

# ARX



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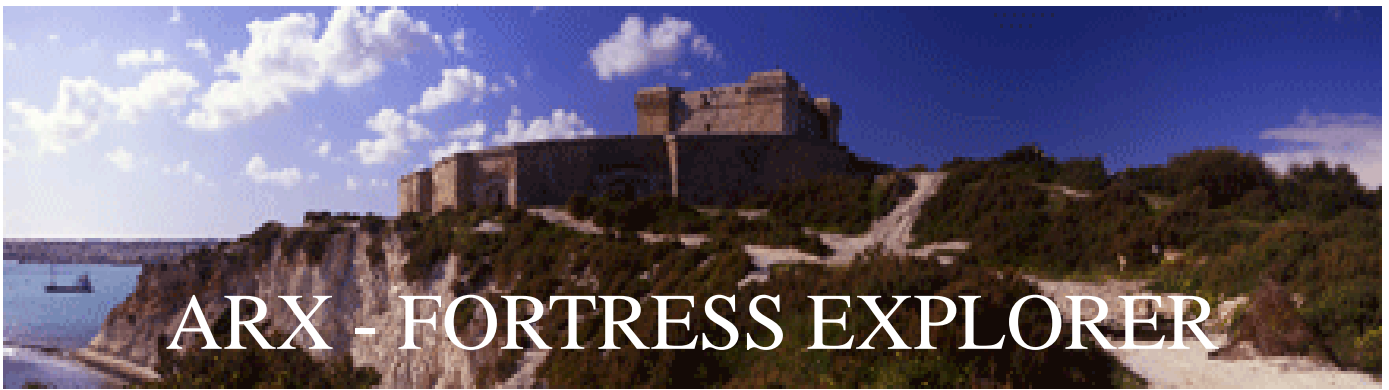
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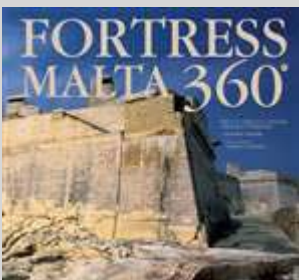
The Fortress Explorer (FE) Website is an informational portal dedicated to the promotion of the subject of Military Architecture and Fortification, with a particular emphasis on the Maltese Islands and on the rich Hospitaller military heritage spread around the shores of the Mediterranean.

ARX is designed and produced by Dr. Stephen C Spiteri Ph.D.



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Fortress Malta 360° is a publication that focuses all its attention on the military architecture of Malta. It seeks to capture a representative cross section of the great diversity of shapes, forms, and textures that make up Malta's unique military architecture ensemble. It does so by playing on the visual power of military architecture, Vitruvius' *venustas*. This book revolves around the artistic aspect of the subject, not its military merits, It focuses on those architectural

features that are truly unique to Malta - such as the quality and feel of the beautiful honey-coloured local stone over drab [and universal] concrete shapes fabricated from imported cement, wrought iron, and other alien materials. All the photographs were specifically chosen for their artistic and sculptural qualities, even though great effort was made [given the special requirements and format of the publication] to present them in some form of a chronological order so that they could still reflect the salient developments in the art and science of fortification. Unfortunately, not all the forts tended to photograph well, and various important examples, had to be omitted either because of the cacophany of on-going construction works or because of their very poor state of repair after nearly half a century of total abandonment. Fortress Malta 360°, is a book about fortifications as monumental works of architecture, as structures and buildings.

THE  
'CASTELLU DI  
LA CHITATI'  
*the medieval  
castle of the  
walled town of  
Mdina*

by  
Stephen C. Spiteri

One of the least understood of all the works of fortification to have stood watch over the Maltese islands in antiquity is the *castellu di la chitati* (1) - the medieval castle of the old town of Mdina. The arcanum that surrounds this ancient stronghold stems primarily from the fact that it was dismantled way back in the 15th century and what little had remained of the building thereafter, eventually disappeared altogether in the metamorphosis that accompanied the Hospitaller re-fortification of the medieval town into a gunpowder fortress throughout the course of the 16th, 17th and 18th centuries. This, coupled with the limited nature of contemporary documentary information, has ensured that the true form and features of the medieval stronghold have been lost to the point that now



An imaginative depiction of the Roman city of Melite, after Gian Frangisc Abela (17th century).

only archaeology can hope to really figure out. Whilst acknowledging the severe limitations imposed by any approach that falls short of a full archaeological investigation, this paper seeks to re-examine the existing documentary, cartographic and physical evidence unearthed to-date in order to suggest a rudimentary model of Mdina's medieval stronghold. Undoubtedly, the greatest contribution to-date to the study of Mdina and its medieval fortifications has been the masterly works of Architect Denis De Lucca and of Prof. Stanley Fiorini and Dr. Mario Buhagiar.(2) This paper only undertakes to re-evaluate the evidence and some of the conclusions presented so far in the light of my own research into medieval military architecture and castle typologies. It has long been recognized that the medieval fortifications of Mdina consisted of two main defensive elements - a fortified town and a castle. Gio. Francesco Abela pointed this out in his *Della Descrittione di Malta* as far back in 1647. (3) Contemporary medieval archival documentation has been shown to differentiate between the two entities, referring to the town as the *castrum civitatis malte* and the castle as the *castellu di la chitati* (4) (nonetheless the distinction between the two is sometimes dropped). The word *castrum* was originally applied to large fortified Roman military camps but came to be used to describe most walled towns or other fortified settlements of a non-purely military nature throughout the middle ages. The *castellu*, or *castellum*,

on the other hand represents the low Latin diminutive of *castrum* and refers to a type of fort, although it also came to be applied to a specialized fortified structure that appeared with the formation of a new social organization in the middle ages.(5) At Mdina, these two fortified entities seem to have been closely interwoven, such that the walls of one were coterminous with those of the other. (6) Together they occupied a relatively small area at the tip of a strategically sited plateau - part of the site which once served to accommodate a much larger Roman, and earlier Punic, fortified town. (7) This site, standing as it is at the very heart of the island, was a natural focal point of refuge commanding clear views of the greater part of the island's coastline. Inhabited since prehistoric times, it appears to have originated as one of the island's *fluchtorte* (8) established during the insecure Bronze Age period until it eventually rose in importance as a settlement to become the dominating administrative and political centre in Punic and Roman times. Given this continual process of occupation and settlement, the first difficulty besetting the study of the medieval defences of Mdina is precisely that of establishing some kind of date for the transformation of the Roman city into the medieval fortress. As yet, this is still very much an obscure process. The abandonment of the greater part of the larger Roman enceinte for a smaller and more easily defensible perimeter was a common enough phenomenon throughout the Mediterranean in the troubled and

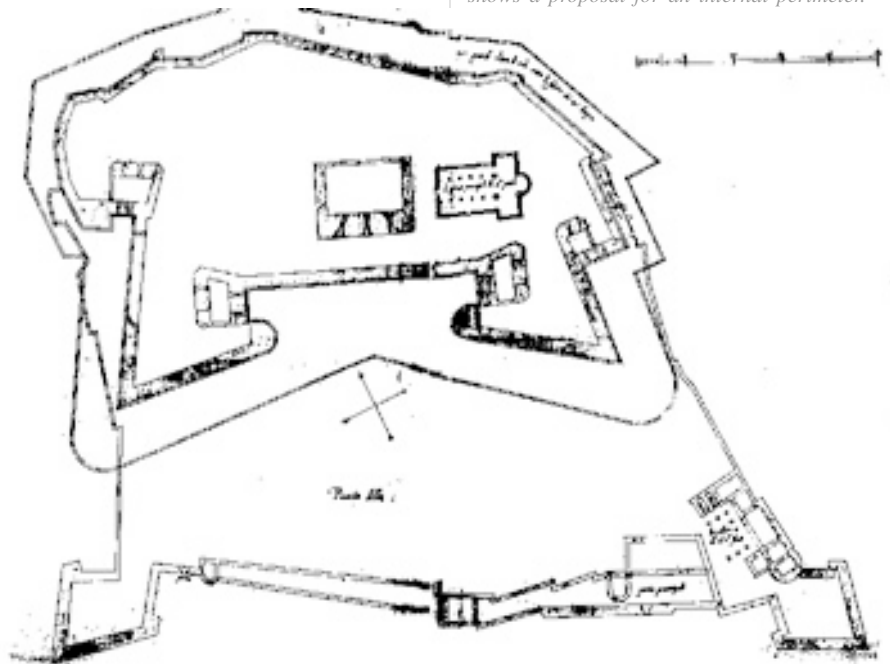


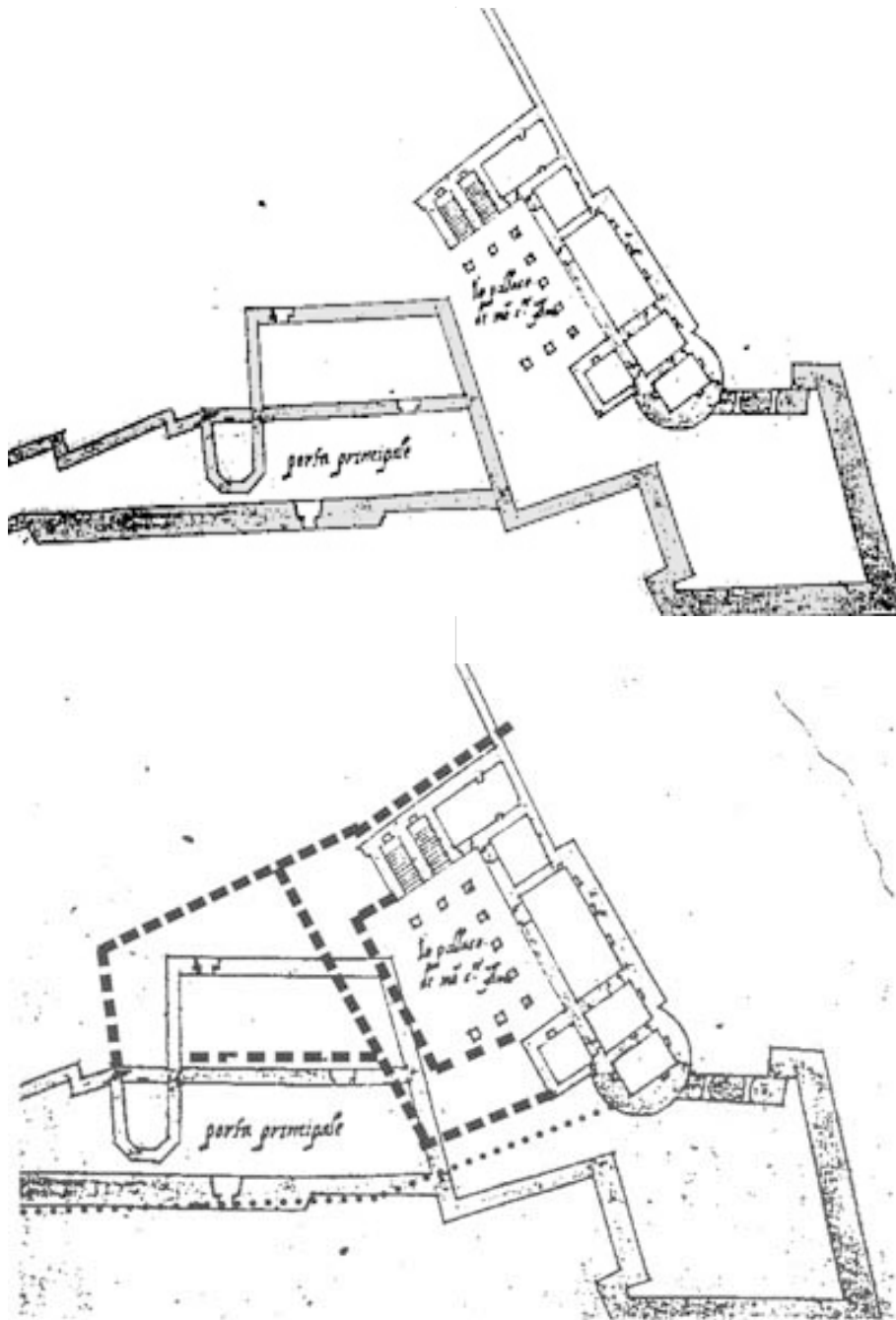
insecure times that followed the collapse of the Roman empire, characterized by a significant shrinkage in urban populations. Inevitably, the ancient city itself came to be responsible for much of the character of the subsequent fortress for it provided the site, possibly a large part of the lateral walls and most of the building materials for the construction of the medieval ramparts. The lack of any precise knowledge of this process of transformation, however, has seen most historians take refuge behind the popular notions that accredit the establishment of Mdina's medieval enclosure to either the Arabs or the Byzantines, or both. Determining this particular point, however, is of fundamental importance to the study of the medieval fortifications of Mdina, and is particularly crucial to understand the nature and development of the *castellum*. Archaeological evidence tends to suggest that the medieval front was definitely in existence by the late Arab period. The presence of a late Muslim cemetery *extra muros* not far from Greek's Gate (near the Roman town-house), together with the toponymy of Mdina itself, (derived from 'Medina', Arabic for fortified city) has always been taken as proof that it was the Arabs who had redefined the city's layout, establishing its present form.(9) However, this need not necessarily be the case for the Arab occupation of Malta seems to have been accomplished over a period of time following a succession of brazen raids from nearby Sicily. Archaeological remains at Tas-Silg, for example, have shown the presence of various destruction layers and hastily built defensive walls around the Byzantine structures dating to around the 8th century. (10) The same process of retrenchment may have occurred at the town of Melita, where the Byzantine

garrison, under increasing Arab pressure could have been compelled to rationalize the defence of the large town reducing it to more defensible proportions over a period of a few decades by pulling back the front to a narrower part of plateau, exploiting any defensive topographical features to such effect and reinforcing it with a fort. A Byzantine origin, then, could imply that the latter medieval castle, rather than having been built *de novo* in Swabian times, as has been suggested, (11) may have probably emerged from the foundations of a Byzantine fort. This would explain why the medieval castle occupied the same plane as the town and was actually incorporated into the main enceinte. Unlike the *Castrum Maris* and the *Castrum* in Gozo, there was no attempt to raise the Mdina castle to a domineering height over its adjoining *burgum* - an important characteristic feature of most veritable feudal strongholds. It is evident that the layout at Mdina did not respect the established feudal hierarchy whereby the smaller castle commanded the larger town even though the Norman garrison would have been surrounded by a predominantly Muslim population and would have sought a measure of safety in such a formula. True, the nature of the plateau did not provide the

opportunity but this could have been quickly remedied by the construction of an artificial mound - a common enough practice with Norman keeps. That this practice was not sought in Mdina suggests that the Normans must have found an existing fort and reutilized and adapted it for their own needs. Indeed, the process of re-adaptation seems to have been still in progress under the Chiamonti well into the 14th century.(12) One must add, however, that the castle did occupy the highest part of the medieval front but there was only a small marginal drop between the two extremities, and this would have entailed little defensive advantage. As a matter of fact, the qualities of the site are much in keeping with the nature of a Byzantine military fort of the *pyrgokastellon* (*purgokastellon*) type. This, although housing the governor and his garrison, would not have been a castle in the true later sense of the word but a predominantly military establishment concerned primarily with defence rather than political control. The word is coined from *pyrgos*, Greek for tower, and *castellum*, Latin for fort and typifies a nodal strongpoint, similar to the Frankish keep but designed to reinforce the weakest part of the enceinte as prescribed by Procopius.

Mid-sixteenth century plan of Mdina showing the system of double walls on the land front stiffened with two corner bastions. Plan also shows a proposal for an internal perimeter.





direction of Greek's Gate. But apart from the presence of a few rounded walls towers, as depicted in early 16th century plans, there is very little else that can possibly point to their handiwork in the formation of the *castellu*. Arab preference was for citadels rather than castles - large fortified and turreted enclosures. Still, any available Byzantine *kastron* would have been readily utilised - witness the citadel of the fortress of Tripoli captured by the Spaniards in 1510. (16)

Arab influence in the development of the medieval fortifications of Mdina, however, can be traced in other elements. Documentary sources, for example, frequently mention the *fasil*. (17) This is an Arabic word and the interpretation given to it in the local context, that of a mere low parapet, distracts from its true meaning. It is best described by K.A.C. Creswell, one of the leading authorities on early Muslim Architecture, as the space between two rampart walls. Creswell cites al-Khatib's description of the fortifications of Baghdad: '... the height of the inner wall, which was that of the city, was 35 cubits. On it were towers which rose 5 cubits above it.... then came the *fasil* between the two walls 60 cubits wide, finally the first (outer) wall, which was the wall of the *fasil*, and beyond was the *khandaq* (ditch)' (18) The *fasil*, therefore, was equivalent to the *intervallum*, the fighting space between two walls - the *currituri* quoted by Fiorini/Buhagiar. (19) This definition holds important implications, for it immediately hints that Mdina, or at the least a considerable part of the town, was enclosed within a set of two walls - a common enough feature in the fortified towns of the period. In other words, the Mdina ramparts consisted of a main wall, a *teichos* (teicos), and a lower outer wall - the *proteichisma* (*proteicisma*) or *antemurale* - much better understood today as the *falsabraga* or *faussebraye*. (20) The definition of *fasil* as a 'fortified wall capped by a parapet' is, in my opinion not exact, and any reference to a low parapet (*parapetto basso*) as given in Amari's translation of at-Tijani, (21) should be read as the low outer wall or *antemurale*, for a fortress dependent solely on a low parapet for its defence would have had very little chance of

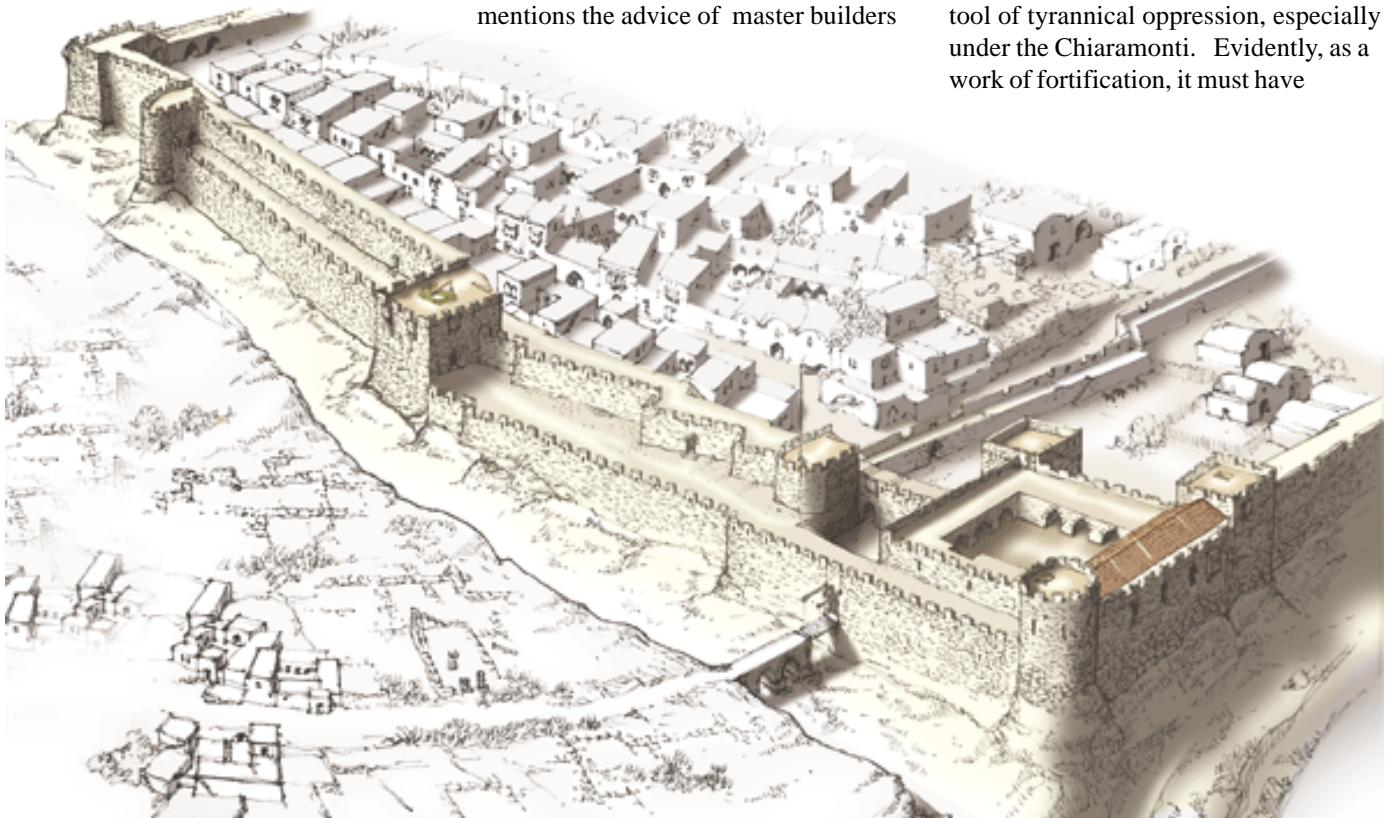
(13) In the words of T. E. Lawrence, the Greeks put their keeps and castles 'where they were wanted, the Franks where they would be impregnable.' (14) And truly, the southeast corner marked the most sensitive part of Mdina's enceinte, overlooking the ascending approaches from the surrounding plains up the Saqqajja. One can find an excellent parallel in the Castello Gioia del Colle in Puglia, founded by Richard Seneschal, brother of Robert Guiscard on a pre-existing Byzantine fort which was later enlarged by Roger II and rebuilt by Frederick II around 1230. The

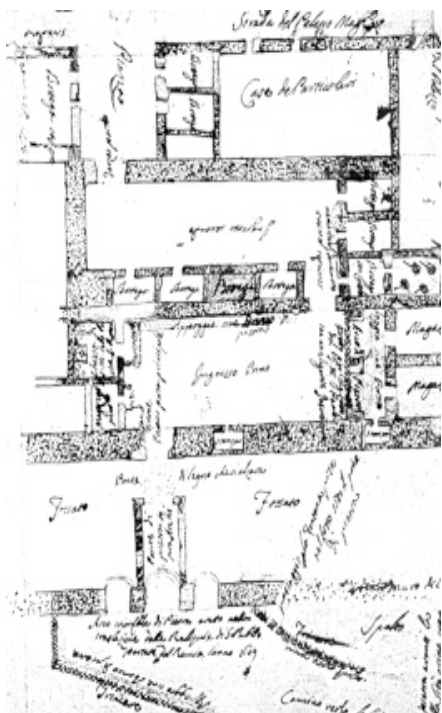
Arabs on their part are traditionally ascribed with having begun the excavation of the main fosse that isolated the *castrum* from the rest of the mainland. Significant efforts to establish the ditch as an effective defensive feature, however, were still underway during the mid 15th century so the Arab intervention could not have involved much more than the exploitation of an existing natural depression. (15) - as a matter of a study of the bed-rock beneath the bastion walls does reveal a drop between the two extremities of the front in the

survival. The need for an antemural was necessary to protect the base of the main wall itself, both as an added safeguard against mining and direct assault, and as a buffer against siege towers. Again, it finds its inspiration in Byzantine military architecture, particularly in the Theodosian walls of Constantinople. Actually, one of the best surviving examples of the system of double walls built during the 14th and early 15th centuries is to be found along the southern part of the enceinte of the Hospitaller fortress of Rhodes. (22) Fiorini/Buhagiar place the *fasil*, on the basis of their reading of the medieval documents, on the northern part of the enceinte in the Salvatur area, identifying the present raised chemin-de-ronde and embrasured parapet with the *fasil*. (23) There is no doubt that there was a *fasil* along this part of the enceinte but it is more likely, however, that this feature was enclosed by the present outer vertical wall and an inner secondary wall, as hinted by the massive block of solid masonry surviving inside the nearby Beaulieu House. It is also possible, on the other hand, that the *fasil* could have been outside the present vertical rampart for the French military engineer Charles

Francois de Mondion, involved in the reconstruction of Mdina's fortification in the early 18th century, records the presence of the remains of ancient outer walls at the foot of the northern ramparts, '... quali vestigi non solamente si vedono nel detto fondo ma anche si distendono fin quasi il posto baccar dove s'attacano con il roccame che resta scoperto sotto le mura di essa Città.' (24) Mondion's report mentions that these 'replicati vesitgi di falsabraga' (25) (hence antemural) spanned all the way from below D'Homedes Bastion - then being fitted out with a low battery - round to the Ta' Bacchar, or St. Mary Bastion overlooking Mtarfa. D'Aleccio's and Serbelloni's 16th century plans of Mdina ignore such detail, though they do indicate the antiquity of the town's main northern walls and their ruinous state. On the other hand, both clearly show a veritable stretch of antemural and *fasil* on the main land front of Mdina to the south, stretching all the way from the *porta principale* down to the tower at Greeks Gate, interrupted solely by the presence of a large rectangular tower sited in the centre of the front. The presence of this outer wall is also borne out by the documentary information recently unearthed particularly where this mentions the advice of master builders

Georgi Vassaldu and Georgi Dumag as to the dismantling of a *beloardo* (rampart) beneath the tower annexed to the property of Peri Caruana and its replacement with a scarped buttress wall. (26) The D'Aleccio and Serbelloni plans, actually provide the only convincing graphic clue to the planimetric layout of Mdina's medieval fortifications. These show the location of the town's four towers and double set of walls, the two gates and the remains of the castle itself. By the mid-16th century, however, the brunt of the town's defences had then come to rest on two new corner bastions begun during the reign of Grand Master D'Homedes even though much of the intervening medieval defensive elements were still intact. It was only the castle that was missing from the equation, its place taken over by the new magistral palace. The disappearance of the medieval stronghold entails no enigma. It was pulled down by royal licence in response to local demand some time after 1453. (27) The excuse was not some Lacedemonian policy of not fortifying the place but that its old ruinous walls had become a public danger and, apparently, its upkeep a significant drain on the town's purse; possibly it had come to be a despised tool of tyrannical oppression, especially under the Chiaramonti. Evidently, as a work of fortification, it must have



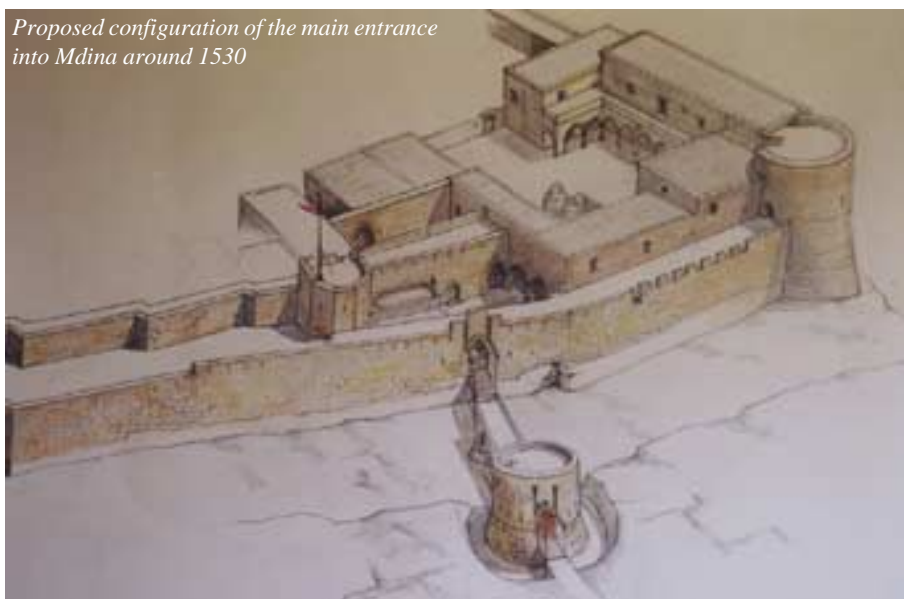


offered very little command and defensive advantage for the town elders to request its dismantling at a time when the Island had begun to attract the increasingly hostile attention of Barbary corsairs. Only some twenty years earlier, in 1429, a force of 18,000 men under Qâ'id Ridwân had invaded the island and all but captured the city after subjecting it to a siege.(28) Actually, the Castellu dili Tyranni (29) was only partially demolished since it was just the internal walls separating it from the town that were pulled down and the masonry used to repair the town ramparts and gate. The castle's outer ramparts and towers, which formed an integral part of the main enceinte, were obviously retained. In fact, that part of the castle which was embodied into the land front contained at least two towers and a gateway. Both are clearly indicated in 16th century plans. The tower to the left of the main gate (when seen from outside), was known as the *Turri Mastra* (30) and controlled the entrance and exit into the fortress - this structure was eventually replaced in the early 18th century by the *Torre dello Standardo* though this retained the original role as a watch-out/ signalling post. The *Turri Mastra*, or *Turri dila bandiera*, seems to have been rectangular in plan with a polygonal or semicircular front. Only in one late 17th century plan, very roughly executed, is it shown as having had a circular form.

