Unlike other cities Valletta did not start off as a small urban, quasi rural settlement to grow bigger and more important in time. It came straight off the 'drawing boards' of three men, one a young military engineer, the second a local architect and the third the leader of a group of knights. The final project was probably the result not so much of their combined thinking as that of their, at times, complete disagreement on matters which the professional engineer or architect is familiar with when dealing with a 'client' who knows exactly what he wants and how to get it. An understanding of the many different problems that this group had to contend with can be arrived at only by appreciating what was the general thinking on defences as shared by the different military engineers of the time, what exactly was the image of the Order at the time when in 1530 it took over the islands of Malta and Gozo, and for obvious reasons what the site of Valletta looked like before it became Valletta.

In so far as the military engineers were concerned, their thinking was based on the obvious and natural result of what had been happening during the previous sixty to seventy years when, as a consequence of the introduction of the bronze cannon at the very end of the fifteenth century, (Charles VIII's invasion of Italy to gain possession of Naples) the idea of high towers lying at irregular intervals from each other simply linked by the walls which surrounded them to form the so called 'fort' was given up in preference for anything which could stand up more effectively to the smashing effect of the cannon ball.

This new breed of military engineers qualified also as respectable architects, painters, sculptors, and in some instances also as mechanical engineers having in its time designed and created new forms of weapons. The Italian military engineer although late in appreciating the advancements in aggressive and defensive warfare through the innovation of new and more efficient types of fighting equipment, was nevertheless very quick in finding 'solutions' to the structural aspects, and this most of the time as a result of a personal participation in defensive and aggressive warfare without which he would not have been able to appreciate the importance of even the minutest detail affecting the design of fortifications. In this way he was able to identify the weak spots in his enemy's defences and the problems a defending garrison was expected to contend with.

Kings, dukes and Popes looked for this type of military engineer for the
execution of their various projects for new fortresses and fortified centres. At their level they could afford the best. At his level, the military engineer to survive could not afford to offer less than his best. To make one mistake was fatal. To be weak and to allow others to influence you too much because of their position was dangerous but had sometimes to be resorted to keep an important client happy.

A lesson learnt was that the fort had to be considered not just as a defensive unit to resist the assault of the enemy but also as a structure adequate to provide an offensive form of defence from which a counter-attack could be launched. Any attempt at “aggressive defence” required the defending body to be able to move out not necessarily just to attack, but also to provide a first line of defence as could happen by posting troops on the outer side of the surrounding ditch, screened behind a protective low wall (covert way) access to which required some form of passage from the main front either by way of a bridge or via the ditch itself, which for this purpose was kept dry as a ditch and not full of water as a moat. The thickened walls were to serve as platforms for the gun, with more guns positioned in the casemates (case mate) which took up the space between the flank of the bastion and the curtain wall line. Thus the whole of the enceinte (the walls forming the external line of the fort) served to protect the centre of the fort itself, the outlines of such walls (or trace) usually following some geometrical pattern affected as little as possible by the physical properties of the ground on which it was erected.

We now come to the so-called “client”, in our case the Order of St. John. Pushed out of Rhodes in 1522 and for a number of years uncertain of its future, of the allegiance of some of its own members to the Grand Master and of its very raison d’etre, it was in 1523 offered by Charles V the option of looking at Malta as its possible future seat with Tripoli thrown in for good measure. During the beginning of the following year, 1535, Birgu and St. Angelo was in any case no other really serious offer to look at! The prospects were not terribly exciting. The island was short of water, animal life, forests (and hence timber). Local produce could help to feed the island for only four months of the year and all supplies and provisions could only be obtained from Sicily and beyond.

When the Order however did take over in 1530 it realized that to develop the peninsula was more than it could afford to do and in any case it was not that sure that it really wanted to make of Malta its permanent home. Birgu became the new headquarters of the Order and St. Angelo the seat of its Grandmaster. Steps were taken to repair the old fort situated at the top of the peninsula (Piccino 1532) (2) but no works were in fact taken in hand due to the death on 21 August 1834 of Grand Master de l’Isle Adam. During the following year, 1535, Birgu and St. Angelo requiring to be seen to, Antonio Ferramolinio from Bergamo was brought in to advise. (3)

Referred to as “una delle piu belle personalitù di ingegnere e di soldato”, Ferramolinio did not submit any concrete proposals regarding the points discussed with the Grand Master during his first visit to Malta in 1525. When he came back in the beginning of 1541 his brief had not changed. He was still to advise on how best to improve the defenses of St. Angelo and of Birgu in connection with which... dissi chiaramente al Gran Maestro che no l’uno ne l’altro luogo era atto a potersi mai fortificare si che difendere si potesse.... era in ogni modo necessario di fare una buona fortezza nel monte di Sant’Elmo, che sta posto fra li due Parti; per essere quel sito dal mare e da altre rupi circondato; non molto sottoposto a batterie, e contro quelle poterti molto bene e con l’arte delle fortificazioni riparare e difendere. (4)

This appears to be the first instance when a reputable military engineer (... un pratico engegner molto giudicioso e sperimentato) proposes the erection of a city on Sceberras basing his argument on the topographical properties of the site. Its peninsular shape, and the sheer drop to the sea of sections of its long sides were in the mind of Ferramolinio enough justification for thinking in the terms he did.

