

Contents

Editorial	2
Richard Clampe, Fortress Engineer, c1617-1696	3
David Flintham	
Two Second World War Heavy Anti-Aircraft Batteries near Hull, East Yorkshire, England	15
Ed Dennison and Shaun Richardson	
Identification of British coastal defence ordnance on disappearing carriages in China.	64
Piotr Kurzawa	
Gurkha Stockade-type Artillery Fortifications in Southern Himachal Pradesh, India	82
Neil Howard	
German Fortified Railway Bridges: A General View	94
Volker Mende	
The Fortifications of Palamidi, Nauplion, Greece.	119
E. Paul Beckmann	
The road that went around a Boulevard and turned into a Bastion	140
John Tomkinson	
Book reviews	146

Book reviews

La fondazione di Carlentini nella Sicilia di Juan de Vega

Nicola Aricò

Leo S. Olschki (Florence, 2016) pp., xii-280, 37 fig., & 16 colour ill. [ISBN 978 88 222 6351 3] €33.

Leo S. Olschki, PO Box 66, 50123 Florence, Italy.
Email <orders@Olschki.it>

Professor Aricò has produced a very interesting, superbly researched and detailed study of the planning and building of the new city of Carlentini in South East Sicily in the mid sixteenth century. Historians interested in mid-sixteenth century military history and the struggle for power between Spain and the Ottoman Turks in the central Mediterranean will welcome this book, for though the building *ex novo* of any city has an important place in the history of urban development, town planning and (often) fortification, the story of Carlentini is also to be considered in a wider context. Professor Aricò not only describes the efforts of Spain's viceroys in Sicily (Juan de Vega in particular) - and of their engineers of course - to strengthen the defences of the vice-regency (and those of Malta and North Africa), he also considers the strategic considerations that underpinned their initiatives.

When the future Hapsburg Emperor Charles V acceded to the Spanish throne in 1516, he also (*inter alia*) became sovereign of Naples, Sicily, Malta and Tripoli.¹ These commanded the strategic narrows of the Mediterranean Sea between Italy and North Africa. On paper at any rate Charles could provide the southern flank of Christian Europe with a high degree of protection from the depredations of the Ottoman Emperor and his allies in North Africa. In practice his ability to do so was at best precarious. For some time, things went quite well for the Emperor. In 1529 he entrusted Malta and Tripoli to the Hospitaller Knights of St. John (following their 1522 loss of Rhodes) and six years later he wrested Tunis from Ottoman control. But in 1538 the Ottoman navy defeated the combined fleets of a Christian coalition at Prevesa at the mouth of the Adriatic Sea and forced Venice to surrender important possessions in the eastern Mediterranean. This

underlined Ottoman naval and military ascendancy there. Only three years later, Charles' attempt to conquer Algiers ended in total and utter disaster and this weakened Spain's position in the Western Mediterranean. The fortunes of Spain fared no better in the central Mediterranean. Charles took Mahdia to the south east of Tunis in 1550, but the following year the Hospitallers lost Tripoli and three years later the garrison of Mahdia abandoned the city after blowing up its fortifications.²

Charles' failures in the Mediterranean were to a large extent due to the myriad of other problems he had to face in Europe. The Turks were extremely active in the Balkans and they repeatedly threatened Vienna. The spread of Lutherism and the hostility of many German princes undermined and challenge his authority in the empire and led to wars there. The states of Italy were often hostile and always suspicious because, as so often is the case with relations between a great power and its less powerful allies or neighbours, the Hapsburgs were unable to distinguish between influence and domination. Even the Popes turned against Charles and of course the infamous Sack of Rome in 1527 by the imperial army did nothing to endear him to Italians of any persuasion.

Pretty well every problem Charles had to deal with was exacerbated by France which repeatedly challenged the emperor and always supported his opponents including the Ottoman Turks and especially Kehyr ed Din Barbarossa, who Francis I allowed to use Nice as his base of operations during the 1540's. Barbarossa's annual amphibious operations involved a huge fleet and as many as 30,000 troops. Year in year out, like his predecessors and successors, he ravaged the coasts of Italy and Spain.

Of course, the recurrent threat had to be met with preparations to resist attacks all along the coasts. Every year from the late spring until the end of summer, coast defences were prepared, strengthened where possible, and manned. The beacon systems were activated, ships masters interrogated for news of the whereabouts, strength

and intentions of enemy squadrons, while those people who could afford to moved inland away from the coasts. A letter written at the end of September 1560 gives us poignant insight into the annual stress endured by the civilian population.

