

Two Late 16th Century Reports on Gozo's Fortifications by Giovanni Rinaldini Anconitano

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Introduction

Giovanni Rinaldini of Ancona was the first military engineer of note to have seriously examined the defence problems facing Gozo and to produce plans for the island's initial fortification (Samut-Tagliaferro, 1993: 47). He studied the art of fortification under Germanico Sovargnano (Spiteri, 2003) and was working in Rome before coming over to Malta in March 1599. During his stay, Rinaldini carried out two field surveys of Gozo and authored two reports of significant professional value with accompanying plans and designs. Unfortunately, these plans and designs have been lost.

Rinaldini's reports are entitled 'Discorso del Gozzo et sua fortificazione' and 'Della fortificazione del Gozzo – Secondo Discorso' respectively. They are written in a fairly legible script and have a combined length of 30 folios and over 9,000 words. These reports are preserved in the Archives of the Order of Malta at the National Library, Manuscript 6554 (the last section of the said manuscript [ff. 251 – 327] is entitled 'Discorsi sopra le Fortificatione del Gozzo').

Evidently, many scholars in the field of military history have consulted Rinaldini's reports and published substantial sections in a number of authoritative publications, particularly Samut-Tagliaferro's *The Coastal Fortifications of Gozo and Comino*. Still, none of these publications offers a comprehensive resume of the Rinaldini's reports, and this short write-up will, therefore, attempt to give a summary of all pertinent details.

Primo Discorso

Rinaldini opens his first report by listing the topics to be covered, namely whether Gozo is to be fortified or not, the sites to be fortified, the layout

of the proposed fortifications, and the projected expenses.

Fortifying Gozo

Curiously enough, Rinaldini does not make any direct statements on the compelling need to fortify Gozo, but makes a number of references and comments that betray his strong positive conviction. These include the vital role of Gozo during the Great Siege of 1565 (f. 255), effective control of the Gozo and the Malta channels respectively (f. 257), the island's importance for livestock rearing (ff. 260v; 262v), and the monitoring of vessel movement between the Maltese Islands and Sicily (f. 264v).

The Sites to be Fortified

The four most appropriate sites for the construction of a new fortified town are Ras it-Tafal (overlooking Mġarr harbour), the Gran Castello, the Ghajn Damma plateau (overlooking Marsalforn Bay), and Il-Pergla plateau, overlooking Ramla Bay (Figure 1).

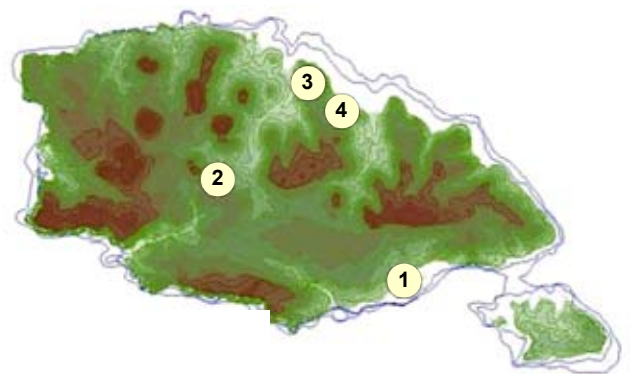


Figure 1: Potential Sites - 1. Ras it-Tafal; 2. Gran Castello; 3. Ghajn Damma; 4. Il-Pergla.

Ras it-Tafal

Ras it-Tafal, referred to as *il sito del Mugiirro*, is well located to prevent the enemy from making



Ras it-Tafal is an ideal site for various reasons, such as to preclude any hostile vessels from sailing through the Gozo Channel.

use of the abundant fresh water springs flowing in Wied Biljun, to preclude any hostile vessels from seeking shelter or sail through the Gozo Channel, to send and receive messages from Malta, to facilitate the deployment of relieving forces to Gozo, and to prohibit enemy landings at Mgarr Bay. Besides, the plateau's underlying steep Blue Clay cliffs and narrow foreshore, rule out the setting up of offensive gun platforms by enemy forces, while the site's proximity to the sea eases the transportation of building supplies (Figure 2).

The construction of a fortified town at Ras it-Tafal, however, would not stop the enemy from replenishing fresh water supplies or land at Marsalforn Bay, and is too distant to overpower decisively enemy vessels sailing through the Malta Channel. Likewise, effective signalling can be achieved from greater distances, whereas the required relieving forces can land in any other bay.