The Grand Master was in no position however to even consider Ferramolinio’s suggestion. The necessary funds were not available and the constant fear of raids by the Turks did not permit him to look at any proposal which required months of planning and years to complete. In any case the whole would have cost too much and after twelve years of residence on the island, the Order could not very well just go back to the Christian princes for more money and other forms of financial support.

With the exception of the Grand Master and a few other knights, most of...
the members of the Order were beginning to have serious doubts about the extent to which the island could resist a Turkish attack. They generally felt that unless a stronger fort were developed on Sciberras, their future in Malta lay in jeopardy. The island as a whole was arid and short of almost everything. Its very size excluded any possible future expansion and the fact that it was surrounded by sea on all sides required the Order to rely entirely on a fleet the manoeuvrability of which was at the best of times restricted.

In 1551 a small Turkish force landed in Malta. The operation was not in itself a great success but, on the way out, the same Turkish force landed in Gozo where the defenders soon capitulated with a loss of about five thousand inhabitants who were taken away as slaves. After Gozo, the Turks captured Tripoli, with the consequent result that the weakness of the Order's defensive systems became more than just a suspicion in the mind of some of its members. The Pope himself, Julius III, suggested an immediate withdrawal to Sicily (Syracuse or Messina) leaving in Malta only a token force ready to face the big invasion which now everybody expected. These ups and downs lasted up to 1552 when Fra Leone Strozzi (5), brought in to advise, in a very clear exposition convinced, at least the majority of the members, that the time had come to decide once and for all on one way or the other. His way was that the Order should remain in Malta. The Grand Master and his Council took his advice and on 8 January 1552 decreed that every effort should be made to improve the fortifications.

The Council invited the Grand Ball of Germany, Fra Giorgio Bombast (... un uomo di gran intelletto, e valore) Fra Luis de Lastie (lungamente nel него esercito e tenuto in grande reputazione e stima nella milita Francese) and Fra Leone Strozzi, Prior of Capua, to consult with Pietro Pardo (6), a military engineer, whom the Viceroy of Sicily, Don Juan de Vega, had agreed to "lend" to the Order and whose reputation in Sicily had been well established as the worthy successor of Antonio Ferramolino in the service of the Viceroy. The four persons involved discussed matters at length and Strozzi's views and suggestions were in the end adopted. These generally conformed in an acceptance of the fact that to fortify the whole of the Sciberras peninsula (as most members of the Council would have opted for) was both too expensive and time consuming and that as, an alternative, two new forts should be designed and erected, the first on the tip of Sciberras to prevent the enemy from making use of the harbour of Marsamxett (since in that case it would have been very difficult to push him out again) and the second on St. Julian's Hill (now Senglea) to protect Birgu which, they all agreed, needed to be strengthened further. The fort on Sciberras, however, was to take precedence over the one on St. Julian's Hill. This advice in all its details was submitted to the Grand Master whose first reaction was to point out that no project should be started which could not be completed within a reasonably short period of time.

Within six months most of the structure was ready. That St. Elmo was not the work of an outstanding military engineer was borne out by the end result. The long and narrow arms were not adequate to provide the kind of defence lines and platforms that military design practice of the day had come to except. The quality of workmanship left much to be desired, whilst the thickness of the walls themselves was certainly not adequate to stand the impact of "modern" artillery. Within a year or two, in 1554, a triangular cavalier was added on the north side (sea side) and just before 1563 a ravelin raised on the Marsamxett side, this as proved during the siege itself, to an excessive height.

Pardo, and probably to a greater extent Strozzi, must have felt that they had not been allowed enough time within which to bring to completion a better form of fortress and it was not before 1557 that the whole matter of defence was again taken up more seriously.

Jean de la Vallette elected Grand Master in succession to Claude de la Sengle had a much more determined way of solving what was becoming a very serious problem resulting from the restricted shape and size of Birgu and of Senglea itself which his predecessor had given life to, both of which were in any case difficult to defend in the event of an enemy attack.

"Il primo disegno, e pensiero, che ebbe il Gran Maestro Valletta circa alle cose attinenti al pubblico beneficio, fu di fabbricare la nuova Città sopra il Monte di Sant'Elmo; conoscendo egli, che tutte l'altre Fortezze di Malta erano deboli, e a batterie troppo sottoposte. Onde quasi ogni giorno lo se passava a considerare, a riconoscere e a misurare quel sito, dando ordine che al servizio suo condotto fosse Antonio Quisani, Ingegnere eccellentissimo da Montalcino."

By late 1557 however the threat of a Turkish invasion put a stop to this visit and it was not before the following year that the situation having eased, the Duke of Urbino offered the services of Bartolomeo Genga in lieu of those of Quisani.

Genga's proposals, in the form of a model accompanied by drawings were, in a fairly short period of time, submitted to the Grand Master for his consideration and a copy of the drawings sent also to the Duke of Urbino. The new town would cover the whole of the peninsula. In Bostio's own words

3. Fra Leone Strozzi (1331-1334) son of Filippo Strozzi. His first came to Malta in 1335 as Prior of Capua. In 1356 he was appointed Captain of the Order's galleons.

