phases II and III it increased by 158%. Between Phases III and IV the burial population increased by 103%; there was a further population growth of 25% between Phases IV and V.

The above calculations have revealed partial burial population estimates. The number of dead bodies recorded from the real body counts is exceptionally small. The number of living families per generation is also very small, which indicates that many more families should have been living during each phase. The real body counts lack certain statistical information, because many tombs were found empty, in others the osseous material was found in a weathered state of condition and the number of skeletons was not added up, while sometimes the excavation reports failed to specify the number of skeletons found in certain tombs. Therefore, these are partial and absolute minimum estimates because the tombs have not yielded complete evidence.

ESTIMATED BODY COUNTS

More accurate burial population estimates are obtained by first calculating the average number of bodies per tomb for each phase from the real body counts. Since we do not know the number of dead bodies in all the dated tombs (because not all the tombs have yielded dead bodies), we can add together the real body counts per phase and the average number of bodies to be expected per empty tomb per phase, and hence obtain a more reliable estimate because, despite its limitations, it certainly contains more information about burial population. These estimates are obtained as follows in *Table 9* (p. 211):

Phases	Number of tombs	Tombs without osseous material	Real body counts	Average number of bodies per tomb	Real and estimated body counts
I	6	0	11	1.8	11
II	11	1	18	1.6	20
III	22	2	47	2.1	51
IV	33	4	63	1.9	71
V	79	21	237	3	300

Table 9 - Estimated Body Counts from the Dated Tombs

These estimated body counts need to be calibrated per century since the phases are not chronologically equal. *Table 10* conveys the distribution of the estimated body counts per phase calibrated per century (column 4).

Phases	Number of tombs per phase	Number of tombs averaged per century	Estimated body counts averaged per century
I	6	6	11
II	11	7	13
III	22	15	34
IV	33	33	71
V	79	26	100

Table 10 - Estimated Body Counts per Century

POPULATION GROWTH

The formula on page 209 allows us now to calculate that between Phases I and II the burial population from the estimated body counts increased by 18%, while between Phases II and III it increased by 161%. Between Phases III and IV, the burial population increased by 109%, while there was a further rise of 41% between Phases IV and V. These estimates are more reliable because they give a likely population for all the dated tombs.

Figures 73 - 76 (pp. 213-216) convey the growth and cumulative frequency of the buried population during this period. *Figures 73* and *74* (pp. 213-214) are based on the real body counts, while *Figures 75* and *76* (pp. 215-216) are based on the estimated body counts. The column charts convey the burial population averaged per century during each phase.

THE UNDATED TOMBS

The next step to follow is to calculate the burial population from the undated tombs (with and without bodies) per phase. To calculate these body counts, we simply take the total number of undated tombs (with and without bodies), then divide the 499 undated tombs by the ratio per phase shown by the dated tombs per phase to total dated tombs (6:11:22:33:79), and finally fill the resulting number of undated tombs per phase with the same average number of bodies per tomb obtained from the ratio for dated tombs with bodies per phase (1.8 bodies in Phase I, 1.6 bodies in Phase II, 2.1 bodies in Phase III, 1.9 bodies in Phase IV, and 3 bodies in Phase V).

Phase I
6 ÷ 151 = 0.04
0.04 x 499 = 19.96 undated tombs
19.96 x 1.8 = 35.92 estimated bodies

Phase II
11 ÷ 151 = 0.07
0.07 x 499 = 34.93 undated tombs
34.93 x 1.6 = 55.89 estimated bodies

Phase III
22 ÷ 151 = 0.15
0.15 x 499 = 74.85 undated tombs
74.85 x 2.1 = 157.19 estimated bodies

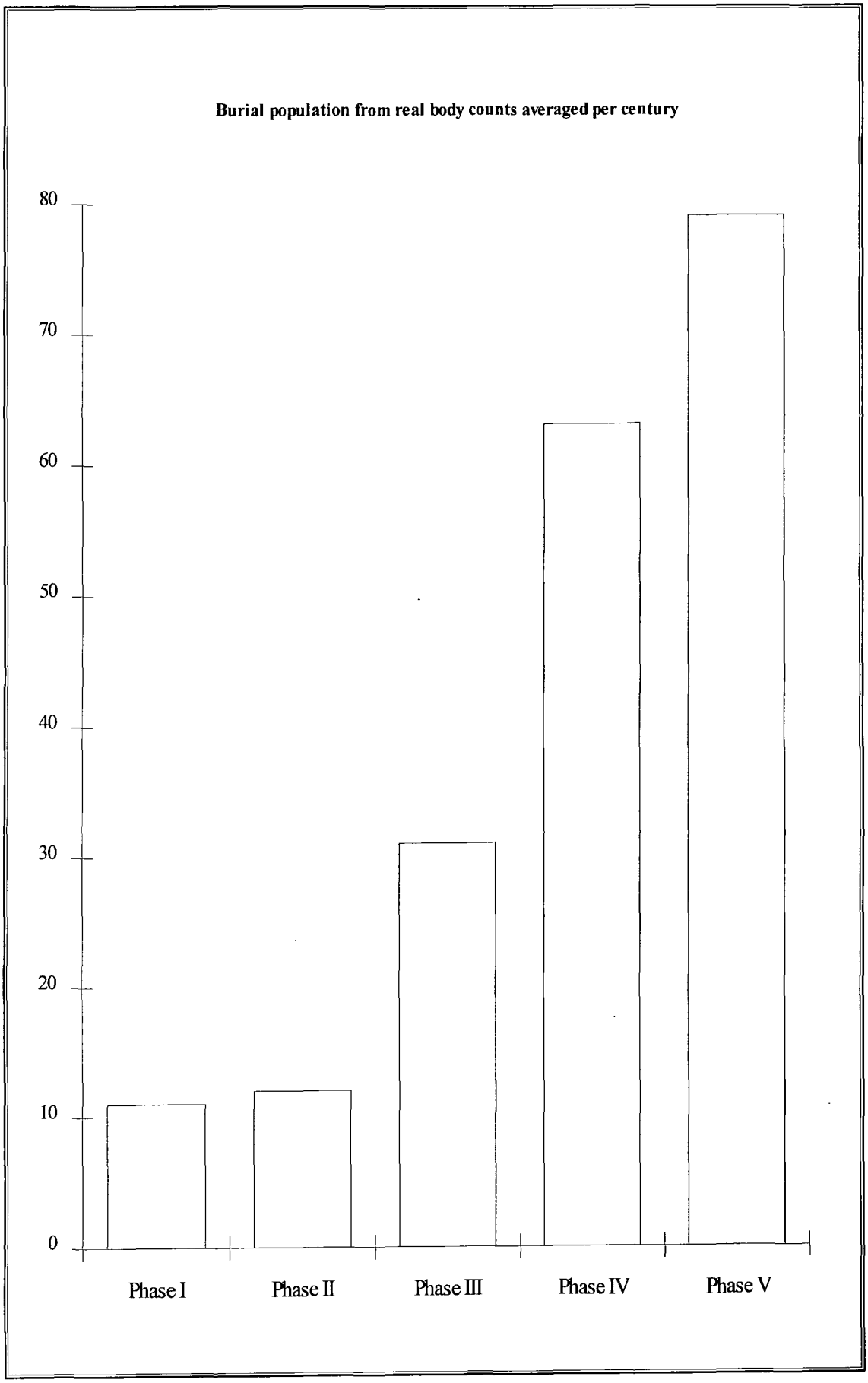

Burial population from real body counts averaged per century
80
70
60
50
40
30
20
10
0
Phase I
Phase II
Phase III
Phase IV
Phase V

Figure 73

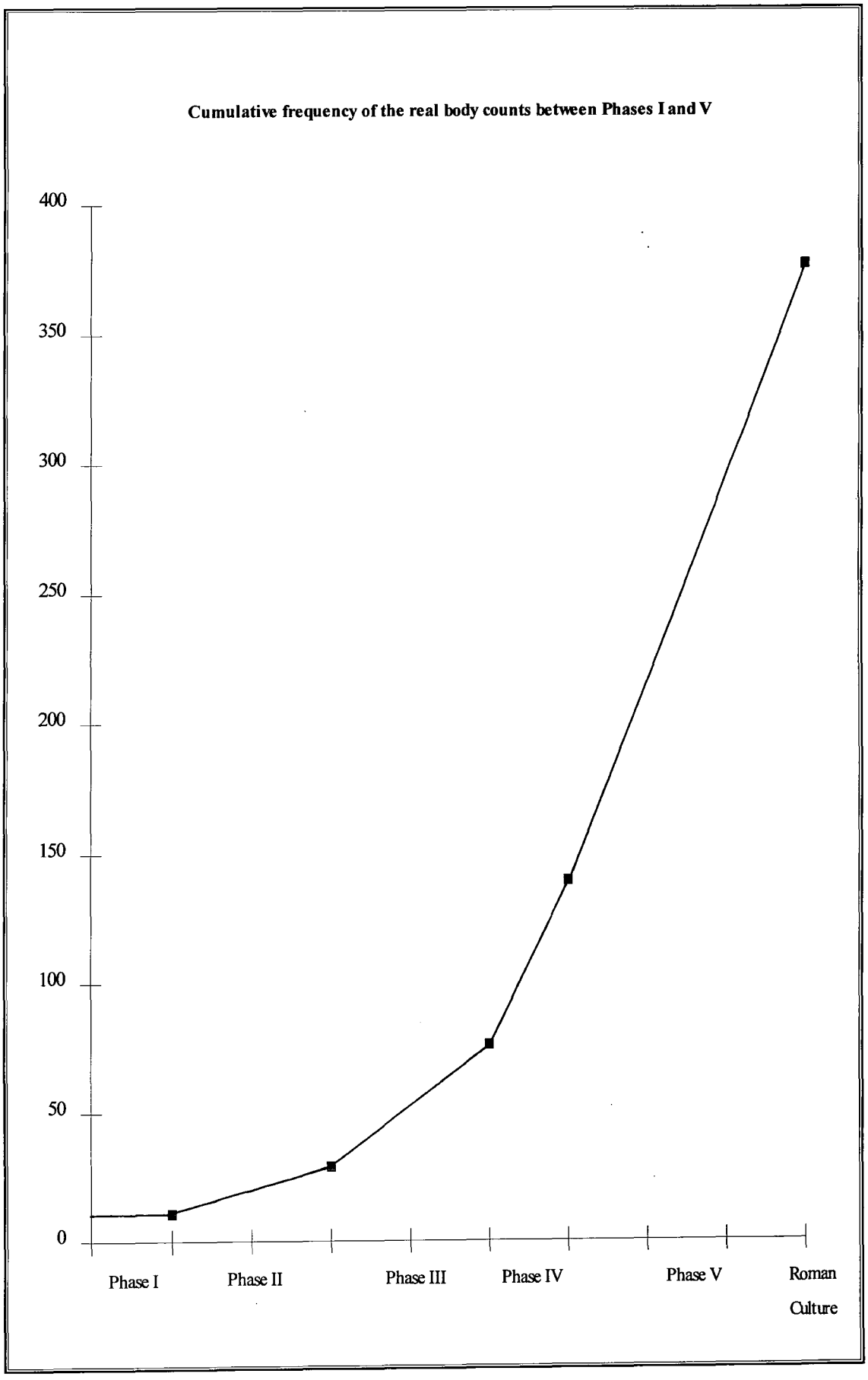

Cumulative frequency of the real body counts between Phases I and V
400
350
300
250
200
150
100
50
0
Phase I
Phase II
Phase III
Phase IV
Phase V
Roman Culture

