FORT CHAMBRAY: THE GENESIS AND REALISATION OF A PROJECT IN EIGHTEENTH-CENTURY MALTA

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The need to fortify and render more defensible the coast of Gozo was felt as early as the first years of the eighteenth century. In fact, during the grandmastership of Ramon Perellos y Roccaful (1697-1720), Louis François d'Aubigné de Tigné, then on his second visit to Malta, had prepared a report, dated 1716, recommending the erection of a combined fortress and town at Ras-et-Tafal overlooking Mgarr harbour. The plan by A.F. Gervais de Palmeus, first published in 1751, shows a fortress with frontal fortifications and a gridiron fort plan laid out with several blocks of residential buildings. The northern fort is heavily fortified to resist attacks from the enemy, which having invaded the island, could lay siege to the fort along its Ghajnsielem front.²

The town plan included the Governor’s palace with a spacious garden enclosed within the central bastion on the land front (St Paul’s Bastion), a parade-ground, and a parish church. Each building block was to have a large central yard or open space that would serve as extra accommodation for additional inhabitants and their livestock in case of an emergency. The project was not realized due to lack of funds but the necessity of strengthening the defenses of the harbour that commanded the sea link with Malta was discussed and reiterated constantly by the Commissioners of Fortifications and War during the first half of the century. In their report, entitled Progetto per Assicurare l’Isola Del Gozo contro ogni Attacco Del Nemico, dated 25 September 1722, three measures were considered necessary for the proper defence of the Island. These were: firstly, the fortification of the coasts in order to discourage the disembarkation of the enemy, secondly, increasing the fortification of the citadel and thirdly the fortification of an appropriate site to force the enemy to have to launch two sieges rather than one.³ The erection of this last fortress at Ras et-Tafal was strongly recommended for several reasons: the site was not enfiladed or dominated by any land feature; the proximity of good fresh water springs; its dominance of the only efficient port on the island; the fact that it commanded the direct sea communications with Malta, thus allowing the protected retreat or reinforcement of the garrison; and its extent which could absorb during a siege the inhabitants of Gozo and their livestock leaving the citadel to concentrate entirely on military defence. In fact, it was envisaged that the new fortified town

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1. AOM 1012, Varie materie relative a Fort Chambray, f. 167.
3. AOM 1012, f. 183.
FORT CHAMBRAY: THE GENESIS AND REALISATION OF A PROJECT

dall'altra impedisce il stanziamento ai vasselli nemici tra l'isola del Gozo e Comino, facilita il ricevimento de soccorsi et agli isolani al ritiro a Malta o altrove; ponga in soggezza i nemici ove introprendessero l'assedio dell'antico Castello e corrisponde con segnali col medesimo e colle torri di Comino e Rossa. 6

On the instructions of the Commissioners of Fortifications and War, the engineer of the Order Francesco Marandon spent three weeks on the recommended site with an aim to ascertain the quality of the ground and its suitability for building upon, the workability of the stone that could be quarried there, and also to familiarize the Bailiff de Chambray himself with the site and to reassure him that the plan ideated by de Tigné was possible with some variations. Chambray took up residence in a house close by in order to follow the works, which he was financing.

Marandon's report listed the advantages of the site as follows:

1. The elevation of the area, about forty canne (i.e. c 84m) above sea-level resulted in a well-ventilated and a healthy airy site;
2. The neighbouring springs provided clear mineral water;
3. The escarpment on the south was high and steep enough to require no fortification, thus saving a great amount of expense;
4. The rock itself was such that it combined easy quarrying with strength on exposure to the atmosphere;
5. The transport of excess material was reduced to a minimum since this would be deposited in the nearby valley, thus rendering impossible the digging of trenches by the enemy;
6. The counterscarp beyond the valley was such that it made the approach of the enemy practically impossible without the construction of high parapet walls;
7. The site dominates the whole of the surrounding terrain, the closest hill being approximately 235 canes (i.e. c. 500m) distant from the right bastion;
8. The construction of a tall building or tower could allow the exchange of signals with the Citadel and the Comino tower;
9. It commanded the relatively protected agricultural land between the sea and the fortress that could also serve as pasture for the animals;
10. It defended the crossing between Malta and Gozo.

