

## BOOK REVIEW

### *Lines of defence: fortification drawings of the Baroque Age at the National Library of Malta*

*Denis De Lucca, Stephen Spiteri and Hermann Bonnici (eds.)*

International Institute for Baroque Studies, University of Malta, Malta, 2015,  
399 pp, ISBN: 978-99957-856-1-1, EUR 850

---

In 2015, the International Institute for Baroque Studies in collaboration with Malta Libraries published its magnum opus 'Lines of Defence: Fortification Drawings of the Baroque Age at the National Library of Malta'. This work is edited by three academics of the Institute, namely Denis De Lucca (Director), Stephen Spiteri (a leading scholar in the field of historical research focused on fortress building) and Hermann Bonnici (an architect whose specialisation is the conservation/restoration of Malta's fortifications). Albeit the publication's main forward was penned by Juanito Camilleri (Rector of the University of Malta at the time of publication), one also finds an informal one by Oliver Mamo (the National Librarian and CEO of Malta Libraries at the time of publication) followed by a general introduction to the collection of drawings housed at the National Library of Malta (NLM) by Maroma Camilleri (Senior Librarian at the NLM).

This publication is an all-encompassing compendium of graphical designs relating to the diverse fortifications studded all over the Maltese Islands. It brings together a unique collection, mostly preserved at the NLM in Valletta, of plans and drawings of mainly eighteenth century military architecture in Malta and Gozo. This significant publication constitutes the largest collection of original plans, elevations and axonometric-type/perspective drawings of fortifications, projected and/or realised on the islands during the rule of the Hospitaller Order (1530-1798). These drawings, which have survived to the present day, form a valuable primary source regarding the evolution of the design and construction of the various works of defence. The all-embracing term 'Fortifications of the Knights of the Order of Saint John' includes numerous noteworthy military engineering structures erected over a significant period of time in line with the optimal conventional bastion design parameters of the time.

The book comprises an *Introduction* (pages 12-21), authored by De Lucca, which addresses Malta as the Hospitaller bulwark in the midst of the Mediterranean. This section is followed by two articles entitled *Fortification Plans and Draughtsmanship* (pages 22-29) and *Surveying and Fortification*

*Drawings* (pages 30-31) by Spiteri and Bonnici respectively. The former scrutinises the collection of fortification drawings and approaches in draughtsmanship prevalent in eighteenth century Hospitaller Malta whilst the latter reviews the surveying methods and techniques utilised by the builders of the fortifications. The *Selected Bibliography* (pages 398-399), which lists the following: i) Manuscript material; ii) Modern works – fortifications; iii) General history of the Order: Contemporary and near contemporary works; and iv) General history of the Order and Malta: Modern works, is preceded by the publication's main section entitled *The Plans and Drawings* (pages 34-397) annotated with the commentaries and notes by Spiteri. Almost every plan and drawing is reproduced on the right leaf of the book accompanied, on the opposite left leaf, with a commentary and, where applicable, with notes. The latter include the NLM index number and the title, date, dimensions and scale (where applicable) of the plan or drawing. The left leaf also includes, where appropriate, a typed reproduction of the legend and, where applicable, the related plan/s and/or drawing/s reference number/s contained within the collection.