Figure 74

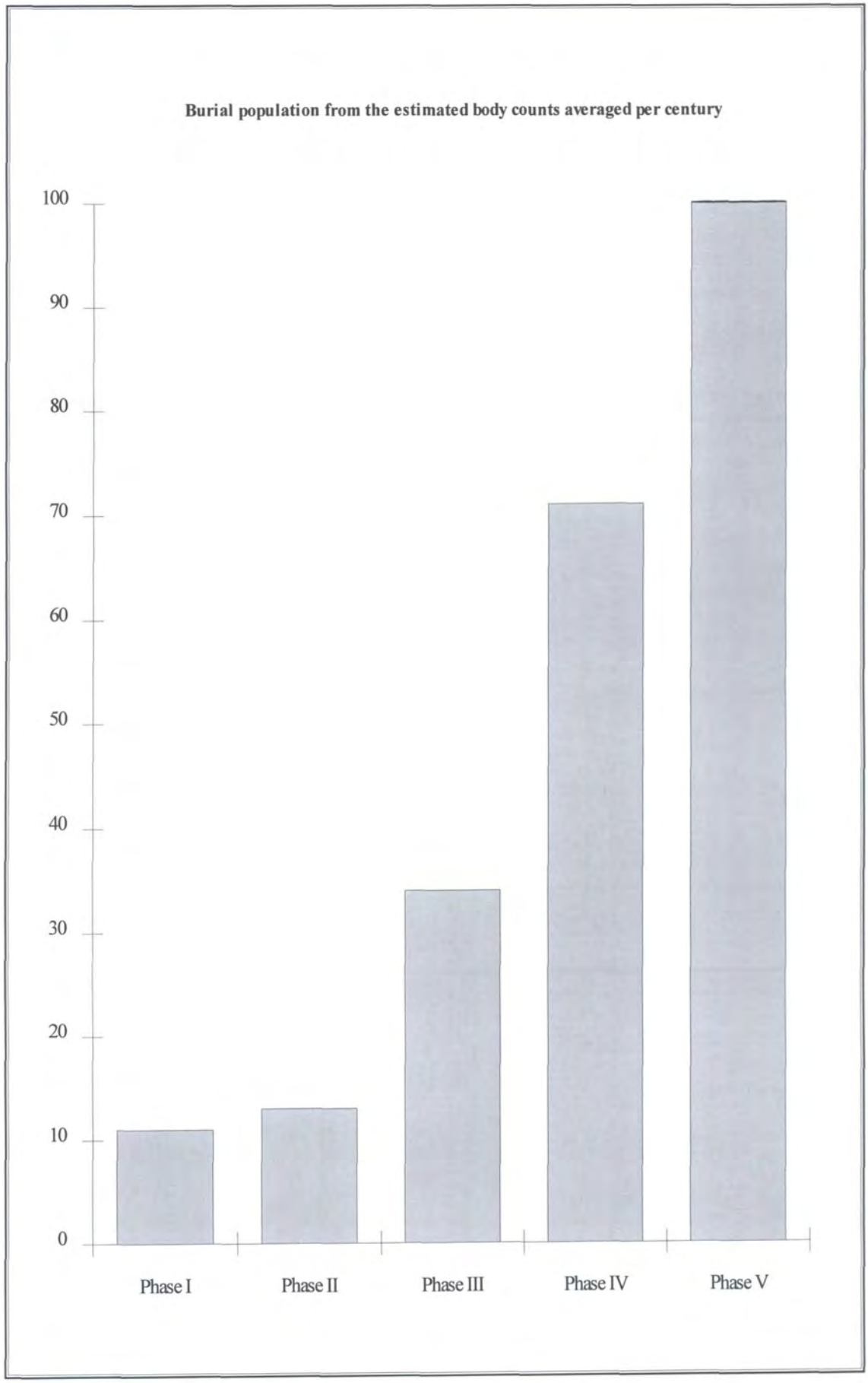

Burial population from the estimated body counts averaged per century
100
90
80
70
60
50
40
30
20
10
0
Phase I
Phase II
Phase III
Phase IV
Phase V

Figure 75

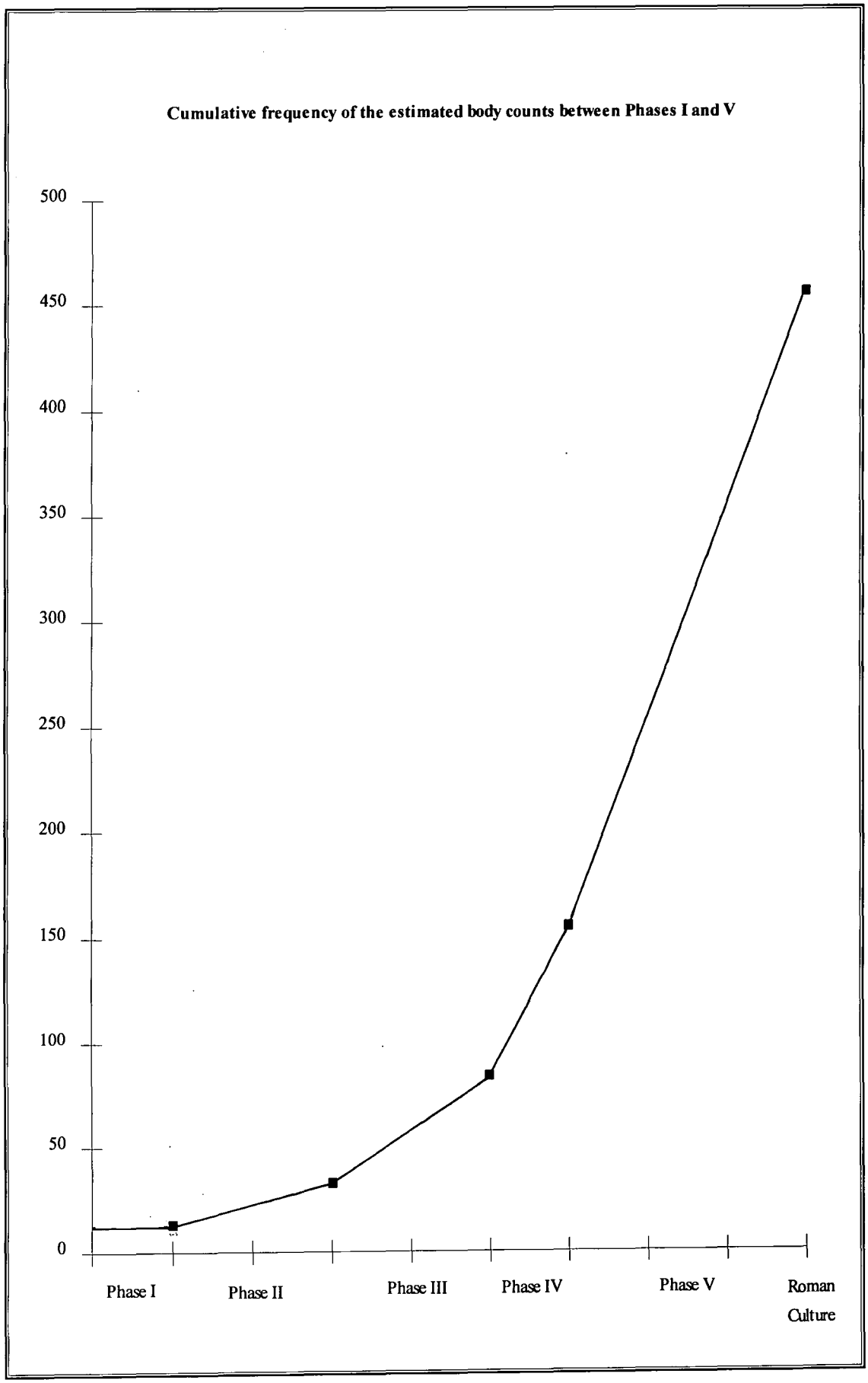

Cumulative frequency of the estimated body counts between Phases I and V
500
450
400
350
300
250
200
150
100
50
0
Phase I
Phase II
Phase III
Phase IV
Phase V
Roman Culture

Figure 76

Phase IV 33 ÷ 151 = 0.22

0.22 x 499 = 109.78 undated tombs

109.78 x 1.9 = 208.58 estimated bodies

Phase V 79 ÷ 151 = 0.52

0.52 x 499 = 259.48 undated tombs

259.48 x 3 = 778 bodies

Since the phases are not chronologically equal, these figures need to be calibrated per century. If the resultant figures are divided by 4, we will obtain the estimated body counts per generation, and if the latter estimates are divided by 5, we will then acquire the living families per generation, as *Table 11* indicates:

Phases	Estimated body counts	Estimated body counts per century	Body counts per generation	Living families per generation
I	35.92	35.92	8.98	1.80
II	55.89	37.26	9.32	1.86
III	157.19	104.79	26.20	5.24
IV	208.58	208.58	52.15	10.43
V	778	259.33	64.83	12.97

Table 11 - Burial and Living Population from the Undated Tombs

The above table reveals that we are probably again furnished with partial burial population figures, especially when considering that many tombs were found empty, in others the osseous material was found in a weathered state of condition and the number of skeletons was not added up, while sometimes the excavation reports failed to specify the number of skeletons discovered in certain tombs. *Figure 77* (p. 218) conveys the

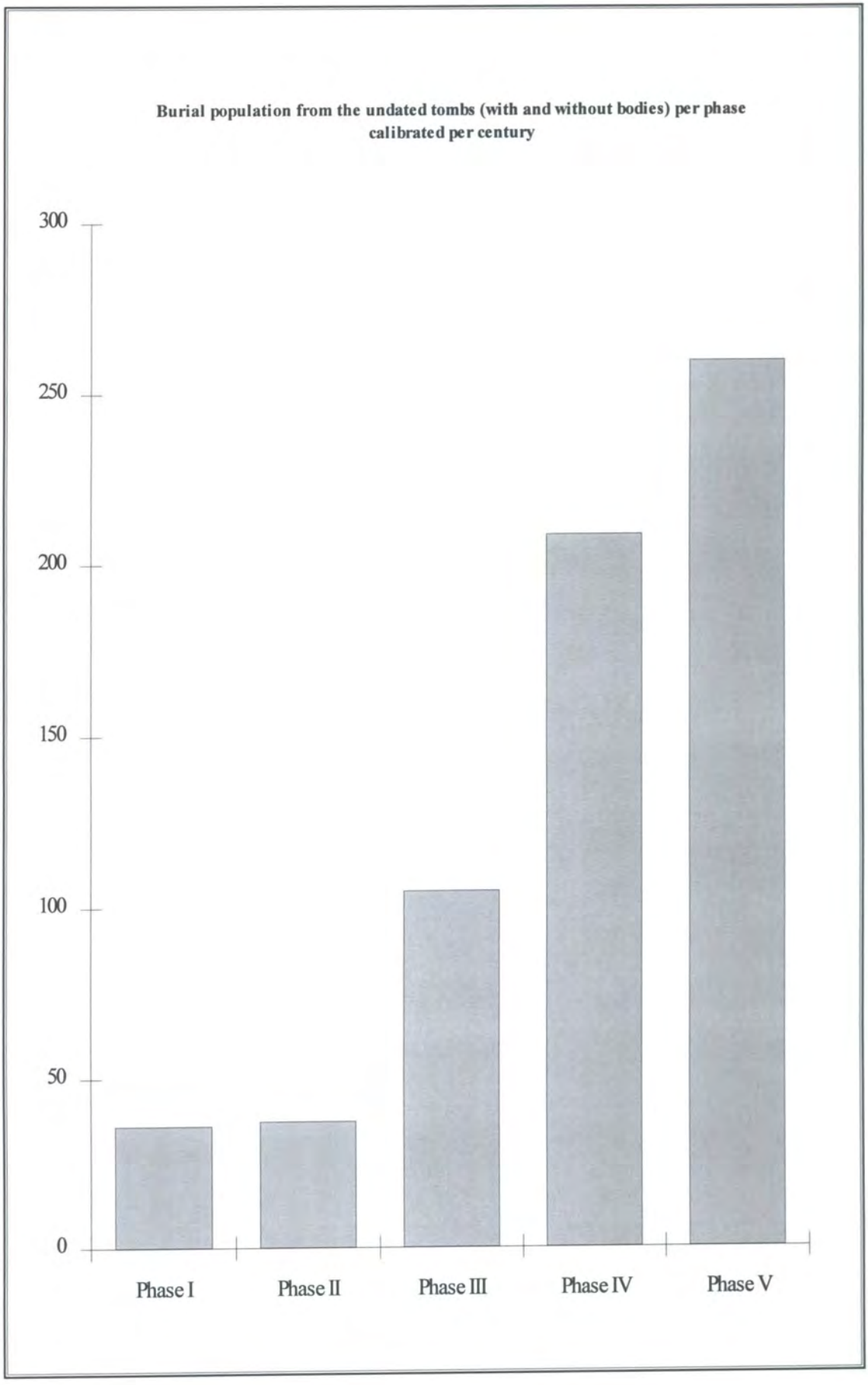

Burial population from the undated tombs (with and without bodies) per phase calibrated per century
300
250
200
150
100
50
0
Phase I
Phase II
Phase III
Phase IV
Phase V