(31) The tower to the right of the main gate occupied the south east extremity of the land front - the most sensitive part overlooking the approaches from Saqqajja. It is no coincidence, therefore, that the plans show it to have been the most solidly built of all the town's *turri*, having markedly thicker walls. In all likelihood this was the Mastio, the strong tower or keep of the *castellu* (see illustration A). In the documents it is referred to as the *Turri di la Camera* (32) - a faithful description when one sees how it was integrated with the adjoining palatial halls. By the 16th century this massive tower was linked to the magistral palace in a manner that still recalled a corner tower attached to a rectangular ward - the whole layout reminiscent of many rectangular Swabian castra erected by Frederick II in Apulia such as those of Bari, Gioa del Colle, Trani, Barletta and Monte Sant Angelo. (33) The palazzo built by L'Isle Adam after 1530, with its arched porch, seems to have occupied the undemolished east wing of the castle's ward, that part of the stronghold which must have served as the residential quarters of the *capitaneus civitatis*. This was probably achieved much in the same way that the Grand Master's other palace at the Castrum Maris replaced the former castellan's house there. Indeed, it appears that even as early as 1413, the Mdina stronghold was already serving more as a captain's residence rather than for defensive purposes. (34) Vestiges of the facade of L'Isle Adams

*new pallaso*, seem to have actually survived within part of the courtyard rebuilt by the French Engineer Mondion in the 1720's as part of the remodelling of the Magistral Palace complex. The presence of a very thick wall, with blocked-up apertures and truncated windows having delicately moulded surrounds (see photographs) hint at the remains of a 16th century building. Indeed, the inner courtyard itself, remodelled by Mondion, seems to have respected the footprint of the old castral ward. It is not yet clear, however, if the vaulted rooms at ground level (the hospital kitchen) enveloping the courtyard, particularly those to the east and south - one of which is threatening to collapse - actually date back to 15th century or much later. What is clear from the contemporary plans is that L'Isle Adam's palace overlooked the courtyard, was fronted by an arcaded portico and was approached via the narrow street leading to the present day Xaghra Palace. The rounded tower itself continued to feature in the plans of Mdina well into the early 1700s until the magistral palace was finally rebuilt by Mondion. Judging by the D'Aleccio / Serbelloni plans, the left flank of the D'Homedes bastion was actually grafted onto this tower. It remained visible until it was buried beneath a heavy buttress laid onto the outer wall at the foot of the magistral palace - an intervention which actually blocked-up one of the two embrasures in the same flank of the adjoining bastion itself. Incidentally, this bastion, referred to in

*Proposed configuration of the main entrance into Mdina around 1530*



the documents as the *belguardo del Palacio* (35) and known as D'Homedes bastion is also a unique example of the early type of Italian bastion built in Malta. It may have been designed by the military engineer Antonio Ferramolino for it has now been shown that it was already under construction by 1547 (36) (Mdina p.466). Undeniably, its most interesting feature is its little known continuous countermine gallery running parallel to the line of the outer walls, serving gun embrasures and sally-ports in the flanks, but mainly designed to help frustrate enemy mining activities given the clayish nature of the terrain on which the bastion was erected. Fitted with vertical and horizontal flues, the gallery was designed to dissipate the blast of an explosive mine fired beneath it walls. This feature is missing in the *belguardo dila Porta dili Grechi* on the opposite end of the land front, a bastion which was built many years later. One other reason that was cited in favour of the demolition of the castle's inner walls in 1453, was the need to open up new public space for settlement by people from the surrounding countryside. However, if the castellated enclosure was merely restricted to the area of the present magistral palace, than this could not have possibly attracted many new residents. Ergo, the castle's inner walls

may have extended further northwards towards the Cathedral, possibly in the form of a lesser ward. Initially, these may have even linked up with the *Rocca* recorded to have existed on the northern part of the town. (37) Still, the *Rocca*, evidence of which appears to have survived in a massive wall inside Beaulieu House, may more likely than not have been a detached strong-point in its own right, as the definition of the word surely implies. In that case, however, it is difficult to explain the presence of a secondary stronghold within the perimeter of such a small fortified town as Mdina unless, of course, this was merely the vestige of some former, probably pre-medieval, fortified structure. Recent excavations undertaken at Xaghra Palace, just outside the Magistral Palace to the north, have revealed the presence of solidly built perimeter walls, composed of large blocks of masonry, all dating to Roman or Punic times, but evidently re-laid in medieval times. Actually, nothing of the medieval ramparts along the east flank of Mdina seems to have survived above ground level for the old town walls were rebuilt *en cremaillere* by the Knights. The Order's resident military engineer, Blondel, writing in 1693, tells us that all that part of the town's perimeter 'volta a gregale e levante sino al Palazzo suo magistrale ... fu rinovata

tutta quella cortina dal Gran Maestro Omedes'. (38) By the late 17th century, however, many town houses had also encroached onto these walls such that direct access to the ramparts was not possibile '...se non per di dentro alle case de particolari, non solo appoggiate ma attaccate, et alle quali serve elle di muro esterno' - the house of the Muscat family, for example, even had latrines, 'gabinetti su l'orlo del bastione'. (39) All this was done to the detriment of the town's defences and in 1717 it was felt necessary to impose upon the Cannons of the Cathedral Chapter the condition that any new windows cut into the ramparts in the course of the rebuilding of the Archbishop's palace had to be made '...in forma di cannoniere capaci di ricevere canone secondo il bisogno'. (40) That part of the outer wall adjoining the magistral complex seems to have began to suffer from serious subsidence of the ground soon after the Vilhena's palace was rebuilt in the early decades of the 18th century. As a result, it was found necessary to reinforce the wall with a large masonry buttress, *massiccia d' appoggio*.- now itself peeling off. Another substantial vestige of the medieval castle that survived well into the 18th century was the system of bent entrance into the town via three successive gates. This tortuous approach, designed primarily as a







frequently to refer to sally-ports or posterns and is encountered even on 18th century plans of the Order's fortifications. (47) Another entry in the *mandati* is even more specific, mentioning the need to wall up an exit into the ditch, 'murari la porta dila putighia (magazine) che apri alo fossato'. (48) A most interesting feature of the Mdina fortifications, mentioned by Gian Frangisc Abela in 1647 was the presence of a barbican, a 'Torrione forte di forma circolare con fosso e cistrena' that protected the far side of the bridge leading to the main gate. (49)

Surprisingly, the medieval documents make no specific reference to this structure. Dr. Albert Ganado, however, citing the history of the Inguanes family revealed that this was built by Antonio Desguanecks sometime after 1448. (50) Giacomo Castaldi's map of Malta (1551), too, shows Mdina with a turreted barbican although the actual details must not be taken too seriously especially when other obvious landmarks are shown so confusingly in the same map. By the 15th century, barbicans were a standard component of most European castles - even the Gozo Castrum had one and this is illustrated in D'Aleccio's plan. It was also the convention to depict castral entities with such features. In any case we know that Mdina's barbican was actually dismantled in 1551 because it was then considered more of a liability than an asset to the city's defence (51); presumably it was too small to serve as a *mezzaluna* in the age of gunpowder defences and must have obstructed the field of fire from the adjoining ramparts and the newly built D'Homedes bastion. An inventory of Mdina's artillery compiled by Mastro Giulielmo (52) in May 1560 does, however, mention the need to place cannon a basso al fianco di Barbacana. In this case however, the word 'barbacana' is referring to the bent entrance approach at the foot of the Torri dila Bandera rather than to the *tête de ponte* built in the mid-15th century since we know that the latter had already been demolished. For although etymologically deriving from the Arabic *bab khank* meaning gatehouse or gate-tower, the word is also frequently used to describe an antemural. Nonetheless, some sort of minor outerwork seems to have survived in the area, for in 1716 we

precaution against a *coup de main*, was a common defensive feature of medieval strongholds by the 13th century, but the concept finds its inspiration in the defence antecedents of the Muslim world. The three gates were separated by two courtyards (*ingresso primo and ingresso secondo*). The first of these courtyards, confined between the *Prima Porta Principale* (also known as *Porta di Santa Maria*) (41) and the *Seconda Porta* was nothing more than the *intervallum* between the antemural and main wall. This enclosure contained a small church of *Santa Maria della Porta*, an arched niche within the thickness of the wall containing an altar, and an arcaded loggia. The second courtyard, on the other hand, stretched awkwardly beyond the line of the walls into the town and seems to have been, as suggested by Fiorini & Buhagiar, merely an adaptation of part of the rooms and corridors of the castle after it was pulled down in 1453. (42) So much so that it seems to have served mainly as a 'suq' with a number of *botteghe* cut into two of its walls. (43) The gates themselves would have been of the type still to be seen at Greeks Gate, on the other end of the Mdina front - with a vaulted pointed arch of horseshoe profile. The present walled-up gate to the right of the main baroque entrance marks the exact site of the original medieval entrance but its boxed rectangular mouldings and rusticated pilasters indicate an early 17th century reconstruction. In 1527, the main gate

was decorated with the coat-of-arms of Sua Cesarea MaJestati, carved in stone by Maestro Jayme Balistre[ra] (44). Both the main entrance and Greeks Gate were served by wooden drawbridges approached over stone *ponti*. It is not possible to say what type of lifting mechanism was employed - Greek's Gate itself gives no such clue. The bascule type of drawbridge with wooden arms, however, was the most common type employed throughout the middle ages for its simple counterweight mechanism. The bascule was also much favoured throughout the 17th century and can still be seen at St. Thomas Tower in Marsascala. The lifting mechanism at Mdina definitely comprised the use of wooden beams, '*bastaso che levao lu ponti*' (45) and metal chains, for in 1527 a cantaro di ferro was purchased to produce the '*catinj dilo ponti*'. The drawbridges themselves were made from planks of oak (46) at one time brought purposely from Messina and judging by the entries in the records were continually in need of repair, particularly that at Greeks Gate. There also seem to have been posterns and sally ports for sorties and furtive getaways, but no vestiges have survived, as has remained, for example, on the medieval ramparts of the Cittadella in Gozo. Contrary to what has been stated, however, the written records do in fact allude to their existence. The *mandati* documents of 1527, for example, refer to the '*porta falsa Jpsius civitatis*' - *porta falsa* (or *falsa porta*) is a term used

read of the 'muro che cinge il corpo di guardia avanti la porta'.(53) Little has survived to date of the original fabric of the medieval fortress of Mdina. The only indication of the true nature and texture of the castle's ramparts comes from the sole surviving section of medieval wall still to be seen at Greek's Gate. Apart from the vestiges of the gate itself with its pointed arch there is the adjoining stretch of vertical curtain wall some 3 metres thick and 10 metres in height. This wall is built mainly of coursed rubble-work with increasingly larger stone boulders in the lower courses, many of which appear to have been re-utilised from some earlier Roman, possibly Punic buildings, or ramparts. The practice of cannibalising ancient structures for their building materials is encountered throughout the Mediterranean during the Middle Ages. To mention one example, the fortress of Bodrum was built with material quarried from the site of the famous Mausoleon at Harlicarnassus. More evidence for the reuse of classical masonry in the medieval ramparts of Mdina has also come up during archaeological excavations in Inguanez Street and Xaghra Palace. The site at Inguanez Street revealed that the old medieval town walls along the land front were constructed with much use of ancient masonry blocks. The walls of the ancient city, particularly in the Rabat area would have provided a good source of building material. In 1724, officials of the Università of Notabile could still write of the presence of a 'pedamento di muro di pietra rustica in the vicinity of Greek's Gate claiming that this wall was quell'istesso che faceva circuito alla città che era grande fin il fosso di S. Paolo extra muros: il già detto muro continua per sopra Ghariexem e passa da diversi luochi'. (54) It is difficult to reconcile the texture of the surviving remains with the many references to the repeated use of *cantuni* and *balati* employed in the repair and maintenance of the ramparts throughout the 15th and early 16th centuries, since the latter imply walls of more regular ashlar construction such as can be still seen on the projecting rounded wall-tower on Mdina's north wall. Even then, the outer masonry shell of this remnant of a medieval wall tower could actually date to much later

Hospitaller times when most of the old walls had to be rebuilt. In 1693, for example, Blondel was still effecting repairs to 'l'anticaglie spolpate e dal tempo smosse, e consumate all'esterno'.(55)

Of crenellations, drop boxes, machicolations, arrow-slits, loopholes and gun loops there is very little surviving evidence. However, as a veritable fortress, the ramparts of Mdina would surely have been fitted with many such features. But these, having crowned the crest of the ramparts would have been the first to disappear. If the generous use of well-built *galleriji tal-mishun* on the Gauci tower erected in the first half of the 1500s by the Captain of the Naxxar militia is anything to go by, then *piombatoi* seem to have been a regular adjunct of local defences and must have punctuated the ramparts of the island's main fortress with similar ease, particularly in the vicinity of gateways. The presence of similar box-machicolous on other towers around the island, particularly at Birchircara and Qrendi (Torri Cavalieri), built well into the 16th century, also reflects an insular tendency towards technological drag despite the introduction and widespread use of firearms. The Gozo Citadel too retained various elements that hint likewise although we know that the cause in this case was the Order's reluctance to invest in its re-fortification. The Gauci tower also provides unique examples of cruciform slits cut in the faces of the machicolation for use with crossbows. By the early 16th century, Mdina's garrison contained both *balistriieri* and *scopetieri* and its parapets would have been required to provide the necessary facilities for its defenders. Cannon too became an important element in its defence. The documents reveal the presence of many *bombardi* by the late 15th century. The author has found two remnants of circular gunloops still in situ on a section of the main wall situated behind De Redin Bastion. Guns of the period would still have been mounted on low static *cippi* and *cavalcature* which required apertures, or gun loops, cut low in the parapets in order for the guns to be fired. By 1522, however, the parapets of the fortress may even have begun to be fitted with

embrasures to take more modern cannon such as the *columbina* (culverin) mentioned in the *mandati* and others types mounted on carriages with *loru roti*. (56)

Despite the increasing reliance on gunpowder artillery for its defence, the fortress of Mdina was still predominantly a medieval stronghold geared towards a medieval form of warfare at the time of the coming of the Knights to Malta in 1530. It remained so, well into the 16th century and only really shed its medieval skin in the early decades of the 18th century when its ramparts, and a large part of its public and private buildings were practically rebuilt anew during the reign of Grand Master Manoel de Vilhena. The extensive nature of that rebuilding programme has meant that very little of the old fortress has survived above ground. The graphic reconstruction of the of Mdina's medieval ramparts presented here is based on the elements discussed above and shows the fortifications as these may have stood in the late 15th and early 1500s prior to the arrival of the Order in Malta. Author's Note I would like to thank Mr. Nathaniel Cutajar BA (Hons) Archaeology MA for his help, guidance, and encouragement in the preparation of this paper, and with whom I also had many opportunities to discuss this subject at length. Some of the ideas presented here actually owe their origin to Mr. Cutajar himself and I hope that he will be developing these further through the course of his own specialized studies in the medieval archaeology of Mdina. I am also grateful to Mr. Paul Saliba BA (Hons) Archaeology, for drawing my attention to certain archaeological and historical facts, the existence of various old texts and other relevant information.

#### References and Notes

1. Archivo di Stato di Palermo RC 49, f. 51 as quoted in Fiorini & Buhagiar, *The defence and Fortifications of Mdina in Mdina the Cathedral City*, vol. II, p. 443 (Malta - 1996).
2. Fiorini & Buhagiar, op.cit. 2 Vols. 3. Gio. Francesco Abela, *Della Descrizione di Malta*, p. 31 (Malta - 1647).
4. Giliberto Abbate's report of c.1241, quoted in Luttrell A., 1992 and note 1 *supra*.
5. Monreal Y Tejada, L., *Medieval Castles of Spain*, p.16 (Madrid - 1999).
6. Acta Juratorum, doc. 10 (1540) as quoted in Fiorini & Buhagiar, op.cit., p. 443.
- 7.

- Bonanno A., *Roman Malta*, pp.19-21 (Formia - 1992). 8. A naturally defensive site used as a refuge place in times of danger, see Winter, F.E., *Greek Fortifications*, p. 16 & footnote 65 pp. 31-32 (Canada - 1971). 9. Azzopardi, G., *Papers in Maltese Linguistics*, p.216 (Malta -1970): 'Arabic 'almadina' is the principal city, the city held in highest regard.' Other cities bearing the same name are MEDINA (Caccaino & Castronuovo, Palermo, and Badajoz, Cadiz & Valladolid in Spain), ALMEDINA (Cuidad Real), ALMEDINILLA (Cordoba), ALMUDINA (Alicante), MADINA (Guipuzcoa); Cagione de Azevedo, *The 1970 Campaign in Missione Archaeologica a Malta, Campagna di Scavi 1970*, p.103 (Rome - 1973); '... and manifestations even in the late Roman and Byzantine ages, not only in connection with the church ... but also with fortifications and defensive works, particularly M21, M26, M27, M34 which take us back to the age of the Arab conquest and testify that it did not happen in one moment, but rather that it concluded a long series of decades of war'. 10. Al-Himyarî first referred to Mdina as an ancient city inhabited by the Byzantines. In the year 225 (870 AD) the Arabs under Sawada Ibn Muhammad captured the fortress of Malta and demolished it, dismantling many buildings and carrying away the stones to build a castle in Susa. Thereafter the island remained practically uninhabited for some 180 years and was only re-peopled by the Arabs in the year 440 (1048-49 AD) who rebuilt its city to make it 'a finer place than it was before', Brincat, J.M., *Malta, 870-1054: Al-Himyarî's Account*, p.11 (Malta - 1991). The Muslim cemetery within the Roman town-house is post 1090 AD, i.e. it dates to after the plunder of the Maltese islands by Count Roger, Trump, D., *Malta, An Archaeological Guide*, p.23 (London - 1972). 11. Fiorini & Buhagiar, op.cit., p. 444. 12. ibid. 13. Procopius of Caesarea, *Buildings*, ii. 5,8-9, ed. J. Haurly p. 38 (Leipzig - 1913), translated by H.B. Dewing; London 1940, cited in T.E. Lawrence, *Crusader Castles* p. 27 (Oxford - 1990 edit) edited by Denys Pringle. 14. Lawrence, op.cit., pp.26-27. 15. Archives of the Cathedral Museum, Mdina, Misc. 437 cited in Fiorini & Buhagiar p.458. 16. Messana G., *La Medina di Tripoli in Quaderni Dell'Istituto Italiano di Cultura di Tripoli*, p. 16 (Roma - 1979); Rossi, E., *Storia di Tripoli e Della Tripolitania Dalla Conquista Araba al 1911*, p. 26 (Roma - 1968) 17. Wettinger, G., *The Jews in Malta in the Late Middle Ages*, p. 16 (Malta - 1985). 18. Creswell, K.A.C., *A Short Account of Early Muslim Architecture*, p.231, (Scolar Press - 1989 ed. revised and supplemented by James W. Allen). Fiorini & Buhagiar, op.cit., p.450. 19. Lawrence, T.E., op.cit., pp.27-29 : (Oxford - 1990 edit) edited by Denys Pringle; Gabriel, A., *La Cité de Rhodes*, p. 133 (Paris - 1921). 21. Fiorini & Buhagiar, op.cit., foot note 30. 22. Gabriel, op.cit, pp. 122-133; Spiteri, S.C., *Fortresses of the Cross - Hospitaller Military Architecture*, pp. 77-81 (Malta - 1994). 23. Fiorini & Buhagiar, op.cit., p.452. 24. National Library of Malta, University of Notabile, Ms. 187 (?) f.76 (1724). 25. ibid. 26. National Library of Malta, University of Notabile, Ms. 12, f.48 (4.xi.1513) mentioned in Fiorini & Buhagiar, op.cit., p.446: For the Serbelloni plan see Ganado, A., *Sixteenth Century Manuscript Plan of Mdina by Gabrio Servelloni in Mdina and the Earthquake of 1693* ed. by J. Azzopardi, pp.77-83 (Malta - 1993). 27. Abela, op.cit., p.31; for a more detailed evaluation of this aspect see Fiorini & Buhagiar pp.443-445. 28. Mifsud 1918-19. 29. Archives of the Cathedral Museum, Mdina, Misc. 27 as cited in Fiorini & Buhagiar, op.cit., p.445. 30. Mifsud, A., *La Milizia e Le Torri Antiche in Malta*, extracted from Archivum Melitense, p.17 (Malta - 1920). 31. Cathedral Museum Mdina - Cathedral Archives MS.60. 32. Archives of the Cathedral Museum, Mdina, Ms. 737 f.363 as quoted in Mifsud, p. 17. 33. For more information on Swabian castles in Italy see *Itinerari Federiciani in Puglia - Viaggio nei castelli e nelle dimore di Federico II in Svevia*, edited by Cosimo Damiano Fonseca, (Bari - 1997). 34. Archivo di Stato di Palermo RC 49, f.51 as cited in Fiorini & Buhagiar, op.cit., p.443. 35. Archives of the Cathedral Museum, Mdina, Misc. 441, Quire B, ff.1-32 quoted in Fiorini & Buhagiar, op.cit., p.466 - NLM Univ. Ms. 84, ff.366-636. 36. National Library of Malta, University Ms. 13, f. 356. 37. Wettinger 1982-87; documentary references to 'Rocca' are discussed in more detail in Fiorini & Buhagiar pp. 450-452. 38. National Library of Malta, Archives of the Order of St. John (A.O.M.) 1016, f. 157 (21 February 1693). 39. A.O.M. 1016, f.480 (24 May 1701). 40. A.O.M. 1017, f.90 (1717). 41. A.O.M. 1016 f. 157. 42. Fiorini & Buhagiar, op.cit., p.447. 43. Cathedral Museum Mdina - Cathedral Archives MS.60. 44. Fiorini, S., *The 'Mandati' Documents at the Archives of the Mdina Cathedral, Malta 1473-1539*, Mandati 2, f.262, p. 103 (Malta - 1992). 45. ibid., Mandati 3, f.691, p.175. 46. ibid., Mandati 3, f.623, (1538) p.170. 47. ibid., Mandati 2, 160 (1527), p. 96; for definition of *porta falsa* see G. Grassi *Dizionario Militare Italiano* p. 392 (Naples - 1835), 'porticciuola, piccola porta munita d'un rastrello di ferro, fatta nel mezzo delle cortine, o sul angolo di esse, o vicino agli orrecchioni, per andar liberamente e fuori della visita del nemico dalla piazza alle opere esteriori'. The term *Porta del Soccorso* was also used to describe a sally-port. 48. ibid., Mandat 3, f.533 (1538), p.163. 49. Abela., op.cit., p.29. 50. Ganado, A., book review of *'Mdina, the Cathedral City of Malta'* in the *Times of Malta* (Wednesday 4 December 1996) p.21. 51. Abela., op.cit., p.29. 52. Archives of the Cathedral Museum, Mdina, Misc.34, ff.682v-3, cited in Mifsud, op.cit., p. 17 and Fiorini & Buhagiar, op.cit., p.474. 53. A.O.M. 1017, f. 41 (1716). 54. National Library of Malta, University Ms. Vol. 187, f. 81 (1724). 55. A.O.M. 1016, f.157. 56. Fiorini, op.cit., Mandati 1, f. 283b, p. 190; Mandati 3, f. 687v, p.199.

