Fortifications and statecraft of the Gonzaga, 1530–1630

Arnold, Thomas Francis, Ph.D.
The Ohio State University, 1993
FORTIFICATIONS AND STATECRAFT OF THE GONZAGA, 1530-1630

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

By

Thomas Francis Arnold, B.A., M.A.

* * * * *

The Ohio State University
1993

Dissertation Committee: John F. Guilmartin
Williamson Murray
John C. Rule

Approved by
Adviser, Department of History
ACKNOWLEDGMENTS

This dissertation would not have been possible without the guidance and support of many people. My advisers in the Department of History at the Ohio State University, Professors Williamson Murray and John F. Guilmartin, rewarded me with their confidence in my abilities, and spurred me on with their encouragement. They were always truly interested in listening to my ideas, showing a patience and respect that many other professors unfortunately lack. Professor John C. Rule, also of the Department of History at Ohio State, taught me the importance of the broader perspective in understanding the early modern period. Professor Geoffrey Parker, now of the History Department at Yale University, shaped this dissertation in many ways; above all by suggesting that I look beyond the larger states of early modern Italy for an example of the military revolution at work. Daniela Ferrari, director of the Archivio Di Stato di Mantova, shared her own work on the fortifications of the Gonzaga and welcomed me to the archives in Mantua. My parents, who indulged my desire to clamber over European castles and forts when I was at an impressionable age, bear considerable responsibility for this dissertation. Above all, my wife Tiffany Janney Arnold proved unfailingly supportive of an endeavor that at times looked impossible or endless.
VITA

November 12, 1963 ................................................... Born - Groton, Connecticut
1985 .............................................................................. B.A., Oberlin College, Oberlin Ohio
1988 .............................................................................. M.A., The Ohio State University, Columbus Ohio

FIELDS OF STUDY

Major Field: History
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CHAPTER I
INTRODUCTION

The Gonzaga are certainly not under-studied. Historians, particularly art historians, have long recognized them as among the most colorful, most individually talented, and intrinsically most interesting of Renaissance Italian princely families. In architectural, literary, and musical taste the Gonzaga were unquestionably and continually in the lead. In the mid-fifteenth century Marquis Ludovico (ruled 1444-1478) brought Alberti, the father of Renaissance architecture, from Florence to Mantua to remake a large downtown church, Sant' Andrea, into a masterpiece *alla antica*, at that moment a daring plan much opposed by the local Mantuan clergy. Isabella d'Este, wife of Marquis Francesco (ruled 1484-1519), surrounded herself with an admiring bevy of minor poets (who obsequiously prefaced their works with encomiums praising Isabella's beauty) and collected books with a fastidious and expert eye, including issues of classical and Italian works from the famous Venetian printer Aldo Manuzio. Duke Vincenzo I (ruled 1587-1612) retained Monteverdi, the originator of opera, to design and orchestrate the court and civic spectacles of Mantua. The outstanding painters and sculptors patronized, sometimes almost exclusively, by the Gonzaga make a long list: Pisanello (lived c. 1390- c. 1455), Mantegna (1431-1506), Titian (c. 1485-1576), Giulio Romano (c. 1499-1546), Pourbus (1569-1622), Rubens (1577-1640), and many others. The artistic side of the Gonzaga court at Mantua has
been minutely studied: their theatricals and musical programs; their passions for collecting coins and cameos, profane sculptures and holy relics, swift horses and human dwarfs; their penchant for devising and displaying intellectually subtle and obscure visual symbols.

The fashionable influence of the Gonzaga court, in Italy and abroad, was not negligible. Castiglione, whose 1528 *Courtier* defined the ideal prince as part aesthete and part bold warrior, learned his etiquette at Mantua from the example of the Gonzaga. The greatest—or at least most famous—patroness of the sixteenth century, Isabella d'Este, married a Gonzaga, Marquis Francesco, and her taste made the Gonzaga court at Mantua the most stylish of the day. Isabella d'Este, though she never had quite funds enough for all the jewels, dresses, and antique sculptures she desired, presided over an obedient throng of poets and painters that more than equaled the retinue of every other socially ambitious Italian princess. In historiographical perspective, the life of Isabella d'Este became the model for the Romantic nineteenth-century idea of the Renaissance, so much so that Proust thought of her as an emblem of the period as a whole. Clearly, the court life of the Gonzaga is worth scholarly attention; but such examination alone yields an interior view of the House of Gonzaga, with little sense of this family's very important place in the larger world of early-modern European politics.

Historians have celebrated the Gonzaga; but as exemplars of fashion, not as princes ruling one of the wealthiest and strategically most important states in Europe. In truth, Gonzaga court life mixed art and politics with ease, a tendency celebrated by Castiglione and exemplified by the role of Rubens, who both painted his Gonzaga master, Duke Vincenzo I, and represented him in a diplomatic mission to King Philip III of Spain. Behind almost every act
of patronage was a consideration of state. The embellishment of palaces and churches demonstrated the power of the dynasty; artistic symbolism often hinted at a political message, or cloaked the political agenda. The Gonzaga Marquis and Dukes of Mantua and Montferrat—and often their wives and sisters—were hard-bitten political animals. Gonzaga men were soldiers or prelates, in either case politicians with a primal and feral loyalty to the family. Gonzaga women, married off in accord with some master plan, often acted as ambassadors of the Gonzaga at foreign courts. The focus of the cultural historians has distorted the true nature of the Gonzaga, particularly in regard to their military skills and interests. One art historian dismissively rejects their very serious martial endeavors as overblown, certainly secondary to their really important function as patrons of the arts:

As military leaders the Gonzaga vaunted prestigious and lucrative captaincies on behalf of greater powers in the fifteenth and sixteenth centuries. The fame of their deeds came to be expressed in art and literature but in truth their war records were not wholly glorious. ... Minor episodes were inflated beyond their true significance in Gonzagan military mythography, although various members not in the direct succession had highly professional careers. ... But the rulers of Mantua were not distinguished as heroic warriors, and their posture as such reached a point of grandiose absurdity with Duke Vincenzo I's three expeditions against the Turks in Hungary. ... Their image as champion horsemen, ready to excel in battle, was best expressed by their passion for hunting, their fighting ranks not soldiers but dogs.2

This is a very misleading appraisal.

What the art and cultural historians too often forget is this; that the Gonzaga did not win, and then keep, their position near the apex of Italian princely society by virtue of their exquisite taste. Palaces, tapestries, maiolica plates, and portraits by Mantegna or Titian were the expensive toys of a
supremely ambitious and very powerful family. Though rich display was a very important part of propaganda warfare, real war, or the threat of war, was a daily fact of life. The Gonzaga were first and foremost ruthless players of the political game, at both home and abroad. The Gonzaga lands were not idly won and held; the maintenance of power demanded soldiers, cannon, and fortresses. The prominent and stylish court life of the Gonzaga merely reflected their power; that power flowed from political expertise and from real military resources and skill. The Gonzaga were intriguers, plotters, diplomats—and soldiers.

The homeland of the Gonzaga was the Marquisate of Mantua, a Duchy from 1530 (figure 1.1). At the far eastern end of Lombardy, watered by the Po and two of its major tributaries, the Mincio and the Oglio, Mantua was agriculturally rich and the Gonzaga were therefore wealthy. Well-irrigated fields produced rice and grain crops, bordered by orchards of fruit and nut trees and extensive marshlands and rivers teeming with birds and fishes. Gonzaga horses, bred for war and among the best in Europe, flourished in the pastures of the many Gonzaga country estates. These horses provided the Gonzaga with prestige—they made princely gifts—and a lucrative export product, but they also allowed the Gonzaga to maintain large companies of mounted men-at-arms. The Gonzaga capital, the prosperous city of Mantua, had a population of as many as 30,000, making it one of Europe's largest towns. Manufacturing in Mantua, especially wool and silk cloth, increased the Gonzaga wealth. Mantua also boasted a sizeable and wealthy Jewish community, noted by non-Italians for their scandalous privileges and free contact with Christians. These Jews had their own contacts with the outside world, many of them specialized in trade, and they frequently repaid their
political master with loans. Christian as well as Jewish merchants lived in Mantua, and their trade was not only with the other leading cities of the Po watershed, but with the port cities of Mediterranean and Atlantic Europe. Ships as well as riverine boats harbored at Mantua, some of them come from Holland and other northern ports. The city of Mantua was as wealthy and cosmopolitan as its Gonzaga lords.

After 1533 the Gonzaga state included a second major territory, the Marquisate (Duchy after 1543) of Montferrat in Piedmont to the southwest of Spanish Lombardy, between Genoa, Saluzzo, and the territories of the Savoia. Also bordering the Po, Montferrat was hilly rather than low-lying, but also rich. Sheep and wine grapes prospered in the hills, and the towns of Montferrat straddled the crossroads of the western Po valley; commerce traveling between Genoa and Milan, heading for the Alps and northern Europe, passed through Montferrat, and the Po brought river-borne trade as well. Though no one town overshadowed all others, government centered on Casale Monferrato, where the Gonzaga later cemented their control of the city and all Montferrat by constructing elaborate and sophisticated fortifications. Casale eventually became as important to Gonzaga rule in Montferrat as the city of Mantua was in Mantua. Though separated by Spanish Lombardy, the territories of Mantua and Montferrat together made up a unified Gonzaga state.

The true diagram of sixteenth- and seventeenth-century Italian politics was the family tree, and only secondly the map (figure 1.2). Political power was dynastic; lines on an atlas reflected marriages, births, and deaths, and the succession crisis sparked many disputes and wars. The Gonzaga state was dynastically unified but geographically a patchwork—like that of the Habsburg,
the Hohenzollern, the Orange, and most other great European princes. In Italy, the Gonzaga were the equals of the Medici of Florence (richer, but of vulgar mercantile origins), the Este of Ferrara (older, but tiring by the sixteenth century), and the Savoia of Savoy-Piedmont (the arch-rivals of the Gonzaga in Montferrat). The Gonzaga were of the first rank of Italian princes, distinctly more powerful and independent than the dozens of truly minor princes, and even a few remaining republics, like the city-state of Lucca and the Lordships of Carpi and Tenda, that lined the peninsula, occupying the interstices between the regional powers: Savoy, Genoa, Parma, Mantua, Venice, Ferrara, Tuscany, the Papal States, and the Habsburg dependencies of Milan and Naples.

The real political importance of the Gonzaga, and their rising fortunes after 1527, is revealed by their marriages and the political context of those marriages. In the fifteenth century the Marquis of Mantua married princesses from the leading European families of ducal or equivalent rank: Marquis Ludovico (d. 1478) married Barbara of Brandenburg; Marquis Federico (d.1484), Margherita of Bavaria; Federico (d. 1540), Margherita of Montferrat, heiress to that Marquisate. The marriage between Federico and Margherita in 1531, long planned and only accepted by the Gonzaga after it was certain that Margherita would inherit the Marquisate of Montferrat, coincided with a major Gonzaga policy shift towards an unalloyed support of the Habsburg Emperor Charles V. In the 1520s, as the balance of power in Italy teetered between France and Spain, Valois and Habsburg, the Gonzaga chose the Habsburg, a not incidental decision. Tacit alliance with the Gonzaga materially assisted a Habsburg army's advance on Rome in 1527; the seizure and sack of which permanently raised Charles V above his rivals, principally
Francis I of France and the Medici Pope Clement VII. In reward, Charles V elevated Federico Gonzaga to the title of Duke of Mantua in 1530, and the Spanish Governor of Milan used his troops to ensure that Duke Federico indeed acquired the Marquisate of Montferrat, rightfully his through marriage with Margherita of Montferrat.

The Habsburg-Gonzaga alliance continued through the sixteenth century and into the next. Duke Federico's heir Duke Guglielmo (d. 1587) married Eleanora of Austria; and Federico's daughter Anna Caterina married Archduke Ferdinand of Austria. Gonzaga princesses were among the very, very few girls considered high-born enough to marry into the Habsburg family, and they did so repeatedly. The half-Gonzaga daughter of Anna Caterina Gonzaga and Archduke Ferdinand of Austria, Anna, married the Emperor Matthias II (d. 1619). Eleanora Gonzaga, daughter of Duke Vincenzo I (d. 1612), married the Emperor Ferdinand II (d. 1637). This trend continued even after the Habsburg-Gonzaga wars over the Mantuan and Montferrat succession, and a second Gonzaga princess Eleanora (d. 1686), the granddaughter of Duke Carlo I of Mantua (d. 1637) married the Emperor Ferdinand III (d. 1657). Thus three successive Habsburg Emperors had Gonzaga, or half-Gonzaga, brides.

The origins of Gonzaga power were violent and military. In the summer of 1328 one Luigi Gonzaga, with a small army of relatives, retainers, and soldiers borrowed from Can Grande della Scala, the despot of Verona, entered Mantua and after a sharp combat in the main square of the city murdered Rinaldo Bonacolsi, heretofore the tyrant of Mantua. A typical wholesale expulsion of the Bonacolsi clan followed and Luigi Gonzaga soon received the approval of the distant Holy Roman Emperor. Luigi Gonzaga
inaugurated four centuries of Gonzaga rule in Mantua. The character of that rule changed little in the centuries after 1328. Despite the sophisticated tastes and latinate manners of the later Gonzaga lords of Mantua, the family never abandoned the use of force, and remained personally violent. Rodolfo Gonzaga (1451-1501), brother of Marquis Federico (d. 1484), had his first wife Antonia Malatesta summarily beheaded on his accusation of infidelity. In 1582 a young Vincenzo Gonzaga, later Duke, murdered the Scottish intellectual prodigy James Creighton, an advisor to Vincenzo's father Duke Guglielmo, in a midnight encounter in the streets of Mantua. Vincenzo's own son Ferdinando, as a teenager, stalked the streets of Rome at night with a band of companions, beating up and even stabbing stray Spaniards; the young Ferdinando was studying for a career in the Church, and was the Gonzaga cardinal from 1608-1615. The Gonzaga were a violent family in a violent world; their behavior was in the tenor of the times.

Gonzaga violence was professional as well as tempersome. Gonzaga sons had a choice of two professions, of war or the church. In fact, several Gonzaga became distinguished churchmen, even saints (the sixteenth-century Jesuit Saint Luigi Gonzaga), and a succession of Gonzaga cardinals at Rome were politically important and prestigious members of the family. But the profession of arms dominated. The Gonzaga were above all condottieri princes, contracted professional captains and commanders who considered their military experience and expertise as their stock in trade. This tradition was by no means unique to the Gonzaga; many other Italian families, such as the Farnese and Colonna, also specialized in producing competent military commanders. Such employment brought cash and increased reputation. Every fifteenth-century Marquis of Mantua rented his military services, often
to either Milan or Venice on an alternating basis. The Gonzaga condottieri tradition remained strong over the centuries.

Marquis Francesco was perhaps one of the most successful Gonzaga prince-captains. In 1495 he led the combined Italian forces of the Holy League against King Charles VIII of France. In this campaign he checked, and therefore defeated, the French King at the Battle of Fornovo. Marquis Francesco was not the only Gonzaga at that engagement; he brought his own army of vassals, including many relatives, and Francesco's contract with Venice insisted that he listen to the advice of his uncle Rodolfo, an experienced soldier. At his funeral in 1519, the catafalque bearing the body of Marquis Francesco took the form of a stepped pyramid, each level of which displayed shields and flags bearing the arms of one of the deceased's paymasters, arranged from top to bottom in order of precedence: the crossed keys of Pope Julius II, the double eagle of Emperor Maximilian, the lilies of King Louis XII of France, the winged lion of Venice, and the serpent of the Sforza Dukes of Milan. But the topmost level of this pyramid was marked with crossed lances and a Phrygian cap, implying that the deceased soldier-prince's first military loyalty had been to his own freedom and his own state. Marquis Francesco had fought against, as well as served for, many of the states and princes symbolized at his funeral. Gonzaga military service was professional, and did not imply a loyalty deeper or longer than the contract. In the long run, Marquis Francesco, like every other Gonzaga prince and captain, was primarily loyal to self and family.

Professional military service required that the Gonzaga prince maintained large and well-trained companies of men-at-arms; expensively armed, armored, and mounted. Here the stud farms of the Mantovano
helped, producing a large number of strong horses, one of the most expensive and vulnerable necessities of contemporary warfare. These companies were swollen with the sons and cousins of the ruling prince. More senior members of the family served as captains, others as rankers; all were part of a continuing Gonzaga tradition of military service. Several of the middling Gonzaga, many without any estates of their own, left Mantua to seek their fortunes in the armies of other Italian and European princes.

The most successful of these Gonzaga cousins found lands and founded dynasties of their own. In the sixteenth-century this service was usually in the army of Spain, naturally enough considering the political alliance between the Gonzaga and the King of Spain. Most successful of all was Ferrante Gonzaga (lived 1507-1557), brother of Duke Federico. Ferrante served his entire adult life in Spanish service. In 1526 he led a company of one hundred men-at-arms in the army of the renegade constable Bourbon; at the sack of Rome in 1527 he commanded the cavalry of the Spanish army. After the death of the Prince of Orange he led the entire Spanish army at the siege of Florence in 1530. He became the personal friend of the Emperor Charles V, and fought for him in Hungary (1532), Tunis (1535), and Algiers (1541). He served as Governor of Milan and as Viceroy of Sicily. He died with his boots on, in Flanders a few weeks after the great Habsburg victory at St. Quentin in 1557. With the cash he won as a paid soldier in 1539 he purchased the tiny principality of Guastalla in Lombardy, on the south bank of the Po and adjoining the main Gonzaga state in Mantua; Charles V granted Ferrante independence from Milan. Ferrante's descendents would be sometime partners, and sometime jealous rivals, of the main stem of the Gonzaga family in Mantua. Ferrante's long military career illustrates both the strong
partnership between Gonzaga and Habsburg, and the continuing strength of the Gonzaga condottieri tradition.

Another prominent Gonzaga captain who grew rich and famous in Spanish service was Vespasiano (1531-1591), a cousin of the ruling line and lord of the tiny principality of Sabbioneta, located between Cremona and Mantua. Vespasiano’s father Luigi Rodomonte "the braggart" Gonzaga had served with his cousin Ferrante, later prince of Guastalla, in the Spanish army at the sack of Rome and the siege of Florence. Ferrante later administered Sabbioneta during the minority of Vespasiano. Vespasiano’s early military career was both for Spain (in 1554) and against (in 1556 he fought in the army of Pope Paul IV and was wounded at Ostia). In 1558 he returned to Spanish service in Flanders, and ten years later he helped suppress the Morisco revolt in Granada. His career, diplomatic as well as military, continued under Philip II and he received the precious Order of the Golden Fleece in 1585.

Not every sixteenth-century Gonzaga adventurer found employment and reward in Spanish service. Ludovico Gonzaga (1539-1585), younger brother of Duke Guglielmo, served with the King of Spain’s arch-rival the King of France. Raised at the French court—an indication of the Gonzaga’s true independence of the King of Spain—Ludovico first served in the army of Henry II at the age of fifteen. Though he never lost contact with his family in Italy, Ludovico became a favorite at the French court and he made a spectacular marriage to the heiress Henriette of Cleves, daughter of Duke François of Cleves, the Count of Rethel and lord of many other rich territories. Ludovico’s son Carlo (1580-1637), known as Charles Gonzague in France, shared a crusading interest with his older contemporary Duke
Vincenzo I of Mantua (1562-1612), and they may very well have met each other while both fighting the Turk in Hungary in 1601, where Carlo was wounded at the siege of Buda. Later, in 1628, Carlo would succeed to the Duchies of Mantua and Montferrat in a disputed succession that brought the Gonzaga to war with the King of Spain and the Emperor. Despite considerable connections with the Habsburgs, professional and dynastic, the Gonzaga never became the lackeys of the King of Spain.

The *condottieri* tradition was not just a profession, but led to a strategy. In the fifteenth century the Gonzaga Marquis of Mantua balanced his state between expansionist Venice and Milan. Maintaining a sizeable army and a strong reputation for captaincy helped in that balancing act, as Venice and Milan literally bid for the support of the Marquis of Mantua, as an increase to their own armies and as a crucial weight to the balance of power in North Italy. The polarization of politics in the Po Valley along a Venice-Milan axis shattered after 1495 and the intervention, in turn, of France, Spain, and the Swiss in the Italian Wars. A new polarization, of Habsburg vs. Valois, briefly allowed the Gonzaga and other Italian states to play the old game of playing greater powers against each other in preservation of local power. But this gambit failed in the second half of the 1520s as Charles V sealed a Habsburg victory over his rivals Francis I and Pope Clement VII, a Medici. In 1525 the army of Charles V routed the French at Pavia and captured Francis I in person. In 1527 the army of Charles V seized and sacked Rome and held Pope Clement bottled up in the Castello Sant' Angelo until he cooperated. In 1530 Clement VII crowned Charles V Emperor in Bologna, where he received the submission of practically every Italian state. There was no longer any foreign, balancing power for the Gonzaga and other independent Italian princes to
invite or cajole into Italian adventures. The old strategy was (temporarily) at an end; new strategies would have to be found to preserve Italian independence in the wake of seeming Habsburg hegemony.

Not just the political situation was changing, but a military technological change was at hand as well. Gunpowder, an important part of war since the fourteenth century, occasioned a tactical revolution in the fifteenth century. Man portable hand guns gradually replaced the bow and the crossbow, and larger and more reliable cannon, relying on the enormous chemical power of black powder, similarly displaced mechanical medieval siege engines. On the open battlefield, the horizontal fire of handguns and cannon encouraged soldiers to take cover behind ramparts and ditches. In siege warfare, cannon could smash down any existing medieval fortification with relative ease. The high, thin walls and towers of medieval towns and castles were now obsolete, and new fortification designs and defensive tactics sprang up to counter the increasingly powerful cannon. One idea, a dead end for the early modern period at least, was to counter force with force and build hugely thickened stone towers with artillery casemates to house cannon in defense. This extension of medieval construction techniques (stone masonry) and fortification principles (height and brute strength) went nowhere. More successful in the long run was the ad hoc use of earth ramparts and artillery platforms, often thrown up in front of existing medieval walls. Earth barriers and obstacles, especially ditches, reinforced with hoardings, fascines, and dirt-filled wicker gabions, proved very resistant to artillery bombardment and much easier to repair than masonry. Low earthwork defenses also provided a small target to attacking gunners, while earth platforms gave defending
gunners enough of a height advantage to shoot down and into the attackers' approaching trench works.

Besides experimentation with new materials, namely earthworks, Renaissance architect-engineers looked for new principles with which to imagine and design the perfect anti-artillery fortification. From the last decades of the fifteenth century, and through the first three decades of the sixteenth, Italian engineers developed a strange new fortification design with a jagged, angled perimeter designed to maximize defending artillery fire by creating killing zones of enfilade and cross-fire. The defining defensive work of this new concept was the angle bastion, a low, squat artillery platform, triangular in plan, that could easily support many large cannon and followed the rigorous geometric rules of the new reliance on overlapping lines of fire. The angle bastion fortress did not supplant all other fortification designs before 1530, but after that date the angle bastion dictated the design of every permanent defensive work in Italy. The superiority of the new system was revolutionary, and Italian engineers were soon building angle bastion pattern fortifications for every and any European ruler who could afford their services, and the massive costs of the new fortifications.

From the political point of view, the defensive reaction to gunpowder weapons was of greater consequence than the development of these new offensive weapons in the first place. In Italy, the universal acceptance of the angle bastion (c. 1530) coincided with the Italian princes' need for a new strategy to preserve the balance of power after the triumph of Charles V (1525-1530). Though Habsburg-Valois warring in Italy continued until 1559, stability rather than flux marked the balance of power. After 1559 an arms race developed in North and Central Italy, with the Italian states pouring
large amounts of money into permanent angle bastion fortifications to bolster their international prestige and protect against any sudden resumption of the wars. By the end of the sixteenth century, with an international cold war between Habsburg Spain and a resurgent France under the Bourbon Henry IV polarizing European politics once again, these fortresses were ready to shape and define the wars of the next century. Angle bastion fortifications were much more than a new technique of war; they were the basis of a new system of politics.

This change in military architecture has been identified as a key factor impelling the early modern military revolution, one of the most powerful ideas in early modern European studies today. Geoffrey Parker's *The Military Revolution, Military innovation and the rise of the West, 1500-1800* (Cambridge 1988) currently defines this ongoing debate. Parker sees five long term processes revolutionizing the conduct of war in early modern Europe. First, from the late fifteenth century the development of the anti-artillery angle bastion fortification established the tactical and strategic advantage of the defensive. Second, from the end of the sixteenth century sophisticated musketry drills and more, better artillery allowed firepower to dominate the battlefield. Third, stemming principally from the proliferation of the angle bastion fortress armies dramatically grew in size. Fourth, the difficulties of supplying and paying these larger armies encouraged the growth of military administration and state bureaucracies. Fifth, ships with broadsides of massed cannon extended the revolution in firepower onto the oceans of the world. Parker concludes that the sum of these processes was a military revolution that gave Europe a critical military advantage over the non-European world. As the first of these processes, the angle bastion fortress, was
perfected in Italy during the Italian Wars, it is logical to look to the Italian experience with angle bastion fortifications during the sixteenth century for a test case of this crucial issue within the early modern revolution debate.

Historian have not ignored the importance of angle bastion fortifications in Italy. An excellent, indeed model, account of the intersection of angle bastion fortification architecture with war and politics is Simon Pepper and Nicholas Adams' *Firearms and Fortifications, Military Architecture and Siege Warfare in Sixteenth-Century Siena* (Chicago 1986). Pepper and Adams carefully examine and assess the fortifications of mid-sixteenth-century Siena (the city and the larger state), and the progress of the successful Hispano-Florentine war against Siena which ended in 1559. However, the use of Siena as a case-study unfortunately hints that the new angle bastion architecture was better suited to the larger powers, because smaller powers could not afford the full angle bastion treatment.

The case of Siena is misleading: smaller powers could harness the power of the military revolution. While Siena's use of angle bastion fortifications failed to prevent its annexation by Florence, other smaller states successfully embraced the new military architecture to help protect their independence: the Farnese, the Este, the Savoia, the Medici, and the Gonzaga. And the new military architecture was not limited to princely, proto-Absolutist regimes; Lucca, Genoa, Venice, and Geneva all built angle bastion fortifications as well. The military revolution, at least between 1530 and 1630, did not reduce European politics to a tug of war between a few great powers: Spain, France, the Emperor, Sweden and the United Provinces.

Italian historians, while very interested in the forms of their surviving Renaissance military architectural masterpieces (the walls of Lucca, Ferrara,
and Verona, only three examples of many, are now preserved and protected as full-fledged examples of Italian genius), have ignored the political consequences of fortress construction, and have failed to apply the idea of an early modern revolution to the political history of sixteenth- and seventeenth-century Italy. Instead, the new analysis of military power has been acknowledged only as supporting outmoded concepts of political history (a sub-discipline in tatters in current Italian historiography). In a review of Parker's *Military Revolution*, an Italian historian, after recognizing Pepper and Adams' study of Siena, concluded that "the liberty of Italy was certainly the first victim of the military revolution."^4

In fact, the new architecture was the greatest bulwark of the independent Italian states. The Gonzaga were among the first Italian princes to take advantage of the new military architecture, at first hesitantly or unsurely at Mantua. In the 1520s, in the first large-scale fortification program of the new era at Mantua, the refortification of Mantua with new walls and a series of artillery towers attempted the modernization of the city's defenses. This program was abandoned part way, for reasons of expense or because the design was recognized as already obsolescent. One unfinished artillery tower of this program was completed as an angle bastion, and the next fortification program at Mantua was the erection of an angle-bastioned citadel on the outskirts of the city. This great project absorbed the Gonzaga between 1529 and 1570, and provided the city with its first comprehensive modern fortification. The fortifications at Mantua reacted to and absorbed the arrival of the angle bastion orthodoxy in military architecture.

But the greatest sixteenth-century Gonzaga fortification project was not in Mantua, but in Montferrat. From 1590 Duke Vincenzo I rebuilt the
fortifications of Casale Monferrato as the most technically advanced fortress in all of Europe. The centerpiece of this effort was a state of the art geometrically perfect six-bastioned citadel, the first of its kind or scale in Europe. At its dedication no other European power—not even Spain or France—could boast such a massive fortress. By 1600 the Gonzaga duchies of Mantua and Montferrat were among the best defended pieces of real estate in Europe, anchored by truly daunting fortress complexes at Mantua and Casale.

These Gonzaga fortresses, constructed with much care and at great expense over the sixteenth century, were tested in war during the so-called Mantuan succession crises and wars of 1613-1630. Complicated and complex succession disputes over both Mantua and Montferrat, a typical example of one of the real weaknesses of dynastic international politics, involved two branches of the House of Gonzaga, the Duke of Savoy, the King of Spain and the Emperor, and eventually Venice and France. The Mantuan War of 1628-1630 (known as the Third Mantuan War to distinguish this conflict from the two rounds of inconclusive fighting over Montferrat in 1613-1618) saw the combined forces of Spain and the Emperor crash against, and break against, the Gonzaga fortress of Casale, and only take Mantua on the second attempt and after the garrison was gravely depleted by the plague. The events of the Mantuan War proved wise the sixteenth-century Gonzaga investment in fortifications. The survival of Casale, and the tenacious though ultimately unsuccessful resistance of Mantua, pinned down Spain and the Emperor in a politically unprofitable war in North Italy that pulled Habsburg resources away from more dangerous conflicts in the Netherlands and in Germany. The long survival of Casale and Mantua allowed France to intervene and help stymie Habsburg policy in North Italy. The success of French
intervention in 1630 and 1631 materially rearranged the balance of power in Italy; after a half-century or more of exclusion dating back at least to the Peace of Cateau-Cambrésis in 1559, France was again a player in North Italy. An alliance of France, Mantua, Savoy, and Venice now opposed and balanced the Habsburg system based on Milan, Naples, and Sicily. The treaties which ended the Mantuan War, Regensburg (October 13, 1630) and the two Treaties of Cherasco (April 6 and June 19 1631), vindicated the Gonzaga Duke of Mantua and Montferrat and his family's long reliance on fortresses.

The history of Gonzaga fortifications between 1530 and 1630 therefore serves as an excellent example of the military revolution at work. Between 1530 and the close of the century the Gonzaga carefully built two world-class fortification systems. Between 1628 and 1630 those fortresses served admirably: tactically, strategically, and politically. The King of Spain and the Emperor, despite their overwhelming superiority of resources in total, were incapable of successfully concentrating those resources against both Mantua and Casale. The inability of the Habsburg great powers to quickly seize Mantua and Montferrat gave Louis XIII and Richelieu a golden opportunity to intervene in Italy with the greatest effect and at the least risk. This intervention saved the Gonzaga from an ultimate defeat, but was only possible because of the resistance of the Gonzaga fortresses in the first place. In the end, the Gonzaga fortification strategy proved an excellent defense of the family's dynastic claims, and in conjunction with an adroit diplomacy saved the Gonzaga state.

The success of the Gonzaga fortress strategy also tempers the old assertion that Spain so dominated the politics of Italy between 1530 and 1630 as to be a virtual hegemon. The completeness of that Spanish hegemony is
questioned by the Gonzaga fortress strategy, which also suggests that cooperation between Gonzaga and Habsburg was in truth more an alliance than a pure dependency of weaker on stronger. The Gonzaga were never the pawns of the King of Spain or the Emperor. The Gonzaga certainly recognized the frankly superior power and prestige of the Habsburg monarchs, but on their own terms. Though military service as subordinates under the Habsburgs defined the relationship between the families, Gonzaga pride sometimes chaffed. Vespasiano Gonzaga of Sabbioneta chose as his device a muzzled dog with the motto E IN LIBERTÀ MI GODO ("and I take pleasure in liberty") to symbolize that while a servant of the King of Spain, he was no slave. A second device of Vespasiano doubtless referred in part to the state of the art angle bastion fortifications surrounding the town of Sabbioneta: a hedgehog with the motto DECUS ET TUTAMEN IN ARMIS ("arms are my glory and my protection"). What applied to Vespasiano of Sabbioneta applied doubly to the Dukes of Mantua and Montferrat.

Politically as well as personally, the Gonzaga were never the tools of the Habsburgs. Theirs was a mutually advantageous relationship; if Spain challenged that relationship, then Spain could lose as well as win. The Mantuan War proved that. The fortresses of the Gonzaga stood unchallenged by war for more than thirty years before Spain's ill-advised war against the Gonzaga showed the real limitations of Spanish power in the peninsula. The Habsburg challenge came in 1628; had the political situation been different, it could have as easily come in 1595, or even earlier, and reached the same result. Massive, modern fortifications gave real independence to a power of the size and scale of the Gonzaga state in Mantua and Montferrat.
The history of Gonzaga fortifications in the rough century between 1530 and 1630, and in the context of statecraft, not architectural history, reveals important facts regarding the war and politics of early modern Europe. Fortifications represented a wise strategy for a smaller state, even a dynastic state of separated territories; the costs of modern fortifications were not unsurmountable. As an example of the military revolution at work, the fortifications of the Gonzaga state show that not just the larger and richer states could turn new techniques and new technologies to their advantage. The military revolution did not automatically or immediately allow the greater powers of Europe to swallow the smaller.

1 Proust, Remembrance of Things Past (New York 1982) II 545: "Because [Isabella d'Este] seems to us to be of a unique and therefore incomparable essence, we cannot conceive of her as being any less great than [Louis XIV], so that a supper-party with Louis XIV would appear to us only to be rather interesting, whereas with Isabella d'Este we should find ourselves miraculously transported into the presence of a heroine of romance."


3 Drawing in ASMn, AG, 85, 10, 125.


CHAPTER II
FORTIFICATION THEORY AND PRACTICE

Revolution: the Development of Gunpowder Artillery, c. 1450-1494

Historians have long agreed that the development of effective gunpowder weapons, especially artillery, revolutionized the conduct of war across the fourteenth, fifteenth, and sixteenth centuries, forming one of the crucial divides between the medieval and modern worlds. The coming of gunpowder challenged the medieval ideas of war in ways both subtle and blunt. Certainly the conduct of battlefield and campaign operations changed as the dramatic new weapons, belching fire and smoke as well as shot, proved increasingly efficient at killing men and destroying walls; but gunpowder weapons also sapped at the culture of chivalry, at the ideal of the warrior as a social and political superior. Roland and Arthur became antique, paragons of a lost if shining time; new literary figures encapsulated the smashed limbs and infected wounds of the gunpowder battle: Don Quixote, the knight as fool; the braggart Captain, stock figure from the stage of Commedia dell'Arte; and Simplicissimus, the rapscallion anti-hero of the Thirty Years' War.

But gunpowder changed the culture of war precisely because it revolutionized the practice of warfare. The decline of knightly cavalry; the rise of ordered infantry; development of the broadside sailing ship; an increasing reliance on money as the first sinew of war—all these
transformations (and these are only the foremost of many) in the medieval way of war can be credited, at least in part, to the development of effective gunpowder weaponry. But the most immediate, and even most profound, effect of gunpowder on medieval war and society came with the development of effective gunpowder artillery--cannon--and the consequent collapse of the medieval fortification tradition, as both architectural design and political concept. The castle, that guarantor of root feudal independence, and the city wall, that protector of burgess privilege and civic charter, were dead.

Between the middle and the end of the fifteenth century, that is roughly between 1450 and 1500, the development of powerful cannon seemed unmatched by any parallel development in fortification design. The bombard, an enormous cannon of wrought iron hoops or cast bronze, came to be increasingly supplemented and replaced by smaller and lighter artillery pieces--squat mortars, long-barreled culverins, sakers, and serpentines--which were more agile, perhaps more accurate, and certainly more numerous. Gunpowder artillery became specialized: the mortar to toss shots in a high trajectory over tall walls, the culverin to peck away at walls with line of sight shots. Standardization complemented specialization: breech-loading mechanisms became rare except in the smaller pieces, with all tubed gunpowder weapons eventually becoming muzzle loading, and artillery became grouped in standard families of stock calibers and ball weights, from cannon, half-cannon, culverins, demi-culverins, on down to petty wall pieces and man-portable weapons. Cast lead or iron shot replaced laboriously carved stone balls. Two-wheeled carriages, with the artillery piece balanced on trunnions, replaced four-wheeled carts and sledges. Horses, rather than oxen, pulled in the traces. None of these changes were total or immediate: stone
balls, oxen, and breech loading remained common well into the sixteenth century. But the versatile new pieces steadily displaced the bulky old artillery. Compared to the hulking bombards, these lighter pieces could all be transported more easily, and emplaced and aimed easier as well. They fired more rapidly. And though smaller than the typically monstrous bombards, which lobbed enormous balls of several hundredweight, these comparatively lighter cannon could still be very large, the full cannon used regularly in heavy siege work still hurled missiles of fifty, sixty, or a hundred pounds and more. These new cannon could smash existing medieval fortifications with impunity, with no new current in military architecture apparently capable of reversing or checking this trend. Gunpowder artillery development had outstripped fortification design.1

There were strategic and political consequences to this technological gap between the offensive and the defensive. In the long-festering Hundred Years' War the creation of a French royal artillery from 1430 gave the House of Valois a decisive advantage over the English King, and ended within a generation a conflict that had sputtered for a century. In 1453, the same year as the fall of Castillon, the last English stronghold in France, gunpowder artillery in the hands of the Turk delivered up Constantinople. On the opposite side of the Mediterranean, in 1492, gunpowder artillery in the hands of the Christian Kings, Ferdinand and Isabella, accomplished the expulsion of the Moor from the mountain strongholds of Granada, ending the Islamic presence on the Iberian Peninsula after over 750 years.

The most acclaimed demonstration of gunpowder artillery's power, political as well as military, came with Charles VIII's invasion of Italy in 1494. Charles VIII claimed the Kingdom of Naples as his, and the Duke of Milan
aided the French King's intervention in Italy as congruent with his own designs. Charles VIII gathered his host, crossed the Alps, marched unopposed along the pilgrim road to Rome, and then almost bloodlessly took possession of a Naples writhing in political collapse. Though Italian history, both recent and remote, gave countless examples of foreign invasion, contemporary Italians soon seized upon the invasion of 1494 as opening a grave new chapter in Italian history. The military skill of the invaders occasioned particular comment. The Florentine historian Francesco Guicciardini included an excellent analytical description of Charles VIII's artillery train in his celebrated universal history; a description that has guided later historians' assumptions of how and when gunpowder came to change the war and politics of late Renaissance Italy:

[According to Guicciardini, artillery had existed in Italy from c. 1380.] The biggest of these artillery pieces were called bombards, which were subsequently employed throughout Italy since this new invention could be adapted for attacking towns. Some of them were made of iron, some of bronze, but they were so big that the large pieces could be dragged only very slowly and with the greatest difficulty; furthermore, men were unskilled in handling them, and the grappling irons were unwieldy. For the same reasons it was difficult to plant them in position against cities; once placed, there was such an interval between one shot and another compared to later developments, that a great deal of time was consumed with very little reward....

But the French developed many infantry pieces which were even more maneuverable, constructed only of bronze. These were called cannons and they used iron cannonballs instead of stone as before, and this new shot was incomparably larger and heavier than that which had been previously employed. Furthermore, they were hauled on carriages drawn not by oxen as was the custom in Italy, but by horses, with such agility of manpower and tools assigned for this purpose that they almost always marched right along with the armies and were led right up to the walls and set into position there with incredible speed; and so little time elapsed between one shot and another
and the shots were so frequent and so violent was their battering that in a few hours they could accomplish what previously in Italy used to require many days. ... This artillery made Charles' army all the more formidable throughout Italy.²

Though Guicciardini generally well understood the technical differences between the older bombards and the newer forms of cannon, he in fact overstretched the technological gap—if one really existed—between French and Italian artillery in 1494.³ Some of Charles VIII's artillery came from Milan; he borrowed other pieces from the collection of one of his Italian allies, Duke Ercole d'Este of Ferrara, a personal enthusiast of artillery, fireworks, and all incendiary devices. Perhaps Florence's political collapse in 1494 at the approach of the French colored Guicciardini's appreciation of Charles VIII's host, and like his countryman Machiavelli, Guicciardini hated the mercenary captain-princes who were Italy's true military professionals, and who seemed overweening, arrogant, and unreliable from the perspective of a Florentine citizen. But Guicciardini's famous description of Charles VIII's artillery, given in explanation of the success of the French invasion of 1494, still stands as an excellent comparison of the older artillery, that is of bombards, with the newer artillery. Certainly Guicciardini's text reveals the real sense of mismatch between cannon and fortifications that contemporaries felt at the turn of the sixteenth century. The new artillery seemed the unstoppable arbiters of war, able to smash down any existing fortification and upset any existing polity. The question for captains and princes became, how to oppose this new artillery and how to restore the tactical and political strength of the defensive?
Guicciardini coupled his description of the French King's magnificent army and impressive artillery train with a dismissive account of Italian captains' tactics: "the Italians did not fight in firm, well-ordered squadrons, but scattered throughout the countryside, retreating most of the time to the security of river banks and ditches." To a humanist who modeled his history on the Roman classics, and who liked his generals in the all-conquering ancient heroic tradition of Caesar and Alexander, such tactics doubtless seemed ignominious and unproductive. Yet Guicciardini's remark—that Italians preferred to retreat to "river banks and ditches"—is worth as much as his famous description of Charles VIII's artillery, for it contains a hint of the tactics and tactical attitudes that would in fact successfully counter the new power of artillery.