The plans and drawings are categorised as follows: 1) Fort Saint Angelo (pages 34-37), 2) Mdina (also known as Citta` Notabile) (pages 38-51), 3) Birgu (also known as Citta` Vittoriosa) (pages 52-59), 4) Fort Saint Elmo (pages 60-67), 5) Senglea (also known as Citta` Invicta) (pages 68-75), 6) Valletta (also known as Citta` Umilissima) (pages 76-109), 7) Floriana Enceinte (pages 110-153), 8) Santa Margherita (Firenzuola) Enceinte (pages 154-177), 9) Cottonera Enceinte (pages 178-201), 10) Fort Ricasoli (pages 202-227), 11) Fort Manoel (pages 228-289), 12) Fort Chambrai (pages 290-309), 13) Fort Tigné (pages 310-315), 14) Coastal Entrenchments, Coastal Batteries, General Magazines (pages 316-385), and 15) Miscellaneous (pages 386-397). The hand-drawn drawings contained in the book demonstrate refined levels of draughtsmanship which were introduced in early eighteenth century Malta predominantly by French military engineers. The illustrations, scaled and colour coded as per the standard conventions of the Baroque Period are drawn in black ink, whilst the existing and proposed masonry works of parapets and ramparts are depicted in red and yellow respectively. Ditches and excavations are shown in light reddish-brown wash, the terrain around the fortifications is depicted in green whereas the moats and the sea are rendered in sea-green or light blue wash. The depth of the drawings can be interpreted through shading with the imaginary light source being generally assumed to be at the top left-hand corner of the particular plan. The size of the drawings varies as does their date, with the larger part of the collection dating back to the eighteenth century.

There are two plans of Fort Saint Angelo, one dated at the turn of the nineteenth century whilst the other is attributed to the early half of same century. This magnificent fort is located in Birgu, the de facto capital of Malta from 1530 to 1571. In contrast, there are various plans of Mdina, (Malta's ancient capital supplanted by Valletta, which in 1571, was ceremoniously proclaimed the new capital city) all dating back to the first half of the eighteenth century. Two of these plans incorporate the neighbouring town of Rabat whilst

the others depict the proposed works on the bastions of Mdina and a plan for the redesign and enlargement of the spatial ambience off Mdina's main entrance to its present configuration.

The plan, elevation and section of the main gate of Birgu are also included. These drawings, together with the plans of the arsenal, the sea-gate and the old naval hospital, are dated back to the first decades of the eighteenth century except for the latter which is attributed to the early nineteenth century, although no date is explicitly indicated on it. Birgu occupies a peninsula having, at one end Fort Saint Angelo protruding into the Grand Harbour, whilst on the landward side there is Bormla (later known as Citta` Cospicua).

The publication also includes several plans of Fort St Elmo mainly dating back to the early and middle eighteenth century. This star-shaped fort is located at the tip of Valletta, a long promontory which, together with Fort Ricasoli and Fort Tigné, dominates the entrance into the Grand Harbour on the south-east and the access into Marsamxett Harbour on the north-west respectively. A plan of the fort and the Carafa Enceinte, erected on the foreshore surrounding the fort, dating to the last years of the Order in Malta, is also included.

Plans of the land front fortifications and other works at Senglea, a peninsula in the Grand Harbour area which together with Birgu and Bormla constitutes the Three Cities also known as the Cottonera, date back to the first decades of the eighteenth century. These plans include a proposed new quay and sally port, the latter dating back to the middle of the century.

From 1566 onwards the Valletta peninsula was transformed into a building site. Various fortifications were erected, with periodic alterations undertaken to improve their design in the context of evolving military defence requisites. The book includes a score of interesting drawings of the city spanning the whole of the eighteenth century. This group of drawings detail a number of bastions and their surrounding environs, both facing inland and also along the coastline, facing Marsamxett Harbour. Other drawings illustrate a tunnel and sally port stores. Of note is a plan depicting a tree planting project in a ditch, a proposal for the construction of architectural features within the Carafa enceinte and a plan and elevation of a fountain intended to be erected in the esplanade within the same enceinte. Also of interest is the plan for alterations to be made to Saint Madeline Ravelin consisting of a base plan illustrating a particular proposal followed by a foldable leaf which superimposes an alternative design (pages 78-79). This technique, whereby various layers of paper are attached to the base plan to depict different layers/schemes concerning a given section of a structure, has been utilised in a number of drawings.

The Floriana enceinte was developed to protect Valletta. This town, which until the seventeenth century was essentially a stretch of scrubland, eventually developed into the suburb of the Capital. Most of drawings at the NLM relating to Floriana date back to the early part of the eighteenth century and are mainly plans and profiles of its fortifications. Although by the mid-seventeenth century the Floriana lines had emerged as a daunting line of defence shielding Valletta, they kept being modified throughout the next one hundred and fifty years. Of

particular note is the proposal for a new layout delineating streets and buildings dated post 1715 (pages 132-133). A drawing of the original *Porte des Bombes* erected in the *faussebraye* is also included in the book.