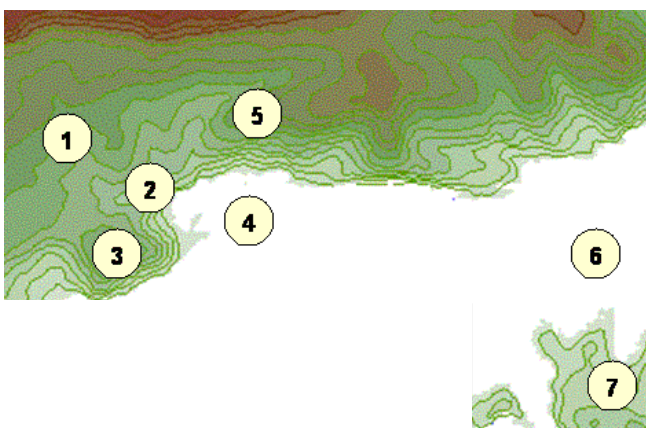


Figure 2: Ras it-Tafal - 1. Ghajnsielem; 2. Wied Biljun; 3. Ras it-Tafal; 4. Mgarr Harbour; 5. Il-Blata l-Bajda; 6. Gozo Channel; 7. Comino.

Of greater concern is the gently rising Ghajnsielem hinterland, which dominates Ras it-Tafal and is too vast to be incorporated within the proposed fortified town. Also, the bedrock is very friable and could be mined without difficulty by the enemy, while the building materials that could be reclaimed from the excavation of the ditch are of inferior quality. A new fortified town at Ras it-Tafal would also be relatively distant from the main agricultural region of the island.

Rinaldini, thus, suggests the construction of a coastal tower armed with four pieces of artillery to prevent the enemy from landing at Mgarr Bay or sail through the Gozo Channel. Such a tower should endure assaults by small parties of besiegers, and no large enemy force would waste its time and energy to defeat it.

The Gran Castello

The Gran Castello's only advantages are the availability of the domestic units and the fact that its central location offers a quick retreat from all parts of the island. Its setting, however, is seriously deficient. The underlying friable cliff face can be mined with relative ease in view of the Castello's round shape and lack of flanking outworks. The existing time-consuming defensive walls are not stiffened by terraplains and are not able to resist enemy bombardment for more than two days, particularly from the Rabat side (Figure 3).



The Gran Castello's central position offers a quick retreat from all parts of Gozo (photo: Nicolene Sagona)

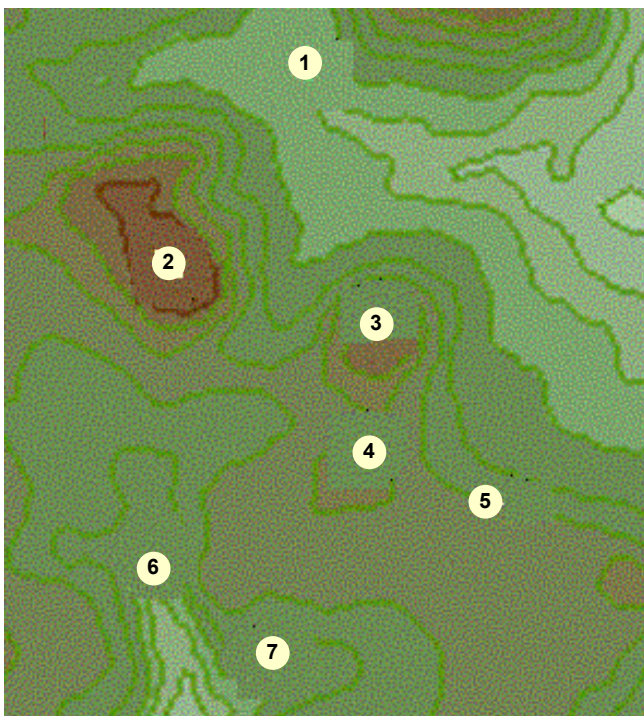


Figure 3: The Gran Castello - 1. Wied Sara; 2. Ta' Gelmus Hill; 3. Gran Castello; 4. Rabat; 5. Franciscan convent; 6. Lunzjata; 7. Gran Fontana.