# NAXXAR AND ITS FORTIFICATIONS

by  
*Stephen C Spiteri*

An appreciation of the fortifications in the locality of the village of Naxxar, or of any other locality in Malta and Gozo for that matter, cannot be undertaken in isolation. The smallness of the island, coupled with its limited resources, ensured that the country had to be defended as one entity. Throughout most of its long history Malta could only support a sole urban centre, and although with the coming of the Knights a second developed within the Grand Harbour area, most of the land remained basically subservient to this arrangement. Outlying district assumed their importance, and were in turn commensurably fortified, only in relation to the role each was required to play in the defence of the whole. No particular area was fortified in order to satisfy local needs but only because it fitted within an overall defensive strategy. Of course, some outlying settlements did seek to protect themselves from the ever-present threat of unannounced corsair incursions with the building of the occasional tower of fortified farmhouses, but these were predominantly domestic rather than military structures. In times of great danger, occasioned by serious *razzie* and outright invasions, it was only within the islands' city walls that the rural inhabitants could find some sort of shelter.

The only exception to this rule seems to have occurred during the Bronze Age

period when human settlement in Malta apparently revolved around a number of fortified villages occupying various elevated defensible sites spread around the island (1). The presence of a number of such fortified settlements tends to suggest that this was a time of considerable insecurity occasioned more as a result of inter-village struggles over the island's dwindling resources rather than as a reaction to outside attack. (2) But from Punic times onwards, the threat became purely of one of sea-borne attack and the defence of Malta came to rest on a single point of refuge at the fortified town of Melita, later Mdina, together with a string of lookout posts and a few towers spread around the coastline to warn of impending danger. A similar situation developed in the sister island of Gozo where the site of the present Cittadella and its suburb of Rabat became the main settlement. From around the late 12th century onwards a castle appeared inside the Grand Harbour but this was intended mainly to protect naval interests. The defence of the harbour area only began to assume strategic importance with the coming of the Knights and it was undoubtedly with the erection of the fortresses of Birgu and Senglea, and more importantly Valletta, that the focus of human settlement in Malta shifted to, and became securely anchored in, this part of the island.

Nonetheless, the value of the outlying areas to the defence of the major settlements, whether these were the central fortified Punic or Medieval town, or the coastal fortresses in the harbour area, was always a critical one. The need for a reliable system to warn of approaching danger dictated that many areas along the coastline had to serve as lookout posts or mustering areas for local militia forces. The ever-increasing militarisation which accompanied the Hospitaller and British occupation of the island witnessed the fortification of many of these places. Some areas, by their very nature and location, played a more critical role than others in assuring the safety of the island. Naxxar was one such a place.

Situated a short distance inland, roughly half way along the island's northern coastline and crowning the summit of a hill, itself girded by a geological fault to the north and deep

valleys to the east, the village of Naxxar combined the defensive advantage of difficult accessibility with the command inherent in elevated sites. It offered a unique vantage point with uninterrupted views of the northern half of the island and its accessible shores. Its significance to the safety Mdina and later Valletta revolved around its commanding position over the main inland approaches from the many vulnerable and accessible landing sites along the northern shores of the island. If there ever was a location in Malta which deserved the title of Wardija, it should have been Naxxar.

The position itself, however, does not appear to have ever served as the site of a fortified settlement in antiquity possibly because the area was too vast to be enclosed within a fortified perimeter. From surviving archaeological evidence we know that Bronze age fortified sites in Malta were of much humbler proportions, as can be witnessed by the remains at Il-Qala Hill, Ras-il-Gebel and Borg-in-Nadur (3); all took advantage of natural defensive features to minimise the need for man-made ramparts. A fortified settlement of this type, however, does appear to have existed in the immediate vicinity of Naxxar on the site now occupied by Fort Mosta. The French architect George Grongnet, who was obsessed with finding the lost Atlantis, records the presence of the remains of a citadel and a fortified settlement in the area known as *Misrah Ghonoq*. (4) Unfortunately the construction of Fort Mosta in the 1880s wiped out all such traces if these really existed, although one can still detect a large number of huge boulders incorporated in the rubble fieldwalls in that area.

The village of Naxxar does not appear to go back so far in time but it is still nonetheless an old settlement, dating from the ninth or tenth century. It was established as a parish in 1436 and had jurisdiction over Hal Gharghur, Musta, St. Paul's Bay, Mellieha and Marfa (6) - practically all of that part of the island north of the Great Fault, the *parte disabitata* of Malta, roughly a third of the whole island.. This was a huge responsibility and clearly shows Naxxar's status and importance as a

defence nucleus for the northern regions during the middle ages. Prof. Godfrey Wettinger has shown in his work on the militia list of 1419-1420 that Naxxar and its associate villages contributed one-eighth (262 men) of the island's militia force, and one-fifth of those who owned a horse (20 out of 108). (7) Under the Knights the importance of Naxxar not only increased but the village itself became the main staging post for the Birkirkara-Naxxar-Qormi regiment of country militia charged with the defence of the northern parts of the island.

In the middle ages, the island's militia force consisted of the Ghassa or Mahras, a maritime watch, and the Dejma an inland garrison which kept watch day and night at a number of strategic places. (8) These watch duties were called Guardia and for this reason many of those places which served as lookout posts retained the name Wardija. Abela writes of a Sciaara tal Bieb Nasciar o' spatio dell'entrata al Nasciaro, ove e' destinata una guardia. One other such station was on the heights of Naxxar itself, (9) precisely near the church of St. George and another known as Gwejdja or il-Wardija ta' San Gorg near tat-Targa. The cult of St. George was connected in many ways with the protection of the coast and many military posts in the parish of Naxxar reflect this devotion. Near San Pietru in Ghargur there was a military post known as il-Guardiia ta' San Gorg and other churches devoted to this saint at Mosta, on the heights of Burmarrad, Mellieha and Ghadira all adjoined a military outpost (10). By 1628 the Captain of the Naxxar Militia was responsible for nineteen watch posts including those of Lippija, della Capra and Nadur. The latter were then considered too remote and were passed onto the responsibility of the Capitano della Verga, to be guarded by men who held gabelle da Torre Falca verso Bingemma, Mgarr et in sino la Ramla e da parte in dentro L'Isola verso Casal Dingli (11)

The militia posts occupied natural vantage points and were generally unfortified. Nonetheless, a few towers do seem to have existed even in antiquity. Abela, in 1647, for example,

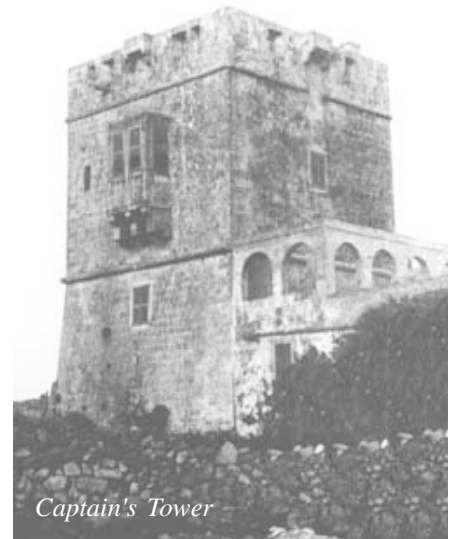
records the remains of an ancient tower at a place called Burgio Torre (12) and the militia post il-Borgio tal-Melliehe, the site of Fort St. Agatha built in 1647, tends to denote the presence of yet another ancient military structure (13). A clear reference to the presence of early fortified structures in the locality point to the existence of a tower in the area of Burmarrad overlooking the old port of Salina. This was an important harbour in antiquity because it was the closest port leading to the old Capital of Mdina. This structure appears to have been still standing by 1565. It was only with the coming of the Knights that militia posts began to receive defensive structures. Indeed, one of the Knights' major contribution to the security of the island was actually the erection of a network of coastal towers during the first half of the 17th century.

Naxxar was in fact the first locality outside the Harbour area to receive a fortified structure. This was the so called Torri tal-Kaptan, the Captain's tower, which was erected during the magistracy of Grand Master de Valette. It was built to house the Captain of the Naxxar Militia - a position always held by a Knight of the Order appointed by the Grand Master. Actually, the Order had tried to requisition an existing tower, the Torri Gauci, which stood a short distance away. This had been built by Francesco Gauci, possibly even before the coming of the Knights, in order to safeguard his family and property against corsair raids - pirates had actually carried off Gauci's wife. Obviously, as the only standing fortified structure in the locality, the Knights had sought to take it over for their own military use for in 1548, Francesco Gauci, petitioned Grand Master Juan D'Homedes in order to retain his tower. The Grand Master and Council of the Order acceded to his request with a decree dated 16 May 1548. (14)

The Captain's Tower was in many ways similar to the Gauci Tower itself. In many other ways it was also reminiscent of the many coastal watch towers which the Order had built in Rhodes during the previous century, particularly in its box-like proportions with vertical walls, and features such as the machiolated



*Gauci Tower*



*Captain's Tower*

parapet and fine mouldings framing the escutcheons bearing the coat-of-arms of Grand Master de Valette. The tower is square in plan and consists of three floors, the rooms spanned by stone arches. Important defensive features were the piombatoi, or box-machicolations used for dropping projectiles or other offensive materials on assailants at the foot of the tower.

These were basically open-based balconies supported on stone corbels and were generally placed above doorways or other sensitive parts of fortifications. In the Maltese language, such structures are known as Galleriji tal-Mishun, a term which clearly indicates their intended purposes - that of dropping boiling water on assailants. These piombatoi were actually medieval defensive features that had by then disappeared from the bastioned fortifications and other new military structures of the period. That they were still being incorporated into 16th century towers should not be so surprising for the towers were designed only to resist small scale attacks, by



raiders unequipped with cannon. Machicolation helped defend against assault and escalation. These were still being added to the coastal towers in the 17th century, but more as decorative retardataire features rather than important elements in the defence. A unique and interesting feature appertaining to this tower is the *columbaria* set within the four-foot high parapet on the roof. Pigeons were then an important means for relaying messages and this tower would have served a critical role, given its position, in relaying messages from Gozo to the Grand Harbour.

At Torri Gauci, the structural form of the tower is much more business-like despite it being an earlier building than the Captain's Tower. The more pronounced battered lower half of the tower and the ring of box-machicolis projecting from the high parapet, together with an ample provision of musketry loopholes and vision slits made it definitely much easier to defend than its neighbour. A tendency to endow local towers with box-machicolis is also encountered also at Torre Cavalieri at Qrendi and the Torricella at B'Kara, both apparently early 16th century structures. From Francesco Gauci's own petition we know that this tower cost 400 scudi to build and internally consisted of three floors (15)

Between them, Torre Gauci and the Captians tower, together with Torre Falcha on the Dwejra heights below Mdina, comprised the Island's most important

northern-most defensive structures for the duration of the 16th century. That they were important landmarks is attested by one of D'Aleccio's fresco showing a map of Malta, where they are distinctly illustrated. These are again depicted in the panel showing the final battle between the Gran Soccorso and the Turkish troops disembarked at St. Paul's Bay, a battle which was fought around the plains of Burmarrad. D'Aleccio's map also reveals the existence of two other towers in the nearby Casal Gregor (Gharghur), another two small ones down near the saline nuove and a third at Monte Aliba south of the chapel of Lunciata overlooking the Fomm-ir-Rih. None of these towers have actually survived.

The construction of the Chapel of St. Paul in 1696 immediately in front of Gauci Tower signifies that the latter had by then lost its defensive value. Even the Captain's tower had assumed the semblance of a residence rather than a military structure for during this period the burden of the coastal watch and the defence of the northern parts of Malta had fallen on a totally new set of dedicated defensive structures - the coastal towers built by Grand Masters Wignacourt, Lascaris and De Redin. (16)

With the Order of St. John firmly settled in their new fortress of Valletta, the Order could afford to invest some of its resources in securing the island's rural areas. The building of a string of watch-towers gave the Knights an effective early warning system to signal the approach of enemy vessels and at the same time enabled them to resist enemy forces at the point of landing. Indeed, the first coastal towers built during the magistracy of Grand Master Aloff de Wignacourt were designed and intended more as forts rather than simple vedettes. These sturdy, massive structures, the first of which was built at St. Paul's Bay (actually the first coastal tower was built in Gozo in 1605 with the money left by Grand Master Garzes), mounted heavy artillery and accommodated small garrisons which, in times of impending, were augmented by mercenary and cavalry detachments to help defend the landing areas in the vicinities of the towers. During the reign of his successor, Grand Master Lascis-Castellar, the emphasis on coastal defence shifted from large towers

to smaller watch-towers erected at Ghajn Tuffieha, Lippija, Nadur, Qawra, St. George's Bay and Wied iz-Zurrieq, and possibly another at Ta' Capra. This tower definitely existed during the mid 17th century though, according to the Order's resident engineer Mondion, was already in ruins in 1730, having been built at the edge of a fragile cliff overlooking Fomm-ir-Rih. The limiting factors that had determined the reduction in the size of the coastal towers and the change in their role were basically ones of manpower - the Order did not have the manpower to post large detachments of troops at every possible landing place. (17)

An attempt to revert to large coastal towers was undertaken in 1649 with the construction of St. Agatha's Tower (Torre Rossa) at Mellieha since this was a large and important bay that had to be defended. By the time of the next phase of coastal-tower construction during the reign of Grand Master De Redin the preference for smaller signaling posts had once again taken over though unlike the ones built earlier in the 1630's, those built by De Redin were also designed to take artillery. Grand Master De Redin paid for thirteen coastal watch-towers, the first of which was built at Ghajn Hadid, north of Selmun. Together, all the towers formed a chain of communication since each was sited in such a way to enable signals to be relayed visually from one post to the next all the way down to Valletta. With these towers the Knights re-organised the system of coastal watch because local militia guards were replaced by fixed garrisons paid for by the Università. Each tower was manned by a bombardier and three assistants with annual salaries of 30 and 24 scudi respectively. What this actually meant was that coastal guard duty was given a national rather than parochial organisation - the assistants to the Castellano at Torre St. Agatha in 1650, for example, Gregorio Seychel and Angelo Psaila, both came from Casal Zebbug, a parish whose traditional militia responsibilities lay much further south than Naxxar. (18)

Around 1660, there were in all thirteen military coastal towers guarding the Island's shores north of Mdina. Of these, two towers fall nowadays within the locality of Naxxar, namely those of Qalet Marku and Ghallis. The Ghallis

Tower was the second of the De Redin towers to be built in the year 1568 and cost 426 scudi. It controlled, together with Qawra Tower, the entrance into Salina Bay. Qalet Marku Tower, too, was built in 1658 and cost 408 scudi. Like all De Redin towers, these two towers were some thirty feet square in plan and about thirty-six feet high. Internally they had two vaulted rooms, one on each floor with the main and sole entrance located securely on the first floor and reached by a wooden retractable ladder. The base of the tower, right up to the level of the lower cordon was given a pronounced batter but above this, the walls rose vertical to terminate in a low parapet fitted with shallow embrasures clearly designed to permit the firing of small cannon. A spiral staircase set into the thickness of the wall just to the left of the main entrance led to the roof. The De Redin towers held only small artillery pieces, generally one or two 3-pdr iron cannon kept mostly for signalling purposes; comparatively, the Lascaris towers could only mount spingardi. In 1659 all watch towers were each issued with two moschettoni di posta, or large heavy muskets (18).

After the death of Grand Master de Redin in 1660, the enthusiasm for coastal defences appears to have waned and for the next fifty-five years the knights showed little interest in the coastal defences. The lessons learnt in the 17th century, however, were quickly forgotten at the beginning of the 1700s when the Knights again embarked upon the fortification of every bay and inlet around the island with batteries, redoubts and coastal entrenchments. In 1714, Arginy and De Fontet, two commissioners of fortifications, together with Order's second engineer, Francois Bachelieu, proposed that those beaches where a large army could disembark, be protected by batteries and entrenchments. Between 1714 and mid-1715, a total of 8067 scudi was spent on the construction of batteries around the coasts of Malta and Gozo and with the arrival of . With the arrival of the Grand Prior of France, the Bali de Vendome, the scheme for the fortification of the coastline was given an added impetus, not the least because of his handsome financial gift to the Order to be employed in coastal works. The reasoning behind this strategy of coastal defence hinged around the notion that the



Naxxar Entrenchment

fortification of the bays would prevent the enemy from attempting to disembark his troops, and in trying to do so, the losses would be so high that enemy forces would be unable to mount a siege, *..fortificare le Marine in tal maniera che il nemico normalmente non possa fare nessun sbarco o tentendolo, si facci tanta perdita di gente, che poi non sia in stato di fare l'assedio* (19)

The main elements in the coastal system of defensive as laid down by the French engineers consisted of gun-batteries, infantry redoubts and entrenchment walls. Where opportune, existing towers were to be incorporated into the scheme. Gun batteries, whose role was to engage the enemy warships with their heavy cannon, consisted of solid platforms generally fitted with embrasures and protected to the rear by blockhouses and loopholed walls with redans. There was no standard plan to the design of coastal batteries and although most were given semi-circular gun-platforms, such as found at Qawra point, Mistra, Ta' L-Ahrax, Armier, Wied Mousa, Ghallis etc, there were also pentagonal, Qalet Marku, and triangular (Qala Lembi) layouts, depending on tactical requirements dictated by the desired fields of fire.

The redoubts were to serve as a infantry strongpoints and although there was an attempt to build a standardised pentagonal pattern such as the one still to be found at Bahar ic-

Caghaq, Armier, M'Scala, they too came in many shapes and sizes; a few like those of Kalafra, M'Xlokk and Birzebuga were built in the form of towers or blockhouses, in a similar manner to the French tour-reduit. The most ambitious of all the elements of coastal defence were undoubtedly the coastal entrenchment walls. These were intended to stretch for miles on end in order to seal off all accessible bays. In the end only particular short stretches of coastline came to be defended in this way with solidly built ramparts such as still to be found at Armier, Tas Kassisu (Mellieha), Qawra and Madliena though even these were never actually completed as can be witnessed by the surviving remains and partially excavated ditches. In the end most entrenchments came to consist of the less durable pietra a secco walls which were little better than rubble field walls.

In reality the scheme was to prove too ambitious since the knight did not have the resources to cover every single bay with fortified works, nor, as it turned out during the general alarm of 1722, the





*Ghajn Tuffieha Tower*

manpower to man all the batteries, redoubts and long entrenchment walls. Consequently a new defensive position was chosen along the line of the great fault and trenches built at San Pawl tat-Targa and a decade later at ta' Falca limits of Mgarr. That at Naxxar is the best preserved and consist of four v-shaped redans linked together by straight curtain walls built in the form of a trinciera di pietra a secco. The importance of this entrenchment is attested by the fact that it was incorporated into the trace of the Victoria lines nearly two centuries later. For the Naxxar entrenchment commanded an important road leading down to and from the plain of Burmarrad and the northern coastline.

The last element of coastal defence, proposed in 1715, but only incorporated in 1741, was the fougasse. This was a kind of massive rock-hewn stone-firing mortar. Some 48 were built around the shores of Malta and fourteen in Gozo. Two of the best examples of the few fougasses still to be found are located at Salina Bay, one of which is placed within the Ximenes redoubt. Another fougasse was sited across the bay inside the Perellos redoubt, now demolished.

Throughout the 18th century the island's militia force was organised into six regiments of country militia, with the regiments of Naxxar, B'Kara and Qormi grouped together into a Northern Brigade. Its headquarters was located at Birguma in the limits of Naxxar.<sup>(20)</sup> The

Northern Brigade was charged with the defence of the northern parts of the island beginning from St. Julians Bay. In 1716, the Regiment of Naxxar consisted of 477 men and was responsible for defending the stretch of coastline called il-Fliegu, between Torri l'Ahrax and Cirkewwa. This area contained three coastal batteries (Wied Mousa, Vendome and l'Ahrax), three redoubts (Raml; a tal-Bir, Barrirea and Hossiliet), an entrenchment at Armier and a De Redin coastal tower. <sup>(20)</sup>

None of these fortifications served to play any significant role during the tragic French invasion of the island in 1798, the only instance when the network of coastal defences, built at such cost, was actually put to the test. French troops under the command of General Baragey D'Hilliers landed at Mellieha and St. Paul's bay, where the defences there were under the command of the Knights De Bizier and De La Penouse respectively, while Fort St. Agatha was under the command of the knight St. Simon. The Maltese soldiers offered what little resistance they could before hastily retreating to Mdina. As D'Hilliers made his way southwards he met some resistance from the Bailli Tommasi and his troops firing from behind the Naxxar entrenchments, also defended by the detachments from the Regiment of Naxxar militia under the Knight De Paes, but Grand Master Hompesch had ordered this regiment to take up new positions closer to Mdina, possibly at the Falca, and its place was taken by another 400 men who offered some resistance before abandoning their position. Meanwhile other French troops established a beachhead at St. George's Bay and a column under Brigadier General Lannes advanced north to capture the defences of Madliena and BaharicCaghaq. <sup>(21)</sup>

Most of the coastal defences were retained by the British throughout the first decades of the 19th century but gradually many of these military works were handed over to the civilian government as they were no longer considered necessary for the defence. The majority of the towers and batteries had been shed off by the military by the late 1830's. Thereafter none of these works were to feature in the island's defensive strategy, particularly after 1860 when the British gradually abandoned the idea of resisting the

enemy on the coast, adopting instead a mighty fortress system conceived primarily for the defence of the Grand Harbour.

Initially the original British plan was for a girdle of detached forts placed on commanding ground one mile in advance of the existing harbour fortifications but by 1866 that scheme proved particularly difficult to implement mainly due to the creation of suburbs around the Grand Harbour. A reconsideration of these circumstances led to the adoption of defensive a position far in advance of that initially entertained. The ridge of commanding ground north of the old City of Mdina, cutting transversely across the width of the island at a distance varying from 4 to 7 miles from Valletta was chosen as the new defensive perimeter. The new defensive strategy sought to seal off all the area around the harbour within an extended box-like perimeter, with the detached forts on the line of the great fault forming the north west boundary, the cliffs to the south forming a natural inaccessible barrier, while the north and east sides were to be defended by a line of coastal forts and batteries. <sup>(22)</sup>

General Adye, in 1872, rightly observed that the new line of defence along the ridge was to a certain extent a revival of the original views of the Knights of Malta. As already shown above, the idea of using the Great Fault as a defensive position dated back to 1722 when the Hospitallers established infantry entrenchments San Pawl tat-Targa and Ta' Falca. In the following year, the Defence Committee approved Adye's proposals and recommended the strengthening of the already strong position between Bingemma Hills and the Heights above St. George's Bay. In 1875, work began on what was originally to be called the North-West Front, a string of isolated forts and batteries designed to stiffen the escarpment. Three strong forts were built along the position, those at Bingemma (1874) and Madliena (1878) to control the western and eastern extremities respectively, while that at Mosta (1878) commanded the centre. The first fort to be built was Fort Bingemma. By 1878, work had still not commenced on the two other forts and the entrenched position at Dwejra.



In 1878, General Simmons recommended that the old Knights' entrenchments located along the line of the escarpment at Targa and Naxxar were to be restored and incorporated into the defences. This opinion was once again stated by Generals Nicholson and Goodenough in 1888. Although they were against the reconstruction and re-utilisation of the old Falca lines they were totally in favour, reutilising the Naxxar entrenchments since these commanded the main road from St. Paul's Bay which passed through them at a distance of around half a mile in advance of the village of Naxxar. On this account Nicholson and Goodenough considered it desirable to reconstruct those parts of the old entrenchment which commanded the road. They even underlined the importance of defending the village of Naxxar, [Ia position .... of great importance,] in the event of a landing in St. Paul's Bay (ibid.).(23)

The forts on the defensive line were designed with a dual land/coastal defence role in mind, particularly the ones on the extremities. But due to the topography in the northern part of the island, there were areas of dead ground along the coast and inland approaches which could not be properly covered by the guns of the main forts. By 1878, it was considered desirable that new works should be thrown up between Forts Mosta and Benjemma, and emplacements for guns placed in them. It was similarly considered advisable to have new emplacements for guns built



to the left of Fort Madliena and in the area between that Fort and Fort Pembroke. The latter fort was built on the eastern littoral below and to the rear of Fort Madliena, in order to control the gap caused by the accessible shoreline leading towards Valletta. Gun batteries were eventually proposed at Targa, Gharghur and San Giovanni. Only that of San Giovanni, was actually built and armed, while the two at Gharghur were never constructed. Targa Battery, on the other hand, although actually built, encountered much criticism and was never permanently armed.

Although initially designed as a series of detached strong points, the fortifications along the North West Front were eventually linked together



by a continuous infantry line and the whole fortified traced was christened the Victoria Lines in order to Commemorate the Diamond Jubilee of Queen Victoria in 1897. The long stretches of infantry lines linking the various strong points, consisting in most places of simple masonry parapet, were completed on 6th November 1899. The cost of the work, including the building of the defence wall, the forming of the patrol path and the scarping of the cliff face, covering an 100 acres of land, was 15,882 - more than the double the estimated figure submitted when the works were authorized on 27th November 1897. (24)

The trace of the intervening stretches followed the configuration of the crest of the ridge along the contours of the escarpment. The nature of the wall, varied greatly along its length but basically consisted of a sandwich type construction, with an outer and inner revetment bonded at regular intervals and filled in with terreplein. The average height of the parapet was about 1.5 meters topped by a musketry parapet. In



places, the debris from scarping was dumped in front of the wall to help create a glacis and ditch. The rocky ground immediately behind the parapet was frequently fashioned out to provide a walkway, or patrol path, along the length of the wall. A number of valleys interrupted the line of the natural fault, and at such places, the continuation of the defensive perimeter was only permitted with the construction of shallow defensible masonry bridges, as can be still seen today at Wied il-Faham near Fort Madliena, Wied Anglu and Bingemma Gap. Other bridges, now demolished, existed at Mosta Ravine and Wied Filip. (25)

During the last phase of their development, the Victoria Lines were stiffened with a number of batteries and additional fortifications. An infantry redoubt was built at the western extremity of the front at Fomm ir-Rih redoubt and equipped with emplacements for Maxim machine guns. The record plans of the Victoria Lines, drawn around 1901, show that many Maxim machine guns were deployed along the length of the front and that in most places the walls were topped by loopholes of which only very few sections have survived to this date. In 1897 a High Angle Battery was built well to the rear of the defensive lines at Gharghur and another seven howitzer batteries, each consisting of four emplacements for field guns protected by earthen traverses, were built close to the rear of the defensive line. Search light emplacements were built at il-Kuncizzjoni and Wied il-Faham. (26)

Described as a military position of great strength in 1888, this defensive front was nonetheless soon to lose most of its importance. Military exercises in May 1900 showed that the Victoria Lines could offer little effective resistance against assault by a large landing force. By 1907 it had been decided to abandon the position on the Victoria Lines as a front line of defence and to revert to the policy of conducting the island's defence from her shores. Nonetheless, the forts, with the exception of Fort Mosta, were retained in use by being assigned a dual coastal/land defence role.