Santa Margherita Enceinte is also known as the *Firenzuola Enciente*, named after its designer the military architect Cardinal Vincenzo Maculani da Firenzuola. As an inquisitor, Cardinal Maculani da Firenzuola had presided over the trial and condemnation of Galileo Galilei to indefinite imprisonment. *Sta. Margherita Enceinte* is a line of fortifications surrounding Bormla erected during the seventeenth and eighteenth century as land front defences to strengthen the defence of Birgu and Isla. The drawings in the collection date mainly back to the early part of the eighteenth century. Plans of bastions and curtains, namely *St Helen's*, *Saint Paul's* and *Saint Francis of Paola* including a drawing of 1733 relating to the expropriation of land and houses to make way for the erection of *Saint Helen's Curtain* are included. These drawings provide an insight regarding the evolving urban configuration of Bormla illustrated by means of a plan of the urban areas and quarters within the walled city, the harbour quay and the area around the main square.

The *Cottonera Enceinte* was erected as the outer defence of the Three Cities, and it surrounds the *Santa Margherita Enceinte*. The latest drawings belong to the early part of the eighteenth century and relate to the plans of the fortifications of *Cottonera*, some illustrating the terrain surrounding the formidable line of defence. There are design proposals for gunpowder magazines and for the construction of a retrenchment with a redoubt in the gorge of *Saint Paul's Bastion*. A drawing with respect to *Saint Nicholas Bastion* includes a folded overlay of a detail (pages 192-193).

The outstanding *Fort Ricasoli*, the largest fort in Malta, was constructed at the entrance to the *Grand Harbour* during the last three decades of the seventeenth century. Unlike the case of the *Cottonera Enceinte*, the drawings with respect to *Fort Ricasoli* date back to the turn of the nineteenth century. These include the plans of the fort with details of its land front and a sectional elevation through the same. There are drawings of the countermines, counterguard and outer works of the Fort together with a casemated gun emplacement.

The collection of drawings in this publication includes original designs for three other main forts: *Fort Manoel*, *Fort Chambrai* and *Fort Tigné*. With respect to the former two, there are also drawings outlining how the respective design was executed. *Fort Manoel*, a star fort on a 0.3 km<sup>2</sup> island in the middle of *Marsamxett Harbour*, formerly known during the eighteenth century as *l'Isolotto*, is a fine essay of Baroque military architecture where function and aesthetics are symbiotically linked. The main corpus of the drawings belongs to the third and fourth decade of the eighteenth century when the fort was being constructed. This includes a site location map with respect to *l'Isolotto* and the surrounding environs of the proposed fort. A design proposal includes a detail showing a section of the redoubt beneath a folded overlay (pages 230-231). There are large scale drawings of the plan and elevation of the chapel dedicated

to Saint Anthony of Padua (pages 246-249). There is also a drawing of the quarantine block at the Lazzaretto, situated south-west of the fort in another part of the same island. Moreover, there are several drawings of countermines pertaining to the fort, all dating to the early years of the nineteenth century when Malta became a British Protectorate.

Similar to the case of Fort Manoel are the drawings of Fort Chambrai (a fort overlooking Mgarr Harbour in Gozo and ineffectually intended to supplant the inland capital) which date back to the middle of the eighteenth century when Fort Chambrai was designed and built. This particular collection of drawings ranges from an outline plan of the proposed land front to the proposed urban grid-iron layout within the fort, including inter alia the sectional elevation of the land front enceinte, the plan of the Guardian Angel Bastion and the plan of military quarters located inside the fort, the latter including a detail showing the ground floor level of the building beneath a folding overlay (pages 308-309).