Moreover, the adjacent hill of Ta' Gelmus dominates the Castello and neighbouring Rabat, and is ideal for the location of a rival besieging battery. Should the Castello be reinforced to counteract such a bombardment from Ta' Gelmus the majority of the existing houses would be knocked down to make room for a capacious gun platform, since the existing defensive walls and underlying cliffs are exceedingly high to be screened off by a new line of fortifications. Consequently, the island's population and their

livestock (around 16,000 heads) could no longer be accommodated therein during emergencies. This meant that Rabat was also to be enclosed by a new defensive wall that can in turn be easily neutralized from Ta' Gelmus. Should the Order opt to construct a small fort on Ta' Gelmus, it will be obliged to construct and maintain three new fortifications and not one. Likewise, the resulting expensive and extensive defence network could still be attacked and breached with relative ease along its eastern flank. Rinaldini concludes that the site of the Castello is to be abandoned in view of the many serious faults highlighted.

Ghajn Damma

Ghajn Damma, referred to as *il sito di Marsalforno*, is a north-facing promontory 300 canne long and 180 canne wide. The greater extent of its perimeter is demarcated by sheer cut Upper Coralline cliffs and underlying steep Blue Clay slopes, while the mesa consists of a well-compacted and solid-rock formation. Ghajn Damma is therefore safe from mining and surprise attacks from the sea-facing sides, dominates Marsalforn Bay, commands the prime agricultural region of Marsalforn valley (ideal also for the grouping of livestock during emergencies), controls the entrance of Ramla Bay, is flanked by Il-Pergla valley (referred to as *vallata delli giardini*), and can be relieved from the sea in the eventuality of a siege (Figure 4).

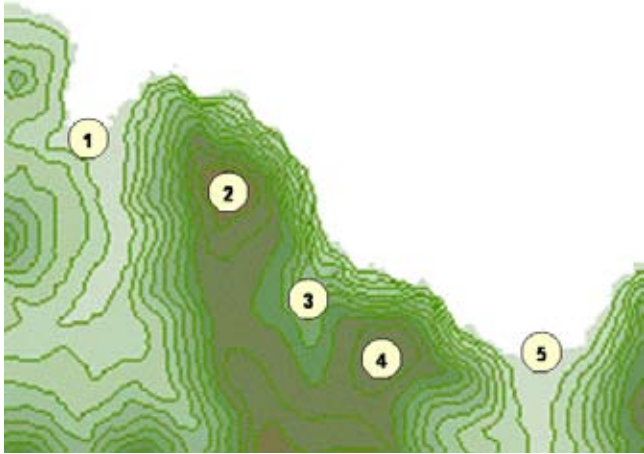


Figure 4: Ghajn Damma and Il-Pergla - 1. Marsalforn Bay; 2. Ghajn Damma Plateau; 3. Il-Pergla Valley; 4. Il-Pergla Plateau; 5. Ramla Bay.

The northern half of the Ghajn Damma promontory offers ample space for the construction of a new fortified town to accommodate the entire population of the island and to shelter a substantial portion of the livestock during emergencies. Its south-facing flank needs to be defended by a three-bastioned land front, while the remaining perimeter is to be enclosed by a low and indented parapet wall. In addition, a tower is to be erected on the most elevated part of the resultant enclosure. This can serve as a platform for the church's belfry and establish a direct visual link with the proposed tower at Ras it-Tafal. Should the said communication link fail, another simple tower is to be constructed somewhere in between.