The need to defend and fortify the beaches against invasion, was seriously rekindled at the outbreak of the Second world war when many of the Knights' long discarded coastal defences, including the fougasses, were pressed back into service and incorporated, in conjunction with new defensive structure - the concrete machine-gun pillboxes and barbed wire entanglements.

The role of the concrete pillboxes was to hinder the landings and in-land advance of enemy forces. Spread out across the country side in a series of *stop lines* each pillbox occupied a strategic position and was cleverly camouflaged. The earlier pillboxes and beach post built in 1938 as a direct result of the threat of an Italian invasion following the Abyssinian crisis, were elaborately camouflaged with rubble stone cladding. In later pillboxes, however, paint-work became the accepted method for applying camouflage. (27)

In the early pillboxes, all the machine gun armament was deployed frontally and in series, generally in adjoining positions of two or four emplacements though structures for single emplacements can also be found. The method of mounting the machine gun armament involved mainly the use of semi-circular concrete machine gun tables with or without accompanying concrete guncrew benches, the latter roughly semi-circular in plan. Considerable attention was given to concealment, hence the elaborate rubble stone cladding camouflage and the careful adaption of their form to fit the lie of the land. Such features as stone cladding camouflage, adaptation of plan and shape to the requirements of the site, the use of curved fronts and round edges were soon abandoned in favour of pillboxes built to simpler and more standardised patterns that lent themselves more easily to mass production. This, inevitably, was a development which reflected a greater sense of urgency and the need for rapid construction that accompanied the growing threat of war and invasion. As a result, by 1939, a new type of pillbox, more box-like in shape, began to appear. The second group of pillboxes, of which

there are fundamentally three basic types, were mainly rectangular or polygonal in plan and retained their bare concrete finish. As these pillboxes became more box-like in shape, they acquired in the process a high profile that rendered them increasingly difficult to conceal in a predominantly flat landscape. As a result, the only practical form of camouflage was to disguise them as rural building and farm houses. Camouflage was mainly applied in the form of paint work and sappers from units of the Royal Engineers unit were detailed to undertake the work, adding features such as doors, windows and brown lines to a sand coloured background. A recently restored example is to be found in the the ta' Alla w Ommu area just ahead of the Naxxar entrenchments. Another less common group of pillboxes consisted of farmhouses and other rural buildings converted into defence posts. On such structure can still be seen situated along the road leading from Naxxar to San Gwann.

Another important element in the island's defence were the anti-aircraft batteries. In Malta, the need for ground defences against air attack was first felt during World War One, when a 3-pdr anti-aircraft gun was mounted on the roof of St. John's Cavalier to help protect the harbour and Valletta against the possibility of a German Zeppelin attack (28) Although the gun was dismantled prior to the end of the war, the post-war years were to see a gradual investment in anti-aircraft defences. Initially, during the 1920s, there was only one battery, the 10th A.A. Battery of the 4th Heavy Brigade Royal Artillery, equipped with 3-inch 20cwt QF AA guns. An Instructional Anti-Aircraft Camp was established at Tigne and an anti-aircraft practice camp was set up at Benghisa. In 1926 an anti-aircraft range was set up at Torri Madliena, at Pembroke and later, an RMA instructional AA practice camp was established at Gharghur, near Fort Madliena. The latter was equipped with two 3-inch 20cwt A.A. guns on fixed mountings (29)

Malta's anti-aircraft defences were eventually augmented during the 1930s and by the outset of the Second World

War these had increased to thirty-four heavy guns and eight Bofors guns. Earlier in 1939, however, the Committee for Imperial Defence had approved a plan to stiffen the Island's anti-aircraft defences with 122 heavy AA guns, 60 light AA and 24 searchlights. The implementation of this plan was nonetheless a slow affair and by June 1940, only the searchlight equipment had been brought up to strength. The situation had, nonetheless, changed considerably by 1942, when the heavy anti-aircraft defences had expanded to include five regiments with a total of 112 guns of 3-inch (16 guns), 3.7-inch (84 guns) and 4.5-inch (12 guns) calibres, deployed in 29 troop positions of four guns each, except for two 3-inch troop positions which only had two guns each. The light guns had also increased to 118. Two troop positions are located within the naxxar locality, that at Blata l-Bajda, in Salina, and at Birguma. made up a heavy anti-aircraft battery. (30)

The other adjuncts of the anti-aircraft ground defences which were developed in the inter-war period were the searchlights, the sound-locators and sound-mirrors, and radar. For early warning purposes, the British developed huge acoustic mirrors, known as the sound-mirrors. The first example was installed on the coast of Kent during the First World War. Others were built at Hythe in 1926, and Abbot's Cliff in 1927, capable of detecting aircraft at a range of twenty-five miles. Larger circular ones were built in the late 1920s. A 200-foot concrete strip mirror was built in 1929 at Lydd in Malta, a large paraboloid sound-mirror was built in stone at Ta' San Pietru, near Bahar-ic-Caghaq and aimed in the direction of Catania in order to detect aircraft approaching from Sicily. (31) The huge acoustic mirrors met with only limited success were superseded with radar. Radar was first brought to Malta in March 1939 when an Air Ministry Experimental Station 242 was set up at Dingli Cliffs to track high-flying aircraft (Vella, 1988, p.83). By middle of 1941, three other stations had been set up at Tas-Silg (AMES 501), at Madliena (AMES 502) and at Dingli (AMES 504). These were Chain Overseas Low (COL) stations which tracked medium to low-flying aircraft. Later on, they were

complemented by another four stations at Ghar Lapsi, Qawra, Wardija, and Gozo. The information gathered by the stations was relayed to the underground War Headquarters at Lascaris Bastion and to the gun batteries themselves.(32)

These then comprise the fortifications and military structures that were, and some are still, to be found in the locality of Naxxar. In short, these can be effectively grouped into three main categories, firstly, those which were designed to watch the coast; secondly those which built to resist invasion and thirdly, those which controlled the inland approaches towards the southern part of the island. All in all a diverse selection of defensive structures that span over four hundred years of history and military technology, reflecting Naxxar's ever important role in the defence of the island.

#### Sources

1. Evans, J.D., *The Prehistoric Antiquities of the Maltese Islands: A Survey* (London - 1971), pp.6, 116, 229-233; Mallia, F., *The Prehistoric Fortified Sites of Malta and Gozo* in the Proceedings of IBI, VIII Scientific Meeting 1968
2. Blouet, B., *The Story of Malta* (Malta - 1989 ed.) p.30
3. Evans, op.cit.
4. Library Manuscript Ms 614 Tav. XI
5. Camilleri E. & Pirota J., *Naxxar Parish 1600-1650, A Demographic Study* (Dissertation, University of Malta 1973) p.3, quoted from Bellanti D., *Why Malta? Why Ghawdex?* (Gozo -1964), p.59
6. Camilleri E. & Pirota J., *ibid*
7. Wettinger G., *Melita Historica*, Vol.V, n2 1969, pp.82-83,85
8. Mifsud, A., *La Milizia e le torre antiche di Malta* in *Archivum Melitense*, IV (1919), p.57
9. Catania P., *Fortifikazzjonijiet fil-Lokalita* (Tan-Naxxar), script of lecture 1998
10. Camilleri E. & Pirota J., pp37-38, quoted from Bezzina J., *San Gorg il-Harries tax-xtajtiet article* in *il-Hajja* 23.7.1971, p.4
11. Archives of the University of Notabile Vol. 185, ff. 124 & 124v
12. Abela, G.F., *Della descrizione di Malta* (Malta - 1647) p.73

13. *ibid.*, p. 61
14. Archives of the Order of St. John in Malta (AOM)Vol.241, f.f.210v-211
15. *ibid.*
16. For more information on the history and development of coastal towers in Malta see Hoppen A., *The Fortification of Malta by the Order of St. John*, pp. 105-125; Hughes Q., *Malta, a guide to the fortifications* (Malta - 1993) pp.95-98, 202-209, 278-279, 284-285; Spiteri, S.C., *Fortresses of the Cross: Hospitaller Military Architecture, 1136-1798*, pp.272-274 and 473-504.
17. *Ibid*
18. Archives of the University of Notabile Vol
19. AOM 1012, f.183
20. Wismayer, J.M., *The History of the KOMR and the Armed Forces of the Order of St. John* (Malta 1989), p.11: For Country Militia Regiments see *Regolamenti delli sei Regimenti di Campagna* (Malta 1761)
21. Testa C.,
22. Spiteri, S.C., *British Military Architecture in Malta* (Malta 1996), pp.383-400
23. *ibid.*
24. *ibid.*
25. *ibid.*
26. *ibid.*
27. *ibid.*
28. Samut-Tagliaferro, *History of the Royal Malta Artillery*, Vol I. 1800-1939 (Malta 1976) p. 364.
29. *ibid.*, pp. 394-395).
30. Spiteri, *British Military Architecture*, pp.539-557
31. Hughes, op.cit., pp.58-59
32. Spiteri, *ibid.*

# THE VICTORIA LINES

by  
*Stephen C Spiteri*

The complex network of linear fortifications known collectively as the Victoria Lines, cutting across the width of the island north of the old capital of Mdina, is a unique monument of military architecture. When built by the British military in the late 19th century, it was designed to present a physical barrier to invading forces landed in the north of Malta and intent on attacking the harbour installations so vital for the maintenance of the British fleet, the source of British power in the Mediterranean. Although never tested in battle, this system of defences, spanning across some 12 km of land and combining different types of fortifications - forts, batteries, entrenchments, stop walls, infantry lines, searchlight emplacements and howitzer positions - constituted a unique ensemble of varied military

elements all brought together to enforce the strategy adopted by the British for the defence of Malta in the latter half of the 19th century. A singular solution which exploited the defensive advantages of geography and technology as no other work of fortifications does in the Maltese islands.

## Brief Historical Note

The Victoria Lines owe their origin to a combination of international events and the military realities of the time. The opening of the Suez Canal in 1869, pushed the importance of the Maltese islands to the fore, particularly

By 1872, the coastal works had progressed considerably well ahead but the question of landward defences had remained unsettled. Although the girdle of forts proposed by Col. Jervois in 1866 would have considerably enhanced the defence of the harbour area, other factors had cropped up that rendered the scheme particularly difficult to implement, particularly the creation of suburbs. A regard for these circumstances led the military to consider another proposal, namely, that put forward by Col. Mann, to take up a position far in advance of that which had till then been entertained..

The chosen position was the ridge of commanding ground north of the old City of Mdina, cutting transversely

across the width of the island at a distance varying from 4 to 7 miles from Valletta. There, it was believed that a few detached forts could cut off all the westerly portion of the island containing good bays and facilities for landing. At the same time, the proposed line of forts retained the resources of the greater part of the country and the water on the side of the defenders whereas the ground required for the building of the fortifications could be had far more cheaply than that in the vicinity of Valletta. Colonel Mann, R.E., estimated that the entire cost of the land and works of the new project would amount to 200,000, much less than that which would have been required to implement Jervois' scheme of detached forts.

This new defensive strategy was one which sought to seal off all the area around the harbour within an extended box-like perimeter, with the detached forts on the line of the great fault forming the north west boundary, the cliffs to the south forming a natural inaccessible barrier, while the north and east sides were to be defended by a line of coastal forts and batteries. In a way the use of the Great Fault for defensive purposes was not an altogether original idea for it had already been put forward by the Hospitaller knights in the early decades of the 18th century when they realised that they did not have the necessary manpower to defend the whole island. Then the Knights had erected a few infantry entrenchments at strategic places along the general line of the fault, namely, at Ta' Falca and San Pawl tat-Targa, Naxxar. In actual fact, the use of parts of the natural escarpment for defensive purposes can be traced back even farther to preceding centuries, as illustrated by the Nadur watch-tower at Bingemma (mid-17th century), the Torri Falca (16th century) and the remains of a Bronze Age fortified citadel which once occupied the site of Fort Mosta (De Grognet).

In 1873, the Defence Committee approved Adye's defensive strategy and recommended the strengthening of the already strong position between Bingemma Hills and the Heights above St. George's Bay. Work on what was originally to be called the North-West





*Wied Anglu Stop-wall*

the escarpment at Targa and Naxxar were to be restored and incorporated into the defences:

Simmons also recommended that good communication roads were to be formed in the rear of the lines and while those that already existed were to be improved. The fortifications of Mdina, the Island's old citadel, were to be considered as falling within the defensive system

The forts on the defensive line were designed with a dual land/coastal defence role in mind, particularly the ones on the extremities. But due to the topography in the northern part of the island, there were areas of dead ground along the coast and inland approaches which could not be properly covered by the guns of the main forts. As a result it was eventually realised that new works should be thrown up between Forts Mosta and Benjemma, and emplacements for guns placed in them. It was similarly considered advisable to

Front began in 1875 with construction of a string of isolated forts and batteries designed to stiffen the escarpment. Three strong forts were built along the position, those at Bingemma and Madliena and Mosta, designed to the western and eastern extremities, and the centre of the front, respectively. The

first defence work to be built was Fort Bingemma. By 1878, work had still not commenced on the two other forts and the entrenched position at Dueira, all of which were to be completed on the vote of 200,000. General Simmons recommended that the old Knights' entrenchments located along the line of



*Bingemma Gap Stop-wall with musketry loopholes.*

have new emplacements for guns built to the left of Fort Madalena and in the area between that Fort and Fort Pembroke. The latter fort was built on the eastern littoral below and to the rear of Fort Madliena, in order to control the gap caused by the accessible shoreline leading towards Valletta. Gun batteries were eventually proposed at Targa, Gharghur and San Giovanni. Plans for these works were drawn up but only

that of San Giovanni, was actually built and armed, while the two at Gharghur were never constructed and that at Targa, although actually built, was never permanently.

By 1888, the line of the cliffs formed by the great geological fault and the works which had been constructed along its length from Fort Bingemma on the left to Fort Madalena on the right,

constituted, in the words of Nicholson and Goodenough, *a military position of Great Strength*. The main defects inherent in the defensive position were the extremities, where the high ground descended towards the shore leaving wide gaps through which enemy forces could by-pass the whole position. Particularly weak in this respect was the western extremity. There, a considerable interval existed between Fort Bingemma

*Musketry parapet, Bingemma Gap before restoration.*





Fort Pembroke

and the sea: Military manoeuvres held in the area revealed that it was possible for troops to land in Fomm er Rih Bay and gain the rear of the fortified line unperceived from the existing works. To counter this threat, recommendations were made for the construction of two epaulments for a movable armament of quick-firing guns or field guns, the construction of blockhouses, the improvement of the wall which closed the head of the deep valley to the south of Benjemma Fort and the strengthening of the line of cliffs by scarping in places. It was also suggested that the existing farmhouses in the area be made defensible.

There were even suggestions for the reconstruction and re-utilisation of the old Hospitaller lines at ta Falca and Naxxar but only the latter put to use, particularly because these commanded the approaches to the village of Naxxar, described as a position of great importance, in the event of a landing in St. Paul's Bay.

A serious shortcoming of the North West Front defences was the lack of barrack accommodation for the troops which were required to man and defend the works. The lines extended some six miles in length and the accommodation provided in the forts was exceedingly scanty. Consequently, it was considered necessary that new barracks capable of accommodating a regiment (PRO MPH 234) and later a full battalion of infantry were to be built and a new site was chosen in the rear of the Dwejra Lines, at Mtarfa .

Although initially designed as a series of detached strong points, the fortifications along the North West



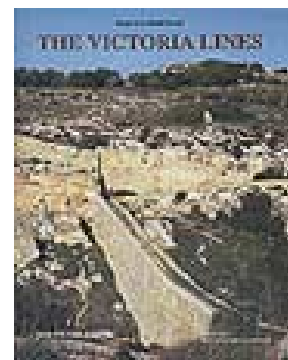
Xaghra ta' Bingemma, parapet wall before restoration.

Front were eventually linked together by a continuous infantry line and the whole fortified traced, by then nearing completion, was christened the Victoria Lines in order to Commemorate the Diamond Jubilee of Queen Victoria in 1897. The long stretches of infantry lines linking the various strong points, consisting in most places of simple masonry parapet, were completed on 6th November 1899.

The trace of the intervening stretches followed the configuration of the crest of the ridge along the contours of the escarpment. The nature of the wall, varied greatly along its length but basically consisted of a sandwich type construction, with an outer and inner revetment bonded at regular intervals and filled in with terreplein. The average height of the parapet was about 1.5 meters. Frequently, the walls were topped by loopholes of which only very few sections have survived to this date. In places, the *deblai* from scarping was dumped in front of the wall to help create a glacis and ditch. In places, the rocky ground immediately behind the parapet was fashioned out to provide a walkway along, or patrol path along the length of the line. A number of valleys interrupted the line of the natural fault, and at such places, the continuation of the defensive perimeter was only permitted with the construction of shallow defensible masonry bridges, as can be still seen today at Wied il-Faham

near Fort Madliena, Wied Anglu and Bingemma Gap. Other bridges, now demolished, existed at Mosta Ravine and Wied Filip.

During the last phase of their development, the Victoria Lines were stiffened with a number of batteries and additional fortifications. An infantry redoubt was built at the western extremity of the front at Fomm ir-Rih and equipped with emplacements for Maxim machine guns. In 1897 a High Angle Battery was built well to the rear of the defensive lines at Gharghur and another seven howitzer batteries, each consisting of four emplacements for field guns protected by earthen traverses, were built close to the rear of the defensive line. Search light emplacements were built at il-Kuncizzjoni and Wied il-Faham.



# THE DEVELOPMENT OF THE BASTION OF PROVENCE, FLORIANA LINES

*by Stephen C. Spiteri*

The design and construction of the Floriana fortifications, one of the most extensive and complex works of military architecture carried out by the Hospitaller Knights in the Maltese islands proved to be a lengthy and drawn out affair - a situation borne, primarily, out of the ambitious nature of the undertaking, coupled with a perennially inadequate allocation of resources necessary for the completion of the task, and a host of technical difficulties encountered in adapting the site to the design solutions imposed by the conventions of the bastioned trace. It was particularly the latter, compounded further by a continual improvement in the power of siege artillery, and a parallel development in the art of military architecture, that was to witness a number of interventions aimed at 'correcting' the perceived, and frequently acknowledged, weaknesses inherent in Pietro Paolo Floriani's original design. Nowhere was this process of rectification and adaptation so evidently manifest than along the Marsamxett side of the Floriana enceinte, particularly at the Bastion of Provence and its adjoining ramparts. The work of fortification, and re-fortification, along the Marsamxett enceinte, aside from the addition of the *faussebraye* and the crowned-hornworks, accounts for the larger part

of the effort invested in the strengthening of the Floriana defences throughout the late 17th and early 18th centuries. An evaluation of the character and development of the design of these defensive works must inevitably depart from an understanding of Floriani's original design and the shortcomings inherent therein.

## **Strategic Considerations**

From a military engineers's point of view, Malta in the age of gunpowder fortifications offered few naturally endowed sites that gave themselves so readily to the founding of a piazzaforte. The nature of the local landscape rarely combined the requisites of command and defensibility inherent in elevated sites with the vicinage of a safe anchorage, the presence of an adequate water supply and a topography congenial to the urban and social functions of a city. Perhaps one of the few exceptions to this geographical reality was Mount Sciberras, a mile long peninsula separating the Grand Harbour from Marsamxett. Its potential as a veritable *sito reale* was immediately recognized by the Hospitaller Knights long before the actual arrival of the Order in Malta - a commission of eight knights sent over to inspect the Island in 1524 lost no time to point it out as the ideal site for the Order's new convent. This opinion was reiterated many times by the Order's military engineers in the course of the early half of the 16th century. Antonio Ferramolino, Bartholomeo Genga, and Baldassare Lanci were among those who strongly prescribed the Sciberras heights as the solution to the Order's defensive problems but on each occasion the financial, political, or military situation did not favour the implementation of any of the proposed schemes. It was only after the Great Siege in 1566 that the opportunity was found to build the desired stronghold and the new fortified city of Valletta which quickly sprang up to the design of the papal military engineer Francesco Laparelli did not fail to exploit the potential of the site. By a careful combination of man-made bastions and ramparts, and rock hewn scarps, the rocky promontory was fashioned into a formidable fortress, lauded and eulogized as a classic of the military engineer's art.

Still, Laparelli's fortress only occupied part, albeit the highest area, of the peninsula since the fortification of the whole promontory, down from Tarf il-Ghases up to the spring at Marsa (some 3 Km) was then considered too grandiose and costly an undertaking, requiring also too many men and canon to garrison and defend. The fact that Laparelli planted the land front of his fortified city half way along the length of the promontory, however, left a considerable stretch of unoccupied land at the neck of the peninsula and ironically, it was this 'left-over' extent of ground which was to feature so prominently in the defence of the fortress throughout the course of the following two centuries.

The reason for this occurrence lay inherent in Laparelli's own rigid design. For by the beginning of the 17th century, it had become difficult to reconcile developments in technology and military architecture with the plan executed in 1566. The increased range and effectiveness of artillery called for a greater depth to the defences in order to prevent the bombardment of those vital parts of the city. Laparelli's front, with its restricted bastions and narrow ditch, and devoid of any protective shield of outerworks, was particularly exposed to attack. The Knights recognized that only substantial alterations and additions to the old front could serve to remedy the situation.

The solution that was eventually prescribed was the provision of a second forward enceinte, one which enveloped the old front within a new outer line of fortifications covering that same stretch of ground which had been left outside Laparelli's plan. The architect of this new scheme was the Italian military engineer Pietro Paolo Floriani, who had been sent by the Pope to help the Order undertake a complete reassessment of the island's fortifications following the threat of a Turkish attack in 1635. Although approved and quickly initiated, Floriani's scheme came in for much criticism from the very start. His ambitious project proved more radical than anticipated and after his departure from the island the Knights began to doubt its merits. Apprehension as to the total cost of the undertaking and the conflicting opinions of a string of

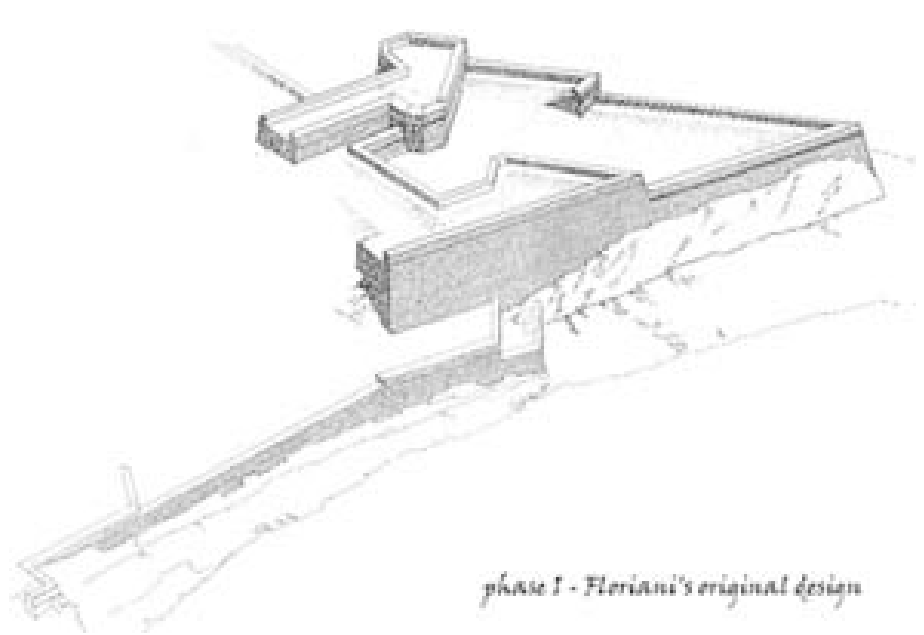


leading engineers consulted for their advice meant that the project dragged on in a dilatory and half-hearted fashion. Still, the Order had invested so much resources in the building of the Floriana fortifications that any abandonment of the scheme or its substantial alteration was already unthinkable by 1640.

By the time of the great general alarm of 1669, following the fall of Candia to the Turks, the Floriana fortifications, although for their most part laid out to Floriani's original blueprint, were still in an incomplete state and obviously constituted a weak point in the defences of the convent. The task of bringing these works to completion and perfecting their design fell on the shoulders of Count Antonio Maurizio Valperga, chief engineer to the duke of Savoy who was invited to Malta by the Order. His intervention (which was to prove one of the most consequential in the development of the Island's fortifications, producing the first ever master-plan for the systematic defence of Valletta and the harbour areas) helped reshape the Floriana fortifications with the addition of substantial supplementary outerworks in the nature of a so-called *faussebraye* and a crowned-hornworks, together with modifications to the bastioned front itself, all intended to correct the long acknowledged faults inherent in Floriani's design.