Warfare after 1500—and this of course is only a rough, benchmark date—marked the triumph of the tactical defensive, in stark contrast to the dramatic developments in offensive hardware in the half-century prior to 1500. By the fourth decade of the sixteenth century a new military architecture emerged that more than restored the strength of the defensive. This new military architecture, not firmly articulated until the triumph of the angle bastion system—the vaunted trace italienne—mocked the offensive fury of gunpowder artillery. Guicciardini, who wrote his history after 1537, in fact recognized this volte face in military affairs in the later chapters of his history, and he contrasted the power of the new defences with the unrestrained power of artillery in 1494:
After King Charles [VIII of France] had come to Italy, the terror of unknown nations, the ferocity of infantry organized in waging war in another way, but above all, the fury of the artillery, filled all Italy with so much dread that no hope of defending oneself remained for those not powerful enough to resist in the countryside; for, men who were unskilled in defending their towns, surrendered as soon as the enemy approached, and even if some put up resistance, they were taken within a very few days. Thus the kingdom of Naples [in 1494] and the duchy of Milan [in 1499] were attacked and conquered almost in a single day; thus the Venetians, beaten in one battle only [Agnadello, 1509], suddenly abandoned the entire empire that they had on the mainland; thus the French, having scarcely seen their enemies, left the duchy of Milan [in 1512].

Then terrified by the ferocity of the attacks, men began to whet their wits and contrive more subtle means of defense, fortifying their towns with banks, ditches, moats, flanks, ramparts, bastions; whence (the great number of infantry pieces also helping to this purpose very much, more effective in defense than in attack) the towns now being defended have been made very safe and cannot be taken by storm. Guicciardini exaggerated, but in general his remarks were true enough: increasingly, properly defended positions--cities, towns, and fortresses, even river lines--fell only after methodical reduction by formal siege. In many situations, simply planting a few cannon before a defender's position and blasting away no longer sufficed. Careful planning, elaborate engineering, the massing of supplies--men, money, cannon, powder, shot, wood, horses and oxen, fodder, requisitioned peasant labor--now characterized the elaborate, and often exhausting, early modern siege. It was to be the new military architecture, not the gunpowder cannon that forced the development of that architecture, that defined early modern warfare.

This new architecture repaired the technical weaknesses of existing medieval fortifications. Throughout the Middle Ages, in a tradition with its origins in the ancient world, the architect-masons who designed and built
permanent fortifications relied on tall stone walls to defy attack. The added obstacle of dry ditches or wet moats could give further height. Besiegers had few options between assault and starving the besieged into submission, though human ingenuity did not leave the problem unexamined. Catapults, trebuchets, and the like, though truly impressive mechanical devices, had none of the destructive, shattering power of cannon. Picks and rams demanded a lodgement at the very base of the wall being attacked, and here, in the very shadow of a fortification's walls, is where the confrontation of siege warfare took place. The defense of a place, be it a castle or a city wall, was close-in work. Walls and towers were built as tall as possible, to prevent escalade by ladder or siege tower, and distinctive structures decorating the tops of these walls and towers significantly contributed to their strength. Crenellation, the gap-toothed pattern of voids and protective solid wall, allowed archers, crossbowmen, and handgunners to shoot from cover. Hoardings of stout wood supported on stone corbels projected out from the face of walls and towers, and machicolation, holes or trapdoors in the floors of this hoarding, allowed shots to be fired vertically down on the besiegers. Through these slots defenders dropped heavy objects, and anything else obnoxious, from beehives to boiling liquids, on the attackers' heads below. Often this machicolation was of stonework integral to the fabric of the wall or tower. But when faced with cannon, the strengths of medieval European military architecture became weaknesses.

Cannon challenged the medieval military architecture based on height and a vertical defense. At first defending and attacking forces simply added gunpowder weapons to their arsenals, little altering the practice, and unaffected the course, of siege operations. Defensively, widened arrow slits
made better firing positions for the smaller guns, and casemates mounted the larger artillery pieces. On the attackers' side, a few bombardcs, great and small, supplemented traditional engines. But through the fifteenth century improved and more numerous cannon made medieval defenses progressively useless. A vigorous and protracted cannonade could blast away at crenellation and machicolation from a safe distance, shattering the wood and crumbling the masonry with little risk of reply: these crowning outgrowths of medieval military architecture could not support the heavy cannon with which to respond to the besiegers' guns. Heaps of earth and heavy wood mantlets gave better protection to besieging guns than stone walls offered the besieged. Attacking cannon could also direct their destruction at the body and base of walls and towers, dislodging stones, cracking and even tumbling whole sections of wall. Once denuded of machicolation and hoarding, and broken down in pieces, an infantry assault could enter the fortification through a breach paved with a mound of broken masonry. As long as cannon, typified by the great bombards, were few in number and could fire only a few shots a day, repair work could counter their battery, but as the number of cannon increased, and as the rapidity of their fire increased, no repair could keep pace with their destruction. Siegework proceeded with an alacrity and a surety impossible before the introduction of gunpowder artillery.

The improvised response to the new artillery was to bolster the tall traditional medieval defences with low earthworks. These could be built as an emergency second line of defense, dug into the ground immediately behind the section of stone wall perimeter under assault. More positively, earthworks consisting of raised earth dykes, palisades, and excavated trench
lines could be built in front of medieval fortifications, at the base of existing walls, mounting defensive artillery with which to challenge the attackers' guns. Thus initially hasty earthworks became the primary defenses of towns and castles under siege by gunpowder artillery, while impressive masonry medieval walls became secondary, vulnerable and indefensible without their ruder supporting earthworks. Defenders and attackers alike constructed increasingly elaborate systems of ditches and raised firing platforms, screened by wooden fencing, or better still by walls of wicker and earth gabions. Such artillery and anti-artillery earthworks also increasingly characterized all tactical confrontations, not just formal sieges against strongholds. Where both attackers and defenders had ample artillery, and experience with that artillery, a new pattern of warfare emerged. In the War for the Public Good (or Common Weal) in 1465 between the King of France and some of his vassals, led by the House of Burgundy, the rebel and royal armies faced each other in the vicinity of Paris, with the royal force at Charenton and the Burgundian-allied army directly across the Seine at Conflans:

The king's men started to dig a trench at Charenton, where they constructed a bulwark of wood and trampled earth, which led to our army; and this ditch extended in front of Conflans with the river separating them and us, as has been said. A large number of pieces of artillery were planted there ... This artillery first began to shoot through our army ... It was decided that all the artillery of the [Burgundian-led] army would be matched against the king's. The lord of Charolais was strong in artillery. The duke of Calabria had some fine artillery too, as did the duke of Brittany. Large openings were made in the [medieval] ramparts along the river behind the count's house at Conflans, and all the best arms were gathered there (except for bombards and other large pieces which were not fired at all), and the rest were placed where they could be of greatest use. Thus there were more of them on the side of the lords than on the side of the king. The trench which the king's men had made was very long and
pointed toward Paris; they dug constantly farther and farther and threw the soil over on our side in order to protect themselves from the artillery, because all of them were hidden in the ditch and not one of them would have dared show his face. ... I have never seen so much shooting in such a few days; for our part, we expected to drive them away by dint of artillery. On the other side, reinforcement was being sent to them from Paris every day; these men, for their part, performed their duty with diligence and did not spare the powder. A large number of soldiers from our army dug ditches in the ground on the site of their encampment, even though there were many holes there already, since it was a place where stones had been quarried. Thus everyone had protection and three or four days passed.

Was this siege or field warfare? In fact, gunpowder weapons and anti-artillery fortifications conflated the two, making all large-scale warfare defensive and positional in character. Though architecturally unimpressive, the ad hoc earthwork defences of the fifteenth century set the pattern for the more substantial and more sophisticated fortifications of the centuries to follow: low and massive and specifically designed to mount artillery in defense.

Fifteenth-century experimentation with earthworks as a response to gunpowder artillery is best known from the later years of the Hundred Years' War, and in the Burgundian conflicts of the 1460s and 1470s, but the same process of experiment was going on elsewhere in Europe, including Italy. At the Venetian siege of Brescia in 1426 siegeworks included five miles of ditch, and Venice constructed extensive earthwork border fortifications facing the Hungarians in 1411 along the line of the river Livenza, and along the Adda river, facing Milan, in 1451. In the 1430s and 1440s deep ditches and spiked logs protected the camps of the Sforza army of Milan on campaign, and the Venetian condottiere Bartolomeo Colleone used bombards to lay siege to a Milanese camp as if against a regular fortress. In 1480 the architect-engineer Ciro Ciri, a student of the well-known pioneer of artillery fortifications,
Francesco di Giorgio Martini, constructed an elaborate system of ditches as part of the siegeworks that evicted the Turkish from Otranto. Guicciardini—despite his sense of 1494 and the army of Charles VIII as the fulcrum of military change—even proposed that the siegeworks of 1480 at Otranto might have been the first of the new era.

The events of 1495 and Charles VIII's retreat from Naples and Italy (in most accounts usually overshadowed by the record of his triumphant 1494 entrance into Italian affairs) reveal how sophisticated the Italian use of earthworks could be, and how earthworks mounting artillery could support an entire strategy, and not just serve as a tactical expedient. Intervention in Naples having soured, in 1495 Charles VIII sought to extricate himself personally from the complications of his newly seized kingdom by departing for France with half of his host. Recognizing, after the fact, the danger of the French King's participation in Italian affairs, Venice, Pope Alexander VI, the Emperor Maximilian, Ferdinand and Isabella of Spain, and a turncoat Ludovico Sforza of Milan had all come together as the Holy League (or League of Venice) to oppose Charles VIII. An allied Italian army formed to enforce his retreat from the peninsula. Commanding this Italian army was the Marquis of Mantua, Francesco Gonzaga; distinguished by this command as the most prominent captain of the day.

The political and strategic task facing Francesco was a demanding one. Politically, he had to maintain an allied army, sublimating the divergent political agendas of the members of the Holy League within their larger anti-French common cause. As a prince himself, Francesco had to balance his own interest with that of his paymaster, Venice, and the other members of the League. Strategically, Francesco needed to assist Charles in his already
chosen path, a retreat from Italy. A battle that chastened the French King, that checked his French army's reputation in combat, and that spoiled his taste for Italian politics would accomplish the Holy League's political purpose wonderfully; but a major battle won by the French King would immediately reverse the tide of Italian politics, almost certainly shattering the League and confirming Charles VIII as master of Italy. The League needed to force a battle with Charles, yet had to do so with prudence. How to accomplish the League's strategic goals tactically, with minimum risk?

Marquis Francesco Gonzaga's solution was to use the allied Italian army to block Charles VIII's retreat, letting the French army advance on the Italians in a prepared position. The confrontation took place near Fornovo along the valley of the Taro river, at this point a graveled multi-channeled streambed, on the north slope of the Apennines towards the Po valley: this was one of the few paths the French could choose in crossing from central to northern Italy. Here Francesco supplemented the natural strength of a site on the right bank of the river with earthworks: "the commander Francesco Gonzaga with his colleague, his uncle Rodolfo, had set his camp in a very safe spot and fortified it with a rampart and ditch, although it was already secure in large part by its very nature because of the steep hill in the direction of the Taro." The position of the Italian allies exactly conformed to Guicciardini's indictment of hiding behind "river banks and ditches." Here the artillery of the Italians commanded the passage, as Guicciardini's own account of the situation confirms: "The camp of the allies was fortified with ditches and ramparts, and well equipped with artillery, in front of which the French were forced to pass if they wished to retreat into the Asti region (thereby crossing the Taro alongside Fornovo) with nothing but the river between them and
the Italians." The longer the French waited before attempting to force their way past the Italians, the better armed the gathering allied army would become. Indeed, a few days after the ensuing battle Venetian artillery as modern as anything French arrived, a little late, at the allied camp: "additional engines loaded on two hundred two-horse wagons were sent from Verona to the camp; these fortified a great part of the camp, and with them were the masters of the artillery, whom the leaders had missed at the time of the battle." Had Charles VIII hesitated until the arrival of this artillery and these artillery specialists, the French position might very well have been hopeless. But before these reinforcing cannon arrived, Charles VIII tried to sneak his army past the Italian position by marching along the left bank of the Taro, opposite the allied fortified camp. Whether on purpose or not (contemporary chroniclers assert no causation), Charles VIII chose to advance on a day of steady rain following a night of thunderstorms, the wet weather materially reducing the effectiveness of gunpowder weapons, saving his army from being cannonaded to pieces from a distance as they trooped past the Italian camp. This was on July 6. The battle itself was only a sharp cavalry engagement in the streambed of the Taro; the infantry of the allied army remained uncommitted, separated from the French by a rising river. The fight bloodied both armies, but loses to the French nobility accentuated the deterioration of the French position in Italy, and the Balkan stratiots of the Venetians utterly sacked the king's baggage. Though Charles VIII did gain passage along the left bank of the Taro, this check to the reputation of French arms left the French king with no choice but a headlong flight towards France; in their haste the French may have even buried some of their artillery. Thus Charles VIII's measured retreat from Italy became a political
and strategic rout. Continued rain sent the Taro into flood, making a real pursuit of the French impossible, and the allied army now focused on the French garrison at Novara in the Milanese, under the command of the Duke of Orleans, pretended Duke of Milan.\textsuperscript{19}

While the Battle of Fornovo, or of the Taro, illustrates the developed tactical use of artillery field fortifications by Italians in support of a larger strategic plan, the following siege of Novara shows the equal sophistication of Italian siege operations. The garrison of Novara, made up of French soldiers and townspeople revolting against Ludovico Sforza, Duke of Milan, supplemented the medieval walls of the city by building "fortifications before their gates with turf, brushwood, leaves, and mud, and [by throwing up] before the approaches to the city a rampart and a ditch, which are a hindrance to the stationing of all troops and bring a danger to those who risk them."\textsuperscript{20} These earthworks included a "double ditch" around the city, though "almost no ramparts [raised artillery platforms] were constructed [because] there was ... very little artillery inside the city."\textsuperscript{21} In this situation, the advantage in artillery was from the beginning on the Italian side. In preparation for a siege, the first Italian allied troops to reach Novara "shut off the channel where the river comes down and gave the river another course, turning it away from the city, and with sword and fire they destroyed for six stades [VI stadiis=six Italian miles?] around the city the grain mills which the water turned."\textsuperscript{22} This prevented relief and supply by water, and began the economic blockade of the city. The diversion of the river was only the first engineering project of the besiegers. After the bulk of the Italian forces arrived, a vigorous debate concerning the investment of the city ensued among the various allied
commanders, all gathered together over a map of Novara and the surrounding country:

For a long time the leaders argued among themselves [and] at length they decided to erect four works of defense to protect the camp. ... The plans of all those who had urged that the camp ought to be moved had become confused. [To settle the issue] on the table were drawn all the cities, roads, swamps, forests, rivers, ditches, towns. ... At length the opinion of the leader [Marquis Francesco Gonzaga] prevailed, that of two camps one to be made which, in addition to the fortifications we have mentioned [the "four works of defense" above], the river and a ditch would protect.23

Thus the besiegers erected their own earthwork defenses to counter the fortifications of the besiegers. The Duke of Milan meanwhile sent for heavy cannon and siege equipment from Milan, and the land on one side of the city of Novara was flattened and leveled as a preparation for battle should Charles VIII respond.24 He did not—the battle of Fornovo had proved permanently chastening. On August 29, after almost two months of blockade, "fortifications ... were erected beneath the walls [i.e., close to the walls] of the city so that heavier artillery might shortly be brought up for the destruction of the walls [from short range]."25 Fighting in the first week of September cleared the way for point-blank emplacements:

On 9 September four mortars were put beneath the walls ... for the destruction of the houses, and likewise longer [cannon]. ... Ladders were brought to the camp [in preparation of an assault]. On 11 September some nuns came out from the city to the camp and reported that the French in the city were afflicted with the greatest want and squalor ... and the roofs of private houses were being snatched away for fortifications. ... On that night two huge bombards which discharged stone balls weighing two hundred pounds were brought into the camp from Milan. With these on the following day they began to batter the towers and the gate, and the destruction was enormous; in one night you could see the appearance of the entire city changed."26
Novara was clearly about to fall, as Charles VIII still refused to come to his cousin the Duke of Orlean's aid, but at this point political considerations sundered the Italian alliance's offensive effort. The Venetian contingent relished the coming sack; but of course the Duke of Milan would much rather receive his city back entire, and not after a ravaging by a booty-crazed soldiery. Extensive negotiations—complicated by the many sides of the Italian alliance, including representatives from the Emperor Maximilian and the King and Queen of Spain—took place during a lengthy truce, and eventually ended the campaign by diplomacy with an accord reached on November 10. On the 11 the allied soldiers burned their cantonments and began their dispersal, a few to garrison life and the majority to trek their way homewards, to Italy, Germany, and Switzerland; what remained of the French garrison began their march west to France. The Duke of Milan received Novara whole, much abused by the siege, but free from the destruction of a sack.

Neither the battle of Fornovo nor the siege of Novara were spectacular victories; the battle of Fornovo especially has been labeled as ambiguous, and the siege of Novara of 1495, ended by diplomacy, has been overshadowed by the later battle of Novara of 1513. Yet both battles were clear victories for the Holy League in that they advanced the overall strategic goal: the forcible eviction of Charles VIII and the French. Though not the wholly glorious (or comprehensively disastrous, depending on the point of view) occasions usually awarded analysis in military history, these confrontations illustrate an important point regarding a changing art of war: in both situations, along the banks of the Taro and in besieging Novara, earthwork fortifications described the tactics, and informed the strategy, of the contending armies. The campaign of 1495 also reveals that the Italians were not technologically or
technically retrograde: their artillery and methods of siegecraft were entirely equal to those of the French. What is most notable is that the Italian use of earthworks directly supported the Holy League's larger political and strategic purpose; in this sense the Holy League seems more sophisticated, not less, than Charles VIII with his vainglorious chevauchée into, and then out of, the kingdom of Naples.

In this present study, the campaign of 1495 is important for another reason: it highlights the generalship and professional career of the Marquis Francesco Gonzaga. There is no doubt but that Francesco Gonzaga was one of the foremost military professionals of his day. As commander of the allied army of the Holy League he was as well positioned as anyone in Italy, or Europe, to observe the changes revolutionizing warfare; by the behavior of his army it is equally clear that he understood these changes, and was a participant in the search for new tactics and new strategies with which to confront the power of gunpowder artillery. Francesco shared this professionalism with the rest of his family. On campaign the Marquis brought a retinue of Gonzaga relatives, of his immediate family and of distant cousins as well, illustrating the family's living tradition of military service. Francesco, a young and untried man before the battle (though the head of his house), by the terms of his contract with Venice had to have his uncle Rodolfo, an older man and an experienced campaigner, as advisor. Rodolfo was killed at Fornovo; according to the French eyewitness Commynes the Marquis Francesco "lost many of his relatives there, as many as seven or eight."28 The Gonzaga martial tradition was more than court pagentry.

In return for his skills, and his successful generalship in 1495, Francesco received two things: money and prestige. Though the latter may
well have been more important politically, reputation being (almost) all, the first was always well received. After Fornovo Francesco garnered from a grateful Venice an increase of 2,000 ducats per year to his contract, a 1,000 ducats per year allowance for his wife Isabella d'Este (famous then and now for her appetite for expensive luxuries and antiquities), and a one-time grant of 10,000 ducats to replace losses in his personal company. Rodolfo Gonzaga's widow and family received an annual pension of 1,000 ducats per year, and Venice provided his daughter a 1,600 ducat dowry in 1501. The honors flowed as well. For the victory at Fornovo Francesco received the rare title of captain-general from the Venetian Senate, an honor resonant with power and dignity. At the conclusion of the campaign the Senate and city of Venice received Francesco in state:

On 8 November [1495] Agostino Barbarigo, doge of the greatest wisdom, and all the Senate boarded the triumphal ship traditionally called Bucentaur to go and meet the general who deserved well of the republic. ... Then the Doge with all the Senate and with all the envoys of the princes of Italy, of Maximilian the king of the Romans, and of the rulers of Spain welcomed the general to the ship with great joy, congratulated him on his praiseworthy victory, and gave a representation of triumph through the city in accordance with ancestral custom. Single banked galleys carrying actors and innumerable citizens accompanied with the greatest applause, and almost the entire day was consumed in the many embraces of the Senators.

Francesco himself celebrated and commemorated the prestige that came with his successful leadership of the Holy League by directing the Gonzaga court artist, Mantegna, to paint the Madonna della vittoria, depicting the Virgin enthroned with Marquis Francesco, appropriately in armor, kneeling at her feet to give thanks.
Counter-Revolution: Towards a New Military Architecture, c. 1450-c. 1530

The record of the 1495 campaign shows that orthodox military doctrine in Italy already centered on the use of earthwork fortifications and gunpowder artillery, in both siege and field warfare, and for both offensive and defensive purposes. But a systematic engineering solution to the problems of gunpowder artillery had not yet emerged. Three basic problems defined the search for the ideal fortification: the need to mount artillery, the need to physically withstand attacking artillery, and the need to remain invulnerable to traditional assault by escalade. Three distinct design paths illustrate this search: increasingly sophisticated earthworks, a continuation of a trend long-established by 1500; the artillery tower, an attempt to counter the power of artillery with massive casemated masonry towers; and, finally, the angle bastion, wedge or spade shaped in plan, low in profile, of earth faced with masonry, and—most importantly—depending on the mutual support of adjacent angle bastions to create a defensive system based on enfilading fire.

Earthworks were certainly the most important arena of experiment. An eyewitness description of the French encampment near Avignon, built in the summer of 1536 as the French were first accepting the angle bastion, noted that "time and experience added, practically daily, some new fortification." Spontaneous and cheap in materials and labor (requisitioned peasants did just fine; few skilled craftsmen were necessary), earthworks could be built, levelled, and then rebuilt with relative ease; cheapness also allowed earthworks to be extensive. Masonry construction—permanent and expensive in materials and labor—of course demanded a far more serious investment (and a more considered strategic function), and so masonry fortifications
tended to be more traditional than contemporary efforts in earth. Unfortunately, the historical record of earthworks is weak, both because contemporaries apparently viewed impermanent earthworks as non-architectural (in contrast with the higher status of permanent masonry fortifications) and because the very materials of earthwork fortifications guaranteed that without constant maintainance they would not survive past a few seasons. Contemporary literary references to earthworks, though marking their use and general importance, do very little to describe the engineering or the physical form of the earthworks in question. The very words used—bastion, bulwark, rampart, ditch, cavalier—could be describing fortifications of very different function, as the terminology of fortification remained static while the physical forms of fortification evolved. Only visual, or artistic, sources record the on-going experimentation with earthwork fortifications without ambiguity.

Depictions of the battle and siege of Pavia in 1525 are an excellent source for the use of earthworks in the period of the Italian Wars, simply because the most dramatic event of the battle—the capture of Francis I, king of France—excited all of Europe, creating a market for the artistic description of the battle.33 The battle itself was the result of a typical operational impasse: a French army personally commanded by Francis I besieged an Imperial army in the Milanese city of Pavia; meanwhile, an Imperial relieving force gathered. A night sally by the besieged, a camisado in which the Imperials wore white shirts to identify themselves in the dark, turned into a French disaster with their army routed and their king captured. The fact that the battle occurred on the Emperor Charles V's birthday, February 24, emphasized for contemporaries the dramatic rotation of Fortune's wheel. Enough
depictions, from different sources, of the earthwork fortifications used by both besieged and besiegers at Pavia remain to allow a reconstruction of their form and purpose. Two artistic works in particular well describe these fortifications: a tapestry, one of a series made for the Marquis of Pescara, the Spanish Viceroy of Naples, as a commemoration of the victory and as a present for Charles V (figure 3); and a woodcut of the battle by the German artist Jörg Breu the Elder (figure 4).34

The Imperial defenders supplemented the medieval walls and towers of Pavia with extensive earthworks. Circular ramparts of earth guarded the base of every tower in the city walls, and also stood at the angles of the city's perimeter. Horizontal slits cut in the walls of these ramparts allowed the defenders to shoot from cover. In front of the Visconti Fortress, an out-dated medieval castle imbedded in the city's circuit of walls, a larger earthen rampart, again circular, similarly defended against attack and gave a protected exit and entrance to the city. There is no evidence for any raised artillery platforms. Interestingly, Pavia does not seem to have been protected by a continuous belt of ditchworks; rather, the curved ramparts at the base of each existing medieval tower defended the perimeter of the city as a series of strong-points. The medieval walls between these earth strong-points apparently remained unmodified, and the tapestry shows two clear breaches in these walls, emphasizing the inability of such tall, thin walls to withstand artillery attack: note that the earth fortification between these two breaches are unbattered. Given the absence of an all-encircling ditch and rampart, the physical obstacle of these earth strong points was not the main strength of the defensive system. Instead, these strong-points were concentrated positions for gunpowder weapons, certainly for handguns and probably for small
artillery pieces as well, which defended the perimeter of the city with their fire. Any assault on the city would have to cross through a beaten zone of fire, and any escalade directed against a particular section of wall would be transfixed by the enfilading fire of the adjoining earthwork strong-points.

The French besiegers erected conceptually similar earthworks. The French, meaning the various Swiss, Gascon, and Italian troops of the French king’s army, relied on a belt of earthwork sconces to invest the city; more conventional earthworks with gabions sheltered the attacking siege cannon. The circular sconces, each an infantry position for a half-dozen or so men, surrounded the city of Pavia as a zone of strong-points, a defense in depth rather than a linear obstacle. Like the Imperial earthworks defending the city, these sconces had horizontal slots cut for handgun fire, allowing the defenders to shoot from full cover. The French sconces defended their individual positions with radiating gunfire; the gaps and spaces between these sconces became fields of fire, commanded by the infantry in their sconces, and swept by the fire of gunpowder weapons. Though seemingly rude, the earthworks at Pavia, those of besieger and besieged alike, exhibit a certain sophistication: these were fortifications depending almost entirely on defense through fire. Radiating, criss-crossing lines of fire replaced a reliance on linear obstacles and vertical defense. The earthworks at Pavia were to protect the defenders, not obstruct the attackers; converging fire would stop the assault.

Though a single example, the earthworks at Pavia in 1525 demonstrate the sophistication of earth defenses, and also hint that the materials of pounded earth, wicker gabions, and brush fascines allowed innovative fortification solutions. These solutions, once proved successful, might be
mimicked—in function or in form—in permanent masonry, and certainly experiment with earthworks informed the development of an orthodox science or school of military engineering. And earthworks remained an inexpensive, and effective, alternative to permanent fortifications, and a real necessity where medieval walls and towers remained the only defensive works. An elaborate 1542 woodcut of an Imperial camp at Ingolstadt shows large raised circular earthwork bastions mounting several pieces of cannon firing through embrasures and a screen of gabions (figure 5). One of these bastions protects a gate to the city, exactly as did the earthworks in front of the Visconti Fortress at Pavia in 1525. Earth redoubts and bastions, representationally very much like those used at Pavia in 1525, figure in Lucas Cranach the Younger's woodcut of the 1542 siege of Wölfenbuttel. These examples show that sophisticated and extensive earthwork fortifications were a continuous tradition from the Burgundian Wars of the fifteenth century through the Italian Wars and the other conflicts of the sixteenth century. That tradition of fortification in earth paralleled and contributed to the development of permanent fortifications.

Permanent fortifications did evolve in response to the threat of gunpowder artillery. The most natural response was a brute strengthening of the existing medieval fortification tradition, also modified to allow for the mounting of heavy gunpowder artillery. The result was the artillery tower. Often as tall as medieval walls and towers, the artillery bastion was of the stoutest masonry construction possible: strength against strength. Loops and slits pierced the artillery tower's thick walls; behind these openings would be special chambers, casemates, where the cannon resided. These casemates might be in several tiers. Flat platforms sometimes topped the artillery tower,
making fine positions for more artillery pieces. Such provisions for considerable firepower were the modern, progressive side of the artillery tower; in other matters they might be more traditional. In particular, they often kept the distinctively medieval feature of extensive machicolation for close-in defense. Thus the more modern urge to defend through artillery fire combined with the medieval tradition of vertical defense to make the artillery tower a hybrid design, reflecting the assumptions of the past as much as the circumstances of the present. The artillery tower—like the bombard—tended towards gigantism, perhaps because the design impulse was to create a fortification of massive solidity, increasing the cost of materials and construction (including the pay of masons and other master craftsmen), and increasing the number of cannon needed in defense; Albrecht Dürer's 1527 proposal for a truly gigantic artillery tower is the culmination of the species (figure 6).

The artillery tower was a compromise of medieval tradition with the need to mount, and face, modern gunpowder weapons, and that compromise manifested many shortcomings. The first was material: stone or brick shattered and crumbled under continuous fire, probably particularly after the general adoption of iron shot, and the masonry fabric of the artillery tower could not be easily, quickly, or cheaply repaired: a real concern in the case of a prolonged bombardment. And as the artillery tower was generally tall and only minimally scarped, the destruction of its base would soon topple the whole tower. A second problem lay in the mounting of cannon in internal casemates. These honeycombed any artillery tower, weakening a design that depended on solidity. Therefore casemates were constricted, but tight quarters reduced the maximum possible size of a particular cannon, made servicing
that cannon more difficult (especially a muzzle-loading piece), and a cramped chamber gave choking and blinding smoke little room to dissipate. A third issue regarded close-in defense, the real achilles heel of the artillery tower and every other variant of the medieval tower and curtain wall. The artillery tower, like the medieval tower, generally depended on machiculation to protect from sapping at the base of the tower, and from infantry assault with ladders. If the besieging artillery managed to destroy this machiculation, and through a vigorous fire kept defenders off the top of their tower, then it became seriously vulnerable to assault. The round or circular plan of the artillery tower made it difficult to protect the base of the tower from sapping—the very exterior curve of the tower protected any assailants from attack other than from directly above, and ensured a blind spot with regard to flanking fire from neighboring artillery towers (figure 7). A tower square in plan would only have a larger blind spot. The problem of close-in defense may well have been the greatest weakness of the artillery tower, and this problem demanded some solution. One solution was Dürer's proposal to include sconce-like miniature forts in the ditch before an artillery tower, a solution highly reminiscent of the almost contemporaneous earth fortifications at Pavia (figures 3 and 4). Though such sconces might provide flanking protection for the artillery tower, they themselves would be extremely vulnerable outworks; their loss to the besieger would restore the vulnerability of the artillery tower. The artillery tower proved an evolutionary dead end.36

The most elegant solution to the persistent problem of close-in defense was the angle bastion (figure 7).37 The angle bastion completely abandoned the medieval concept of vertical defense; gone were machiculation and crenellation. Defense against escalade depended almost entirely on the
flanking fire of neighboring bastions. The secret lay in the design of the angle bastion, five sided and spade- or arrow-shaped in plan. Two of the four exterior sides, the faces, met at the bastion salient, the distinctive angle of the design; the other two sides, the flanks, turned inside from the faces at a right or near-right angle to join the curtain wall. The fifth side, at the neck of the bastion— the gorge— faced the fortification's interior. The refused flanks of the angle bastion were difficult for an attacking force to target, and masonry extensions to the bastion faces, known as shoulders or ears, could actually make for recessed flanks, further blocking the attacking fire of the besieger. These shoulders were especially pronounced in many earlier sixteenth-century bastions.

Flanks were the key to the angle bastion: any cannon mounted at the bastion flanks could fire across the face of a neighboring bastion, enfilading any infantry assault against that bastion face. There were no blind spots. Similarly, the flanks protected the curtain wall connecting adjoining bastions. Since this defense did not depend on a commanding position over the surrounding country, bastion flanks could be low to the ground, and many flanking positions were constructed below the height of the bastion face, even at ground or ditch level. Flanks could be casemates, fully enclosed or open above, and some flanks made provision for tiered emplacements, with pieces firing from several levels. Despite the effectiveness of this flanking, enfilading fire, a height advantage over attackers was still desirable, and deep ditches, wet or dry, became a standard feature of angle bastion fortifications, just as ditches and moats had characterized fortifications for millennia.

Besides providing an exceptional defense against infantry escalade, the angle bastion also admiringly satisfied the two other requirements of the ideal
artillery fortification: mounting cannon in defense and withstanding bombardment. The wide top of an angle bastion made an excellent artillery platform, and the cannon mounted at the faces of the bastion of course contributed to the enfilading cross-fire produced by pieces mounted at the flanks. The broad platform of an angle bastion also made moving cannon about easier than ever, even from bastion to bastion, allowing defenders to concentrate their firepower at the point under assault. There was no longer any need to mount artillery at the very edge of the fortification. Cannon fired over deep, shielding ramparts, or through embrasures in those ramparts; bastion and curtain could be as thick as desired, thick enough to absorb the pummeling of a prolonged siege bombardment. The angle bastion might be made of solid stone, but more characteristic was construction of earth faced with stone or brick, on the model of an earth retaining wall, scarped or tapered towards the rampart top. Thus protective bulk could come relatively cheaply, in both materials and labor. In time of siege, the defenders could repair the damage to the earth fill of their bastions relatively easily with earth or with fascines, wool bales, gabions, and even debris.

Compared to medieval walls and towers, the angle bastion had little need for height. Yet command of the country surrounding a fortification could be useful, especially in observing the enemy and in directing defensive fire against the enemy's siege batteries and approaching trench lines. Also, being overlooked by the enemy's guns was as deadly as ever—perhaps more so, given the wide and un compartmented platforms at the top of every bastion. So angle bastion defenses still tended to be tall, though much of that height now came through a deep ditch, and the wisest engineers placed their angle bastion fortifications on the highest ground available. In later and
more sophisticated designs, the perimeter of an angle bastion fortress might be very gradually sloped over a considerable distance, making the profile of the fortification nearly invisible, though actually giving the bastions a real height advantage over the surrounding country. More typical of sixteenth-century fortifications—and siegeworks—were raised artillery platforms, cavaliers, so called because they raised a battery of cannon as a horse would a mounted man. In defense, cavaliers might be built at the gorge of a bastion, above and behind the existing gun platform, or at the mid-point of a curtain between two bastions. At either point, cannon mounted on the cavalier complemented the enfilading fire of the bastion faces and flanks.38 Besiegers also build cavaliers, with the idea of enfilading the ditches and ramparts of the defending fortification. The defensive use of cavaliers points out how the theory of siege operations came to mirror, in reverse, the theory of the angle bastion fortress; besiegers sought out enfilading lines of fire into bastion flanks, just as defenders used enfilading fire from these same flanks to protect their bastion faces.

Reliance on flanking fire made the angle bastion a defensive system as much as a military architectural form. The advantage came from the application of enfilade, from the geometry of a fortification of several bastions, not from the form of the angle bastion itself; and the geometry of the angle bastion fortification soon mesmerized the military engineer. Thus it is true, though not often noticed, that examples of isolated angle bastions, unaccompanied by adjacent angle bastions, demonstrate incomplete understanding of the angle bastion as a military defensive solution. Only through the crossfire of supporting bastions was the angle bastion superior by design to the artillery tower or other fortification forms.
The elegance of the angle bastion system brought other advantages, and encouraged other applications than the fortress. Because enfilading cross-fire was such an effective close-in defense, fewer expensive cannon were needed to adequately defend a particular section of defensive perimeter. Only two cannon per angle bastion could theoretically give an adequate defense against escalade, allowing a greater perimeter to be defended with a smaller number of cannon. The angle bastion made efficient, and thus economical, use of available cannon. Equally important was the higher volume, if lesser caliber, fire of smaller gunpowder weapons. Infantry fire contributed greatly to the cross-fire of the angle bastion defensive system. In the defense of many places, there might well be situations where a handful of wall guns or less, plus the personal weapons of the posted soldiers, would be enough. The merits of the angle bastion system were not exclusive to cannon, but benefitted the fire of muskets, arquebuses, and the ubiquitous light artillery pieces common in every arsenal and army. So engineers applied the basic angle bastion concept—the concentration of enfilade fire through angled defensive positions—to small fortifications, earthwork encampments, and the extensive ditchworks that stretched along river lines, across battlefields, and around every great siege; not just to the defensive perimeters of large towns and important fortresses.

The angle bastion did not spring, fully developed, from the mind of some Renaissance engineer. What we know of the architectural development of the angle bastion shows that the full-fledged *trace italienne* (as the angle bastion fortification became known in the rest of Europe) gradually evolved, as both architectural form and as defensive system. Though credible antecedents have been identified as far back as the early
fifteenth century, every unambiguous piece of architectural evidence shows that the true angle bastion appeared in Italy in the last two decades of the fifteenth century, exactly as other experiments with fortification form—such as earthworks and artillery towers—sought to counter the power of improved and more numerous gunpowder artillery. At this time the idea of the angle bastion contended with other visions of a modern fortification (principally variations on the artillery tower), and the angle bastion emerged as the fittest form only in the proving ground of the Italian Wars. Early examples of the angle bastion form are often tenuous applications of the angle bastion system; only in time, as a result of experience, could provisions for mutual flanking fire achieve primacy in an architect's design. Surviving monuments of early angle bastion evolution testify to the late fifteenth- and early sixteenth-century military engineer's incomplete confidence with the angle bastion concept. At Ostia (1482-1486) a sole pentagonal bastion complemented two round artillery towers; at Sarzanello (1493-1502) angle bastions alternated with round towers and a large ravelin, all retaining a modest machicolation. These extremely early applications of the angle bastion mixed the modern with the medieval in both form and function. In the 1520s Peruzzi fortified Siena with isolated bastions and pairs of bastions of various patterns, their architectural embellishment sometimes including a course of decorative mock-machicolation in brick. Yet the angle bastion increasingly became its own aesthetic, unencumbered by prior traditions, both architectural and military. From the 1530s the angle bastion dominated fortification design, both permanent and in earth, through the remainder of the early modern period. Only after the Napoleonic Wars and the new technological challenges of the nineteenth century—rifled artillery, explosive
shells, and rapid-firing breech mechanisms—would the basic angle bastion concept yield to new theories and practices.

If the form of the angle bastion evolved gradually, starting from very modestly bastion-like polygonal towers of the mid-fifteenth century, and then found widespread acceptance during the later Italian Wars, a similar gradualism characterized the acceptance of the underlying principles of the angle bastion defensive system. In this regard the evidence hints that around the turn of the first quarter of the sixteenth century—roughly 1525-1530—the search for enfilading firing angles overtook all other considerations in designing fortifications.\(^{44}\) The search for flanking fire, the root of the angle bastion experiment, became the military engineer's obsession. Geometry became the guiding science; the plan view and relief model the media of analysis. In 1528 a Venetian official commented that the proposed refortification of Vicenza in a matter of weeks—surely a reference to the construction of earthwork defenses—would be a task beyond Euclid and Alberti together; those two being the paragons of the geometric and architectural arts, this wry comment highlights the contemporary sense that geometry was the root of all architecture and any sensible fortification design.\(^{45}\) Illuminating examples of the obsession with angles of fire come from the pens of Michelangelo Buonarroti and Leonardo Da Vinci, both as famous in their own time for being military engineers as for being artists; their doodles give insight to the sense of experimentation that informed the development and acceptance of the angle bastion. Michelangelo, perhaps for the defense of Florence in 1526, designed fantastic jagged-edged bastions of odd angles, their preposterous shapes entirely determined by a search for overlapping layers of enfilading fire (indicated by lines on the manuscript),
repeating the theoretical good of flanking fire so many times as to create an indefensible monstrosity. Leonardo, in his Atlantic Codex, sketched multi-lobed bastions that similarly took the theory of enfilading fire beyond practicality; again, the artist included defending lines of fire in his sketch. Michelangelo, Leonardo, and a whole host of less eccentric Italian military engineers predicated all their projects, whether flights of fancy sketched in passing or earnest projects for the real defense of real cities, on the secret of the angle bastion's success: enfilading, flanking fire.

The Angle Bastion Orthodoxy and the Geometric Trace

From the third decade of the sixteenth century the angle bastion, as both an architectural form and as a defensive system, ceased to be experimental. The angle bastion had become orthodox, its application common, the concept of enfilade fire institutionalized as the fundamental principle of all military engineering. Its distinctive form would come to mark the territories and possessions of the powerful from the Mediterranean to the Baltic, from Poland to Ireland, and from the Atlantic coast to the shores of the far continents: wherever Europeans contended, angle bastions marked the fault lines of their political competition. With this universal acceptance came the impulse to refine and perfect. As development of the angle bastion passed from an era of experimentation to an era of refinement, the process of change became much more public. Before the middle of the sixteenth century military professionals guarded their knowledge of the angle bastion. Whether engineers or soldiers, those in the know showed little interest in publicizing
what was, of course, a valuable trade secret: no published books, and very few manuscript treatises, illumine the search for the angle bastion. Only after the angle bastion is a commonplace of war do the treatises come forth, and then in a wave. The first printed exposition of the angle bastion was Giovambattista de' Zanchi's Del modo di fortificar le città, issued in Venice in 1554. Two years later a French version appeared. Though by the 1550s the angle bastion could hardly have been novel, its explication still carried an aura of secrecy: in England, far from Italy and the largely Italian world of modern fortification experts, a manuscript crib of Zanchi's work made in 1559 after the French edition had its pages headed on the left "The keye of" and on the right "The Treforie." "The key of the treasury:" in England, where fortifications lagged far behind continental practice in accepting the angle bastion, the theory of the angle bastion remained privileged knowledge (even after shared campaign experience with Italian masters of the modern military arts—including Ferrante Gonzaga—in the early 1540s, an exposure gained by Henry VIII's alliance with Charles V against Francis I).

But such corners of ignorance as England disappeared, and in time anyone who could read and handle simple mathematics, especially geometric figures and basic trigonometric theory, could puzzle out the angle bastion for themselves from a wide variety of published "expert" opinions. Books on fortification burst forth in a torrent in the second half of the sixteenth century, and the spate never stopped. Old soldiers broached their opinions and cranks aired their hobby-horses in text, and the discussion of variations on the angle bastion became an entire—often pedantic—publishing genre. In truth, the various schemes seldom offered more than incidental changes (though authors habitually offered their system as the only one worth
considering) and almost every contribution kept to the same channel of discussion: lengths of bastion and flank, lengths of curtain wall, the profile of the ditch, angles of salient, angles of flank, and the geometric figure best offering the ideal plan for a fortification of a given size.

