

# FRENCH MILITARY ENGINEERS IN MALTA DURING THE 17th AND 18th CENTURIES

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As a military Order accustomed to the dangers facing a small community living in virtual isolation first in the Latin Kingdom of Jerusalem, then in the Island of Rhodes and finally in the Maltese archipelago, it is not unnatural that throughout its history, the Order of St. John was constantly preoccupied with matters concerning defence strategy and military fortification. The large number of military engineers and armaments experts that were brought over by the Order to Malta between 1530 and 1798 can be explained in terms of this traditional preoccupation which was to a large measure intensified after the shock of the fall of Rhodes in 1522 and the Great Siege of Malta in 1565. Among other things, the last event had showed that strong fortifications were vital if Malta was to remain in the possession of the Order. On the other hand, the weak design of the walls of St. Elmo, which had become explicit when this fort had been put to the test, indicated that strong fortifications necessitated the presence of competent military engineers who had to be conversant with the most recent developments in the complementary arts of attack and defence as were being interpreted by the main European field armies of the time. As the period interlying 1650 and 1750 was the period which marked the ascendancy of France in European politics and as France was a nation with which the Order of St John had close diplomatic and financial affiliations, it is not surprising that during the course of the 17th and 18th centuries, Malta witnessed the coming and going of a number of important French military engineers whose main contribution included the establishment of a tradition of coastal fortification, the perfecting to a high standard of specification of the existing harbour defences and the building of Fort Manoel, the design of which is closely related to the work of the great French military engineer Sebastien Le Prestre de Vauban (1633—1707).

The presence of French military Engineers in Malta was inaugurated in 1645 when Blaise Francois, Comte de Pagan (1604—1665) was invited over to Malta to advise on the Floriana fortifications. (1) Pagan, who in 1640 had published a standard work entitled 'Les Fortifications de Comte de Pagan', was a celebrated theorist rather than a practising engineer but his visit to Malta was important for two reasons. In the first instance, the engineer's stay

1. National Library of Malta.  
A(archives of the) O(rder of) M(alta) 6554, p.251

in Malta was concluded with the presentation of a detailed and highly critical report which, if anything, removed any doubts that the Order might have had as to the calibre of the French engineering profession in the mid-17th century. In the second place, the Comte de Pagan was accompanied by a young engineer named Blondel des Croisettes who on the 3rd September 1645 was persuaded by the Order's Council (2) to remain in Malta with a view of directing the work on the new Floriana landfront and supervising the proposed building of a new fortified town at Marsalforn in Gozo for which two Italians — the Marquis of St Angelo and Giovanni Rinaldini di Ancona — had earlier left plans, reports and several models. Although the Marsalforn project was eventually abandoned, Blondel's performance between 1645 and 1660 seems to have been satisfactory for in a decree of the Order's Council dated 2nd March 1659 (3), it was decided to accept the promising young engineer as a 'Cavaliere di Grazia' for his good services and to give him a permanent appointment with a salary of just over two pounds a month in modern Maltese currency which can be compared with the salary of just over two pounds paid to a physician of the Order. As a consequence of his appointment, Blondel assumed the titles of 'Commissario dell'Opere' and 'Soprintendente delle Fontane' which made him responsible for all defence and water supply works carried out in the islands. One of the first tasks facing him was the finalisation of the coastal defence network which had been initiated by Grand Master Lascaris in 1647 when that Grand Master had decided on the building of several small coastal towers to act as auxiliary defences to the Wignacourt forts built between 1610 and 1620. The towers built under the direction of the French engineer were simple serviceable structures but there is evidence (4) in the form of a document bearing Blondel's signature, that their building often involved serious technical problems and detailed estimates of the work involved.