I pray that, [...], God will take pity on us Christians and protect us; for here [*in Reggio di Calabria*] we live in constant terror. Year after year we abandon our homes to seek safety elsewhere. [...] May it please God that the Turks leave us in peace for a while.³

Professor Aricò's examines mid sixteenth century concerns about the defence of the Sicilian coast at the gulf of Augusta and the beaches on either side running to Syracuse and Catania. Lentini a few kilometres inland of Augusta was the kingpin of the scheme of defence for this section of coast. Its role was to prevent a Moslem landing in force there from striking deep into Sicily, thus threatening a *riconquista* of the island. After the city was badly damaged by a severe earthquake in 1542, the government decided that it made good sense to abandon its ruins and build a new city on higher and level ground close by. The site was duly acquired and the city was founded – though construction was slow. Dragut's sack of Gozo and capture of Tripoli in 1551 was followed by a devastating night attack on Augusta by Sinan Bassà in command of a huge Ottoman fleet (150 galleys). These disasters gave impetus to the realisation of the project.

I must confess to reading Professor Aricò's very interesting account of the design and building of Carlentini very much with Valletta in Malta in mind and I must immediately add that anyone working on Malta's fortifications and town planning knows that there are serious gaps in our knowledge about the careers of military engineers who worked in Malta in the first half or so of the sixteenth century. Piccinino (or Piccino or Pichino) – described as 'very famous' and a Florentine by Iacomo Bosio, the historian of the Order of St John - is yet to be traced.⁴ Dr Anthony Luttrell searched high and low for him and concedes that the engineer remains unidentified.⁵ Antonio Ferramolino is better known, but Prado (aka Bardo or Pardo or Prato), Nicolo Bellavanti and even Evangelista Menga are pretty obscure although their work in Malta is honoured. Unless I am mistaken, at least one engineer has yet to make it into studies relating to Malta. This was Pietro Antonio Tomasello da Padova who inspected and reported

on the state of the defences of Malta in the 1520s – prior therefore to the arrival of the Order St John.

Every schoolboy in Malta is taught that early in 1552, Pedro Prado (to give him his correct name), the Viceroy of Sicily's engineer, designed and built the (recently magnificently restored) Fort St Elmo at the tip of the Xiberras Peninsula on which Valletta now stands, as well as Fort St Michael at the neck of the Isola peninsula which, sadly, was demolished in the 1920s. Both these works featured very prominently in the Great Siege of 1565 and brought much honour to Prado who had also worked on the defences of Mdina. But efforts to find out more about this obscure engineer's career evaded the efforts of Maltese and other historians writing about Malta. Enrico Sisi made valiant but vain attempts to track him down.⁶ More recently Dr Albert Ganado in his magisterial volume on Valletta, generously acknowledged my own modest, but inconclusive, efforts to exhume this elusive engineer from the archives.

Dr Ganado did however glean some information on Prado's presence at the 1550 siege of the 'City of Africa' (now Mahdija and *olim* Aphrodisium) during which Ferramolino was killed in action and on his activities at Carlentini and many other cities in Sicily including Palermo.⁷ Apart from recent Sicilian and Spanish scholarship on various aspects of Sicily's contributions to the history of Malta's fortifications, we also missed much useful and important material on Prado's work and reputation particularly during the Viceroy of Sicily Juan De Vega's 1550 campaign to capture Mahdija published in 1886 by the great Domenican historian Fr Alberto Gugliemotti OP in his monumental *La guerra dei pirati e la marina pontificia dal 1500 al 1560*.⁸

Now, at long last the veil on Pedro Prado has now been lifted. Professor Aricò lectures on the history of architecture and urban development at Messina University where he specialises in sixteenth-century civil and military architecture. His publications include an *Atlante di città e fortezze del Regno di Sicilia*. His book (reviewed here) on Carlentini, gives us an enormous amount of information about Prado's work and career and much to think about when considering the development of Valletta in the light of this superbly researched analysis of the history of this interesting Sicilian city. Professor Aricò's work supplements a very useful article on Carlentini by Professor Emanuele Romeo of the Department of Architecture and Design at the Politecnico di Torino.⁹

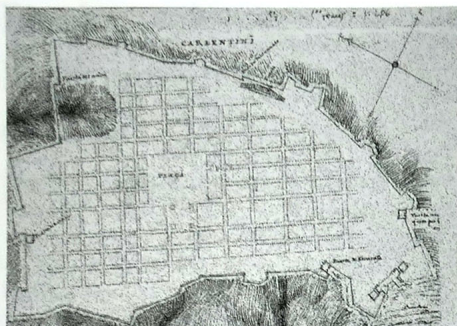


Figure 1 Tiburzio Spannochi, *Carlentini* in 1579 showing Prado's street plan and enceinte. Prado makes no attempt here to relate the streets to the defences