The report dated September 15, 1749, 7 the day the Grand Master authorized the erection of the fort, 8 made several important recommendations, amongst which the displacement of the bastions, with respect to the original plan, an expedient made necessary by the nature of the foundation rock, the construction of a cistern

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4. AOM 1056, ff. 94-8.
5. AOM Ms. 1012, f. 87.
6. Ibid.
7. AOM 1056, ff. 94-8.
8. AOM 1012, f. 186.
in the central bastion beneath the parade-ground for the collection of rain-water, 
the preparation of two roads, one narrow for the passage of labourers and the other 
wide for horse-drawn carts and the excavation of a ditch six metres wide that 
would confirm the suitability of the underlying rock for the construction of the 
bastion walls. Marandon also confirmed that within three days work would 
commence on the excavation, a price of 22 tari per cubic cuire having been agreed 
for the cutting of the rock and the transport of the material.9

Following the date of this report Marandon made several trips to Gozo in 
order to initiate and supervise the works. In all, thirteen trips were made until June 
1752 when the preliminary work described in his report was nearing an end, so 
that by the following October, the building of the fort proper started in earnest. 
During his stays in Gozo, which lasted from seven days to thirty-eight days as is 
testified by the Notaissi della Viaggi e Residenze fatti dal Sig. Ingegnere Marandon 
per l’Isola del Gozo in servigio della Nuova Fortezza sopra Ras et Tafal.10 
Marandon stayed in a house that the Congregation of War and Fortifications placed 
at the disposal of the Engineer responsible for the works on the new fort.11 However, 
in view of the allocation of a ground floor room to a certain François Busuttil for 
the storage of gunpowder, and the proximity of the bakery of Jean Marie Caruana, 
Marandon requested the use of the ospizio at Fort Chambray itself.12 It seems that a 
certain amount of discontent was also at this stage, expressed by Chambray himself 
who complained on one occasion that works were being initiated on the bastion 
facing Mgarr and carried out without his knowledge.13 Chambray also criticized 
the rubble wall that Marandon had built in the valley to serve as a support for the 
quarried material as well as to facilitate the passage of carts and the transport of 
materials and which, the former argued, was too wide and too wasteful.14

An undated letter to the Bailly Marandon ended on a bitter note:

au reste, M. Le Baillé je suis au désespoir qu’après m’être donné 
toute la peine comme Ingénieur et comme Commissaire 
d’apprendre la moitié de ce que m’a raconté M. Le Chevalier de 
Calan ce qui me donne occasion de penser que pour que vous soyez 
content il faut qu’un autre plus attentif, abile et complaisant se charge 
de la commission.15

Several reports were commissioned between September 1752 and 1753 
regarding the design of the new fort and in particular the western bastion, sul quale

9. AOM 1056, f. 97.
10. AOM 1012, f. 109.
11. Ibid., f. 83.
12. Ibid., f. 70.
13. Ibid., f. 69.
15. Ibid., f. 69.

l’Ingegnere dell’Ordine aveva molte difficoltà per spianare. Advice was sought 
from Spain, France and Italy and two reports, drawn up by the Duke of Bellisio 
and by the President of the Academy of Barcelona Don Giovanni, condemned 
the bastion without any hesitation. The Congregation of War and Fortifications had 
to make the best it could of a great deal of conflicting advice.16

Although Marandon was in charge of the building work, he left the day-to-day 
control in the hands of the master mason with whom he communicated regularly by 
letter. The master mason, in turn, delegated the everyday organization to the overseer. 
The building trades present on site are described in a note recording the salaries to be 
paid to the various grades of workers: these were, in descending order:

Il soprastante
Il mastro muratore
Il suo manuale
Il mastiniciere
Il mensiere
Il guadiario dei figliolu
Il guardiano dei caretteri
Il levatore
Il piccioniere
Il pastore del taino
Il carreggiatore del taino omo
Il medesimo figliolo
L’empitore omo
Il medesimo figlio grande
Il figlioli
Il caretteri
Il brocchetterii
Il ritoccaitore
Il suo aiutante
Il maestro muratore di muraglio secca
Il suo manuale 17

Salaries ranged from the 4 tari 10 grani to 5 tari payable to the soprastante to 
0, 8 tari for the brocchetterii. The manuali and caretteri formed the lowest end of 
the scale and earned less than the figliolu who were attached to specific building 
teams. The rubble wall builder earned 3 tari 10 grani as opposed to 4 tari 10 grani 
that were payable to the master builder.18