On the 18th June 1664, the Council of the Order passed a decree whereby Blondel was directed to embark upon a mysterious mission, (5) possibly connected with the Candia campaign. His departure was of short duration for in 1665 the engineer was back in Malta and commissioned to design the 'Polverista' or gunpowder factory at Floriana together with a ravelin in the vicinity. (6) After 1669, the records indicate that Blondel contracted some sort of chronic illness for on the 2nd February 1670, the Order decided to grant him leave of absence for medical treatment and to call in Maurizio Valperga to finish the Floriana defences and to give other advice with regard to the state of the harbour fortifications. On the 11th September 1678, Blondel again departed for

2. A.O.M. 258 p. 41v

3. A.O.M. 260 p.54v

4. A.O.M. 6551 p.104

5. A.O.M. 260 p.195

6. A.O.M. 261 pp.27 and 42v

France for treatment of the same illness (7) and almost immediately the Spanish engineer Carlo Grunenberg, who was in charge of the fortifications of Sicily, was called in to replace him temporarily and particularly 'to solve certain difficulties that have arisen in the fortification works'. By 1687, however, Blondel was back in Malta for his presence is mentioned in a detailed memoir (8) presented to the Council on the 1st of March of that year where Grunenberg states that he had carefully examined Marsamxett and Tigné point with Blondel 'who had pointed out the necessity of fortifying these two points in order to protect the weak flank of Floriana'. This important advice by Blondel was followed up in 1689 by two reports dated 30th October and 22nd November, (9) one of which was a highly technical dissertation on the construction of parapets in fortification works, clearly inspired by Chevalier de Ville's 'Traité des Fortifications' (Paris 1628) and Bar-le-Duc's 'La Fortification démontrée et réduite en art par J. Errand de Bar-le-Duc, Ingenieur du très Chrétien Roy de France et Navarre' (Paris 1594).

Blondel's last contributions in the Maltese scene before his death in 1695 included a report (10) on the Mdina fortifications after the widespread destruction caused by the 1693 earthquake (this report contains some interesting comments on the bearing of Gafa's Cathedral design on the fortification network of the Old City) and another report (11) consisting on recommendations for the urgent repair of the Vittoriosa landfront. There is also some evidence (12) to indicate that during these last years of activity, Blondel finalised the splendid facade of the Gesù church of the Minor Observants in Valletta which, if really designed by him, surely represents an interesting exercise by the French engineer of secular as opposed to military design. At any rate, after a gap of eight years during which the Order was deprived of the services of a resident engineer, Blondel's post was reoccupied by another engineer from France bearing the name of Claude de Colongues whose previous position was 'scudiere e Brigadiere dell'Ingegneri di Sua Maesta Christianissima' (13). A council decree of the 17th April 1703 (14) indicates that by this date, Colongues had already revised the existing designs for the Floriana defences and drawn up a list of new suggestions for the perfecting of the horn works over-looking Braxia valley. In the circumstances it is rather regrettable that for some reason or other, Colongues did not manage to get things done for there is evidence to

7. A.O.M. 262 p. 81v
8. A.O.M. 262 p. 293-5
9. A.O.M. 1011 pp.3-6, 7-8
10. Mdina Cathedral Library — Ms 6 p. 227 and Ms. 62 p.63
11. A.O.M. 264 p.77
12. Valletta Main Library, Libr(ary) 1123 p.84
13. A.O.M. 265 p.92v
14. A.O.M. 265 p.92v

point out that in 1714, the year marked by the issue of Grand Master Perellos' Citation to put Malta in a state of defence, little or no work had been accomplished on the main land front of the Floriana fortifications despite its prominence with respect to contemporary defence strategy.

The Treaty of Utrecht of 1713 which marked the termination of the War of the Spanish Succession had important implications in so far as the relations of Malta with the major European powers were concerned. Among other things, this treaty had secured the Bourbon succession in Spain so that the theoretical overlord of the 'fief' of Malta now became the King of France. At the same time, however, the terms of the treaty had allotted Gibraltar and Sicily to Britain and Savoy — two countries traditionally hostile to France who in 1702 had joined the Habsburg Grand Alliance against Louis XIV of France. In view of the resultant delicate power balance in the Central Mediterranean it is not surprising that when in 1714, Grand Master Perellos directed his Ambassador in Paris De La Vieuville to ask Monsieur Le Pelletier de Souzy, Director General of the Fortifications of France, to send over some high ranking engineer to Malta, the latter not only grasped the opportunity to do so but went as far as to assure the Order of his King's constant protection and benevolence. As a consequence of his new French policy, the Order in 1715 managed to acquire the services of a number of capable French engineers who in a short time brought to perfection most of the existing defences in the harbour area and also initiated an ambitious programme of coastal defence.