Professor Aricò details Pedro Prado's fascinating career. His date of birth remains unknown and it was generally thought that he was born in Lecce. A mid-eighteenth-century account of his early career gives no references.¹⁰ In other sources he is variously named as 'Pietro della Piata' or 'di Piata' or 'da Prata' or 'Pardo' or (correctly) as 'Pedro de Prado'. While working in Naples in 1545, he described himself in a document as 'Yo pedro de prado hispano e scultor esperto'. One source states that he was born in Saragosa to the north east of Madrid. Exactly when he turned to military engineering and architecture is unclear but he was a follower of Pedro Luis Escrivá – the proponent of the star trace for gunpowder fortifications and famous for the star shaped *Castel S.Elmo* at Naples.



Figure 2 *Pianta del Borgo di Roma* from M Giulio Ballino, *De' Disegni delle piu illustri Città et fortezze del mondo* (Venezia, 1569). Note the network of ancient tracks and roads –clearly related to the streets of the Borgo – which Laparelli was to adapt for the new suburb – see Figure 3 below.

Prado also worked as an architect (eg., on the viceregal palace at Messina) before being commissioned as *Ingegnere di Sua Maestà nel Regno di Sicilia* in May 1549. The same year he became engineer-in-charge of Sicily's bridges. He is referred to as 'quondam' (deceased) in April 1555. Juan de Vega, Charles V's Viceroy in Sicily, worked Prado very hard indeed. Professor Aricò's list of Prado's activities between 1547 and 1555 is eight pages (!) long including his work in Malta from November 1551 to May 1552. He left the island post haste for Sicily to trace a new enceinte for the fortifications of Noto. Prado's most important project, the city of 'Carleontini' (to give it its original name) which he designed and built, is a planned city – a *città di fundamenta* – built on virgin ground, as was Valletta. The background to this new city has much in common with that of Malta's better-known capital.

Like Francesco Laparelli at Valletta, Prado not only designed the fortifications of Carlentini he also developed and laid out its street plan. But, unlike Laparelli, he also worked on some of the new city's public buildings including its main church. Sadly, time has not treated Prado's Carlentini kindly. Professor Aricò shows that the street plan was in part corrupted over the years and much of the fortified enceinte disappeared under suburbs and weeds, while aerial bombardment during WW2, fires,

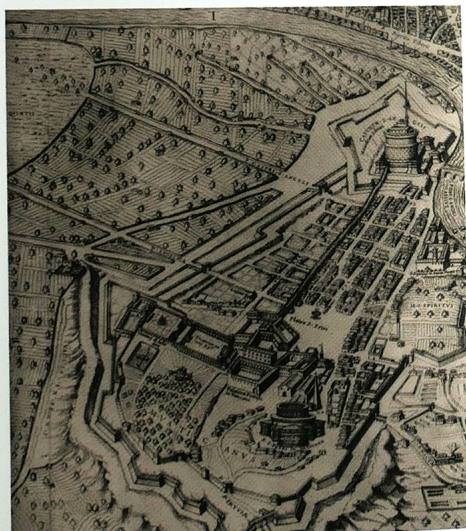


Figure 3 Laparelli's street plan for the Borgo Pio and it's enceinte. Mario Cartaro, *Map of Rome, 1576: detail of the Vatican showing mainly undeveloped streets in the Borgo Pio*

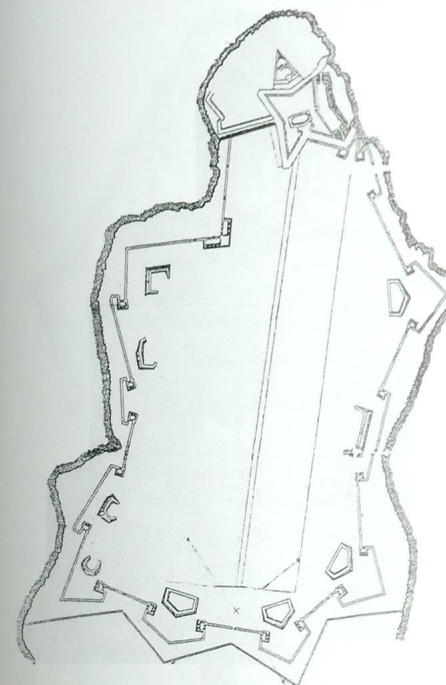


Figure 4 This and the following three plans illustrate distinct stages in the evolution of the street plan of Valletta by Laparelli. This is probably the earliest of the set and it may be an unfinished scheme for gently curving streets on either side of the main road as originally proposed by Laparelli.