6. Roger Vella Buonavita, former lecturer in the Department of History of the University of Malta suggests that Pardo's full name was Pedro Pardo d' Andraia. He was a Spanish military engineer of great reputation.
... abbracciando grande spatio, e circuito, voleva fare la fronte di detta Città più verso la Marsa sopra quel rilievo, e eminenza, che sta a dirimpetto del Monte Corradino; con fine e intenzione che da Cavaliere di detta fronte con 'artiglieria si potesse coprire, a difendere l'acqua della Fontana della Marsa sopradetta; e prohibìra a' Nemici'.

The scheme appealed to the Grand Master who then submitted Genga's model to the consideration of the Council, supporting his arguments for its acceptance by a reference to the funds which had become available for the execution of the project through "... il ricco spoglio, che'l Gran Mastro La Sengle lascato averita" to which was later added the spoglio of Fra Don Diego di Toledo (the father of Don Garcia) and the income deriving from his Priory.

On 17 June 1558, the Order in Council decided to go ahead with the development of Mount Sciberras.

The following month, however, Bartolomeo Genga was dead. A feeling of despondence pervaded over all the members to the extent that doubts about whether Malta should be retained or not were once again expressed. Corsica being mentioned as a possible alternative. The following year this possibility was examined in more detail but then given up due to the apparent obstinacy of the corsicans and the onerous conditions being imposed by the Genoese.

It has been suggested that the Genga scheme might be the one shown on the anonymous drawing engraved in Rome in 1563 'cum gratia erediti' in the Lafervry workshop and bearing the title of Li porti dell'lsola di Malta con la pianta della nostra cittade douse habitteranno quell che stanno hora nel Borgo qui disegnato, the profile of the enceinte corresponding to Bosio's description of the Genga proposals.

The pushing in a south westerly direction of the land front was intended to provide some form of defence to the fresh water spring which existed at Marsa. This could well be so, but in any case the front would not have been near enough to this source of water to be effective. Nor does the "Genga" scheme give any idea of how the whole of the area contained with the proposed line of fortifications would have been developed.

Just over two years after Genga's death, on 18 August 1560, La Vallette writing to the Duke of Urbino with another request for the services of a reputable military engineer was offered the assistance of Baldassare Lanci who arrived in Malta on 18 March 1562, on one of the galleys of the Order after a long and rough crossing, being held on his arrival in Malta in quarantine up to 4 April as a result of a highly contagious disease (plague?) having caused the death of many members of the crew and of some of the passengers.

Baldassare Lanci was the son of Marino Lanci and was born in Urbino in 1510 having been trained in the bottega of Gerolamo Genga, Bartolomeo's father. Like his predecessor, Lanci produced a scheme by way of a wax model in order to explain more clearly his proposals. This showed a much smaller city than Genga had suggested, placed nearer to St. Elmo and with its landward side in line with Senglea point. A more detailed description of Baldassare Lanci's scheme is contained in Francesco Laparelli's notes forming part of his Codex which clearly suggests that Lanci approached the problem in a very practical way, with very clear ideas and, moreover, with the strength of considerable previous experience in the field of military engineering, the whole combined with a deep understanding of environmental problems. Lanci's suggestions covered also improved health conditions, proposals for a street pattern, the actual positioning of the more important buildings round a central main square connected to a ring road on the inner side of the fortifications by way of roads radiating from this central point, the whole developed to produce what he was convinced was going to be a town not only large enough to contain the population of the whole of all the island in case of an emergency, but also strong enough to resist any form of attack.

The limited resources of the Order however did not, once again allow the Grand Master and his Council to proceed with the scheme, and in August Baldassare Lanci left the island to go back to the service of the Duke of Urbino.

By early 1565 Turkish plans for the invasion of Malta were in a very advanced state. On 15 May the Turkish fleet appeared on the horizon. The Siege of Malta, an event in Malta's history well documented and described by various people, produced the one result that the Catholic world expected least. The Turks were defeated, the Order having held out long enough for the Viceroy of Sicily, Don Garcia de Toledo to feel, after apparently long periods of serious doubt, that the exercise of sending a relief force to Malta was safe, justified and called for.

The results were catastrophic. Most of St. Elmo, St. Michael and St. Angelo were destroyed, supplies used up and a considerable number of people killed.

During the final week of November 1565 the Grand Master sent his Ambassadors to visit the various Catholic princes in order to explain the plight in which Malta was then finding itself. The Pope, Pius IV, on being informed of the need to fortify the island by the addition of a considerable number of soldiers by early spring to give support to the labour force which would be required to erect the new fortified city, and on being shown once again the designs and models which had been prepared by Bartolomeo Genga (1558/59) and for the first time those of Baldassare Lanci (1562), immediately made...
known his intention to help in every possible way. As a start he offered immediate financial assistance as well as the services of Francesco Laparelli, who did not, because of foul weather, reach Malta before 28 December 1565, when as Venuti (10) so aptly put it "...tovv'gli egli'ellisona, che quanctunque libera per allora della presenza dei nemici, era ancora in tal timore e con

The Grand Master on the other hand did not feel he could put all wheels in motion before he had received assurances of financial help from his Christian connections and protectors in Spain and in France.

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10. Filippo de Venuti. Vita del Capitano Francesco Laparelli, Livorno 1761, sa repren
duced by the Accademia Etrusca, Cortona 1979.