The task of the French engineers who came over to Malta in 1715 was originally outlined in two written decisions taken by the Grand Master's Congregation of War in 1714. The first of these decisions, dated 18th September (15), specified the perfecting of two crucial points in the harbour defence system — the covered way and glacis of the Valletta landfront in the Mall area, and Fort S. Margherita. The second decision, dated 28th December, (16) was more ambitious as it called for a vast improvement in the coastal defence network within the framework of Wignacourt's Forts and Blondel's towers, this by the construction of batteries, redoubts and entrenchments designed to continental specifications. In view of the vast defence requirements outlined in the two decisions, the King of France decided to send over two capable engineers whose background was given in a letter (17) signed by Monsieur Le Pelletier and addressed to the Grand Master. In this letter, Renè Jacob de Tigné is described as a 'brigadier of the King's engineering corps' and as 'one of the most experienced engineers who had served on numerous expeditions' while his deputy Charles Francois de Mondion is described as a brilliant person 'who

15. A.O.M. 6552 p.1

16. A.O.M. 6552 p.3

17. A.O.M. 1301 p.52

had been apprenticed at a good school under the guidance of the late Marshal de Vauban'. According to a later record, (18) Tignè at the time of his coming to Malta was in charge of the important frontier post of Arras which was an interesting polygonal city fortress on the Belgian frontier which together with Lille had once been the responsibility of the great Vauban.

Tignè and Mondion must have arrived in Malta in January for on the 1st of February 1715, Tignè and a military adviser of great experience by name of De Tressement advised the Council of the Order to isolate the Salvatore bastion from the main Cottonera lines and convert it into a separate fortress — an important suggestion which was immediately approved by the Grand Master. (19) It is significant that according to a Council report dated 20th February 1715, (20) Tignè was accompanied by De Tressement and an artillery engineer by name of DeRougemont and that these three experts together with Mondion were involved in a huge arms deal being shipped from the Royal Arsenals in Paris to Malta via Marseilles. At the same time, the new Ambassador of the Order in Paris, Bailly Des Mesmes, wrote to the Grand Master (21) informing him that four engineers — Megret, Artus, Lafon and Guillor — were being sent to Malta to assist Tignè and Mondion in consideration of the extent of the works involved. These four engineers were apparently specialists on coastal defence systems and following their arrival in Malta in May, they immediately carried out a survey of the existing coastal defences in conjunction with an ammunition engineer named Francois Bachelieu who had been in Malta since 1714. It is interesting to note that the report that they presented to Council on the 4th June 1715, (22) was backed by the influential Grand Prior of France, the Prince of Vêndosme, who, while urging co-operation with Tignè and Mondion to secure the harbour area, also stressed the importance of securing the coasts in accordance with a masterplan drawn up for the purpose. According to a Council report of the 20th August 1715, (23) coastal batteries designed by the French engineers had by this time already been sited at Mtarfa, Mellieha, St. Paul's Bay and St. Julian's Bay. Meanwhile the engineering corps in Malta had been further supplemented by two junior engineers named Modè and Milleent who had arrived in Malta in mid-June.

In October 1715, De Tigne's team was suddenly recalled to France, the reason probably being the political turmoil that prevailed in that country following the death of Louis XIV and the establishment of the regency of Philippe, Duc d'Orleans. Following Tigne's departure, the Order realised that it was

18. A.O.M. 1301 p.147
19. A.A.M. 266 p.145v
20. A.O.M., 266 p.142-3v
21. A.O.M. 1218 p.13
22. A.O.M. 6556 p.30-1
23. A.O.M. 266 p.169v