17. Ibid., f. 174: Nota dell’ingegneri praticati nel lavorio delle Fortificazioni della Saro in Malta, come 
del Nuovo Forte in Rasettal nel Gozo.
18. Ibid.
A note dated 6 June 1753 indicating the extra workers required for the construction of the new fort, divides the site into two quarries, each being assigned seven picconieri and levatori. The presence of the levatori on the quarry sites is a clear indication of the extraction of building stone for the walls from this area. This is further proven by a report, quoted later, prepared by Gratio Valletta on the number and dimension of stones that it was possible to quarry from the main gate area. Individual master masons were brought in from time to time to report on the quality of stone being quarried, progress of works, etc.

A large number of young men (figliuoli) mostly sons of workers attached to the project, were employed as assistants or to transport water or materials on site. The above-mentioned note on workers required on site lists twenty figliuoli besides a further two levatori, seven picconieri one muratore and eight menzieri in case of necessity (Quando avranno bisogno).

On 19th October 1752, twenty-nine soldiers and Christian slaves serving on the Order's vessels the Capitana, Santa Caterina, La Vittoria and Magistrale were assigned to the project of the new fort and regulations were issued on 22 October of that year determining the duties of the guards responsible for the conduct of the slaves. Recurring problems of workers, using the pretext of needing to carry out some work on their own house or land to abandon their site of work and carry out private work instead, very often feature in contemporary correspondence and documents.

In a letter to the Congregation of War and Fortifications dated 24 October 1753, in fact the Baille de Chambray put on record a visit from the sopranste Andrea Picolo who complained that it was impossible for the project to progress with such disobedient workers:

Andrea Picolo, est venu chez moi, me dire qu'il ne pouvait plus rester avec des travailleurs, ossey desoubissant qu'ils le sont, ne vouloient travailler qu'aux endroits qu'elle plait et non ou le sopranste leur dit.

In an effort to control the insubordinate workers quali sono disobbedienti nel comando del sopranste, del muratore e d'altri capi destinati per detta fabbrica, permission was sought by the Congregation of War and Fortifications from the Grand Master himself to exert disciplinary control on the site, especially in view of the national and military importance of the project.

As a result a detachment consisting of a sergeant, two corporals and twelve soldiers was posted on site and a decree prohibiting the carrying out of private work by local tradesmen employed in the construction of the new fort was issued on 31 July 1754, although the latter prohibition seems to have been of no avail.

Chambray went so far as to request that the Governor of Gozo should close down all the quarries on the Island until the following winter in a final attempt to contain the number of workers abandoning the site of the new fort.

Contemporary documents also indicate that the reuse of the quarried stone from the ditches, especially in the Main Gate area, was given priority in the construction management of the project.

Stone was graded according to hardness, priced accordingly, and was used in different parts of the works according to the local strength requirements.

Instructions were issued to the quarry workers how to work the excavated stone and where to deposit it in case it was unusable. Thus, for example, the material excavated from the ditch in the main entrance was used either as infill in the ravelins protecting the Main Gate or, when the stone was of better quality, it was used for foundation and corner stones.

Independent experts were brought in to estimate the amounts due to workers and to certify the number and quality of stones that could be extracted from a particular area. Thus, in a report drawn up on 6 January 1754 by Gratio Valletta, one of such experts, it was stated that the stone which had been excavated by the Grech brothers from the left side of the ditch and beneath the bridge on the left curtain was extensively fissured and friable (è tutta fli e fragolata) which made it difficult to work. However, given the price of large stones, it was recommended that if great care was taken, thirty worked stones could be extracted from this, and from beneath the bridge, and another ten stones could be obtained.

One also finds other similar references, such as in correspondence between the Capomastro and the Engineer Marandon, dated 10 February 1753, which mentions the availability of worked stone (delle pietre lavorate) from the ditch, or the lack of stones from the ditch for the construction of the right mezza luna.