11. The various reports and notes prepared by Francesco Laparelli are contained in the so-called Codex Laparelli (now in the possession of Count Laparelli Pitti Magi Diligenti).

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Immortalità". No doubts existed in his mind! If he was being categorical it is because he was sure of what he was saying. His enthusiasm almost overrode the need to carry out a detailed survey of the site before committing himself to specific figures ... but then how could he allow this greatest of all his briefs to slip out of his hands as could well happen if he were to give the slightest indication of any doubts in his mind?

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ately realized that the conditions under which the project could be executed could not be easily satisfied unless outside help were obtained. Time was short, funds were shorter, no building materials were available "niente in questo scoglio si trova" Laparelli had reported, and a sufficiently large labour force supplemented by troops was non-existent.

On 3 January the Grand Master delegated Fra Antonio Maldonato to go to the Spanish Court and Fra Guilmelmo de la Fontaine to the French Court to put Malta's case in the clearest terms authorizing them to add if necessary that if no help were forthcoming, the Order would have no alternative but to leave the island which was now in no state to be defended, in which case it would then be the responsibility of the Christian Princes to provide it with an alternative seat. Because of rough weather the ambassadors were not able to leave before 14 January, other members of the Order, amongst whom Fra Johannes Angelus de Nocera, having only five days, before been delegated to engage the services of more mercenaries.

By that time Laparelli, having considered matters in more detail, produced a second report dated 13 January 1566. In this, also addressed to the Grand Master, he referred to his previous statements concerning the labour force and materials required to state that these were not apparently as easily available as he had at first thought.

Time was beginning to run out. This could be compensated for only by an increase in the size of the labour force. "Dove manca il tempo bisogna aumentar di conati e ancora si s'era in questo. The feeling was one of frustration. "Si sono persi già quindici giorni da che si disegnò e non ci sono ne guastatori ne ferramenti..."

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probably prepared by Don Garcia de Toledo, and generally critical of Laparelli's scheme. To this Laparelli replied in detail. On 20 February, the King of Spain sent a second report. This report, to the effect that it seemed more obvious that the only solution was to put an end to all further thinking on the subject of a new town, and, as a result, submit any possible further comments and counter suggestions to the Order for approval. Opinions varied on the size of the new city, some members suggesting that this should extend, as Genga had previously recommended, all the way to Marsa, others querying whether St. Elmo should be incorporated into and be embraced by the proposed new enceinte or not, and so on and so forth.

At this point one wonders whether the members of the Order were doing so to put an end to further thinking on the subject of a new city and, as a consequence, make it seem more obvious that the only solution was after all to leave the island. As Laparelli put it: "... l'animo era di andarsene."

On the 14 March, the Grand Master convened his Council and invited Serbelloni to be present during the discussions which were held on the adoption of a scheme for the new fortified city, at least in so far as its trace was concerned. "... adumando havendo il Gran Maestro il Consiglio; e fatto havendo quivi di nuovo dal Prior Serbellone esporre l'occupazione della venuta sua, per Ordine di Sua Maesta; Fu a quattordici di Marzo (1566) ... con universal voce e parere, risoluto e determinato, che pote si dovesse mano alla fabbrica della nuova Città sopradetta; cominciando a lavorare con l'Opera della Religione, e dell'Isole, intorno alla fronte di detta nuova Città, nel modo che 'l Capitan Francesco Laparelli, disegnato Hayeva."

On that same day Serbelloni left Malta for Sicily to see Don Garcia de Toledo. The "Laparelli" scheme had been officially adopted.

On the 28 March 1566, the Convent met on site for the official laying of the first stone.

On the 2 April Ascanio della Corgna together with Fratino Ingegnere arrived in Malta. As Laparelli had been detailed to carry troops and fresh supplies across from Sicily. The following day Don Garcia accompanied by Chiappino Vitelli and Gabrio Serbelloni, whose mediation had made possible a reconciliation between the Order and the Viceroy, also arrived on the island ostensibly to be present during the official commencement of the works but, more probably, to give one final look at the drawings prepared by Laparelli, a copy of which had in March been sent to Philip II and in connection with which the King had already submitted some criticism based on the comments of his military advisors amongst whom no doubt de la Corgna and Fratino.

During the first day the three different groups discussed the broader aspects of the whole project most probably on the basis of the more fundamental principles of military engineering. On the second day the meeting was held on site when Laparelli explained his proposals not only in more detail but also with reference to particular sections of the site. Whilst all present appeared to be satisfied with the project as presented, Ascanio de la Corgna and Fratino Ingegnere pointed out that in their considered opinion the two proposed lateral bastions along the land side, St. Michael's on the Marsamuxett side and SS Peter and Paul bastion on the Grand Harbour side, should be redesigned and repositioned further back from the shore line especially as the former was too exposed to possible enemy fire from the island in Marsamuxett harbour, the "isolotto", and the latter similarly from the surrounding areas. Furthermore, they added, these two particular bastions were going to be too high and should preferably be sectioned off over two different levels, with a third central bastion provided between the two to complete the land front as distinct from a total of four bastions and three curtains as Laparelli's proposals indicated.