Figure 77

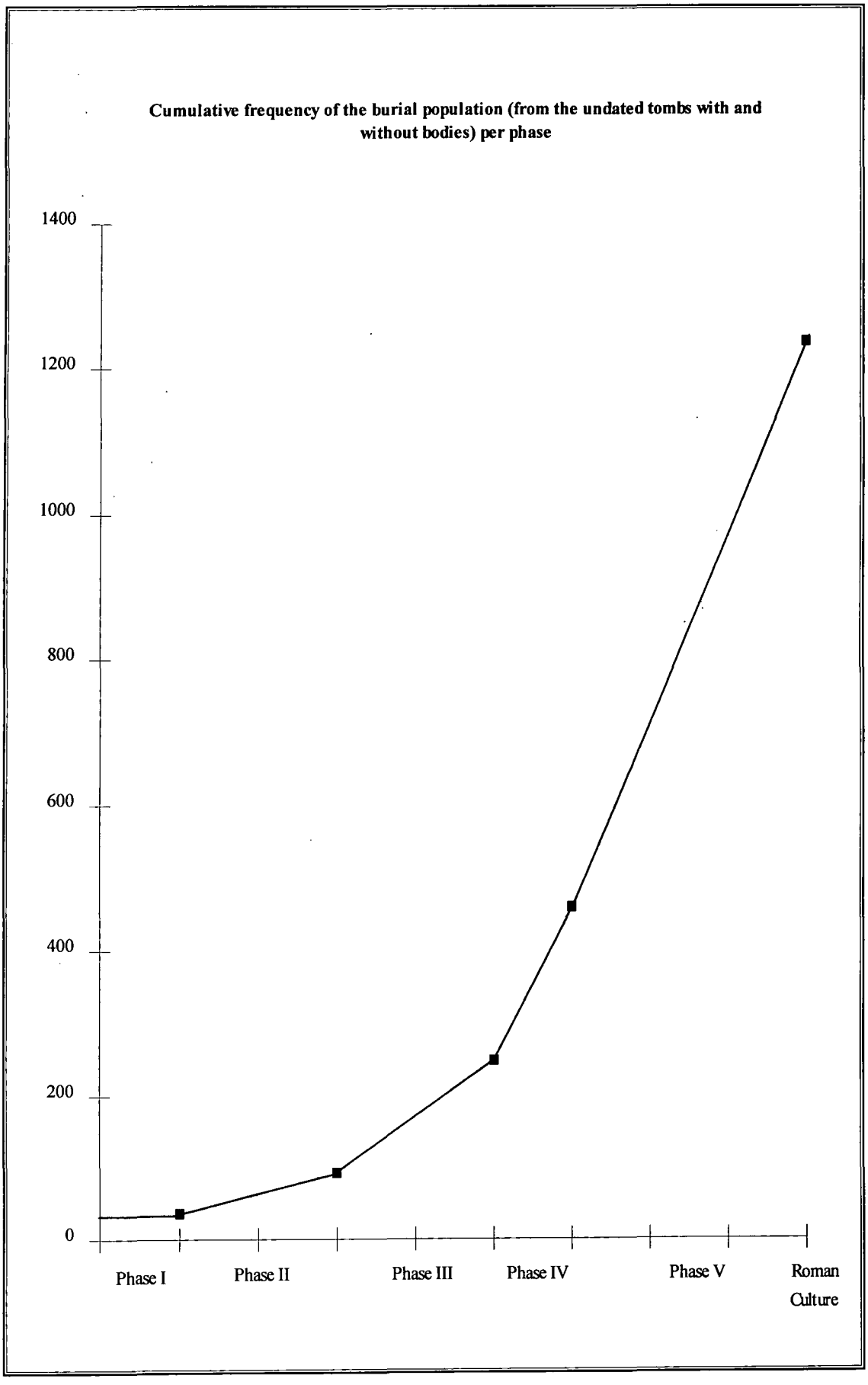

Cumulative frequency of the burial population (from the undated tombs with and without bodies) per phase
1400
1200
1000
800
600
400
200
0
Phase I
Phase II
Phase III
Phase IV
Phase V
Roman Culture

Figure 78

growth of the burial population (from the undated tombs with and without bodies) during each phase calibrated per century. *Figure 78* (p. 219) shows the cumulative frequency of the burial population during each phase from the undated tombs with and without bodies.

TOTAL BURIAL POPULATION

If we add the estimated body counts of the dated tombs (since they include the real and estimated body counts per phase together) and the undated burial population (derived from the undated tombs with and without bodies) we will obtain the maximum burial population possible from the 650 excavated tombs in Malta. The burial population growth from these body counts can be expressed either per phase or per century, or even per generation. If the body counts per generation are divided by 5, we will then acquire the maximum living population possible on the islands from the data of the 650 excavated tombs. The estimated body counts per phase from the dated tombs are:

Phase I: 11 bodies

Phase II: 20 bodies

Phase III: 51 bodies

Phase IV: 71 bodies

Phase V: 300 bodies

The burial population figures per phase from the undated tombs (with and without bodies) are:

Phase I: 35.92 bodies

Phase II: 55.89 bodies

Phase III: 157.19 bodies

Phase IV: 208.58 bodies

Phase V: 778 bodies

If we add together these two sets of population figures, we will obtain the maximum burial and living population from the 650 excavated tombs, as *Table 12* conveys.

Phases	Burial population per phase	Burial population per century	Burial population per generation	Families living per generation
I	46.92	46.92	11.73	2.35
II	75.89	50.59	12.65	2.53
III	208.19	138.79	34.70	6.94
IV	279.58	279.58	69.90	13.98
V	1078	359.33	89.83	17.97

Table 12 - Total Burial Population

Figure 79 (p. 222) conveys the burial population growth from the total number of excavated tombs. The columns reveal the burial population

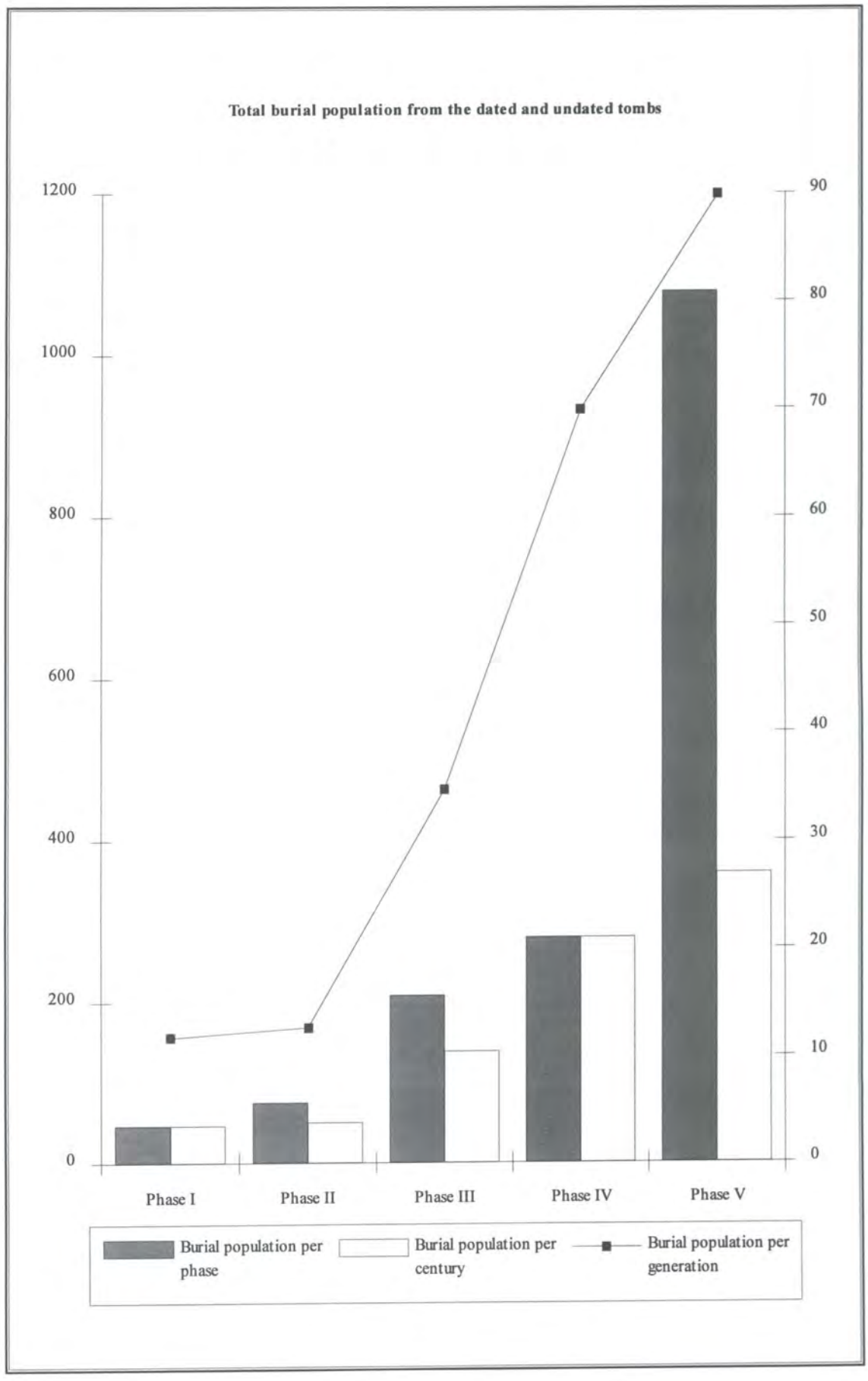

Total burial population from the dated and undated tombs
1200
1000
800
600
400
200
0
90
80
70
60
50
40
30
20
10
0
Phase I
Phase II
Phase III
Phase IV
Phase V
Burial population per phase
Burial population per century
Burial population per generation

Figure 79

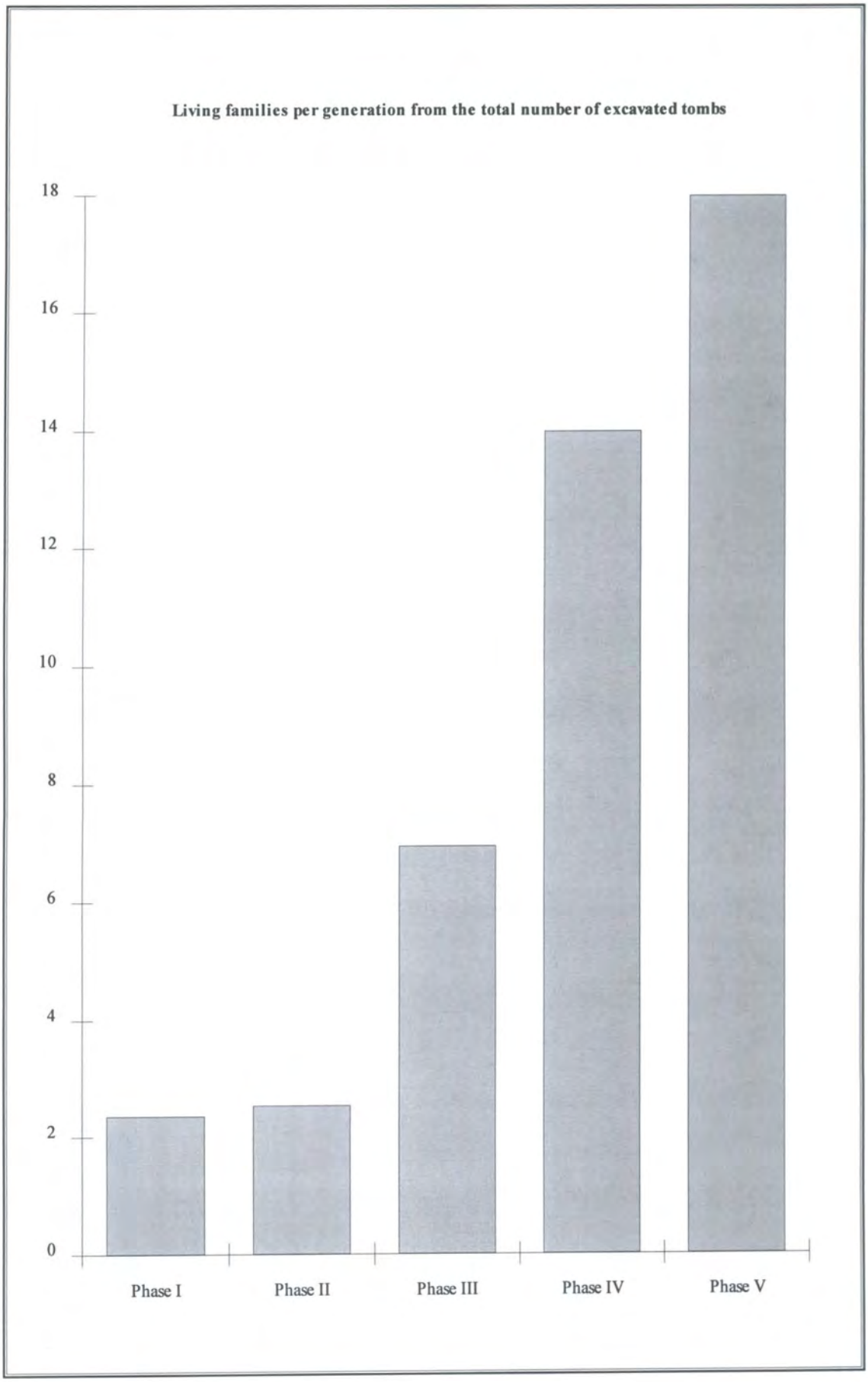

Living families per generation from the total number of excavated tombs
18
16
14
12
10
8
6
4
2
0
Phase I
Phase II
Phase III
Phase IV
Phase V

Figure 80

growth per phase and per century, while the curve indicates the burial population growth per generation. *Figure 80* (p. 223) shows the growth of the living families per generation between Phases I and V.