### *Floriani's Scheme and its Failings*

Ever since Floriani had traced out his plan on site in 1635, many serious flaws became apparent in the layout of the new fortifications. The weaknesses ingrained in the design, and the problems that these were perceived to entail for the proper defence of the new works, only began to be really appreciated once the fortifications began to take shape, slowly fashioned out as these were from the living rock. That these defects were not immediately clear on plan is brought out by the praise lavished on the design by Firenzuola's when he was consulted for his views on the matter. Firenzuola actually commended those elements in the design which eventually proved to be the main cause of concern. (1) The main shortcomings were seen to arise from the fact that the front was laid out



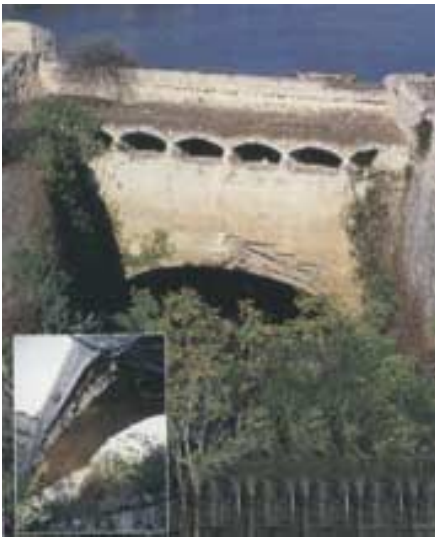
*phase I - Floriani's original design*

along a straight line and that the left ravelin was overlooked by high ground. More alarming, however, was the relative weakness of the extremities of the front and their adjoining lateral walls.

An evaluation of these shortcomings, and consequently of the significance of later interventions, can only follow from an understanding of Floriani's original design. This, however, is easier said than done for accurate details of Floriani's original scheme as actually traced out by him on site in relation to the existing nature of the terrain are rather scanty and most of the information must, as a result, be deduced from a study of the architectural fabric and the reports produced by successive engineers. Although several plans attributed to Floriani have survived in the Vatican Library many of these seem to be proposals rather than what one would term 'record plans' of the executed design. Indeed, all the plans tend to defer in their treatment of various salient details though all agree on the overall character of the scheme. The principal elements of the land front, the most critical part of the enceinte, comprised a large central bastion, supported by two demi-bastion and two large ravelins, a ditch and a narrow covered way with star-shaped places-of-arms.

Floriani had composed his whole design

around the concept that the bastions on the Valletta front were too small and restricted to allow a rearguard action. He therefore produced a bastioned front with component parts that were much larger than those of the mother fortress. However, the width of the peninsula at Floriana, being roughly equal to that of the old Valletta front, only allowed for three large bastions. As a matter of fact, his idea was not all that original for a preference for a three-bastioned solution was mooted many times in the course of the 16th century - Ascanio della Cornia, Fratino and possibly even Genga and Lanci had all envisaged this type of design for a fortress on Mount Sciberras. The massive form of Floriana's central retrenched bastion, however, only just permitted two other supporting demi-bastions, but these, to be adequately accommodated, had to be pushed so much to the sides that they hung on the precipitous slopes overlooking the Grand Harbour and Marsamxett, presenting a high profile on the flanks, vulnerably exposed to bombardment from the surrounding heights. The fronts straddling the harbours, although necessary to deny the enemy a foothold on the Sciberass peninsula, similarly provided a high profile, for lacking a ditch and the protection of a counterscarp, these were easily overlooked and enfiladed. The main front itself, sited approximately 800 canes from the ditch



of Fort St. Elmo occupied the ridge of a plateau overlooking the low lying marshland of Marsa. This was the highest escarpment south of the old Valletta front and its adoption as Floriani's main line of defence was a natural logical choice. A stretch of high ground in front of the Capuchin convent, however, could not be incorporated into his symmetrical

design and as a result it immediately came to constitute, as acknowledged by Floriani himself, a direct threat to the left ravelin.

Even the vast space enclosed by the new enceinte was seen to constitute a defensive problem for it offered the defenders no cover in retreat. Floriani originally intended this esplanade to serve as an area of refuge for the rural population in times of invasion, but subsequent military planners deemed that this space had first to fulfill military priorities. During the 1640s military engineers put forward a variety of remedies for this situation. Louis Viscount de Arpajon and Louis Nicolas de Clerville recommended that the esplanade be covered by a hornwork emanating from Porta Reale, the main entrance into the city. Clerville also proposed the construction of a number of earthen and palisaded redoubts while the Marquis of St. Angelo actually sought to retrench the whole area within two sets of straight walls, virtually converting the Floriana enceinte into a sort of large crownwork. The only intervention that was actually implemented, however, was the construction of four counterguards and a lunette, supported by an advanced ditch and covertway, designed by the Marquis of St. Angelo, but these were intended mainly to reinforce the old Valletta front rather than secure the open space.

Faced with this inflexible and pre-cast architectural ensemble, Valperga chose to react much in the manner of Floriani,

projecting new works ahead of the old enceinte rather than interfere with the original design. Being himself an adherent of an aggressive form of defence as practised all'olandese, Valperga boldly pushed out the main front by means of a braye and a crowned-hornwork. The latter, he placed on the left side of the enceinte to occupy the high ground dominating St. Francis Ravelin. Only on the right demi-bastion of the Floriana front was he compelled to modify the original layout, at the Bastion of Provence.

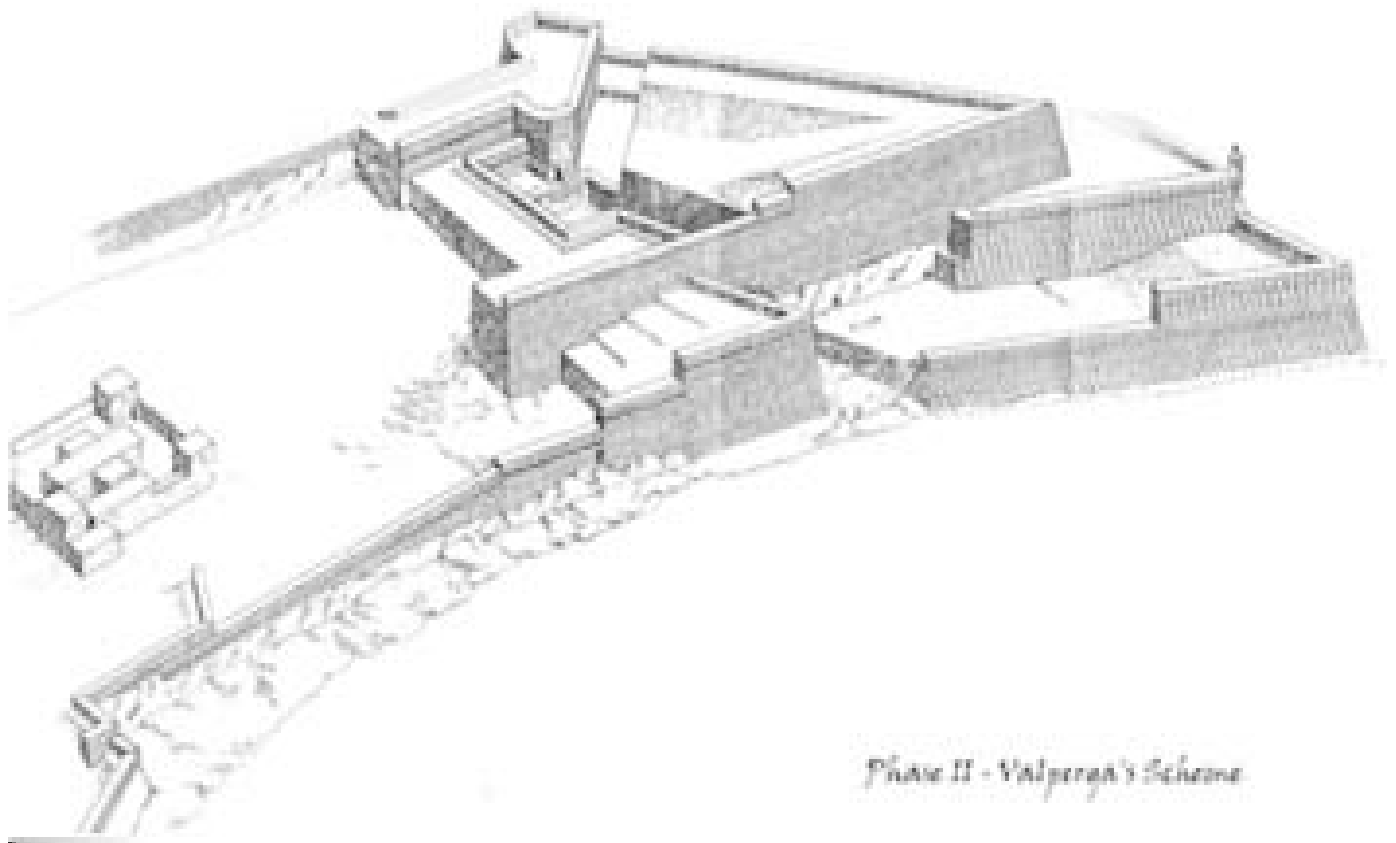
#### The Bastion of Provence

The most inadequate of all the elements of the Floriana enceinte proved to be the two extremities of the linear front, the demi-bastions and their adjoining lines of lateral walls, particularly the right demi-bastion overlooking Marsamxett, known as the Bastion of Provence. The problem with this demi-bastion was that it had too acute a salient while its long right flank was not adequately covered from adjoining works, leaving large areas of dead ground which could not be defended or covered by artillery fire. Its initial form, however, is not outrightly clear, both because of the later alterations and also because of the scarcity of documentary evidence. All existing plans differ as to the details of this bastion. All, however, reveal a tiered approach dictated by the sloping nature of the ground. Plan Barb. Lat. 9905/3 and I seem to be early proposals terminating in a flanking battery on the Marsamxett side of the enceinte.

The only plan which appears to be actually documenting the early stages of the Floriana fortifications, and possibly Floriani's executed design, is Barb. Lat. 9905/4. This shows a detailed measured drawing of works in progress. Although undated it was definitely executed prior to 1640-45 for the counterguards added by the Marquis of St. Angelo do not feature on the adjoining Valletta land front. That this plan records the works in progress is also borne out of two other factors, namely that

i) various parts of the enceinte are shown in dotted lines, indicating that work on these had not yet started and ii) the tenailles in front of the land front curtains, and three of the flanking batteries, are missing, implying that the





*Plan II - Valperga's Scheme*

depth of the walls, carved out as these were from the bedrock had not yet reached the desired level for these features to be hewn out. Eventually these features would appear when carved out of the living rock as can still be seen to this day.

Perhaps the closest one can arrive to Floriani's actual design, is a small plan sketched in ink and attached to his report dated 29th September 1636, which he prepared as written instructions, *avvertimenti*, to be followed by his assistant the Architect Buonamici, after his own departure from Malta. (2) This sketch plan shows basically the same layout illustrated in Plan 9905/4, but having a stepped two-tiered salient isolated from the interior works by a ditch.

Plan 9905/4 also clearly indicates why the Bastion of Provence was considered to be the weakest part of the land front. For one thing it was the smallest of the three bulwarks on the Floriana front; secondly, it had an acute angled salient and a relatively narrow neck or gorge, narrower, in fact from those of the main bastions on the older Valletta front. Internally the gorge of the bastion was

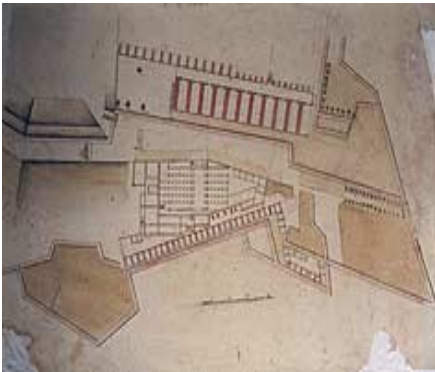
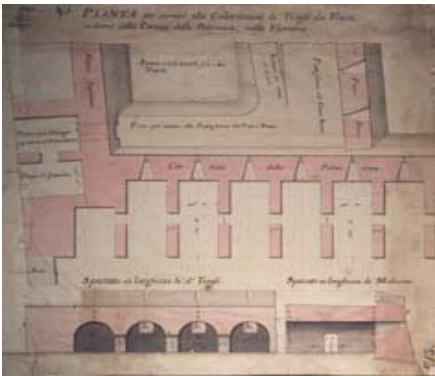
itself sealed off with a cramped *ritirata*. The provision of internal, secondary lines of defence, in the form of low demi-bastioned ramparts was a characteristic feature of Floriani's works, and is seen employed in all the major elements of his design including the two large ravelins or *mezze lune*. This same approach is also noted in his earlier works and is already well spelt out in his treatise *Difesa et ofesa delle piazze*.

The restricted span of the gorge in the Bastion of Provence only allowed for a small and cramped arrangement incapable of containing a sizable defensive force. The internal bastions and curtain forming the *ritirata* presented a very restricted front with limited potential for enfilading fire. Floriani seems to have favoured retired flanks and pronounced orillons and similar solutions can be found in his earlier proposals for the fortification of the Cittadella of Ferrara in 1629-30. The sloping nature of the site on which the Bastion of Provence was built called for a stepped design to adapt it to the lie of the land. The highest part of the work was inevitably the left flank facing

the centre of the front. This was occupied by a small irregularly shaped bastion known as San Salvatore, the right elongated face of which formed part of the *ritirata* within the Bastion of Provence, while its left face and flank overlooked the adjoining curtain later known as Notre Dame Curtain with its *Porta dei Pirri*. The parapet along the face of the Bastion of Provence descended in three unequal steps towards the salient and then turned sharply north to form a very elongated flank facing the sea towards Msida. The same treatment is encountered in Floriani's inked sketch attached to the 29th September report.

#### **La Vittoria Bastion**

It was the right flank of the Bastion of Provence that was particularly exposed to artillery attack and assault since it presented a high exposed target unprotected by ditch and counterscarp. Above all, it was practically unflanked except for the provision of a small battery capable of mounting only a single cannon, '*un piccolo fianco capace d'un sol canone*'. (4) This flanking device features in



Floriani's plans but seems to have been included merely as an after-thought once it became all too clear that the excessive length of the right flank would create a significant weakness in the defence. That it was considered inadequate is attested by the reports of both Giovanni Bendinelli Pallavicino and Louis Nicolas de Clerville, both of whom recommended that the flank of this bastion be protected by the addition of a new low work in the form of a bastion or a large traverse capable of delivering the necessary enfilading fire.

An important feature of Floriani's bastions were the internal ritirate formed from a ditch and scarp. The fosse at the Bastion of Provence is not featured in plan 9905/4 but it appears in Clerville's illustrated notes dating to 1645. Work on the construction of this internal obstacle was still underway during Valperga's visit in 1670. Its construction does not seem to have involved much excavation, however, for a study of the existing fabric tends to imply that it was formed by the raising of the terreplein of the piazza within the bastion. This was partly made possible by raising the height of the ramparts on the corresponding sections of the face and flank of the bastion, thus reducing the stepped bastion from three to two tiers. Indeed, in 1670 we find mention of both

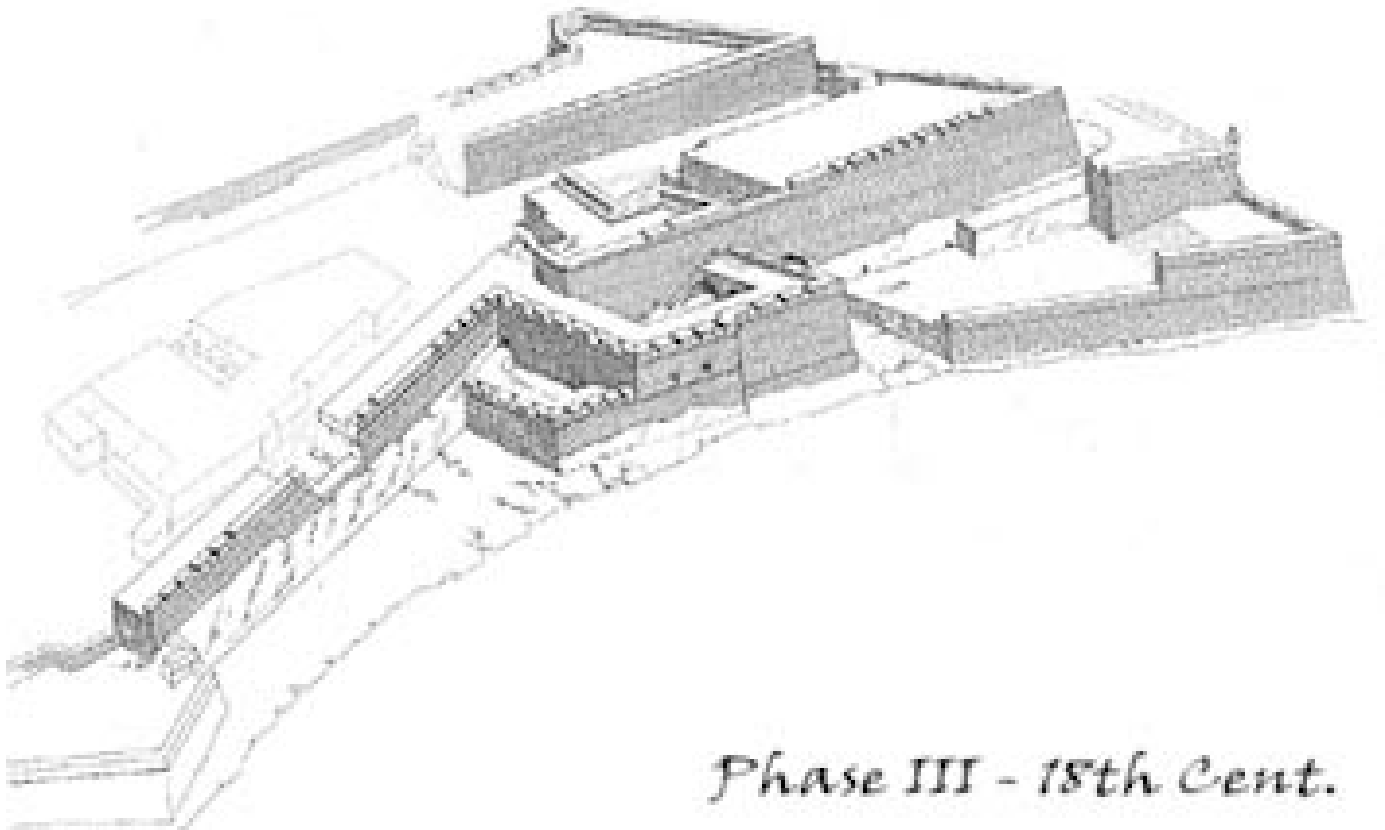
the 'vecchia ritirata' and the new works which were then underway. (5) A new gate with neo-classical architectural features (later demolished) was constructed in the curtain wall sited between the two bastions of the *ritirata*. (6) The construction of the entrenchment involved the cutting of a ditch and material excavated therein used as fill in the construction of a new bastion and the basso forte. (7)

The resultant heightening of the ramparts gave the bastion a characteristic profile quite distinct from the other two bastions on the Floriana landfront since the walls on the north flank of the bastion of Provence are higher at the salient than at the gorge. This characteristic feature is also clearly illustrated in a stone model now at the Fine Arts Museum in Valletta which shows Valperga's and Grunenburgh's proposed alterations to the Bastion of Provence. Then, as now, architects and military engineers made use of scaled models of fortification to present to their patrons. Usually such models were made of wax - a *modello di cera*, for example, was presented to Knight Galilei to forward to the Grand Master. (8) Dal Pozzo, in his history of the Order, makes a specific reference to Grunenburgh's use of '*modelli in pietra dell'opere principali*' in his efforts to '*completare la Floriana*'.

This interesting stone model also illustrates how Valperga's managed to enclose the fragile acute salient of the bastion within part of the *faussebraye* and reinforced the flank with the construction of a new bastion (La Vittoria) and a *bassoforte* (a kind of counterguard) termed *la Conceptione*. The construction and development of the new bastion 'La Vittoria' is documented in various plans, Valperga's own report and Grunenburgh's stone model. A careful study of Valperga's report shows that various historians have been mistaken in identifying the bastion La Vittoria with the low work adjoining the *faussebraye*. It appears that the name La Vittoria originally referred to the right demi-bastion of the *ritirata* within the Bastion of Provence. This small internal work originally had a more acute salient but seems to have been redesigned and its face extended

out on the flank of the bastion of Provence to allow for an adequate artillery platform. Evidence of the incremental development of the Vittoria bastion, illustrating the distinct stages in its design, is encountered in many places throughout the structure. Possibly, the most archaic remnant of the earliest form of the defences in the area, is the rock-hewn footing of the salient of a rampart, enclosed within one of the rooms of the bastion's casemated interior - this may have been the narrow flank capable only of mounting a single gun, mentioned in the documents. Another, is a section of a cordon running above the opening of an arched tunnel within the bastion. This bears witness to the fact the internal wall in question was originally the outer face of a rampart.

In order to ensure that the area at the foot of the salient of Valperga's new bastion did not construe dead ground, the Italian military engineer proposed that a large arched opening, what he terms the *arcone*, be made in the wall of the Bastion of Provence to allow guns in the left flank of the internal *ritirata* to provide the required enfilading cover. (9) This large vaulted and skewed *arcone* presents one of the most interesting features of the fortifications in the area. The arch practically spans the width of the fosse of the *ritirata* and contains, internally, a vaulted gallery which leads to the countermines built into the terrepleined body of the bastion. Its construction, if we are to believe Pietro Paolo Castagna is the work of the Maltese capomastro, or architect, Giovanni Barbara (Degiorgio, *The Malta Independent* - 28/3/1993.) and was finally completed in 1726. George Percy Badger, writing in his *Description of Malta and Gozo* (1838) was impressed by this 'very massy arch' and the 'architecture of this piece of workmanship' so 'very much admired by connoisseurs; the curve is of a tortuous and oblique form, and extends over a space about thirty feet in width.' (10) **The Bassoforte della Conceptione** The rocky ground at the foot of the flank of the Bastion of Provence, facing Marsamxett, was fitted with a low platform, referred to in the documents as the *basso forte detto la Conceptione*. This served mainly as a form of counterguard intended to protect the



### *Phase III - 18th Cent.*

flank of the bastion and the salient of the *fausse-braye* then under construction. It comprised largely a revetted earthen work, since, having been built down at sea-level it could not be carved out of rock, like most of the adjoining ramparts. The extent of the earthen content used in its construction is witnessed by the abundant garden that now occupies the site. The use of the site as a garden, however, is not a modern practice. In 1719, the Knight Frà Martino Muaro Pinto petitioned the Grand Master for the use of the 'giardino e casmento chiamato della concettione sito nella piazza bassa del beluardo della Concettione delle fortificationi Floriana', vacated on the death of Frà Gio. Battista de Semaisons. By the late 19th century, the garden was more popularly known as Giardino Se Maison. (11) A house seems to have occupied part of the *bassoforte*. It was still in existence during the 19th century, 'generally hired as a country-seat by some of the gentry of the island', for both the house and its garden were considered '... a delightful spot, possessing a most charming view of the Quarantine Harbour, the Pieta, and the country beyond'. The garden though

small, was 'laid out with exquisite taste, and ... well supplied with flowers, the adjoining battlements covered with ivy, giving it at a distance a most beautiful appearance. house belongs to government, and is Beneath the bastion which extends along the poor asylum to this villa.'

Early 18th century plans of the Floriana fortifications show the *Bassoforte* to have been heavily countermined. The salient of the *bassoforte*, adjoining the *faussebraye* was raised to a greater height than the remainder of the work.

#### **Grunnenburgh's Involvement.**

Work on Valperga's proposals seems to have progressed rather slowly - this is not surprising given the vast amount of projects that were competing for the limited available funds. The arrival of the Flemish engineer Grunnenburgh in 1681 found most of the works at the Bastion of Provence and adjoining fortifications still in an unfinished though advanced stage of completion. Grunnenburgh's reports, for the larger part, merely reiterate his predecessors ideas and encourage their completion in 'conformita che fu ordinato dal Conte Valperga.' (12) The remaining works at La Vittoria bastion comprised the

removal of the *muro della fortificatione vecchia*, the re-alignment of the *polverista curtain* in order to create a new flank on the northern side, the re-adjustment of the height of the parapet of the *falsa-braga* and the flank of the rampart of the Bastion of Provence.

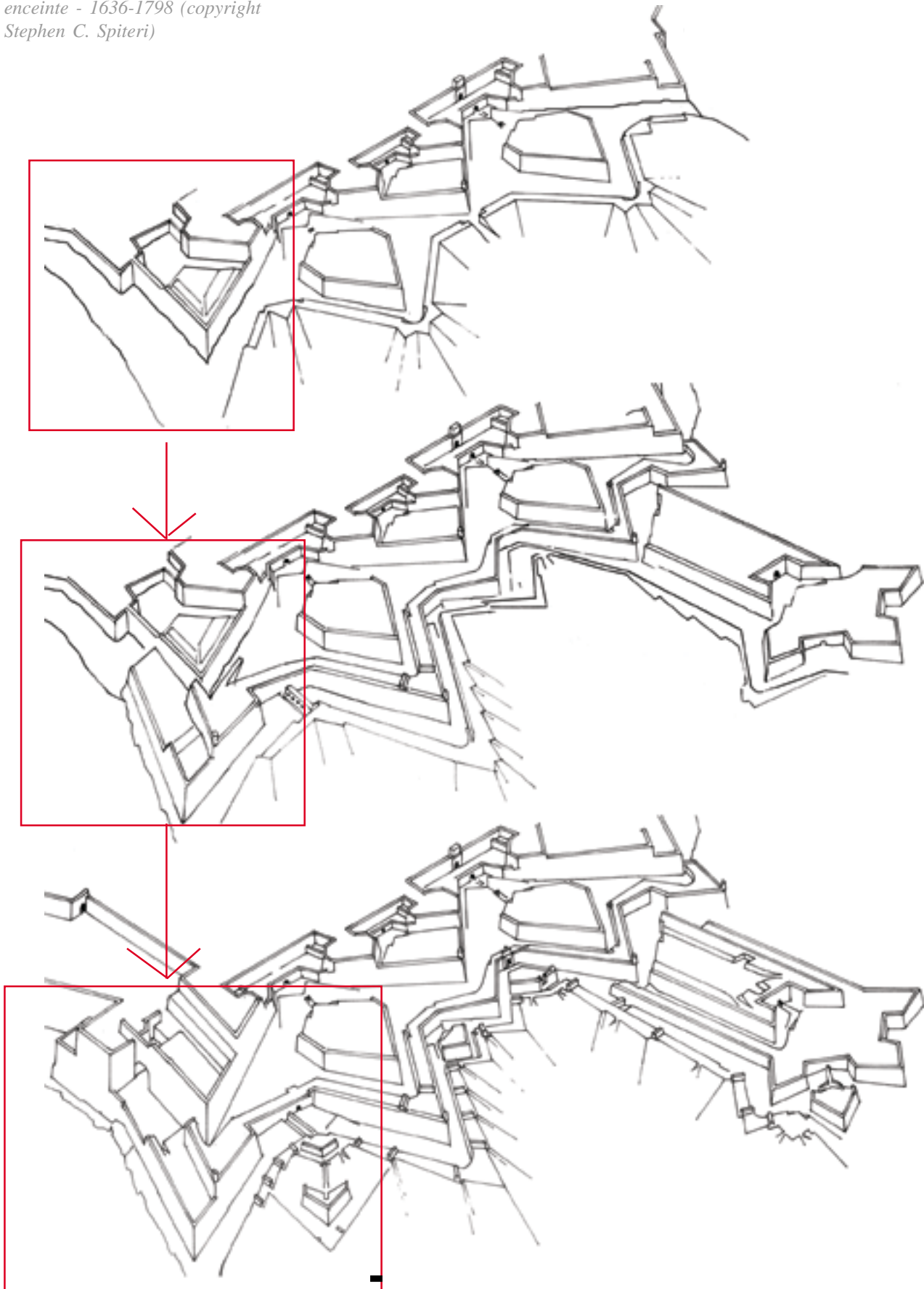
Other important works he then considered should be completed were the battery for the '*defenca oblico*' of the ditch and the construction of a '*galeria coperta a volto*'.