Perfection of the angle bastion concept concentrated on the geometric formulae of the ideal fortification's ground plan. This is not surprising, considering that the angle bastion was at its heart always a geometric construct: a geometric figure described by the intersection and overlap of protecting lines of fire. Maximizing these lines of fire could lead in different directions, including the academic excesses of Leonardo and Michelangelo. Less fanciful, but just as over-enthusiastic, are the physical examples of the Porta Ardeatina bastions at Rome, built between 1535-1542 as part of Pope Paul III's grand plan (never realized) to fully modernize the defenses of the Holy City following the disaster of the 1527 Imperial sack.51 The masterpiece of the notable architect Antonio da Sangallo the Younger, the Porta Ardeatina "double bastions" boasted a pair of flanks to protect each bastion face, and sported raised cavaliers at each bastion salient; the flanks supported casemated artillery positions at two levels to boot: not even counting the cavaliers, eight cannon could sweep any bastion face! These bastions were formidable, yet unaffordable, in both masonry and cannon metal; they were not duplicated elsewhere, and their multiplicity of firing positions actually worked against one of the strengths of the angle bastion system: its essential efficiency. Eight cannon, in a simpler design, could protect four whole bastions, rather than guard one bastion face. In general, efficiency won over complexity, especially in built designs, and the basic bastion scheme with
simple flanks and faces predominated. However, the scale of angle bastion fortifications continued to increase.

The ultimate expressions of the geometric tendency in military engineering were designs for an ideal fortress, or even fortress city, circumscribed by a regular polygon. Such projects naturally figured in the proposals of the treatise-writers, but rulers and governments as well found the idea irresistible, and geometrically perfect fortifications sprang up as the paragons of the angle bastion system. Irrationality cloaked the apparent logic of this approach: if the angle bastion was essentially geometric, reasoned contemporaries, then the perfect angle bastion fortification would conform to the geometrically perfect polygons—just as contemporaries theorized that the orbits of the planets must be related to the perfect polyhedrons. Imperfect outlines, bent to conform to an uneven terrain or to the accidents of prior urban development, continued to characterize most angle bastion fortifications, but these perfectly serviceable fortifications had less appeal than the perfectly polygonal, star-shaped fortress or fortress-city.

One side of the universal acceptance of the angle bastion was the creation of geometrically perfect fortifications; another was the proliferation of the angle bastion concept far beyond the formal world of siege warfare. It is important to note, however, the very immensity of those siege lines, which became ever more formal and complex as the sixteenth century wore on. By the seventeenth century the siege of a large fortress town obliged the besieger to dig not only positions for siege batteries and the assault trenches themselves, but also lines of circa- and circumvallation—typically many miles in length—to seal the garrison within and prevent relief from without. In the countryside, the construction of fortified earthwork lines, each a cordon of
camps, sconces, miniature forts, and lines of ditch and palisade marked most campaigns. Soldiers dug as much as they marched. These fortified lines often followed a river, stream, or other natural obstacle; anchoring these lines might be fortresses and fortified towns. The larger posts included earthwork angle bastions of pounded earth faced with turves. But even away from such obvious angle bastion fortifications, the angle bastion concept dominated. Everywhere, defensive lines were kinked and bent to form distinctive salients--known as redans, ravelins, or half moons--linked by sections of straight earthworks. These salients channeled infantry fire into zones of cross-fire and enfilade, repeating the flanking fire concept of the angle bastion to provide for the defense of immense linear distances.

The Politics and Strategy of Fortification

The angle bastion was a technical innovation, and its immediate effect was on the tactics of warfare. But the revolution in warfare occasioned by the angle bastion was so pronounced that the political and strategic consequences mounted. The seismic influence of the new military architecture in the Italian Wars period has already been noted, and supported by the famous comments of Guicciardini: improved and more numerous artillery had threatened rulers and states, not just walls and castles, making the new military architecture a political as well as a tactical response. The larger impact of the angle bastion has usually been described in terms of the growth in army size throughout the early modern period; the argument is that angle bastion fortifications required so much effort and human material to successfully besiege that governments perpetually racheted their military
establishments upwards to both invest enemy fortresses and garrison their own. That connection between army size and the angle bastion is logically attractive, but a direct cause and effect relationship is difficult to prove conclusively. Urban historians have also rightly identified the angle bastion as one of the greatest influences on the forms and patterns of European city growth. However, regardless of the angle bastion's role in the growth of army size, and its impact on Europe's cityscapes, the angle bastion had profound political and strategic consequences.

One particular political arena, natural to the early modern period, cannot be ignored: the competition for prestige among the princes and governments of Europe, who could only imagine themselves as ranked in relation to their competitors (and relatives), not as a community of sovereign equals. Thus the feud between Habsburg and Valois (and then Bourbon), between his Very Christian and the Most Catholic majesty, was over precedence as much as the Duchy of Milan or the Kingdom of Naples; such rivalries percolated throughout the European political system, dividing the nobility of the consolidated kingdoms (like France and Spain) into camps and factions and sparking petty quarrels among the independent princes of Italy and the Empire. In the very personal political world of the sixteenth century, reputation was all. Building prestige could take many paths, many of them derivative of the medieval culture of chivalry: a prince should give easily, dispensing largesse to his courtiers and to other princes, whether that largesse was a bag of coins, a feudal territory, a pension, membership in a chivalric order, hunting dogs or swift horses; a prince should be clement as well as haughty, willing to forgive offense and demonstrate grace; a prince should be accompanied by a large and well-caparisoned retinue, with men-at-arms in
armor, high-strung warhorses, and a full complement of liveried pages and servants.

Building modern fortifications also increased reputation. The decorative language of angle bastion architecture even found application in the palace or country house, continuing the medieval castle tradition of a combined princely residence and fortification for war. Notable examples are the Belvedere Fortress overlooking Florence, where four bastions grew on the four corners of an existing palace; and, in reverse fashion, Vignola's Papal fortification at Caprarola, begun as a fortress and finished as a residence. Pure fortress projects likewise spoke the language of politics. Paciotto's citadel at Antwerp is a particularly telling example of the angle bastion fortress as an object of prestige. One of seven cities fortified after 1567 to help suppress the Dutch Revolt, then in its infancy, the citadel at Antwerp was the most ambitious of these projects, and it became the personal monument to the Spanish General in the Netherlands, the Duke of Alva, as much as an instrument of Spanish policy: the names of four of the five bastions commemorated the Duke and his family, and after the successful 1568 campaign a statue—made from melted cannon captured from the rebels—of Alva in armor, stomping the figures of Sedition and Heresy beneath his boots, decorated the central square of the fortress interior. The citadel at Antwerp simultaneously enforced Philip II's military policy in the Netherlands and symbolized the Duke of Alva's—and by extension Spain's—iron determination to crush the Calvinist rebellion. To the Antwerpers, object and symbol combined in their hatred of the citadel.

Just like every other aspect of Renaissance court life, an angle bastion fortification could be an emblem, demonstrating wealth, power, and strength
in the abstract as well as providing a concrete defense; indeed, these abstract and concrete identities reinforced each other. Ceremonies marked the beginning of fortress construction, just as they marked the beginning of any great and prestigious architectural undertaking, and special medals might be minted for the occasion, one being entombed in the foundations: one pattern for these medals fitted the geometric outline of a bastion or bastioned perimeter around an emblem of the prince. Duke Vincenzo Gonzaga celebrated his great citadel at Casale with a medal showing his profile on the obverse and the six perfect bastions of his new fortress surrounding the founding date of 1590 on the reverse: the two sides of this medal demonstrate the links between the person of the prince and his fortress, both bulwarks of dynasty and polity. An impressive ceremony, including foundation medals, announced the beginning of construction of new fortifications at Turin in 1673. This ceremony connected the ambitions of the House of Savoy, both military and dynastic, with the current fortification program; one line of the text on the foundation stone succinctly encapsulated the ultimate political purpose of fortifications, "non solo munit, sed ampliat"—not only fortify, but expand. The foreign ambassadors in attendance doubtless took note of such hints, and passed their own view of the new fortifications, and their explication in official ceremony, back to their masters. The existence and distribution of foundation medals—contemporaries collected medals, the more pregnant with recondite and subtle meanings the better, for their fashionable little rooms of curiosities—was an act of state propaganda, an artistic announcement of a dynastic event similar to a birth or accession. As the great architectural monument of its age, the angle bastion fortress dominated the urban world of the early modern period just as the cathedral
had towered over the towns of the middle ages and the skyscraper looms over our own century's cities; those who commissioned the great fortresses, and issued foundation medals, linked their own reputation—in the minds of subjects, ambassadors, and foreign princes—with that of their awesome bastion defenses.

But beyond a prince's pride, and his reputation with his peers, the angle bastion had more tangible effect on the world of politics and the formulation of strategy. In particular, the angle bastion marked the territories of the dynastic states of Europe, and measured their relative military strengths. Power radiated from the great star-shaped fortresses and fortified towns, now the strategic nodes of European politics. The political geography and diplomacy of Europe became very sensitive to the existence of these fortifications, and they visibly affected the balance of power. An exceptional example of that sensitivity was the Spanish fortress, the so-called Fuentes fort, built in 1604 near Lake Como at the entrance to the Valtelline; built to settle whether the vital Valtelline and Engadine passes would serve as a bridge between Habsburg Milan and northern Europe (including Vienna and the Spanish road to the Netherlands), or between France and her Italian ally, Venice. Thus the Fuentes fort sat at the geographical crossroads of the European balance of power, exactly where the ambitions of Bourbon and Habsburg power intersected. Though a modest affair architecturally, immediate diplomatic protest ensued, fueling one of the crises that engendered the Thirty Years' War. To help reduce the tension, possession of the Valtelline fortresses temporarily went to the Papacy in 1623, though this solution of neutral occupation went nowhere. Throughout the Thirty Years' War Spanish domination of the Valtelline valley preserved the lifeline
linking Habsburg territories and policies—confirming the wisdom of confronting French policy in the Alps with the Fuentes fort decades earlier.58

For some states, especially the larger and richer states, a program of frontier fortress building defined the state as two geographical parts: a generally de-militarized and unfortified (meaning pacified) interior, and a highly fortified frontier. A strategy based on a defensive cordon of border fortresses, linked by field works if necessary, suited the natural technical and tactical strengths of the angle bastion. Venice, Spain, the United Provinces, and France all fortified their border towns, often in synchrony with the fortification of their neighbors' border fortresses.

The French case is worth particular examination, as the fortress strategy of the Valois and Bourbon kings not only matched the fortress construction of their foreign rivals, but came in direct conflict with the opposing fortress strategy of their internal rivals, the Huguenots. Though border fortifications were important to the Valois, a systematic program came with the Bourbon accession, spearheaded by the works of the royal corps of engineers founded by Sully in 1604 to complement his repair of the artillery and finances of the kingdom; the wise minister understood the martial trinity of money, guns, and fortifications. The easy intervention of Spanish armies in French affairs had marked the Wars of Religion. Henry IV and Sully, veterans of those conflicts, understood the need to belt France with expensive fortifications, particularly on the easy north-eastern frontier with the Spanish Netherlands. Frontier fortifications first helped restore the French royal regime under Henry IV and Louis XIII, and then complemented the aggressive foreign policies of Richelieu, Mazarin, and Louis XIV. Fortresses, though static in themselves, could serve as vanguards of French power and pretensions to
power; thus, in the Thirty Years' War, Pinerolo (seized 1631) on the Italian side of the Alps served as a gateway to Italy, and Breisach (seized 1638) on the Rhine served as a gateway to Germany. Richelieu's well known aggressive use of fortifications was typical, not exceptional.

While Valois, and then Bourbon monarchs, faced Habsburg, Savoyard, and other fortifications on their convoluted frontiers, independent fortresses within France threatened royal power internally. The fortified towns of the Huguenots within France show that angle bastion fortifications did not automatically or immediately further the politics of the kings and emperors of Europe. The Edict of Nantes (1589) granted the Huguenots the right to organize militarily with the protection of one hundred fortified towns; this was an extension of earlier Valois concessions made during the Wars of Religion. Such strongholds gave the Huguenot rebels a real ability to defy their king, and gave French Calvinists real sovereignty in the lands shadowed by these fortresses: these fortress cities were the foundation of the state within the state. When the war between Catholic monarch and Calvinist subjects resumed in the 1620s, Louis XIII's pacification policy came down to siege warfare and the imposition of royal garrisons on the towns of the defeated. The royal fort of St. Louis (provocatively named after the French Catholic warrior king and saint) outside La Rochelle goaded the Rochellais to revolt; they felt this royal post violated the tone if not the letter of their considerable legal privileges, both civic, religious, and military. The royal government denied that St. Louis was even a fortress, disingenuously suggesting that the St. Louis earthworks were nothing more than an innocent armed camp. The struggle of royal Catholicism against rebel political Calvinism came down to fortress versus fortress—a cold war waged in stone
and turf. When the war turned hot the focus remained on fortifications. The surrender of La Rochelle, after an epic siege, in 1628 and the seizure and sack of Privas—the final Huguenot fortified town—in 1629 ended all armed Huguenot resistance; considerable angle bastion fortifications had defended both cities. The resulting Grace of Alais defanged the Edict of Nantes by ordering all Huguenot fortifications destroyed and all cannon melted or sold. The state within the state was dead. Without the protection of fortresses and cities, Calvinism could only exist in France at the discretion of the Catholic king and his government. While the example of Huguenot fortifications seems specious, given the eventual military collapse of the French Calvinist state, another group of Calvinist rebels used fortifications to help win independence from their traditional royal master: the Dutch. The history of the Dutch Revolt is well known, as is the importance of fortifications during the Eighty Years' War.

Smaller states had neither the territory nor, usually, the wealth for a strategy of comprehensive modern border fortifications. Instead the modern fortification of a single city, or the construction of a well-sited fortress, could ensure protection against casual attack, and so demand the state's inclusion in the diplomacy of Europe, or at least the respect of the greater powers. Throughout the period, angle bastion fortifications could meet the defensive needs of the smallest states. Calvin's Geneva looked to stone as well as to prayer to defend itself from its all too close Catholic neighbors; the walls of the city prevented seizure by the rapacious Duke Carlo Emanuele I of Savoy in the escalade of 1602. Genoa's fortifications similarly defended against a Savoyard invasion in 1625. Lucca had earlier exemplified this strategy, hiring Paciotto to belt the city republic with up-to-date angle bastions in the 1560s.
Utterly traditional Lucca, with no political ambitions beyond maintaining its precious independence, depended on modern fortifications to avoid the fate suffered by her equally proud Tuscan neighbors, Pisa and Siena: subjugation, economic and political, by Florence. Siena had tried to defend its independence at mid-sixteenth century, relying on alliance with France against Spain and Florence as well as the addition of modern angle bastions to its perimeter of medieval walls; though in Siena's case these expedients had not been enough. 62

But the Sienese example does not prove that small states were incapable of harnessing the defensive power of the angle bastion; rather that such attempts were not always successful, or that modern ramparts alone were not enough. The angle bastion could never make the small state—or any state—militarily inviolable, just politically viable. For the independent city-state, the angle bastion was hardly a strategic novelty; cities had depended on their walls throughout the middle ages, and angle bastions were only a modernization of that tradition. What is important to note is that the angle bastion restored the defensibility of such small polities, a defensibility otherwise seemingly lost in the fifteenth century with the development of effective gunpowder artillery.

Conclusion

The development of increasingly effective gunpowder weapons in the fifteenth century challenged medieval ideas of war, especially the medieval military architectural tradition of high, thin, masonry walls. From the middle of the fifteenth century to the Italian Wars, there were several
responses to the new power of gunpowder artillery. Earthworks, the artillery
tower, and the angle bastion all sought to counter artillery. Earthworks
proved flexible and economical, and allowed experimentation with
architectural form. The artillery tower, an outgrowth of medieval traditions,
proved a dead end. The angle bastion eventually triumphed to define almost
every European fortification between 1530 and the Industrial Revolution.

The angle bastion fortress was both an idea, a defensive system, and an
architectural form. The angle bastion as form existed as the distinctive low,
squat artillery platform with pointed salient and recessed flanks behind a
protecting ditch. As defensive system, the angle bastion embodied the
underlying concept of the new military architecture: that defense came
through overlapping areas of cross-fire provided by flanking, enfilading
artillery and small arms fire. That underlying concept produced not only the
classic angle bastion, but its myriad variations as well, the fortress outworks
such as half-moons or ravelins, horn works and crown works. The principle
spread to define warfare far from the great fortresses and fortress-cities. Long
lines of earthworks, kinked with half-moons and infantry fortlets to produce
killing fields of cross-fire, defended whole frontiers in time of war. Such
fortification systems were as much a part of the new era as the perfect
polygonal angle-bastion fortress, the culmination of the angle bastion as form
and idea.

This new military architecture was created in Italy, but not as a specific
response to the invasion of Charles VIII in 1494. Earthworks and artillery
were already a part of the Italian way of war, which was as sophisticated and
as technically advanced as that of northern Europe, as is shown by the battle
of Fornovo and the siege of Novara. The 1495 campaign also shows that
fortifications and sieges were already shaping operational and strategic choices, and were not just a tactical response to changing weapons. The political importance of the new military architecture is underlined by the considerable prestige that princes and states attached to their angle bastion fortresses. These were not just objects of war, but objects of vanity and symbols of greatness.

The angle bastion could support the defensive needs, both political and strategic, of early modern states both large and small. And the defensive nature of angle bastion fortifications did not stop them from being aggressive tools of diplomacy and war. What were the political and strategic consequences for Europe as a whole? In Italy the angle bastion, after 1530, became the instrument of a competition between the powers, great and small, that continued past 1559 and belied the general peace in the Peninsula of the second half of the sixteenth century. This competition was the first arms race of modern history. The Gonzaga participated, even led that arms race by constructing extensive modern fortifications at the city of Mantua and at Casale in Montferrat. These fortifications not only protected these cities, but the very independence of the Gonzaga state.

1 Two excellent accounts of the development of gunpowder artillery in the critical half century between 1450 and 1500 are Malcolm Vale, War and Chivalry (London 1981) 129-146 and, with specific reference to conditions in Italy, Simon Pepper and Nicholas Adams, Firearms and Fortifications (Chicago 1986) 8-17. For a review of the history of medieval gunpowder weapons from their origins see Jim Bradbury, The Medieval Siege (Woodbridge, Suffolk 1992) 282-295.

3 For Italian gunpowder artillery before 1500 see Piero Pieri, *Il Rinascimento e la crisi militare italiana* (Turin 1952) i 279-281 and M. E. Mallett and J. R. Hale, *The Military Organization of a Renaissance State, Venice c. 1400 to 1617* (Cambridge 1984) 81-87. Mallett and Hale conclude that "the traditional picture of a dramatic difference between Charles VIII's artillery and that available in Italy must be modified. Mobile gun carriages, the use of horses to draw artillery, metal shot and properly trained gunners were not unique to the French in 1494" 87.

4 Guicciardini, *The History of Italy* 52.

5 Guicciardini, *The History of Italy* 340-341. It should be noted that Guicciardini's discussion of artillery and changes in the way of war makes for an interesting issue in itself. Guicciardini twice discusses this subject in analytical fashion: in book one in the context of Charles VIII's invasion of 1494, and then again in book fifteen in the context of a retrospective look at the career of Prospero Colonna, inserted in the narrative of 1523. Though in both places he gives credit to Charles VIII's artillery as a revolutionary impulse, his discussion of the Italian response to that revolution is in each place strikingly different. In book one he characterizes the Italian captains as skulking behind "ditches and river banks;" in book fifteen he moves from praising (!) Colonna as showing caution ("il titolo di cuntatore"=the title of delayer) to remarking how changes in military architecture had countered the power of the modern artillery introduced by Charles VIII. By calling Colonna "the delayer" he is making a parallel with the famous Republican Roman commander Fabius Cunctator, "the delayer," who eventually outfought the flashier Hannibal by refusing to risk all in a grand battle. Sidney Alexander, in a generally excellent translation of Guicciardini's history, translates "cuntatore" as "malignerer," thus turning Guicciardini's strong praise to weak praise; Francesco Guicciardini, *The History of Italy* tr. Sidney Alexander (Princeton 1969) 340. It is tempting to surmise that as Guicciardini composed his history he corrected his earlier opinion of Charles VIII's artillery (so often quoted by modern historians) and the virtue of Italian arms.


7 These examples are from the discussion of Venetian earthwork fortifications in M. E. Mallett and J. R. Hale, *The Military Organization of a Renaissance State, Venice c. 1400 to 1617* (Cambridge 1984) 92-94. Mallett and Hale comment: "The field fortification came into its own in the wars in Lombardy in the first half of the fifteenth century when large, relatively slow-
moving armies, operating in open country with considerable forces of auxiliaries and pioneers available, resorted to extensive works of earth ramparts, ditches and wooden palisades in a variety of situations. The growth of artillery also speeded up the development of field fortifications, both to protect troops in the open against the new weapons, and to protect the guns themselves, particularly in siege situations. I would agree, except that I would not describe the phenomenon as taking place in "open country;" rather, Lombardy and the entirety of the Po watershed consisted more of irrigation canals, drainage ditches, soggy fields, bogs, and innumerable natural streams and rivers. This terrain made the entire region a chessboard, controlled by strategic junctions such as fortified bridges, mills, fords, and of course villages, towns, and cities. Earthworks complemented and extended the natural defensive lines and positions of the region.

8 The examples of the Milanese in the 1420s and 1430s and of Otranto in 1480 are from the general discussion of Italian earthwork fortifications in Piero Pieri, Il Rinascimento e la crisi militare italiana (Turin 1952) I 276-279.

9 "Perhaps these inventions [of earth ditches, bulwarks, ramparts, and the like] began at the time of our fathers when the town of Otranto was recovered from the Turks [1480]. Afterward, Alfonso, Duke of Calabria, entered there, and found many types of fortifications built by the Turks and unknown to the Italians; but they remained more in men's memories than served as examples." Guicciardini, The History of Italy 342. The earthworks Guicciardini alludes to were more probably those of Ciri, an Italian, and not those of the Turks—Guicciardini was writing in the 1540s, long after clear memory of these events was lost.

10 The diarist Benedetti wrote in his history of the campaign that in Venice, as a major battle seemed certain, some "declared that the battle ought to be postponed and that the outcome of the war was dubious: the Frenchman if defeated lost only his army, but all Italy was plunged into the greatest peril of he was victorious." Alessandro Benedetti, Diary of the Caroline War tr. Dorothy M. Schullian (New York 1967) 85.

11 The most available description of the battle of Fornovo is Charles Oman, The Art of War in the Sixteenth Century (London 1937) 105-114. Oman, following the French interpretation of the battle, describes it as a victory for Charles VIII against the unsophisticated tactics of the condottiere: "this victory of Charles VIII, won against every rule of the old system, made an end of chessboard tactics" 105. Oman's interpretation can still be considered the historical orthodoxy today.
12 Benedetti, *Diary of the Caroline War* 93.

13 Guicciardini, *The History of Italy* 98.

14 Benedetti, *Diary of the Caroline War* 119.

15 Guicciardini described on the night before the battle "a violent storm ... with heavy rains, and the most frightful thunder and lightning" Guicciardini, *The History of Italy* 98. The French eyewitness Commynes noted that on the day of the battle the Taro river "had swelled and was still swelling, for all day there had been thunder and lightning, and it had rained heavily, and especially during the combat and the pursuit" Commynes, *The Memoirs of Phillippe de Commynes* II 535. Benedetti, also an eyewitness, reported that "small artillery was of no effect on either side because the gunpowder had been drenched by rain" Benedetti, *Diary of the Caroline War* 101. He did, however, mention several notables killed by artillery. Benedetti, a physician, remarked in general of the dead, "more than twenty-five hundred, unburied and swollen by the heat of the sun and rain, were left to wild beasts. Almost all of these had a piercing wound in the throat or on the face, but a few had been lacerated by artillery" 109. Commynes remarked "it is noteworthy that so many people were killed in hand-to-hand fighting, for I do not believe that the artillery on both sides killed ten men" II 534.

16 "Some of the [allied] infantry followed quickly, but the cavalry almost alone completed the battle" Benedetti, *Diary of the Caroline War* 97.

17 Loot from the royal luggage included "a book in which were painted various nude images of [Charles VIII's] mistresses, differing in appearance and age as his lust and insane love had impelled him in each city; these pictures he carried with him as souvenirs" Benedetti, *Diary of the Caroline War* 107. This album of pictures was probably that Francesco mentioned as returning to the French king in a letter of August 14, 1495, printed in Alessandro Luzio and Rodolfo Renier, "Francesco Gonzaga alla battaglia di Fornovo (1495) secondo i documenti mantovani" *Archivio storico italiano* series 5 number 6 (1890) 235. Commynes makes light of the destruction of the baggage ("their stradiots took from the pack animals anything they wanted, but they carried off only fifty-five of the best and most elegantly covered" Commynes, *The Memoirs of Phillippe de Commynes* II 533,) but the pillage included the king's personal effects and Commynes loaned the king his coat to sleep in that night (II 536).
18 Benedetti, *Diary of the Caroline War* 117. Unsurprisingly, Commynes makes no mention of this, and the French army did indeed retreat with a siege train; perhaps the tale of buried artillery was apocryphal.

19 According to Commynes, the Taro in flood delayed the allied pursuit until four in the afternoon on the day that the French had fled before dawn, thus giving them a considerable head start. Commynes also noted that one or two allied light horsemen were drowned in this fording of the river (Commynes, *The Memoirs of Phillippe de Commynes* II 539). The other rivers on the line of march were similarly flooding, and to cross the Trebbia ropes were stretched "to help the infantrymen pass across, for they were in the water up to above their stomach" II 540.

20 Benedetti, *Diary of the Caroline War* 127.

21 Benedetti, *Diary of the Caroline War* 135.

22 Benedetti, *Diary of the Caroline War* 133.

23 Benedetti, *Diary of the Caroline War* 149.

24 Benedetti, *Diary of the Caroline War* 155.

25 And "the suburbs were devastated with fire and sword," part of the preparation for assault. Benedetti, *Diary of the Caroline War* 172 and 173.

26 Benedetti, *Diary of the Caroline War* 177. Schullian translates the latin "bombardae" as "bombards," but here I have substituted the English "cannon" where the original Latin text seems to be referring to artillery in general.

27 Benedetti, *Diary of the Caroline War* 195.


caption-general in the late fifteenth century because of the comprehensive military power that came with the position's special contract.

31 Benedetti, *Diary of the Caroline War* 197.

32 The words are those of Martin du Bellay, quoted in J. R. Hale, "Tudor Fortifications, 1485-1558," *Renaissance War Studies* (London 1983) 82. The Avignon camp was of the soon to be familiar ditch and flanking bastions. Hale comments on a contemporary French earthwork in occupied Savoy: "it is significant that this enceinte ... was built in a medium that allowed new ideas to be tried out with a minimum of expense: earth reinforced with stakes and consolidated on the surface with turf" 81.

33 "For six months or more after 24th February 1525, everyone who could hold a pen, a brush or a weaver's shuttle gave his account of the Battle of Pavia. The news even spread through Turkey to China" Jean Giono, *The Battle of Pavia* (London 1963) 134.

34 The Marquis of Pescara commissioned seven tapestries showing the various phases of the battle from Bamaert van Orley, obviously a Fleming, in c. 1535; they now hang in the Museo Capodimonte in Naples. Jörg Breu the Elder made his woodcut in c. 1526-7, apparently for the market. These two are the most detailed images of the earthworks at Pavia. The general shape of these earthworks is confirmed by several other works. Two compositionally identical anonymous paintings now in England, one at the Tower Armouries in London and one at the Ashmolean Museum in Oxford show a northern European influence in the depiction of the walls and towers, and seem to confuse the facade of the Visconti fortress at Pavia with a barbican gateway: these inaccuracies suggest that these two paintings are based on other images, such as Breu's woodcut. Ruprecht Heller's painting of the battle at the National Museum in Stockholm shows the besieged city only as a background detail, and inaccurately, but does again show similar earthworks. Two other images of the battle, Wolf Huber's c. 1530 drawing in the Staatliche Graphische Sammlung in Munich and Hans Schäufelein's c. 1526 two-piece woodcut, are fantastic and bear no relation to the actual events or topography. All these works are illustrated and discussed in J. R. Hale, *Artists and Warfare in the Renaissance* (New Haven, 1990) 184-192. The topographical accuracy of both the Capodimonte tapestry and the Breu woodcut is confirmed by comparison with the fresco view of the city in the San Teodoro church at Pavia, a composition obviously based on a real knowledge of the city and its surroundings.
35 This was in eight sheets. Reproduced in Max Geisberg, The German Single-Leaf Woodcut: 1500-1550 (New York 1974) II 640-647.

36 Though artillery towers, of casemated artillery positions, returned in some of the later designs of Vauban, and became a common form in nineteenth-century military architecture.

37 The best analyses of the angle bastion, with excellent illustrations, are Simon Pepper and Nicholas Adams, Firearms and Fortifications (Chicago 1986) 3-7 and A. Cassi Ramelli, "Teroia e tecnica dell'assedio nel rinascimento," Cronache castellane (March 1973).

38 At least one cavalier was executed in permanent stone: the mastio, literally keep, between the two exterior bastions of the five-sided Fortezza da Basso at Florence (1534) was a cavalier giving additional flanking fire to the bastions at either side. This is the one surviving example of a sixteenth-century cavalier that I know of.

39 The classic account of this evolution is J. R. Hale, "The Early Development of the Bastion: an Italian Chronology c. 1450-c. 1534," Renaissance War Studies (London 1983) 1-30; this essay was originally published in 1965.

40 Early claims include the 1461 Bastione Verde at Turin in A. Cassi Ramelli, "Venticinque schede per una storia dei fronte bastionato," Castellum 14 (1971) and Brunelleschi's bastion at Pisa in 1431 in J. R. Hale, Renaissance Fortification: Art or Engineering? (London 1977) 12.


42 For Peruzzi's work at Siena see Simon Pepper and Nicholas Adams, Firearms and Fortifications (Chicago 1986) 32-57. The Porta San Viene bastion has purely ornamental false machicolation in very low brick relief, similar in design to the real machicolation of slightly older towers. On the Porta San Viene bastion at Siena the authors note that "the proportions of the work more closely resemble those of a medieval tower than of an Early Modern bastion" 39. This was an isolated angle bastion, built to complement existing medieval fortifications; provision for flanking fire would therefore be limited. Thus in both form and function the Porta San Viene bastion fell short of a complete break with medieval practice.
43 "It was in 1534, the year in which the Fortezza da Basso was begun in Florence, that the angle bastion may be said to have become the norm in town defences," J. R. Hale, "The Early Development of the Bastion: an Italian Chronology c. 1450-c. 1534," *Renaissance War Studies* (London 1983) 27.

44 In fortification plans, the lines of fire from flanking artillery pieces are commonly shown, while those of pieces mounted on the bastion faces are infrequently noted: clearly the designer's intent was to maximize the effectiveness of enfilading fire, not only against escalading parties caught in the ditch, but also against formations of soldiers, siege batteries, etc. in the open country before the fortification. Early published treatises including lines of flanking fire on fortification plans are Zanchi, *Del modo de fortificar le città* (1554) and Cataneo, *Opera nuove di fortificare, offendere et difendere* (1564). That these published illustrations reflect an earlier concern is shown by manuscript drawings that include lines showing flanking fire. Peruzzi's drawing of the *medieval* walls of Florence existing in c. 1520 shows flanking fire *and the dead zones* resulting from square towers (published in J. R. Hale, *Renaissance War Studies* (London 1983) fig. 2 between 42-43.) Peruzzi repeated this concern on a plan of Chiusi in Sienese Tuscany in 1528; this drawing shows flanking fire from angle bastions and from round towers, and plainly illustrates the dead zones in front of some of the latter--most notably in the case of a round tower at the salient of the town's perimeter, an especially exposed position, and a likely focus of enemy attack (published in Simon Pepper and Nicholas Adams, *Firearms and Fortifications* (Chicago 1986) fig. 80.


47 François de la Treille, *La manière de fortifier villes, chasteaux, et faire autres lieux fortz* (Lyon 1556).

48 Robert Cornweyle, *The Maner of Fortificacion of Cities, Townes, Castelles and Other Places* (1559; reprint Richmond, Surrey 1972). Deep English ignorance of the advantages of the angle bastion in the late 1530s is shown by Henry VIII's authorization of woefully vulnerable circular fortresses to be
built in England and in English possessions in France. Not until the 1540s did the angle bastion dominate English designs.

49 For Italian experts in English service see J. R. Hale, "Tudor Fortifications, 1485-1558," Renaissance War Studies (London 1983) especially 84.

50 A catalogue of of examples illustrating this publishing phenomenon is Martha D. Pollak, Military Architecture, Cartography and the Representation of the Early Modern European City; A Checklist of Treatises onFortification in The Newberry Library (Chicago 1991).

51 The Porta Ardeatina bastions are described in Simon Pepper and Nicholas Adams, Firearms and Fortifications (Chicago 1986) 23-26.

52 This thesis, an integral part of the military revolution debate, is most developed in Geoffrey Parker, The Military Revolution (Cambridge 1988) 24.


54 The names of the four bastions spelled out the Duke's name and title: Duke, Ferdinand, Toledo, Alva. The name of the fifth bastion noted the Italian architect: Paciotto--really an extraordinary testament to the importance of the engineer, given that no other official (or even the monarch) figured in the emblemata of the fortress. William S. Maltby, Alba (Berkeley 1983) 151-152 and 179-181. The statue of Alba depended stylistically on Leone Leoni's statue of Charles V crushing Heresy of c. 1551-53.


56 This medal is illustrated in the catalog Tesori d'arte nella terra dei Gonzaga (Milan 1974) 88 fig. 107.


58 For the Fuentes fort see A. Giussani, Il forte de Fuentes (Como 1905). The fort was named after the Governor of Milan who built it.

60 For the fortifications at La Rochelle see Jacques Callot's six-plate etching of the siege; for Privas see the anonymous painting, one of a series documenting Louis XIII's victories, in the Musée National du Château de Versailles.


CHAPTER III
THE FORTIFICATIONS OF MANTUA

The City of Mantua

The city of Mantua, capital of the Gonzaga state, was by nature one of the strongest defensive sites in Europe (figure 8). Built on an island between shallow lakes and marshes formed by a widening of the Mincio river, Mantua's greatest strength was its natural moat. Founded by the Etruscans, Gonzaga publicists boasted that the city's very antiquity, and reputation as Virgil's birthplace, gave its lords some sort of precedence over the rulers of supposedly more recently founded Venice, Milan, and even Rome. But Mantua's dramatic site and august age did not overly impress fifteenth-century visitors, who were more inclined to remember marshes and mosquitoes. Pope Pius II, visiting for the 1459-60 papal conference which failed to launch a crusade, recorded an unpleasant stay: "the place was marshy and unhealthy; the heat was intense; ... most of [the assembled notables] were sickening and many were catching the fever; nothing was to be heard except the frogs." The cardinals, in a public speech, voiced their own disgust with Mantua to the Pontiff: "What is your object? It is no use to keep us here unless you mean to kill us with this pestilential climate." Such opinions of Mantua did not redound to the credit and prestige of the Gonzaga.
But Mantua changed. The ambition of the Gonzaga demanded the embellishment and material improvement of their capital, and between 1450 and 1600 Gonzaga investment transformed Mantua, providing paved streets and markets, new waterways and bridges, new churches, new palaces, and walls to protect the whole. The sixteenth-century fortifications of Mantua complemented and protected one and a half centuries of Gonzaga ecclesiastic, civic, and dynastic architecture. These fortifications, ambitious undertakings by themselves, were but part of a larger political program wrought in architecture. Civilian projects included the enormous basilica church of Sant' Andrea (1472-94), an elaborate arcaded fishmarket (early 16th. c.), the Palazzo del Te just outside the walls (1525-1535), and endless extensions to the Reggia palace complex at the heart of the old city. These were not scratch or hasty undertakings: the Gonzaga retained the most prominent architects, from Alberti in the fifteenth century to Giulio Romano in the sixteenth. And to decorate their new churches and palaces Gonzaga prelates and princes commissioned the very best Renaissance and Baroque artists, among them Pisanello, Mantegna, Titian, and Rubens.

Such patronage represented much more than princely luxury or connoisseurship—in the court culture of the day beautiful paintings and beautiful buildings reflected not vanity; rather it was through such magnificence that the prince appropriated and demonstrated his power. In an age of sumptuary laws and the social stratification of display, the ostentation of rulers served real political ends by announcing the prestige of the prince and the dynasty. Art and architecture were for public consumption. When Charles V visited Mantua in 1530, his hosts ushered the emperor and his entourage through the unfinished galleries of the Palazzo del Te, a
monument to the ascending position of Marquis Federigo in the affairs of Italy. The emperor's itinerary in Mantua, and his words of praise for the splendor of the Palazzo Te, were carefully collected to make a neat little memorial of the hob-nobbing of Habsburg with Gonzaga. The visits of other great princes, among them the future Philip II of Spain in 1549 and Henri III of France in 1574, occasioned almost equal magnificence. Lesser visitors were similarly exposed, if with less fanfare: the English gentleman-tourist Fynes Moryson, passing through Mantua in 1594, paused to tour the Palazzo del Te and commented on the "faire pictures" he saw there. Visitors of any sophistication experienced the city of Mantua as a monument to the glory of the ruling family, and the Gonzaga knew that their architecture announced as much to their fellow, and often rival, princes as did any other act of state. Architecture was a diplomacy of sorts, an expression of power, and the architecture of war--walls and ramparts, solid and martial--announced the sovereignty of the rulers as much as the inviolability of the place. A city or state without defenses, meaning without fortifications, could have no independence, no stature--in peace or in war.

Gonzaga architectural and artistic investment transformed Mantua from a muddy provincial town, mired in its surroundings, to a well-watered but well-drained city equal to the dreams of its rulers. Mantua's urban transformation mirrored the dynastic transformation of the Gonzaga from hireling military captains to worldly Renaissance princes who conspicuously sheathed their martial nature and grasping ambition with a veneer of latinate manners and artistic patronage. By the seventeenth century Mantua was an urban sculpture demonstrating and celebrating the grandeur of its princes. In
1608 a touring Englishman, Thomas Coryat, helping to blaze the trail of the Grand Tour, found proud Mantua an impressive city:

This Citie is marveilous strong, and walled round about with faire brick wals, wherein there are eight gates, and is thought to be foure miles in compasse: the buildings both publique and private are very sumptions and magnificent: their streets straite and very spacious. Also I saw many stately Pallaces of a goodly height. ... They have such store of gardens about the Citie, that I thinke London ... is not better furnished with gardens.

Mantua impressed Coryat, and other visitors, as a whole. Fruitful gardens, treasure-filled palaces, churches with important relics (the Basilica of Sant' Andrea held the reliquary of the Precious Blood enshrining a sample of the blood Christ shed on the Cross), arcaded streets and squares, prosperous markets, and—not least important—the protecting perimeter of imposing fortifications all increased the reputation of Mantua and the reputation of its rulers. The sixteenth-century fortifications of Mantua were part of a larger program of urban display.

By the year 1500 a century of vigorous urban expansion and careful engineering work had clearly defined the island city and raised it above the surrounding waters and swamps. As may be imagined, flooding was a perennial concern; but sophisticated hydraulic engineering projects, in large part sponsored by the Gonzaga princes, had regularized the river's passage and had even canalized the waters flowing through and directly past the city. Still, Mantua was at all times only a few scant feet above the level of the surrounding waters. Flooding was not the only concern. Malaria was endemic, as it was throughout the padana region, where the broad and miasmic delta of the lower Po and its many tributaries, including the Mincio, made excellent spawning grounds for mosquitoes and other insects.
summer the weather can be stifling--windless, hot, and humid. Devastating plagues struck the city in 1451, 1463, 1468, 1478, 1528--and then again, with dire military and political consequences, in 1630. The plague of 1478 is said to have left the city with less than 9,000 survivors, reduced from a normal population of as many as 30,000. These same conditions of heat and wet, however, made for a bountiful countryside. The many canals, of the Mantovano countryside as well as the immediate environs of the city, provided water for irrigation and easy transport to market. The wetter fields could be inundated for rice, and the dryer plots grew wheat and other grains. Orchards produced almonds and fruits, and plantations of mulberry trees fed the silkworms that provided silk for export cloth. Mantua was fruitful and abundant, if not healthy.

In 1500 the medieval city walls of Mantua enclosed the whole of its island, with the exception of the north-eastern shoreline on the upper lake, a wide beach built up of sediment left by the rushing Mincio. On three sides (north, west, and east) long and narrow causeways linked the city with the east and west shores of the Mincio. On a fourth side, the south, lay the conjoined islands of the Tejeto (more usually simply Isola del Te), Pusterla, and Cerese; a wide suburb of marshes, gradually being filled from the east to make gardens and orchards, and after 1525 the site of the Marquis Federigo's new pleasure palace, the Palazzo del Te. Further to the south and west was another marshy island, crossed by raised earth roadways and indistinctly separated from the Te by a rivulet. Paired causeways bridged the western arms of the Mincio and separated the Te suburbs and the wetlands of this area from both the city and the mainland. Two main gates, the Porta della Pusterla and the Porta di Cerese, connected the city to the southern suburbs.
via short bridges over a branch of the Mincio. Three small gates, the Portelle di Gradaro, S. Maria, and S. Nicolo, simply opened the city to a narrow south-eastern shoreline and the waters of the lower lake.

The river Mincio, flowing north to south from Peschiera (a city of the Venetian Terrafirma) on Lake Garda to join the Po near Governolo (a possession of the Gonzaga), split into two channels as the river met the city of Mantua. The narrower western channel split again, to make a swift-moving channel directly skirting the western walls of the city and a wider channel forming the Lago di Pajoulo and rejoining the river Mincio on the far side of the Te marshes.