19. Ibid., f. 190.
20. Ibid., f. 134.
21. Ibid., f. 175: Nota dei Mastri Muratori che esistono nell'Isola del Gozo e capaci nella professione loro.
22. Ibid., f. 192.
23. Ibid., f. 129.
24. Ibid., f. 27.
25. Ibid., f. 44-5.
27. Ibid., f. 13.
28. Ibid., f. 108.
29. Ibid., f. 36.
30. Ibid., f. 173-6.
31. Ibid., f. 175.
32. Ibid., f. 134.
33. Ibid., f. 242.
34. Ibid., f. 243.
Prices were determined according to the size of the stone which was divided into 11 categories, ranging from the largest cantoniere grandi to the smallest sciolle di scarpa and sciolle.\textsuperscript{36}

Stone quality was graded according to hardness and this also determined the price to be paid. Four main categories were distinguished: strong stone (pietra forte), hard stone (pietra dura), soft stone (pietra molle) and very soft stone (pietra più molle).\textsuperscript{37} It is probable that the pietra molle and the pietra più molle refer to the weak and friable greensand which outcrops in the area and of which considerable quantities were excavated from the ditch, whereas the pietra forte and the pietra dura probably refer to the common building stone, Globigerina Limestone.

An indication that the Globigerina Limestone used in the construction of the Fort was not obtained on site is to be found in a letter from the Capomastro to the Engineer, dated 7 June 1753. Referring to the stone used in the counterscarp, he states that this was obtained from a great distance (il suo trasporto viene da lontano).\textsuperscript{38} However since in none of the bills for transport of materials from Malta to Gozo do we find building stone being mentioned, it can be assumed that the stone was obtained from quarries in Gozo; this is also probable since Gozo contains adequate sources of Globigerina Limestone, especially in the south part of the island, and has never needed to import the material from Malta.

In fact, a document dated 10 March 1752, binds a certain Giuseppe Magro to transport material, possibly also building stone, by mule and cart to and from the Fort for a distance of 93 canne.\textsuperscript{39} Another contract, dated 11 January 1753, binds Pietro Vella and Fabrizio Pace to transport materials for a stipulated distance of 103 canne.\textsuperscript{40} Both these documents also mention the transport of lime and pozzolana from Mgarr (Miggiarro).

For exposed areas the better quality stone was used as much as possible. Thus we find in the case of the building of the Angolo di Ponente it was recommended that the first 5 or 7 courses were to be of hard stone (le 5 o 7 prime filate vogliano essere delle dure) as this was exposed to what was referred to as a harmful hot wind.\textsuperscript{41} When the Capomastro wrote to Marandon on 8 June 1753, he stated that the 18 courses, which had been built, were all made up of pietra forte\textsuperscript{42}; he later stated that he still had a supply of such stone, already worked (pietra forte lavorate piu d'un anno).\textsuperscript{43
In a letter to the Capomastro, dated 10 June 1753, Engineer Marandon, agreed with the suggestion that the ‘hard stones’ be kept aside to construct the first 8 or 10 course of the Bastion di Ponente; the Capomastro in another letter dated 10 November 1753 was however also reminded that the areas facing west and southwest (Ponente e Libeccio), must be built of seasoned Glibigerina Limestone (Le pietre...devono essere stagionate e franche), Franka being the common term for Glibigerina Limestone still used nowadays. 44

Besides mentioning ‘seasoned’ stone (pietre... stagionate), references are also found to dry stone (pietre secche). 45 These terms probably refer to excavated stone that was ‘dried out’ before being used in construction. 46 Pietre secche are also found in the construction of the mezza luna, where it was recommended that the stone used here be both hard and seasoned (piereta dura e stagionato). 47 Also a letter by the Capomastro, dated 8 June 1753, mentions the working of stone, which had already been cut a year earlier. 48 Another letter dated 4 July 1753, this time by Chambray himself, urges the recipient to utilize the forthcoming summer heat to ‘dry out’ the stone that was very damp when quarried:

incy je nay plus esperence de sette maestranze qui est apsolument naisssaire presentement pour nous couppier des pierres dans nos focez et profitter de la bonne saison aafin de lever nos bastions qui neprennent lestre qu’avec des pierres seches puisque nous les tiron presque dedans leain auterement nous seron obligez de lever main au macon il a 25 a 30 personnes qui le servent. 49