Figure 79 indicates that the number of dead bodies increased from one phase to another. There were 46.92 (11.73 bodies per generation) in Phase I and 75.89 bodies in Phase II (12.65 bodies per generation). During Phase III the number of dead bodies increased more than twice, which is presented with 208.19 bodies (34.70 bodies per generation). A further increment in the number of dead bodies occurred in Phase IV, which presents 279.58 bodies (69.90 bodies per generation). Phase V presents 1078 bodies (89.83 bodies per generation). *Figure 80* conveys how the corresponding living population per generation increased from one phase to another. During Phase I there were 2.35 families living per generation, in Phase II they barely increased to 2.53, there were 6.94 living families per generation during Phase III, while there were 13.98 during Phase IV and 17.97 families per generation during Phase V.

NATIVE CULTURE

The increment in the number of tombs during each phase arguably indicates the gradual acculturation of Phoenician and Punic burial customs amongst native people and the downfall of the indigenous late Bronze Age ones (which have left no archaeological trace) during Phase I. This cultural overlap is indicated by a small number of settlement sites and tombs which show the association of Phase I pottery with late Bronze Age ceramic ware. One of these settlements is located on the Bahrija plateaux, on the westernmost part of Rabat, while another one is to be identified at Mtarfa, on the northern side of Rabat. In south-east

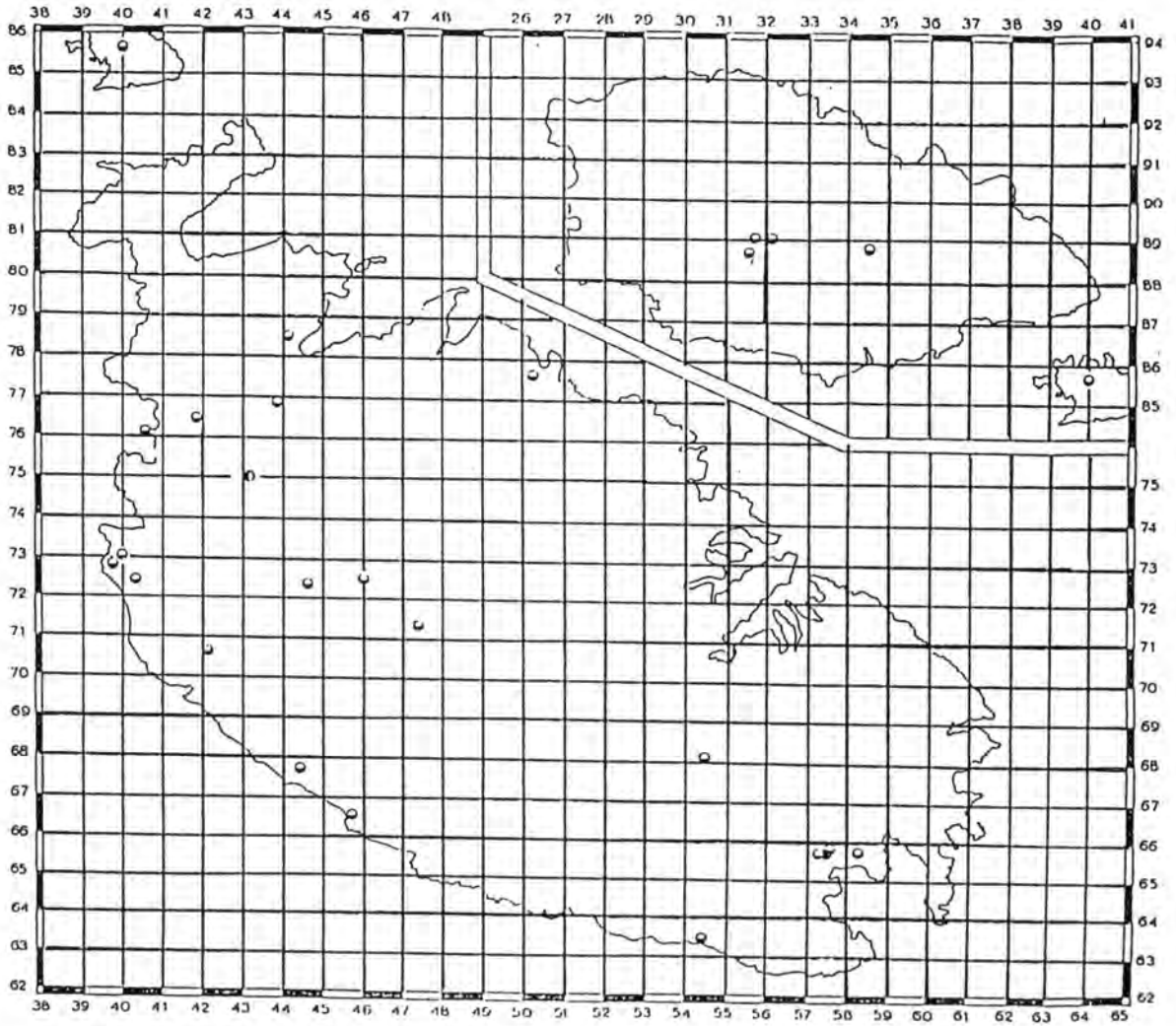
Malta, one may find settlement sites like Borg in-Nadur, at Birzebbugia, and Tas-Silg, at Marsaxlokk (Evans, 1971: 6-17; 105-106; 108). *Figure 81* (p. 226) illustrates the distribution of late Bronze Age settlement sites in Malta and Gozo. Moreover, some of the Phase I tombs, like those of Tas-Sandar (W358) and Ghajn Qajjet (W208), have yielded pottery vessels, which in form still followed the local late Bronze Age ceramic tradition, for example the roundish hand-made cooking pots. The small number of Phoenician burials in Phase I indicates that there was only a small number of people under Phoenician influence; the remaining inhabitants of the islands possibly still followed the local late Bronze Age burial customs. This association of late Bronze Age and early Phoenician pottery appears only in Phase I context. In Phase II there is no evidence of such ceramic association, and this probably indicates a move towards more mature Phoenician culture. The presence of late Bronze Age and early Phoenician pottery in a small number of Phase I tombs and settlement sites suggests that:

a. towards 700 B.C., the time when the Phoenicians probably settled in Malta, there were still some late Bronze Age communities living in certain parts of the islands, and

b. there was possibly a cohabitation between the local late Bronze Age communities and the early Phoenician settlers or the local inhabitants under early Phoenician influence (Ciasca, 1988a: 206).

This acculturation process was gradual and by Phase II there was probably the fulfillment of this very long cultural process, when most of the inhabitants were by now under Punic influence. Archaeology has not yet furnished any knowledge about the indigenous pre-Phoenician burial

DISTRIBUTION OF BRONZE AGE SITES IN MALTA AND GOZO



after Evans 1971: figure 1

Figure 81

customs, because there is no evidence of any late Bronze Age cemeteries in Malta datable to this period; there is evidence of a few settlement areas, but not of any necropoleis or isolated tombs. Thus, what has been argued here remains for the moment a reasonable hypothesis. The above burial population estimates also throw a partial light on the demographic situation of the Maltese Islands, especially when considering *Figures 12 - 16*. These figures (pp. 45, 48, 50, 52 and 55) convey how this acculturation process possibly affected the living population during each phase. The empty areas which appear mainly in Phases I and II (for example, the eastern part of Malta) do not necessarily imply that the land there was simply uninhabited; these areas were possibly still occupied by pockets of late Bronze Age communities. Regarding this hypothesis, *Figure 14* possibly conveys the enhancement of this acculturation process in eastern Malta during Phase III, while *Figures 15* and *16* reveal its consolidation during Phases IV and V, not only in eastern Malta, but also in several other parts of the island. One may also observe that this very long acculturation process started first in the Rabat area and gradually expanded towards the northern and south-eastern parts of Malta.

Since archaeology has not yet unearthed any tombs or other material evidence datable to Phase I, it is possible that in Gozo this acculturation process occurred at a later stage. There is only slight archaeological evidence of late Bronze Age sites on that island; certain sites were discovered many years ago by inexperienced people, whilst others were carelessly destroyed to make way for modern roads and buildings. For instance, a Bronze Age tomb discovered in Racecourse Street, Victoria, was found destroyed and was apparently never recorded

in any excavation report (Evans, 1971: 233). The majority of the Bronze Age sites on Gozo belong to the early and middle periods, rather than to the late Bronze Age. This indicates either that Gozo was abandoned for some time between the late Bronze Age and approximately 600 B.C., or else the inhabitants of that island came under the influence of Phoenician burial customs at a later stage.

The above tables and charts reveal that the Phoenician necropoleis furnish a very incomplete and minimal picture of the local burial population. The body counts acquired from the 650 excavated tombs are very small, and doubtless there was a far higher burial and living population. However, the 650 excavated tombs arguably convey a small but potentially representative sample of the original number of tombs. The reasons for having acquired from the cemeteries a partial picture of the total burial population in these islands are:

a. many more tombs and grave-pits await discovery;

b. tombs may have been destroyed illegally and were never recorded;

c. the dead were not always buried in rock-cut tombs. Certain people were possibly cremated according to the local burial customs, and their ashes were then deposited in simple soil depressions, many of which have not survived or been discovered so far. Some of the people buried in these grave-pits might have been the poorest inhabitants, who could not afford to have either a rock-cut tomb or even burial material, and

d) applying the hypothesis discussed on pages 225-227, certain inhabitants were possibly not buried in Phoenician and Punic tombs,

especially those who still observed and practised the late Bronze Age burial customs and traditions. Since there is no archaeological evidence for late Bronze Age burials, we end up with partial burial population figures, especially during Phase I, because we are furnished with incomplete data. One might expect that by Phase II the native culture did not survive on its own but was absorbed in Phoenician culture; therefore, as acculturation arguably dominated in the end, the later phases are more reliable regarding minimum burial population figures.

LAND-USE AND POPULATION

To obtain a broader picture about the local population during this period, the data were tested differently by using various land-use percentage figures. In Malta and Gozo there is a maximum of 60% (or 18,960 ha) of cultivable land. Therefore, only up to 60% of the total land area is considered to have been cultivated. Moreover, it was stated that under Iron Age farming conditions, a working model of an average farmholding in the Maltese Islands covered an average land area of 5.4 ha, which could approximate a typical Classical Greek farm for a family of reasonable subsistence security. Experimenting with different land-use percentages, one may obtain a series of potential population estimates, by dividing the *x* percentage of 18,960 ha by 5.4 ha, and then multiply the resultant figures by 5 (an hypothetical average family). These calculations are best illustrated in *Table 13* (p. 230).