The eastern and broader channel of the Mincio formed the upper, middle, and lower lakes: the Laghi di sopra, di mezzo, and di sotto. Three causeway bridges crossed and defined these lakes. On the west, the shortest and broadest of these causeways, really an earth dike, divided the Lago di sopra from the the Lago di Pajoulo. The road to Cremona crossed this causeway after leaving the city by the Predella gate.

On the north side of the city the road to Verona left the Porta Molina, or dei Mulini, and crossed the Ponte dei Mulini causeway dividing the upper and middle lakes. The Ponte dei Mulini was both bridge and dam. A dozen mills, known as the Twelve Apostles, gave the bridge its name and took advantage of both the Mincio's current and the difference in water level between the upper and middle lakes. These mills lined both sides of the southern end of the causeway, and contemporary views of the city show mill races emptying into the lake along the eastern, downstream side of the causeway. Halfway across the Mincio the Mulini bridge bent to form a distinctive and curious half-circle pushing into the upper lake, perhaps in
part as a support against the current. This half-circle was built much lower than the rest of the causeway, and prints clearly show water coursing over it: unquestionably this half-circle served as a spillway regulating the pressure of the Mincio on the Ponte dei Mulini. In time of full flood, such as the early spring, the rising waters would harmlessly pass over this spillway, sparing damage to the causeway. The design of the Ponte dei Mulini is the most prominent example of the sophisticated hydraulic engineering work that went into making Mantua relatively dry and habitable, notwithstanding the whims of the Mincio.

At the northern end of the Ponte dei Mulini stood a tower and gatehouse with drawbridge, placed as much to channel foot and cart traffic and allow the collection of duties as for defensive purposes. The drawbridge crossed a gap in the causeway, the Vaso. \(^\text{13}\) Boats could not navigate the Vaso spillway, and some prints show a furious spate of water emerging on the downstream side, plunging past the difference in elevations between the upper and lower lakes. \(^\text{14}\) Watercraft could use a meandering channel cut into the east bank of the river, which circled the Porto suburb to the north of where the Ponte Mulini touched the shore of the Mincio. This channel calmly negotiated the change in water level between upper and middle lakes. Water traffic could also have avoided the Ponte dei Mulini entirely by using the Rio canal that cut through the city.

The land on the east side of the Mincio was a patchwork of dykes, canals and streams, and cultivated plots. Several narrow canals criss-crossed the inland countryside to the north of the Ponte dei Mulini, linking, by a variety of paths, the waters of the upper and middle lakes. These small canals were primarily for irrigation; they were too narrow and meandering for any
but small boats. The whole area seems to have been relatively low-lying, and divided into regular fields, orchards, and gardens: unlike the western bank of the Mincio, the eastern bank was not a marsh. The northern terminus of the Ponte dei Mulini was the walled Porto suburb, later the site of the city's most distinctive sixteenth-century fortification project, the citadel known as the Cittadella or Porto Fortezza. The boat channel at the northern end of the Ponte dei Mulini then became the moat for this fortress: whether it remained a waterway is problematic. The identification of this fortress as that of "the port" suggests that this location was already, before the construction of the Cittadella, a destination or transfer-point for watercraft. Indeed, the placename Porto might even predate construction of the Mulini causeway.

On the eastern side of Mantua the San Giorgio causeway separated the middle from lower lakes, and carried the road to Padua from the city's San Giorgio gate, just beside the Castello di San Giorgio. Like the Ponte dei Mulini, the Ponte di San Giorgio was a dam as well as a bridge, but here there was no concentration of mills. At the eastern end of this causeway, across from the city, was the walled suburb community of the Borgo San Giorgio. Several clear views of the San Giorgio causeway survive; the long bridge was a city landmark admired by visitors and depicted by artists. Their written and artistic descriptions make the San Giorgio causeway one of the best-known features of the sixteenth-century city. Narrow and very long (the distance between the city and the east bank of the Mincio is today about one kilometer), the center half of the bridge was of masonry, covered with a long shed-like superstructure built on brick piers, roofed but open on the sides. The eastern and western fourths of the bridge were uncovered earth causeways. About one-fourth of the way out from the city was a drawbridge.
with the gatehouse on the western, city side. Just to the east of this
drawbridge a long shed, a roof built on pilings over the water, jutted
perpendicularly from the causeway over the lower lake. This structure may
have been a boathouse and perhaps gave a sheltered mooring on the
downstream side of the bridge: its intended purpose is unknown.

Besides its eastern and western branches, the Mincio also coursed
directly through the city as a narrow and swiftly flowing canal: the Rio. This
waterway was really the main commercial artery of the city, lined with
wooden quays along parts of its length and terminating in the basin of the
Porto della Catena, a large sheltered port shielded from the lower lake by
continuations of the city walls. The water gate of the Porta della Catena
connected this port facility, and the Rio, to the lower lake. On the upper lake
the Rio entered the city at the Porta del Rio. Before the fifteenth century the
Rio waterway divided the eastern Città Vecchia, the original walled medieval
city, from the western Suburbio lying outside the city walls. The growth of
this Suburbio made it a full-fledged part of the city, and after 1401 it was
formally incorporated as ten new contradi, or quarters, and included within
the circuit of the city walls. By the end of the sixteenth century six bridges
crossed the Rio, connecting the Old City with its newer south-western
quarters. The western side of the original city wall, following the Rio,
gradually disappeared into the urban fabric of houses, shops, and garden
walls. In 1628 only a single gate tower of this old city wall remained.

The Porto della Catena was not the only port. The second port of the
city, on the middle lake, was the Porto dell' Ancona, like the Porto della
Catena a large embayment protected by the city walls. The water gate of S.
Agnese connected this port to the Mincio. Opening on the upper lake, just to
the west of the Porta del Rio (the entrance of the city canal), was the Portazzolo, or little port, of S. Francesco, really nothing more than a landing on the lakeshore. There were other so-called ports that were actually only places where boats traditionally beached or moored: the Porto della Pigna on the north side; the Porto dello Zeppetto and Porto Fortezza at the southern and northern ends of the Ponte dei Mulini; and the Porto degli Scoli outside the Portella di S. Nicolo on the city's south side. Much of Mantua's commerce, great and small, left and entered the city on the ships and boats which used these ports. Though most of these watercraft were riverine vessels, barche and galere designed for the shallow waterways of inland northern Italy, ocean-going ships, including those of Northern Europe, also plied their trade with the city. These ports, and the Mincio river, directly connected Mantua to the larger world.

The Fortifications of the Medieval City, c. 1500

Francesco IV Gonzaga (Marquis 1484-1519) inherited from his forbears a typical medieval urban fortification system. These medieval fortifications took three forms: a thin curtain wall surrounding the city, with similar walls encircling the suburbs of San Giorgio and Porto; a handful of tall, square towers reaching high above several noble mansions scattered through the quarters of the old city; and the Castello di San Giorgio, the magnificently picturesque classic late-medieval urban castle of the Gonzaga, located in the old city at the western end of the Ponte di San Giorgio. All three of these fortification systems were by form and function examples of a centuries-long medieval (and ancient) fortification tradition depending on height and
masonry to defy besiegers; but after 1500 all three of these fortification systems were obsolescent, and represented little or no obstacle to the determined besieger armed with gunpowder artillery.

In 1500 Mantua's circuit of walls completely enclosed the city and the suburbs of San Giorgio and the Porto. Built over the course of the fourteenth century, they were expanded to enclose the entire island city by order of Marquis Francesco I in 1401. Thin, tall, crenellated, and bolstered with the occasional tall square tower, these brick masonry walls were designed to present any invader, by water or land, with a vertical barrier. Against the artillery of the sixteenth century these medieval walls would have been easily pierced and crumbled.

Despite this obsolescence, however, Mantua's medieval walls were not militarily useless; in time of danger they could provide an armature for defensive earthworks, which, if properly conceived and constructed, could be just as effective as any permanent or masonry fortification. With the threat of war and siege, earth could be banked and packed against the interior of medieval walls, supporting the brittle stone exterior from damage by cannon fire. The superstructure of most towers, their height now more disadvantage than advantage, could be razed to the level of the adjoining walls. Of course, the city walls of Mantua on the north, east, and south-east, facing the upper, middle, and lower lakes of the eastern branch of the Mincio, were under less threat of artillery attack. On these quarters the existing medieval walls were probably enough to deter or prevent amphibious assault and the limited bombardment possible from shallow watercraft or from across the lakes. The walls that were more directly threatened by the power of modern artillery were those on the south and west, facing the unwalled Isola del Te and the
less broad Lago di Pajoulo, and those surrounding the suburbs of San Giorgio and Porto. On these quarters earthwork supports, at the very least, would be necessary in time of war. Besides reinforcing thin medieval curtain walls from behind, extensive earthworks could be built in front of the medieval circuit, and could include broad ditches (easily flooded in Mantua) and even earth angle bastions. To be prepared for war, such reconstruction with earthworks could be accomplished in time of peace. Alternatively, medieval walls, time and money permitting, could be completely replaced by a wall system of modern pattern. The Gonzaga princes of the sixteenth century could therefore choose among several fortification policies with regard to their existing medieval city walls, including: replacing them entirely with masonry walls of more modern pattern, reinforcing the existing walls with extensive earthworks, or merely relying on earthworks thrown up at the very moment of crisis. In fact, the Gonzaga—balancing needs and desires with available resources—pursued all three policies at various times and at various points on the city's defensive perimeter.

Reaching dramatically above the skyline of the old city were a half-dozen extremely tall square towers, relics of the Middle Ages, built over the private townhouses of the nobility. In Mantua's tumultuous medieval years, these towers had been a real defense for the urban nobility. They were refuges in times of crisis, and could be blockaded from within and defended against any number of besiegers by a few determined family members and servants armed with crossbows and prepared to drop stones and other objects on those below. In peace these towers were highly symbolic of their family's position, and the general fashion was for height, even to the point of folly. Like the contemporary medieval fad for dangerously stilt-like women's shoes
(an exaggeration of the real need to keep feet and dress hems above the ordure in the streets), these towers grew so tall and precipitous that they often threatened collapse: an example of symbolism, even fashion, triumphing over both form and function in military architecture. These towers were not unusual; several, if not most, north and central Italian cities sported such towers in the middle ages. Two well-known examples are Siena in Tuscany and Pavia in Lombardy. Long before the sixteenth century these towers were nothing more than reminders of the anarchic high middle ages, a period in the history of Italian cities when an emerging urban nobility still clung to their rural origins, including combative attitudes and defensive traditions. Such towers, soaring above the family townhouse, expressed the militant strength of the family within the city, the new arena of politics, in exactly the same way as the family castle, perched on a hill above the family estates, had notified all observers of that family's willingness to defend lands and privileges against all comers. In Mantua by the year 1500, after nearly two hundred years of firm Gonzaga rule, these towers were merely relics. In time of peace they represented no threat to the Gonzaga prince, and in time of war they could, at the most, only provide positions for observation: they were too slightly built to support any but the lightest man-portable firearms, and their placement within the Old City put them far from the city's defensive perimeter.

The most recent, but still obsolete, fortification in Mantua in 1500 was the late-fourteenth to early-fifteenth century Castello di San Giorgio. Architecturally magnificent, a late-gothic example of the medieval castle tradition in full fruition, the picturesque Castello was explicitly designed to defend the ruling family and their retainers, not the citizens of the city. It was
a defense of the dynasty; the city walls were a defense of the polity. With this purpose in mind, the Castello needed to be only relatively modest in area. Built to a square plan, with tall square towers at each corner and with lower gate-towers on three sides, all surrounded by a moat, the Castello di San Giorgio was the product of a centuries-old tradition of fortification design. Machicolation, that is overhanging masonry with trap-doors or slots to allow brickbats and such to be dropped on attackers' heads, crowned the Castello's walls and three of the towers. Such simple provisions were ample defense in the late middle ages, when the greatest threat to the castle itself would come from picks and rams working directly against its walls and gates.

Exactly when the Castello was built remains problematic. No wholly reliable documents or illustrations of the Castello have survived, but by style alone the castle can be dated to the close of the fourteenth century. Traditionally the design of the Castello is ascribed to one Bartolino da Novara and is dated to 1395, during the reign of Capitano Francesco IV (1382-1407). Architectural evidence hints that the castle was built in stages, and incorporated an earlier fortification: the west tower is of a simpler pattern than the other three, without machicolation, and may well have been an original structure, perhaps a tower in the city wall, around which the castle was built.

Almost as soon as completed, the fabric of the Castello had to be adapted to face the revolutionary changes in warfare wrought by the coming of effective gunpowder artillery. In the course of the fifteenth century some provisions were made for the use of gunpowder artillery in defense. Masons fitted an ingenious corkscrew staircase to the interior courtyard, allowing short artillery pieces, such as the typical fifteenth-century bombard, to be
easily dragged up to the ramparts above. Longer pieces could not have negotiated the tight spiral of this staircase. What may have been gunports were cut at ground level in some flanks and faces of the towers. Such openings could have accommodated artillery pieces too long or too heavy to be mounted on the ramparts, but only to a point. Ironically, building such casemates into a medieval fortification, a modernization, would necessarily thin the masonry bulk of the foundation and so weaken the castle's resistance to attacking cannon fire—and there would always be the problem of dispersing smoke from these cramped and makeshift artillery galleries.

In the end, the Castello could not have been modified to adequately mount the increasingly typical long and heavy artillery pieces of the sixteenth century, and the masonry fabric of the castle could not have resisted the pounding of these same modern cannon. The cramped quarters natural to medieval fortification design inhibited the placement and servicing of modern artillery. Loading, swabbing out, and aiming long muzzle-loading cannon must have been nearly impossible in the confined space of a hollowed-out casemate or on the narrow top of a thin medieval tower. Absorbing the recoil of heavy artillery would be another problem for brittle stone walls. The basic architectural form of the Castello could not keep pace with the development of gunpowder weapons, especially the need to incorporate them in defense as part of an integrated fortification system. When the defense of this quarter of the city, that of the western end of the Ponte di San Giorgio, was modernized at the close of the sixteenth century, the modern fortification—a low bastion—was built over the lake in front of the defensively almost useless Castello. After the year 1500 the Gonzaga retained the Castello di San Giorgio only as an armory and as a portion of the living
quarters of the Reggia palace, to which it was an architecturally distinctive, but militarily unimportant, adjunct. A state-of-the-art work of fortification at the turn of the fifteenth century, the Castello di San Giorgio was obsolete by the year 1500.

The revolution in military architecture that came with the development of effective gunpowder artillery was no mystery to the Gonzaga princes of Mantua. Military professionals and active campaigners, the Gonzaga must have realized that the defenses of Mantua needed modernization. But in 1500 the Marquis of Mantua would have to have been prescient indeed to have anticipated the need to completely rebuild the defenses of Mantua to a revolutionary new pattern of defensive architecture, the angle bastion. Though permanent bastions of angled form were already being built, there was as yet no clear new archetype for military architecture: the early sixteenth century was a period of experimentation. The Gonzaga, like other princes, invested money gingerly during this period of transition.

However, soon after the turn of the sixteenth century, the weakness of medieval fortifications, made obvious to any observer by the events of the current round of wars, demanded some response. In fact, the Gonzaga were among the very first European princes to recognize the worth, both tactically and politically, of the new fortifications. Yet that recognition did not come instantaneously, and the military architects of the Gonzaga did not instantly embrace the angle bastion form. Instead, fortification systems midway between medieval traditions and an emerging concept of defense through artillery fire were built first. Later, angle bastion fortifications of the classic form, including a pentagonal citadel, took their place. Only over the course of the sixteenth century, and starting with modest and relatively inexpensive
undertakings, did the Gonzaga replace and rebuild their medieval fortifications, and then not completely. Even by the turn of the seventeenth century the threat of war and possible siege would require earthworks be added to the permanent fortifications of the city to ensure the reasonable protection of the city. Balancing the need for modernized fortifications with the costs of such fortifications would be a central defense issue of the Gonzaga for the entire sixteenth century. How well the Gonzaga satisfied their need for new fortifications would be judged by the diplomacy of the Mantuan succession crisis (1613-1627) and the military events of the Mantuan succession war (1628-1630).

The Fortifications of 1509

By 1509 the city walls of Mantua were no longer capable of defending the city without reconstruction or replacement. In the spring of that year the Marquis Francesco began the modernization of his capital's defenses with a program to build new strongpoints on the perimeter of the city, including at the northern end of the Ponte dei Mulini, at the Porto suburb. At this time the Marquis of Mantua was a member of the anti-Venetian alliance of the League of Cambrai, and so the logical threat to Mantua would come from the Venetian Terraferma to the north and east of the Mantovano.

Work on the fortifications in 1509 was certainly related to the military campaign against Venice, as the date of the one surviving descriptive document exactly corresponds with the League's offensive operations. Gerolamo Arcari, a lieutenant to Marquis Francesco, directed the construction. In a letter to the absent Francesco dated May 2, 1509 Arcari
mentions the assistance of consultants in inspecting the new fortifications: "persone pratice et experite," that is persons of the requisite technical expertise and experience. What exactly these experts advised for the defense of Mantua is unknown, as the labors Arcari directed probably merged with the later construction of the Cittadella. If the fortification work was of hasty earthworks, perhaps they simply melted back into the soft Mantuan ground in the years after 1509. The document does mention a drawbridge (presumably that of the Ponte dei Mulini) to be defended by artillery and a "bastione seen by your excellency," hinting that these fortifications were indeed of a modern pattern, and certainly that they were built explicitly to accommodate gunpowder weapons in defense. However, at this date the term bastion had only a general meaning—a heavy-set tower or raised position for artillery—and did not specifically mean an angled bastion depending on supporting artillery fire in defense. The document goes on to state that this bastion "will be finished within three days, given enough men and materials." Quick work, even haste, was deemed essential given the larger military situation, and the real threat of siege by Venice if field operations went badly.

Though the record of defensive construction in 1509 is unfortunately very incomplete, even vague, there is no question but that with reference to experts and a bastion, the fortification project discussed was a modernization of existing defenses. The context of the document dated May 2, and the lack of further documentation, also suggests that the 1509 fortification work was a response to the current military situation, and not an initiative for a wholesale and permanent replacement of the city's walls. Happily for Mantua and her prince, Arcari's efforts were unnecessary—on May 14 the
army of Venice collapsed after the League's spectacular victory at the battle of Agnadello, materially ending the campaign, the war, and the threat to Mantua. Despite this reprieve, the war threat of May 1509, with a flurry of fortification work at Mantua, is evidence of a Gonzaga realization that their city's defenses needed modification, if not wholesale modernization, to face the demands of a new military era.

The Fortifications of Alessio Beccaguto, c. 1519-1528

In the decade following the War of the League of Cambrai Marquis Francesco began the systematic modernization of Mantua's defenses. After Francesco's death in 1519 the government of Francesco's son, the Marquis Federigo (ruled 1519-1540), continued this effort. Alessio Beccaguto, captain of the guard and long-time military companion to Marquis Francesco, designed and directed the construction of a new fortification system for the city. An old soldier with considerable experience of the campaigns then transforming the art of war, Beccaguto had served beside his master at the battle of the Taro and at the sieges of Novara, Naples, and Genoa as a commander of light cavalry. He was as well placed as any contemporary military intellectual to recognize the need for a new style of fortification to counter the power of gunpowder artillery, and his work at Mantua reveals him to have been a participant in the search for a new system of military architecture. He was indeed a military intellectual. A document of 1519, confirming the position and authority of Beccaguto into the reign of Federigo, specifically praised his work on the fortifications of Mantua and his knowledge of the "things of military science." Beccaguto was both a traditional soldier and an experimentally
inclined engineer, and his fortifications at Mantua show both his understanding of the need for new solutions, and a conservative desire to retain old forms.

Beccaguto's efforts first focused on the southern perimeter of the city, the walls facing the Isola del Te and the lower lake, between and on both sides of the Cerese and Pusterla gates. Here Beccaguto razed and then rebuilt to modern pattern, section by section, the original medieval walls built after the 1401 incorporation of the Suburbio into the city. The 1596 and 1628 engraved city views by Gabrile Bertazzolo (himself a military architect for the Gonzaga) clearly show the differences between Beccaguto's new walls on the south and the surviving medieval walls of the rest of the city. The new walls are thicker, lack crenellation, and are supported by frequent buttresses along their interior: they appear designed to resist the pounding of gunpowder artillery. Unfortunately, no more distinct view and little other evidence clarifies the design of these walls. However, the walls themselves were not the most forward-thinking element of Beccaguto's design.

More radical were three large artillery towers, circular in plan, built flush with the height of the walls, but—an important point for their function—projecting considerably from the face of the city's perimeter. The west branch of the Mincio, rushing right along the western walls of the city, gave these towers a wide and swift-flowing moat. Beccaguto sited one of these towers evenly between the Pusterla and Cerese gates; he built a second tower, known as that of San Paolo, near the Gradaro gate; and he placed the third tower, later called the tower of Sant' Alessio after its architect's namesake, at the angle of the southern and western walls of the city. The middle tower, between the Cerese and Pusterla gates, was keyhole shaped in plan and
connected to Beccaguto's new walls by only a thin corridor of masonry. This keyhole shape hints at the spade or wedge shape of the classic sixteenth-century angle bastion, with recessed casemates protecting the flanks, but the extremely narrow corridor inherent to a keyhole plan makes it very unlikely that cannon, or any weapon heavier than a musket or wall-gun, could be mounted at this point. The roofless, thick-walled tops of all three towers made excellent, wide platforms for the easy accommodation of artillery, and undoubtedly this is where Beccaguto intended to concentrate defending cannon. There is no evidence of enclosed casemates in a lower masonry gallery, though such a feature would not have been exceptional in artillery fortifications of the period. The existence of casemates remains conjectural and unsupported by evidence, however. Despite many such missing pieces and unanswerable questions, enough information has survived to allow reconstruction of these towers' basic design and, more importantly, their role in Beccaguto's fortification system.

Beccaguto's artillery towers were, in fact, an early experiment with the bastion form, and gave a small number of artillery pieces a commanding field of fire over the Isola del Te and parts of the lower and Pajoulo lakes. The two towers to either side of the Pusterla gate commanded the bridges linking the Pusterla and Cerese gates to the Isola del Te. At a time when cannon were few and expensive, an obvious goal of any artillery fortification scheme was the protection of as great a section of perimeter as possible with as few cannon as possible. Beccaguto's design well suited that imperative. From Beccaguto's three artillery towers a half-dozen cannon--two or even just one per tower, assisted by numerous smaller gunpowder weapons firing from towers and walls--could command the entire southern side of the city. Though the
round plan of these artillery towers compromised the value of mutual flanking fire, the classic *raison d'être* of the angle bastion, because the towers were built outside of the walls, and not integral with the walls, cannon mounted in these towers could fire parallel to the walls, sweeping them with enfilade fire in case of assault. This provision clearly anticipates the mature angle bastion system. But the distance between Beccaguto's round towers (only roughly calculable today as no trace of these towers has survived and no contemporary scaled maps exist) suggests that such flanking fire for mutual support of the bastion towers was not the primary goal of the designer. The southeastern bend in the walls of the city even removed the line of sight, and therefore any line of fire, between the San Paolo tower at Gradaro and the tower between the Cerese and Pusterla gates. Beccaguto saw each artillery tower as a platform for artillery pieces defending its section of the city wall by radiating artillery fire: each tower was an independent defensive position. Any protective cross-fire generated by Beccaguto's towers would be a secondary, and not the primary consequence of their architectural design. The most crucial principle of the angle bastion fortification system, the emphasis on mutual support by interlocking, enfilading cannon fire, was not yet applied to fortifications at Mantua. Nevertheless, Beccaguto's artillery towers were the first systematic modernization of Mantua's fortifications, and deliberately brought the city's defenses into the gunpowder age.

Beccaguto's concept of artillery fortifications, that is for independent artillery towers, is confirmed by his proposals for the complete reconstruction of the city's defenses. In a letter written to Marquis Federigo, then at Piacenza, in the spring of 1522—a moment of confidence as work on the new fortifications at the Cerese sector was proceeding well—Beccaguto outlined a
proposal for new fortifications to be built in front of the obsolete Castello di San Giorgio:

"I have made a design for the castle; I will make an earthwork platform \[un terrapieno\] bent like a see-saw \[a la altalenella\] that will be two hundred fifty yards long \[on one arm\] and one hundred yards \[on its other arm\] with two blunt towers \[torrone de netto\] fifty yards inside the parapet \[from the angle of the platform\]; one \[tower\] will guard the middle lake towards Porto and the other will guard the whole of the covered bridge \[the ponte di San Giorgio\] and the lower lake, and will raise the road \[of the San Giorgio causeway\?\]; the new towers will cover the whole of the castle and the new quarters \[the Reggia palace\] of Your Excellency and will be a superb thing to see and there will be no need to fear for San Giorgio and no need to think more of this side \[of the city's defenses\].\[31\]

This letter was only an outline of Beccaguto's prospective design, and he informed his prince that he was making a model of his proposal that Federigo could examine and evaluate upon his return from Piacenza. Though not an exacting description, Beccaguto's letter does allow a reconstruction of his proposal and does reflect a concern to provide for defenses to replace the outmoded Castello di San Giorgio. Beccaguto's plan called for a large raised platform, the terrapieno, facing the middle and lower lakes and bent at the entrance to the San Giorgio causeway, with an artillery tower built on each wing of the platform. The angle of the platform would have prevented mutually supporting defensive fire between these towers; instead, it is probable they were intended as independent artillery strong points commanding the middle and lower lakes, and the San Giorgio and Mulini causeways, by cannon fire. This 1522 proposal for new defenses covering the eastern side of the city was therefore a conceptual reiteration of the defenses Beccaguto was then constructing on the city's southern face, and the towers
he proposed for the San Giorgio front would probably have looked like the three squat artillery towers being built on the other side of the city.

Beccaguto had earlier investigated the costs of constructing artillery fortifications for the entire eastern and northeastern sides of the city, along the lengths of the middle and lower lakes from the Ponte dei Mulini past the Porto Catena:

"I have measured [from the gate of San Nicolo to the Porta Mulina] and I have computed the costs of some towers and large elevated artillery platforms [grandi terrapieni cavalieri] for these lakes as from 18 up to 20,000 ducats if everything is made from new, [and is] the best in the world."^^

This ambitious scheme, involving the removal and replacement of the existing medieval walls, would have extended the new fortifications on the southern side of the city, then under construction, all the way to the Porta Mulina. Presumably Beccaguto's more modest proposal to Federigo for the fortification of the Castello di San Giorgio area with an extended, bent platform and only two towers, made five weeks later, indicates what Beccaguto had in mind for this greater scheme (and perhaps also indicates pressure on Beccaguto to limit his project to what was affordable.)

At this time Beccaguto certainly anticipated the eventual complete replacement of the city's defensive perimeter with artillery fortifications built to his design. Beccaguto himself gushed out the advantages of such a plan to his master:

When Your Excellency will have your city completely fortified, you will be able to reply to those who will ask who is your friend: [I am the] Friend of God and enemy of everyone else.^^

For Beccaguto, and for his prince and patron Federigo as well, fortifications meant political independence. In 1522 the castellan Stazio Gadio reported to
Federigo that "messer Alexio ... said that [with]in ten years he wishes to wall all Mantua in this fashion, certainly not yet with walls as great [as Beccaguto proposed], but with a good wall, in a manner better than I can relate in speech or that I can write." Gadio's comment that Beccaguto's proposal was more than he, the castellan, could tell with words in part explains why so few good written descriptions of contemporary fortifications exist. Models, and to a lesser extent drawings, were the preferred media for explaining fortifications. But with Gadio's testimony, sketchy though it is, it is possible to deduce that Beccaguto had conceived of a uniform artillery fortification system to protect the whole of Mantua, a simplified version of which he hoped could be built within ten years. The undoubted existence of a master plan for the whole of Mantua's defenses indicates that the towers and platforms that Beccaguto suggested for San Giorgio and the eastern side of the city would have been very similar to the fortifications of the southern flank.

Despite Beccaguto's salesmanship, this grand scheme for the defense of Mantua remained speculative, and his new fortifications for San Giorgio were never more than a model. Only the reconstruction of the southern defenses ever broke ground. Work on all three artillery towers, the associated Gradaro, Cerese, and Pusterla gates, and the adjoining sections of wall proceeded steadily through the early 1520s, but construction lagged towards the middle of the decade—perhaps because Marquis Federigo reconcentrated his funds on the Palazzo del Te and his infamous mistress Isabella Boschetti—and work was ended by Beccaguto's death in 1528. Of the three towers critical to Beccaguto's concept of artillery fire in defense, only two, that of San Paolo and the one between the Pusterla and Cerese gates, were finished to
Beccaguto's plan. The third tower, the Gradaro tower, was finished in 1531 as an angle bastion, the city's first.

Work never proceeded quickly. There were always problems and obstacles. In 1521 the high water of the Mincio in flood postponed construction; that is, what construction a shortage of lime for mortar allowed. But costs most consistently hampered building efforts. In 1521 the expenses associated with work on just the Cerese gate and the adjoining section of wall were estimated at the stupendous sum of 16,000 ducats. This figure may be compared with the 18 to 20,000 ducats Beccaguto later estimated for the complete fortification of the eastern side of the city: this optimistic figure had to have been a deliberate understatement, perhaps quoted to allay concern over the truly tremendous costs of modernizing fortifications revealed by the actual construction taking place on the southern walls of the city.

There were several reasons for these enormous costs. Traditionally, almost all construction at Mantua was in brick, there being no native stone and the cost of imported stone being high, despite the ease of transport by water. But for prestige and perhaps utility, either greater durability against nature in peace or against bombardment in war, the walls and towers of Beccaguto's fortification program were built in part of stone. In 1524 two boatloads of marble—a material noted for decorative expression and redolent of prestige—came by way of Ferrara. Marble, and other stone, would have been used only for facing the walls and towers, for the coping, or in string courses, with cheaper bricks being used for core construction. But whatever material was needed, whether impressive stone blocks or humble bricks, or sand and lime for mortar, the quantities needed were enormous. After all,
structures designed to resist artillery bombardment were necessarily large and dense, so a lengthy bill of materials is not surprising.

One way to help with the cost and sheer volume of materials needed was to demand contributions in kind from the various communities of the city, in effect forcing these communities—and not the government—to find the huge amount of materials needed, and at the best price. Of course, the government immediately approached the sizeable, privileged, and prosperous Jewish community, hoping for a contribution that a community protected by the grace of the prince could not refuse. In 1522 the treasurer Girolamo Arcari reported the attempted shakedown: fifty thousand bricks a month for the construction at Cerese, to be supplied until completion of the project. But the Jewish community demurred and responded with a written grievance against this enormous imposition. Negotiations settled the issue, with the Jewish community agreeing to contribute a lump sum of 3,000 ducats. Christians were not immune from such requests, and the Benedictine community at Polirone supplied its quota of bricks for the city's new defenses.

Raw materials were not the only expense. Labor was not cheap, and townspeople forced to serve as unskilled workers were not easy to organize. Yet compulsory labor, like the compulsory supply of materials, was an important part of the construction program, especially the brute work of demolition and cartage, and every quarter of the city was tapped in turn to supply workers. For work on the Cerese section of walls in 1520 Beccaguto demanded the commissioners of the Cavriana and Volta Mantovana districts supply twenty robust workers, equipped with picks, to work at clearing the remains of the old walls. These men would work for six days—a work week-
-and then be replaced with a new crew for the following week: if the district failed to meet its responsibility, a special tax would be imposed. The other quarters of the city supplied their quota of laborers, to work beside those from other districts, or to replace them.

Beccaguto acted as general contractor and financier as well as architect; his letters to his prince speak more of funding crises than of engineering issues. Surviving documents suggest that work went on in fits and starts, almost certainly reflecting the uncertain flow of cash supporting the project. Beccaguto seems to have done his best to find the materials needed at the best price. In 1522 he reported good news to his master: "I bought a thousand stones and one hundred [measures] of lime, in part at Desenzano and in part at Pischera [Peschiera della Garda], with great advantage, a great price, so that now, if I do not lack money, working daily I will once more make an excellent fortification [una bella monicione]." Work could only proceed if materials were available, and materials could only be purchased if the money to do so was available as well. Though proclamations stressed the value of fortifications to the entire citizenry, and not just to the glory of the prince, there is no evidence that the communities and districts within the city felt any patriotic duty to contribute to their mutual defense. Just as the government tried to settle the costs of the fortifications on the populace, so the better organized—and wealthier!—communities (the guilds, the Jews, the religious) within the city sought to avoid the same expenses.

Compulsory labor and compulsory donations of materials reduced the cash cost of construction, but the need for money was still enormous, certainly beyond the ordinary revenues of the state. Federigo’s desire for a modern fortification system forced him to authorize extraordinary fiscal
measures dedicated to providing the necessary working capital to continue construction, or even pay for past construction. An attempt in 1520 to place a special four-year tax on the guilds, *le corporazione artieri*, and property owners met with a hail of protest, much delaying argument, and the eventual disappearance of the government's initiative. To counter the complaints of the community, unwilling to support direct taxation, and to meet the expenses, past due, of work on the fortifications of Cerese through 1520 and into 1521, in June of the latter year Federigo announced a new program of indirect taxation:

[I] order and commit by this proclamation that for three years and a half from now, beginning with the day of Sunday, June 12, the said taxes are to be replaced with an increase in the Maccaluffo, otherwise known as the customary demands given at the gates of Mantua and at the mill: this increase, for the said completed construction at Cerese, will have a duration of three years and a half and no longer.\(^{42}\)

This proclamation increased the duties collected at the city gates and at the mills of the city by one fourth; not a light imposition on those bringing goods to market or grinding grain. The office of the Maccaluffo, charged with collecting these duties, became the principle source of revenues dedicated to the construction of new fortifications for the city. In fact, the Maccaluffo office became synonymous with the administration of fortification construction, apparently because its revenues were entirely dedicated to that end. The privileged within the city had managed to pass the costs of providing for the common defense on to the ordinary townsmen and the peasants of the surrounding country. In the end the little people paid for the new fortifications with a constant drip of their small change, collected at gate and mill.
And what did the Marquis Federigo get for his money, squeezed from his subjects with such difficulty? Not the full fortification of his city *alla moderna*, as his engineer-architect Beccaguto had ardently planned, but what was completed—or at least mostly completed, the tower of Sant' Alessio remaining unfinished—by the end of the 1520s certainly added to the reputation of the city and the reputation of its princely family. Beccaguto's new fortifications on the southern face of the city increased the city's urban presence as much as the defendibility of the place; these were fortifications to awe rivals—and superiors—in peace as much as to protect from enemies in war. The castellan Stazio Gadio reported to his prince on the moral qualities of Beccaguto's new fortifications, "I saw the construction at Cerese; it is one of the [most] awesome and frightening things that our enemies could ever see and it will increase the great and generous reputation of your excellency." Gadio's comment suggests that these new fortifications were expected to be useful in peace as well as in war, as a demonstration of military preparedness and wealth visible to every visiting troop of nobles or delegation of ambassadors.

An anonymous source confirms the aura of great power that attended the erection of these fortifications, "I saw the design and the construction [of fortifications] at the Tiresia [Cerese] gate, where with great effort the best symbol [*imprese*] of your reign has been completed ... to your glory and that of your city." Use of the word *imprese*, in this context meaning both "undertaking" in the physical sense and "device" or "symbol" in the heraldic sense, is noteworthy. Part of the pageantry of Renaissance and Baroque court life centered on the display of elaborate *imprese*—which could be omnipresent, included in the design of a presentation medal or made a part...
of a servant's livery, to mention just two possibilities—each of which was a metaphor commenting on some quality of the user's person or family. These *imprese* could be quite political. The Gonzaga were among the most prominent wielders of these devices, and it is not improbable that to Federigo and his court the new fortifications were a symbol, a concrete image of an abstract concept, a physical metaphor for power. Thus the need to make the new fortifications beautiful with marble, regardless of additional expense. One goal of Beccaguto's new fortifications was to increase the reputation of the Gonzaga among the community of princes.

This idea, that the new fortifications of the 1520s were part of the theater of power at the Gonzaga court, is supported by the timing and geographic circumstances of construction. Beccaguto's new walls were not the only project of their time and place, and it is plausible that the new walls were an extension of the dynastic architecture informing the design of the Palazzo del Te. Court architect and artist Giulio Romano built this palace on the Isola del Te, just outside the Pusterla gate, as both a residence for Marquis Federigo's mistress Isabella Boschetti and as a stage for the reception and entertainment of fellow princes, the most notable visitation being that of Charles V in 1530 at the apex of the Emperor's glory. Elsewhere in the vicinity were only low gardens, and there could have been no mistaking the juxtaposition of princely magnificence, the Palazzo del Te, with princely power, the new fortifications. These piles of masonry loomed weightily over an otherwise idyllic landscape. Any banquet guest at the Te palace would remember not only the luxury of the appointments, including fabulous frescoes and other decorations celebrating Gonzaga military triumphs, but also the trip between this new palace and the Reggia palace in the old city: to
get between the two it was necessary to pass through the Pusterla gate, strengthened by Beccaguto's thick walls and flanked by his artillery towers.\textsuperscript{45}

Though both walls and palace were projects of the 1520s, their construction was not simultaneous, but rather work on both undertakings overlapped.\textsuperscript{46} Beccaguto's fortifications preceded the construction, though not necessarily the design, of the Palazzo del Te by a few years, the work on the new walls and towers beginning in 1519 or 1520, and possibly a few years earlier. Construction of the new palace began in 1525, continued just as work on Beccaguto's walls seems to have slowed, and work was not completed until the middle 1530s. Work on Beccaguto's fortifications ceased with his death in 1528; the unfinished tower of Sant' Alessio was completed in 1531, but not to Beccaguto's design. Work on the Te palace also temporarily halted between 1528 and 1531.\textsuperscript{47} By this comparison of the construction record, it is possible to speculate that increased spending on the Te palace reduced the amounts that could be spent on the new fortifications. However, spending on other fortification projects elsewhere in the city continued (after the hiatus of 1528-1531), indicating not a declining interest in the modernization of Mantua's defenses, but rather disinterest with Beccaguto's program in particular, either because of the enormous costs envisaged or even because of a lack of faith in Beccaguto's defensive scheme. Neither palace nor fortifications proceeded smoothly from conception to completion, all labors were intermittent, and the most reasonable conclusion is that both projects equally supported the larger theme of Gonzaga public architecture: the political and martial independence of the dynasty. Though no document links palace and fortifications as a conceptual unit, they are connected by a
common theme of military glory, their simultaneous construction, and geographical proximity.

But Beccaguto's fortifications were never just court magnificence complementing the other architectural projects of the dynasty; these fortifications were real tools of war, designed and placed to improve the defenses of the city. Beccaguto's efforts were timely and necessary. The medieval walls along the southern face of the city needed modernization, and the 1520s were a time of danger for both city and dynasty. The program for the reconstruction of the city's southern defenses in the early 1520s coincided with Marquis Federigo's active military campaigning. One of the peak years for building activity was 1522, the same year that Federigo led the defense of Pavia against the army of Francis I of France (this siege of Pavia in 1522 should not be confused with the more famous siege and battle of Pavia in 1525.) As in 1509, the fortification work in the early 1520s must be understood in the context of the larger political affairs of Italy and the movements of armies along the Po valley. For Mantua there was a real threat of siege should the military affairs of Marquis Federigo go badly.

On July 1, 1521 Federigo became Captain of the Church for three years, charged with defending the Pope against his adversaries: a secret clause in this contract demanded that Federigo side with the Pope against the Emperor should they come into conflict. In 1521 that possibility seemed remote, as Pope Leo X and Emperor Charles V were allies; yet soon this clause in the contract (renewed and extended to include Florence with the election of Clement VII Medici in 1523) placed Federigo in an awkward position, caught between his best interest as an independent prince and his honor as the hired captain. The seizure of Milan by an Imperial-Papal army in November 1521,
and the death of Leo X in December of the same year, collapsed any chance of a Habsburg-Valois settlement, and sparked a new French invasion of northern Italy. In this new round of the Italian Wars, Marquis Federigo Gonzaga actively served the interests of his patron the Pope within the Papal-Imperial alliance. So in the spring of 1522, while Beccaguto did his best to advance the construction of the new walls on the south side of his capital, Federigo successfully defended Pavia against a French siege. The French defeat at Bicocca on April 27, 1522 shattered their Swiss infantry, who had in fact forced this unwise confrontation with the larger Imperial-Papal army under Prospero Colonna, ending the French threat for the campaign. Had the French expedition prospered, and had Pavia fallen, then the threat to Mantua would have been immediate. However, despite the French disaster at Bicocca, conflict between the King of France and the Emperor continued until 1525, to be replaced by the threat of war between Pope and Emperor, and the Marquis of Mantua's participation in these wars made further work on the modernization of Mantua's defenses prudent.

The military and diplomatic situation of the late 1520s, culminating in that watershed event, the 1527 sack of Rome, was the most delicate and fateful period in the history of the Gonzaga dynasty. A misstep at this moment could have permanently demoted the family to the fringes of Italian and European politics, to the company of such petty princes as the lords of Carpi, Tenda, and Finale—all technically independent nonentities. The possibility of complete dispossession even existed: two decades of war had already seen the rise, fall, and extinction of the Borgia and the Bentivoglio. And as the Medici could testify, there were always disgruntled families within the state willing to court the interference of powerful forces from without the state. For the
Gonzaga, a latent internal threat to the dynasty came from the several independent cadet branches of the family, occupying mini-states on the fringes of Mantua. The Gonzaga handled these crisis years with a typically adroit combination of intrigue and decisive action (though in this case decisive action was actually inaction). The crisis was superficially simple: after the defeat and capture of Francis I in 1525 the power of Spain and the Emperor seemed supreme, yet Charles V was on a collision course with the Pope and France remained obdurate. The League of Cognac of May 1526 linked Francis I, Venice, Milan, and Clement VII against the Emperor. Which side to choose? This dilemma was not unique to the Gonzaga, but Federigo's military obligation to the Papacy aggravated his choice. The secret clause in Federigo's contract with the Pope demanded that he protect Rome from Charles V. To oppose the Emperor could be folly, given his recent military success; yet by opposing the Emperor, perhaps by joining the League of Cognac, Federigo could have helped challenge the Imperial ascendancy in Italy. That possibility gave him real importance in the Emperor's affairs. At some point Federigo realized that simply doing nothing was his best course. By refusing to honor his contract with the Papacy, Federigo could tacitly support the Emperor and risklessly place himself in line for the spoils of a complete Habsburg triumph. There was one problem, and that was the existence of the contract with the Pope.