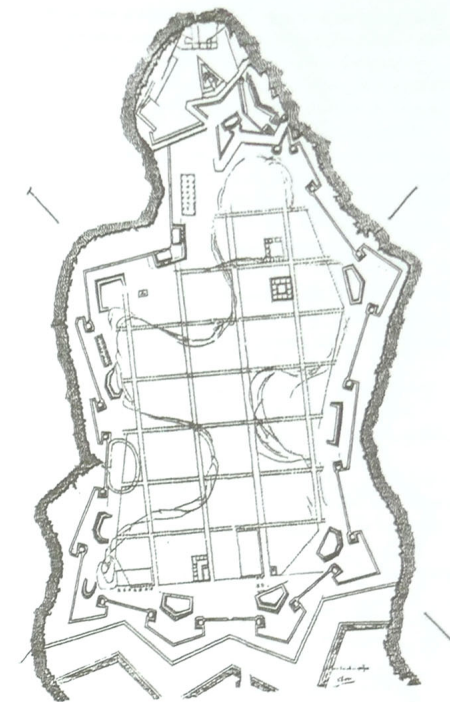


Figure 5 Probably Laparelli's first thoughts for a grid plan for Valletta. Note how he copes with the lie of the land so that the wide main street is on reasonably level ground. He identifies the site for a galley port and possible sites for some major buildings. The small feature towards the top left of the plan is the site of a spring discovered around June 1566.

earthquakes and insensitive reconstruction have further degraded Prado's conception. However, his street plan is preserved in prints and drawings including one drawn by the Spanish engineer Tiburzio Spannochi in 1579 (Figure 1). Aricò discusses the way the ancient texts of Polybius, and Vitruvius on the layout of Roman legionary encampments influenced their renaissance successors – Machiavelli, Dürer and Serlio, and many lesser known thinkers. Prado, he suggests, would have been familiar with some of these authorities.

It has been argued (though not by Professor Aricò) that perhaps Francesco Laparelli took his inspiration for the street plan of Valletta from Prado's plan at Carlentini. While Laparelli did have opportunities to visit the city there is no record that he ever did. His journey to Malta from Rome in the winter of 1565 took him quite a long time. He was perhaps delayed in Sicily by bad weather or by the Viceroy Don Garcia de Toledo who was not on speaking terms with the Order at this time. Thus, he might

have stopped off at Carlentini and studied Prado's street plan. Alternatively (but much less likely) Laparelli may have visited Carlentini quite early during his stay in Malta i.e., before developing his street plan for Valletta. Certainly among his papers there is a map of the Gulf of Augusta and a proposal for a fortress to be built on some rocks at sea close to it.¹¹ I thought this theory had some merit, but following further research it seems to me much more likely that Laparelli based his street plan, at least partly, on the one he designed for Rome's *Borgo Pio* on which he had worked during the preceding four years or so. Professor Enrico Valeriani has argued (convincingly) that there Laparelli used the existing network of very ancient rural pathways and a track running from *Porta del Cortile* in the Vatican to *Porta di Castello* in the *Passeto*, the ancient wall linking the Vatican Palace to *Castel S. Angelo*, as the basis for his street plan of this new suburb. The point is made very clear in a contemporary plan,

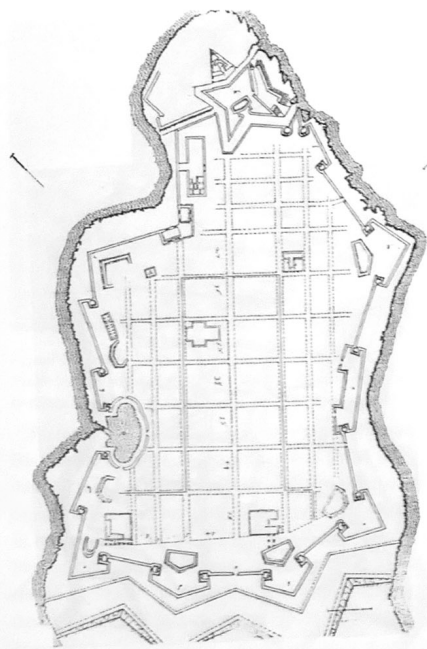


Figure 6 This plan is close to Laparelli's final proposal for Valletta's street plan. The blocks are much larger and the proposed galley port is rather fanciful.