From these figures one can also calculate an hypothetical progression of land-use population per phase by dividing the land-use population figures by the multipliers of the ratio of the dated bodies per century

(11:12:31:63:79). Assuming that Phase V, when all indications suggest maximum population, is equal to 100% land-use, one can acquire a series of potential population figures for each phase as follows:

Percentage of 18,960 ha	Number of hectares utilized	Number of families	Number of people
20%	3,792	702	3,511
30%	5,688	1,053	5,267
50%	9,480	1,755	8,778
70%	13,272	2,457	12,228
100%	18,960	3,511	17,555

Table 13 - Potential Population from different Land-use Variables

A. 20% of 18,960 ha

Phase I = 79 ÷ 11 = 7.18

= 3,511 ÷ 7.18 = 489 people

Phase II = 79 ÷ 12 = 6.58

= 3,511 ÷ 6.58 = 533.59 people

Phase III = 79 ÷ 31 = 2.55

= 3,511 ÷ 2.55 = 1,376.86 people

Phase IV = 79 ÷ 63 = 1.25

= 3,511 ÷ 1.25 = 2,808.80 people

Phase V = 79 ÷ 79 = 1

= 3,511 ÷ 1 = 3,511 people

B. 30% of 18,960 ha

Phase I = 79 ÷ 11 = 7.18

= 5,267 ÷ 7.18 = 733.57 people

Phase II = 79 ÷ 12 = 6.58

= 5,267 ÷ 6.58 = 800.46 people

Phase III = 79 ÷ 31 = 2.55

= 5,267 ÷ 2.55 = 2,065.49 people

Phase IV = 79 ÷ 63 = 1.25

= 5,267 ÷ 1.25 = 4,213.60 people

Phase V = 79 ÷ 79 = 1

= 5,267 ÷ 1 = 5,267 people

C. 50% of 18,960 ha

Phase I = 79 ÷ 11 = 7.18

= 8,778 ÷ 7.18 = 1,222.56 people

Phase II = 79 ÷ 12 = 6.58

= 8,778 ÷ 6.58 = 1,334.04 people

Phase III = 79 ÷ 31 = 2.55

= 8,778 ÷ 2.55 = 3,442.35 people

Phase IV = 79 ÷ 63 = 1.25

= 8,778 ÷ 1.25 = 7,022.40 people

Phase V = 79 ÷ 79 = 1

= 8,778 ÷ 1 = 8,778 people

D. 70% of 18,960 ha

Phase I = 79 ÷ 11 = 7.18

= 12,288 ÷ 7.18 = 1,711.42 people

Phase II = 79 ÷ 12 = 6.58

= 12,288 ÷ 6.58 = 1,867.48 people

Phase III = 79 ÷ 31 = 2.55

= 12,288 ÷ 2.55 = 4,818.82 people

Phase IV = 79 ÷ 63 = 1.25

= 12,288 ÷ 1.25 = 9,830.40 people

Phase V = 79 ÷ 79 = 1

= 12,288 ÷ 1 = 12,288 people

E. 100% of 18,960 ha

Phase I = 79 ÷ 11 = 7.18

= 17,555 ÷ 7.18 = 2,444.99 people

Phase II = 79 ÷ 12 = 6.58

= 17,555 ÷ 6.58 = 2,667.93 people

Phase III = 79 ÷ 31 = 2.55

= 17,555 ÷ 2.55 = 6,884.31 people

Phase IV = 79 ÷ 63 = 1.25

= 17,555 ÷ 1.25 = 14,044 people

Phase V = 79 ÷ 79 = 1

= 17,555 ÷ 1 = 17,555 people

The above potential population figures are best illustrated in *Table 14*.

Phase	20% of 18,960 ha	30% of 18,960 ha	50% of 18,960 ha	70% of 18,960 ha	100% of 18,960 ha
I	489	733.57	1,222.56	1,711.42	2,444.99
II	533.59	800.46	1,334.04	1,867.48	2,667.93
III	1,376.86	2,065.49	3,442.35	4,818.82	6,884.31
IV	2,808.80	4,213.60	7,022.40	9,830.40	14,044
V	3,511	5,267	8,778	12,288	17,555

Table 14 - Population Growth

One can note the difference between the population estimates obtained in *Table 14* and the ones obtained in *Table 12*. While the latter produced partial burial population estimates, the former yielded potential estimates, which means the maximum number of people the land can carry if, for instance, 20% or 50% of the 18,960 ha were fully utilized. If there was a potential population of 3,511 people in Phase V when only 20% of the cultivable land was utilized, it does not necessarily mean that in Phase V there was in reality that population - it is quite likely, but not yet substantiated by archaeological evidence. These potential population figures may also help us to understand better the demographic situation of the Maltese archipelago, especially if we apply the hypothesis discussed on pages 225-227. So, these figures may not only include the inhabitants who buried their dead in the Phoenician tombs,

but possibly also those who still observed the indigenous burial customs and traditions.

PERCENTAGE POPULATION RECOVERY

From the burial and potential population estimates, one may calculate the percentage population recovery to obtain the difference between these two sets of population figures. The population recovery also reveals in terms of percentages how fractional are the burial population figures when compared to the potential population estimates. To calculate the percentage population recovery, the following formula is used:

$$\text{Population recovery} = \frac{\text{total burial population (averaged per generation)}}{\text{Land-use population}} \times 100\%,$$

whereby we divide the total burial population (averaged per generation) (*Table 12*) by the land-use population figures (*Table 14*), and the resultant figures are multiplied by 100%. *Table 15* illustrates the population recovery percentage for the different variables of land-use during each phase.

Phase	20% of land-use	30% of land-use	50% of land-use	70% of land-use	100% of land-use
I	2.40	1.60	0.96	0.69	0.48
II	2.37	1.58	0.95	0.68	0.47
III	2.52	1.68	1.01	0.72	0.50
IV	2.49	1.66	1.00	0.71	0.50
V	2.56	1.71	1.02	0.73	0.51

Table 15 - Percentage Population Recovery

POPULATION HISTORY

The estimates acquired in *Table 14* convey different variables of land-use population. This table shows that the highest potential population figures (12,288 people for the 70% of land-use and 17,555 people for the 100% of land-use) are similar to estimated Medieval population figures. Towards the end of the tenth century A.D., Yusuf al-Futah estimated a local population of approximately 21,000 people (Census, 1985: 4), which is comparable to the 17,555 people obtained from the 100% of land-use in Phase V. In 1241, the Abbot Gilibertus calculated more than 2,000 families, which amounted to about 12,000 souls (Blouet, 1984: 38); this figure is also similar to the 12,288 persons obtained from the 70% of land-use in Phase V. In 1490, the population of these islands has been put at approximately 17,000 persons (Census, 1985: 6), which approximates the 17,555 persons obtained from the 100% of land-use in Phase V.

The 650 excavated Punic tombs in Malta reveal that during this period there was an increment in the living and buried population from one phase to another (see *Table 12*), with a major population rise between Phases IV and V, when the archipelago became a Roman dependency and was probably exposed to more trading contacts with the Mediterranean world, especially with South Italy, Sicily and North Africa. The enormous rise in population figures between Phases IV and V may also correspond to the presence of Roman settlers, whose numbers cannot yet be archaeologically determined. Archaeology and history have not yet provided enough light on the study of population growth in Malta between the Imperial Roman period and the middle part of the tenth century A.D.

Insufficient archaeological evidence hampers us from obtaining precise population figures. The estimated body counts revealed only partial estimates, because not all the tombs yielded dead bodies, while others were illegally destroyed or covered over to make way for modern buildings; besides, there are certainly others still awaiting their discovery. From the dated and undated tombs together the buried population did not exceed 1,700 bodies: 46.92 bodies per century in Phase I (2.35 living families per generation), 50.59 bodies per century in Phase II (2.53 living families per generation), 138.79 bodies per century in Phase III (6.94 living families per generation), 279.58 bodies per century in Phase IV (13.98 living families per generation), and 359.33 bodies per century in Phase V (17.97 living families per generation). This is the highest and closest burial population (1,688.58 bodies), which the tombs could give under the circumstances mentioned on pages 201-202. The living population per generation figures obtained from the total number of excavated tombs are clearly tiny. When the body counts were compared to the land-use population, the percentage population recovery figures revealed that we are indeed furnished with fragmentary data; in *Table 15* we saw the enormous difference between the burial estimates and the land-use population figures. The 650 excavated tombs arguably convey a small but representative sample of the original number of tombs. This small sample is important for the study of relative population change in the Maltese Islands during the period under study. The aim of *Table 14* was to present a wider picture of the demographic situation of the Maltese Islands during this period. Despite their limitations, these various estimates help us to consider the minimum and the maximum potential population possible, which the Maltese Islands could have carried in Phoenician and Punic times.

CHAPTER 7

PUNIC SETTLEMENTS: A COMPARATIVE STUDY WITH LATER HISTORICAL SETTLEMENT PATTERNS

This chapter analyzes with different maps the location of Punic settlement sites in the Maltese Islands in relation to later historical settlement patterns during the Roman and Byzantine eras, the Middle Ages and the Modern Period.

THE PHOENICIAN AND PUNIC PERIOD

In Chapter 1, a distribution pattern of Punic settlements in Malta and Gozo has been attempted (*Figure 2*). *Figure 27* revealed the territorial boundaries of the three nucleated settlements. In ancient societies and in small countries like Malta, the normal territorial limits a nucleated settlement could reach was of approximately 3kms (Bintliff, 1993: personal communication). As explained in Chapter 3 the people who cut their tombs within the 3km boundaries either lived in the urban settlement itself or in small hamlets near by. In times of insecurity, the urban people (including those dwelling within the 3km boundaries) probably had the easiest access to reach the larger settlements (Rabat and Victoria), which were also fortified. The inhabitants who cut their tombs beyond the 3km boundary limits were probably rural farmers, who not only worked their lands and lived in the countryside, but also buried the dead in their own lands. In ancient societies the territorial limits of a rural (non-village) settlement normally did not exceed 1km radius, especially when considering the small size of Malta. The rural inhabitants probably lived in an area not far away from their tombs. This seems to have happened not only in Malta, but also in Sicily,

Sardinia, Carthage and Spain (Negueruela, 1981: 211; Bondì, 1988: 248). *Figure 82* (p. 239) conveys the distribution of Phoenician and Punic tombs. The 1km boundary units around each tomb or tomb cluster convey the rural areas where the farmer families possibly lived. In times of danger the rural people had probably more access problems than the urban people to reach the nucleated fortified settlements, because the physiography of these islands, for instance the coralline region and many parts of Gozo, sometimes do not permit easy walking. When it was difficult for the rural people to reach the fortified settlements, they probably had to find some other means of shelter, like caves. The geology of Gozo and the coralline region permit the presence of caves, some of which are ideal for habitation or even for shelter purposes. In Chapter 3 it was also mentioned that during this period most people probably depended on farming. The proximity of the tombs to the nucleated settlements, especially in the Rabat area, indicates that many families used to live in the urban settlements, and probably worked their lands within the 3km boundary units. Considering that a person normally covers a 1km distance within ten minutes, the maximum walking distance the urban farmers usually had to reach their fields was of about thirty minutes.

The urban territorial boundaries do not rule out the presence of other small settlements. In the Rabat area there is evidence of two settlements, one at Mtarfa, to the north of Rabat, and the other at Qallilija, in a north-westerly direction. At Mtarfa more than thirty rock-cut silos have so far been identified (Caruana, 1898: 73; Plate XV; Evans, 1971: 107), which were presumably intended for storage. At Qallilija, the remains of a settlement were unearthed in 1912, where

traces of domestic huts were also identified (Ashby, 1915: 48); there is also evidence of cave dwellings. I have assumed that the rural territorial limits represent small settlements, which consisted either of cave dwellings (Virzì-Hägglund, 1979: 396-399), of farmhouses, or of groups of small huts still undiscovered.

The three nucleated settlements were those of Rabat, Paola-Marsa (in the Grand Harbour area) and Victoria, Gozo (*Figure 83*, p. 241). Since much of the land around Rabat, Paola-Marsa and Victoria has been built over, and since the excavation reports are often confusing, today it is difficult to estimate precisely the land area covered by each of these three settlements. However, by studying the location of the archaeological sites and monuments identified in these areas (including the distribution of cemeteries), one may reasonably estimate the land area of each nucleated settlement. It seems that by the end of Phase V the Rabat settlement was the most extensive and had an area of about 100,000m^2 (10 ha), which covered today's Mdina and part of Rabat (Caruana, 1898: 85-88; Bonanno, 1981: 507). The Harbour settlement appears to have been the second major nucleated settlement in Malta, which by the end of Phase V reached a land area of about 50,000m^2 (5 ha) (Said, 1992: 21). The Victoria settlement, the third major nucleated settlement, seems to have reached an area of about 6 ha (6,000m^2).