To be exposed as a treaty breaker would not have fit the carefully crafted image of Federigo as the ideal prince, but the earlier action of his mother Isabella d'Este, widow of Federigo's father the Marquis Francesco, saved him that disgrace. Following the death of Pope Leo X in 1521 the Marchesa Isabella took advantage of the interregnum to bribe a papal official
to pass her the Pope's copy of the incriminating contract. Once secured, this wise if unscrupulous woman promptly burnt the costly but offending paper in August, 1522: no record remained to embarrass Federigo should he find it advantageous to switch alliances midstream.  

By November of 1526 the need to make a choice between Pope and Emperor was at last at hand. After sending word to Clement VII in Rome that he could do nothing to stop the Emperor, Federigo allowed Imperial troops to enter his territory. Permission was even granted to move through the defensive perimeter of the Serraglio and the Imperial army crossed the Po on November 27. Simply by refusing to honor his contract (valid though physically destroyed), and by granting right of passage to the Imperial army, Federigo had placed himself firmly, if disingenuously, in the camp of the Emperor, at no risk and with a good expectation of future reward. After crossing the Po, the Imperial army brushed past all opposition on a slow but steady advance on Rome. On May 6, 1527 Rome fell after a brief and furious assault on the inadequate walls of the Janiculum. The Gonzaga had played a crucial, though silent, role in this crucial campaign of the Italian Wars. From this episode the Gonzaga became firm allies of the Habsburgs in Italy.

Completion of the Torre Sant' Alessio, 1531

The sack of Rome should be seen as a watershed in the political context of fortification construction in Italy. After 1527, with the terrible example of Rome's prostration before the rampaging and leaderless Imperial soldiery (their commander, the renegade Constable Bourbon, was killed in the assault), governments paid increasingly serious attention to the issue of
modernizing their fortifications. Fortifications were by nature defensive, and contemporaries must have hoped they would provide protection, even deterrence, without destabilizing the precarious political and military balance in Italy. The permanence of fortifications made them a wise investment, given that war could be expected, but was not necessarily imminent. France’s humiliation at Pavia in 1525, and the general dominance of the Emperor in Italy after 1530, did not end the Habsburg-Valois conflict. Fighting continued: along the French border with Germany and the Low Countries, along the Spanish border with Navarre and Provence. And also in Italy. France invaded Savoy in 1536, and won a notable battle at Cerisole in Piedmont in 1544. French intervention in Tuscany in the 1550s—ominously, with Turkish naval support—emphasized how Italy could once again become the focus of the Habsburg-Valois rivalry. This struggle would not be definitively ended until the great Spanish victory at St. Quentin in 1557 and the Peace of Cateau-Cambrésis in 1559. Meanwhile, northern Italy enjoyed only a quasi-peace.

How did the Gonzaga respond to this new world of Italian politics after 1527? Even before 1527, Alessio Beccaguto’s scheme for the protection of Mantua by a complete circuit of walls and artillery towers shows a Gonzaga realization that extensive modern fortification measures were needed. But Beccaguto’s program had proved too expensive or otherwise too difficult to finance or finish. Of the new fortifications for the city’s southern side, after Beccaguto’s death in 1528 the Torre de Sant’ Alessio remained incomplete. It is quite possible that Beccaguto’s project, designed in the early 1520s, was exposed as inadequate by the time of his death near the end of the decade. His thick, round towers made little provision for effective flanking fire, and were inferior to the angle bastion in providing shielded positions (in the bastion
flanks) for the mounting of artillery. Whether Beccaguto's project was abandoned in part because of technical concerns over his design there is no record; however, after his death both the principles and the structures of Mantua's defenses changed completely. After 1528 the angle-bastion form became the model for all future artillery fortifications.

The first evidence of such a shift in the conception of Mantua's fortifications comes with the completion, to a more modern design, of Beccaguto's Sant' Alessio tower in 1531. As rebuilt, the Torre Sant' Alessio became Mantua's first angle bastion. The southwestern corner of the city's defenses, the polygonal spade-shaped bastion offered a face towards the Isola del Te and another towards the Lago di Pajoulo. As built, the prow of the bastion was truncated, squared off and not sharply pointed. Deeply shielded flanks offered excellent protection to artillery pieces mounted at the gorge. The corners of these flanks, the bastion shoulders, were squared. From this rebuilt bastion, flanking fire could parallel both the old medieval wall on the western side of the city and Beccaguto's new walls on the southern side.

But despite its angle bastion form, the Sant' Alessio tower was little improved over the design of Beccaguto's round towers, and perhaps shows an imperfect understanding of the function, rather than the form, of the angle bastion. The great advantage of the angle bastion is that it exists as a defensive system, the flanking fire of each bastion providing enfilading fire to help defend the faces of a neighboring bastion. Since there were no adjacent angle bastions, the Sant' Alessio tower certainly gained little advantage from its angle form in this critical respect of mutual supporting fire. In the case of the Sant' Alessio tower, the one advantage to the angle bastion form was in the added protection given to cannon mounted at the gorge of the bastion.
Artillery in the flanks of an angle bastion were indeed better protected from the fire of enemy siege guns then pieces mounted in a round tower. Perhaps this advantage alone was incentive enough for the tower's designer; or, more intriguingly, perhaps the designer of the tower was inspired to copy the emerging angle bastion form without fully understanding the defensive concepts inherent to that design.

Designer of the new Torre Sant' Alessio was one Capino de Capo. Like Beccaguto, Capino began his service for the Gonzaga as a military captain and, also like Beccaguto, Capino proved competent playing a number of roles at the Gonzaga court. He was admired for his humanistic skills, his style in discourse and in writing, and in 1521 he accompanied Baldassare Castiglione (author of *The Courtier*) on a mission to Rome to help plead the case of Ercole Gonzaga (Federigo's younger brother) becoming a cardinal. Capino's intellectual talents certainly qualified him to understand the technical issues transforming the science of fortification. But he also brought real wartime experience to his labors. He first served Federigo in 1522, as a commander of light cavalry helping to suppress a revolt against the Pope in parts of the Romagna. In this and in later service he excelled as an independent commander of small forces in fluid circumstances. Besides leading his men in skirmishes and on raids of ravaging and foraging, he acted as a spymaster and as an engineer directing the construction of field fortifications. Despite his erudition and his sometime diplomatic activities, Capino's primary tasks were in the military sphere, and he inherited from Beccaguto the direction of Mantua's fortification program. Among Capino's first projects at Mantua was the completion of Beccaguto's Torre Sant' Alessio to his own angle bastion design.
The Citadel, 1529-1570

After Beccaguto's death both the principles and the architectural forms of Gonzaga fortification projects at Mantua changed dramatically. Gone were proposals for the massive reconstruction of the city's entire defensive perimeter; such grand ideas, even if technically attractive, had proved impossible to fund. A broad fortification plan for the entire city would only reappear in 1629-1630, exactly one century after Alessio Beccaguto's death, and as an emergency measure when the city was under imminent threat of siege. After 1528, a half century of peacetime fortification construction focused on selected sections of the city's perimeter, apparently those judged most sensitive or defensible in case of attack, and the angle bastion defined the design of all these subsequent projects.

The greatest of these new undertakings was the Cittadella, or Porto Fortezza, a pentagonal citadel built at the Porto suburb at the northern end of the Ponte dei Mulini. Of the five corners, the four facing inland terminated in angle bastions, three of them textbook (roughly on the south, west, and north) and one with only a single casemated flank (on the east); the fifth corner, facing the lake, ended at the Vaso and the gate tower at the northern end of the Mulini causeway. Stout ramparts connected all five corners of the citadel. The architecturally elaborate main gate to the citadel, modeled as a triumphal arch, where the main road from Verona reached the city, stood in the protective shadow of the eastern bastion. Surrounding the whole was a flooded ditch made from the pre-existing canal that allowed watercraft to gently negotiate the difference in height between upper and middle lakes.
Whether this canal remained serviceable for navigation after the construction of the citadel is unknown. At the time of its design, the 1520s and 1530s, this was a fortress as advanced as any in Italy or Europe; compact, an approximately regular polygon in plan, with the four bastions designed to provide the enfilading, overlapping crossfire of the mature angle bastion system. Comparison with Beccaguto’s round artillery towers, and Capino’s single angle bastion, is instructive. The bastions of the citadel were arrayed in a tight pattern, providing for the interlocking cannon fire, at point blank range, that made the angle bastion defense so formidable. Conceptually, the Cittadella was much more sophisticated than any existing fortification at Mantua.

Though much smaller in area and in length of perimeter than Beccaguto’s proposals for the defense of the entire city, the citadel project was itself an immense undertaking: each of the bastions, as well as the connecting ramparts, required a small mountain of bricks, stones, and fill dirt; the need to hydraulically balance lakes and canals enforced a certain engineering sophistication; and the whole program took just over forty years—an entire generation—to complete. Like previous fortification projects at Mantua, construction proceeded spasmodically, as money and initiative allowed. Evidence of the piece-meal nature of construction comes not only from the archival record, but from the earliest sixteenth-century view of the city of Mantua, which shows only a single bastion of the Porto citadel complete.56

Credit for the design of the Cittadella is problematic, as is the original design itself, and even the date of that design.57 The Gonzaga court artist and architect Lorenzo Leonbruno was the first to approach the task of designing a fortification for the Porto area, and sometime in the 1520s he did make a
proposal and execute a model of his design: but what exactly that design was is unknown.\textsuperscript{58} In March, 1524 the Marquis Federigo wrote to the Venetian government for permission to send Leonbruno to see and measure the towers, walls, and gates of Padua and Treviso.\textsuperscript{59} This proposed mission to Padua and Treviso—even if it never actually took place—is an important clue illuminating the possible original design of the citadel project, because in 1524 the walls of Padua and Treviso, important strong-points of the Venetian Terraferma, were recently rebuilt—but not to angle bastion plan. Rather, the Veronese engineer-architect Fra Giocondo had reinforced the medieval defenses of both cities from 1509 with earthworks, buttressed walls, ditches, countermines, casemates—and round artillery bastions. These modernizations had well served the Venetian defense of Padova during a noted three-week siege in 1509, during the War of the Legaue of Cambrai, and so they were an obvious model for Mantua's fortification program of the mid-1520s.\textsuperscript{60} If Fra Giocondo's fortifications at Padua and Treviso were indeed the model for the construction of the Porto citadel, then the original proposal would have been for round artillery towers and thick walls much like the fortifications then under construction by Beccaguto on the opposite side of Mantua. Since construction of the pentagonal angle bastion Cittadella began only in 1529, it is quite possible that an original, more traditional plan languished unbuilt through the previous decade. The eventual angle bastion design of the Porto citadel, in connection with the completion of the Torre Sant' Alessio as an angle bastion in 1531, suggests that only after 1528 did the angle bastion supercede all other models as the ideal fortification form.

Beside Leonbruno, many other architects, engineers, and military men can be connected with the early stages of the Porto citadel project. In 1524 the
arrival of Giulio Romano, attracted from Rome with the promise of great rewards, displaced Leonbruno as court artist and architect. Overshadowed by this import, Leonbruno, though a native of Mantua, soon left his own city to seek other patrons. Though Giulio Romano is not credited with work on the fortifications of the citadel, he did contribute an impressive design for the entrance gate modeled on an ancient Roman triumphal arch. Interestingly, there is no evidence that Alessio Beccaguto assisted in the design of the citadel, though of course through the 1520s, up to his death in 1528, Beccaguto was active in rebuilding the southern walls of the city to his own defensive scheme. Beside Leonbruno, the engineer-soldier Carlo Nuvoloni has been credited with the design of the citadel, though he has only been positively identified with construction and hydraulic engineering work. Design credit could equally be given to Capino de Capo, who worked on the project up to 1533. With a lack of solid documentation the question of the citadel's designer and the date of that design is unresolvable, and the best solution is to credit an initial—and now unknown—design to Leonbruno, while accepting that this design may have been greatly changed in the hands of those engineers who supervised construction over the decades it took to bring the project to completion. Whenever the citadel was designed, no construction began before 1529, suggesting that this project only went forward after the death of Beccaguto and the rise to prominence of a new generation of military men at the Gonzaga court.

There is a better record of the professional supervision of the construction of the citadel. Capino de Capo shared direction of the project with the captain of the guard, Carlo Nuvoloni, until 1533, after which date Capino left the service of the Gonzaga. Like Capino, Nuvoloni began his
career as a military captain under Federigo, and both served at the siege of
Pavia and in the Romagna in 1522. Nuvoloni had become captain of the
guard after Beccaguto’s death in 1528, and is mentioned as present during
work on a bastion in 1529.\textsuperscript{63} He also directed necessary hydraulic work in the
Porto area, including completion of the Vaso spillway at the northern end of
the Mulini causeway in 1533.\textsuperscript{64} Nuvoloni, like Capino and Beccaguto, was a
broad military professional, not a narrow specialist, who attended to
engineering and architectural work as part of his larger duties. After mid­
century Gabriele Bertazzalo (the elder—a descendent with the same name
worked on Gonzaga fortifications at the turn of the seventeenth century),
described as "superintendent of the walls," emerges as the most prominent
director of construction. The Bertazzalo were a Mantuan family who had
long served the Gonzaga as engineers, and Gabriele supervised work on
canals and bridges, in Mantua and in the countryside, as well as overseeing
work on the citadel. Unlike Nuvoloni, Capino, and Beccaguto, Gabriele
Bertazzalo is best described as a civilian technical expert, not a military man
skilled in fortifications and engineering as one branch of his martial
profession.

Construction of the citadel began in the summer of 1529.\textsuperscript{65} Work
proceeded through the 1530s and the reign of Federigo until his death in 1540.
Just before he expired, thinking of the next world, Federigo abolished the
Maccaluffo tax for the relief of his people.\textsuperscript{66} This ended at a stroke the major
source of income for financing construction of the citadel (the office of the
Maccaluffo was, however, reconstituted at least by 1550.)\textsuperscript{67} With Federigo’s
death his son Francesco, a minor, inherited Mantua and Montferrat, and a
regency dominated by Francesco’s parsimonious uncle, the Cardinal Ercole,
took over the government. Francesco's other uncle Ferrante, a prominent
captain in Spanish service, and his mother Margherita of Montferrat were
also regents. Under Cardinal Ercole work on fortifications paused for two
years while the Cardinal, justifiably concerned, concentrated on restoring the
finances of the duchy. Some 500 useless mouths were evicted from their
decorous sinecures at court, and the rational administration of a ducal
council, the Camera, replaced the near chaos of previous reigns: these are
only two examples of Cardinal Ercole's sweeping broom. His real reforms
made Mantua a modern bureaucratic state, and allowed the Cardinal to leave
as his legacy a solid fiscal base for Duke Guglielmo, who became Duke with
the death of his brother Francesco in 1550, and who ruled on his own from
1561.

But the lapse in construction of the citadel was brief. In 1542 Cardinal
Ercole instituted a new tax on salt—intended as temporary—for the express
purpose of completing the fortifications at Porto. This tax remained in place
until at least 1559, and has been estimated as raising up to 30,000 ducats.

From the end of 1543 Ercole complemented this public imposition with a
commitment to contribute 3,000 ducats annually from his family's own
resources. Large as these funds were, they were not enough. An
anonymous proposal of 1559, noting that the rich and the privileged enjoyed
the good things of life and could consequently pay more than the poor,
sought to make fortification taxation more equitable by saddling an
immediate imposition on the wealthier inhabitants of Mantua, the
landowners, shopkeepers, merchants, and even priests and brothers. By this
impost 40,000 ducats could be expected, so the author expressed. The proposer
concluded that the privileged citizens of the city would be well repayed by the
security given them by completed fortifications. To ensure the cooperation of the populace, and satisfy them as to the use of this money, the cash would be deposited with a trusted gentleman or merchant. Whether this proposal was inacted is unknown. Such concern for the potential embezzlement of fortification funds was not misplaced. In 1531, a decade before Cardinal Ercole's reform administration, Capino de Capo had bitterly complained of corruption, though his concern was with the contractors supplying materials. Thus the search for money, and the administration of funds, shaped the decades-long Cittadella project.

But money was not the only problem. Negotiating, sometimes wrangling, with the landowners whose property obstructed the new construction bedeviled progress as well. Such disputes created paper work, leaving a sporadic record of the pace of new building. In December of 1547 the ducal council authorized funds for the purchase of a house in the Porto suburb to allow further work on the citadel. In October of 1550 the council authorized payment to one Carlo Fusi for a house in the Porto suburb to allow construction of the gate and a section of wall. Poor Carlo Fusi had perhaps waited a long time for this payment, as the gate itself was erected, according to its inscription, the year before, in 1549. On the same date the council made payment to another householder. One particular compensation process dragged on for over a year, with the council authorizing three separate payments, one in 1553 and two in December of 1554. Further purchases of houses and land took place in 1555, 1562, and 1563. Finally, in 1567 the council payed one Orazio Bertazzoli--a member of the engineering clan--for a walled garden and orchard situated outside the citadel gate; this was in fact the same piece of land discussed by the council in
This record of payments by the ducal council indicates steady, if not constant, progress on the citadel project from the late 1540s through the late 1560s.

Like every other fortification project, the citadel swallowed prodigious amounts of materials. Capino reported in October of 1531 that "tomorrow we will begin working on the wall at Porto, and they have ready two and a half thousand bricks and more than 350 cut stones." This reference is to the start of work on a certain portion of the walls, a further indication that work proceeded in sections as materials, manpower, and money became available. Just as in the 1520s, the government required local communities to provide material in kind to ease the cash demands, and procurement headaches, of construction. In 1554 the countrymen of the hamlet of Bigarello were assessed, probably as their annual contribution, two cart loads of sand for every horse. A dozen years later the town of Redonesco, apparently wealthier than Bigarello, provided one thousand bricks, as well as two cart loads of sand, for every horse. From these records it may be postulated that the entire surrounding countryside contributed materials or labor for the project.

Though the construction of a railway line linking Mantua to Verona in the late nineteenth century destroyed almost all of the citadel, one bastion survived, and in its surviving state it confirms a typical construction of brick, earth, and stone. The facing material, a retaining wall for the mass of earth forming the core of the bastion, is almost entirely brick. Stonework is limited to a string course (now near ground level but originally about halfway up the face and flank of the bastion), and to an ornamental shield and inscribed stones at the salient of the bastion. The walls may well have been capped
with a course of stone as well. Decorative embellishment at the bastion salient was entirely typical, and demonstrated the pride invested in fortifications and their association with the ruling family or polity. On the surviving bastion of the Cittadella these stones, one each to the left and right of a blank heraldic shield (which must have originally been painted with the Gonzaga arms—painted rather than carved so that it might be periodically updated to reflect the increasing honor and glory of the dynasty), announce the completion of the bastion in exemplary lapidary style:

GUL P DUX MAN TER E
MAR MO FE M D LXX

Meaning:

Prince Guglielmo third Duke of Mantova and Marquis of Montferrat 1570

The date of 1570 is the latest associated with the citadel, and marks the final work on the fortress--after forty years of effort. No wonder the bastion deserved a memorial crest and inscription. The other bastions of the citadel may have had their own crests and inscriptions with their individual dates of completion.

Giulio Romano's monumental gateway to the citadel is further evidence of the pride invested in this fortification, and reinforces the fact that major fortification projects served as emblems of dynastic power, just as they were more obviously powerful objects of war. Modeled on an ancient Roman triumphal arch, resonant with the symbolism of military victory, Romano neatly fitted this ancient architectural form into the fabric of a modern artillery fortress. Designed in 1540, but executed in 1549 after Romano's death, the gateway became known as the Porta Giulia, the name being a
The gate itself was a massive design well suited to its role as entrance to a citadel, with an arched central passage for cart traffic and two flanking passages for pedestrians. Romano sheathed the entire structure with large stone blocks— at obviously great expense, an indication of the importance placed on the citadel's entrance. The design of both interior and exterior faces emphasized strength with four heavy pilasters supporting a decorative frieze of metopes and triglyphs beneath a temple-like pediment. The reference to Rome was deliberate. An inscription on the outside face— like the stone on the surviving bastion, flanking the Gonzaga arms— memorialized the marriage of Duke Federigo with Margherita Paleologa and the dynastic union of Mantua and Montferrat. Thus the citadel's political purpose— the defense of dynasty and polity— was linked to the form of that defense— walls and bastions— via the decoration of its triumphal entrance. Note that this inscription was truly a memorial, Duke Federigo having died in 1540, giving an air of gravity and dynastic continuity to the project, continued by his heirs and widow. This inscription parallels the inscription on the salient of the one surviving bastion: bastion and gate alike were elements of a larger thematic program celebrating the military power of the Gonzaga, and the stability of their house. The metopes and other decorative blocks were carefully carved with reliefs depicting military hardware— shields, swords, spears, and armor— of a deliberately antique fashion: no cannon or other modern weapons intruded on the high symbolism of the monument. The decoration of the citadel gate, specifically the appropriation of ancient Roman trappings, paralleled the decoration of other monuments of the Gonzaga, particularly in the adornment of the Palazzo del Te (1525-1535), also a project of Giulio Romano. The gate to the
Porto citadel shows that, once again, Gonzaga fortifications fit within a larger program of political display. Romano's architecture, at the citadel gate with an elaborate classical frieze and facade, connected the present military glory of the Gonzaga with the martial prowess and longevity of ancient Rome. This was a structure to last the ages, and indeed it survives in fine condition to the present time, while almost the entirety of the rest of the Cittadella has disappeared. That survival testifies to the importance of this gate to the Gonzaga, and also to the endurance of that importance in the civic heart of Mantuans to this day.

The expense and effort expended on the decoration of an imposing entrance to the citadel might seem a vain, even frivolous, project, considering how desperately slowly the construction of the bastions and ramparts of the citadel proceeded. After all, at the time of this massive gateway's construction, in 1549, the rest of the citadel was still unfinished, making the whole barely defensible. But the citadel, like other fortification projects, was intended to awe as well as deter and protect. At the birth of the project Capo de Capino had remarked to Duke Federigo that "as soon as [the citadel] will be finished, it will give great strength and reputation to the city." Reputation as well as strength: the citadel was a political instrument as well as a military fortification. Giulio Romano's gate was completed in 1549 for the visit of Philip II of Spain. Completion of the citadel increased Mantua's prestige, and the fortress became a useful prop in the elaborate, ongoing theatre of Gonzaga state display. When the Archduke Charles of Austria visited Mantua in 1569--by which time the fortress was all but finished--the discharge of the citadel's guns saluted his entrance, both an honor and a reminder of the real military power of Duke Guglielmo.
Almost forty years earlier, in 1530, Charles V found his quarters in the Castello surrounded by the massed artillery of the Marquis Federigo. The political utility of artillery and artillery fortifications had remained unchanged.

But what of the military purpose of the citadel? The Cittadella was a dynastic symbol of the Gonzaga, yes, but that symbolism was worth little if the fortifications themselves did not serve the military needs of the dynasty. The wartime service of the citadel will be discussed elsewhere, but the placement of the citadel reveals an interesting strategic decision. The choice of Porto as the citadel's site was not whimsically taken, considering that a major fortification project might take decades to complete and would swallow untold thousands of ducats—as indeed it did. Such a fortress as the Cittadella could not have been built in the city itself, because to do so would have forced the eviction of hundreds, placing additional financial burdens on the government (it proved difficult enough to manage the relatively many fewer landowners disturbed by construction in the Porto suburb). Also, placing an angle bastion citadel in an urban area would have denied that fortress the fields of fire—literally open fields—necessary for defense by artillery fire. Crowding a fortress with houses effectually negated the value of investing in a sophisticated angle bastion scheme of criss-crossing defensive cannon fire. So the citadel had to have been sited on the outskirts of the city, which in the case of island Mantua meant on the Isola del Te or at the end of the three causeways across the Mincio. Why the Porto suburb?

Placement on the Isola del Te or at the end of the Predella causeway would have been to anticipate attack from the south or the west. There may have been a feeling that this quarter of the city was better protected from
approach by a hostile army: in the country to the south and west of the city stretched a medieval defensive line of walls and towers, the Serraglio. And Beccaguto's new walls faced the south as well. But political considerations made attack from the west highly unlikely. To the west of Mantua lay Milan, held by Spain, and to the south were several minor independent Gonzaga principalities, including Guastalla, the property of Ferrante Gonzaga. In the 1540s Ferrante was both Governor of Milan and one of the regents of the young Duke Francesco. Ferrante initiated the modernization of Milan's defenses with the construction of that city's first angle bastion perimeter from 1546. He also modernized the fortifications of several other towns of Spanish Lombardy. So while the regency government of Duke Francesco erected the citadel at Mantua, one of those regents was refortifying Milan as that city's Governor: Spanish Milan could hardly have been seen as the threat. The ever-ambitious Gonzaga could even consider the Duchy of Milan as within their reach; the death of the last Sforza in 1535, without an heir, had raised the possibility that the Gonzaga might become Dukes of Milan. But possession of Milan was a vain hope, finally quashed in October, 1540 when Charles V named his son Philip Duke of Milan. The Gonzaga were only partially mollified by their prior acquisition of Montferrat in 1536; a nice piece of real estate, but hardly Milan. Yet despite this disappointment, the Gonzaga-Habsburg relationship stayed firm. When the Cittadella project was being planned, then, from the 1520s, Milan and the west were not a direction of threat. That perception would not have changed as the century wore on and the connections, personal and political, between Gonzaga and Habsburg increased.
The situation to the north and east, the direction of Venice, was different. Peschiera, the source of the Mincio on Lake Garda, and Verona were both major Venetian fortresses, and in fact the fortifications of those cities were rebuilt to angle-bastion pattern exactly as the Gonzaga strained to build their citadel at Mantua. The Porto suburb straddled the road to Verona, and also protected the west bank of the Mincio, down river from Peschiera. A fortress sited at Porto blocked the most likely Venetian invasion routes, by land or by water. And Venice, arch-opposer of Habsburg influence in Italy, cowed but not shattered by Charles V's good fortune and success, was by any rational analysis the power most to be feared by the Gonzaga in case of war. Venice had joined France in the anti-Imperial League of Cognac in 1526, the alliance which first compelled the Gonzaga to choose for the Habsburgs; as long as the Gonzaga supported Spanish policies for Italy, Venice could be counted as an enemy, actual or potential. And the Gonzaga's own territorial ambitions lay in the direction of Venice. Peschiera, among lesser towns, had been lost to Venice in 1444; the desire to regain these places from the Terraferma had influenced Marquis Federigo's decision to join the anti-Venetian League of Cambrai. From the late 1520s onwards Venice was the most likely potential invader of the Mantovano, making construction of the Cittadella at the Porto suburb a logical choice.
The San Giorgio Bastion, 1573-1587

The final sixteenth-century Gonzaga fortification project at Mantua was a curious one: the construction of a bastion in front of the Reggia palace, flanking the San Giorgio Causeway, that was also a pleasure garden, making for an unusual combination of martial and recreational natures. This San Giorgio bastion was also known as the baluardo del castello (of the castle), or del giardino ducale (of the ducal garden). The platform of the bastion, orthodox in most every other fashion, made a terrace for a tidy garden of geometric parterres. This platform was originally several feet above the water level of the lake, and was eventually raised to about the same height as the San Giorgio causeway, with a typically bastion-like scarped base. In plan the bastion was a simple rectangle, parallel to the facade of the Reggia, with refused flanks at either end. The northern flank, adjacent to the the San Giorgio causeway, commanded that route into the city. A southern flank faced the southeastern walls of the city and the Catena water gate leading to the Catena harbor; artillery placed here could enfilade any water-borne attack on the port. In peacetime the San Giorgio bastion served unobtrusively as an extension of the palace grounds, while in wartime it defended this quarter of the city from amphibious attack or from an infantry assault along the San Giorgio causeway.

Though a much less extensive project than the citadel, hydraulic engineering problems made construction, and maintenance, of the San Giorgio bastion technically difficult. The bastion was built with fill on land reclaimed from the lake, and the first mention of the project in surviving records is a discussion of flooding as the Mincio crested in the spring of 1573.
The site repeatedly flooded. A member of the enterprising Bertazzolo family, Giovanni Angelo, directed gangs of requisitioned laborers to heap earth against the threat of inundation in December of 1576. Whether the primary impulse was to defend against the Mincio, or against enemy cannon, in 1587 the bastion was considerably rebuilt. At this time the ducal council contracted two masons to raise the bastion thirteen feet and build a new wall of brick and marble. The now more robust bastion still suffered from the river in flood, and in 1604 the government again contracted for its repair. Though the San Giorgio bastion was probably the least elaborate architecturally of all fortification projects at Mantua, it too had its embellishment: a small gate connected the northern end of the platform with the roadway and open space at the end of the San Giorgio causeway. Doubtless this was ornamented with the usual devices of Gonzaga rule.

Comparison of the San Giorgio bastion with Beccaguto's 1522 proposal to defend the Castello front with two artillery towers and a connecting, angled platform illustrates the efficiency of the angle bastion defensive system. Beccaguto's elaborate scheme required much masonry construction and probably anticipated using many artillery pieces in defense. In contrast, the San Giorgio bastion was a much more elegant solution to the same defensive problem. The wide platform of the garden terrace gave room for the mounting of several artillery pieces, should the real threat to the city under siege come from the direction of the lower lake. But to defend against an infantry assault along the San Giorgio causeway only one or two pieces were needed, mounted in the covering flank on the north side of the bastion. The point-blank fire of such pieces, sweeping down the length of the causeway, would defend as well as any more elaborate scheme.
Another interesting comparison can be made between the Porto citadel and the San Giorgio bastion. Both defended one of the causeways connecting the city to the eastern side of the Mincio, but each did so in a very different way. The Porto citadel was a fortified suburb, by itself the strongest position in Mantua. By that strength it prevented an assault on the city by way of the Mulini causeway. The construction of the San Giorgio bastion effected the defense of the San Giorgio causeway at much less cost and bother. Of course, the San Giorgio bastion could not adequately defend the San Giorgio suburb, which remained with only its medieval walls. The San Giorgio suburb therefore remained one of the weakest quarters of the city's perimeter. Nevertheless, the San Giorgio bastion was a technically admirable and certainly cost-effective solution to the problem of modernizing the defense of the Castello and Reggia Palace area.

The Mantovano and the Serraglio

The defense of the Mantovano, the countryside of the Duchy of Mantua, presented the Gonzaga with its own defense requirements. As in the case of the city of Mantua, the waterways of the duchy both described the landscape and delineated the natural lines of defense. Extensive drainage in the nineteenth and twentieth centuries has completely changed the countryside, making it dry and fertile plain of today, but in the sixteenth and seventeenth century water, more than land, defined the character of the region. Rivers, streams, and man-made canals criss-crossed the Mantovano, providing transportation and irrigation, as well as regularly flooding the fields and villages. In many places the roads crossed the country as elevated causeways;
dykes bordered every water course. The management of waterways occupied the attentions of Gonzaga engineers more than the construction of fortifications.

The three principle rivers of the duchy—the Oglio, Mincio, and Po—made the Mantovano a rough defensive triangle with the city of Mantua at its heart. The small towns that edged these rivers, and none was nearly as populous or as important as Mantua, were among the best fortified places of the duchy. Scattered throughout the duchy were other small towns, almost every one of them with at least a watchtower, some of them more substantially protected. However, all these fortifications were in every case limited, consisting of medieval towers and walls, and none were modernized in the course of the sixteenth century. Such defenses could only be considered sufficient against banditry in peace, and raids in wartime. Of course, should it be desired, earthworks could make the defense of almost any place much more formidable. With substantial earthworks, the Mincio, Oglio, and Po could become real barriers to invasion.

One defensive system of the Mantovano is worth further comment: the Serraglio. The Serraglio was a defensive line of medieval walls and towers, originally fourteenth-century, stretching between the Mincio to the Po, for most of its length skirting the Marchionale, a tributary of the Po. This wall system provided the city of Mantua with a formal line of defense against an invasion from the west. From north to south the Serraglio extended from Curtatone on the lake above Mantua, to Montanara on the Marchionale, and from there south to Borgoforte on the Po. The Serraglio, together with the Po and the Mincio, made an interior defensive triangle for the defense of the city of Mantua. In earlier times the Serraglio significantly increased the
protection of the city of Mantua, as it blocked approach to the city on its most landward side. But by the sixteenth century the towers and walls of the Serraglio could not be expected to withstand assault by siege: a few cannon could quickly blast through. Some fifteen kilometers long, the modernization of this fortification was clearly prohibitively expensive. The length of the Serraglio was a disadvantage in another sense, that it would require a considerable number of troops to man. However, earthworks could quickly revitalize this medieval fortification system. Despite deficiencies, then, the Serraglio could still make a good defensive line against attack from the west, if circumstances, manpower, and time allowed. The Serraglio possessed an additional defensive purpose: the area circumscribed by the Serraglio, Mincio, and Po could be deliberately flooded in time of danger, adding to the considerable water defenses of the city of Mantua.

Concern for the modernization of the city of Mantua's defenses contrasted with the general neglect of the fortifications of the surrounding Mantovano. In a time of limited resources, the priority was clear. Throughout the period, the only conspicuous construction projects in the Mantovano were for a few pleasure palaces, retreats from the cares of state; not provisions for the defense of the state. When Mantua and the Mantovano were threatened by war, in 1628, the previous neglect of the Duchy's outlying defenses had to be rectified, and in a hurry: the response was recourse to earthworks.
Conclusion

By 1590 the Gonzaga had invested seventy years of time and considerable treasure in the modernization of their capital's defenses. Throughout this period, no single fortification project, with the possible exception of the modest Sant' Alessio and San Giorgio bastions, proceeded smoothly or without fully straining the financial resources of the state: improving the defenses of their capital was a major commitment of the Gonzaga.

The constancy of that commitment is worth underlining, spanning from Beccaguto's ambitious program of artillery towers in the 1520s, to construction of the Cittadella between 1529 and 1570, to the San Giorgio bastion in 1573-1576 and 1587. There were periods of full interregnum, such as between 1528 and 1530, following the 1528 plague, and between 1540 and 1542, immediately following the death of Duke Federigo. And there were many, many periods of time during which construction languished for weeks or months for lack of money and materials. Before these fortifications were finished, the weeds must have grown tall on several work sites. Surviving documents indicate that construction took place in spurts, as materials could be stockpiled and labor organized. The greatest project, that of the citadel, took longer than an average human generation to complete: forty years. From the perspective of the typical Mantuan, progress on the fortifications of their city proceeded at a snail's pace. The record of fortification projects at Mantua indicates that the Gonzaga, up to 1590, had neither the money, nor perhaps the sense of urgency, to force a project from start to finish in timely fashion.
Meanwhile, there was no hint of the threat that the fortifications were to protect against. At no point did a hostile army advance on the city. After the Marquis Federigo entered the Habsburg camp in the late 1520s the Gonzaga remained contented partners of Spain into the next century. And Spain's position in North Italy seemed immovable. For the poor countryman, forced to part with a few more coins at the mill, how sensible could all the fortification construction seem? Yet the Gonzaga continued to spend, and spend heavily, on the fortification of their capital. Despite the peace that prevailed in North Italy after 1530, and especially after Cateau-Cambrésis, something compelled the Gonzaga to continue to fund their ongoing fortification projects.

Within this long-term Gonzaga commitment to fortification construction, two broad trends in the design of these fortifications can be identified: the first, a decreasing interest in comprehensive schemes for the refortification of the entire city perimeter; and second, an increasing reliance on the angle bastion. Beccaguto's program of the 1520s aimed at the eventual complete replacement of the city's medieval walls. Based on his completed fortifications on the southern face of the city, and on what can be reconstructed of his proposal for the defense of the Castello area, Beccaguto intended to protect the city through artillery towers, each of them radiating defensive fire against a besieging enemy. Though certainly a modernization, Beccaguto's scheme fell far short of the state of the art. The 1531 completion of one of Beccaguto's towers (the Torre Sant' Alessio) as an angle bastion shows that contemporaries soon recognized the deficiencies in Beccaguto's design. The next large scale fortification project, the Porto citadel, completely embraced the angle bastion, as a defensive concept as well as an architectural
form. But though an ambitious project, it was not comprehensive; the citadel could at the most only anchor the overall defense of the city, not substitute for the modernization of the city's entire perimeter. The final fortification project of the period, the San Giorgio bastion, was an elegant application of the angle bastion for the local defense of the San Giorgio causeway and lower lake; but the San Giorgo suburb remained weakly protected.

In a technical sense, fortifications at Mantua became increasingly sophisticated over the course of the century. Yet there is an air of compromise about the fortifications of the city. Most of the city's perimeter remained defended only by medieval walls, though Mantua's extensive water defenses were as formidable as ever. Despite the city's new defenses, real weak points on the city perimeter remained, two in particular: the San Giorgio suburb and the area of the Predella gate. But the modernization of the city's defenses remained incomplete: after 1590, attention shifted to the fortification of Casale in Montferrat and the construction there of a massive citadel, the most sophisticated angle-bastion fortification yet built in Italy or Europe.

1 Various contemporary experts insisted that Mantua was founded 300 years before Rome, 450 before Milan, and 800 before Cremona and Piacenza. One even reckoned that Mantua was founded 60 years before the Trojan War and only 2,539 years after the creation. Verheyen, The Palazzo del Te in Mantua: Images of Love and Politics (Baltimore 1977) 23. This antique patina seems to have become part of the tourist-palaver of the city; Thomas Coryat, remembering his 1608 visit to the place, remarked that the city was "one of the auncientest cities of Italy, auncienter then [sic] Rome by foure hundred and thirty years [and was built] one thousand, one hundred and eighty years before Christ ... which was some years before the beginning of the Trojan warres," Thomas Coryat, Coryat's Crudities (Glasgow 1905) vol I 262.

2 Both quoted in R. E. Lamoureux, Alberti's Church of San Sebastiano (New York 1979) 131 n 20. Pope Pius II resided in Mantua between May 1459 and
January 1460, so he was in a position to know the city well and comment fairly. The Pope's retinue shared their master's ill regard. A Gonzaga minion in Venice sent word back to the Marquess Ludovico reporting a papal ambassador's opinion of Mantua during the conference: "he greatly praised your Lordship and Mantua ... saying that apart from the mud there was no city in the world more adapted or convenient for the Papal court. ... I replied to him that Your Excellency had begun paving the piazzes and wanted to go on to do the rest of the city," quoted in Howard Burns, "The Gonzaga and Renaissance Architecture," Splendours of the Gonzaga (London 1981) 28. This quote indicates the direct connections between architectural programs and the never-ending search for political prestige.


4 This pamphlet, the Cronaca, typical of the "Entry" genre, was written by Luigi Gonzaga, one of the innumerable Gonzaga cousins who decorated the court at Mantua. It was not published until the nineteenth century, Romano 1892.

5 Fynes Moryson, Fynes Moryson's Itinerary (Glasgow 1907) vol I 370.

6 Much is often made of Bologna's decision to forego the expense of modern fortifications and instead depend on the so-called "Spartan" option, of defense by an army in the field. However, Bologna was not free, but a dependency of the Papal States. When Bologna's experience is compared with the enormous sums small states--Lucca in Tuscay is an excellent example--were willing to pay for modern fortifications in the sixteenth century, the conclusion is clear: freedom meant fortifications. Outside of Italy, the same or a similar dynamic was at work, and the reliance placed on fortifications by rebels is noteworthy. Rebels against both religion and government make particularly good examples: Calvin's Geneva, the Huguenots in France, the Dutch against Spain.

7 Coryat went on to add, "I would wish to make my habitation in, and spend the remainder of my dayes [here in Mantua] in some divine Meditations amongst the sacred Muses, were it not for their [the Catholic Italians'] grosse idolatry and superstitious ceremonies which I detest." Thomas Coryat, Coryat's Crudities (Glasgow 1905) vol I 264.

8 The importance of hydraulic engineering in shaping the city cannot be underestimated. The control of the Mincio was an important step in the
articulation of the city's urban plan, and the origins of this operation go back to the high middle ages. For a discussion of hydraulic engineering at Mantua see E. Marani, "Il paesaggio lacustre di Mantova fra l'antichità romana e il Medio Evo," *Civiltà Mantovana* 11 (1967) and Supino, "L'ingegneria idraulica durante il Rinascimento gonzaghesco," *Mantova e i Gonzaga nella civiltà del Rinascimento* (Mantua 1977).

9 The Englishman Coryat, traveling through the Mantovano in June of 1608, noted the swarms of flies so thick that special wooden flaps needed to be fitted to the windows of his inn. Thomas Coryat, *Coryat's Crudities* (Glasgow 1905) vol I 268.


12 Particularly Hogenberg's bird's eye view, dated 1575. Hogenberg's etching seems to be based on information of c. 1550 and earlier.

13 This Vaso and the fortified tower were built to the design of Carlo Nuvoloni and were finished in March of 1533: ASMn, AG, 2519, 172, letter of Nuvoloni to Duke Federigo dated March 26, 1533. The Vaso and tower were therefore part of the Cittadella project.

14 Again, Hogenberg's view, dated 1575 but of c. 1550, is the best source.

15 The only real exception being the eastern shore of the middle lake to the north of the San Giorgio causeway; here there was a field of reeds and probably also a marshy littoral.