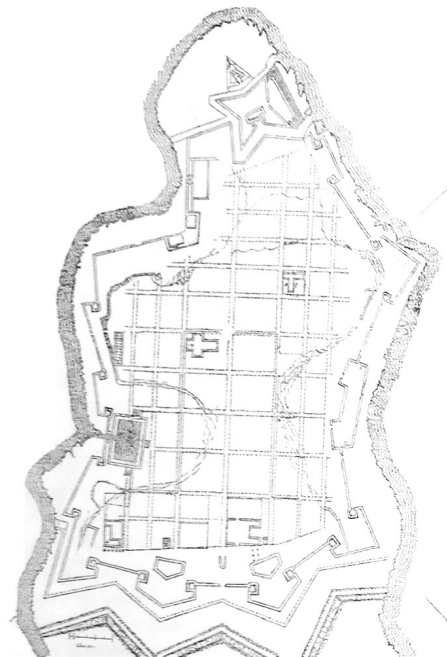


Figure 7 This is the last of Laparelli's extant street plans for Valletta. It is very close to the city as built.

published by Ballino of the site of the *Borg Pio* (Figure 2), the completed suburb (Figure 3) and Laparelli's own street plans for Valletta (Figures 4-7).

Though Prado and Laparelli opted for grid plans, both appreciated the need to fit block (*isole*) sizes to the requirements of urban society. A regular grid plan pure and simple would not do because some buildings and complexes required large blocks of land while the efficient use of space for private dwellings called for smaller *isole*. Spannoci's plan of Carlentini shows that one row of Prado's blocks is approximately twice the size of others and four times the size of others. This allowed the authorities and notables to site important large buildings on these large blocks without unduly disturbing the overall regular layout of streets. Laparelli's solution for Valletta was more sophisticated. Dr Thomas Jäger argues convincingly that Laparelli developed a trigonometrical model to produce two rows of large blocks on either side of the main street in the centre of the urban space surrounded by progressively smaller blocks towards the

walls around the city (Figure 8). Francesco Laparelli's was a very elegant solution. As with Prado's street plan Laparelli's was not fully adhered to either in subsequent years. There is a further point of similarity: neither Prado nor Laparelli were able to relate their street plans neatly with the fortified encintes.

Professor Aricò has taken the story of Prado's new city much further than 'simply' covering its origins, planning and building phases, for he also discusses the evolution of its administration and the gradual construction of its fortifications, buildings large and important, like the main church, and, very interesting, the smaller and often insignificant dwellings of the inhabitants. His work mirrors to some extent the researches of Professor Valeriani on the *Borgo Pio* – the new suburb built *ex novo* by Pius IV between Castel S. Angelo and the Vatican, which (strange to say) boasted no major churches or palaces.¹² In Malta, while research has concentrated on the history of 'Valletta' as a project, its evolution as a stronghold, its place in map history, travel accounts and do

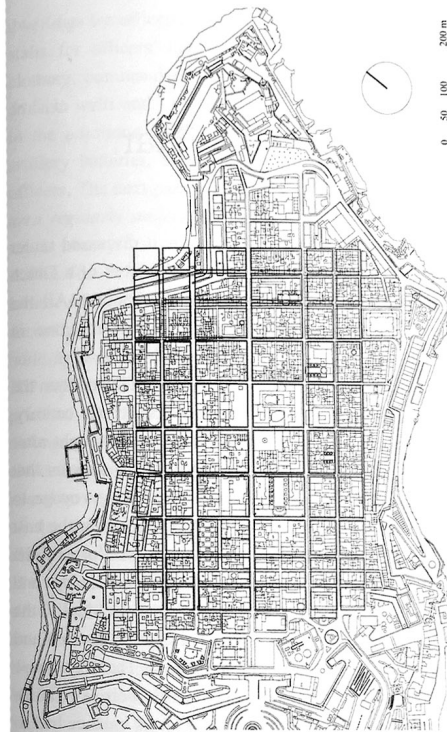


Figure 8 Thomas Jäger's interpretation of Laparelli's 'final' street plan (Figure 7 above) for Valletta. (Jäger: 'The Art of Orthogonal Planning, Laparelli's Trigonometric Design of Valletta', *Journal of the Society of Architectural Historians*, 63, No.1. March 2004, 4/31)

on, the history of its urban development has still to be studied in detail. The sources are superb: Professor Stanley Fiorini analysing some of the earliest land sales in Valletta preserved in Malta's fine notarial archives.¹³

There is an excellent index. Professor Aricò has made a major contribution to the urban history of Europe in the sixteenth century.