From the size of these three settlements one can hypothesize the range of urban population in each nucleated settlement at the end of Phase V (when these settlements reached the latest and largest land area) by multiplying the settlement area by an estimate for the number of people per hectare in each settlement. If we add together the population

figures of these three settlements we will obtain an estimate of the maximum urban population at the end of Phase V. In the Mediterranean and the Middle East, the Bronze Age and Iron Age towns carried between 100 and 400 people per hectare (Bintliff, 1993: personal communication). The method used to calculate the urban population is as follows:

area of Rabat = 100,000m^2

area of Harbour settlement = 50,000m^2

area of Victoria settlement = 60,000m^2

urban population per hectare = 100 - 400 people per hectare

If there were 100 people per hectare living in each nucleated settlement, then the urban population is as follows:

Rabat settlement:	10 ha x 100	=	1,000 people
Harbour settlement:	5 ha x 100	=	500 people
Victoria settlement:	6 ha x 100	=	600 people
Total urban population:			2,100 people

If there were 400 people per hectare living in each nucleated settlement, then the urban population is as follows:

Rabat settlement:	10 ha x 400	=	4,000 people
Harbour settlement:	5 ha x 400	=	2,000 people
Victoria settlement:	6 ha x 400	=	2,400 people
Total urban population:			8,400 people

If we then subtract the total urban population from the land-use population of Phase V (Chapter 6, *Table 14*), we will obtain the total rural population of these islands at the end of this period. If we take a reasonable range of 50-70% of land-use, we can calculate the rural population as follows:

100 people per hectare

50% land-use in Phase V = 8,778 - 2,100 urban = 6,678 rural people

70% land-use in Phase V = 12,288 - 2,100 urban = 10,118 rural people

400 people per hectare

50% land-use in Phase V = 8,778 - 8,400 urban = 378 rural people

70% land-use in Phase V = 12,288 - 8,400 urban = 3,888 rural people

The first set of population estimates (derived from the 100 people per hectare) indicates that the rural population was relatively very high compared with the urban population. The second set shows the opposite, because when 50% of the land was utilized there was only 4.3% rural population, and when 70% of the land was utilized there was 31% rural population. The latter set is probably much more reliable because even in Classical Greece it has been suggested that less than 30% of the people lived in the countryside compared to the cities (Bintliff, 1993: personal communication). The second set suggests that most of the people lived in the nucleated settlements and were probably urban farmers who used to cultivate their fields either within or beyond the territorial limits of the nucleated settlements. *Figure 82* reveals that the majority

of the tombs and tomb clusters (about 72%) are located within the territory (3km boundary) of the three nucleated settlements of the Maltese Islands, which therefore agrees with the above model that most of the people probably lived in the nucleated settlements, while less than 30% of the local population lived in the countryside.

THE ROMAN PERIOD (218 B.C. - A.D. 300)

During the Roman Period, the three nucleated settlements appear to have remained reasonably the same in size. The Rabat settlement was probably still the largest centre of habitation; parts of it were fortified (Caruana, 1898: 85-88) and there is evidence of lavishly decorated town houses (Ashby, 1915: 34-42). The Victoria settlement, which was also partly fortified (Trump, 1972: 151-152), probably remained the chief town of Gozo (M.A.R., 1936-37: 14-15; Bonanno, 1977a: 387). The Harbour settlement also continued to be inhabited; remains of Roman buildings, storehouses and cisterns were found at Kordin (Barbaro, 1794: Figure 1), in New Street (M.A.R., 1936-37: 13), in Racecourse Street (M.A.R., 1946-47: 3) and in Coronation Gardens (M.A.R., 1955-56: 7-8).

Like Punic Malta, the archipelago seems also to have been occupied by a scattered number of rural hamlets, cave dwellings (Virzì-Hägglund, 1979: 396-399) and isolated farmhouses (Bonanno, 1977: 76). *Figure 84* (p. 245) conveys the distribution of settlement sites in the Roman Period. Sites situated beyond the 3km boundary units of the nucleated settlements probably pertained to small communities of rural families. Archaeology has unearthed in various parts of the Maltese Islands the remains of twenty-two country houses (Bonanno, 1977: 75-76). An important country house is that of Ghajn Tuffieha, to which was annexed an extensive bath

complex. The distribution of these villas helps us to identify some of the rural areas which were probably inhabited during this period. So far, the structural remains of nineteen country houses have been identified in Malta, while another three were discovered in Gozo (*Figure 22*). Certain structures were concerned with the extraction of olive oil, while others were probably the residence of wealthy families (Bonanno, 1977: 73-74). Their distribution is indeed significant: most of these villas were located near coastal areas, one structure was found in the wet coralline region, and the remains of another five were identified in the south-east of Malta. A concentration of another five villas were situated in the north-eastern part of the globigerina region.

Certain villas, like that of Burmarrad, were also utilized during the Early-Christian Period (Bonanno, 1981: 508), which indicates continuity of land-use in later times. The distribution of these villas suggests the dominance of dry-farming because they are situated in dry areas and where this type of farming normally prevails even today. Except for that of Zejtun, none of the earliest archaeological layers identified in these structures have brought to light any Bronze Age deposits. During the excavations of the Zejtun country house, two rock-cut silos containing Bronze Age potsherds were identified (R.G.D., 1973-74: 51). The present archaeological evidence reveals that some of these structures were in use since the third century B.C., other villas were utilized since the Roman Period (Bonanno, 1981: 508), while others were also in use during the Early-Christian era (Malta, 1963: 154; 1964: 150-151; 183-184; 1965: 110-111; 1966: 72).

Within the 3km boundaries of the nucleated settlements archaeological explorations have identified traces of isolated hamlets or country houses. At Gnien is-Sultan, Rabat, Zammit discovered the structural remains of a large water tank, three cornice slabs of local stone, fragments of tiles, marble and mosaic (Ashby, 1915: 47-48). These remains probably belonged to a house outside the Rabat settlement, and presumably pertained to a landowner. Within the 3km boundary of the Harbour settlement archaeology has unearthed the remains of various structures, which probably pertained to houses. At Qormi, on the north-west of the Harbour settlement, Zammit discovered an ancient cistern (measuring 9.15m x 3.35m x 4.56m), in which a number of Roman potsherds were found (M.A.R., 1913-14: 4). At Luqa, on the south-western part of the same nucleated settlement, the remains of a Roman cistern were unearthed in 1914 (M.A.R., 1914-15: 3). In Kercem, situated in the 1km boundary of the Victoria settlement, the remains of a Roman building were discovered in 1906 (M.A.R., 1906-07: 3). These discoveries indicate that although many people lived in the nucleated settlements, yet others presumably lived in isolated hamlets or country houses within or beyond the territorial urban limits of these three settlements. The dry coralline part of the island does not seem to have been extensively inhabited, probably because the land was not much suitable for agricultural purposes. The absence of perennial water resources and the physiography of the land permit only poor quality dry-farming even today, because the soil is exposed to various weathering effects. These two main reasons induced the inhabitants to choose alternative habitation areas which provided better opportunities, especially in agriculture. The late Punic country houses which were reutilized in the Roman Period suggest, together with their location, that groups of people still

depended on extensive dry-farming. Villas, like that of Burmarrad, indicate extensive dry-farming activities, with a major specialization in the olive industry (Bonanno, 1977: 74).

Underwater archaeology has revealed how the Maltese Islands had various trading contacts with the outside world. The remains of several Roman cargo shipwrecks, identified within the maritime limits of these islands (M.A.R., 1958-59: 2; 1959-60: 2; 1960: 4; 1961: 6-7; 1962: 7; 1963: 7; 1964: 7; 1965: 4-5; Bonanno, 1991: 210), indicate trading contacts with Sicily, South Italy and North Africa. One cannot either rule out the presence of trading contacts with the eastern Mediterranean; St Paul's visit to Malta is a good example, because after his three months stay in Malta St Paul went to Rome (where he was executed) on a ship from Alexandria (Acts, XXVIII: v. 11). The evidence provided so far by underwater archaeology, the presence of country houses in certain harbour areas and the Harbour settlement itself, suggest that communities of people settled in these areas because they probably saw opportunities in trade and maritime activities. In the Harbour settlement the remains of extensive warehouses were identified in 1768 at Kordin; one of the storerooms contained 260 Roman amphorae (Barbaro, 1794: 4-15). Kordin is situated close to the Grand Harbour, and it seems that these storehouses were concerned with trade activities (*Figure 85*, p. 249). Extensive warehouses were identified only in the Harbour settlement, which, together with the physiographic nature of the Grand Harbour, indicate that this was the most important trading centre on these islands. Although in the harbour areas of the globigerina region there were probably small communities of people whose livelihood depended on farming, as the country houses well indicate, yet other people were

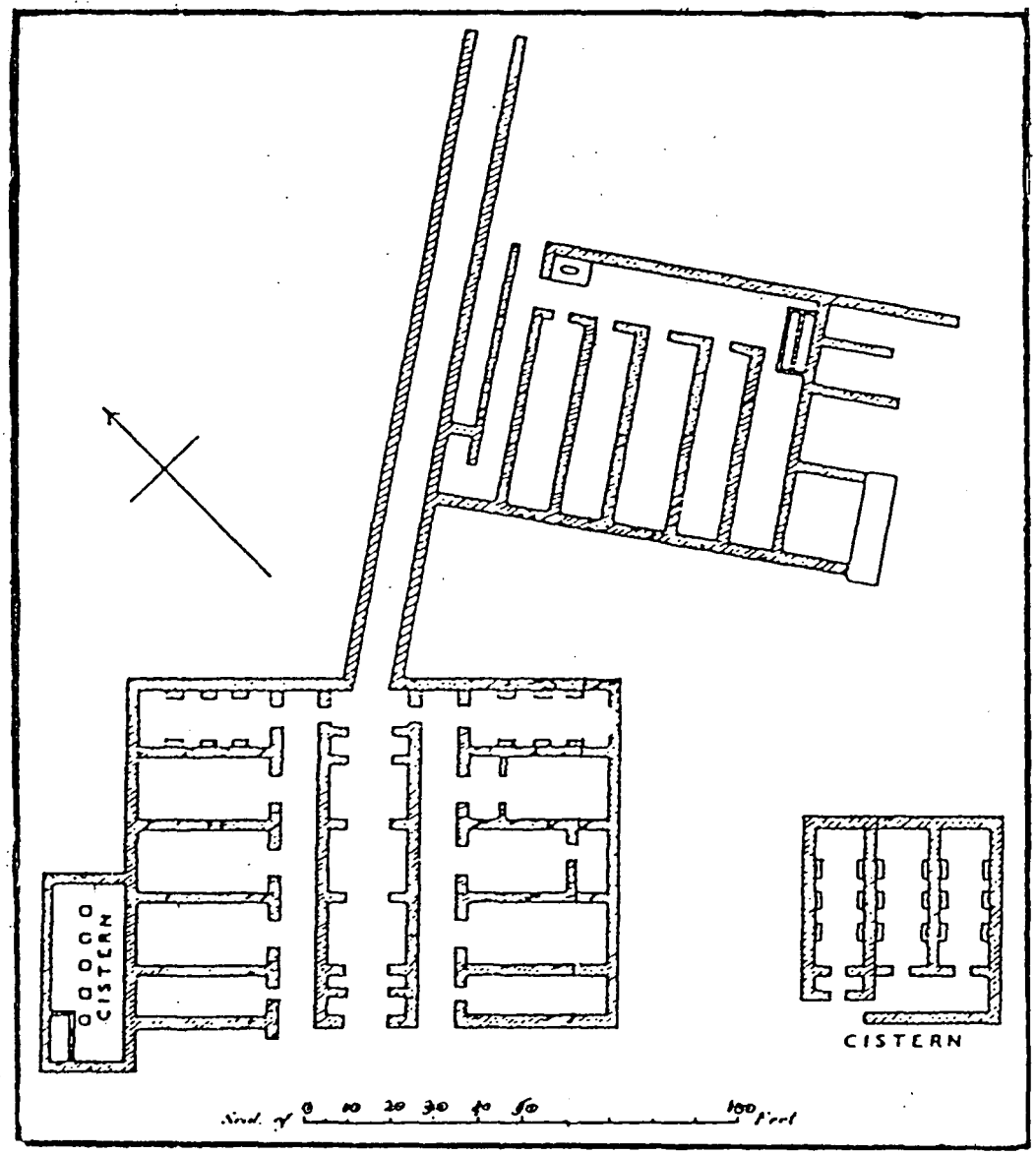


Figure 85: Plan of the Kordin storehouses (after Barbaro, 1794: Figure 1)

presumably involved (or at least partly involved) in various maritime activities.

THE EARLY-CHRISTIAN PERIOD (c. A.D. 300 - 870)

In Malta this period starts approximately in the early fourth century A.D., when there is evidence for the first time of rock-cut underground cemeteries. Certain necropoleis are very extensive, like those of St Agatha (having more than 700 tombs), while others consist of small family graves. These catacombs developed in form and spread in many parts of the Maltese Islands; in Gozo, there is evidence of only four cemeteries.