Laparelli's exposition of his case was clear but apparently not very convincing since it was the Grand Master who at one point took up the discussion on his behalf to explain that the four bastions to the position, size and shape indicated were the result of his advice against Laparelli's who had

12. G. Bonas, op.cit., p.79C
13. Ibid., p.741.
in fact originally suggested, until convinced by him to do otherwise, that three
would suffice.

The positioning of the two lateral bastions as near to the shore line as possible would have made it possible for any rubble caused by enemy fire to detach itself from these bastions, to fall into the sea, and not on to the surrounding solid rock which, as a result, would have allowed the attacking forces to obtain a foothold into the bastions. This argument must have convinced all the engineers present including Coraga and Fratino, as well as Fra Guglielmo de la Fontaine who was also present. By the end of the day the scheme had been approved once again in the form originally presented by Laparelli.

During the months that followed the laying of the foundation stone, most of the building works were concentrated on the erection of the land front, with the lateral bastions and curtains being given secondary importance. Laparelli himself, on 28 April 1568, left Malta probably to seek a more rewarding career as a soldier, returning however on 6 December having in the meantime heard that following the death of La Vallette on 21 August, del Monte had taken over the Grand Magistracy. Besides taking over once again the direction of the works, which he had before his departure passed on to Geronimo Cassar, he completed his scheme for the urban development of the new city.

As works progressed, this met with the further criticism of the different so called experts who either just happened to be visiting the island or who were specifically invited to submit their views and recommendations on the works in progress and the relative plans up to that particular moment approved.

Amongst the positive ones, we have an anonymous report dated 1568 criticising the financial aspect and commenting on the time required to complete, admitting however that E natta mirabil cosa il fare essa fortezza.

In 1569 the regulations governing the erection of houses within the walls of the new city was enacted — a clear sign that works on the fortifications were progressing well while in 1571 another discorso by a Cavaliere di Malta proposed some changes and additional works to afford better protection to St. Michael’s Bastion which was entirely exposed (as was in fact one side of St. John’s Bastion) to the “isolotto” (14) from which the enemy could use its guns in the event of another siege. The same applied to the other end of the landward defenses, S. Peter and Paul bastion which was exposed on the Port St. Angelo side. Both these points had in fact been made by Ascagni de la Città di Valletta nuova la quale fortezza di sito e di muro si rende inespugnabile.

This however was not the considered opinion of a number of military engineers and some of the members of the Order, amongst whom a certain Ludovico Cesano who, on 27 January 1576, submitted verbally his own views to the Grand Master, later confirming these in writing by a document dated 10 February 1576 (15). Apparently the recommendations made by other military engineers to strengthen the weaker side of the land front, that is St. Michael’s lateral bastion, and the exposed side of St. John’s bastion had not been taken very seriously, and once again the point was being brought up as the following free translation of his report clearly indicates:

I, Ludovico, having today 27 January 1576 ascertained the need to increase the height of the wall on the outer side of that section of the ditch running on the side which overlooks Marsamxettu in order that this wall may protect the side of St. John’s bastion from the isolotto; having determined that to protect this side from the highest point of the isolotto, this wall should rise above the level of the rock existing at the tip of St. Michael’s bastion a total of twenty three courses of stone each stone being of a height of ... un palmo e mezzo and hence to a total height of thirty four and a half palmi (about nine metres) failing which I would suggest that not only would the side of St. John’s bastion remain uncovered but the following additional faults would become more apparent:

1. Soldiers standing in that section of the ditch running between St. Michael’s...
and St. John's bastions would be exposed to enemy fire from the isoloito.

2. Soldiers on day sorties using the sally port on the side of St. John's bastion would be similarly exposed.

3. Soldiers seeking to reach the covert ways over the counterscarps by means of timber ladders will not be able to do so as these would be easily destroyed by enemy fire.

4. Soldiers using the covert way in front of St. Michael's bastion would be exposed to enemy fire from the isoloito. This and the counterscarp should be properly formed otherwise it would not be possible for the soldiers to reach the areas beyond the covert ways as they should be able to do in order to attack the enemy's trenches ... cosa che il difensori di una fortaleza devono fare per difendersi. This is particularly important since facing St. John's bastion is a large valley only in part exposed to artillery fire from a number of guns along the bastion wall ... le quali io nomico le potrà facilmente in due giorni levare con grandissimo danno dell difensori di questa fortaleza.

The defenders would not be able to dislocate the enemy which from the very first day would have found it possible to reach the ditch without exposing himself to any extent.

The contents of the Ludovico Cesano document were apparently immediately referred to the engineer(s) of the Order for their comments who in turn sought Geronimo Cassar's views on the various points raised. Cassar's report in the form of what he himself called a "Ragionamento sopra la fortezza della città nuova dell'Isola di Malta, et di alcune occorrenze tra i molti Illmi et Revmi Commissarii sopra cio' deputati mi hanno comandato che io inntorno alla detta fabbrica dovessi dire il mio parere" (16).