going to find itself deprived of a proper engineering corps so that the Grand Master on the advice of his Council requested Monsieur Le Pelletier to grant permission to Mondion to remain in Malta, which leave of absence was eventually though reluctantly granted. (24) During his stay in Malta, Mondion had two important guidelines to work upon. In the first place, there was a letter (25) of the 29th July 1715 in which Le Pelletier stated that he had shown to Louis XIV a general plan of the Malta fortifications and a detailed plan of the Cottonera and Margherita lines and also that the King of France had approved Tigne's earlier recommendation that the priority was not to be placed on coastal fortification but on the perfecting of the harbour defences. In the second place, Mondion had at his disposal a copy of a detailed report compiled by Tigne prior to his departure; (26) this report not only outlined the defence strategy to be adopted by the Order thus giving an insight to the whole philosophy behind the building of the Malta fortifications, but also a clear picture of the harbour fortifications as they stood in 1715, mentioning in the process the possibility of careful town planning within the Floriana defences. It is significant that in his report, Tigne's main concern was not with the creation of the type of expensive schemes called for by the Italian engineers of the 17th century but with the strengthening of the existing defences by means of carefully designed outworks (covered ways, traverses, place d'armes, tenailles, caponnières, glacis). Realizing that a fortress could only hold out until a stormable breach had been made in its main line of defence, it would seem that Tigne's objective was to delay this crucial event for as long as was humanly possible by the creation of a series of outworks sprawling outwards beyond the main line of fortifications. It was, after all, his one time superior Vauban who in his 'Memoire pour servir à l'instruction dans la conduite des sieges' (Leiden 1740), had pointed out that the further the outworks stretched in front of the main line, the further back the enemy would have to begin his trenches and the more breaches he would have to make before he could finally come to grips with the main defence system. At the same time Tigne made it crystal clear in his report that the outworks had to be so planned as to be flanked and supported by other works behind and beside them because otherwise any face not properly covered by supporting fire, as was the case at Vittoriosa, could be easily chosen by a capable enemy engineer as a rewording point of attack. To all intents and purposes, Tigne's 'Discours Général sur les Fortifications de Malte et ce qui reste à faire pour les mettre en estat d'une bonne deffence' of the 25th October 1715 provided Mondion with a document which was precise, scientific and, more importantly, workable.

There is evidence to indicate that Mondion's activity in Malta in the

24. A.O.M. 1301 p.119

25. A.O.M. 1301 p.57-107

26. *Ibid.*

months following Tigne's departure was not merely confined to the contents of his superior's report but included a careful feasibility study on the possibility of building a small fort on Manoel Island which represented one of the weak spots pinpointed by Blondel in 1687. After consulting all the available literature and drawings left by the engineers of the previous century, Mondion in fact published a concise report on the subject (27) entitled 'De la Necessité de construire un Fort sur l'isle de Marsamuscietto, communement nommè Izoletto'. This report, which was accompanied by a plan of the proposed fort, is lucid and concise, particularly in Mondion's detailed analysis of possible forms attack on the Floriana defences. While Mondion was working on the proposed fort, Megret and Bachelieu, two of his subordinates who apparently also managed to obtain leave to remain in Malta, continued work on the rest of the harbour fortifications and published three reports (28) which proposed the construction of casemated redoubts at Dragut Point, Izolotto and Corradino Hill and the urgent completion of Valperga's Cottonera lines by isolating Fort S. Margherita and forming the glacis and covered way with material excavated during the trenching of the dry ditch around the fortifications. It is interesting that in one of the above-mentioned reports, the engineer Bachelieu harshly criticises Valperga for his failure to make use of the existing terrain in his design for the Cottonera defences — a capital mistake which in 1681 had already drawn adverse complaints from the French engineers Vauban, Manebou, Beaufort, Boissiere, Mallet and Houssaye when these had seen Valperga's grand scheme for the proposed fortifications.

The first move to get hold once more of De Tigné was made by Grand Master Perellos on the 6th February 1716 when the latter wrote to the engineer at Arras requesting him to return as soon as possible (30). Although Tigné was unable to obtain the necessary leave from the Regent, he sent over to the Grand Master a number of certificates (31) signed by four veteran engineers of the War of the Spanish Succession. These were the Comte de Vauban, Director-General of the Fortifications and step-brother to the great Vauban, Monsieur de Valory, Director of the fortifications in Flanders, Monsieur Favart, Director of the Paris fortifications and Monsieur Villars, President of the Regent's newly-appointed council of War. The certificates of these four authorities in the field of military engineering indicate complete approval of Tigne's earlier projects for Malta and their comments are important because, having carefully studied the defence problems of the Order, it would seem that the knights of St. John were, for the first time in their history, permitting a