It is to be noted that the seasoning or drying of stone was not a new idea then, but was already mentioned by the Roman architect and engineer Marcus Vitruvius Pollio in his Ten Books of Architecture written in the first century B.C. Vitruvius suggests that:

stone be taken from the quarry two years before building is to begin, and not in winter but in summer. Then let lie exposed in an open place. Such stone as has been damaged by the two years of exposure should be used in the foundations. The rest, which remains unhurt, has passed the test of nature and will endure in those parts of the building, which are above the ground. 50

44. Ibid., f. 248.
45. Ibid., f. 244.
46. Ibid., f. 247.
47. Ibid., f. 242.
48. Ibid., f. 248.
49. Ibid., f. 32.

The documents referring to the building of Fort Chambray at the National Library (AOM 1012) also furnish interesting information on the mortars used in the construction.

We find for example that in a list of items to be paid for by the Bali de Chambray, dated 24 March 1750, are included 16½ Salme di pizzolana (pozzolana) 51 and 34 Salme di calce spenta (slaked lime). Another document dated 20 December 1752 refers to the transport of lime and pozzolana from Malta to Gozo, the quantities being 10 salme of lime and 6 salme of pozzolana. 52 If these two items were utilized together, this gives a ratio of approximately 1 lime: 0.5 pozzolana in the mortar mix. In addition, two other documents, dated 10 March 1752 and 11 January 1753 respectively, already mentioned above describe the transport of lime and pozzolana by mule and cart from Miglietto to the Fort. 53

In a document entitled Regolamento, che è in uso nelle Fortificazioni, dated 16 June 1753, instructions were given on the use of lime in construction. It is stated here that lime was to be mixed with taino and had to be left for at least two or three days before being used. 54 Besides, taino di terra together with lime is also mentioned in another letter dated 5 May 1752. 55

Correspondence between the Capomastro and Marandon on the construction of the right of the Bastione del mezz refers to the use of strong stone (pietre forte), lime and pozzolana; 56 whereas for the ‘small square’ (piccola piazza), the corner-courses were said to have been constructed using lime and pozzolana. 57

The fortifications having been built, the rectilinear street pattern was laid out but the building sites were never bought by the Gozitans perhaps because the need to live in secure sites had by then disappeared. Fort Chambray, in fact, failed to become a town. 58

Besides the northern front, which was given priority in view of its exposure to land attack, a chapel dedicated to La Madonna delle Grazie was built and blessed on August 6, 1758, while on January 21, 1760, the Council of War approved the construction of a bridge in front of the main entrance, a windmill, a waterproof water cistern, two bombproof living quarters, a new hospital, a bombproof powder magazine in the fort’s west bastion and wooden doors to the three side entrances. 59

Of these, the bridge in front of the main entrance, the bombproof water

51. AOM 1012, ff. 48-50.
52. Ibid., f. 135.
53. Ibid., ff. 135-6.
54. Ibid., f. 165.
55. Ibid., f. 155.
56. Ibid., f. 244.
57. Ibid., f. 248.
cistern and the bombproof powder magazine were allotted priority. 60

In 1761, Count de Bourlamaque Brigadier of the French Navy and Lt. Colonel Mons de Pentleroy were in Malta advising the Order on measures to be taken for the efficient defence of Gozo. In their first report, dated July 28, 1761 61, they proposed that, in view of the fact that both the eastern and western flanks were weak, the building of the interior entrenchments to act as a second line of defence was necessary in case those walls were breached; they also recommended the construction of magazines within the Forts as well as thick walls and of casemates in the rock at the entrance of the square, as well as the provision of a revetment wall with parapet above it, along the rugged southern frontage lying between the Fort and the sea.

In spite of Marandon's objections on the grounds that the proposed internal works would take up too much space as to render the Fort useless as a Citadel 62, the report was accepted by the Order though no action was taken to implement it. 63

In the years that followed, the Fort fell into disrepair. By 1789, it was described as a ruin, its state of deterioration being caused partly to the unsuitable terrain and partly to the masonry, which was of inadequate thickness. 64 Repairs were undertaken in 1745 and 1796 in an attempt to salvage some benefit from the existing walls but these were of a minor nature. 65 The new town never became established probably because the dangers of a corsair attack became remote and could not justify the inconvenience of moving house. 66