Grunnenburgh also saw to advise on the construction of the *glacis* along the Pieta front, particularly were it sloped down to the water's edge, and gave instructions for the use of stone-filled gabions, '*incasciata di tavole ligate l'una sopra l'altra*', to be placed in the sea so as to give it the same gradient throughout. For the '*parapetto della mezza faccia interna del baluardo della Vittoria, rimasto al arco*', Grunnenburgh recommended that this be raised in height and that *canoniere* (gun embrasure) be placed in the flank and along the *cortina*. (13)

#### **Completion of a scheme**

The final phase in the development of the fortifications of the area in question

*Development of the Floriana Land front  
enceinte - 1636-1798 (copyright  
Stephen C. Spiteri)*



was undertaken under the supervision of French military engineers during the 1700s, particularly by Mondion. This in actual fact only construed a continuation of Valperga's scheme and Grunenburgh's recommendations. These were the works which refashioned the fortifications and gave them the form they have to day. Primarily these included

- i) the re-alignment of the Polverista curtain; this was pulled back to enable the formation of a flank and *piazza bassa* in the north side of the bastion 'la Vittoria'
- ii) the raising of the height of the curtain and adjoining bastion with the construction of a continuous ranged of vaulted casemates
- iii) the re-design of the San Salvatore Bastion to accommodate a new retrenchment within the body of the Bastion of Provence parallel to the Marsamxett face; this involved the partial demolition of the curtain wall of the old ritirata - this retrenchment spanned all the way to the rear of the Ospizio area.

Most of these works were completed throughout the course of the 1720s as attested by the coat-of-arms and date (1723) inscribed on Polverista curtain.

#### The Polverista Curtain and the Gunpowder Factory

The curtain wall adjoining La Vittoria Bastion to the north was known as the Polverista curtain. This title was applied to it after the construction of a gunpowder factory on the site which was erected there in the late 17th century following its removal from its old site within the fortress of Valletta, a re-location obviously inspired by the need to abolish such a dangerous practice. As a matter of fact, the Valletta powder factor, the 'Luogo dove si fa la polvere' was originally located in the vicinity of the *Prigione degli Schiavi* (slaves' prison) on the site of the present Cottonera block. This actually blew up on 12 September 1634, killing 22 people and seriously damaging the nearby Jesuits College and church. The Order's records show that by 1665, the Knights were still looking for 'un luogo fuori della città per raffinar la polvere'.

(14) In that same year, however, the Congregation of war, determined to resolve the situation, instructed the resident military engineer, Blondel, to

draw up plans for a 'casa accomodata per fare e raffinare la polvere' which was to be built 'nella floriana dalla parte che riguarda il porto di Marsamschetto'.

The new polverista was quickly built and already producing powder by 1667. The building appears to have consisted of a structure enclosed within a high-walled rectangular enclosure.

It was equipped with tre molini used for the production of zolfo e salnitro. By the early 18th century it was also served by a number of magazines or 'mine' situated in the vicinity, one of which was known as 'dell'Eremita' and another 'del Tessitore'. Soon after the construction of the casemated curtain nearby in the 1720s, the master in charge of the Polverista, Giovan Francesco Bieziro proposed to the utilization of the 'trogli nuovamente fabbricati' for the production of gunpowder. By the beginning of the 18th century, the Polverista had become a prominent landmark, and is seen on many of the plans and views of Floriana. This is hardly surprising for it was then practically one of the largest buildings within the then largely barren enclosure of Floriana.

Initially the line of the curtain wall laid down by Floriani was roughly parallel to that of the flank of the Bastion of Provence. Valperga, wishing to add a northern flank to new Vittoria bastion re-designed it and realigned it by pulling it back., thus creating '...a nuova cortina, la quale deve poi unirsi a dritta linea con il vecchio fianco attiguo all polverista'. Work on this aspect of Valperga's design was only brought to completion by the French military engineers in the 1720s. Plans produced by the French military mission in 1715/16 still show the old curtain wall in existence and the Vittoria bastion largely incomplete. Work on the re-alignment of the curtain wall was initiated under the direction of the French Military engineer Mondion. The new works, however, did not include merely the re-alignment of the curtain but also its heightening. This was achieved by raising a row of casemates along the length of the curtain wall and adjoining bastion. The minutes of the Congregation of War of 8 July 1722, record ongoing works 'nella Floriana a perfezionare la Cortina nuova sotto la Polverista, verso il porta di



*Marsamschetto, con I fianchi che la diffendano*. At the same time the construction of a row of 'dodici grandi alloggiamenti, o sia caserne a prova, appoggiati all'intiore d'un altra cortina sopra di detta polverista' was also initiated (Narrative of the works undertaken during the years 1722-1732). In 1723 a sum of 10,000 scudi was then approved for the construction of 'magazini per appoggiare il muro vicino della porta di pirri'.

By 1725, works on casemates near the polverista were proceeding at the rate of 250 scudi a week (1725). A commemorative plaque on the polverista curtain itself, set between the arms of the Order and those Grand Master de Vilhena bears the date 1723 and seems to indicate that work on this curtain wall had been brought to completion by then. The Order's records show, however, that in 1758 workers were still labouring to cut away 'un labbro di rocca forte che rimaneva sotto la cortina ... (del')Ospedale delle donne' (1758).

The construction of the Polverista Curtain, however, does not seem to have solved the problem of the defence of the lateral walls of the Floriana lines along the Marsamxett side. The presence of the Isoletto and the Ta 'Xbiex promontory provided adequate positions for enemy siege batteries to fire directly into Floriana. With the establishment of a new town within the Floriana enclosure, up till then still largely a barren esplanade, such a threat came to be seen as being quite serious. Consequently, orders were issued in 1731 for the construction of a retrenchment, '... un secondo recinto, alla sinistra della Floriana dalla parte di Marsamxetto per supplire alla debolezza di quello gia fatto in quella parte vicino al mare per altro troppo basso, e che percio non cuopre

*l'interiore di detta Floriana*'.

This work came to consist of a line of bastioned ramparts spanning from San Salvatore Bastion to the salient of St. John's Counterguard. The new work necessitated the redesign of part of the bastion of Provence, wherein the Marsamxett side of the San Salvatore bastion was re-aligned parallel to a new fosse excavated within the body of the bastion of Provence. In the process, the left half of the *vecchia ritirata* was swept away to make room for the new ditch. The archival records show that work on this entrenchment was still in progress in 1733, particularly along the 'contrascarpa al nouo interiore recinto destra della Floriana.'

### The 'Ospizio'

A concern for the welfare of an aging population drove the Order to provide shelter and food for indigent old men and women within the newly founded town of Floriana. In 1729, the Grand Master, wanting to make use of the large casemates 'nuovamente fabricate al Florina in sopra della polverista' to establish 'un spedale d'Uomini vecchi e invalidi,' ordered the engineer Mondion 'di accomodare caserne ... facendo nella loro altezza altri piani o solaci mezzani, scale, diversi muri divisorii, ... una capella decente adornata, ... scavando nella rocca una gran conserva d'acqua.' In the following year, Vilhena, encouraged by the success of this institution, ordered the establishment of a similar hostel 'a favore delle femmine povere e vecchie delle caserne della nuova cortina sotto della polverista con mura sicure, comprendendovi un gran spazio per cortile orto. e nell'interiore si fecero le divisioni convenevoli, la cucina e l'avatoio, cisterne e insomma tutte le commodita necessarie nel modo che si vedono attualmente stabiliti.'

### The House of Industry

This building was erected by Grand Master de Vilhena and was originally intended 'as a Conservatory for poor girls, where they were taught to do a little work, and in other respects to perform all the offices of nuns'. In 1825 this establishment 'underwent an entire reform and until lately was in a very thriving condition as regards of its inmates. A great diversity of labour was done here, such as weaving, knitting,

making lace, sewing, washing, shoemaking, straw-plaiting, segarmaking, and many other very useful branches of female manufacture ... The lower part of the back side of the building forms a barracks for a regiment of the British garrison.'

(1) Letter from Barberini to Chigi, Rome 16. Feb. 1631,

'... il quale (Firenzuola) ha lodato sommamente il pensiero del Sig. Floriani, et ancora .... ha bene lodato piu' difficile et quasi impossibile ad essere attaccati ... nell'altra I due beluardi posti vicinal al mare'.

(2) Vatican Library, Fondo Chigi, Ms R I 25, f.335.

(3) AOM 261, f.26

(4) AOM 6554, f.117

'... e' piu' difettoso, poiche formato sopra una linea retta quanto e forte nel beluardo di mezzo tanto e' debole, e mancante di difesa nelli mezzi beluardi delli lati, ma assai piu' in quello che riguardo il porto di Marsamxetto per non haver altra difesa che un picciol fianco capace d'un sol canone, dal quale resta formato un angolo morto, in altre per venir infilato da diversi monticelli vicini, et sopra tuoto per l'imperfezione del sito che da commodita all'inimico d'avvicinarsi coperto al corridore, et d'avvinarsi lungo il mare nello spatio che li resta di terreno fin a scarpellare il muro con lasciar delusa tutta la robustezza et resistenza della fronte.'

(5) AOM 6554, f.120v. '... sino al termine della punta della vecchia ritirata, affinche questa eccessiva altezza di muro non impediscono li tiri della detta ritirata'.

(6) *ibid.*, f.119, '... La nuova porta cominciata nella cortina tra i due beloardi della ritirata si fara di larghezza palmi nove et altezza sino sotto il dado dell'imposta del doppio portico di forma quadra et compilo che sara il doppio portico conforme al disegno (?) sopra si mettera un palmo o due di terra piu o meno se sara bisogno accio rimanga il muro fatto della cortina con suo parapetto franco senz obbligo d'alzare detta cortina - ma ben alzare al novo fianco cominciato dal detto bastione della Vittoria al pari di detta cortina e non piu et unire di semplice muro il parapetto di detto fianco al pari di quello della detta cortina con suo terrapieno necessario.'

(7) *ibid.*, f. 119, '... Avanti le due faccie et cortina della ritirata che si sta travagliando nel corpo del vecchio bastione di provenza si fara una fossa di larghezza di sei in sette canne et della tera che pervenira da detta escavatione si portara per terrapienare il beloardo detto della Vittoria et cortina attigua sopra delle portico, che avanzandovi terra con quella che converra abassare nella punta del detto bastione di provenza questa s'impiegara parte nel basso forte della conceptione et per riempire i vacui nel corpo della falzabraga causati della vecchia fortificatione.'

(8) AOM 6554, f.17.

(9) *ibid.*, f. 120, '... Il vecchio muro del beloardo di provenza che guarda il mare ove s'unisse con la faccia nova del bastione della Vittoria; al piede di questo si fara un arcone largo di quattro canne (8 metres) et alto palmi undici, sopra l'imposta, et in maniera aggiustato che non possa impedire i tiri che perveniranno dal fianco opposto della ritirata, accio da questi venga la nuova punta di detto bastione della Vittoria ben fiancheggiata nel suo piede,

(10) Badger, G. P., *Description of Malta and Gozo*, Malta 1838, Facsimile Edition, Malta, 1989, p.201-202

(11) AOM 1015, f.347, '... incaricati di far visitare, e stimare il guasto cagionato dal fulmine nel Giardino Se Maison nello scorso Ottobre.'

(12) AOM 6554, f. 199-199v.

(13) *ibid.*, f.200, '... Ala falsa braga sopra la concetione, si deve levare una fiilata per fuori acio si possa dare piu declino al parapetto, questo si fara cominciando dalla guardiola sino al risalto che vie al stremita della cortina, che comprende una faccia, un fianco et una cortina'; f.176 '... per la parte de Marchemuchette, si halla de minuendo y abasado parte del baluarte de Provenza que assi lo dispuso il S. Conte Valperga, para que a la retirada del no le empidiesse la vista y fuego a la campana, como a la falsabraga y glacis de la estrada encubierta, que sera bueno de perfeccionar; assi por las racones referidos, como de que no podera dominar con tantos ventosas la ultima retirada, que forma una cortina y medio baluarde, que se determina a la mar'.

(14) AOM 261, f.26.



# FORT RICASOLI

by  
Arch. Hermann Bonnici

Notwithstanding the important role played by Rinella peninsula during the Great Siege of 1565, particularly in the down fall of Fort St. Elmo and for the command it exerted over the entrance to the harbour, it was only in 1670 that the knights of the military Order of St. John of Jerusalem, embarked on the fortification of this important tongue of land that shielded the harbour area from the rough open seas. The first fortifications on the promontory however, owe their origin not to military considerations but to those of internal security. In the seventeenth century, the slave population on the island had grown considerably and many sought to escape by sea, frequently from Rinella point. In 1629, in an attempt to discourage and hinder such escapes, a Bolognese knight, Alessandro Orsi, funded the construction of a tower at Rinella Point in order to foil fugitive slaves in their attempts. *Torre San*

*Petronio*, or *Torri Teftef* as it was more commonly known, was eventually fitted with a semicircular fleau d'eau battery protected by a sea-filled moat and had its own drawbridge, and a small room for the soldiers.

It was ultimately with the fall of Venetian outpost of Candia to the Muslims in 1669 that the military significance of the Rinella peninsula began to feature seriously in the defence of the harbour installations. It was Antonio Maurizio Conte di Valperga, chief military architect to the House of Savoy, invited to Malta to advise the Order on the design of new fortifications, who emphasised the need for a new fort at Orsi Point and convinced the Order to undertake its construction. The work was taken in hand thanks to a financial donation of 20,000 scudi made by Fra Giovanni Francesco Ricasoli, a knight from the *Langue* of Italy - a generous act which was rewarded by naming the fort in his honour. The first stone was laid on 15 June 1670 and the initial stages of construction were directed by Valperga himself. Good quality lime and sand were specified for the enceintes, and all fortification walls were to be levelled with a mixture of boulders and soil. Valperga dissuaded any alterations to his designs and only delegated the work to the resident military engineer in November 1670 after he had finalised the trace of all fortification works on the ground and presented the plan to Grand Master Cottoner.

Fort Ricasoli was eyed with heavy criticism. Commenting in December 1670, and April 1671, Lieutenant General Beretta described the fortifications as insubstantial. The fort did not occupy the whole of the Rinella promontory, while its land front was disappointingly



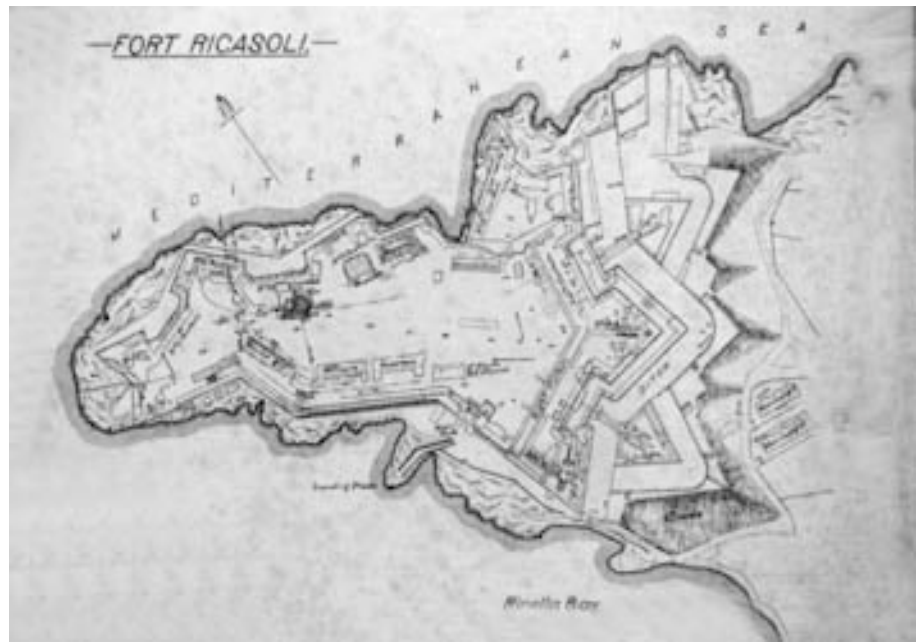
small. Fra Emederico Blondel, the resident military architect to the Order, who, on Valperga's return to Italy was entrusted with the completion of the works, shared similar views. Blondel was sceptical of the composite Italian and Dutch system of defence adopted. He regarded the ditch in the land front as too narrow, and considered the location of the barracks buttressing the landward establishment as unsuitable. Blondel also advised the removal of Orsi Tower and the construction of a sea battery, or *fleur d'eau* in its stead. Whilst continuing with the works commenced by Valperga, he denied any responsibilities for the designs he was employed to implement.

In July 1671, Count Verneda, engineer to the Republic of Venice, also considered Fort Ricasoli small for the tongue of



land it occupied. His solutions to the problem were however too grandiose and costly both in workmanship and time. Notwithstanding all criticism, building activity continued uninterrupted as originally intended, and by 12 June 1674, the establishment was ready to receive a skeleton garrison. Don Carlos de Grunenberg, who, in January 1681 was invited to Malta to compile a report on the state of the fortifications, again reported on the various shortcomings to the fortifications of Ricasoli to Grandmaster Caraffa. Grunenberg proposed to lengthen the *fausse-braye* beneath S. Dominic's demi-bastion by a further 26 *canne* (52m), construct a covertway to the envisaged extension, and most significantly, lower St. John's demi-bastion to just 3 *canne* (6m) above the main gate. In an effort to improve the relative distance between the outworks and the parapet wall, the covertway and the glacis were also to be lowered. His recommendations were approved on 16 March 1681, and knight Ugo de Vauvilliers was entrusted with the execution of the works. Works on the barrack blocks and the powder magazines occupying the central area of the fort began in 1685, while the governor's palace, incorporated into the main gate, was projected by Emederico Blondel and approved by the council on 16 March 1681 and commenced shortly afterwards. The chapel, too, was commissioned to Emederico Blondel. Fort Ricasoli was garrisoned, armed, and officially declared complete in May 1698. The inherent weaknesses of the land front defences were again raised in 1693, and great concerns for the collapsing casemate of St. John's bastion were revealed. Various masonry works had eroded, and the quality of the globigerina limestone quarried from the vicinity and used extensively in the project was questioned. All parapets facing the waterfront were later repaired with the more durable coralline limestone.

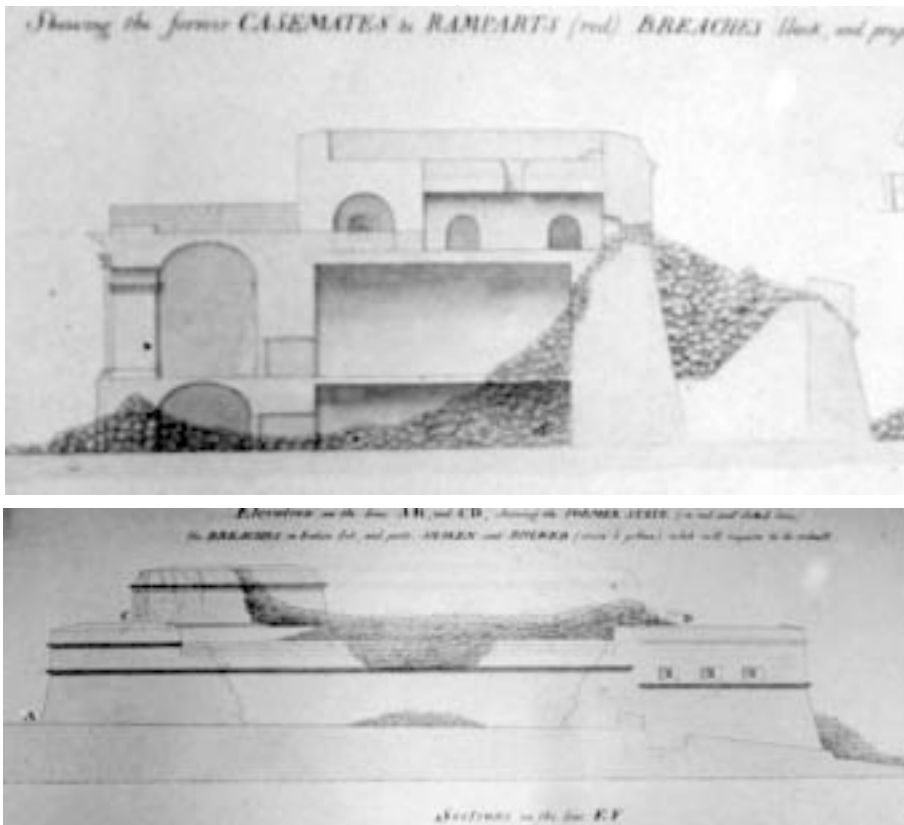
Despite the great financial expenses incurred by the Order to rectify Valperga's initial shortcomings, the land front was still feared a weak point in the harbour's defence mechanism. Jacop de Puigirand de Tigné, Francois Charles de Mondion, and Philippe de Vendosme,



three of the most reputed military engineers to visit Malta in 1714 criticized Valperga's dwarf bastions. Tigné was particularly sceptical on the effectiveness of the bastions, and despite recommending various alterations and repairs, particularly to the parapets, *bauchettes*, and embrasures, with the use of concrete

manufactured from hard wearing stone, quicklime, iron, and lead, he still feared the fort too weak to offer any credible resistance to attack. With this in mind, he suggested an interior retrenchment half way inside the fort. This second line of defence was effectively a curtain wall flanked by two demi-bastions, and protected by a ravelin and a dry ditch.





*Ramparts damaged by explosion during the Froberg mutiny*

He also proposed the construction of a large semi-circular battery to supersede Orsi tower, and thus, gain a better command of the harbour mouth. The prior of France, Philippe de Vendome had even harsher criticism for the fort and the only solution he could envisage was for the promontory to be separated from the mainland a canal. Confused by such differing opinions, the Commissioners of Fortifications advised the grand master to adhere to Tigné's plans, particularly since his proposals were within the financial capabilities of the Order. Still, it was only after the general alarm of 1722 that Tigné's recommendations for the outworks were implemented. By 1752, the degeneration of the fort's fabric was considerable. Further repairs in 1761 were taken in hand, but lack of funds brought an abrupt end to these maintenance works.

In 1798, the fortifications of Fort Ricasoli were finally brought to the test. Well trained and adequately provisioned to withstand repeated assaults, the garrison of Fort Ricasoli, under the command of Bali de Tillet,

successfully repulsed three French attacks. Despite all predictions, it was only after the Order's capitulation that the gates of Fort Ricasoli were thrown open to the army of Napoleon Bonaparte.

It remained in French hands for two years, most of which time it was besieged by an Anglo-maltese force. When the French eventually surrendered on 5 September 1800, Fort Ricasoli was delivered to the British military. A series of reports on the state of local defences were soon commissioned and these underlined the vulnerability of many of the existing works of fortification. The importance of Fort Ricasoli, however, was immediately recognised. Its guns were vital in covering the seaward, and to some extent also the landward, approaches to the Grand Harbour.

During the first years of British occupancy, the fort billeted a regiment of foreign troops who were raised for service under the British army by M. De Conte de Froberg. The garrison was subjected to great hardships and mutined. On Sunday, 12 April 1807, a number of mutineers blew the main powder magazine then containing 650 barrels of gunpowder.

The bomb-proof casemate in which the material was stored, situated in St. Dominic's demi-bastion, together with large sections of the faussebraye were extensively damaged. The salient angle of the bastion, together with its right and left faces were literally blown off. The costs of the damages sustained were high. In a detailed report prepared by Lt. Col. Dickens, Chief Royal Engineer, immediately after the incident, it was reported that considerable sections of the still standing works were badly shaken. Only the length of scarp wall below the level of the platform of the gun casemates was still sound. The rebuilding of the faces of the bastion to their former height, and the reconstruction of the destroyed casemates, was, from this early stage considered too costly, and it was thus proposed to bring the level of the reconstructed terreplein to immediately above the unshaken scarp. Also, with this alteration to the original land front skyline, the new set-up was to be well shielded by the front-line ravelins. A parapet of only 7 ft in height was to be raised above this new construction. To ensure that the left face of the centre bastion was adequately flanked, and to guarantee superiority of fire over the curtains and opposite flanks of the fausse-braye, Col. Dickens, suggested that the shaken flank, together with the faces, be reconstructed to their former height. In this same report, dated 15 May 1807, Dickens also proposed the construction of a new, bombproof powder magazine, which, according to his calculations was to accommodate 500 barrels. In order to minimize on any damages to the scarp should an explosion occur, this new structure was to be isolated from the adjoining ramparts by an open space, while the sally-port, severely damaged by the blast, was to be rebuilt to facilitate the communication between the sea and the proposed magazine. All the works involved in the reconstruction of the damaged section were estimated to exceed £4,523.