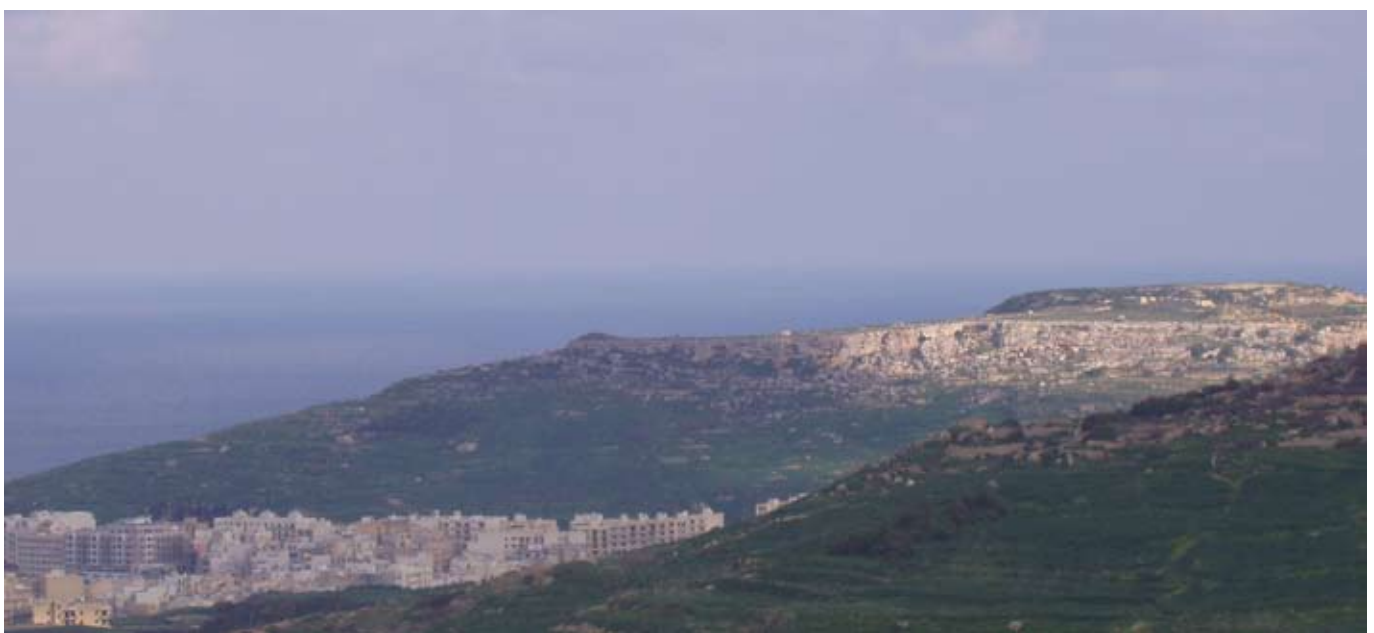
Ghajn Damma is also ideally positioned to monitor vessel movements between the Maltese islands and Sicily, and is reached from Marsalforn valley by a manageable road. Notwithstanding the highlighted good qualities, the bedrock is extremely hard and will prove to be problematic for the construction of the houses and for the excavation of the water cisterns and of the ditch.

Il-Pergla

Il-Pergla, referred to as *il sito della Ramla*, has the same footprint, elevation, and qualities of Ghajn Damma, except that it dominates Ramla and not Marsalforn Bay. The bedrock, however, is more workable, a consideration of extreme relevance for the initial construction costs and eventual breach repairs during enemy assaults. As to the less commanding position in relation to Marsalforn Bay, it is to be borne in mind that neither of the respective plateaus enjoys complete control of both bays (i.e. Marsalforn and Ramla). In this respect, Rinaldini ends his Primo Discorso by identifying Il-Pergla as the most appropriate site for the construction of Gozo's new fortified town.

Secondo Discorso

Having exhausted the debate on whether Gozo is to be fortified or not and the sites to be fortified, Rinaldini opens his second report by stating that



Ghajn Damma dominating Marsalforn Bay

he will be focusing on the layout of the proposed fortifications and the projected expenses.

Proposed layout

Rinaldini reconfirms his earlier conclusion about Ras it-Tafal by repeating that a tower would be fitting and makes reference to an accompanying plan. On the contrary, following a reassessment of Ghajn Damma, it was established that the bedrock is suitable for quarrying, while its consistency is very similar to that of Il-Pergla. Consequently, the site of Ghajn Damma is preferred in view of its narrower land-front. Rinaldini, then, refers to the accompanying plans, and clarifies the measurements adopted (a canna is equal to 10 palmi or 1½ passi, and a passo is equal to 5 piedi) and explains its colour coding. The perpendicular cliffs running along the north-, west-, and east-facing flanks are to be crowned by a shallow 800 canne-long parapet wall, whilst the town's gate is to be positioned along the western half of the south facing land-front, therefore, on the same side of the approaching road from the Marsalforn side.

Had the land-front been more extensive, one could have spaced out more the respective bastions, even if the proposed three-bastioned layout is very effective and can withstand enemy bombardment relatively well. Any relieving forces are to reach Ghajn Damma by sea, climb the north-facing steep Blue Clay slopes, and enter the town through a rock-hewn tunnel at the foot of the Upper Coralline cliff face, which is to remain walled up under normal circumstances.

Although dry, the ditch is safe from mining in view of the extreme hardness of the rock, while its counterscarp is to have a two-passi wide covered-way to facilitate movement around and breach repairs. As to the construction techniques, Rinaldini claims that the local methods are very prone to breaching because of the poor bonding between the outer skin and the backfilling and owing to the excessive use of non-squared boulders in the same backfilling.