60. AOM 1015 f. 6 (21st January 1760) and 10 (9th October 1766), contract for the excavation of cisterns, quoted in A. Hoppen, The Fortifications of Malta by the Order of St. John, Edinburgh 1979, 206, note 56.
61. AOM 6563, Memorie sur le Fort Chambray, f. 38.
62. Ibid., f. 16.
63. Hoppen, 122.
64. AOM 1054, Memorie sulla sicurezza di Malta, ff. 20 and 36.
65. AOM 1015, ff. 428, 432, 436, 440, 470, 493 and 536 quoted in Hoppen, 206, note 60.
66. Hoppen, 122.
La Veneranda Congregazione di Guerra col concorso et approvazione del Eminentissimo Signore Gran Maestro Manoel Pinto aderendo all' istanza e proposizione fatto dal Venerando Balli Fra Giacomo Francesco de Chambry uno dei Venerandi Commissari di Guerra di construire nel Isola del Gozzo e nel luogo detto Ras e Tafal presso il Migiair una fortezza a sue spese cioè il recinto e tutte l'opere esteriere con suo gabbia e magazeno a polvere approva di bomba secondo la pianta lasciata dal fu ingegnere Cavaliere de Tigné Brigadiere nell'armata di sua Maestà Cristianissima la quale serva di ritiro e asilo a tutto quel popolo con suoi effetti e vettovaglie e dia ricovero a tutti i suoi bestiami ne reduni sotto la sua moschettiera e artiglieria, vetti ai nemici il sbarco e l'aguata al Migiair da una parte, e alla costa accessibile di Ras al Hops dall' altra, impedisca il stanziamiento ai vassalli nemici tra l'isola del Gozzo e Comino, faciliti il ricevimento di soccorsi e agli isolani il ritiro a Malta, o altrove, ponga in soggezione li nemici ove interprendesser dell'assedio dell'antico castello, corrisponda con segnali col medesimo et colle torre di Comino e Rossa. La medesima Veneranda Congregazione per venire all'effettiva esecuzione ordina al Ingegner dell'Ordine, che coll'assistenza del capomastro si transferisca sul luogo quanto prima per ivi il tutto ben considerato, la traccia e gli assaggi del terreno farsi formare un idea e metodo per dar principio, e continuare la predetta fortezza col maggior economia, il che fatto dova riportarne distinta relazione in scritto.

Illustrissimi Signori, Essendomi trasferito al Gozzo a tenere della commissione datami dalla Signorie Vostre Illustrissimi ho fatto le tracce delle tre bastioni, come pure la livellazione dell'acque della fontana Ayn Rais, le quali secondo il disegno della nuova fortezza ideato nel Migiair dal fu Signore Ingegneri Cavaliere Tigné, Brigadiere nell'armata di sua Maestà Cristianissima dovean essere introdotte nella sudetta Piazza per ivi conservarsi in una gran cisterna o conserva all'uso dell'isolani radunati in caso d'assedio o d'invasione, sicche accertatomi per replie operazioni ch'era inferiore al suolo della [p. 95] medesima piazza per tre canne dieci nuove, in modo che sarebbe dovuto tirare da simile e anche maggiore profondità e che il sito per cui avrebbe dovuto passare era infeliceissimo, instabile e soggetto a rovina come pare anche quello in cui si era disegnata la sudetta conserva, abandonatone il pensiero come di cosa impossibile m'appigliai al partito di cercarne altra, che potesse almeno venire nel fosso del bastione dritto.

E questo trovai essere la fontana a Ayunsielem trovata essere un pozzo d'acqua nella maggior siccità, la quale, benchè più lontana si puole con poca spesa condurre.
senza altro artificio dentro nel fosso dritto, rialsando soltanto undici palmi sull’arcata gia inserviente alla fontana Ayn Liebra camminando indi sulla viva roccia sin ad attraversare il valle sul muro secco e indi a pie del dritto proflilo del spalto, da dove passarebbe alla conserva scavata nella cortina, e sotto la porta maggiore.