On the other hand, the drawings with respect to Fort Tigné, a polygonally shaped fort and one of the last to be erected by the Order to protect the entrance into Marsamxett Harbour, date back to the last decade of the eighteenth century. It was erected on the Tigné Point peninsula, formerly known as Dragut Point, with Fort Saint Elmo on the other side of the harbour's entrance. This peninsula is traditionally regarded as the location where the notorious Dragut Ar-Rais', the admiral in the navy of Suleiman the Magnificent, was fatally wounded during the Great Siege of Malta of 1565 after having earned the eternal enmity of the Maltese for sacking Gozo and enslaving its entire population in 1551 before going on to capture Tripoli, an outpost in North Africa belonging to the Hospitaller Order.

All the drawings relating to coastal entrenchments are dated circa 1761. An interesting map relates to the coastal defences of Gozo, Comino and Northern Malta (pages 362-363). Incidentally, this is the only drawing in the collection which makes reference to the island of Comino, more specifically to the Trunciera (Saint Mary's Battery) and the Castello (Santa Maria Tower), located on the eastern and western sides of the island respectively. There are other maps delineating the entrenchments which stud Malta's coast from Fort Ricasoli to Zonqor Point, from Madliena to Tigné Point and from Madliena to Saint Paul's Bay; drawings of coastal entrenchments at Marsaxlokk, Benghisa Point, Qawra Point, Saint Paul's Bay, Mellieha, and Ta` Falca; and a number of entrenchment proposals in diverse parts of the coast, namely; from Benghisa Point to Delimara, from Madliena to Tigné Point, from Xghajra to Saint Thomas Bay and from Saint Julian's Bay to Saint George's Bay. Moreover, there is a proposal for another entrenchment scheme intended to defend the coast of Gozo and a general conceptual scheme governing new military structures. Thus, further to Gozo's coastal defence works at Ramla Bay, the publication includes plans of defences at Xweini Bay and Marsalforn Bay. These are complimented by drawings of further coastal defence works in Malta, namely the Westreme Battery (Mellieha Right Battery), the Mellieha Left Battery, Saint Julian's

Tower and its Battery, and also other defensive works in Gozo including the Qala Battery and the Ramla Redoubt.

The publication concludes with a collection of drawings relating to general magazines; mostly relating to buildings in Valletta and Floriana. In the case of Valletta, there is an early eighteenth century plan and an elevation of a design proposal for the Auberge de Castille and Portugal located at Old Bakery Street (page 395); an outline plan of a block of houses and the plan of a loggia at the quarantine station, both dating back to the mid-eighteenth century; and a nineteenth century plan of the Station Hospital (formerly the Sacra Infermeria). With respect to Floriana, there is a 1726 drawing of warehouses along the Grand Harbour waterline (plan, elevation and sections); the site plan for a new parish church, and a plan and elevation of a cistern near Sarria Church, both belonging to the late eighteenth century; and a nineteenth century plan for the building of a hospital and courtyard. There are other miscellaneous drawings which relate to the Marsa shoreline – the Inner Grand Harbour area surrounding Jesuit Hill (late eighteenth/early nineteenth century) – and a proposed early eighteenth century magazine at Mgarr Harbour in Gozo. This section concludes with a plan and elevation of a French arsenal at Genoa Harbour, Italy, dated 1812 (page 396), and a proposed entrenched fort inside an existing bastioned enceinte, dating back to the late eighteenth century, whose location is unknown and most likely not related to the Maltese islands.

This publication is in full colour, measuring 490mm (width) by 420 mm (height). Its large format permits the reproduction of the original plans and drawings to a considerable high resolution with the advantage that markings and annotations in faint pencil are quite readable. These documents form a treasure trove for scholars and researchers studying the art and science governing fortifications pertaining to the Baroque period. Moreover, the explanatory annotations provide valuable military and architectural information which enable the reader to appreciate the context and value of each particular drawing. This first edition has been limited to 200 copies.

### **Professor Lino Bianco**

*University of Architecture, Civil Engineering and Geodesy, Faculty of Architecture, Sofia, Bulgaria*

*University of Malta, Faculty for the Built Environment, Department of Architecture and Urban Design, Msida, Malta*