The Gran Castello is to be abandoned, as any refortification attempts will prove futile. It is dominated by the hill of Ta' Gelmus and by the

neighbourhood of the Franciscan's convent, 180 and 160 canne distant respectively, and well within the shooting range of the arquebus and the musket. Nonetheless, should the Order persist in retaining the Castello, it can be fortified in four slightly different manners as highlighted in the attached designs.

The main southwest-facing land-front is to feature two bastions and a central ravelin, and the Castello's door is to be concealed from the Ta' Gelmus viewpoint. Besides, two strong shoulders are to be erected in the west and east extremities to shield the same land front and the greater part of the habitations from Ta' Gelmus and from the neighbourhood of the Franciscan friary respectively.

The existing enceinte along the remaining circumference (from the north-west to the south-east) is to be rendered unassailable by shaving off the underlying cliff face and by lowering the soil level at its foot, whereas the debris generated is to be partly employed for the thickening of the same enceinte.

It is to be noted that the resultant fortress will be disproportionately high, thus easily hit and damaged by the enemy. Nonetheless, if the fortifications are made lower the domestic units will become exposed completely and the enemy can opt to defeat the Castello by battering the said houses and force the defenders to surrender.

Besides, as the Order is not in a position to stop the enemy from landing on Gozo and plant a gun platform on Ta' Gelmus, a small fort that can take eight or ten pieces of artillery and 300 soldiers is to be erected on the said hill. Such a fort, however, will still not render the Castello impregnable since its east-facing flank will remain vulnerable.

With regards the claim that the Castello's surrounding terrain is not stable enough to withstand the weight of the proposed fortifications, it is to be stressed that the said terrain is of very good quality, particularly when it comes to breach repairs and related emergency mitigation measures.

Provided that the Order is determined to retain the Castello, the existing walls are to be stiffened by

terrapliens, whereas the abandoned houses are to be repaired to accommodate the inhabitants of Rabat. All stone barricades lying within a radius of 200 canne are to be removed and Rabat is to be razed to the ground and levelled. Besides, the recently-repaired Rabat muraglia is to be pulled down.

At this point Rinaldini states once more that Gozo's new fortified town is to be sited at Ghajn Damma.

Projected Expenses

The capital investment required for Ghajn Damma is very difficult to quantify in view of the hardness of the rock. However, it should not be unbearably expensive as the span of the proposed bastioned front is only 200-canne-long and the stones reclaimed are to be employed for the construction of the same fortifications. The parapet wall along the remaining circumference can be erected with 1,600 scudi (2 scudi per canna), and another 2,000 scudi are required as sundry expenses. Thus, the total expenditure for Ghajn Damma should not exceed 80,000 scudi.

An estimate of the costs to be incurred in connection with the refortification of the Castello is equally intricate. The building stones are to be sourced from three different localities namely San Giuliano (Wied Sara area), Santa Agnese (Gran Fontana area) and the Nunziata (Lunzjata valley). Conversely, the expense to be incurred in connection with the excavation of the ditch can be calculated with relative ease in view of the workability of the terrain. This is estimated to reach a minimum of 12,800 scudi (8 tari x 19,200 canne cube), and possibly escalate to 15,000 scudi when taking into account also the shaving off of cliff face along the northern enceinte.

The erection of the proposed bastioned land front seems to be achievable with 25,000 scudi. Besides, 10,000 scudi are required for the scaffolding, and another 10,000 scudi for the provision of various supplies and related sundry expenses. This means that the Castello can be refortified with 60,000 scudi. As to the fort on Ta' Gelmus, the projected expense depends on the type of artillery to be deployed. Rinaldini ends his second report by stating that the said works could be completed within two years.

The Orders Reaction

In brief, Rinaldini advocated that the Order should defend Gozo by constructing a coastal tower at Ras it-Tafal and a new fortified town at Ghajn Damma. These were to be linked together visually by means one or two towers. The Gran Castello and underlying Rabat were to be abandoned. The Order, however, decided to retain and re-fortify the Castello (1599 – 1620s), and to construct Garzes tower (1607) at Il-Blata l-Bajda (see Figure 2) and the first Marsalforn tower (1616) at Ghajn Damma (Samut-Tagliaferro, 1993:48).

References

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Other Related Literature

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