27. A.O.M. 1301 p.181

28. A.O.M. 290 p.7, 6552 p.40-50v, 6552 p.50-56v

29. A.O.M. 6552 p.50-6v

30. A.O.M. 1301 p.129

31. A.O.M. 1301 p.133-8

foreign power well known for its political ambitions, to interfere in each and every detail concerned with the defence of Malta, thus indicating the extent of the influence being exercised by the French government on Maltese affairs at this particular point in time. If Perellos was satisfied with this situation, he was certainly not satisfied with Tigne's reply for in May 1716, the Grand Master wrote to Des Mesmes in Paris (32) asking him to request Marquis Dasfeld, the new Minister of Fortifications, to allow Tigne to depart for Malta as quickly as possible. It is to the Ambassador's credit that on the 9th June, the Duc d'Orleans gave the necessary approval and granted the engineer leave of absence until February 1717 at the latest. As a result, Tigné left Arras towards the end of June and reached Marseilles by the 30th August (33) whence he embarked and arrived in Malta in early September. Following his welcome arrival, Tigné apparently worked rapidly for within a month he submitted a report in which he stated that during his absence, his deputy Mondion had succeeded in converting the Floriana landfront into one of the most beautiful and respected in the whole of Europe. Tigné also mentioned in his report that the designs of the magnificent triumphal arch now known in its modified form as the Porte des Bombes had already been drawn up under Mondion's direct supervision.

Tigné remained in Malta upto May 1717 for in a letter (34) dated 15th May, Des Mesmes informed the Grand Master that Dasfeld had agreed to extend Tigne's stay by three months. Before he departed for France, the Order presented him with a cheque of 4000 lire and, perhaps more useful for him, several letters of recommendation not only for the Regent but also for Dasfeld and his immediate superiors in the engineering corps. (35) During Tigne's absence, Mondion once more took over the responsibilities of head of the French mission. Apart from continuing the works specified in his Superior's Discours of 1715, the engineer's main tasks between 1717 and 1722 included a planned extension of Bormola (1718) and the supervision of the rapid build-up of coastal defences. It is significant that in 1722, the year of accession of Grand Master Vilhena, Mondion had for his good services been received as a 'Cavaliere di Grazia' and was still active on the new fortification works as in a letter (36) sent to the new Grand Master, Ambassador Des Mesmes recommended the engineer to Vilhena for 'attaching himself to the Order with all possible disinterest and sacrificing twenty years of service in France which he gave entirely to the Order ... for this reason having left his family and renounced the bright future that the post of engineer promises'. It is therefore not sur-

32. A.O.M. 1301 p.145

33. A.O.M. 1218 p211-2

34. A.O.M. 1218 p.812

35. A.O.M. 267 p.10

36. A.O.M. 1219 p.401



prising that Mondion was well received by Vilhena on the latter's accession to the magistracy; in fact, Vilhena's opinion of the Parisian engineer was so high that Tigne's third visit to Malta in May 1723 seemed more of a formality rather than a necessity. It is interesting to find in one document (37) that on his third voyage, Tigné together with the Duc du-Maine, the Commander of Comenge and a mines engineer, travelled by way of Italy so as to avoid a quarantine at Marseilles which was imposed following a serious plague outbreak — the prime objective of the team's short visit was apparently to advise on the building of very necessary powder magazines and armament depôts in view of a fresh Turkish scare.

Vilhena's opinion of Mondion is understandable when one considers that this engineer's contribution to the Malta scene during the principate of the great Grand Master was vast and involved works of both a military and non-military nature. Between 1722 and 1726, the engineer's main fields of activity included not only the improvement of the harbour fortifications but also the design and construction of Fort Manoel, (38) the design and building of the Calcara Magazines in Floriana (39) and the virtual rebuilding of the Old City of Mdina (40) which was still in a ruinous state despite Blondel's visit in 1693. Of these four spheres of activity, the most important were undoubtedly Fort Manoel and Mdina — the first an entirely new low-lying structure for which Mondion adopted systematic Vaubanesque principles of rampart and outworks design, the second an infinitely more challenging exercise in military architecture, town planning and architectural design carefully interacting with one another in an extremely limited space to create a unique amalgam of baroque and late Medieval character. Between Mondion's various works, there were certain obvious affinities — to quote one example, the giant pilasters and elliptical arches of the Calcara Magazines and the Fort Manoel barracks reappear in a more sophisticated garb in the engineer's Magisterial palace forecourt at Mdina. Likewise, the robust design of the Main Gate of Fort Manoel can be matched with the more cubic but equally powerful design of the engineer's Main gate for Mdina, with his imposing earlier design for Porte des Bombes at Floriana and, more generically, with Vauban's famous gateways at Lille of which the Porte de Tournai and the Porte de Paris stand out as the finest examples. On the level of town planning, Fort Manoel's manifestation of an elevated parade ground surrounded on three sides by massive buildings is also on a miniature scale reproduced in the main entrance area of Mdina and on an amplified scale in Mondion's design for a new fortress in Gozo on which he had been working in the 1720's. It is rather unfortunate that, despite