Accertatomi per tanto d’aver un così necessario elemento a servigio del popolo tutto Goziano, oltre le cisterne particolari e pubbliche nella piazza e sorgenti che speriamo trovare a pie del angolo del bastione del mezzo impiegai ogni mia cura per indagare la natura del fondo, sicché scavate alcune cave in luoghi differenti del recinto, trovai che la superficie del suolo per tre o quattro palme è una turba bianca molle e facile a scavarsi, indi segue la roccia fragola per altre tanta profondità indi la roccia intera e tenere nel scavare ma che vedendo l’aria sindurisise; devo per eccezuarne li due capi dritto e sinistro nel primo di quale ho trovato così poca sotide ne li dodici primi palmi che tenero per alcuni giorni, e me il Capomastro sospese se fusse possibile fondarvi sopra ma che se scava si trova poi la roccia interrotta da grossi fili orizzontali obliqui e verticali e sotto di questa la terra vergine, o sia creta sulla superficie della quale come alquanto tenera, non si dovrebbe arrischiere mura di grand altezza, ma che scava poi a due, tre palmi piu basso, si vede piu densa compacta e capace a reggere qualsivoglia fabbrica, sentimento confermato dal sudetto Capomastro e da quello da Gozzo, uomo che ha molto travagliato in fabbriche sulla medesima creta nel Rabato e altri luoghi di detta Isola, e come a me consta, per avere il di 5 corrente visitato li fossa del castello, le di cui [p. 96] cui mura d’un altezza assai maggiore che non saranno le nostre, sono tutte fondate, o sulla creta, o sulle sudette roccie interrotte da medesimi palmi e talvolta sull’una e sull’altra, e come pure si e praticato anni addietro al bastione sotto la cattedrale della Notabile. Il quale abbenche elevato trasotto terra e fuori di palmi 60 all’angolo interrotta posto sulla semplice creta, non così dura come quella della nuova fortezza si è sostenuto senza il minimo segno di consentimento, malgrado che sopporti la spinta d’un altezza considerabile di materiale che formano il ramparo, non avendo altra fessura che quella del angolo sinistro della spalla, a causa o di slogamento d’un gran sasso, sul quale e fondato una parte del detto muro, o di acqua sorgente che mollificò il pie del altra porzione vicina.

Stabilita dunque la possibilità di detto forte continuandosi tutta via li detti pochi sopraggiunto il Venerando Balt Fra Giacomo Francesco De Chambray pensai alla disposizione del lavoro accio si faccesse colla maggiore brevità di tempo e economia di spesa, sicché conclusi dovesse scavare primariamente un fosso largo trenta tutto al intorno del recinto affiné d’assicurarmi viepili della sodezza del masso sul quale si dovra murare il parapetto e a tal fine scavata un apertura di pochi palmi nella roccia della controscura del bastione del mezzo, si formò colli muri secchi una strada che per la via più breve conduce al vallonetto in cui si dovono transportare a schiena d’uomini tutti li materiali della detta scavaione con che si toglierà al nemico il commodo di quella profondità propria per aprire la trinceria e a noi resterà quella d’andarci senza inutile scesa o salita; un’altra strada ma più larga accio serva di passaggio ai curretoni aprire si dovrebbe a cadoano de capi dritto e sinistro e in tal modo a crescere si potrebbe il lavoro con l’animali attesa la soverchia distanza al vallonetto che addimanda piu tosto il trasporto cogl’animali che cogli uomini; per sapere intanto a qual spesa ascenderrebbe [p. 97] ascenderrebbe il scavo unito al trasport, si è fatto per ordine del predetto Venerando Balt la pubblicazione che d’indi a tre giornate non se ne sarebbe dato il stiglio a tanto la canna cuba sicché comparsi essendo suluogo et informati li concorrenti della condizione a tal fine stabilita che fu il 2 Ottobre 1749 si è venuto ai accordi di tari ventidue la canna cuba, per canne duecento, et hanno cominciato lavorare li 4 Diembre e stanno attualmente lavorando coll’assistenza del sopranzante Andrea Piccolo da me a pieno istruito delle sue incombenze; lasciando a dunque il lavoro ben incamminato qual consiste in una scavaione di porzione di gebia nella bastione di mezzo, a fine di potere ricevere le acque pluviali dell’inverno entrante una porzione di strada, e altra di fosso, ne sono partito doppo tre settimane impiegate totalmente parte in indagare ciò che concerne le particolarità del sito e fortezza che vi si vuole stabilire, e parte in farlo conoscere al predetto Venerando Balt. Siche mi presenta alle Vostre Signorie Illustrissimi per accertarle che l’esecuzione delle tre bastioni come sono nella pianta e possibile, soltanto devo esporle che siccome la scoperta del musco, e indica vantaggi col avanzare alcune canne più o meno un angolo del bastione di mezzo così sarà inevitabile per la maggior perfezione dell’opera uscire alcune canne meno l’angolo del bastione di mezzo due canne più quell’ della sinistra e due meno quell della dritta tanto più che non essendo in tutta la succeduta pianta segno alcuno fisso come di casa cisterna pilastro, non è facile incertare a puntino la volontà dell’autore sicché è ragionevole dar campo a che le regole delle fortificazioni siano osservate.