Roger Vella Bonavita
University of Western Australia
Perth, Western Australia

Notes

1. He did not become Holy Roman Emperor until 1519.
2. When Charles abdicated in 1556, Hapsburg territories and responsibilities in the Mediterranean were taken over by his son Philip II of Spain. An attempt by Philip and his Italian allies to retake Tripoli in 1560 came to grief with the loss of both the fleet

and the army at Djerba. Pope Pius IV (no great admirer of Spain) felt obliged to authorise Philip to levy taxes on the church in Spain in order to rebuild the fleet. Even so in 1565 the Ottomans felt strong enough to undertake the '*impresa di Malta*' as they referred to their goal of taking Malta. Though they failed, the Turks came very close to taking the island and then going on to launch the second phase of their grand strategy: the '*impresa di Sicilia*' which, in turn, would provide the launching pad for the '*impresa d'Italia*' and ultimately the conquest of Europe. Despite the Christian naval victory over the Turks at Lepanto (1572), the Turks took Cyprus (1575) and with their North African allies continued to harry Christian coasts and shipping for many decades.

3. Laparelli Papers (Private Archive, Italy) Pietro Marco Baldacchini (in Reggio di Calabria) to Capitano Francesco Laparelli (on garrison duty in Civita Vecchia) dated 28 September 1560. Barbarossa had sacked Reggio di Calabria in 1543.
4. Quoted by Ganado, Albert, *Valletta Città Nuova A Map History (1566-1600)*, (Malta, 2003), p.45, n.14. Picchino or Pichino
5. Luttrell, A., "Hospitaller Birgu 1530-1536," in *Crusades*, ii (2003), pp.144-147
6. Sisi, Enrico, *La Valletta; un'Epoica* (Italy, 1991), pp.95 & 112/113
7. Ganado, *Op. Cit.* p.73 & note 4; referring to Dugour La Gumina et al, *Imago Siciliae. Cartografia storica della Sicilia (1420-1860)*, (Catania, 1998).
8. Aricò pp.66 ff. & notes and the work of Professors Alicia Camares and Maurizio Vesco among others.
9. Romeo, Emanuele, "Le mura di Carlentini: la conoscenza per la conservazione attraverso nuovi contributi documentari", in Marino, Angela (Ed.), *Forme, professioni e mestieri dell'architettura difensiva in Europa e nel Mediterraneo spagnolo* (Roma 2003) pp.183-190.
10. Santoro, Rodolfo, "Fortificazioni Bastionate in Sicilia (XV e XVI sec)" in *Archivio Storico Siciliano Serie IV – Vol. IV* (La Società Siciliana per la Storia Patria Palermo 1978) p.178
11. Ganado, *Op. Cit.*, pp 168/ 9 & notes, discusses this possibility which was first proposed by Angela Guidoni Marino. In 1570 Laparelli's eulogist claimed that he was offered a princely salary to work on the fortifications of Ragusa, but this is not otherwise documented. The maps relating to Augusta may well have been sent to Laparelli by his former patron and military engineer Gabrio Serbelloni who worked in Sicily in 1566.
12. Valeriani, Enrico, 'Vigne, Case, Granai, Cortili: *Borgo Pio*, Laboratorio Urbano', *L'Architettura della Basilica di San Pietro Storia e Costruzione*, Gianfranco Spagnesi (Ed), Atti del Convegno Internazionale di Studi Roma, Castel S. Angelo, 7-10 Novembre 1995, Quaderni dell'Istituto di Storia dell' Architettura, Dipartimento di Storia dell' Architettura, Restauro e Conservazione dei Beni Architettonici, Università degli Studi Roma 'La Sapienza', Roma 1997, 219/228.
13. Fiorini, Stanley, "Fel wardiae col zeber issue uquiae: Sale of Plots of Land in Valletta, 1569" in Bonello, Giovanni (Ed), *A timeless Gentleman, Festschrift in Honour of Maurice de Giorgio*, (Malta, 2014) 259-269

Note on figures: Figures 5-8 are taken from black and white photographs of Laparelli's famous original plans. They were processed by semi-automatic xerography by Mr John Mangion Printing Manager at the Royal University of Malta. The original plans are now in the library of the Accademia Etrusca di Cortona.