37. Mdina Cathedral Library Ms.176 p.866-7

38. A.O.M. 267 p.223 and 1484, no pagination

39. Plans kept in Valletta Main Library Collection

40. A.O.M. 267 p.161v and Mdina Cathedral Library Ms60 p.23-4

approval by Vilhena, this new fortress on the site of the later Fort Chambray (1749) was not immediately executed despite the fact that Mondion had completed the designs by the 26th October 1722 and that the drawings had been sent over to the Pope in Rome for financial aid. (41) It is significant that the drawings were accompanied by a covering letter written by the Grand Master in which the architect of the proposed fortress, Mondion is described as a person 'who merits all esteem for his singular virtues and unparalleled experience in these matters'. As things turned out, all that Mondion succeeded in accomplishing in Gozo was the town hall and hospital of St. John the Baptist in the suburb of the old fortified citadel in the centre of the Island. (42)

On his accession to the Grand Mastership in 1722, Vilhena had decided to strengthen the resistance of the existing coastal defences by constructing new redoubts and entrenchments on the lines laid down by the French mission of 1715. The final form of the coastal defences of Malta (43) is shown in Vertot's 'Carte des Isles de Malte, du Goze et du Cuming avec la position des batteries et des redoutes faites pour la defence de la coste (1724). Following Tigne's departure in 1723, the thorny problem of the defence of the coast was placed in Mondion's hands, despite the engineer's doubts as to the feasibility of defending a coastline in view of the limited available manpower. As a consequence a number of entrenchments were constructed to protect the open beaches of Marsalforn, Ramla, St. Paul's Bay and Benghisa (1722-24) and at least three points in Gozo were strengthened by means of redoubts (Marsalforn, Ramla and Qala). In the case of Malta, there is evidence (44) to prove that Mondion seems to have favoured a strategy of abandoning the relatively exposed and uninhabited Northern coasts and instead concentrating the defence on the geological feature known as the Great Fault, thus anticipating later British strategy in the 19th century. As a result of Mondion's opinion, work was in 1723 started simultaneously at three crucial points — Naxxar Gap, Falca Gap and Bingemma Gap — but in view of the vastness of the proposed works Mondion's fortifications in the area of the Great Fault remained very imperfect.

Mondion's death on Christmas day 1733 at the young age of fifty (45) and his subsequent burial in the crypt of Fort Manoel Chapel, deprived the Order of a capable engineer who had, if anything, manifested the excellent quality of contemporary French professionalism at a crucial time in Maltese history. Since 1645, the contribution of French engineers in Malta had been considerable and it is largely through their continued presence that the Order managed

41. A.O.M. 1484, no pagination

42. Libr. 384, no pagination

43. Vertot, R; Histoire des Chevaliers Hospitaliers de St Jean de Jerusalem, Paris 1726.

44. A.O.M. 1032 p.18-27

45. A.O.M. 1948 p.75 and Libr. 386, 390

to maintain an otherwise unmanageable extent of fortifications in the absence of a proper regular engineering corps. Due to their position on the continent at a time when Louis XIV of France was obsessed with the idea of fortifying and refortifying his vulnerable frontiers, their comings and goings had taxed to the full the diplomatic skills of the Order's Ambassadors in Paris, and Vauban's one time complaint about the scarcity of competent engineers in the French army, spotlighted at the siege of Luxembourg in 1684, certainly did not make matters any simpler. As things turned out however, it is indeed fortunate that Malta greatly benefited from De Tigne's mission of 1715 as it was immediately pushed into the forefront of continental military architecture becoming a model of a highly fortified nucleus situated in a zone which by contemporary standards was isolated and cut off from the mainstream of events which were at the time shaking the absolutist baroque courts of Central and Western Europe.