Quanto poi alli vantaggi che accompagnano questo sito dov’io dire:

i. Che per esser sollevato sul mare quaranta canne ed essendo attorniato da tre suoi lati d’un alto scarpato ed essendo pur anche dalla parte di maestrale ove si deve fortificare più elevato che il suolo che gli è in fronte gode aria molto salubre come l’ha in effetto sperimentato il Venerando Balt suggerì et io ancora in tre settimane che vi ho soffornato [p. 98] benché con poco o nessuna commodità d’alloggio e intricato nelle fatiche.

ii. Le acque vicine sono lubreche, leggere, limpide e salutiferie, e dagli effetti da me provati e indicati ai medici del paese sono giudicate minerali.

iii. Il sito è tale che per essere ridotto in fortezza non richiede d’esser fortificato che ad un quarto o a più ad un terzo della sua circonferenza.

iv. Il masso è di tal natura che accopia la facilità del scavato colla resistenza che fa all’aria aperta.

v. Il transporto dei materiali inutili vien esser vicino per il vallonetto che attraversa li spalti e adonde sarà quasi rompito da medesimo, si coprirà la superficie con tre o quattro palmi di sassolini per renderne malagevole la trinceria a nemici.
vi. Il contascarpato che si presenta alla nostra fortezza al di là del vallonetto ove il piano di roccia durissima inclinata sensibilmente verso i nostri strade coperte e con pochissima terra rende via più difficile gli approcci alli nemici, a causa che li obliga ad elevare straordinariamente i parapetti in sito appunto, in cui non può scavare.

vii. Non è dominata, anzi domina tutto il paese attorno sotto la distanza del gran tiro di moschettio dalla angoli delle strade coperte, il più vicino luogo che li sia all’intorno essendo la collina detto Gudia la quale è distante dal angolo saliente della strada coperta della mezza luna dritta che è il più vicino dico distante 195 canne, e 235 dal angolo saliente del bastione dritto al quale resta ancora inferiore di alcuni palmi.

viii. Rialzando torre o altro edificio sei canne sul più alto del sito s’averà il commodo di far segnali e vedere quelli de castello, senza che gli abitanti della sudetta piazza possono sapere ciò che talvolta si vuole loro calare, tutti li segnali pero che faranno le torri del Comino, e rossa si vedono quasi da tutta la piazza.

ix. Gode il vantaggio d’avere sotto la sua custodia li bestiami che si ritireranno ne reduni fraposti tra del mare et li scarpati ove sono pascoli oltre al vallone di Migiarro e Liebra sottoposti alla torre Garzes più’ abondanti d’acqua e di pascoli ma non così sicuri come nei primi.

x. Custodisce il luogo dal sbarco sicche con forza aperta non potranno i nemici introdursi nell’isola ne a dritta ove la roccia è molto accessibile ne a sinistra, ove è il principale sbarramento detto perciò il Migiarro.

(Source: AOM 6560, pp. 94-98)

Appendix 2

Prices paid to workers for working various sizes of stones

Sizes of stones
- Cantoniere grandi
- Cantoniere piccolo
- Scarpe postate
- Sciollele di scarpa postate
- Piattaforma
- Sciollele di filata ordinaria
- Cantoni
- Cavalli di palmi tre e mezzo
- Balate
- Altre pietre diverse grandi

Prices
- tari uno
- grani dieci
- grani sei
- grani cinque
- il viaggio grani quattro e mezzo
- il viaggio grani tre
- grani due l’uno
- grani quattro
- grani quattro
- a stima del capomastro

(Source: AOM 1012, f. 163)