The plans for the powder magazine were however shelved, until in 1829, another structure calculated to accommodate eight hundred barrels of gunpowder was proposed. General Whitmore, then

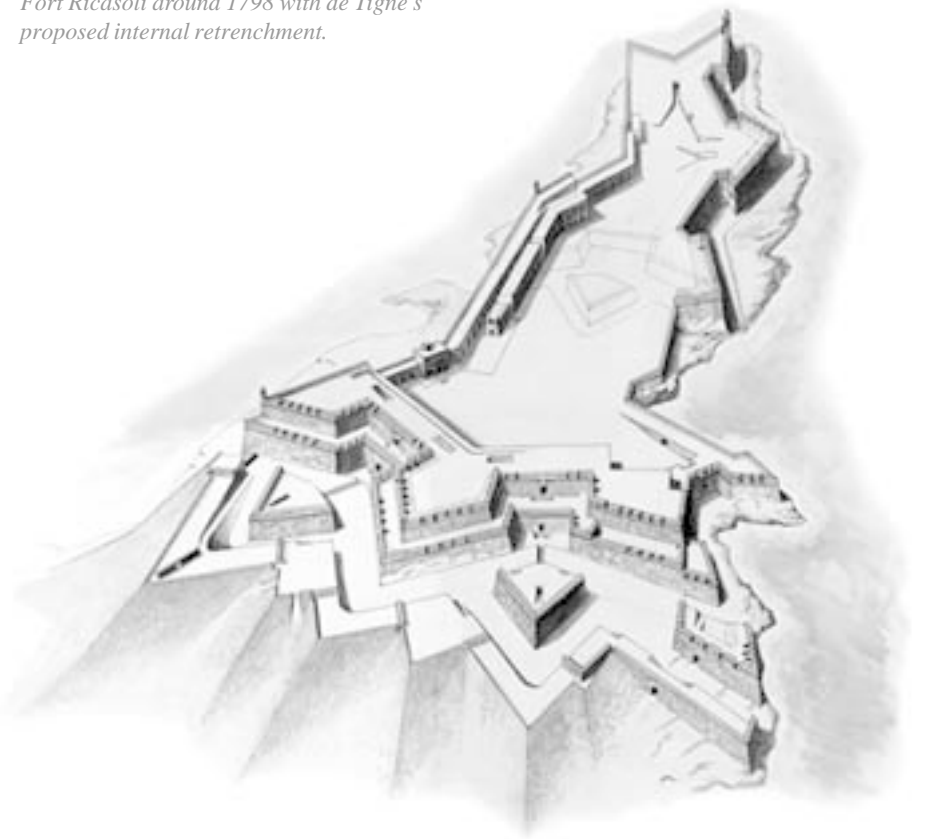
responsible for the works, was concerned for the stone deterioration instigated by the salt laden winds, and in a letter accompanying his plans, dated 28 March 1829 and addressed to General Mann, he outlined how he Figg also suggested that the guardroom of *Torri Teftef be* dismantled and its stones used for the same cause.

Reporting to General Mann on September 15, 1821, after the works had commenced, Whitmore expressed his approval to the employment of material from both the entrenchment and the guardroom. He also suggested that the thickness of the scarp at the cordon was to be increased from four feet to four feet ten inches, while the shaken salient angle was to be renewed.

On May 19, 1823, Lt. Col. Whitmore described the deterioration process of the fort as fast, and the annual allowance from Parliament allotted for the maintenance of the fortifications, limited and insufficient. He also lamented that due to construction practices, vegetation was encouraged to flourish in the mortar joints, thus accelerating deterioration. In order to procure sufficient funds, he suggested that works such as the paving under gateways, and the repairs to public roads through military establishments were to be borne by other departments.

The importance of Fort Ricasoli was strongly acknowledged, and by 1844, five hundred soldiers, out of a total of six thousand for the whole Island were garrisoned within its perimeters. In October 1848, the inspector general of fortifications, Sir John Fox Burgayne inspected the defences and considered the Ricasoli, St. Elmo, Tigné line of fortifications as impregnable against enemy attack. Contradictory views were however shared by Sir William Reid, new governor to Malta, in 1851, who was deeply concerned by the threat presented by well armed enemy steamships outside this harbour line of fortifications and thus ordered that these forts be equipped with artillery of a heavier calibre. In this quest for added security, shell stores for 260 boxes and 180 boxes, battery magazines for 10, 6, and 4 guns, each containing

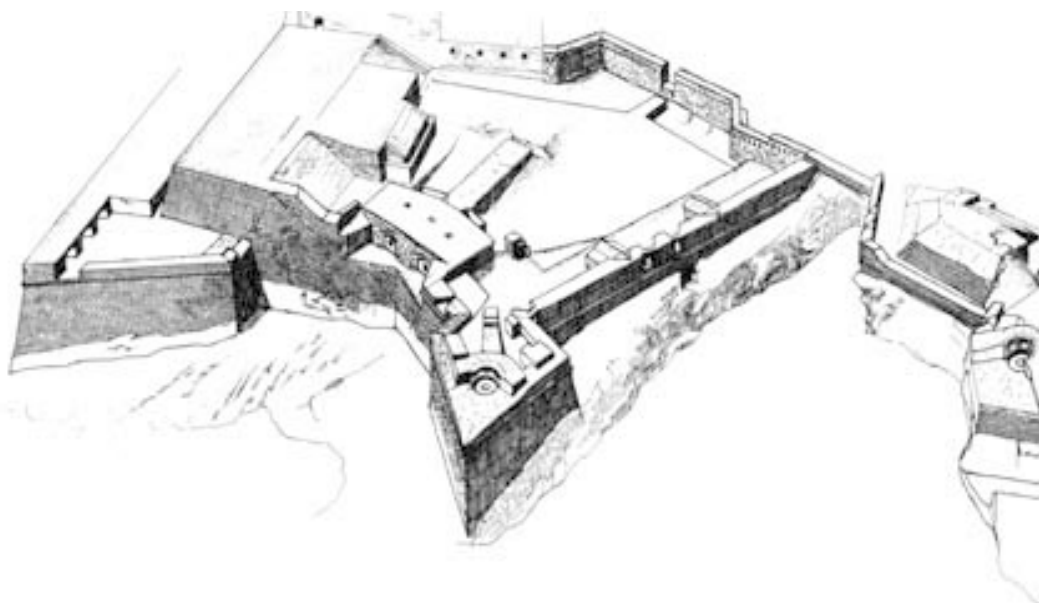
*Fort Ricasoli around 1798 with de Tigne's proposed internal retrenchment.*

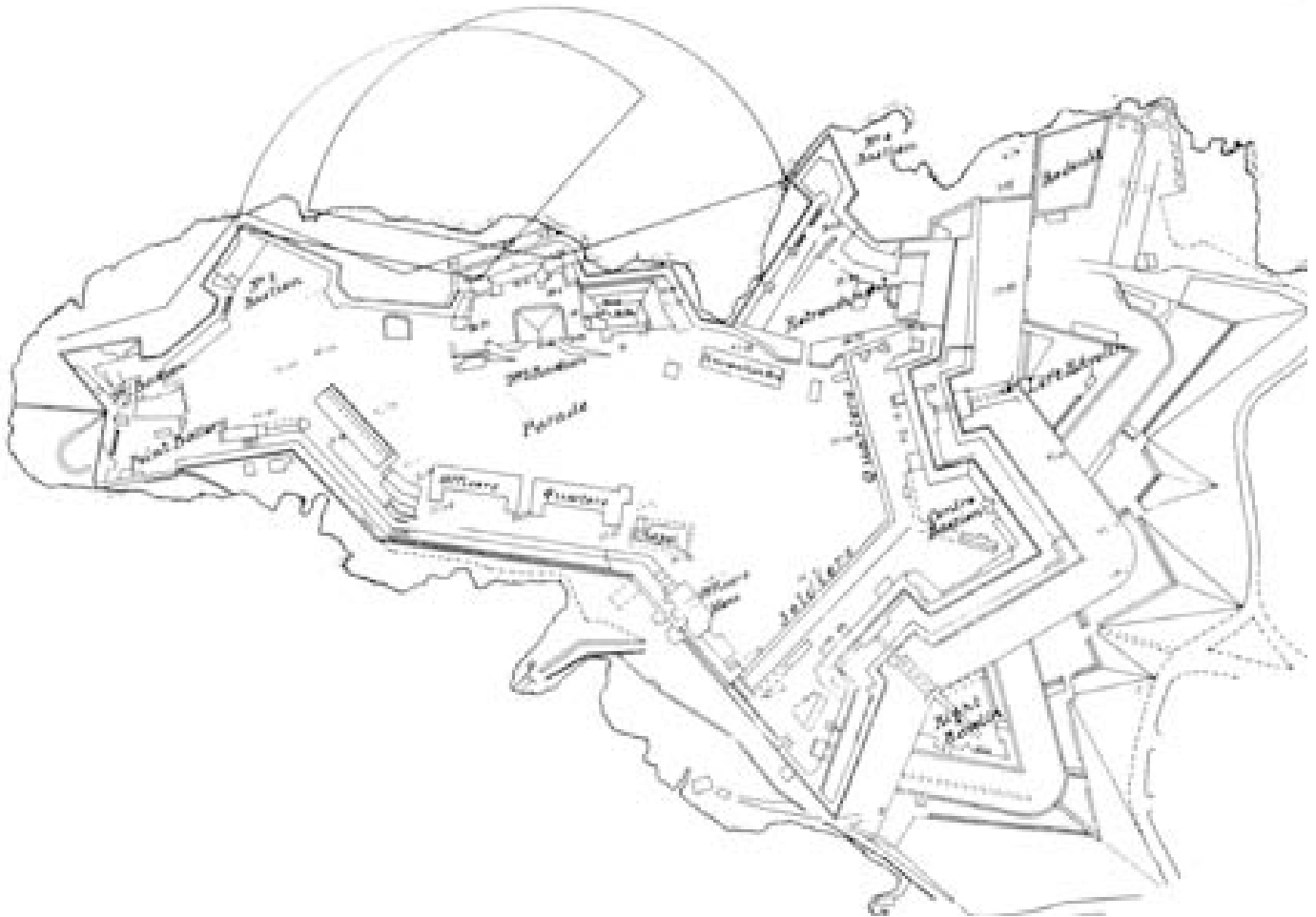


between 192 and 80 cases, and shell receptacles, were, in October 1854 proposed to be constructed at various locations within the fort, particularly on the side facing the open sea. In a detailed account compiled by the Royal Engineers on October 28, 1859, Fort Ricasoli was described as in good order, the outworks defensible, and its harbour side well protected by fort S. Salvatore and the Cottonera lines. Its interior was also under fire from

collateral works. Similar to that of other fortifications, the defence mechanism of Fort Ricasoli was considered healthy.

By 1864, the fort was garrisoned by fifteen officers and 676 men, and was armed with a total of 104 guns, a number of which were mounted in casemates on the No. 1 Curtain, and the No. 2 Bastion. Following 1870, armament technology developed fast, new materials were introduced, and innovative building





techniques were adopted. By December 1872, the fortifications of Fort Ricasoli were in a state of transition. The substructure of large sections of bastion walls was remodelled, while casemates were being added to Point Battery, No. 2 Bastion, and No. 5 Demi-Bastion. By 1878, the seafront of Fort Ricasoli had been remodelled. Before the turn of the century, Fort Ricasoli was again re-armed with six-inch quick firing guns on pedestal mountings, while in 1889 electric search lights were installed. These, together with others installed at Fort St. Elmo ensured the protection of the harbour entrance even

at nighttime. Additional lights were added in 1906.

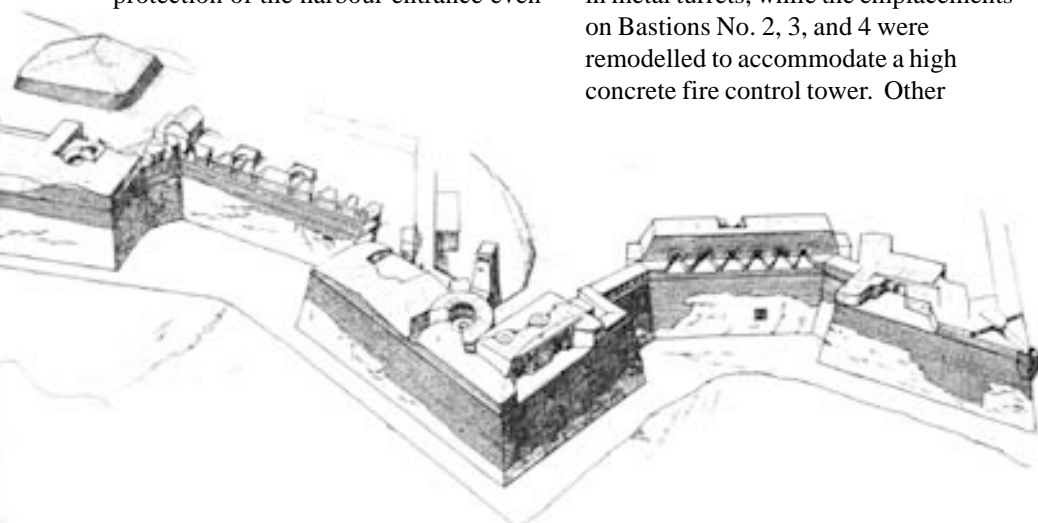
During the same period, a Brennan torpedo station was excavated within the ramparts of the fort, overlooking the harbour side. The plans bear the signature, and hence the approval of Louis Brennan himself. However, by 1904, the project was considered obsolete, and the structure converted to accommodate three engines designed to power the fort's defence electric lights.

Prior to the Second World War, the fort was re-armed with three twin 6 lb. guns in metal turrets, while the emplacements on Bastions No. 2, 3, and 4 were remodelled to accommodate a high concrete fire control tower. Other

defence electric lights were also installed.

Due to its proximity to the Naval Docks in particular, during the Second World War, Fort Ricasoli was constantly under fire from enemy aircraft. Extensive areas of its fortifications were breached, and in April 1942, the gateway, together with the Governor's Palace was demolished by enemy attack. Architecturally, Malta had lost one of its finest portals. The composition identified by the gateway and the palace in the background constituted a significant detail of Maltese baroque architecture. The visual robustness of the ensemble lent by the pair of spirally twisted columns flanking each side of the arched entrance was the only local example of such a baroque idiom. Except for the filling up of the ditch, and the enlarging of its doorway, at some time after 1904 to enable access to large vehicles into the fort, this complex had, until 1942, survived as originally designed.

Immediately after the war, Fort Ricasoli was used as a naval barracks. The



interest in its fabric had mitigated, and it was only after great pressures by Maltese individuals, that the demolished gateway was reconstructed. However, due to financial difficulties, the Governor's Palace was not considered worth rebuilding. Even so, the original qualities of the portal were not clearly understood. The twisted pair of columns was not correctly interpreted, and instead of six twists, the copy emerged with five apiece. Although seemingly inconspicuous, the effect on the message that it conveys is great. Its masculinity and authority have been enfeebled, and its proportions altered. Similarly to other blemishes in its fabric, this shortcoming should, perhaps be accepted as a casualty of war.

#### **Safeguarding Fort Ricasoli.**

Fort Ricasoli merits to be safeguarded, and our ultimate aim for intervening should be that of promoting to society its values, both cultural and economic which otherwise risk being lost. The most important reason for safeguarding Fort Ricasoli is that of age. Time moves forward, and with increasing distance, the receding past is enhanced. Fort Ricasoli also acclaims a distinct quality of craftsmanship. Every generation contributed to the fabric of the fort, and the present set-up is thus, not only an evidence of the different epochs of the Island's history, but also a reflection of the foreign cultures which at one period or another influenced its development. The ideas of various foreign and local architects and military engineers are crystallized within its fabric. Fort Ricasoli also merits to be safeguarded on the basis of its uniqueness. Its strategic location within the Grand Harbour, its designs, and the circumstances which led to its development, and, to a certain extent, its abandonment, are unique to it. Each intervention encapsulates within it knowledge of a moment in the history of the nation's evolution.

Arguments for its conservation are also phenomenological in nature, embodied in the relationship between man and his surroundings. Human identity is a function of places and things and the development of social and cultural identity is a slow process that cannot

take place in a continuously changing environment. In a world increasingly hostile, there is a yearning for the familiar. Humans cannot detach themselves completely from the past, and the conservation of their cultural heritage can thus satisfy their need for security.

Its conservation has also a pragmatic justification. Large sums of money, and an unquantifiable number of labour hours were invested in its construction. Each stone was manually quarried, and irreplaceable natural resources were consumed in its construction. By modern standards, its cost is prohibitive, and thus, in a culture where sustainability has become one of the few solutions to a sensitive exploitation of the environment, Fort Ricasoli cannot be left unnoticed. Calculating the amount of non-renewable resources and work invested in its construction and maintenance throughout the centuries, its misuse will be a serious loss to the nation.

#### *References and Notes*

- AOM, *manuscript 1016 ff. 255, 259 - 260.*  
 AOM, *manuscript 261 f. 131 v.*  
 AOM, *manuscript 262 f. 157.*  
 AOM, *manuscript 442.*  
 AOM, *manuscript 6402 ff. 305 - 307 v.*  
 AOM, *manuscript 6551 ff. 48 - 48 v, 176 - 179.*  
 AOM, *manuscript 6552 ff. 39 v - 40.*  
 NLM, *manuscript 1301 ff. 97 - 104.*  
 NLM, *manuscript 142d f. 458.*  
 NLM, *maps R9, R17.*  
 PRO, *manuscript MPH 474.*  
 PRO, *manuscript MFQ 220.*  
 PRO, *manuscript MFQ 293.*  
 PRO, *manuscript WO 55/ 1555.*  
 PRO, *manuscript WO 55/ 909.*  
 PRO, *manuscript WO 75/ 5310.*  
 PRO, *manuscript WO 78/ 2531.*  
 PRO, *manuscript WO 78/ 3640.*  
 PRO, *manuscript WO 78/ 4376.*  
 PRO, *manuscript WO 78/ 4436.*  
 PRO, *manuscript WO 78/ 4438.*  
 PRO, *manuscript WO 78/ 5305.*  
 PRO, *manuscript WO 78/ 5310.*  
 PRO, *manuscript WO 95/ 910.*  
 Bosio G., *Storia della Sacra Religione et Illustrissima Militia di S. Giovanni Gerosolmitano*, Vol. III, Venice, 1695.  
 E. S., "The Great Gatehouse, Ricasoli", *Times of Malta*, Thursday, November 14, 1946.  
 Galea M., *Sir Alexander Ball and Malta*, Malta, 1990.  
 Hughes Q., *Malta, A Guide to the Fortifications*, Malta, 1993.  
 Hughes Q., *The Building of Malta 1530-1795*, London, 1967.

Sammut Tagliaferro A., "British Fortification and Defence of Malta 1800 - 1960", *Archivum*, Malta, 1981.

Spiteri S., *British Military Architecture in Malta*, Malta, 1996.

Spiteri S., *Fortress of the Cross: Hospitaller Military Architecture, 1136-1798*, Malta, 1994.

Tregellas W. H., "Historical Sketch of the Defences of Malta", *Journal of the Royal Engineers Institute*, paper VIII, Vol. III, No. 10, 1879, London, 1879.

Zammit T., *Malta - The Maltese Islands and Their History*, Malta, 1926.

## WIGNACOURT TOWER

Wignacourt Tower, situated at St. Paul's bay in the north of Malta, is in many ways a unique historical military building, for this structure represents the first of a series of coastal watchpost erected in Malta by the Knights of the Order of St. John in their efforts to secure the Island against the threat of sea-borne attack. Throughout most of the 15th, 16th and 17th centuries, Malta and Gozo were plagued by corsair raids, for the Mediterranean Sea was then infested with pirates. Many an inhabitant was carried off into slavery by the Turks during the course of a rapid unannounced *razzia* even though every effort was made by the local militias to watch and guard the islands' shores. Then, unlike today, the northern half of Malta was practically uninhabited for most people preferred to live within the safety, or in the vicinity, of the fortified towns. The remote northern rural and coastal areas were perilous places. St. Paul's Bay was particularly prone to corsair raids as it afforded direct ingress into the very heart of the island.

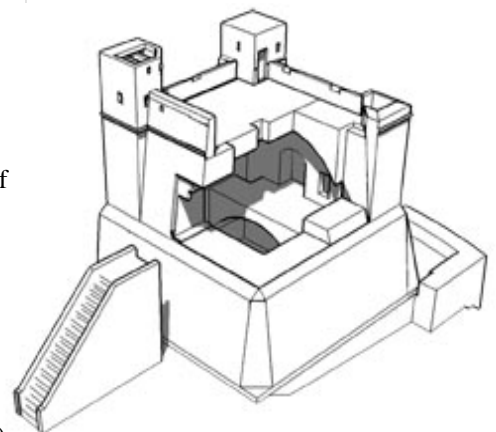
It was Grand Master Aloff de Wignacourt who on November 9th, 1609, brought the matter of the defence of the northern areas of Malta before the Council of the Order, stressing the need of protecting the Order's fleet when this required to shelter within St. Paul's Bay and also in preventing the Turks from disembarking there as they had done on previous occasions. During the meeting, a model of the

tower was displayed and the proposal was accepted. Grand Master Wignacourt donated the sum of 7000 *scudi* to facilitate the construction of the tower and the first stone was laid with due ceremony on the 10th of February 1610.

The design of Wignacourt Tower is attributed to the Maltese architect Vittorio Cassar, who is said to have also designed the other coastal towers that subsequently sprang up around the island during the reign of the same Grand Master. The tower consists basically of a square block with thick bombproof sloping walls, stiffened by turrets at the corners. Internally the layout comprises two barrel vaulted rooms, one on each floor. The main entrance into the tower was through the doorway on the first floor, via a flight of steps and across a wooden *ponte levatoio* (drawbridge - see model of tower to the right) both of which no longer exist though the tower still retains its original stout wooden door. The present ground floor entrance is a late addition. A staircase built into the thickness of the walls leads up to the tower's roof.

The barrel-vaulted room you are standing in was the heart of the tower. It served both as living quarters for the garrison and as storage area for the supplies and munitions of war. It still retains many of the features that accompanied garrison life. A *focolare*, or small fire-place, built into the wall, with its ventilation shaft opening in the parapet on the roof, served both for cooking and to provide warmth during the brief but cold winter months. A stone *kenur* was used for cooking. Water was drawn up through a shaft from a *pozzo* (well) situated beneath the tower - this was filled by rainwater collected from the roof. The well shaft reached up to the roof so as to serve the sentinels on duty too. To the left of the fire-place is the *gabinetto* (latrine). A trap door, now occupied by the spiral staircase, gave access to the vaulted room on the ground floor, then only used for storage.

The tower's small garrison consisted of a *Capomastro* (or master bombardier) and two or three assistants. In times of

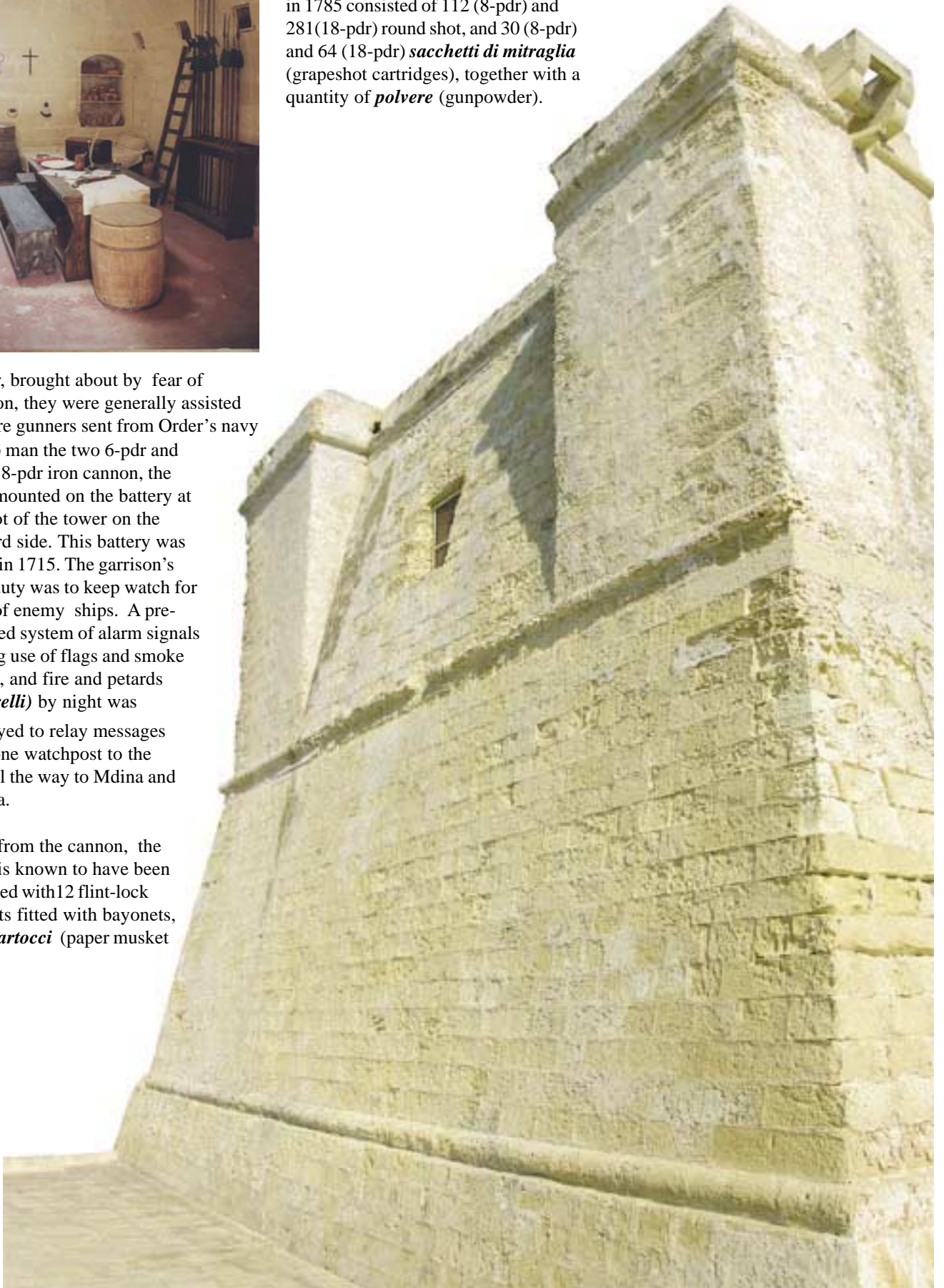




ball-cartridges), 2 flint-lock pistols, 12 spontoons and halberds, and a sword. Cannon ammunition stored in the tower in 1785 consisted of 112 (8-pdr) and 281 (18-pdr) round shot, and 30 (8-pdr) and 64 (18-pdr) *sacchetti di mitraglia* (grapeshot cartridges), together with a quantity of *polvere* (gunpowder).

danger, brought about by fear of invasion, they were generally assisted by more gunners sent from Order's navy to help man the two 6-pdr and three 18-pdr iron cannon, the latter mounted on the battery at the foot of the tower on the seaward side. This battery was added in 1715. The garrison's main duty was to keep watch for signs of enemy ships. A pre-arranged system of alarm signals making use of flags and smoke by day, and fire and petards (*solfarelli*) by night was employed to relay messages from one watchpost to the next all the way to Mdina and Valletta.