16 There are examples of moats serving as canals. The most pertinent in this case being the extensive contemporary Venetian fortifications at Peschiera, the port at the southern end of Lake Garda where the Mincio began, which straddled the river and included provisions for water traffic: indeed, the bastions were placed so as to control passage on the River. The earliest distinct image of the city, Hogenberg's bird's-eye view, dated 1575, shows one bastion of the Cittadella complete, with the channel already forming a moat around the Porto community.
The traveler Fynes Moryson left a particularly detailed description from the year 1594: "On the North-East side is the Gate of S. George, whence between the two Lakes is a causey two hundred walking paces long, and beyond it a bridge of stone five hundred paces long, like to a faire gallery, covered over the head, and supported with brick pillars, having open windows, two paces distant from the other, then passing a draw-bridge, you come to another causey ... two hundred forty walking paces long, before you come to firme land." Fynes Moryson, *Fynes Moryson's Itinerary* (Glasgow 1907) vol I 370. Moryson's description seems to reverse east and west, as the drawbridge was closer to the city side, not the eastern bank of the Mincio.

Carlo Perogalli, "Le difese di Mantova. Cittadelle e cerchie bastionate," Maria Rosa Palvarini and Carlo Perogalli *Castelli dei Gonzaga* (Milan 1983) 159. This program was certainly to counter the ambitions of Milan. Gian Galeazzo Visconti, who threatened to incorporate Florence within his expanding state, conveniently died in 1402.

These towers reached their perigee—in both height and usefulness—during the thirteenth century and the fratricidal conflict stylized as Guelph versus Ghibelline. For Mantua, as elsewhere, the rubric Guelph versus Ghibelline monumentalizes what was really an endless string of petty bloodfeuds of really only local cause and significance. The Mantuan noble families, their towers in Mantua, and their fortified fiefs in the Mantovano are discussed in Carlo Perogalli, "Fortificazioni pre-gonzaghese e primo-gonzaghese," Maria Rosa Palvarini and Carlo Perogalli *Castelli dei Gonzaga* (Milan 1983) 14-15.


A very similar artillery ramp cum spiral staircase was built in the courtyard of the Castello Estense at Ferrara. This castle is much better documented than that of the Gonzaga at Mantua, and was built after 1385 by Bartolino da Novara for Duke Nicolò II. The artillery ramp, however, may have been added as part of a sixteenth-century renovation, though it is probable that the Castello Estense, like the Castello di San Giorgio, was considered little more than a palace after about the year 1500.

In 1530 the state architect Giulio Romano built a small residential annex, demolished in 1899, on the east face of the Castello and connected with the castle by a bridge over the moat. This annex, hastily built in time for the ceremonies and pageants designed to impress Charles V during the
Emperor's visit to Mantua in 1530, was later known as the Palazzina Paleologa and presumably became the living quarters of Federico I's wife Margherita Paleologo of Montferrat. Construction of the Palazzina Paleologa indicates that by the second quarter of the sixteenth century the Castello di San Giorgio was no longer thought of as a fortification, but as a quaint quarter within the larger palace complex.

23 ASMn, AG, 2475. May 2, 1509.

On May 8 a Venetian force bombarded, assaulted, seized, and sacked the inadequately fortified town Lombard town of Pitigliano in a single day—a reminder of the weakness of traditional defenses before the competent use of artillery. Given the state of Mantua's medieval fortifications, the work at Mantua was certainly justified. See Pieri, *Il Rinascimento e la crisi militare italiana* (Turin 1952) vol II 455-456.

25 Unhappily, a few months later, on August 1, Marquis Francesco was ignominiously captured in a skirmish with the all-but-defeated Venetians, and the Marquis had to endure a humiliating imprisonment in Venice, a victor somehow vanquished. This disaster prevented the Gonzaga from reaping any benefit from their participation in the League of Cambrai. The government of Mantua passed to Francesco's wife, the extremely capable Isabella d'Este, who despite her greater fame as Renaissance patroness of the arts, possessed excellent political skills and instincts. Francis I of France, already fallen out with his ally Francesco regarding the division of spoils after Agnadello, smoothly insinuated that a French garrison in Mantua would ease any crisis in governance resulting from Francesco's capture: the marchesa wisely refused this dangerous offer. Isabella ably directed Mantua's affairs until Francesco's return in July of 1510. For a lucid discussion of this situation see Mozzarelli, *Mantova e i Gonzaga dal 1382 al 1702* (Turin 1987) 46-49. For the larger situations of the League of Cambrai and battle of Agnadello, with stress on the military events, see Pieri, *Il Rinascimento e la crisi militare italiana* (Turin 1952) vol II 455-469.

26 "Rei militaris scientissimo," ASMn, AG, Decreti, libro 35, 3. Besides his work on the fortifications of Mantua, Beccaguto inspected dikes damaged by the Po, repaired ruined castles in the countryside, commanded troops in transit to frontier outposts, supervised the raising of infantry and crossbowmen, and even arrested bandits.

27 A very carefully drafted, but unfortunately undated and unfinished plan of the city's defenses, probably of the late seventeenth century (judging by the
state of the unfilled lands to the south and east), confirms that Beccaguto's walls were thicker than the medieval ones they replaced, and were supported with buttresses built against the interior wall: ASMn, AG, 764.

28 Bertazzolo's engraved city views of 1596 and 1628 show what might be a third round tower at the southeast corner of the city. There are apparently no documents discussing this tower, which is placed at the eastern end of Beccaguto's work of the 1520s.

29 The problematic map ASMn, AG, b. 764 (see n 28 above) shows the two surviving towers of Beccaguto's design being keyhole shaped in plan; however, this is not corroborated by other maps and views.

30 The lack of a line of sight between the Cerese-Pusterla tower and the Gradaro tower is proved by the c. 1628-1629 provision for a new angle bastion (almost certainly an earthwork) at the angle of the walls between the towers. Such a bastion would allow mutual support by enfilading fire from all three bastions. This bastion is indicated in the watercolor plan of the 1628-1629 earthworks ASMN, AG, 50, 334.

31 ASMn, AG, 2503. March 23, 1522.

32 ASMn, AG, 2503. February 11, 1522.

33 Quoted in Davari, Cenni Storici intorno ad Opere di Fortificazione della città di Mantova del secolo XVI (Mantua 1875) 8. Unfortunately, Davari's pamphlet cites documents spottily and I have not been able to locate the autograph document; however, Davari is elsewhere very reliable. Davari mentions this quote in the context of 1522. From other documents this is the highpoint of Beccaguto's ambitions and therefore this statement fits in with the tenor of his enthusiasm.

34 ASMn, AG, 2503, 442.

35 ASMn, AG, 2500.

36 ASMn, AG, 2038-2039. June 11, 1521.

37 ASMn, AG, 2128, 116. May 3, 1624.

38 ASMn, AG, 2503, 334.
39 ASMn, AG, 2503, 350 and 354.

40 ASMn, AG, Copialettere, 2926, 259, 96. December 27, 1519.

41 ASMn, AG, 2503, 278. March 23, 1522.


43 ASMn, AG, 2503, 442. Undated, this document is bundled with those of 1522, and the internal evidence of the letter supports that placement.

44 ASMn, AG, 2503, 330. Undated (most probably 1522) and unsigned except with a cross, the "Tiresias gate" is probably an unfamiliar scribe's spelling of Cerese.

45 For an analysis of the decorations of the Palazzo del Te stressing their political meanings see Verheyen, *The Palazzo del Te in Mantua: Images of Love and Politics* (Baltimore 1977) 24-38. All that survive today are the frescoes painted directly into the plaster of the interior walls, besides these there are literary descriptions of other decorations. Several of these compositions refer to Federigo's successful military career, including: inscriptions giving Federigo's titles as military commander for Florence and the Papacy; stuccoed friezes of marching ancient Roman soldiers with portrait silhouettes of several ancient Roman emperors; near-life size portraits of favorite horses, emblems of generalship and knighthood; a series of eight statues commemorating the most famous condottieri of the past. These might seem obscure references to Federigo's military nature and political ambitions, but contemporary taste excelled in clever symbolism and demanded a subtle approach.

46 For an account of the construction of the Palazzo del Te see Verheyen, *The Palazzo del Te in Mantua: Images of Love and Politics* (Baltimore 1977) 7-8.

47 Beccaguto possibly expired in the plague epidemic of the summer of 1528. This same plague halted work on the Palazzo del Te after causing the death of several of Giulio Romano's assistants and workers, and work was not resumed on the palace until 1531. The tower of Sant' Alessio, left unfinished in 1528, was completed in 1531, though not to Beccaguto's plan. It seems safe to assume that the plague of 1528 had a devastating affect on construction worksites throughout the city, and that no real work could be resumed before
1531, perhaps because of a fall in city revenues corresponding to the visit of the plague.

48 This contract is printed as an appendix to the fifth volume of Equicola, *Istoria di Mantova* (Mantua 1610).

49 For the campaign of 1522 see Pieri, *Il Rinascimento e la crisi militare italiana* (Turin 1952) vol II 537-546.

50 ASMn, AG, 2503. August 7, 1522.

51 ASMn, AG, 2516. October 27, 1531.

52 Hogenberg's view does not clearly show the Torre Sant' Alessio; Bertazzollo's 1596 and 1628 views clearly show a polygonal bastion with deep, squared flanks and a truncated point; Ronchi's 1629 view of the Imperial siege indicates a bastion unchanged since Bertazzolo's views; however, Ronchi's composition was clearly based on Bertazzolo's map, and the meticulous watercolor map (ASMn, AG, 50) made for the defense of the city during that siege shows a polygonal bastion with a point. By the 1629 or 1630 siege century the prow of the bastion seems to have been rebuilt with the typical point.

53 Evidence for a squat bastion, wide from flank to flank and narrow from tip to gorge, comes from the unfortunately undated and incomplete map of the city's defenses ASMn, AG, 764, 48. This plan indicates deep and rounded *orechioni*, giving good shelter to cannon mounted in the flanks of the bastion. These rounded *orechioni* were probably added with a reconstruction of the bastion following the 1629 and 1630 sieges.


55 The traditional names of the bastions are: della Madonna (on the south), St. Trinità (west), St. Leopoldo (north), and St. Anselmo (east). There is no evidence for these names from before the nineteenth century, and though these names, in whole or in part, may date from the Gonzaga, the names themselves are on the whole not evocative of the Gonzaga dynasty or their usual patron saints. Therefore, it is more probable that these names date from the Austrian administration of Mantua.
56 Hogenberg's view, dated 1575, actually shows the city around the middle of the century, or even earlier.

57 This problem is surveyed in Rosa Maria Palvarini, "Le fortificazioni [sic] dei duchi," Castelli dei Gonzaga (Milan 1983) 118-119.

58 ASMn, Autografi, 7, 77. October 27, 1531.

59 According to a letter of March, 1524 quoted in Davari, Cenni Storici intorno ad Opere di Fortificazione della città di Mantova del secolo XVI (Mantua 1875) 12. I have not found this document in the archives.


61 I suspect that Nuvoloni has been given fuller credit than the evidence perhaps indicates because he was a member of an old and distinguished Mantuan noble family that would give service to the Gonzaga over several generations. Also, a flamboyant member of the clan was a famous race car driver of the 1920s and 1930s, has remained a local hero, and perhaps his reputation has colored that of his ancestor.

62 This was under a cloud of disgrace. In a letter dated May 20, 1533 Capino affirmed that he had left for fear of the Duke's wrath over "my imprudent speech," ASMn, AG, 882. In 1534 and again in 1536 Capino wrote letters to the secretary Giovanni Giacomo Calandra and the Marchioness Isabella, Duke Federigo's mother, asking their intercession for his return to the Duke's service, ASMn, AG, 883, February 2, 1534 and ASMn, AG, 886, June 17, 1536.

63 ASMn, AG, 2513, August 19, 1529.

64 ASMn, AG, 2519, 172, March 26, 1533.

65 ASMn, AG, 2513, August 19, 1529.

66 ASMn, AG, 2038-2039, book 15, 29

67 ASMn, MCA, O-I, October 18, 1550.

ASMn, AG, 2195, April 17, 1542. The tax would be four pennies, *denari*, per pound, *libbra*.

ASMn, AG, 3613, 176.


ASMn, AG, 2135, August 18, 1546.

ASMn, AG, 3613, 174-177, June 12, 1559.

ASMn, AG, 2516, 179, October 13, 1531.

ASMn, MCA, O-I, December 17, 1547.

ASMn, MCA, O-I, October 18, 1550. Concerning Carlo Fusi.

ASMn, MCA, O-I, October 18, 1550. Concerning Bartolommeo [sic] Italia.

ASMn, MCA, O-I, August 2, 1553; December 12, 1554; December 30, 1554.

ASMn, MCA, O-I, December 23, 1555; June 16, 1562; January 26, 1563.

ASMn, MCA, O-I, June 4, 1567.

October 12, 1531.

ASMn, AG, 2555, September 8, 1554.

ASMn, AG, 2577, January 13, 1567 and 2580, August 29, 1568.

Unfortunately, the great stretch of time over which the citadel was constructed makes finding the individual records of each such contribution extremely difficult. Such records were unfortunately not combined with other papers concerning fortifications making up the file ASMn, O-I, Fortificazione.
This is the western bastion, known as della Madonna, now located on the grounds of a private sporting club. I was not able to personally examine this surviving bastion. The discussion below is based on the published observations and photographs in Carlo Perogalli, "Le difese di mantova. Cittadelle e cerchie bastionate," *Castelli dei Gonzaga* (Milan 1983) 163-167 and 172-173.

Other examples: the Venetian lion at the salient of bastions at Peschiera and Verona; the arms of Pope Paul III at the salient of the Porta Ardeatina bastion in Rome; the Medici balls at the bastion salients of the Santa Barbara citadel in Siena.

The title of Marquis of Montferrat is strange considering that Montferrat was a Duchy from 1543.

The gate is firmly dated by a stone inscribed M V XL VIII.

According to Davari, *Cenni Storici intorno ad Opere di Fortificazione della città di Mantova del secolo XVI* (Mantua 1875) 11.

Luigi Gonzaga, *Cronica* of Charles V’s 1530 stay in Mantua, published in Romano, (1892).

The only clear evidence of the San Giorgio bastion’s design comes from Bertazzolo’s 1628 engraved view of the city, which carefully shows the bastion as both fortification and garden.

ASMn, AG, 2516, 190. October 14, 1531.

ASMn, AG, 2597, December 29, 1576.

ASMn, MCA, O-I, September 9, 1587.

ASMn, MCA, O-I, June 15, 1604.

ASMn, AG, 2608, June 5, 1579.
The Serraglio, meaning cage or perimeter, was a defensive concept not unique to Mantova, but apparently common in the medieval *padana* region. From 1345 the Scaligeri of Verona constructed their own Serraglio, a line of walls connecting Veronese strongholds on the border with the Mantovano. Maria Rosa Palvarini, "Acquisizione dei castelli da parte dei capitani Gonzaga," *Castelli dei Gonzaga* (Milan 1983) 49.
CHAPTER IV
THE FORTIFICATIONS OF MONTFERRAT

The Acquisition of Montferrat

Two events mark the sixteenth-century rise of the Gonzaga to a position of prominence among the nobility of Italy, and indeed Europe: the first, the decision to support Charles V in the 1520s, especially on the eve of the sack of Rome; and the second, the 1536 acquisition of the strategically vital Marquisate of Montferrat in Piedmont. This second great event was a consequence of the first, as it was by the intervention of the Emperor, and through his support of the Gonzaga claim, that Montferrat was won. And won over the rival claims of other ambitious families, particularly the House of Savoy—a consequence that placed Gonzaga and Savoia in conflict for the remainder of the century, and into the next. With the acquisition of Montferrat, later elevated to a Duchy in 1543, the Gonzaga controlled two key territories at either end of the Po Valley: Mantua and Montferrat. Merely owning these two territories was not enough; without military and political security, the wealthier and most strategically sensitive Gonzaga lands—especially those of newly acquired Montferrat—would simply be sweetmeats for hungrier, more aggressive families. To secure their dynastic claims, the Gonzaga tapped the political worth of their two strategic duchies with a prudent and aggressive fortification policy. At Mantua in the Duchy of
Mantua and at Casale in Montferrat, extensive and modern fortifications—those at Mantua already described—underlined the importance of the House of Gonzaga, and insisted upon their consideration as among the first tier of princes in Europe.

Ironically, despite the real worth of Montferrat, the Gonzaga acquired the Marquisate negligently, almost reluctantly. The history of the Gonzaga succession, as all such stories, began with the dynastic failure of another family, in this case the Paleologhi. In the 1520s the Paleologo dynasty hovered near extinction: Marquis Guglielmo IX died in 1518, leaving behind his widow Anna, a sickly brother Gian Giorgio, two daughters, Maria and Margherita, and an only son, five year old Bonifacio, also in poor health. If Bonifacio died childless, and if Gian Giorgio then left no male heir, as could be expected, the Marquisate of Montferrat would pass to another family through the female line. That Guglielmo's daughters might inherit the Marquisate—in whole or in part—at some future date was therefore conceivable in 1518, but not certain, and any such succession would be difficult and disputed. By 1518 the Gonzaga were already involved with the Paleologo; in 1517 Federigo Gonzaga (Marquis of Mantua from 1519) was betrothed to Maria Paleologo, with a marriage to take place in 1524. By the law and custom of the day, this was a binding agreement. This planned Gonzaga-Paleologo marriage must be seen in the context of recent French success in northern Italy—specifically the French victory at Marignano in 1515—and the consequent Gonzaga desire to connect their family and their fortunes with King Francis I of France, the ascending star in the political heavens. The French connection came through Anna of Montferrat, the widow of Guglielmo IX, nee Anne of Alençon, sister of the Duke of Alençon and so
cousin to Francis I. Even before this marriage arrangement, Federigo and his family looked towards an alignment with the Valois. At this moment Federigo, the family heir, lived at the court of Francis I and in fact traveled from France, not Mantua, in 1517 to attend the ceremonies of his betrothal, held in Casale Monferrato. While in Italy for this ceremony Federigo visited French-occupied Milan, where he received the Order of St. Michael, Francis I's gift, from the hands of Marshal Lautrec. Clearly, the Gonzaga and the Valois had reached an accord.

However, the attractions of the Paleologo match waned in the 1520s as Francis I's Italian policy stumbled, and Federigo's ardor strayed from his dynastic obligations. Rather than accepting the Paleologo match, the teenage prince (born 1500) struck up an infamous liaison, truly a love affair, with the married beauty Isabella Boschetti (for whom he built the Palazzo del Te to avoid scandalizing his imperious mother Isabella d'Este by flaunting his privileged mistress at court). Meanwhile, Isabella and the rest of the family sought other, better brides: rumors centered on the daughter of King Sigismond of Poland. Federigo needed a bride equal to his rising status—and one offering connections with the rising Habsburg, Federigo's agemate Charles V (also born 1500). Maria Paleologo offered neither. Through the late 1520's Federigo pursued his options, having several times avoided the marriage to Maria Paleologo he was legally bound to make. Finally, with a papal brief in April of 1528, Pope Clement VII released Federigo from his obligation to marry Maria Paleologo. Hopes for a Polish royal connection were by this time about extinguished, but other prospects seemed bright. The Pope helpfully suggested a match with the sister of the King of Navarre; and the Bishop of Trento championed the daughter of the Duke of Bavaria.
Charles V preferred the daughter of the Duke of Cleves. At this moment, 1530, the ultimate, and tantalizing, dynastic goal of the Gonzaga was the Duchy of Milan, left hanging by the death of the puppet Duke Ercole Massimiliano Sforza, for the past fifteen years an exile in France. Acquisition of Milan would have created a Gonzaga lombard state as great as any other Italian political unit. But this possibility, like the Polish match, withered, and Federigo ultimately agreed to marry Charles V’s thirty-eight year old cousin, Giulia of Aragon of the royal house of Naples. In agreeing to this awkward union, Federigo hoped to arrange for the legitimization of his bastard son by Isabella Boschetti should the marriage prove without issue, as could be expected. The match was pledged during Charles V’s dramatic 1530 visit to Mantua, which festivity also saw Federigo’s elevation by the Emperor to the dignity of first Duke of Mantua. This elevation was not an empty or secondary event; by becoming Duke of Mantua Federigo instantly gained precedence over all princes with lesser titles, and his embassadors and emissaries to foreign courts also gained in precedence, one key to access and attention. Thus Federigo’s service to the Emperor, and the match with Giulia of Aragon can be included as a service, found just and real reward. This marriage project reflected Gonzaga orientation towards Charles V and the Habsburgs, exactly as the earlier marriage contract with Maria Paleologo had reflected a budding alliance with Francis I and the Valois.

But events quickly scuttled the expected marriage. On April 6, 1530 Federigo and Giulia pled their troth. Exactly two months later, on June 6, 1530, an equestrian accident killed Bonifatio of Montferrat. Bonifatio died without issue, leaving as heir his childless uncle Gian Giorgio, who was in extreme ill health to boot. The Gonzaga perspective on a Paleologo match
instantly changed. Federigo quickly jettisoned the just-negotiated match with Giulia of Aragon, and now the family asked Clement VII to issue another brief, this time stating that the original marriage contract with Maria Paleologo could never have been broken. In September Clement obliged, and the marriage between Federigo and Maria could at last take place. Incredibly, September also saw the death of the princess Maria; but the younger Paleologo daughter, Margherita, quickly took her deceased sister's place, allowing the dynastic match to go forward. The Emperor Charles V's approval (relief from the obligation to marry Giulia of Aragon) was the last obstacle. The Emperor's assent, encouraged by Federigo's offer of 50,000 ducats, came in July of 1531, and Federigo wedded Margherita on October 3, 1531. In a final twist, the rejected Giulia of Aragon married Gian Giorgio of Montferrat in 1533—a barren project, both personally and dynastically, that guaranteed the Gonzaga receipt of Montferrat, as long as the good will of the Emperor assisted Federigo's claim. In a macabre denouement to the dynastic tergiversations of the previous few years, Gian Giorgio outlasted his marriage by little more than a week, leaving Giulia of Aragon a widow eight days after the ceremony. Gian Giorgio died on April 30, 1533; Montferrat was now up for grabs.2

The expected windfall, the Gonzaga acquisition of Montferrat, did not accrue instantly upon the death of the last male Paleologo. Federigo would need Imperial aid to enforce his claim. The people of Montferrat ill-accepted the imminent Gonzaga accession, and the citizens of Casale Monferrato openly rebelled. In response to this chaos, in June 1533 Imperial troops from Milan occupied the Marquisate. While those within Montferrat acted against the Gonzaga, those without marshalled their objections as well. Princes other
than Federigo claimed the territory. The Marquis of Saluzzo traced his right of inheritance back to a daughter of Marquis Guglielmo VI of Montferrat; and Carlo III, Duke of Savoy, traced his claim to another daughter of Guglielmo VI. Both agreed on the illegitimacy of Federigo Gonzaga's claim. Only the timely occupation of the Marquisate by Imperial troops prevented a war of succession.

Imperial arbitration settled the question—or better, postponed a final reckoning, because the Savoia never managed to swallow their defeat. On November 3, 1536 the Emperor Charles V confirmed Margherita as heiress to Montferrat, with the added stipulation that Federigo might immediately assume the title of Marquis of Montferrat. This was a complete victory for the Gonzaga, even though the Emperor's decision obligated Federigo to give satisfaction to the duke of Savoy to the tune of 80,000 ducats. However, in Montferrat the Emperor's decision was not gracefully accepted; French troops infiltrated Casale and destroyed the houses of Gonzaga and Imperial supporters. The Spanish troops from Milan who once again restored order themselves looted the town. This was not an auspicious beginning to Gonzaga rule, as it was becoming very clear that Gonzaga authority depended on Imperial and Spanish diplomatic and military support.

Throughout the entire Gonzaga accession, the friendship of the Emperor Charles V, the tangible reward of Habsburg-Gonzaga cooperation, served the Gonzaga well. Federigo's marriage to Margherita was not as prestigious as a royal connection to Poland or Navarre might have been; but Margherita's bloodline, in combination with Charles V's aid and good will, brought real territorial reward: the Marquisate of Montferrat. The wisdom or
foolish policy of Gonzaga regarding Montferrat would determine whether this acquisition was boon or fatal step.

The Paleologo inheritance was, in fact, much more than just Montferrat. The Paleologo (who had acquired Montferrat in 1305, with the collapse of the Aleramo family) were a branch of the Paleologhi who had sat on the throne of the Eastern Empire and at the head of the Eastern Orthodox Church. After the fall of Constantinople in 1453 the Paleologhi of Montferrat held the best claim, through an unbroken male line, to the fallen empire of Byzantium. Though that claim seems fantastic today, in the sixteenth and early seventeenth centuries a trickle of Greeks and other Balkan refugees, all rebels against the Ottomans, sought out the Paleologhi—and then their various Gonzaga and other heirs—beseeching support and begging leadership for a grand crusade to turn back the Turk and restore the glory of the Eastern Roman Empire. And, as the behavior of the Gonzaga attests, the claim to an Eastern Empire was enough to put in motion several schemes.

Most prominent of these adventures was Duke Vincenzo of Mantua and Montferrat's participation in the Emperor Rudolph II's wars against the Turk in Hungary in 1595 and 1597. In 1595 Vincenzo brought from Mantua 1,500 men-at-arms and three personal companies (of a hundred cavaliers, a hundred arquebusiers, and a hundred German halbardiers each), a considerable contingent in total. Accompanying Duke Vincenzo was Germanico Savorgnano, his master engineer and architect of the just-completed citadel at Casale in Montferrat. These Gonzaga troops made up part of an Italian host headed by the Pope's commander, Giovan Francesco Aldobrandini; in Hungary the high command went to the Archduke Mathias, brother of the Emperor. Vincenzo led his troops against the Turks in a
summer campaign of cavalry skirmish and protracted sieges. Duke Vincenzo returned to Mantua in the fall of 1595. Two years later he returned to Hungary for another border war of cavalry skirmish and siege operations. Neither campaign featured conspicuous success on the battlefield, but both highlighted Duke Vincenzo's martial and political ambition, and underlined the continuing cooperation of Gonzaga and Habsburg.

More indicative of the Paleologo inheritance as a political motivation were the crusade projects of Carlo Gonzaga, or Charles Gonzague, the Duke of Nevers. The Duke of Nevers was the eventual inheritor of the Duchies of Mantua and Montferrat after 1627, but in the early seventeenth century he headed the Gonzaga-Nevers branch of the family in France. Though a prince of the very highest level of French nobility, the Duke of Nevers maintained close connections with his family in Italy, and his political acts show a wide vision and a sense of independent destiny—as well as a full knowledge of the dynastic worth of his Paleologo and Gonzaga ancestry. In 1612 the Duke dabbled with a plan to aid Greek rebels in the Morea, and in 1614 he involved himself with a larger plan to spark an uprising in Bosnia, Macedonia, Bulgaria, Serbia, Herzegovina, and Dalmatia—in sum, the entire Balkan rim of the Ottoman empire. The scope of the Duke of Nevers' plans continued to increase. In 1615 he began to organize the Christian Militia, an order of chivalry devoted to conquering the Turk and rescuing the Holy Land, with himself as Grand Master. One Greek exile, the Archbishop Paleologo, praised the efforts of his "cousin" the Duke of Nevers, and the Duke even minted gold coins labeled Carlo Paleologo. Clearly, the Paleologhi inheritance inspired the Duke's dreams of eastern conquest. The Christian Militia actually attempted to mobilize for the great adventure—but in Vienna in 1617,
a time and a place on the edge of the Bohemian crisis. Such distractions as
the gathering Thirty Years' War prevented the cooperation of other European
rulers, but the Duke of Nevers persevered. In 1624 he scraped six ships
together in a final effort to launch his crusade, but in 1625 these ships, after an
attack by the Huguenot Admiral Soubise, became part of Louis XIII's infant
navy confronting La Rochelle. In France as in Germany, the religious war
against the Protestants took precedence over the war against the Turk. This
was the end of the Duke of Nevers' crusade—which never fought a single
Turk, despite a decade of organizational passion.

That the crusades of Duke Vincenzo and the Duke of Nevers all failed
to open the road to Constantinople for the Gonzaga is no surprise, and is
hardly important; what is important is that these enterprises reveal the
incredible breadth of Gonzaga ambition, suggesting that other Gonzaga
programs—notably the ambitious fortification programs at Mantua and
Casale—were not vainglorious, but suited the dynasty's larger aspirations.

The Paleologo match brought Federigo and his family real advantages,
namely the territory of Montferrat and an august name—the latter much
appreciated, as the lapidary monuments of the fortress gate at the Porto
Cittadella in Mantua attests. The Gonzaga heraldic crest now included a gold
double-headed eagle on a red field, the device of the Paleologhi and the
Eastern Emperors. By such means the Gonzaga skillfully appropriated the
heritage of the Paleologo to increase the prestige of their own name.

But the Paleologo match, and more pointedly the acquisition of
Montferrat, brought problems as well. Chieftest of these was the enmity of the
House of Savoy, which never truly abandoned the Savoia claim to Montferrat
and never forgot Charles V's favoritism towards the Gonzaga. Secondly,
France and the Valois saw the smaller states bordering the western Po Valley as ripe for intervention and even confiscation; Montferrat, like Saluzzo and the lands of the Savoia, was a stepping stone towards Milan. Whether these pieces of territory came through war, marriage, or diplomacy made little difference to the King of France; his steady desire to seize Milan and extend the frontiers of France made Montferrat a recurrent goal of French policy. Thirdly, the local nobility and municipal elites of Montferrat cherished their traditional autonomy and so desired nominal, rather than actual, Gonzaga control of the state; when the Gonzaga proved eager to exploit and develop their power in Montferrat, these local nobles, and the principle towns of the Marquisate, proved restive and easily involved in the schemes of the Gonzaga's rivals—especially those of the House of Savoy. A fourth issue, only latently a problem, complicated any Gonzaga policy for Montferrat: that the width of Lombardy separated Montferrat from Mantua. The fact that both territories bordered the Po made communications easier than the gross distance would suggest; but the fact that Spanish Lombardy separated Mantua from Montferrat presented the Gonzaga with a potential policy concern, especially from a military perspective. As long as Habsburg and Gonzaga interests conjoined, their common frontiers in Italy were a great support to the Gonzaga, but if Habsburg and Gonzaga interests diverged, the two halves of the Gonzaga state would be neatly held apart by Milan, the chief garrison of Spanish power in northern Italy. The first event of the Gonzaga acquisition of Montferrat in 1533—the occupation of Montferrat and Casale by Spanish troops from Milan—emphasized the ease of Spanish intervention, and highlighted Gonzaga dependence on their Habsburg patron. The need for further Spanish intervention in 1536 again proved the point: Gonzaga
sovereignty in Montferrat depended, practically, on the King of Spain's grace. These four real political problems, and the complications of geography, made the Gonzaga acquisition of Montferrat perilous as well as advantageous.

Casale

Montferrat at mid-sixteenth century was a heterogenous collection of various towns and fiefs, a geographically fragmented and politically restive state very different from the ordered, and politically subservient, Duchy of Mantua. The successful governing of this territory required that the Gonzaga develop strategies and styles of rule tailored to its geographical and political situation.

The first city of Montferrat was Casale Monferrato, the administrative and dynastic capital of the Marquisate from before the time of the Gonzaga. Relatively wealthy and prosperous, in part from the favor of its ruling princes, Casale was also exceptionally well-sited. Two great routes of communication and commerce intersected near Casale. Running from west to east was the river Po, the principal commercial route of northern Italy, then navigable from Torino to the Adriatic and linked to many important cities, including Milan and Mantua, by various tributaries. Stretching from south to north was an overland road—really many parallel roads—linking Genoa to the Alpine passes. Travelers to northern Europe taking the road from Casale could choose several routes over the mountains, depending on their destination; to the north-west, skirting Geneva, one route reached Franche-Comté and then the Netherlands; to the north-east another route reached Austrian Habsburg territory via the Valtelline or Engadine valleys. Thus Casale—and more generally, Montferrat—stood alongside the first stage
of the road connecting Habsburg-allied Genoa with the various Habsburg lands of central and northern Europe.

In the last three decades of the sixteenth century these lines of communication between Genoa and northern Europe, especially the Netherlands, became increasingly important to the government of Habsburg Spain. These routes were, in fact, the famous Spanish Road, and along this highway poured most of the men and cash sent from Spain and Naples to help prosecute the endless war fought by Philip II—and then his heirs—against the Dutch rebels. Though Spanish troops and treasure did not have to pass directly by the city of Casale, they often passed through other towns in Montferrat (Asti and Alba), and a garrison in Casale would be ideally placed to block or intercept any movement north from Genoa. Therefore, the friendly possession of Montferrat was not an incidental concern to the King of Spain.

Circumstances continually increased the importance of this Habsburg lifeline, as alternative paths between Spain and the Netherlands disappeared. Sea transport via the Bay of Biscay, the Atlantic, and then the run up the channel was always difficult and risky, and all but impossible after the failure of the Spanish Armada in 1588. The treaty of Lyon of 1601 (by which the Duke of Savoy ceded Bresse and Bugey to France in return for Saluzzo) effectively closed the western branch of the road, emphasizing the eastern route via the Valtelline. As long as the war in the Netherlands demanded a constant stream of subsidies and reinforcements, the Spanish Road was vital to the King of Spain. After 1620 and the eruption of the Thirty Years' War, with Spanish military and financial support critical for the Austrian Habsburg cause, the road only increased in importance. The Spanish Road therefore helped shape the relationship between Habsburg and Gonzaga. Once again,
the nature of that relationship was clear: if the Gonzaga-Habsburg alliance held, then Gonzaga control of Montferrat and Casale helped secure the families mutual interests; but if Gonzaga interests deviated from those of Spain, then Gonzaga control of a key stretch of the Spanish Road directly threatened Spanish interests—not only in Italy, but in all of Europe north of the Alps. In such a case, the temptation for a quick Spanish intervention from Milan would be great.9

Yet the geographical importance of Casale predated the importance of the Spanish Road, which was, of course, only an issue after 1567 and the outbreak of the Dutch Revolt. Even before this date Casale merited international consideration as one of the most important towns of the Piedmont—literally foothill—region bordering the western end of the Po valley. Thus Casale, and Montferrat, attracted the attention of France. French intervention in 1536, namely the use of French soldiers to intimidate pro-Gonzaga and pro-Imperial citizens in Casale, has already been noted. The high water mark of French success in the western end of the Po Valley came from the middle 1530s through 1559. The French victory at Ceresole in western Piedmont in 1544, though not an overwhelmingly consequential Spanish defeat, challenged Charles V's ascendency in Italy, and directly threatened the princes allied with the Habsburg; these included both the House of Savoy and the Gonzaga. From 1536 the Savoia lost their lands to French occupation (Nice, the Duke of Savoy's last free possession, fell to a Franco-Turkish force in 1543); an occupation that was only reversed by the terms of the landmark 1559 Treaty of Cateau-Cambrésis, a Habsburg diplomatic triumph made possible by the military triumph of Saint-Quentin in 1557: fittingly, the Spanish commander at Saint-Quentin was Emanuele
Filiberto, Duke of Savoy, who was thus fighting not only for his master but for himself and the future of his dynasty.

Montferrat was also overrun by France, and Gonzaga rule was also restored by Cateau-Cambrésis, once again emphasizing Gonzaga dependence on Habsburg patronage. French occupation of Casale came in 1555, when a column of French soldiers rushed a city gate and quickly overpowered the garrison. For the next four years a French governor ruled occupied Casale with the full cooperation of the citizens; they frankly preferred French to Gonzaga rule. Meanwhile, the government of the Duke of Montferrat (a duchy since 1543), the young Guglielmo and his regents, impotent in distant Mantua, could do nothing; and Spain was at the moment too busy elsewhere to once again relieve the Gonzaga and restore their control of Montferrat. Guglielmo's uncle Ferrante had been Governor-General of Milan, but he was temporarily disgraced after 1554, and so was in no position to aid his ward. For once, quick succour from Milan did not aid the Gonzaga, and Marquis Guglielmo had to wait until peace in 1559. The return of Montferrat to Gonzaga control in 1559 pleased neither the Duke of Savoy nor the people of Montferrat, leaving the Gonzaga with the same policy problems as before: the jealousy of the House of Savoy, the enmity of the people of Montferrat, especially those of Casale, and the future possibility of French invasion. By Cateau-Cambrésis France retained Saluzzo, just to the west of Montferrat; after 1588 (while civil wars distracted the French Kings) the Duke of Savoy occupied Saluzzo. As the King of France and the Duke of Savoy dueled, the threat to Montferrat was never far. The constant of friendly Spanish intervention, diplomatic and military, was all that sustained the Gonzaga in their new possession; the lack of Spanish intervention between 1555 and 1559,
allowing an unchallenged French occupation of Casale, only confirmed Gonzaga dependence on Spain.

Duke Guglielmo's policies in Casale and Montferrat in the first years after 1559 reinforced the Gonzaga dilemma. First, and not for the last time, the idea that Montferrat was not worth the effort of control inspired a proposal in May of 1559 to trade the irksome Duchy for Cremona in Lombardy; rich and pacific Cremona adjoined Mantua and so would consolidate the divided Gonzaga state. But Spain refused to cooperate; a consolidated Gonzaga state, perhaps free from military and political dependence on Milan, would weaken Spain's position in northern Italy. For Guglielmo, there was no alternative to the imposition of firm Gonzaga rule in Montferrat.

But that firm rule proved hard to impose. French troops vacated the Duchy in September of 1559, leaving political control to the local authorities, who of course hoped to retain that authority if at all possible. The citizens of Casale, revealing both their parochial view of the world and their dislike of the Gonzaga, even sent a representative to the court of King Henri II of France, begging that he reconsider and not evacuate their city. The French of course still left. In an astute political move that nevertheless confirmed his continued dependence on Spanish Milan, Guglielmo appointed his sister Isabella Governor of Montferrat; her husband was Francesco Ferdinando d'Avalos, Marquis of Pescara and Governor of Milan from June of 1560 to March of 1563. During these three years the Gonzaga would have the full cooperation of the Spanish regime in northern Italy in reclaiming control over Montferrat. In early 1563, Guglielmo's mother Margherita of Montferrat, a link to the pacific days of Paleologo rule, replaced her daughter
as Guglielmo's representative. To ensure that Habsburg support continued into the next generation, and that the Habsburg's north of the Alps remained as interested in Mantua and Montferrat as their Spanish cousins, in 1561 Guglielmo married Eleonora of Austria, sister to the future Emperor Maximilian II.

The Gonzaga and the municipal leaders of Casale continued to move towards a confrontation. The perspectives of rulers and ruled were very different: the Gonzaga continued to see Casale as a cash cow and the hub of their control over Montferrat; the citizens of Casale continued to insist on their ancient liberties. Oliviero Capello, a leading member of the city senate, led the anti-Gonzaga faction, which controlled the city government, against any and every attempt by Guglielmo's government to eliminate the prior privileges of the town, principally regarding justice and, of course, taxation. Under the Paleologhi Casale contributed 800 ducats annually to their Marquis; after the firm imposition of Gonzaga rule, in 1567, the city contributed 28,000 ducats directly and 8-10,000 ducats from tolls at the city gates--to this the Gonzaga could add what they confiscated from exiled anti-Gonzaga activists. Such a difference in perspective regarding Casale's obligation to its Duke was what made compromise impossible. With the arrest and exile of a prominent anti-Gonzaga city official in September of 1563 matters reached a head. The civic leaders sent an ambassador with a petition to the Emperor Maximilian II (reminiscent of their dispatch of a mission in 1559 to Henry II), who despite his family connections agreed with the citizens of Casale and issued a decree in September of 1564 supporting the ancestral privileges of the city. To this decree the Gonzaga government paid no attention. Bolstered by the legal support of the Emperor, in March of 1565 the city rose in more or
less open rebellion as armed citizens began the construction of fortifications by the main gate of the city, essentially a martial declaration of independence.

It was time for Guglielmo to act forcefully. Physically deformed himself, and so unsuited for and therefore inexperienced with military matters, Guglielmo sent his brother-in-law the Marquis of Pescara, who with a force of 3,000 Gonzaga soldiers and the support of some cavalry from the Spanish garrison in Milan marched on Casale. These troops faced down the threat of violence, and negotiations led to an agreement signed on June 14, 1565. The leader of the city government, Oliviero Capello, agreed to the disarmament of the citizens, the destruction of the new fortifications, and the recognition of the Gonzaga as legitimate lords of the city. In return, Guglielmo agreed to the preservation of the city's privileges, as they existed before the Gonzaga and as the citizens of Casale believed they had been confirmed by the Emperor in September of 1564.

Guglielmo did not stand by this agreement and instead embraced a policy of repression against the leadership of the anti-Gonzaga city government. A wave of exiles fled Casale, most of them heading straight for refuge in the territories of the Duke of Savoy, who not only offered them sanctuary, but aided their agitation against the Gonzaga and sponsored their arguments against the Gonzaga in the Imperial court system. Back in Montferrat a nasty civil war by assassination raged between pro- and anti-Gonzaga elements; a fellow exile murdered Oliviero Capello in September of 1567, decapitating the leadership of Casale's revolt. Duke Guglielmo himself—perhaps—narrowly averted assassination the previous month. While attending public mass in Casale, a note delivered personally to the Duke warned him that the sounding of the sanctus, at the elevation of the host,
would signal a mass uprising and his murder. With the Duke was his cousin Vespasiano of Sabbioneta, a military man with long experience in Spanish service. He immediately interrupted the mass to impose martial law; he ordered the townspeople to keep to their homes and took control of the city. Whether this prompt action scotched a real plot, or whether the uprising was a dramatic invention, from this moment the rebellion against the Gonzaga disintegrated. Determined judicial action unravelled the various cabals of exiles and anti-Gonzaga civic leaders. These individuals were rounded up, tortured to reveal their associates and accomplices, and then either exiled, imprisoned, or executed. The bastard son of the last Paleologo Marquis, one Flaminio Paleologo, died in a Gonzaga prison in the Duchy of Mantua. His death, combined with the death of Oliviero Capello, effectively ended both the feudal and civic opposition to Gonzaga rule in Montferrat. On February 25, 1568 the city of Casale formally acknowledged the Gonzaga as their natural lords. In 1571 the city gave over all judicial authority to their Duke. The Gonzaga had won. But how to preserve and extend this victory?