Ludovico Cesano must have been on the island for long enough to have already taken in hand certain alterations to some sections of the fortifications. Cassar states that Ludovico ... ha cominciato a riformare essi parapetti di cavaleri a mezza rota et data principio ... which would suggest that although he himself was no longer at that time also filling the role of military engineer (as the successor of Laparelli) he was nevertheless, although busy on the urban development of the new city, still considered experienced enough in military matters as to be looked upon as a reliable advisor on the subject. In his report he does not limit himself solely to the points raised by Cesano in his document of 10 February 1576 but covers also many other points considered by him to be relevant to the defences of the new city. He starts off by indicating the size of the ditch along the land front as having already been increased in width from seven canes (14m) to a total of ten canes (20m) suggesting that some changes should be carried out to the counterscarp running in front of St. John's and St. Andrew's bastions as indicated on a drawing to which he makes reference. He then refers to the depth reached into the rock to form the ditch varying at that moment from four and a half canes to five, and to St. Michael's bastion which has already been partly shaped out of a cut of seven canes into the rock with another seven canes of built up walling added above this to a resulting height of fourteen canes, whilst St. John's bastion, lying on higher ground, is only nine canes high and St. James seven and a half canes. The bastion of SS. Peter and Paul he adds, because of the sudden drop in the lie of the land has had to be spread over two levels at a difference of eight canes from each other and this in order to do without the need for very high retaining walls. All curtain walls along the land front are six canes high and are shaped entirely out of the natural rock. Most of the ditches, he suggests, should be cut deeper by a further three canes. He does not agree with Ludovico Cesano's recommendation that the lower sections of the lateral bastions (spread as they are over two levels) should be increased in height, as the ditch at these two ends, he points out, is already deeper due to a drop in the natural contours and any increase in their height would reduce the differences in the split levels of these bastions to only about three canes. At this point he refers to Ludovico's original suggestion that the height of the covert ways on the landward side of the ditch should be raised to that of the cordone (rounded moulting) of the bastions of St. John and of St. Michael, and to his earlier suggestions that these need not after all be increased in height once a wall on the Marsamuxett side of the ditch running parallel to St. Michael's bastion was being erected to a thickness of seven and one half canes and to a height as would protect the side of St. John's bastion from enemy fire from the isoloito, this wall ostensibly serving also to protect the soldiers in the covert way overlooking any possible massing of troops (up to two thousand) in the valley facing the western top of the land front. The Commission, he states, had asked him to comment on this particular aspect of the works which were at that moment being carried out under the supervision of Signor Ludovico. The wall under construction, he suggests, was lying along a section of the site which sloped steeply towards the sea and on which the enemy could amass a large number of troops without any danger of being discovered. Because of this, the wall would in his opinion have to be at least seven and a half canes high requiring a considerable amount of material and expenditure and time to complete with
no assurance that it could not be overtaken by the enemy who from a distance of just one hundred canes could easily attack the side of St. John’s bastion.

He accepts that no changes can be effected to the outline of the counter-scarp and of the covert way above it as these had already been shaped out of the rock, but he recommends that any loose material spread beyond these points (over the present glacis) should be removed in order that the enemy may not find it possible to seek cover in trenches that he would otherwise be able to dig into the ground.

The parapets over the frontal bastions which were thirty-six palmi thick and seven palmi high, with a banquette behind them were adequate for the protection of the flanks whilst the gun-emplacements on the front part of each bastion were so placed as to cover adequately the open ground beyond the ditch.

The central curtain was provided with large embrasures to accommodate not only eight guns in order to repulse the enemy by the use of heavy artillery but also to allow enough space for the defending troops to fire individually on the attacking force.

Signor Ludovico’s suggestion that all curtain-walls and parapets should be reduced in height was not, in Geronimo Cassar’s opinion acceptable especially in so far as the central curtain was concerned where in any case it was highly improbable that the enemy would attack. More important in his opinion were the further strengthening of all the bastions and the provision of additional accommodation for the troops. St. John’s and St. James Cavaliers should, he suggested, be enlarged and raised by at least another two canes to make it easier to overlook some of the ground beyond the ditch. Having increased their height, they should be provided with adequate platforms to take three guns placed at the outer corner with the parapets on the flanks raised to a sufficient height as to make it possible for the defenders to cover the curtains and the ditch. In the meantime the works being carried out by Signor Ludovico not having been approved by the military commander...e tutti i bombardieri, due to a possible resulting unnecessary exposure to the enemy, as a result of incorrect parapet heights being adopted, were no longer being proceeded with and Ludovico’s scheme was being abandoned.

Cassar concludes by referring generally to the other walls surrounding the city, in parts completed and in others still requiring the cordone (and hence also the parapets) to be put up and the necessary fill to be provided and finally suggests a major addition to the whole scheme: La parte verso la fortezza di Sant Elmo sono di pari che si dica un serramento di muraglia conforme al disegno di color toscano, acciocché il massetto della fortezza non venga a restare fuori e non ci sia medestimamente tanta gran piazza fuori della fortezza di Malta.

Geronimo Cassar’s parere was not apparently intended as a critical analysis of what others had been doing so much as a gesture of willingness on his part to participate in the successful completion of an exercise he was not fully and solely in charge of.

Obviously the peripheral walls had not yet been extended to tie into St. Elmo. Both Ludovico Cesano and Cassar, as already indicated by two other “anonymous” members of the Order well versed in military engineering, were in agreement that St. Michael’s bastion was the weak spot along the length of the encinte. Surprising is the fact that neither of them suggested, or referred to any earlier recommendation, that a fort should be erected also on the isolotto as was eventually done, during the first half of the eighteenth century.