Figure 86 (p. 251) conveys the distribution of catacombs in Malta and Gozo. The Rabat settlement was probably still the most extensive and the most populated centre of habitation. Within the 3km boundary of this settlement archaeology has unearthed the remains of 42 clusters of catacombs, which collectively contained more than 1,000 tombs. Within the 3km boundary of the Harbour settlement, 7 clusters of tombs were discovered, while within the 3km boundary of the Victoria settlement 4 cemeteries were identified. Considering the distribution of catacombs by region, the coralline region presents 53 clusters of catacombs, the globigerina region 34 clusters, and Gozo 4 clusters (Buhagiar, 1986: 12).

The Rabat and Victoria settlements were probably still the main centres of habitation; both settlements were fortified, as testified by archaeological evidence (Trump, 1972: 151-152; Bonanno, 1981: 507). The structural remains of various buildings and the presence of several cemeteries in the Paola-Marsa area suggest that the Harbour settlement was also inhabited (M.A.R., 1955-56: 7-8; Buhagiar, 1986: 260-267;

324-326). The catacombs situated beyond the 3km boundaries of the nucleated settlements probably pertained to communities of rural families.

Figure 86 suggests a settlement pattern very similar to that of Punic and Roman Malta. During these three periods (Punic, Roman and Early-Christian), the dry coralline region remained practically uninhabited, probably because it was neither suitable for crop cultivation nor for animal herding. In the wet coralline region there was probably intensive land-use, where we are presented not only with the largest number of cemeteries, but probably also with the highest population. The cemeteries of this region tend to become less scattered and are more concentrated within the territorial boundaries of the Rabat settlement. The inhabitants of that area were possibly becoming more urbanized, and were trying to settle in the Rabat settlement itself or within its territorial limits. Today, it is difficult to identify the remains of ancient settlements in the Rabat area since much of the land has been covered over by modern buildings and roads.

Within the 3km boundary of the Harbour settlement new land areas were being utilized for burial and possibly also for habitation purposes, for example the Marsamxett Harbour area, situated in the north-western part of the Grand Harbour. This particular harbour area seems to have been never inhabited before.

In Gozo, the cemeteries are situated within the urban territory of the Victoria settlement, indicating that the inhabitants of this island were

probably also becoming more urbanized; the eastern part of Gozo was completely uninhabited.

In Malta, these cemeteries are spread in massive clusters in the wet coralline and in the globigerina regions, and they become less common towards the dry coralline region. A harbour area in the north-western part of the globigerina region, which was used for burial and probably also for habitation purposes, is that of Salina (Buhagiar, 1984: 1-18). Underwater excavations indicate that the people who lived here were probably involved in maritime activities (M.A.R., 1961: 7; 1963: 7; 1964: 7; 1965: 4-5). Although Trump (1972: 132) claims that this harbour was of considerable importance there is no direct archaeological evidence, except for the catacombs. Presumably, there was some kind of human activity going on, possibly of a maritime nature, but the degree of importance which this harbour area might have enjoyed cannot yet be specified.

The gradual urbanization process in the Rabat and Victoria settlements indicates that the inhabitants were seeking more security in these two fortified settlements. *Figure 86* conveys that much of the land around the nucleated settlements was probably intensively utilized. This suggests that if land was the inhabitants' major source of living, as it was in the Punic Period, many inhabitants were possibly urban farmers, who dwelled in the nucleated settlements and worked their lands close by. Since even during this period many people probably depended on subsistence farming, land was considered as important, and possibly even some non-farmer families possessed some land. The distribution of catacombs can be linked not only to intensive land-use, but probably also

to land possession. Therefore, catacombs were dug wherever people owned land, just as happened in other parts of the Early-Christian world, like Italy (Buhagiar, 1986: 42). Since these hypogea normally contained multiple burials, they were probably also family graves (Buhagiar, 1986: 42). The other catacombs found in the other parts of these islands, which in *Figure 86* are represented by 1km boundary units, probably indicate rural habitation and landownership. Wherever communities of farmer families dwelled, they probably had their own lands to cultivate, and in their own lands they used to cut their hypogea to bury their dead. These families possibly dwelled in small rural hamlets or even in isolated country houses. Certain Roman country houses seem to have continued to be utilized for farming and habitation purposes. In 1905 Zammit found a small catacomb in the hill side beneath the country house of Burmarrad (M.A.R., 1905: 2). This catacomb seems to have been utilized for burial purposes when this country house was still in use for farming purposes (Cagiano, 1966: 21-50). In 1948 Farrugia identified an Early-Christian catacomb near the country house of Birzebbugia (Buhagiar, 1986: 239). The distribution of these cemeteries suggests that most of the inhabitants were presumably involved in various farming activities, including animal herding, while other communities settled in different harbour areas because they were possibly involved (or at least partly involved) in maritime activities.

THE MIDDLE AGES (870 - 1530)

The Middle Ages started in 870, when the Arabs conquered Malta, and came to an end towards 1530 when Charles V of Spain donated these islands to the Knights of St John. Archaeological explorations in the Rabat area revealed that the Muslim occupation of Malta reduced considerably the

Roman town of Rabat into today's Mdina (Blouet, 1984: 35). Mdina served as Malta's capital city up to 1571.

The second major settlement was that of Vittoriosa (in the Grand Harbour area), which was busy in harbour activities (Blouet, 1984: 49). The major settlement in Gozo was the Citadel in Victoria, probably situated on top of the former Punic-Roman settlement (Blouet, 1984: 44). While Mdina and the Citadel were fortified and located on a hilltop, Vittoriosa was guarded by the castle of St Angelo.

Figure 87 (p. 256) conveys the distribution of Medieval (fifteenth century) settlements in Malta. Lack of documentary evidence has hampered us from obtaining a settlement distribution pattern in Gozo, because while population figures for Malta started to appear in the early fifteenth century, those of Gozo appeared many years later (Blouet, 1984: 81). Besides, the 1551 Turkish invasion on Gozo sent many people into slavery and the land remained uninhabited for many years (Blouet, 1984: 50). Since the documents are inconsistent, it is very difficult to obtain exact Medieval population figures (Wettinger, 1975: 186).

This map shows intensive population in the wet coralline region, with a major concentration in the Rabat area. The dry coralline part of Malta was hardly inhabited, except for one settlement, which disappeared before 1419, because its inhabitants probably sought more secure settlements (Wettinger, 1975: 185). The globigerina region is predominantly characterized by a number of hamlets, some of which were inhabited by less than 50 people. Vittoriosa was the largest settlement in the Grand Harbour area.

In the fifteenth century there were in Malta about 8,000 people between the ages of 18 and 65 (Blouet, 1984: 43). Wettinger calculated another 4,000 inhabitants under the age of 18, and about 400 people beyond 65 years. This amounts to a population of about 12,400 people. But the population of Gozo and Vittoriosa is not included because their baptismal records have perished. Since Vittoriosa was busy in harbour activities, a population of about 3,000 souls was estimated, which implies that in Malta there were about 15,400 people (Blouet, 1984: 43). The population circles in *Figure 87* convey the approximate population in each settlement.

The above population figure (15,400 people) is similar to the 17,500 people obtained for the 100% of land-use in Chapter 6. This reveals that the population estimates obtained from the 70% and 100% of land-use in Chapter 6 are appropriate for later historical population figures. If we were to include the inhabitants of Gozo, we will probably exceed a population of 16,000 people, which will be more similar to the 17,500 people obtained from the 100% of land-use. In 1530, the total population was of about 20,000 people, including the Knights of St John (Blouet, 1984: 72). Although during the Middle Ages there were several improvements in agricultural technology and in crop cultivation, and although the Arabs introduced in Malta new crops like citrus fruits (Blouet, 1984: 36), yet by 1530 the population does not seem to have remained self sufficient because crops like wheat were still being imported from Sicily, which in a way suggests that the local supply of cereals did not meet the demand of the inhabitants. The introduction of new crops, the technological improvement since the Arab period in the cultivation of certain crops like cotton, and the interest of the local

government to import grain instead of cultivating it locally on a large scale changed the type of local agricultural economy: 'Malta must have gone from a predominantly subsistence agricultural economy to one in which small amounts of cash flowed as the result of cotton production ... The local grain estates seem to have become less important as a more commercialized form of agriculture penetrated parts of the islands' (Blouet, 1984: 40).

In the Middle Ages new hamlets flourished around the harbours of Marsamxett and Marsaxlokk. Some of these settlements disappeared before 1419, probably because of insecurity against enemy attacks (Wettinger, 1975: 185-186). By 1490 certain settlements witnessed demographic rise, while others were deserted, because the inhabitants of the latter sought the protection of the former (Wettinger, 1975: 186; Blouet, 1984: 43).

THE MODERN PERIOD (1530 - 1880)

This period is divided into two sub-periods: the Knights and the French Period (1530-1800), and the British Period (post 1800). Malta's population in 1530 was of about 20,000 people (Blouet, 1984: 72). The distribution of settlements in 1530 is best illustrated in *Figure 88* (p. 259). This map reveals that by now many Medieval settlements have died and the population settled more inland; Vittoriosa was the only harbour settlement in Malta, with a population of 5,000 people. So there was a further enhancement of the urbanization process, whereby people started to settle in the major villages because these offered more security. In Mdina and Rabat there was a population of 4,400 souls.

Figure 88 reveals that the dry coralline part of Malta was completely uninhabited because it is not very suitable for agricultural purposes, especially its northernmost part; it also contains a series of open harbours which are prone to sudden pirate raids. Besides, between 1530 and 1565 a number of families who lived in the coralline region abandoned their lands and hamlets to settle in Vittoriosa; this town became the headquarters of the Order until 1571, when the city of Valletta (situated on the left hand side of the Grand Harbour) was built. According to Blouet (1984: 82-83), Mdina was not suitable for the Knights because it was impotent and 'could not control the island from its withdrawn defensive site'.

This map indicates that in Malta the smaller settlements were generally located near the larger villages; the south-east of the globigerina region is dotted by a number of small villages and is dominated by two major settlements. By 1530 all the harbour hamlets in this region disappeared, probably because of insecurity problems from pirate raids. Moreover, the inhabitants started to settle in the larger villages, also in Vittoriosa, because there were more employment opportunities and security (Blouet, 1984: 71).

Figure 88 also reveals that the Citadel was the major settlement in Gozo, carrying about 3,000 people, and in each of the remaining five villages dwelled less than 250 people. In 1530 Gozo's population was of about 4,500 people (Blouet, 1984: 71). The smaller settlements are situated inland so that in times of danger the inhabitants, who were probably farmers, sought refuge in the fortified Citadel.

This figure also conveys that within the 3km boundary of the nucleated settlements there were few settlements. Within the 3km boundary of Mdina there were two settlements; within the 3km boundary of Vittoriosa there were three settlements, and within the 3km boundary of the Citadel there were four hamlets. In Malta the sixteenth century major villages developed beyond the limits of the nucleated settlements. This not only indicates the end of many Medieval hamlets and the development of the larger villages into towns, but also the process when these towns became parishes (Blouet, 1984: 39). In Gozo there were still no flourishing towns or villages; this island remained under one parish until 1675, when it was divided into several parishes (Blouet, 1984: 82). In times of insecurity most people who dwelled in the larger villages of Malta still sought the protection of Mdina or Vittoriosa, while those who lived in the south-east of the globigerina region, possibly sheltered themselves in remote cave areas. South-eastern Malta is characterized by a series of large natural caves, some of which were utilized for habitation purposes (Baldacchino, 1934: 2). In Gozo, many inhabitants sought the protection of the Citadel, although others possibly sheltered themselves in caves, which are very common on that island.