The Gonzaga needed a policy towards Montferrat that simultaneously protected their Duchy from outside invasion and from internal revolt; a policy that both increased their reputation in the minds of other princes, and sufficiently overawed their own subjects. Also, a policy that relieved the Gonzaga of their embarrassing dependence on Spanish intervention from Milan would be ideal. The policy solution adopted by the Gonzaga neatly boxed all these concerns: the intensive fortification of Casale as the center of Gonzaga control over Montferrat, and as a symbol of Gonzaga sovereignty in Montferrat.
Casale's medieval fortifications were entirely typical and survived intact into the middle of the sixteenth century. Surrounding the entire city was a perimeter of medieval walls supported at regular intervals with round towers. On the western side of the city stood the Castello, a hexagonal castle with four round towers, two on the interior side of the city and two on the exterior. An angled curtain connected these towers with the city wall. Even before the Gonzaga fortification program of the late 1560s there is evidence of some modernization of these defenses. During the French occupation of 1555-1559 some fortification construction took place, and there were plans to consolidate French control of Montferrat with an ambitious pentagonal citadel; however, the continuing inadequacy of the city's defenses is confirmed by the citizen's immediate rush to fortify the city's main gate—certainly with earthworks—during the revolt of 1565. These hasty works, probably at the eastern entrance to the city, were then dismantled following the June 14 accord.

The Castello was the focus of the first Gonzaga project for the modernization of the city's defenses. This was both a logical place to start, and the continuation of an earlier initiative. During the French occupation of Casale the Italian engineer Francesco Orologi proposed to King Henry II a dramatic plan to encase the existing medieval castle within a pentagonal citadel.\textsuperscript{14} No work went forward. Some memory or record—now lost—of this French plan probably sparked later Gonzaga efforts, because sometime after 1565, probably in the late 1570s,\textsuperscript{15} the Gonzaga engineer Bernardino Faciotto made a very similar proposal (plate I).\textsuperscript{16} Since Duke Guglielmo's concerns at
this point were as much—or more—with the defense of his city against its inhabitants as defense against invasion, this plan to transform the old Castello into a new citadel fit the larger political situation. This first Gonzaga citadel at Casale was part of a long Renaissance tradition, in both theory and practice, of using fortifications as a yoke to tame and harness an obstreperous populace.

Faciotto's proposal kept the Castello as the innermost layer of a completely new bastioned citadel; the resulting fortification would be of three layers with a deftly modernized Castello in the center. Two new pentagonal towers, essentially miniature angle bastions, would be added to the north and south angles of the old castle, while scarped triangular extensions would make the four existing round towers more angle-bastion like. Faciotto's plan shows hourglass-shaped gunports in the flanks of each of these towers, allowing a wide field of flanking fire to sweep the faces of both new pentagonal and old round towers. Interestingly, Faciotto's plan exaggerated the geometrical regularity of the Castello; every other view and plan clearly shows the castle as an uneven hexagon, not a perfect figure. This artistic licence—probably not an indication of any massive plan to regularize the old castle—indicates the power of the abstract ideal in the mind of the contemporary military engineer. Surrounding the modified Castello would be a wide moat, crossed on east and west sides by narrow bridges. Encasing castle and moat would be the new pentagonal citadel, the second layer of Faciotto's design, with three bastions facing the outer country and two facing the city. Between castle and bastion fortress would be rows of building lots, undifferentiated on the plan, giving plenty of room for barracks, stables, armories, and the like. The angle bastions of the citadel were of conventional
design, with acute salient angles, squared shoulders, and deep casemates at the flanks. A wide ditch with a narrow moat would surround this new bastioned trace; crossed, on the city side, by a narrow bridge. The third, outermost layer of Faciotto's proposal was an infantry firing platform, a covered way, mimicking the plan of the pentagonal citadel and extending the defensive firing scheme of the fortress. Faciotto's dramatic design kept the Castello as a fortress within a fortress, but the main strength of his proposal were the five bastions of his state-of-the-art pentagonal citadel. Though a commendable modern fortress, both the scale and the complexity of Faciotto's design, necessitating both massive earth moving and delicate hydraulic engineering, made it an expensive proposition. Also, the site of the old Castello, on soft ground near the Po, offered the prospect of a difficult construction--and the danger of destruction by a river in flood. Whether because of these design flaws, or from its daunting expense and difficult site, Faciotto never saw his citadel built.

Instead, a different, anonymous design for the modernization of the Castello went forward (plate II). This was similar to the core of Faciotto's proposal in that it called for a modernization of the original castle. But unlike Faciotto's design, which added two new angle bastion towers and added bastion salients to four existing towers to make a conventional angle bastion fortification, the design as built ingeniously converted the four castle towers into flanking casemates for four new detached ravelins (essentially flank-less bastions). Thus the original fabric of the Castello remained unmodified in plan--and in profile, as a detail from an engraving of the city under siege in 1630 plainly shows (figure 9). The surviving plan reveals the very careful placement of firing ports to provide flanking fire protecting both
the new ravelins and the old towers: the extremely careful design of these firing angles is evidenced by the fact that the gunports on the plan are in some instances drawn on parchment patches that were then glued on top of the underlying plan of the walls. There can be no doubt but that the anonymous engineer's greatest concern was to create a comprehensive defensive system of interlocking flanking fire. To accomplish this, gunports were cut in the old round towers to provide enfilading fire along the broad faces of the four ravelins. The fire from these ravelins in turn covered the old towers. The north and south ravelins were broader, with casemates halfway along each face, and each casemate had a pair of firing ports: one to flank, as a tangent line against a circle, the adjacent round tower; and the other to flank the infantry covered way on the other side of the wide wet ditch. The east and west ravelins were sharper and had casemates at the salient; again, pairs of firing ports to either side of the ravelin provided flanking fire against both the adjacent round tower and along the infantry covered way. Additional gunports filled out the defensive firing scheme. The intersection of these various lines of flanking fire completely explains the odd, quatrefoil shape of the modernized Castello's plan. On the other side of the moat an angled covered way protected defending infantry and shaped their fire. Light bridges, one to the country and one to the city, crossed the moat on pilings; they could then be easily dismantled on the threat of siege. Stables, barracks, granary, and other buildings filled the interior of the castle. This anonymous modernization plan, though idiosyncratic and without a single textbook angle bastion, was nevertheless an excellent application of the angle bastion system: flanking and enfilading fire covered the entire perimeter.
However, the modernized Castello did have defects. The casemates in both ravelins and round towers could only mount lighter artillery pieces; heavier and longer cannon would be unmanageable in these constricted spaces, and were probably impossible to maneuver into the casemates in the first place. Also, the casemates were necessarily hollow spaces within the ravelins, and so they reduced the bulk and defensive solidity of the fortress under bombardment. The unrazed original medieval curtain walls and towers gave little space for further artillery pieces, and certainly not for heavier pieces. However, the tops of the ravelins were platforms for additional cannon (figure 9), though only one of these ravelins directly faced the countryside outside the city. Despite these defects, the modernization of the Castello at Casale was a sophisticated—and certainly cost-effective—solution to the immediate defensive needs of the city.

Modernizing the City Walls, c. 1585

Modernizing the Castello gave the Gonzaga a bridle with which to check their unruly subjects, but the rebuilding of the castle did little to improve the defense of the town as a whole. As late as 1585, the date of the earliest plan of the city fortifications as a whole, the walls of the city remained incompletely reinforced with modern fortifications (plate III). Medieval walls still served as the city's primary line of defense, supported along their length with a wide ditch and covered way. This ditch and narrow infantry firing platform belted the city on three sides: east, south, and west; on the north, facing the Po floodplain, the medieval walls stood alone. Beside the modernized Castello, there were only three modern artillery fortifications: a conspicuous large
round-lobed angle bastion, the bastione Grosso (fat bastion), at the south-east corner of the city; and two smaller bastions with acute salients and straight flanks, the first at the city's south-west corner, the so-called Bozzo, flanking the Grosso bastion and covering an awkward inward angle in the city walls, and the second, the S. Bartolomeo bastion, on the north-east corner of the city, flanking the eastern and northern sides of the city. The construction date of these three bastions is unknown; the shape and large size of the Grosso bastion, and its position at the city's vulnerable south-east corner, is reminiscent of the bastions erected at Turin—in earth—in 1535, and then faced with masonry by the French from 1536. It is possible, then, that the bastion Grosso at Casale dates from much earlier in the sixteenth-century, and was even an earthwork. Whatever the origins of this bastion, and its two smaller neighbors, they represent an incomplete program to modernize the perimeter of the city. In case of siege, extensive additional earthwork fortifications would have been needed.

In 1585, Giorgio Francesco Baronino, engineer of the ducal council of Montferrat, proposed a plan for the complete modernization, and large scale replacement, of the surviving medieval walls (plate III). Baronino's proposal would add two new large angle bastions to the city's perimeter. One, at the city's south-west corner, would eliminate both the dangerous inward angle and the Bozzo bastion and would provide flanking fire for both the Grosso bastion and the Castello. A second large bastion, on the opposite side of the city, would flank the eastern walls and eliminate a smaller enclave in the medieval walls. Baronino's plan also hints at a new fortification for the city's north-east corner; the plan shows the outline of a third large round-lobed bastion superimposed on the S. Bartolomeo bastion. Baronino's
The proposal would have considerably regularized the defenses of the city, particularly on its most vulnerable, landward sides. The northern side of the city, along the Po, required less effort because the wide and extremely soft floodplain made siegeworks impossible; on this side the existing medieval walls were the least compromised by modern cannon and siegecraft. Though an admirable solution to the modernization of Casale's existing walls, the undesirable underlying square plan—Roman in origin—would still dominate the city's perimeter. Also, Baronino's plan, though an improvement of the city's defensibility against external attack, did nothing to secure Gonzaga control of the city against an uprising by the citizens. Therefore it inadequately met the government's larger political concerns.

Baronino's plan, proposed by 1585, was the last of Duke Guglielmo's reign (ended 1587). It was not put in action. Instead, the government of the new Duke, Vincenzo I (reigned 1587-1612), abandoned the effort to modernize the city walls, and instead adopted a dramatic new proposal: a plan for an enormous new six-bastioned citadel, thirty-five hectares in area and perfectly polygonal, the largest and most technically advanced angle-bastion fortification in Europe.

The Citadel, 1590

Though the new citadel was an enormous and complex architectural and urban planning project, embodying the most sophisticated military engineering, Duke Vincenzo's political motivations were simple and direct: to reinforce his family's hold on Montferrat, against both external invasion and internal revolt, and emphasize his family's place and reputation in the
politics of Italy and Europe. The Duke encapsulated the entire strategic purpose of his mighty citadel in an enthusiastic letter written from Casale to his Duchess in Mantua on the occasion of the citadel's dedication in 1590. This was to be a fortress so strong "that there will not be another like it in Italy, ... a fortress so unassailable that it will be the key to this state." The Duke added that some among his competitor princes will "not much like this thorn in the eyes." He was right. A Venetian diplomat reported home that Vincenzo's citadel "has made envious all the Princes and has attracted the eyes of all of them." And at this point (May 1590) the citadel was hardly more than an architect's trace; it would take many years of work, and much application of treasure, to complete the fortress. But from the very moment of its dedication the political import of the new citadel at Casale was clear: this was a challenge issued to the other princes and powers of northern Italy.

The new citadel at Casale would not only take several years to build; it first took several years to plan. In 1587, the first year of his reign, Vincenzo consulted several military architects, in essence auditioning them for his great project. The man chosen to become Superintendent of fortifications for Montferrat (there was always a scrupulous division of authority between the two Gonzaga duchies) was Germanico Savorgnano, scion of one of the most highly regarded sixteenth-century engineering families, and well-known to Vincenzo from their common service in Flanders. Germanico served Duke Vincenzo for eight years, in 1593 receiving the title of Marquis with the fief of Cereseto in Montferrat, a conspicuous reward attesting to both the high status of military architects in general, and the particular reknown Germanico won as designer of the citadel at Casale. The experienced Germanico, thirty-four years old in 1590, was the nephew and pupil of Giulio Savorgnano,
Superintendent of the fortifications of Venice and quite possibly the most successful and influential practicing military engineer of the day. Giulio was architect of the fortifications at Nicosia in Cyprus, the first physical example of that Renaissance ideal, the geometrically perfect fortress-city. Between 1567 and 1568 Giulio directed the reconstruction of Nicosia's walls to angle-bastion pattern; the rebuilt city boasted a circuit of eleven evenly distributed bastions. The bastioning of Nicosia was an exceptional project, both in scale and in technical scope, and represented a leap from the theoretical to the actual as great in its own day as was the launching of the HMS Dreadnought in 1906. Whether Germanico personally assisted his uncle at Nicosia is unknown; but Germanico's own work at Casale shows complete familiarity with the forms and principles of the elder Savorgnano. Though Nicosia fell to the Turk after only a six-week siege in 1570—due to the incompetence of its governor, not the weakness of its fortification design—the idea of the geometrically perfect fortress-city or citadel survived this first practical failure. Germanico's work at Casale prefigured his uncle Giulio's most famous work—indeed, the most famous Italian fortification of the entire period—by three years: the construction of the Venetian fortress-city at Palmanova in Friuli from 1593. Though a landmark fortification project, Palmanova was not as revolutionary as is usually supposed. Casale was begun in 1590, Palmanova three years later, and both stemmed from Giulio Savorgnano's work at Nicosia thirty years earlier. The designs of all three illustrate a continuing tradition in fortification design, a tradition flowing from a common architectural source, the Savorgnano family. Casale, not Palmanova, was the first of the new breed of angle-bastion super-fortresses to be built in Italy or in Europe.
Germanico's citadel at Casale, though a bold project, was not the first or the grandest of his proposals. The hexagonal citadel, as built, followed several earlier designs, not all of them absolutely attributable to Germanico. To aid in the planning of the citadel a series of miniature fortification traces, exquisitely drawn to a common scale and then meticulously cut out, gave some idea of how the citadel would look if built of five, seven, nine, or more bastions; these cut-out citadel traces were probably map overlays, allowing an easy comparison of various schemes. Larger treatments of some of these alternative visions have survived; one proposal was for a monster citadel of twelve bastions. An earlier version of Germanico's six-bastioned plan included a wide wet ditch—not an impossible provision, given the proximity of the Po, but a complicating engineering issue—and an artful pentagonal fortress within a fortress, complete with its own inner moat (plate IV). This unprecedented design would have given besiegers a daunting task; once the outer citadel was breached, the defenders would consolidate their defense in the smaller pentagonal citadel, presenting their attackers with the prospect of a fresh siege. The inner pentagonal and outer hexagonal citadels would share a single bastion, certainly that facing the town as this was the quarter of least threat. There was, of course, one obvious defect to this proposal, and that was the exceptional expense of creating two fortresses—with a total of ten bastions, great and small—in the space of one fortress; would the added protection, and added glamour, of this design be worth the extra cost? A less elaborate version of this inner fortress survived into other, presumably later projects closer to the final design (plate V). In the fortress as built, this ingenious provision for a citadel within a citadel disappeared; so did the idea of a wide moat. Doubtless the final project seemed grand and expensive enough.
Germanico's final design was a triumph of sixteenth-century military engineering, its elegant lines belying its real sophistication (plate VI). The perfect geometry of the hexagonal citadel is immediately apparent, the six identical bastions providing a dense pattern of flanking and enfilading fire. Each of the six bastions bore a name, in part evocative of the citadel's political context: Gonzaga, Austria, S. Francesco, S. Giorgio, S. Barbara, La Madonna. These names paired bastions from opposite sides of the citadel; Gonzaga opposite Austria, symbolizing the dynastic union and mutual support of those two houses; S. Francesco opposite S. Giorgio, the warrior saint; and S. Barbara--patroness of gunners--opposite the Madonna. Saints Francis, Barbara, and George were all traditional cults of the Gonzaga family, the latter two with connections to the military professions; and their names would have seemed an additional defense, beyond earth and brick, to contemporaries: and who would deny the protection of Our Lady? Of the citadel's more prosaic defenses, broad platforms and wide curtain ramparts allowed for the massing of considerable artillery, and the deep, round-shouldered flanks protected the all-important flanking cannon. Surrounding bastions and curtain was a wide dry ditch. The large interior space of the fortress contained plots marked for the essential support buildings: the commandant's house, an armory and powderhouse, barracks, a church, a granary, and a mill. Mysteriously, near the center of the citadel on this drawing (plate VI) is a small earthwork fort of three ravelins and a hornwork, almost the citadel in embryo, presumably erected for the protection of the site (but against whom?) before the completion of the massive citadel. Perhaps this miniature fortification served to announce the larger vision to come. Germanico's design was for a powerful fortress indeed, uncompromising in
design and awesome in scale. At the date of its design, 1590, there was no
other fortress of similar size or technical perfection, in Italy or in Europe.

A more detailed plan of the citadel as completed allows further analysis
of Savorgnano's design (plate VII). The massive nature of the bastions and
ramparts is immediately clear; this was a fortress that could take a
considerable pounding by besieging artillery. But attention to detail combined
with brute bulk; the plan indicates a double open casemate at each bastion
flank. As the flanks would be the focus of any systematic artillery attack, these
casemates gave added protection for the two flanking artillery pieces critical to
the citadel's defense. Besides masonry supports, these flanking positions
were below the level of the bastion platform, further reducing the flanks'
vulnerability to the fire of attacking cannon, and allowing flanking fire at
ground level across the opposite face and along the surrounding ditch. The
sophistication of this ditch is also evident from the plan. Much more than a
simple obstacle to attacking infantry, the design of the ditch complemented
bastions and ramparts with provision for an active infantry defense. The
outer wall of the ditch--the counterscarp--included an extended covered way,
an infantry platform protected from the direct observation of the enemy, with
a raised firing platform following the outermost line of the fortification trace.
The hexagonal shape of the ditch more than mimicked the plan of bastions
and ramparts; the shallow angles of the ditch (in plan view) ensured that
infantry fire from the covered way fanned out across the surrounding country
in a pattern of cross-fire. At the interior of these shallow angles (excepting
where the walls from the city met the citadel) small salients in the covered
way acted as flanks, providing a crossing fire parallel with the face of the outer
ditch. Thus the principles of enfilade and cross-fire shaped the infantry fire
fortifications of ditch and covered way as well as the artillery fortifications of bastion and rampart. This plan reveals a curious feature to the exterior face of the covered way; this appears notched or saw-toothed. Though unclear from the plan, these notches might be miniature flanks, allowing enfilading fire parallel to the line of the covered way, towards the fortress salients. Alternatively, these notches might be small ramps allowing easy entrance to and egress from the covered way along the length of the citadel's outer perimeter; in time of war, analogous to the ancient sally-port, these might aid the difficult operations of the sortie and counterattack and the dispatch of reconnaissance teams. The exterior, outer edge of the fortress, on the outer side of the covered way, sloped gradually down to the level of the surrounding country; this ensured that besiegers saw the citadel as a narrow horizontal target, and also added a considerable earth buffer to the infantry positions along the covered way.

Other conspicuous features, some less directly relevant to the defense of the citadel, are clear from this plan. Two gateways, one towards the city and one directly opposite, facing the country, stand at either end of one of the six radial boulevards of the citadel. The plans of these gates reveal an interesting feature; each gatehouse structure is on the interior of the rampart, rather than within the rampart; a long and relatively narrow corridor pierces the rampart, connecting the interior gatehouse with the bridge over the ditch. This design—most conspicuous on the gate facing the country—minimizes any weakening of the rampart wall. Along the interior slope of the ramparts are several tiny square buildings, one behind the center of each curtain and one behind and to the left of each bastion; these are powderhouses.30 At the very center of the fortress, at the navel of the whole, is a curious structure or
monument of concentric circles: a well-head? the base of a statue? Any such answer is possible; certainly, the very center of such a consciously geometric object deserved, even demanded special treatment. This was the site of the earthwork fortress that presaged the final design; this would be exactly where some sculpture, obelisk, arch, or other architectural symbol would best express the connections of this citadel as military object with the political and dynastic designs of the citadel's prince. Unfortunately, no trace of any such commemorative object has survived.

Sectional drawings emphasize the massive nature of the citadel's bastions, ramparts, and ditch—though surviving drawings are not without their ambiguities or contradictions. One colored drawing of just a rampart section is specifically identified as the design of Count Germanico Savorgnano (plate VIII). Savorgnano's title of Count dates this drawing to before 1593. Ground level is clearly delineated, and the rampart seems to be as high as the ditch is deep; not surprisingly, considering that the ditch was the obvious source for the earth of the ramparts and bastions—a point that argues for the existence of a ditch around every such fortification, regardless of the technical defensive need for a ditch. The wall of the ditch is lined with brickwork, gently scarped from the floor of the ditch, and then more steeply scarped to ground level. Above ground level there is no brickwork—indicating that masonry was only intended to retain and shape the earth walls of the ditch, not provide a defense against enemy cannon fire. The outer face of the rampart is less steeply scarped above the ditch. The rampart top is massively protected with a bulwark of earth, and the rampart platform is considerably back from the outer face of the rampart; this design shows real regard for the protection of men and cannon. Penciled lines indicate that other proportions
and angles of scarp were considered, and there is no proof—beyond the fact that this particular elaborately colored drawing was deliberately saved—that this section illustrates the design as built.

Another section illustrates yet another treatment of rampart and ditch (plate IX).32 This section shows a scarped masonry wall facing the ditch below ground level, topped with a parapet and a narrow relatively flat space—perhaps to retain the debris of a rampart under artillery attack, perhaps to provide a protected walkway for a guard pacing the fortress perimeter (as in much later seventeenth- and eighteenth-century designs). The rampart itself is massive, with a thoroughly protected platform, again far back from the rampart's outer face. This particular section reveals an interesting feature to the fortification, a countermine, and indicates its construction. The countermine is dug down from ground level to the level of the ditch; this process creates a wide temporary ditch within the rampart that is then filled in after the countermine is roofed. The difficulties of tunneling are avoided, though considerable digging is not saved—but the effort of making a countermine gallery certainly paled in comparison to the effort of digging the ditch and shaping the ramparts, bastions, and covered way. This sectional drawing includes a particularly ambiguous, unlabeled feature; what appears to be a second rampart. This second rampart might be a section of a cavalier—though the existence of a cavalier is nowhere else suggested—or it may be an errant doodle on the part of the draftsman. The various surviving sectional drawings, despite contradictions, make clear the several layers of the citadel's defenses, and the protective bulk that was the citadel's main strength. This bulk also reveals the nature of the citadel as a construction project; this was an undertaking demanding massive earth moving, not enormous amounts
of skilled masonry work or expensive brick, stone, and lime. This fortification, though faced in part with brick (and there against subsidence, not bombardment), was more an earthwork than a stone fortress. That fact suggests that earthworks were not necessarily the ad hoc and unsophisticated mirrors of "permanent" fortifications, but that stone, brick, and earth were materials of different qualities appropriate to different parts of a fortification. Brick made for cheap and reliable retaining walls, where necessary; stone made admirable decorative pieces (doubtless at the gates and elsewhere at Casale, as at the Cittadella at Mantua); and earth gave solid bulk, the real defense against bombardment.

Construction of the citadel proceeded in several stages. First came the simultaneously massive and delicate tasks of digging the ditch and raising the earth ramparts and bastions; a huge quantity of material had to be shifted and shaped, but the precise outline of Savorgnano's careful plan had to be maintained as well. Second came the masonry: the brickwork facing the bastions, curtains, and counterscarp, and the building of the bastions' flanking casemates. Meanwhile, the several buildings of the citadel interior were gradually constructed.

Unfortunately, a detailed record of the citadel's construction no longer exists, nor does a catalog of the expenses involved. However, the main outline of the construction process can be discerned from what records survive. Work began on the first of June, 1590 and by November 12 of the following year the earth moving for the ditches, ramparts, and the bastion platforms was nearly complete. This brute work was made possible by an army of laborers, including prisoners, the soldiers of the garrison (only a few hundred men at this point), and a team of 3,000 men and women shifting
ferlini, square timber cradles of Savorgano's design intended to strengthen the foundations of the fortress. By this time, the end of 1591, the fortress must already have been deemed defensible, as a magazine was already constructed, as was a barracks with the governor's quarters. Significantly, the seat of government in Casale was immediately shifted to the new fortress, evidence that the new citadel was still intended in part as a protection against the citizens of the city. Through 1591 other buildings were erected, including a granary, a mill, and an oven. The citadel was being made self-sufficient. From 1592 the work of walling the ditch, rampart, and bastion faces went forward for two years. By the end of 1593 the bastions of S. Francesco, the curtain between S. Francesco and S. Barbara, the curtain between S. Giorgio and La Madonna, and the lower courses of the S. Giorgio and La Madonna bastions were faced with brick. In 1594 masons completed the facings for the Austria and S. Barbara bastions. The citadel was essentially complete by 1595, in which year Duke Vincenzo began his personal crusade against the Turk in Hungary, bringing his engineer Germanico Savorgano with him; the latter would die in Vienna of the plague in 1597.

Though as perfect a fortification as possible in itself, Germanico's citadel needed to be integrated into the defensive system of the city of Casale as a whole. That integration, however, posed a problem; namely, how to connect the citadel to the city without compromising the defense of either, and without offering any besieger a fatal weakness in the entire scheme. The site of the citadel, and the relation of that site to the existing city, framed this defensive problem. Germanico sited his citadel on a flat plain to the south-east of the city; this was, in fact, the best site for the new fortress. Nearer the floodplain of the Po the ground was too soft, and to the south-west
neighboring hills would have dangerously overlooked the fortress. To have erected the citadel closer to the existing city walls would have been to seriously constrain the bastions' fields of fire; for that reason the city and the citadel were separated by a considerable distance. Actually, the existing bastion Grosso of the city walls jutted towards the space between two of the citadel's bastions (Gonzaga and La Madonna); at this point the citadel and the city almost touched, but to either side of this point large unfortified voids separated city from citadel. The logical solution was to enclose these voids with new circuits of walls, called Ali or wings by the presiding engineers, thus solving a defensive fortification problem and also creating two new urban areas for the expansion of the city.

But several different schemes for these wings were possible. One surviving architectural drawing illustrates at least two solutions (plate X).

For the walls enclosing the smaller void to the south of the city and to the west of the citadel, l'ala piccola, this plan envisioned two small squared bastions on the west, connected to the citadel by a long straight rampart meeting the fortress between the Madonna and S. Giorgio bastions. The zone between two bastions was the strength of any angle bastion fortress, as here is where the cross-fire from faces, flanks, and curtain would be densest, so this was the best and safest point for the wing to meet the citadel. Another proposal called for a single bastion with an extra supporting flank. This work also would have connected with the citadel properly and safely, again between the Madonna and S. Giorgio bastions; the bastion and parallel flank would have been adequate protection. Other surviving drawings illustrate less desirable proposals, including a simple straight line of ditch and rampart directly connecting the city to the salient of the Madonna bastion; this was a
seriously flawed proposal, as this ditch could serve the besieger as a ready-made assault trench on the citadel (plate XIII). Though dangerous, this was in fact the eventual design as built, and for the 1630 siege a hornwork had to be built out from the citadel to help flank this ditch. The vulnerability of the design as built was critical because this wing faced the south-west and one of the easiest approaches to the city and citadel; this was precisely the quarter at which enemy siege trenches might be expected.

For the walls enclosing the eastern void to the north of the citadel and to the east of the city, l’ala grande, the plan (plate X) shows two possibilities, one larger in area than the other. The more modest scheme called for an angled curtain wall leaving the city halfway along the eastern wall and reaching the citadel between the S. Francesco and Gonzaga bastions; the angles in this rampart would act as the flanks of a bastion, covering a stretch of adjoining wall with enfilading fire. A variant of this idea, but larger in area, called for an extended angled rampart, reaching the citadel at the same point as the modest scheme, but connecting to the city walls at the S. Bartolomeo bastion at the north-east corner of the city; this larger circuit of walls would adjoin the floodplain of the Po. This longer wall required more flanks; two, facing each other as in a hornwork, on the wall from the citadel, and two more on the wall from the city. This larger scheme was in fact the one adopted; it offered a larger new urban space—eventually known as the Borgo Nuovo, or New Town—for development, and the greater number of flanks offered better protection. The wings linking city to citadel were among the final touches of the overall fortification plan for Casale; they were not finished until the middle of the first decade of the next century.
A sectional drawing of these fortified lines shows them to have been lightly ramparted, but with extensive ditchworks; as fortifications they were somewhere between a fortress curtain wall and a field fortification (plate XI). The rampart is built above ground level of heaped earth, gently sloped towards the inside, with a wide platform on the rampart top. The exterior face of the rampart, above the ditch, is much more steeply scarped, almost vertical above ground level. Only this outer face of the rampart is of masonry, the deep interior is entirely of earth. The top of this wall is a parapet jutting above the level of the rampart platform; any defending cannon would certainly need fascines or other supplementary defenses, as a brittle brick parapet could not hope to stop a heavy cannon-ball. The ditch, as indicated on the plan, is filled with water, though there is no further evidence that these ditches could be flooded. The counterscarp includes platforms on three levels, all faced with masonry walls. The lowest of these platforms seems to have been a completely protected passage, with the higher two platforms forming an infantry covered way and a firing platform. Outside these works a wide glacis gently merged the exterior of the this fortified line into the countryside, maintaining a height advantage without offering the besieger a distinctive target.

Completion of the ali made Casale a united urban space tied together by the fortifications that now surrounded the whole. Castello, Old City, Citadel, and the Borgo Nuovo were all clearly separate areas; the warren of medieval streets and cul-de-sacs of the original city contrasts with the radial boulevards and open plaza of the citadel, and the neat grid of the newly walled Borgo Nuovo (plate XII). The new quarters of the city, and above all the citadel, were the work of the prince and his new chief courtier, the richly rewarded,
even titled architect-engineer; the rationalism of the new city planning is a
reflection of an autocratic impulse, a measure of the ruling spirit to come:
absolutism. The cannon and garrison of the great new citadel demanded
order, but the precise grid of the Borgo Nuovo, and the geometric regularity
of the hexagonal citadel, not only symbolized the power of the prince, but
demonstrated his ability to define and control the city on his own terms. The
Duke's citadel, together with the city's other Gonzaga fortification projects,
effectively tamed Casale; the city would never rise in revolt again. The
fortification of Casale proved its worth as both a symbol and instrument of
Gonzaga power in Montferrat, and from the governor's house within the
citadel Gonzaga control over Casale and Montferrat radiated outwards.
Gonzaga sovereignty was a steady presence, and--above all--there was no
longer any need to rely on Spanish troops from Milan to keep order in
Montferrat.

But Casale was also intended as a defense against invasion. In this,
Savorgnano's citadel more than satisfied Duke Vincenzo's desire to create a
fortress-city so daunting that it became the key to the entire Duchy. As
completed in the early seventeenth century, the fortifications at Casale were
among the most sophisticated in all of Europe; this was a fortress complex
capable of resisting siege by the army of any prince, including Habsburg and
Bourbon. The citadel at Casale was more impressive than the defences of
Turin or Milan; in this the Duke of Mantua and Montferrat outshone his
nieighbors and rivals.

An exquisite plan of the entire town, dating to the early seventeenth
century, illustrates Casale's real strength as a fortified city (plate XIII). 41 Two
natural features framed the city: on the north, the River Po, and to the south-
west, a range of hills. The Po, though it threatened the north-western walls of the city with erosion, did make a systematic assault on the city from that quarter prohibitively difficult, because the low water table of the river's flood plain made trenches impossible. Therefore the northern side of the city, despite its antique medieval walls, was not a direction of threat. The hills to the south-west of the city perhaps presented more of a problem; the great French engineer Vauban's report on the defenses of Casale, made after the city passed to Louis XIV in 1682, criticized the site of the citadel as being under the threat of bombardment from these hills.42 However, during the 1628 and 1630 sieges there was no such bombardment, suggesting either that Vauban's criticism, though that of an expert, was somehow invalid, or perhaps the besiegers in 1628 and 1630 simply missed this opportunity. Besides river and hills, the site of Casale was a flat plain gently sloping towards the north and the Po. This was a site generally uncompromised by the difficulties of geography; a near perfect place for the geometry of the *trace italienne*.

The fitness of the completed Gonzaga fortifications at Casale varied. On the north-west side of the Old City, the modernized Castello, with its angle-bastion-like system of ravelins supported by casemates in converted medieval towers—though highly unorthodox—was nevertheless a theoretically very effective fortification. Less impressive were the medieval walls of the Old City. The walls on the western side of the Old City, including a ditch but only one unsupported angle bastion, at the south-western salient, were weakly modernized. The northern walls of the Old City, facing the Po, though unmodernized except for a ditch and the S. Bartolomeo bastion, were largely protected by their location. The western and southern walls of the Old City, now within the new perimeter of the enlarged city, had become largely
irrelevant. The citadel was obviously the heart of the fortified city; if the Castello or Old City fell, the citadel would still remain defiant, and the siege of Casale would always come down to a siege of the citadel. To ensure that houses, gardens, and other suburban obstacles did not compromise the citadel's defensive fire, a wide open space separated citadel from city. Of the fortifications connecting the city to the citadel, already discussed, the grave weakness lay in the fortifications of the southern wing; these, as built only a simple ditch and rampart, offered a ready-built siege trench aimed directly at the point of the citadel's Madonna bastion. This defect in the city's overall defensive scheme, though potentially grave, hardly challenged the citadel's uniform system of bastions, curtains, and enfilading flanks; this was a technically flawless example of the mature angle-bastion system, as perfect a fortress as contemporary military engineering could devise.

How would such a fortress as Casale, and particularly the citadel, face the trial of war? Very interestingly, at least one of the engineers who assisted Savorgnano in the design and construction of the citadel put as much thought into the perfect siege as he did into the perfect citadel. Two drawings by Giorgio Domenico Faciotto (an assistant to Germanico Savorgnano and son of Bernardino Faciotto) have survived to share the same file in the archives as various designs for the fortifications at Casale. These drawings illustrate ideal attacks on fortifications very similar to the citadel at Casale, and indicate the considerable amount of engineering effort and raw firepower needed to suppress a large and properly designed angle bastion fortress. One of Giorgio Domenico Faciotto's siege studies imagined a systematic artillery attack on a hexagonal citadel, supporting the approach of an infantry assault trench (plate XIV). The attack focuses on the flank and salient of a single
bastion, and is designed to first suppress the flanking fire protecting that bastion face, and then pound that bastion face into ruin, allowing an easy infantry assault into the citadel. The initial siege battery, of eight guns, is placed so that five pieces fire on the bastion face to be assaulted, while three pieces concentrate on the flank protecting that face. Only after all threat of flanking fire is removed can the infantry attack go forward. Meanwhile, an assault trench—zig-zagging to avoid enfilade fire from the fortress—crosses the front of the citadel roughly parallel to the fortress curtain. When safe, two cavaliers are erected immediately in front of the bastion under attack, allowing an intensive bombardment at point blank range. In Faciotto's plan these two batteries total thirty-six cannon, an impressive agglomeration of firepower. The height advantage of these cavaliers assure the besieging cannon a full command of the bastion top. Fire from the cavalier directly opposite the bastion face concentrates on that face, except for a single cannon working against the flank of a supporting bastion. Fire from the second cavalier, curving around the bastion salient, is divided; mostly to suppress the flanks on either side of the bastion under attack, with a few pieces to add their fire directly against the immediate bastion face. The assault trench angles towards the bastion face to be assaulted, meeting that face at a right angle so as to minimize any threat of enfilading fire from the covering flank. Only when this trench reaches the bastion, and that bastion face is sufficiently pounded by the attacking artillery, is the infantry assault and the capture of the bastion is at hand. This careful plan required both considerable planning and considerable numbers of soldiers, cannon, laborers, and the necessary raw materials: wood, oxen, wicker, tools, ropes, and innumerable other goods, including, of course, mountains of expensive powder and shot. Such
siegeworks were not trifling affairs, and demanded the full concentration of
the besieging generals and engineers—as well as the full financial support of
the prince ordering or authorizing the siege.

Giorgio Domenico Faciotto's second siege study is a more complex
variation on the same general principles (plate XV). In this version there
are two trenches, one an infantry assault trench (C in Faciotto's plan) and the
second (marked A) an access trench to the lines of the siege battery (marked
B). Both trenches zig-zag and slant towards the citadel so as to minimize any
enfilading fire. Further trench-works (G) threaten a dummy attack on a
neighboring bastion. In this plan an initial battery of only four cannon
(protected by earth and wicker gabions imagined as circles in plan view)
batters the face of the bastion (D) under attack. The main siege battery (B) is
emplaced at a distance from the bastion attacked, not at point-blank range,
and is not raised by cavaliers; rather, more gabions are used for protection.
The cannon of this great battery, thirty-seven in total, pound the bastion
salient and face, and the protecting flanks of the adjacent bastions (as at F).
When the bastion salient and flank are reduced to fill the ditch, the infantry
assault trench (L) is completed to reach the bastion flank at a right angle,
allowing the waiting infantry (N) to take the bastion. Again, like Faciotto's
first siege study, this is a plan that requires both extensive planning and
precision in execution. Also, the systematic nature of siegecraft is evident; if
any one stage of such an operation is halted or delayed, the entire siege is
prolonged. Trouble with the planting of the initial battery, the enfilade of a
single important length of trench, the obstinate persistance of a single
defending flanking cannon; any such eventuality, at first glance a tactical
triviality, could threaten the progress of the entire operation. A siege gone
wrong could go badly wrong, with political as well as military consequences, and so any flaws in the planning or execution of a siege against a well-designed, well-defended angle bastion fortification could jeopardize a whole campaign—or even an entire war.

Faciotto's ideal siege plans show that the siege of a great citadel required as much attention to detail as the design of a fortress, and an equal regard for the niceties of geometry and a respect for the power of enfilading fire. There could be no such thing—except in exceptional circumstances— as an impromptu siege of a properly defended and properly designed large angle bastion fortress. The investment, bombardment, and assault of a citadel such as Casale demanded many cannon, many days and nights of digging and other engineering work, and the steady application of cash to pay for soldiers, laborers, artillerists, and engineers. This meant that the siege of a great fortress took time. How much time would be a matter of circumstance, the tenacity and ingenuity of the garrison and its governor, and the competence and logistical support of the besieging army, its generals, and its political masters. The comprehensive siege of a place such as Casale could be expected to take months—months in which alliances could be formed or broken, relieving armies raised, and besieging armies destroyed by disease and desertion. Therefore the siege of a great fortress required diplomatic preparations and long-range strategic planning, in terms of both time and space. These facts made the citadel at Casale not just an object of military engineering, but a not inconsiderable independent weight in the balance of power. For the Duke of Mantua and Montferrat, the fortress at Casale gave political, as well as military, advantage.
Conclusion

Gonzaga fortifications at Casale, culminating in Germanico Savorgniano's great citadel, transformed the Duchy of Montferrat from a liability to an asset. The events following the Gonzaga acquisition of Montferrat from 1533 illustrated the weakness, more than the strength, of the ruling house of Mantua, now suddenly elevated to a greater role in Italian and European politics by their friendship with Charles V. Montferrat came with severe policy problems, namely the enmity—and undying political interference—of the Duke of Savoy, the continued aggressive attention of the King of France, and the restless disobedience of the new Gonzaga subjects, especially in Casale. The extended crises of the first several decades of Gonzaga rule—the challenged acquisition of 1533 to 1536, the French occupation of 1555 to 1559, and the revolt of Casale in 1565—demonstrated the essential weakness of the Gonzaga in Montferrat. Only the constant support of Habsburg Spain, and the timely intervention of Spanish troops from Milan (in 1533, 1536, and several times between 1560 and 1565), saved the Gonzaga position. Without Habsburg political and military support, the Gonzaga almost certainly would have lost Montferrat—to Savoy, to France, or to a general partition. But such a conspicuous dependence on Spanish Habsburg support in effect became the final problem complicating Gonzaga rule in Montferrat.

Geography exacerbated these problems. The essential strategic position of Montferrat ensured that France and Spain would never simply let that Duchy be; the safety of the Spanish Road had to be a concern to the King of Spain's government and to his Governor in Milan. France, though effectively barred from Italy after 1559, under Henry IV resumed the ancestral
urge towards involvement in Italian affairs, and that involvement could not help but include Montferrat. In 1588, with France transfixed by civil war, Savoy occupied the French-held Marquisate of Saluzzo; Henry IV's delayed response was a frighteningly easy occupation of all of Savoy in 1600. The Treaty of Lyon of 1601 then restored the Duke of Savoy and gave him Saluzzo for Bresse and Bugey, now transferred to France. This brief French occupation of Savoy was very similar to the French occupation of fifty years earlier, and served as both a reminder of the constancy of French interests, and a real notice of the rebirth of French power under the Bourbon King. Habsburg, Savoia, and now Bourbon concern for Montferrat was assured. And complicating every Gonzaga action in Montferrat was a final problem of geography; the separation of Montferrat from Mantua, a separation that accentuated military dependence on Spanish Milan.