Soon after all this, the Marchese di Santa Croce who, on 4 June of that same year (1576) had visited Malta at the head of a fleet of thirty-one war ships, ...avendo riconosciuto nel tempo che qui alcuni difetti nelle nuove fortificazioni, per mostrare l'affetto che portava a questa Religione, mandò con altre due galere il Capitano Scipione Campi. Ingegnere di stima appresso le Nationi Spagnola e Italiana, il quale esaminate ocularmente le nuove e le vecchie fortificazioni, ne formò disegni e discorsi, che lasciò al Gran Maestro, perchè con più maturità potessero essere considerati.” (17)

Scipione Campi was already familiar with at least some of the local problems having visited Malta soon after the siege when the Laparelli proposals had been analysed by all, criticised by Ascanio della Corgna and Fratino Ingegnere, and finally approved by the persons present at the meetings held on the third and fourth of February 1566 on the site of the proposed new city. His report, dated 17 July 1577 is in general agreement with Geronimo’s Cassar’s recommendations and can be summarized as follows:-

a. the flanks of the bastions were too exposed and hence the orecchioni should be extended
b. the caremats were not deep enough to render the handling of artillery possible and their parapets should be rebuilt to allow more space and to be stronger
c. St. Michael’s bastion was too weak and too exposed to the isolotto
d. the ditch was too shallow and narrow and the covert ways should be cut off the solid rock
e. the parapets along the bastions and curtain walls were too low and so were the cavaliers which should be raised by seven metres with parapets three palmi high
f. the open ground between the cavaliers should be cut down and filled as necessary to provide a level site
g. the undeveloped area of land between St. Elmo and the new buildings

17 Dal Pozzo, Istoria della Sacra Religione di Malta, Verona 1703, Parte Prima, p.119 et.
should be provided with countermasts at a distance of three metres from each other
h. the mean entrance into Valletta (St. George's Gate) should be more adequately protected
j. no facilities existed on either side of the peninsula for the safe berthing of boats should supplies require to be brought in
k. better and easier access should be provided between curtain walls and covert ways

Scipione Campi finally suggested that all these works should be carried out in consultation with Maestro Geronimo Cassar, persona di molta intelligenza e pratico with whom Campi must have discussed the whole matter adding as a final note that Tutto che si è detto sia detto sotto correzione di più pratici e giudiciosi in Malta.

A reference to this report is contained in the so called Libro delle Case di Malta put together by Mons. Ludovico de Torres, Archbishop of Monreale (Sicily) who visited Malta on two occasions, the first time on 5 February 1578 to consecrate the new Conventual Church of St. John the Baptist and again on 1 August 1579 to sort out the various differences which had arisen between the Grand Master and the local bishop Fra Tommaso Gar-gallo. The book is divided into two sections, where the first contains what appears to be a transcript of a 1566 report attributed to Don Garcia de Toledo, the Viceroy of Sicily, on the subject of the Siege of Malta while the second refers to the Campi report to which are added the views of Torres himself, a self-appointed military engineer obviously very keen on ensuring the defence of Malta against the Turkish menace. His principal contribution to the subject was to suggest that the ditch should be dug to below sea level in order thus to isolate the city completely from those other areas which were full of rubble and which could be used to fill the ditch if this were dry, a suggestion which Laparelli certainly would not have agreed with.

No records exist to suggest that Geronimo Cassar retained a continuing interest in the design of the fortifications of Valletta beyond this point. The major part of his efforts were, even at the time of the Cesano controversy, dedicated to the urban development of the new city rather than to the supervision of the construction of the walls surrounding it. He would appear to have died in the 1592 as can be gathered from the contents of a letter which his wife Mattia addressed to the Grand Master in 1597. In the years that followed Valletta's fortifications were added to both on the St. Elmo and as well as along the immediate land front where countermasts and other strong points were erected. During the early seventeenth century an outer line of defence was introduced (with its encompassing area later to be occupied by the new suburb of Floriana) all in preparation of an invasion which never materialized.
di Valersi in cosa alcuna.

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con la scarpa di rocca, acrid che sia tutta a vista, et la detta Le pittoma di Stio, Andrea vorra essere la sua spalla da canne 12 in fabrica cosl di pietre grassissime sia accid che il nemico non abbia comoditft circa canne sette, et che detta scarpa de fabrica vada in pendino a giustarsi et che vada verso lo spalto della fortezza finendo a scarpa la larghezza da altezza, et che la detta fabbrica sia di pietre grossissime ben legati insieme, vista dell'artiglieria, et dell'archibugeria, et alia punta di detto fosso di San gobbi di rocca che impediscono la difesa degli belguardi accid sia tutta a attomo l'argini del fosso di San Michele dato principio di scarpare tutti quelli canne 6 e acrid che venghi detta profondità ad essere canne otto, et ... attorno, detta fabrica.