The distribution of settlements in 1760 is illustrated in *Figure 89* (p. 262), which shows new developments in settlement pattern. A concentration of settlements evolved in the Grand Harbour area; by 1571 Valletta became the new headquarters of the Knights, and between 1575 and 1760 this city prospered in terms of population size, since it offered employment to many inhabitants who abandoned their former villages to settle here (Luttrell, 1982: 41-42); many people found employment in trade or business, while others joined the civil service or the army, or

were employed in different harbour activities (for instance, in the dockyard). Over-population problems hampered Vittoriosa from growing further, as a result of which new sub-urban harbour settlements developed around it (Blouet, 1984: 77). The other villages remained practically similar in size as they were in the sixteenth and seventeenth centuries. There was gradual demographic decline in the Rabat area, probably because many people started to settle in the Grand Harbour region. The distribution of settlements in Gozo remained basically similar to that of the sixteenth century, whereby we have a major fortified settlement in the central part and several small villages scattered in various parts of Gozo. However, between 1530 and 1760 the number of settlements in Gozo increased; while the 1530 map presents us with the Citadel and five other villages, that of 1760 presents the Citadel and nine other villages, probably because Gozo's population was increasing; since many people were farmers (Luttrell, 1982: 46) they probably settled in areas which even today are agriculturally productive. Historically we know that the 1551 Turkish invasion on Gozo led to the depopulation and to the eventual abandonment of several villages (Vella, 1979: 967), and this is probably one of the major reasons why in Gozo there was a later development in settlement pattern than in Malta (Blouet, 1984: 81-82). The villages of Gozo started to develop steadily since 1650, when the island was not anymore frequently threatened by Turkish sea-raids. The increasing population of Gozo and the interest of the people to settle in different parts of that island for agricultural purposes gave rise to a number of small villages, some of which eventually also became parochial units, like Xaghra (Blouet, 1984: 82). Since the villages of Gozo developed later than those of Malta, 'they have taken a different form, having broader streets and straggling open plans' (Blouet, 1984: 82).

This map conveys that the dry coralline region and the south-eastern harbours of Malta were still uninhabited. Since only the Grand Harbour area was extensively fortified, it was natural that most of the people settled in the best protected areas of the island. Although the Gozo settlements increased in terms of population size, in times of insecurity many inhabitants probably still sought the protection of the Citadel. Where it was difficult for the inhabitants to reach the fortified settlements, they probably had to search some other means of shelter, like caves.

By 1760 the local population became more urbanized, and about 56% of the total population in Malta had settled in the Grand Harbour area, especially in Valletta, which contained about 20,000 people; in the three other harbour settlements there were about 16,500 people. Therefore, in the Grand Harbour area there were approximately 36,500 people (Luttrell, 1982: 42). The population of Malta in 1760 was of about 59,000 souls, while that of Gozo was of approximately 10,000 (Luttrell, 1982: 41; Blouet, 1984: 72-73). The towns and major villages carried between 3,000 and 5,000 people each, while there were still villages which were each inhabited by less than 1,000 souls. Most of the larger villages became compact centres (Luttrell, 1982: 46) and their population increased because they offered marketing and, besides being places where farming families dwelt, they also 'offered other facilities to the surrounding countryside' (Blouet, 1984: 81). The other settlements which were not located close to the Grand Harbour did not flourish in terms of population size because the people were more likely to settle in Valletta, in the Grand Harbour settlements, or in the larger villages near the Grand Harbour, like Tarxien and Birkirkara, since these offered

more job opportunities, especially in trade and port services (Luttrell, 1982: 43). Therefore, the majority of the rural villages remained small farming nuclei which were each occupied by less than 200 families. Some of these settlements were unable to grow further because much of the surrounding lands did not permit good quality dry-farming and, therefore, remained uncultivated. When these settlements were unable to grow further their inhabitants gradually abandoned these villages to settle in the Grand Harbour settlements and seek alternative employment opportunities (Luttrell, 1982: 48; Blouet, 1984: 92); however, this population rise and demographic mobility not only led to more employment opportunities, especially in the Grand Harbour area, but also to the importation of more food supplies from abroad to meet the local demand (Blouet, 1984: 126). In Gozo, about 5,000 people (approximately 50% of the total population on that island) lived in or near the Citadel (Blouet 1984, 72-73; 96). During the eighteenth century Gozo's population flourished at a faster rate than that of Malta (Blouet, 1964: 70-119), 'which may have reflected the prosperity of agriculture' on that island (Luttrell, 1982: 42). Luttrell (1982: 42) believes that the continuous demographic rise in the Maltese Islands between 1530 and 1760 was due to 'comparatively reasonable standards of living, which discouraged emigration, and to excellent health and quarantine services, which prevented major occurrences of plague'.

Figure 89 conveys that the major villages and towns in Malta were located in the central part of the island, while the south-eastern part of Malta was still characterized by a number of small settlements and dominated by two large towns. The smaller villages were located within a short distance (normally less than 3kms) from the larger settlements. In Gozo,

most of the villages were still situated within less than 3kms from the Citadel.

The 1842 map (*Figure 90*, p. 267) reveals the increasing urbanization process in the Maltese Islands with a major demographic concentration in the Grand Harbour area. The major towns of Malta, situated mainly in its central part, continued to flourish steadily in terms of population size. South-eastern Malta was still characterized by a number of small settlements and dominated by two major towns (Zurrieq and Zejtun). One can similarly note that the south-eastern harbour areas were still uninhabited. In the wet coralline region there were a major settlement (Rabat) and another village. The dry coralline presents a small settlement, which contained less than 500 inhabitants. This developed probably because by now the inhabitants were less threatened by pirate sea raids. Moreover, the British forces secured better military defences in that part of the island (Clare, 1979: 488). Victoria was the major settlement of Gozo, while the other villages continued to flourish in terms of population size. In addition, this map conveys the rise of new villages on that island. No settlements were located in the harbour areas, presumably because Gozo still lacked good military defences and the inhabitants were still much involved in various farming activities.

By 1850, the local population was of approximately 115,000 people (Blouet, 1984: 72); in Malta there were about 100,000 people, and in Gozo there were approximately 15,000 inhabitants. Approximately 60% of the total population in Malta lived in the Grand Harbour area; the people who lived in Valletta, in its suburbs, and in the larger villages of the Grand Harbour area were largely employed in various harbour activities,

including trade and ship-repairing activities (Clare, 1979: 239; Blouet, 1984: 166), while the people who lived in the smaller villages (about 35,000 souls) were mainly concerned with farming, and with the quarry and stone industries on a relatively smaller scale (Clare, 1981: 248-249; Blouet, 1984: 110-111; 164-168). The gradual decline of the cotton industry in Malta after 1830 eliminated one of the major sources of income from the rural villages (Blouet, 1984: 168). Following the decline of the cotton industry, the standards of living in the rural areas also declined, and the land lost its value because it was not considered worthy to cultivate (Blouet, 1984: 168-169). In the nineteenth century many farmers who lived in the rural villages migrated to the harbour towns or emigrated to foreign countries, because this 'was the only prospect of achieving a basic standard of living' (Blouet, 1984: 169). This decline in agriculture, the internal migration and the abandonment of land, generated a shortage of food supplies, and various agricultural products were therefore imported from abroad to meet the local demand. In Gozo, about 7,000 people lived in the Victoria area, while the remaining 8,000 dwelt in the other villages (Blouet, 1984: 72-73; 94). During the nineteenth century about 60% of Gozo's inhabitants were mainly concerned with agriculture, while the remaining 40% were concerned with the quarry and stone industries, with the civil service and business. The decline of the cotton industry also affected many farmer families in Gozo, who were induced to choose alternative employment opportunities (in Malta or in Gozo) or to emigrate to foreign countries (Blouet, 1984: 169).

Between 1530 and 1850 there is almost one basic settlement pattern in the Maltese Islands. This period is characterized by the gradual

colonization of the Grand Harbour area, especially from 1571 onwards, when Valletta was built and generated prosperity and fortune to many Maltese families, particularly in trade (for instance, importation of food supplies from abroad and exportation of local agricultural products, like cotton), in the civil service and in various harbour activities (Blouet, 1984: 112-114; 123). It is also characterized by the expansion of the major villages in central and south-eastern Malta; the harbours of south-eastern Malta gradually became less prone to enemy attacks, and security in that area (fortifications and other military defences) led to a more stable occupation, demographic increase, and even to expansion of settlements. The rural settlements continued to grow until they reached the maximum limits of the surrounding cultivable land; when these villages were unable to grow further their inhabitants sought alternative settlements, either in the larger villages or in the Grand Harbour area, where there were more employment opportunities. One can similarly note the demographic decline in the Rabat area from 1580 onwards since many families migrated to the Grand Harbour area to seek alternative employment, while northern Malta remained largely uninhabited until 1842, when there was the rise of a small settlement. In Gozo, Victoria remained the most important and inhabited settlement throughout this period, probably because the Citadel was the only fortified settlement. When Gozo gradually became less prone to pirate raids and there was more security on that island, the rural villages flourished in terms of population size and became independent parishes. The rural settlements continued to grow until they reached the maximum limits of the surrounding cultivable land. When the rural settlements of Gozo were unable to grow further the inhabitants, like those of Malta, sought alternative habitation and employment either in the larger villages of

Malta, or in the Grand Harbour area, or else they emigrated to foreign countries. The rise of Gozo's population, especially from the second half of the seventeenth century onwards, generated a shortage of food supplies, which led to more food imports from Malta or from abroad because Gozo's food supply was not enough to meet the local demand on that island.

The inhabitants of the harbour towns were involved in different harbour activities and in the administration of the islands, while groups of inhabitants were also involved in farming activities, including animal herding (Blouet, 1984: 108-121). The inhabitants who lived in the major villages or in small hamlets depended on farming, on the quarry and stone industries and on other minor activities. The inhabitants of Gozo were probably focused on farming and animal herding, because up to 1842 there were still no harbour settlements, while other inhabitants were concerned with the stone and quarry industries (Blouet, 1984: 111-112; 121). The cultivated fields around the major villages were normally situated not more than 3kms away from the settlements, while the fields around the minor villages were generally located not more than 1 or 2kms away from the settlements.

THE TWENTIETH CENTURY

Figure 91 (p. 271) considers the distribution of settlements in 1956. The most populated part of Malta is the Grand Harbour area, because after 1945 many families from various parts of the islands tended to settle here since it was the most industrialized region of the Maltese Islands. Another important characteristic is that by now other harbour areas were being inhabited. Although the dry coralline region now presents three

settlements, yet it remained largely uninhabited. The major towns continued to flourish in central and south-eastern Malta. In the south-east, although many villages flourished in terms of population size, yet they remained amongst the smallest settlements of the island. In Gozo the number of settlements also increased, but the largest settlement remained Victoria. Three villages developed in the Mgarr Harbour area, in south-eastern Gozo.

About 56% of the total local population lived in the Grand Harbour region (173,000 people). It was a time when there was an economic boom in this region, it was becoming highly industrialized, and it offered various jobs to many people. Most of the inhabitants who lived in the Grand Harbour area were involved in harbour activities, although 10,618 people were still involved in agriculture (Census of Agriculture, 1955: Appendix K, Table 10). The people who lived in the larger villages of Malta (24,833 people) were principally involved in various farming activities, including animal herding (Census of Agriculture, 1955: Appendix K, Table 10). The harbour settlements of northern Malta gradually developed into tourist centres. In 1957 Gozo's population was of 27,601 souls (Census, 1985: 50); 50% of Gozo's population in that year (12,951 people) was still focused on agriculture (Census of Agriculture, 1955: Appendix K, Table 10).

The patterns which emerge from the above figures have aided us to identify the reasons why on the Maltese Islands certain settlements have flourished while others have been deserted. Although from one period to another there may have been different settlement distribution patterns, yet one may observe a single basic pattern between the Punic Period and

the end of the nineteenth century: Gozo always presented a major settlement and a scattered number of small rural villages; the dry coralline part of Malta was hardly ever inhabited; the wet coralline intensively populated between the Punic Period and the middle part of the sixteenth century, with a slow demographic decline since then; the Grand Harbour area inhabited since the fifth century B.C., with an intensive demographic rise from 1590 onwards; south-eastern Malta never intensively populated, was dotted with a number of small villages, and after 1700 was always dominated by two large towns (Zejtun and Zurrieq). In Malta, the most important change in settlement pattern occurred between 1650 and 1890. This change caused the gradual abandonment of settlements in the wet coralline region (around Mdina and Rabat), and the simultaneous rise of towns and villages in the Grand Harbour area; this settlement rise was affected by internal migration from central and western Malta to the Grand Harbour area because the latter region offered more employment opportunities to many Maltese families. However, the increasing occupation of the Grand Harbour area since 1650 generated over-population problems which, together with the restriction of space, led to the development of new and large settlements beyond this industrialized region (Blouet, 1984: 75-77). When over-population gradually caused even unemployment, especially during the nineteenth and twentieth centuries, many people emigrated to foreign countries to seek employment and better living standards (Clare, 1979: 254). The increasing population in the Grand Harbour area since 1590 induced this region to become 'the focus of the whole system of settlements' in the Maltese Islands (Blouet, 1984: 77).

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