Apart from the cannon, the tower is known to have been equipped with 12 flint-lock muskets fitted with bayonets, 500 *scartocci* (paper musket





# A GENERAL OVERVIEW OF THE FORTIFICATIONS IN THE LOCALITY OF MELLIEHA

by  
Stephen C. Spiteri

More often than not throughout their long history, the main threat to the Maltese islands has come from across the sea. The appearance of sails on the horizon frequently meant pillage, death and slavery. The sole refuge afforded to the inhabitants were the few fortified towns and an ever-constant vigilance. The need for a reliable system to warn of approaching danger meant that many places along the coastline, particularly the secluded and vulnerable landing sites along the northern shores of the island, had to be watched continually. Amongst such places were the bays and inlets of Mellieha and the Fliegu.

The importance of these areas to the safety of the island was appreciated early in the history of the island. Gian Frangisc Abela, writing in 1647, could already write of a militia post known as *il-Borgio tal-Melleha*, a place-name which evidently betrays the site of an ancient military structure. In Abela's time, Melleha was then one of 31 '*gaurdie marine ... intorno l-isola*' and one of only five around the island which were important enough to be guarded also by day by the men *deputati a questa guardia da i Giurati della Città Notabile*. This pre-occupation can be traced even earlier into the middle ages. The *mandati* records for 1482, for example, show the

payments which were made to Frankinu Xelluki for his services *comu guardianu dila Mallacha*. Prof. Stanley Fiorini has shown that on more serious occasions, as happened in 1520 when the Turks landed in force at Melleha, a military camp (*campu*) was established along the heights by the Maltese militia in order to keep watch on the Turkish movements and possibly also serve as a base for the exchange of hostilities.

For most of its history, however, the defence of the Mellieha area fell under the responsibility of the parish of Naxxar. The militia list of 1419-20 shows that Naxxar and its associate villages contributed 262 men to the island's militia force, 20 of whom owned a horse. Under the Order this responsibility remained the prerogative of the Captain of the Naxxar militia, and the village itself became the main staging post for the Birkirkara-Naxxar-Qormi regiment of country militia charged with the defence of the northern parts of the island.

It was not until well into the seventeenth century that Mellieha and the Fliegu received any form of permanent defences. The first fortified structure built to provide some measure of security in the area was the Red Tower, erected during the reign of Grand Master Lascaris Castellar. This sturdy, massive structure, built on the same plan as the set of towers erected earlier in the century by Grand Master Wignacourt at St. Paul's Bay, Marsaxlokk, Marsascala, Delle Grazie, Marsalforn, and Comino, was designed more as a fort rather than a simple watch-post.

The characteristic feature of the Red Tower (Torre Rossa) were the corner turrets, a rudimentary form of bastions designed to allow some degree of close-in defence by enabling enfilading fire along the faces of the structure. The Red Tower or Fort St. Agatha (sometimes also referred to Torre Caura) was followed, nearly a decade later, by two other works of fortification erected in the vicinity at Ghajn Hadid and l-Ahrax. Actually, these formed part of a string of thirteen signalling towers built by Grand Master de Redin in 1658-9 and designed to form a chain of

communication whereby alarms were relayed visually from one post to the next all the way down to Valletta. With the introduction of these towers the knights also re-organized the system of coastal watch, replacing the old system of local militia guards with fixed garrisons paid for by the Universitas. Each tower was manned by a bombardier and three assistants with annual salaries of 30 and 24 scudi respectively.

The Ghajn Hadid tower, north of Selmun, was actually the first to be built. Before it was demolished by an earthquake in 1855, it stood some 36 ft high and had two vaulted rooms internally, one on each floor with the main. The sole entrance was securely located on the first floor and reached by a wooden retractable ladder, sometimes also made of rope. The base of the tower right up to the level of the lower cordon was given a pronounced batter but above this the walls rose vertical to terminate in a low parapet fitted with shallow embrasures clearly designed to permit the firing of light cannon. A spiral staircase set into the thickness of the wall just to the left of the main entrance led to the roof. The plan and configuration was the same for the L-Ahrax tower, as for the rest of the De Redina towers. All mounted small artillery pieces, generally one or two 3-pdr iron cannon kept mostly for signalling purposes and in 1659 these were each issued with two *moschettoni di posta*, or large heavy muskets.

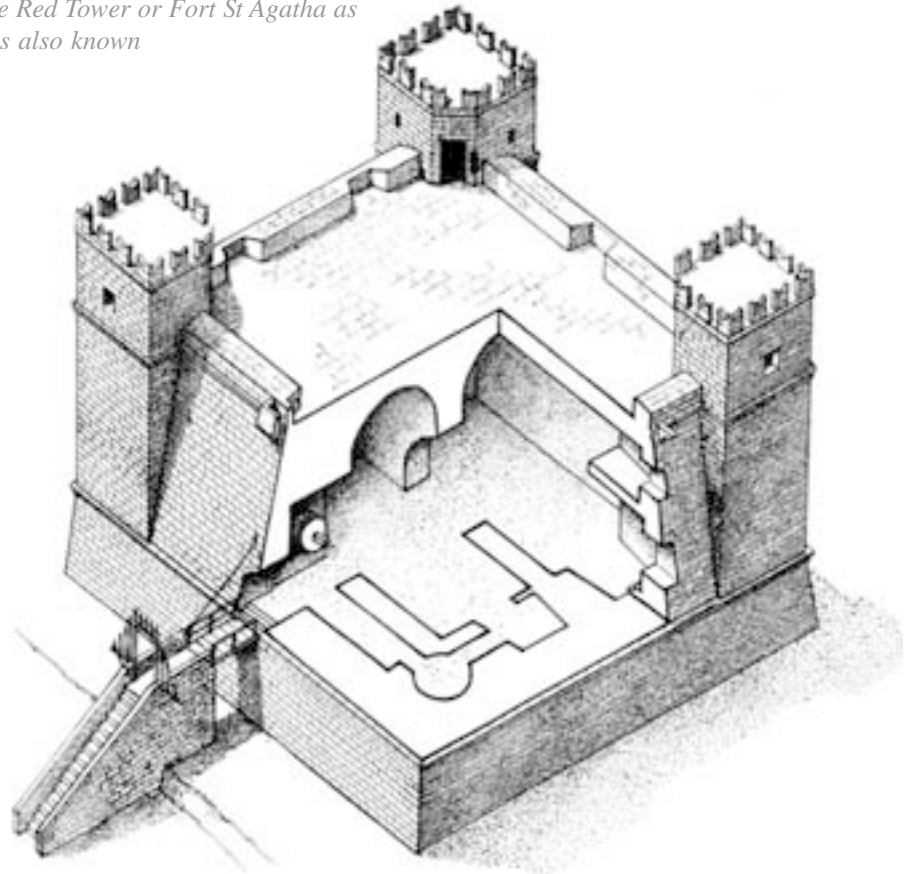
Next to the Ghajn Hadid tower stood a small defensible room once used to accommodate the militia sentinels. It is not yet clear whether this building actually pre-dates the tower, or if it was added later. A similarly interesting feature are the small rubble-wall pans built around the tower and apparently used to house farm animals. The whole ensemble tends to betray a self-supporting out-post that must have been difficult to reach and re-supply

No other defensive works were erected in the area throughout the remainder of the seventeenth century. The picture changed dramatically, however, during the second decade of the following century. In 1714, under the influence of its French

military engineers, the Order embarked upon the construction of an ambitious coastal defence programme. This practically involved the fortification of every bay and inlet around the island with gun-batteries, redoubts and entrenchments. The reasoning behind this strategy of coastal defence hinged around the notion that the fortification of the bays would prevent the enemy from attempting to disembark troops, and in trying to do so, the losses would be so high that the invading forces would be unable to carry on with an assault on the main fortresses around the harbour.

Between 1715 and mid-1716 a total of some 41,561 scudi was spent on the construction of batteries around the coast of Malta and Gozo. Mellieha itself was fitted out with two batteries and a redoubt, while the coastline along the Comino Channel was given four redoubts and three batteries. The main elements in this defensive strategy were the gun-batteries. These were designed to mount heavy cannon and engage the enemy warships seeking to disembark the troops. Basically, these consisted of solid open platforms ringed by parapets fitted with embrasures and protected to the rear by blockhouses and redans with loopholed walls. There was no standard plan to their design although most were given semicircular gun-platforms. The ones to be seen at Mellieha, Marfa and Armier provide the best surviving examples still to be found in Malta. The most impressive of these is undoubtedly the Vendôme Battery at Armier, one of the largest of its type ever built. Its large semicircular platform is ringed by nine embrasures and a ditch while the gorge is occupied by a blockhouse and redan. In 1785 it was armed with five 8-pdr and four 12-pdr iron guns. Later on in the century it was fitted with platforms for mortars. The Wied Mousa Battery, also situated along the Fliegu coastline, although having lost part of its blockhouse and redan as a result of later interventions, has a very well-preserved battery fitted with thick parapet and 'zonqor'-slabbed gun-platform. Perhaps the most fascinating, however, was Westreme Battery, located on the right hand side of Mellieha Bay. Although this has lost its gun-platform and parapet, it retains a unique barrel-vaulted blockhouse,

*The Red Tower or Fort St Agatha as it is also known*



currently under restoration, which is amply fitted with musketry loopholes. This structure was placed diagonally along the gorge of the battery in such a manner that two of its outer faces served as a redan and helped defend the landward approaches to the work. Where opportune, such as at L-Ahrax, only a gun-platform was constructed since the existing tower was incorporated into the design and used to provide the necessary storage and accommodation facilities. A fourth battery, was situated on the left side of the Mellieha bay, on the site currently occupied by the large hotel. Known as Tonnara, Fedeau, Vendôme and Mellieha Left Battery, this was once armed with four 8-pdr iron cannon. Interestingly enough, this work also fulfilled a secondary role other than that of defence. In fact, in 1748 its blockhouse was reconstructed and enlarged to serve as a tunny-processing factory. The *officina della Tonnara* could then house 300 barrels of fish.

The redoubts on the other hand were intended to serve as an infantry strongpoints. The ones erected at

Mellieha and along the Fliegu were all designed and built to a standard pentagonal pattern with a simple blockhouse to the rear. Only one of the five redoubts in the Mellieha locality has actually survived, the rest are either in ruins or were swept away during the course of the nineteenth and twentieth centuries. The Mellieha middle-redoubt, for example, was dismantled early in the nineteenth century and its stones used to provide building material for the construction of a road across the bay.

As the eighteenth century wore on ambitious schemes for securing Mellieha and the Fliegu coastline with bastioned entrenchment walls were projected and initiated at Ta' Kassisu and Armier but these efforts soon ran into difficulties and only short stretches of fortified ramparts were actually built out of the miles of projected ramparts. The entrenchments at Mellieha constitute the best surviving examples of this style of defences still to be found in the whole of the Maltese islands.

*Torri l-Ahmar (Red Tower), Mellieha*

The last element of coastal defence introduced by the knights at Mellieha and the Fliegu were the fougasses. These were a kind of massive rock-hewn stone-firing mortar. Some 48 were built around the shores of Malta in 1741 of which four seem to have been sited at Mellieha and another eight along the Fliegu. None, unfortunately, have survived to date within the locality under review.

Of the six regiments of country militia detailed for the defence of the coast throughout the eighteenth century, it was the regiments of Naxxar and B'Kara which were charged with the defence of the northern parts of the island. In 1716, the Regiment of Naxxar consisted of 477 men and was responsible for defending the stretch of Fliegu coastline between Torri l' Ahrax and Cirkewwa, while that of B'kara was responsible for the defence of Mellieha Bay and St. Paul's Bay.

As things turned out, however, none of the coastal fortifications at Mellieha ever played any significant role in defence of the Island. When invasion eventually materialized in 1798, the network of batteries, entrenchments and redoubts was easily overcome. French troops under the command of General Baragey D'Hilliers were landed at Mellieha and St. Paul's bay, where the defences there were under the command of the Knights De Bizier and De La Penouse respectively, while Fort St. Agatha was under the command of the knight St. Simon. The Maltese soldiers offered what little

resistance they could before hastily retreating to Mdina.

Most of the coastal defences were retained by the British throughout the first decades of the nineteenth century but gradually many of these military works were handed over to the civilian government as they were no longer considered necessary for the defence. L'Ahrax tower for example, was taken over as the Governor's summer residence, and Wied Mousa battery was eventually converted into a hostel. The majority of the towers and batteries had been shed off by the military by the late 1830's. Thereafter none of these works continued to feature in the islands' defensive strategy, particularly after 1860 when the British abandoned the idea of resisting the enemy on the beaches, adopting instead a mighty fortress system conceived primarily for the defence of the Grand Harbour.

As a result, the northern reaches of Malta remained practically unfortified for the remainder of the nineteenth century. The adoption of a defensive line along the ridge of commanding ground north of the old City of Mdina, later known as the Victoria lines, only helped isolate further the largely uninhabited northern parts and reduce the threat of an inland thrust into the heart of the island. By the beginning of the 1900s, however the British realized that this defensive line was not as effective as it was thought to be and in 1907 the position was

abandoned in favour of an attempt to revert to the policy defending the island's northern shores. To this end, a whole new system of trenches and gun-emplacements, known as Ridge Defences, were cut out along the Mellieha heights. Well preserved trenches and gun pits dating to this period can be seen along length of the Mellieha, Bajda and Wardija ridges.

A serious effort to fortify and defend the beaches at Mellieha was only undertaken during the late 1930s prior to the outbreak of the Second World War. This time the new element of defence was the concrete machine gun bunker, or pill-box as it was popularly known. A large number were spread out along the beaches and across the country side in a series of stop-lines designed to hinder enemy landings and inland advances. The earlier pillboxes and beach post built in 1938 as a direct result of the threat of an Italian invasion following the Abyssinian crisis were elaborately camouflaged with rubble stone cladding. A interesting complex example of this kind of fortification is to be seen hugging the rocky foreshore beneath Westreme battery. Later examples were constructed to simpler and more standardized patterns that lent themselves more easily to mass production. This, inevitably, was a development which reflected a greater sense of urgency and the need for rapid construction that accompanied the growing threat of war and invasion. In these works, paint-work became the accepted method for applying camouflage. The map on page \_\_\_\_\_ shows the distribution of the existing WWII defences in the locality.





*Torri l-Abjad, l/o Mellieha*

Undoubtedly, the most substantial and complex work of fortification erected by the British in the area was Fort Campbell, built in 1937-38. Effectively this was the last fort built on the island and was intended to replace the Wardija examination battery erected hastily during the First World War. By the late thirties, however, fortification design had departed significantly from the maxims of permanent defences practiced in the preceding centuries as fortifications had to contend with an ever-increasing range of new destructive weapons, the most serious threat of which came to manifest itself in the form of aerial bombardment. The plan of Fort Campbell, as a result, reflects many new provisions incorporated in the design of permanent fortifications. Whilst earlier forts had relied mainly on a low silhouette to blend them in with their surroundings and conceal them from the enemy these efforts were now no longer enough to hide them from the eyes of the enemy searching from above. For when viewed from the air fortifications revealed visibly clear and distinct traces. At Fort Campbell the formal ramparts and ditches were abandoned and replaced instead by a thin wall constructed to resemble the field walls and the plan broken up into an irregular trace designed to imitate the pattern of terraced fields. Close-in perimeter defence, previously provided by counterscarp galleries or caponiers, and earlier still, batteries in the flanks of bastions, was provided instead by a number of small machine gun posts, or bunkers, placed at irregular intervals along the line of defence, particularly

where the enceinte changed direction, and in other places by a few rifle loopholes.

Internally, the enclosure was rather barren, for the vast area was purposely occupied by a only small number of buildings and then great care was taken to scatter all the main component parts of the forts - the command post, gun emplacements, water tank, direction posts and barrack accommodation and magazines - across the whole area in order not to create any concentration of buildings that would stand out quite clearly when seen from the air. The main armament of the fort, two coastal guns, were mounted in concrete emplacements placed roughly in the centre of the enclosure. Each gun emplacement was fitted with adjoining underground guncrew accommodation, magazines and shelters. The 6-inch guns were placed on 45 degree elevation mountings which increased the range of the guns to 24,500 yards. A third gun emplacement, consisting of a sunken concrete gun pit, with a nearby partially underground magazine was added sometime later.

The nerve centre of the fort was the Battery Observation Post (BOP) which was situated roughly in the middle of the enclosure. This long building, stepped building contained the examination signals room and gun control room. The plotting room was however situated in a nearby underground rock-hewn chamber. In 1943 the Battery Observation Post was modified to house a C.A. No.1 MkII Radar mounted on the roof. Barrack accommodation, unlike in other forts, was sited outside the fortified perimeter and consisted four barrack blocks capable of accommodating 180 men. The officers' mess, dining room, cookhouse, ablution room, lecture room and sergeants' mess were similarly placed outside the defensive perimeter.

Apart from the six defence posts along the main perimeter, there were two other concrete bunkers acting as direction posts. An important adjunct to the defence were the searchlight needed to light up the sea. The Defence Electric Lights (DEL) were situated a considerable distance away from the

fort and were placed down along the shoreline to the north and west. There were four emplacements for searchlights (one of which is demolished). All were protected by metal shutters. The electricity required to work the searchlights came from the generators located inside the fort and the cable which served the lights was placed in shallow rock-hewn trenches for protection. Another lightly fortified enclosure was also established in the vicinity of Mellieha. This was the civil defence depot. It was, enclosed by a light wall and named Fort Mellieha.

As things turned out the much feared Axis invasion never materialized. What the war failed to destroy, however, was demolished by the development that accompanied the post-war period. Many concrete works of fortifications and emplacements were unfortunately swept aside to make way for roads, houses and hotels. Even so the area is still relatively one of the richest in Hospitaller and British coastal fortifications, all of which deserve to be protected and conserved.

# THE FOUGASSES OF MALTA AND GOZO

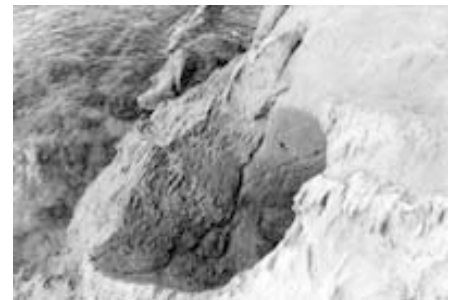
by  
Stephen C. Spiteri

One of the most interesting adjuncts of coastal defence employed by the knights for the coastal defence of the island was the fougasse, a kind of rock-hewn mortar designed to fire large quantities of stone onto approaching enemy ships. Although not an altogether Maltese invention as claimed by many authors, this weapon was, nonetheless, a unique adaptation of the fougasse, particularly in its method of construction and unorthodox application in a coastal defence role. Various sources have claimed that the fougasses of Malta are not fougasses at all, the word being a misnomer, but simply singular mortars cut in rock. This statement, however, is not entirely correct since the Maltese type of weapon has features which belong both to the fougasse and mortar. In actual fact, it is a combination of three kinds of weapons, the fougasse, the explosive mine, and the mortar. The best word used to describe it is fougasse-pierrier, the pierrier being a stone-firing cannon. In contemporary documents it is more popularly referred to as the fougasse a cailloux, fogazza, or fornello a selci. Pontleroy, in 1761, referred to them simply as 'les puits'. The fundamental uniqueness of the Maltese fougasse stems primarily from

the nature of the Maltese terrain which dictated that the fougasse had to be cut into solid rock. The local method of construction gave the weapon a permanence, solidity, and form not enjoyed elsewhere, especially since most fougasses were generally employed in field defences and earthworks thus earning in the process an ephemeral quality. In Malta, the fougasse was a product of the eighteenth century. It is known that in the first decades of the 1700s, when the Order, under the influence of French engineers, decided to implement a coast defence scheme, the fougasse was proposed to complement the coastal defences. In 1715 the council ordered 60 stone mortars to be cut at vulnerable points around the coasts of the island but no action appears to have been taken. Of these, 48 were to have been excavated in Malta.

The early attempts to introduce the weapon under the direction of the military engineer Mondion seem to have failed and it was not until 1741, under the direction of Marandon, that the weapon was adopted successfully. Marandon fired his first experimental foggazza a selci on 28 September 1740. This was cut into the rocky foreshore below the 'bastione delle forbici' at the foot of the Valletta bastions facing Dragut point. On the day of its baptism of fire, Marandon filled the fougasse with 306 stone boulders of various sizes, totalling in weight to 3,575 cantara. A charge of 83 rotuli of ordinary gunpowder was placed in the chamber and when fired this proved powerful enough to propel the said mass of stone over a distance of some 300m (160 canne), raising it, in the process, to a maximum height of 60 to 80m. The effect, in Marandon's own words, was that 'la pioggia delle selci si stese sin alla punta Dragut lontana cento sessanta canne, e che salirono a 30 in 40 canne, e non ne resto' ne pur una ne dentro la Fogazza ne inanti.' Marandon was quite pleased with the result and in the following years he was ordered by the congregation of war to excavate a network of fougasses first in Malta and then in Gozo. In all around 50 were built in Malta and 14 in Gozo.

In shape the Maltese fougasse resembled a large inclined tumbler with



the lower side prolonged to meet the horizontal line from the top of the brim. As a result, the mouth of the fougasse was elliptical. The bore was circular but the shaft of the pit was conical, tapering from 2.13m at the mouth to 1.52m at the bottom where it curved towards the powder chamber. This measured around 0.76m in diameter and was 4.5m deep. Arming a fougasse was a lengthy task that took about an hour. The procedure involved first the placing of the gunpowder charge of '100 au 120 livres de poudre' inside its flat barrel within the powder chamber at the bottom of the pit. A long cord-like fuse was then secured to the powder casket and passed through a narrow channel cut in the side of the fougasse.

The gunpowder chamber was then covered with a circular wooden lid, or Ruota, and the pit then filled in with a large number of stones, or selci, with the larger stones placed at the bottom. It appears that the stone projectiles for use with the fougasse were collected beforehand and stockpiled in the vicinity of the fougasse, if not within the pit itself, ready for use. Various custodians were also employed to ensure that these selci were not carried

away. The cone-shaped pit was so designed to allow the projectiles, once fired, to spread out and cover as wide an area of ground, or sea, as possible. The stones, to quote Louis de Boisgelin, had the effect of hail and were not only capable of killing men but of sinking boats.

To ensure the greatest tactical effect, the fougasses were employed in pairs in order that a large area of sea or foreshore in each bay could be covered by their crossfire. Initially all the fougasses were made to cover the entrances to the bays but, in 1761, the French engineers advised the knights to add others for flanking fire too.

The first record of the fougasse being armed and readied for war is during the emergency of 1761. The suspicious appearance of the French Fleet in the vicinity of Malta in 1792 provided a second opportunity and indeed the congregation of war then ordered that the fougasses be armed and kept ready for eventual use, '...si rettano le fugacce, e si tengono pronte'. The feared invasion did not materialize but in 1798 things turned out differently and it appears that a few of fougasses were actually fired against Bonaparte's troops as they set about invading the island. Major Ritchie quotes De la Jonquiere's reproduction of an extract from a letter written by a knight of the Order asserting that fougasses were fired against the Città Vecchia division as it was attempting a descent at Marsaxlokk bay.

Under British rule the fougasse seems to have assumed the nature of a curiosity. Various experiments were carried out with the fougasses at St. Julian's Bay and St. George's Bay by the gunners of the British expeditionary Force returning from Egypt in 1801. In these experiments the fougasses were charged and fired first with 140 lbs of powder and over 10 tons of stones. When the charge was increased to 180 lbs, the resultant explosion cracked one of the fougasses along a vertical axis leaving a fissure cutting through some 14 feet of rock.

It does not appear that the fougasses were kept in service during the early decades of British rule in Malta. These were probably abandoned by the 1830s, as were most of the de-militarized coastal towers and batteries that were



handed over to the civil government during that period. Thereafter, the fougasses do not seem to feature at all in the Island's defensive strategy particularly since the British gradually abandoned the idea of resisting the enemy on the coast, adopting instead a mighty fortress system conceived primarily for the defence of the Grand Harbour.

The need to defend and fortify the beaches against invasion, however, was rekindled at the outbreak of the second world war when many of the Knights' long discarded coastal defences, including the fougasses, were pressed back into service and incorporated, in conjunction with concrete pillboxes and barbed wire, into an overall War

Defence Plan. The Royal Irish Fusiliers, for example, were responsible for arming and maintaining the fougasses at Salina Bay. A popular photograph in the National War Museum Collection shows the fougasse outside Ximenes redoubt, in Salina, being tested fired in the presence of HE the Governor General Sir W. Dobbie.