dal nemico dove haveva da far il suo finimento il sito, è moltodeclinaibile essendo fatto a scarpa dalla natura sino a mare dove la detta macchina veniva ad essere senza difesa da nessuna parte, et poi il nemico al primo giorno si haverèbbe potuto cacciare sotto, giacché come è detto non poteva ricevere offesa nessuna, et anche l'altezza per fare il sudetto effetto bisognava che fosse stata alta da circa canne sette e mezza, cioè dalla parte dove fu principiata, et ancora vi sarà stato necessario gran materia grossa spesa, et lungo tempo a finirla, et in breve poi verria aversense racquistata dal nemico, da dove facilmente poteva venire con artiglieria a battere il fianco di San Giovanni per la vicinità di non più di canne 100 et dall'Isolotto sono da circa canne 480 et detta altezza di macchina verso il fianco di Santo Andrea viene a superarlo da circa canne cinque, per le quali ragioni da me assegnati detti molto llimi. et Rev.mi. commissari sopracid deputati mi hanno comandato che io intorno alla detta fabrica dovesi dire il mio parere, però ho detto che per la grossezza della detta muraglia dove haveva da far il suo

In quanto poi a quel che intorno a ciò a me pareva et pari, et ancho dato comandato che io intorno alla detta fabrica dovessi dire il mio parere, perd mi pare che non si doveriano muovere, ma che non la comodità del ... si potrebbero levare alcune materie che sono attorno a detti argini accid non sia comodità al nemico di far le sue trincerie, et di riempirle ... il fosso.

Il parapetto detti belguardi della fronte già sono quasi finiti e la grossezza loro di palmi 36 in circa, e l'altezza di palmi 7 con la banchetta di dentro, acciochè la archibugiera possa affacciarsi a difendere li spalti dell'uno belguardo all' altro. Et nelle fronti di belguardi sono lasciati alcuni cannonieri, acciochè battono per franco li spalti della fortezza perché son bassi per la dependenza del sito, accid il restante dei parapetti sia gagliando a poter resistere alla furia della batteria nemica.

La cortina della fronte sono fatti 8 cannonieri con li merloni loro grossissimi, accio chè in un bisogno si possa far contra-batteria al nemico con artiglieria grossa, e li detti merloni sono accommodatingi di ... che larchibugiere può fare l'effetto suo copertamente. Il Signor Ludovico suddetto è stato sempre di parere di abbassare tutte le cortine et parapeti, ovvero di alzare le pazzes de baluardi, accio chè detti parapetti siano a mezza rota che s'intende a barba di cannone.

A questo gli fu risposto che per il poco a vantaggio che tiene la porta della città con la parte dove il nemico può piantare la sua artiglieria, non si doveva innovare cosa alcuna perché verebbe la gente et l'artiglieria ad essere scoperta dal nemico. Ma io sono stato et sono di parere che li belguardi bisogni che siano accommodati di sorte che possano stare le genti securi per poter resistere alli terribili assalti del nemico e non a barbari cannoni.
Li due cavalieri, cioè quello di San Giovanni e quello di San Giacomo io sono di parere che si debbano accrescere li sue piazza verso la città et alzarli da canne due in circa, acciò possano scoprire alcuni bassi che sono fuori della fortezza dove li belguardi interamente non li possono scoprire; et ... sono accomodati con i loro parapetti e platoforne per l'artiglieria di pietre larghe, et a mezzo di ciascuna fronte di detti cavalieri si è il parapetto a barba, dove si può ... tre pezzi d'artiglieria per fronte per battere la campagna.

Negli angoli poi di detti cavaglieri vi sono certe altezze nellli parapetti, dove quando il nemico avera armato la sua batteria, si potrà stare la gente et l'artiglieria sicura dietro delle dette altezze, et sempre in fav...t. per il disegno. Et il Signor Ludovico ha cominciato a riformare essi parapetti a mezza rota et dato principio; perd essendo il commandante dell'artiglieria et tutti i bombardieri sopra il luogo, hanno veduto che tanto l'artiglieria quanto la gente veniva apertissimamente ad essere offesa dal nemico, per il che adesso essendoli tolto non ha modo di accasarli Onde per il Consiglio Compilato fu fatto decreto che tutti quelli che haveranno terreni dal detto Ill...simo Cardinale fossero di ipso facto spogliati del possesso di detti terreni. Et perché l'esponente si ritrova doppo la detta Concessione confermata dal Capitolo Generale perciò non si poteva molestare ne si pao dal suo pos...sesso di anni 13 per tal (caso) sentendosi agravata recorse ai Piedi di Nostro Signore Clemente (al) quale espone quanto di sopra si disse, li Confemrò per Breve apostolico detti sei salmati di terreno Ordinando a Vostra Signoria Ill...strissima per detto breve che sia mantenuta detta oratrice in possessione delle dette terreni Et ad effetto che li brevi apostolici habbiano la dovuta esecuzione ha presentato detto breve a Vostra Signoria Illus...rissima che debbia ordinare che detta de Cassar sia manténuta nella sua possessione et aeffetto che li brevi apostolici habbiano la dovuta esecuzione ha presentato detto breve a Vostra Signoria Illustrissima che debbia ordinare che detta de Cassar sia manténuta nella sua possessione acclioche le quali possa manté... dei suoi doi figliolini per il che pregherft Nostra Signora Iddio per la longa vita et felice stato di V.S. Illma et R.ma et ita supplicat ut altissimus...
Plate 12

Detail of a 1566 engraving by Domenico Zanoni showing the Grand Master and Knights inspecting works on the fortifications of Valletta (See pp. 73-95)

Plate 13

a. Aerial view of the Valletta land front (See pp. 73-95)

b. The Valletta ditch, Detail (See pp. 73-95)