For the Gonzaga, these four policy problems--interference from Savoy, the attention of France, revolt in Montferrat, and dependence on Spain--boiled down to a basic challenge of sovereignty. Thus prestige, as much as power, was in question; the Gonzaga needed a policy solution that bolstered and increased both. The solution adopted, and one that efficiently solved all problems affecting Gonzaga rule in Montferrat, was the fortification of Casale. This policy was tentative at first; the ingenious refortification of the medieval Castello, perhaps the only example of such a transformation, and then different schemes for the refortification of the entire city perimeter with angle bastions. With the accession of Duke Vincenzo in 1587 this tentative policy became extremely aggressive; Casale, by the construction of a citadel of unprecedented scale and technical perfection, became a political and military instrument symbolizing and enforcing Gonzaga power in Montferrat.
Germanico Savorgnano's master-work instantly focused attention on Montferrat, Casale, and Duke Vincenzo. The medal that Vincenzo issued to proclaim his great endeavor clearly connected the prince with his new citadel. On the obverse was a portrait of Vincenzo, identified as fourth Duke of Mantua and second of Montferrat; on the reverse was a schematic plan of the mighty new hexagonal citadel's bastions and ramparts, surrounding the foundation date of 1590. The political message was inescapable: from this moment this fortification defended this prince's right to rule.

And Savorgnano's state-of-the-art citadel at Casale certainly could defend itself. As Giorgio Domenico Faciotto's siege studies show, it would take a disciplined, well-armed, and well-supplied army under expert direction to take such a citadel as Casale—and this operation would take considerable time, time in which the Duke could rally international political support and raise an army of relief. After the construction of the Casale citadel, the Gonzaga Dukes of Montferrat could assure themselves of real independent and sovereign control over their territory. Certainly the people of Casale were no longer a threat; they could be taxed and be damned. No longer could the Duke of Savoy, or even the King of France, end Gonzaga rule with an abrupt invasion, and no longer would the Gonzaga Duke depend on the support of the King of Spain and his Governor in Milan. Thus the citadel at Casale won the Gonzaga freedom not only from their already avowed enemies—principally Savoy—but also from their firm friend, Habsburg Spain. The citadel at Casale demanded that the Duke of Montferrat be reckoned with as an independent player. Casale, Europe's most sophisticated fortress-city, made the Duke of Mantua and Montferrat a prince of Europe-wide significance.
And yet a danger attached to this new power and prestige, flowing as it
did from such a sensitive military object as the Casale citadel. This mighty
fortification might attract conflict as much as protect the Gonzaga Duke from
conflict. Possession of Casale gave power; placed as that citadel was, so close
to the center of Habsburg influence in North Italy, Milan, and so close to the
Spanish Road. If the opportunity arose, the Spanish urge to take and hold
Casale—quite a political and military coup, if it could be done swiftly and
surely—might overcome the potential complications of such action.
Similarly, the King of France might feel the same attraction towards Casale,
simply because Milan and the Spanish Road seemed the linchpin of Spanish
power. And the interference of the Duke of Savoy could still be expected;
alone or in tandem with Spain or France. So Casale, as well as giving
importance to the Gonzaga Duke, could also pull the Gonzaga Duke into
other and larger political confrontations.

1 Conniglio, I Gonzaga (Milan 1967) 239.

2 For an excellent short discussion of the Paleologo-Gonzaga match see Egon
Verhyen, The Palazzo del Te in Mantua; Images of Love and Politics
(Baltimore 1977) 18-19.

3 Conniglio, I Gonzaga (Milan 1967) 283.

4 Vincenzo's 1595 campaign in Hungary is memorialized by F. Cardi,
Relazione del primo viaggio del duca Vincenzo di Mantov per la guerra di
Ongaria in ASMn, 388.

5 The 1597 campaign is described by F. Cardi, Relatione [sic] al Serenissimo
Signore Duca Vincenzo di Mantova del secondo viaggio che fece in Ungheria
l'anno 1597 et di quello ch seguì in guerra, mentre Sua Altezza si fermò in
Campo in ASMn, 388.
6 These crusade initiatives are well described in Émile Baudson, *Charles de Gonzague, Duc de Nevers de Rethel et de Mantoue 1580-1637* (Paris 1947) 103-133, 172-194, and 210-226.


9 For a description and analysis of the Spanish Road in North Italy see Geoffrey Parker, *The Army of Flanders and the Spanish Road 1567-1659* (Cambridge 1972) 59-70 and figure 8.


12 For an eyewitness contemporary account of anti-Gonzaga resistance and the revolt of Casale see the anonymous *Cronaca anonima di Casale*, ed. L. Scarabelli in *Archivio Storico Italiano* first series, vol. 13 (1847).


15 Bernardino Imoniero, called "Faciotto," worked as an engineer for the Gonzaga in Mantova from at least 1575. He was a native of Montferrat, and so would perhaps naturally have been employed there; from 1590 he was Superintendent of the Citadel at Casale, working with several other engineer-architects under the direction of Germanico Savorgnano. The last dated reference to Faciotto is 1596. From this scant biographical evidence his project for the Castello can be dated to sometime after 1575, but before 1585, by which date the Castello modernization was completed. For Faciotto see A. M. Serralunga Bardazza, *Richerche documentarie sulla Cittadella di Casale Monferrato* (Turin 1985) 30-31, n 5.
16 AST, Corte, Carte Topografiche serie V Casale Monferrato, 48. One version of Faciotto's citadel is without the interior Castello, suggesting that the citadel may also have been considered as an independent and separate project, unconnected with the Castello; AST, 49.

17 AST, Corte, Carte Topografiche per A e B, Casale, 1.

18 Some surviving colored plans show the bastion Grosso in sepia outline, without red-tinted—meaning masonry—walls: for example, AST, Corte, Carte Topografiche serie V Casale Monferrato, 19.

19 This is the earliest reference to Baronino. In 1588 he served as architect-engineer in charge of a survey of the fortifications of Montferrat.

20 AST, Corte, Carte Topografiche serie V Casale Monferrato, 8.

21 ASMn, 2151, May 26, 1590.


24 These miniature cut-out fortification traces are conserved in a folder as AST, Corte, Carte Topografiche serie V Casale Monferrato, 46 var.

25 AST, Corte, Carte Topografiche serie V Casale Monferrato, 49.

26 AST, Corte, Carte Topografiche serie V Casale Monferrato, 31.

27 AST, Corte, Carte Topografiche serie V Casale Monferrato, 33.

28 AST, Corte, Carte Topografiche serie V Casale Monferrato, 22.

29 AST, Corte, Carte Topografiche serie V Casale Monferrato, 20.

30 Identified as such on the generally poor view of the citadel in the left-hand bottom corner of Gabriele Bertazzolo's etching, Albero genealogico dei
Marchesi di Monferrato ("The Genealogical Tree of the Marquises [sic] of Montferrat") of c. 1610-1611.

31 AST, Corte, Carte Topografiche serie V Casale Monferrato, 55.

32 AST, Corte, Carte Topografiche serie V Casale Monferrato, 56.

33 Archival records from the AST and from the municipal collections of Casale are collected in A. M. Serralunga Bardazza, Ricerche documentarie sulla Citadella di Casale Monferrato (Turin 1985).

34 AST, Corte, Camera, 973, 249.

35 This construction record is surveyed in Claudia Bonardi, "La cittadella dei Gonzaga," La cittadella di Casale da fortezza del Monferrato a baluardo d'Italia 1590-1859 (Casale 1990) 77.

36 AST, Corte, Carte Topografiche serie V Casale Monferrato, 14.

37 AST, Corte, Carte Topografiche serie V Casale Monferrato, 20.

38 AST, Corte, Carte Topografiche serie V Casale Monferrato, 19.

39 This sectional drawing is signed by Giorgio Domenico Faciotto, but also bears the signature of Germanico Savorgnano, indicating that this was Savorgnano's officially sanctioned design for the ali connecting city to citadel.

40 AST, Corte, Carte Topografiche serie V Casale Monferrato, 18.

41 AST, Corte, Carte Topografiche serie V Casale Monferrato, 19.

42 Vauban's report is quoted in Vera Comoli Mandracci, "Un Rango Europeo," La cittadella di Casale da fortezza del Monferrato a baluardo d'Italia 1590-1859 (Casale 1990) 14.

43 AST, Corte, Carte Topografiche serie V Casale Monferrato, 61.

44 AST, Corte, Carte Topografiche serie V Casale Monferrato, 60.
This medal is illustrated in the exhibition catalog *Tesori d’arte nella terra dei Gonzaga* (Milan 1974) 88. The obverse shows Vincenzo’s portrait and the inscription VIN. G. DUX. MA. IIII. ET MO. F. II.
CHAPTER V
THE MONTFERRAT AND MANTUAN SUCCESSION CRISIS, 1612-1627

The First Crisis: the Montferrat Succession

Gabriele Bertazzolo, engineer in the service of Duke Vincenzo I of Mantua and Montferrat, served his master in many ways: as a military architect, supervising work on the Cittadella at Mantua; as a civil architect, maintaining the dikes and levees of the waterways of the Duchy of Mantua; and as an engraver, responsible for the first accurate map view of Mantua and for an elaborate family tree demonstrating the Gonzaga right to the Duchy of Montferrat. This busy man performed other tasks as well, and in the spring of 1608 Bertazzolo gathered his many talents to help produce the elaborate and dramatic festivities held at Mantua to celebrate the marriage of the ducal heir, Prince Francesco, to the Infanta Margherita of Savoy, daughter of Duke Carlo Emanuele I. Though the actual marriage took place at Turin, there were magnificent celebrations at Mantua to commemorate the event. These festivities merged the sublime with the spectacular and the sensational; there were boar hunts and tourneys, but also the founding of a new chivalric order, the Order of the Redeemer, the symbolism of which combined Duke Vincenzo's strong taste for crusading with a celebration of the greatest religious relic of Mantua and the Gonzaga, the sample of the Most Precious
Blood held in an urn at the church of San Andrea. The court musician Monteverdi provided scores for a new opera, an art-form then in its infancy, the *Arianna*, and for the *Balletto delle Ingrate*, while the court playwright Guarini offered his *Idropica* as another entertainment for the many guests. Bertazzolo's own contribution to the nuptial gayeties reflected both his military engineering skills and Duke Vincenzo's enthusiasm for holy wars and fortifications: a mock naval spectacular staged at night on a floating barge moored in the Middle Lake off the Giardino bastion and the S. Giorgio Castello. This barge supported a Turkish fortress, pictured in Bertazzolo's own engraving of the occasion as a picturesque castle surrounded by a more modern defense of four angle bastions connected by ramparts. A Christian armada of river galleys took this fortress and then fought off an attempted relief by a Turkish fleet. The light of blazing fireships, sparkling fireworks, and the glow of 5000 multi-colored lanterns festooned about the Castello S. Giorgio illuminated the whole spectacular.¹ This *Trionfo* was certainly the showpiece of the entire celebration, and must have been witnessed in awe by not only the dignitaries and relatives crowding the city for the marriage, but also by the citizens of the city and the denizens of the surrounding villages.

There was indeed something to celebrate. The marriage of Prince Francesco (b. 1586) to the Infanta Margherita (b. 1589) seemed a happy end to the long Gonzaga-Savoia feud over Montferrat; this marriage was a peace treaty between the two families, an example of constructive dynastic diplomacy. The House of Savoy had previously never reconciled themselves to the imperial award of Montferrat to the Gonzaga in 1533-36, and they had continued to consider the Piedmont as their natural area of expansion. The 1608 marriage was an attempted rapprochement between the families, the
direct result of a personal meeting and negotiation between the two family heads, Duke Vincenzo Gonzaga and Duke Carlo Emanuele Savoia, accompanied by only their closest gentlemen. But circumstances would perversely make this marriage not a solution, but a further incitement to conflict.

The marriage produced two children: the Princess Maria, born in 1609, and the Principino Ludovico, born in 1611. The following year, 1612, an unlucky spate of personal disasters overtook the Gonzaga family, almost extinguishing the ruling line and certainly threatening a century of careful dynastic advancement. In June of 1612 Duke Vincenzo died, leaving as heir his son Francesco. In December the little Prince Ludovico died of the smallpox, and his father, now Duke Francesco, followed him to the grave only a few weeks later on December 22, probably also a victim of smallpox. Thus within six months three generations of the ruling line of the Gonzaga family met their deaths. With the death of Duke Francesco in late December the right to the Duchies of Mantua and Montferrat seemingly went to his brothers: either the Cardinal Ferdinando or the younger Vincenzo. The original plan was for Vincenzo to become Duke and for the Cardinal Ferdinando to maintain the family's name and position in Rome. But Ferdinando insisted on his rights as elder, and he traveled incognito from Rome to Mantua in March of 1613 to demand his inheritance. This he could not be denied, though Ferdinando tactfully waited until it could be assured that the Duchess Margherita was not pregnant with a possible heir. In October of 1613 Ferdinando received his investiture as Duke from the Emperor, and in 1615 the bypassed Vincenzo assumed the family cardinalate. While Ferdinando and Vincenzo briefly squabbled over the right to inherit
Mantua and Montferrat, a familiar challenger to the Gonzaga state marshaled his objections and prepared his schemes.

The unfortunate deaths of Duke Vincenzo, and especially the infant Prince Ludovico and his father Duke Francesco, were an opportunity for the ever-opportunistic Duke of Savoy, Carlo Emanuele I. Though the succession to Mantua by Duke Francesco's brothers, either the Cardinal Ferdinando or Vincenzo, was clear, the succession to Montferrat was not. Montferrat had passed to the Gonzaga in 1533 through the female line, and that succession had been upheld by the decision of Charles V in 1536. Furthermore, the Paleologhi had inherited Montferrat from the Alerami in 1305 through a female line. Thus precedent established that Montferrat was fully inheritable by a female child. Duke Francesco died without a direct male heir, having survived his only son Ludovico by only two weeks—but he did have a female heir, the Princess Maria. And this young Princess' grandfather, Carlo Emanuele of Savoy, was willing to act immediately in her name, and demand at least part of the Duchy of Montferrat as her legal inheritance.

Carlo Emanuele moved carefully before he moved boldly, and his first act towards acquiring Montferrat through the Princess Maria was to request that she, with her mother the widowed Duchess Margherita, be allowed to return to their family home in Turin. This move would have given Duke Carlo Emanuele control over the little Maria's future marriage, a critical advantage in the legal, dynastic, and political struggle over the eventual Montferrat succession. The Gonzaga were too crafty themselves to so easily allow the Princess and her mother to fall into the hands of the Savoia; instead, the family temporarily banished Margherita to a respectful house arrest at the Gonzaga country house at Goito (the same place where the last,
illegitimate Paleologo disappeared). Meanwhile, her daughter the Princess Maria was locked up for safekeeping at the Ursuline Convent in Mantua, where she was raised under the vigilant care of her great-aunt Margherita Gonzaga, the widowed Duchess of Ferrara. The Princess Maria would not emerge until her marriage in December of 1627—a marriage that was, not surprisingly, a direct rebuttal of her grandfather Duke Carlo Emanuele's dreams for a Savoia accession to the Duchy of Montferrat.

Without control of the Princess Maria, and so denied a more subtle and long-range strategy for the acquisition of Montferrat, Duke Carlo Emanuele now chose a more direct path, a three-pronged assault on the most vulnerable territories of Montferrat. This invasion went forward on April 23, 1613, and marked the opening of what has become known as the First War of the Mantuan Succession—an unfortunate misnomer. In fact, the Mantuan succession was never in doubt; it was the succession to Montferrat that provoked the war, and all military acts were confined to the contested Duchy of Montferrat. The three columns that invaded Montferrat each made for a specific Gonzaga stronghold. One column under the Duke of Savoy himself made for Trino, a second headed for Moncalvo, and the third force advanced on Alba. All three places capitulated quickly enough, though Moncalvo only after a fifteen-day siege, and then the Duke of Savoy concentrated his forces on Nizza Monferrato, where his advance faltered. None of these places were particularly well fortified, and it is significant that the Duke of Savoy never threatened Casale, the anchor of Gonzaga rule in Montferrat.

Bogged down before Nizza Monferrato, and with opposition to his invasion of Montferrat mounting among the princes of Italy, Duke Carlo Emanuele switched to negotiations. His audacity had only rallied
international support to the Gonzaga position; neither Spain nor France wished an increase in the territory of the infamously acquisitive Duke of Savoy, and the princes of Italy also opposed Carlo Emanuele's grandiose schemes. Spain in particular felt obliged to defend the Spanish Road; so obliged, in fact, that Spain soon entirely took over the war effort on behalf of the Gonzaga Duke. The Spanish Governor in Milan, the Marquis of Hinojosa, sent 5,000 Spanish troops to join the Gonzaga expedition, headed by Prince Vincenzo, to relieve Nizza Monferrato. Maria de' Medici dispatched the Duke of Guise to attack Nice, taking advantage of the Duke of Savoy's concentration against Montferrat. The Italian powers also supported the Gonzaga: Venice offered the cash to raise 3,000 troops and the Grand-Duke of Tuscany 2,000 infantry and 200 cavalry. In the face of this marshaled opposition, and bereft of his own larger support, the Duke of Savoy abandoned his siege of Nizza Monferrato and agreed to a parlay at Milan. The resulting Treaty of Milan of June 18, 1613 seemed to offer a temporary solution to the problem of Montferrat. Duke Carlo Emanuele would abandon his conquests--Alba, Trino, and Moncalvo--to an Imperial and Spanish administration and adjudication (which would clearly decide for the Gonzaga), and Duke Ferdinando would send the Princess Maria to Turin, forgive the rebels in Montferrat who had supported the Savoyard invasion, and abandon any claims for compensation from the Duke of Savoy for the damages in Montferrat caused by his troops.

However, the accord reached at Milan proved only a cease-fire. The Duke of Savoy found no support at Madrid for his ultimate objective, the partition of Montferrat, and Ferdinando Gonzaga proved unwilling to surrender the Princess Maria, his ultimate dynastic trump card. Further
diplomatic endeavors, including a Spanish plan for the marriage of Duke Ferdinando to his brother's widow, the Duchess Margherita, went nowhere, and the Duke of Savoy prepared for continued war, bolstered by Maria de' Medici's general disinterest in further intervention, and even possible support for the Savoyard position as a cheap frustration of Spain. The original issue, the Savoia-Gonzaga dispute over Montferrat, now became secondary to a direct confrontation between Spain and the Duke of Savoy, a confrontation that challenged Spanish pre-eminence in North Italy.

In late summer Duke Carlo Emanuele rejected a Spanish ultimatum, demonstrating his defiance by no longer wearing his Order of the Golden Fleece, and in the first week of September, 1614 the Marquis of Hinojosa invaded the Duke of Savoy's territory from Spanish Lombardy. As a demonstration of the King of Spain's power, the Governor of Milan erected a fortress, named Sandoval, on the left bank of the Sesia, facing Vercelli, to monitor the Duke of Savoy's behavior and provide a gateway for further invasion. From here Hinojosa moved to relieve Asti, while a Spanish fleet of galleys threatened the Duke of Savoy's possessions on the Riviera and seized Oneglia in conjunction with pro-Spanish forces from Genoa. Winter interrupted these operations, the Governor of Milan moved his troops to Alessandria to await the spring campaign, and the diplomats once again attempted a settlement.

The diplomatic result was another abortive agreement, the First Treaty of Asti, drawn up on December 1, 1614. This document proposed a general disarmament and an evacuation by the Duke of Savoy from his conquests in Montferrat. The Savoia-Gonzaga dispute over Montferrat would be settled by Imperial arbitration—which would certainly decide for the Gonzaga—and the
Gonzaga Duke would pardon those rebellious subjects who had aided the Duke of Savoy. Duke Ferdinando would also return to Carlo Emanuele the jewels and the dowry of his sister-in-law the Duchess Margherita. But Spain wanted more, including a clear chastisement of the Duke of Savoy, as his humiliation would restore the reputation and influence of the King of Spain in North Italy, and so the Governor of Milan prepared for a spring campaign.

The new season opened with a Spanish advance that the Duke of Savoy temporarily halted with a counter-attack on the key Spanish post of Bistagno. Hoping to take Bistagno by surprise, the Duke of Savoy instead suffered heavy losses and the Governor of Milan regained the initiative. On May 12 the Marquis of Hinojosa reached Savoyard-occupied Asti, now reinforced by new fortification works, and began preparations for a formal siege. Diplomatic efforts overtook the progress of the siege, and the Second Treaty of Asti on June 21, 1615 ended hostilities.

The terms of this peace were little different from those of the previous Treaty of Asti and the earlier Treaty of Milan. Both Spain and Savoy would vacate the disputed territories in Montferrat pending arbitration by the Emperor, and the Duke of Mantua would forgive his rebellious subjects. Though this Second Treaty of Asti ended open war, it was clear that the issue of Montferrat was not concluded, but only postponed for a final reckoning, and furthermore there were ominous signs that the conflict over Montferrat might become connected to other issues, issues that threatened not only peace in North Italy, but even augured a coming general European war. December 1615 saw the outbreak of the Uskok War between Venice and the Archduke Ferdinand of Austria (the future Emperor Ferdinand II) over control of the northern Adriatic littoral and Friuli. This conflict lasted until 1618 and
eventually demanded the involvement of the Archduke's more powerful Habsburg cousins, especially as the Archduke became the best Habsburg candidate to succeed the Emperor Matthias. Philip III of Spain, the only Habsburg with the cash to significantly aid the Archduke Ferdinand, would come to his cousin's rescue in March of 1617; his price being Alsace and two enclaves on the Tuscan coast, Piombino and Finale Liguria.

A distraction to the King of Spain, the Uskok War was an opportunity for Carlo Emanuele of Savoy. If Spain—and more pointedly, the Spanish Governor in Milan—were forced to make a choice between supporting the Archduke Ferdinand against Venice, and supporting the Gonzaga Duke Ferdinando in Montferrat, there might well be room for a diplomatic, if not military, victory for the Duke of Savoy. The Uskok War therefore encouraged an alliance between the Duke of Savoy and Venice, an alliance that might prove the first step towards a larger anti-Habsburg league of Italian powers. War in North Italy, with Montferrat in the hands of the Duke of Savoy and a possible invasion of Spanish Lombardy—from the west by Duke Carlo Emanuele, from the north-east by Venice—would certainly break the Spanish Road, imperiling Spanish Habsburg interests north of the Alps. Loss of the Spanish Road would make it difficult or even impossible for Spain to subsidize and reinforce the Emperor in Central Europe or the Spanish Netherlands, the probable seat of renewed conflict after the expiration of the Twelve Years' Truce in 1621. Such were Carlo Emanuele's dreams, and the real fears of the King of Spain. The threat to Spain was not an idle one: the swirling diplomacy of Duke Carlo Emanuele included the United Provinces, the Protestant Union of anti-Habsburg princes in Germany, England, and even—most to be feared by Spain—France. Were all these powers brought
together against Spain, much, much more than Lombardy, Italy, or the Spanish Road would be threatened; indeed the entire Habsburg position in Europe might be fatally attacked and dismembered. The larger circumstances of Italian and European politics guaranteed that the Second Treaty of Asti would not end the end war in Montferrat.

Between the summer of 1615 and the fall of 1616 all sides prepared for a second round of open war. Neither Spain nor Savoy had abided by the terms of the Asti settlement; the garrisons existing in Montferrat as of June of 1614 held their ground. Duke Carlo Emanuele pursued his many diplomatic gambits, and these gradually bore fruit. In the spring of 1616 the apparent decline of the pro-Spanish party in France seemed to allow some future support, or at the least promised a beneficial neutrality. A more secure arrangement emerged with Venice, where the Senate voted to support the Duke of Savoy in a future anti-Habsburg war with an initial grant of 90,000 ducats and the promise of an 80,000 ducats a month subsidy. These funds helped support the Duke's visible efforts to raise a large new army of over 15,000 men. Meanwhile, the Governor of Milan prepared for war as well.

On September 14, 1616 the Marquis of Villafranca opened the Second Mantuan War by crossing the Sesia river separating Spanish from Savoyard territory. Initial Spanish siege operations aimed at isolating Asti. On October 14, the veteran soldiers of the Governor of Milan scattered the Duke of Savoy's army in the only significant combat of the campaign. After this defeat the Duke of Savoy could no longer mount offensive operations, and his diplomats openly sought a negotiated settlement. The following season the Marquis of Villafranca capitalized on the successes of the previous year by
moving on and then besieging Vercelli. The successful Spanish siege took 64 days, ending on July 24, 1617.

The fall of Vercelli satisfied Spanish honor and allowed serious negotiations for peace to go forward at Paris, involving not only the conflict between Savoy and Spain, but between Venice and the Archduke Ferdinand as well. Regarding Montferrat, Spain insisted on a recapitulation of the now familiar terms reached at the previous two Treaties of Asti (of 1614 and 1615). Final negotiations took place at the Lombard town of Pavia. By the Terms of the Treaty of Pavia, agreed to on October 6, 1617, both Spain and Savoy agreed to abandon the territory seized during the war over Montferrat. Duke Carlo Emanuele held to the terms of the peace, and gradually evacuated Trino, Moncalvo, and Asti; Spain moved more slowly, perhaps as a claim to victory, leaving Oneglia on the Adriatic coast (taken in 1614) in April of 1618, and leaving Vercelli on June 6, 1618. Thus the so-called First and Second Wars of the Mantuan Succession ended as an affirmation of the status quo ante.

Yet that status quo had just been interrupted by a half-dozen years of war. Did this war truly reaffirm Spain's position, or did the boldness of the Duke of Savoy's challenge--neither rewarded nor severely punished--tarnish Spain's prestige? The Duke of Savoy did his best to transform his lost opportunity and material defeat into a moral victory; his propagandists proclaimed him the champion of Italian Liberty--that stale and self-serving, but romantic and powerful, appeal to the proud collective opinion of Italy. Some of that propaganda, like these lines from Alessandro Tassoni's Filippiche (a pointed backward glance at the reign of Philip II), could be crude indeed:
When I hear it said: "He's a Spaniard"
I conclude: "Id est, he's a wicked
Sodomite, a clever crook,
A Lutheran who doesn't believe in Christ,
An enemy of Italy, an assassin,
A cousin, a brother, of the Antichrist."

Spain, of course, preserved what she had fought for: symbolically the dynastic rights of her ally the Gonzaga Duke, materially the continued free passage of her couriers, soldiers, and treasure trains between Genoa and Milan. Polemics aside, Spain had won—yet the Duke of Savoy's challenge to Spain's pre-eminence hinted at a renewal of the Italian Wars of the first half of the sixteenth century, and the return of the duel between France and Spain for influence over the Italian princes.

Beyond their political results, the campaigns of 1613-1617 illustrated the great technical difficulties which confronted both Spain and Savoy in prosecuting a war in Montferrat. With the exception of Duke Carlo Emanuele's first stroke, his invasion of Montferrat in 1613 and the seizure of Trino, Asti, and Moncalvo (and Moncalvo, with no modern fortifications and no warning, held out for a fortnight), every campaign season of the war terminated in a single protracted siege operation, sometimes successful but more often not. In 1613 the Duke of Savoy's initial invasion fizzled in a siege of Nizza Monferrato; in 1614 the Governor of Milan built a fort facing Vercelli, and then attempted to besiege Asti; in 1615 a Spanish siege of Asti provoked successful negotiations but failed to take the city; in 1616 another Spanish campaign failed to besiege, let alone take Asti; finally, in 1617, after a sixty-four-day siege, the Governor of Milan, the Marquis of Villafranca, took Vercelli. None of these places were particularly well-protected with
fortifications, and yet they still proved easy to defend. Significantly, at no time did the Duke of Savoy threaten the hub of Gonzaga power in Montferrat, Casale. Considering the difficulties shown in besieging and taking smaller towns without sophisticated fortifications, it must have been very clear that a siege of Casale would demand the concentration of considerable resources—resources including time as well as men, money, and materials. The military events of 1613-1617 suggested that any future fighting over Montferrat was most likely to be protracted and focused on the siege of individual cities. If that city were Casale, then the siege operation required would be epic.

The events, both military and diplomatic, of the First and Second Mantuan Wars quickly eclipsed the participation of the Duke of Mantua and Montferrat. After the first year of the war, Spain took up almost alone the burden of evicting the Duke of Savoy from Montferrat. This was a repetition of a long-established pattern, a pattern going back to the initial Gonzaga acquisition of Montferrat in 1533—Gonzaga dependence on the diplomatic support of Spain and the military assistance of the Spanish Governor of Milan. Between 1613 and 1617 Spanish assistance was crucial; without it the de facto partition of Montferrat would probably have been Duke Ferdinando's best hope. The enormous attention paid to defending Montferrat, particularly by the fortification of Casale, seemed to have been wasted; the age-old dependence on Spain remained. However, Casale had never been tested, and though perhaps damaging to prestige, timely and sustained Spanish diplomatic and military support had resulted in a victory for Duke Ferdinando with the restitution of Trino, Moncalvo, and Asti.
Nevertheless, the experience of this war for Montferrat convinced Duke Ferdinando to resurrect the policy of his grandfather Guglielmo: the bartered exchange of Montferrat for some calmer, more easily ruled territory. The wisdom of such an exchange can be doubted. A Venetian ambassador estimated in 1614 that Montferrat produced 350,000 ducats a year; and another Venetian ambassador estimated the actual revenues of 1615, a war year, as being 230,000 ducats. Considerable sums, not to be lightly discarded—or easily equalled in trade. Yet Ferdinando, seeing only the trouble brought by Montferrat, and not—like his father Duke Vincenzo—able to see the prestige and advantage to be won by confronting and mastering that trouble, persisted with various schemes to be rid of the Duchy. Between 1615 and 1620 the Gonzaga ambassador at Madrid several times floated the old proposal to trade Montferrat for Cremona; other variations on the same theme included a trade for territory in the Kingdom of Naples, for the island of Sardinia—even more difficult to defend, more vulnerable, and more removed from Mantua than Montferrat—and even for the governship of Portugal. In the spring of 1624 negotiations for a swap between the Gonzaga and Spain revived. Spain again suggested Sardinia, along with the promise of a fleet to guard it, and when that proposal faltered Spain offered an omnibus package of minor states on the western border of the Duchy of Mantua: Correggio, Bozzolo, Castiglione, Sabbioneta, Soncino, Caravaggio, parts of Lodigiano and the Cremonese (but without Cremona), and a sum of cash. That some of these tiny principalities were the property of junior Gonzaga cousins—and how were they to be compensated?—illustrates the many practical difficulties obstructing such negotiations. In the end, the Gonzaga were only willing to
accept a swap that included Cremona, and that was too much for Spain to cede.

Other diplomatic solutions to the problem of Montferrat proved no less difficult to conclude. In January, 1624 Duke Ferdinando revived the policy of 1608: a marriage between the houses of Savoy and Mantua that would forever seal the dispute over Montferrat. Secret negotiations ensued along several parallel tracks. Two possibilities were the marriage of Eleanora Gonzaga, sister of Duke Ferdinando, to Vittorio Amedeo, son of Carlo Emanuele, and the marriage of Vincenzo Gonzaga to a Savoyard Princess. But the most potent discussion aimed at a match between the Princess Maria—still living at the Ursuline Convent in Mantua—and one of the other sons of Carlo Emanuele, the second-born Emanuele Filiberto or Tommaso. The discussion of the details involved—which princes, which princesses, what sums of money—nearly blocked any agreement. However, the two sides signed an accord on May 6, 1624. Duke Ferdinando agreed to pay the Duke of Savoy, as a settlement of their ancient feud, 300,000 scudi—100,000 in cash over four years, and 200,000 in land in Montferrat. There would be two marriages, one between the Princess Maria and Prince Filiberto, and a second between a Savoyard Infanta and whoever Ferdinando named as his successor—this last point an important notice of a larger succession crisis stalking the house of Mantua. This pact established a period of eight years as a sort of statute of limitations, after which the agreement would become void. Almost immediately, several events combined to scupper the agreement, most significantly the death of Prince Emanuele Filiberto on May 25. And almost as significant, international opinion—in France, Spain, Vienna, and Rome—in general recoiled from the proposal, which did indeed offer more
complications than real solutions: there was no clear renunciation of Savoy's claims, only the promise of further dynastic entanglement.

The failure of Duke Ferdinando's diplomacy in the spring of 1624—the failed attempt to exchange Montferrat with Spain, the failed marriage pact with the Savoia—assumed greater importance in the context of the larger Italian and European situation. In the fall of 1622 negotiations between the Duke of Savoy and representatives of France and Venice at last achieved a comprehensive anti-Habsburg alliance aimed at isolating Milan and denying communications between the Mediterranean and northern Europe. Savoy, France, and Venice formalized this triple alliance in the February 7, 1623 League of Lyons. This anti-Habsburg league took on a larger appearance after the June 1624 Treaty of Compiègne between France and the United Provinces. Dutch intervention—a real possibility first threatened during the Uskok War—in southern Europe, particularly the arrival of a Dutch fleet in the Mediterranean, would allow a resurrection of the strategy of the anti-Habsburg Franco-Turkish alliance of the 1530s and 1540s. In September of 1624 Venice, France, and Savoy reaffirmed the Treaty of Lyon. The next round of the four-year old Thirty Years' War seemed scheduled for North Italy. Though this alliance focused on Spain and the Habsburgs, it boded ill for the Duke of Mantua, as attack on the Spanish position in North Italy could hardly avoid Montferrat—especially considering Duke Carlo Emanuele's long-standing effort to seize that territory. From the perspective of the Duke of Savoy, a general war in North Italy would be the perfect cover for the easy and permanent acquisition of Montferrat. And the failure of Duke Ferdinando's trade and marriage diplomacy left Montferrat as vulnerable as ever.
Between the 20 and the 22 of October, 1624 representatives of the members of the League of Lyons met to plan a two-pronged attack on Spain in North Italy. Venice stood aloof, but France and Savoy agreed to a comprehensive assault on the Spanish Road. The Duke of Savoy would gather an army of 25,000 infantry and 3,000 cavalry on the pretext of occupying the tiny state of Zuccarello—another minute example of Carlo Emanuele's grasping attention. These troops would then invade Genoa by land while an allied fleet attacked Genoa by sea; this fleet was to be supplied by the United Provinces, England—provisionally interested in any scheme that perhaps offered a return of the Palatinate to King James' son-in-law Frederick the "Winter King"—and the Duke of Guise, the French governor of Provence. The loss of Genoa would instantly cut off the Spanish Road at its source. Meanwhile, France would occupy the Valtelline, the high Alpine valley that both connected Milan to the Tyrol and linked France (via the Swiss confederation) with Venice. Occupation of this crossroads would both connect all three members of the League of Lyons, and divide Spain from the Austrian Habsburgs and the Low Countries. In conjunction with the seizure of Genoa, Spanish Lombardy would be surrounded. In such circumstances, Spain, severed from contact with the war in the Netherlands and threatened with the collapse of her position in North Italy, would have suffered a grave defeat.

The League's plan went forward in the fall of 1624 with the easy French occupation of the Valtelline. On January 6, 1625 the marriage of Prince Tommaso of Savoy to Marie Bourbon in Paris showed that the League of Lyons was fast becoming a dynastic alliance. Over the winter a Franco-Savoyard host gathered for the invasion of Genoa; this, not surprisingly
given the long-sought goals of Duke Carlo Emanuele, would reach Genoa by way of the contested parts of Montferrat. The French and Savoyard force totalled 24,000 infantry and 3,000 cavalry with 24 full cannon and 14 culverins—a real army. The invasion began on March 9, 1625 and, after the sack of Nizza Monferrato and numerous small towns unlucky enough to be along the route of march, a cordon of occupation soon crossed Montferrat to connect the Duke of Savoy's own territory with the border of Genoa. Duke Ferdinando had tried to avoid the gathering storm through a policy of neutrality; this policy was now exploded and the Duke appealed to the Governor of Milan for aid in expelling the French and the Duke of Savoy. The Governor of Milan, the Duke of Feria, wrote back to Duke Ferdinando explaining that Ferdinando's current unhappy situation was the result of his foolish policy of neutrality, which had only forestalled sensible preparations for war. By May 6 Ferdinando fully recognized his dilemma as "that of a grain of wheat, when it is caught between two millstones [France and Spain]." Neutrality meant no friends in time of need; not immunity from war.

Meanwhile, the Duke of Feria mustered his forces for a counter-stroke to relieve Genoa. After initial success in early April the invasion of Genoa had stagnated, and no great fleet ever arrived to ease the advance. With the fall of Breda threatened, Holland felt more pressing concerns at home, and France faced a new Huguenot revolt that included the port city of La Rochelle, so every available ship was needed on the Atlantic coast. A summer Spanish counter-attack through Montferrat to cut the Franco-Savoyard line of advance ended with sieges at Asti—shades of the earlier wars in Montferrat—and Verrua. Spanish troops, no less than the French and Savoyard, pillaged the
countryside. These depredations continued through the fall of 1625. As the war in Montferrat decayed to a campaign of skirmish, siege, and forced contributions, developments in France obliged Richelieu to completely pull his support from the Duke of Savoy and reach an immediate accord with Spain. The revolt of the Huguenot noble Soubise and La Rochelle posed a more immediate danger. As troops were brought from Italy to face this confrontation, negotiations with the rebels continued into 1626. Richelieu and Louis XIII would not be able to again concentrate their attention on foreign affairs until after the crushing of this last Huguenot revolt in 1628 and 1629. France therefore made a separate, independent peace with Spain by the Treaty of Monzón of March 5, 1626. Its terms restored Spain's position in North Italy, seemingly so vulnerable the year before: France agreed to evacuate the Valtelline, retaining only a vague right of passage, and there was no mention of Savoy or Venice. The League of Lyons was broken, and Spain's communications through Italy remained uncompromised.

The Genoa War reinforced the military lessons of the previous two wars in Montferrat. Audacity alone could not successfully prosecute a war that would necessarily involve long and technically difficult siege operations. To win a war of sieges, material preparations—stockpiles of all the necessary equipment, the men, the cash—were not enough. Carlo Emanuele, with his French allies, invaded Montferrat and headed for Genoa with 25,000 men and a siege train of fifty pieces. These were not enough. As necessary to a successful war of sieges was sustained diplomatic support. In this instance Carlo Emanuele was lacking, even though the League of Lyons had seemed the answer, a corrective to the duke of Savoy's generally isolated diplomatic position in the wars of 1613-1618. In 1625 Venice refused to give active
military support; and the Siege of Breda, among other concerns, kept the hoped-for Dutch assistance chimerical. Finally, the crucial military and diplomatic support of Louis XIII evaporated after the Huguenot revolt of Soubise and La Rochelle. The Treaty of Monzón left the Duke of Savoy hanging.

The Genoa War also confirmed as hopeless Duke Ferdinando’s frighteningly inadequate policy for Montferrat. Duke Ferdinando’s neutrality policy in 1625 unfortunately complemented his previous diplomatic failures, namely his attempts to trade Montferrat away or satisfy the Duke of Savoy through a marriage pact. Once again Duke Ferdinando tried to avoid, rather than solve, the Montferrat question. Duke Ferdinando’s attempt to remain neutral in 1625 flew in the face of every reality; under-armed and under-prepared neutrality is worse than useless—it is dangerous—when other powers define the strategic worth of your territory. As long as Spanish troops needed to cross Montferrat the King of Spain and his Governor in Milan could not suffer the possibility of Montferrat falling into the hands of an anti-Habsburg prince. The continuing importance of the Spanish Road was obvious: on the first of January, 1625, the Governor of Milan, the Duke of Feria, wrote to Ferdinando requesting permission for 3,000 Neapolitan soldiers to cross Montferrat on their way from Genoa to Milan. And the Spanish Road equally made Montferrat—like the Valtelline and Genoa—the irresistible target of any anti-Habsburg alliance. The continued, demonstrably unavoidable demands of the Duke of Savoy simply guaranteed that war in Montferrat would be rejoined. Duke Ferdinando’s wishful neutrality policy flew in the face of all these facts. Rather than enjoying peace while every other state in the region—Savoy, Genoa, Spain, and France—went to war,
Ferdinando saw his Duchy—once again—become the battleground for that war. Wringing his hands over the destruction in Montferrat, as Spanish, French, and Savoyard troops alternately ate up and burned the countryside, Ferdinando recognized too late that neutrality only doomed him to being crushed between the schemes and interests of larger and more active powers. That Montferrat was not carved up was entirely because of Spain's military assistance (only coincidentally in support of Duke Ferdinando), and the defection or fecklessness of the Duke of Savoy's allies.

The Second Crisis: the Mantua Succession

However hapless were Duke Ferdinando's policies regarding the problem of Montferrat, they seemed positively brilliant in comparison with his farcical attempts to avoid a second, greater issue: an impending succession crisis regarding the Duchy of Montferrat. Duke Ferdinando was a churchman by training, if not by temperament (as a youth he was infamous for his nocturnal activities in Rome, which included beating Spaniards for the sport of it.16) The unexpected death of his brother Francesco in 1612 gave him little time to prepare for the life of a secular prince, and in one crucial area he made disastrous early mistakes: marriage and the business of producing an heir. The deaths of Dukes Vincenzo and Francesco, and the infant Prince Ludovico, in 1612 left the main branch of the House of Gonzaga with two male members, the then-Cardinal Ferdinando and his younger brother Prince Vincenzo. Both were childless and both were unmarried. That situation, especially considering the already tangled question of the Montferrat succession, needed immediate attention. Unless Ferdinando or Vincenzo
produced a legitimate male heir the Duchy of Mantua would be subject to a disputed succession. The failure of Ferdinando—or Vincenzo—to produce that heir was a worse policy disaster than any possible position on Montferrat. Without Montferrat, the Gonzaga would tumble in income, prestige, and influence—without Mantua as well, they would be nothing.

Duke Ferdinando's first liaison was, from a dynastic perspective, inexplicable. Perhaps charmed, Ferdinando certainly was out of his senses when, probably in October of 1615, he secretly married Camilla da Faà, the fifteen year old daughter of a minor nobleman of Montferrat. Dallying with this young woman, if reproachable, was certainly not out of the character of the times; what was politically damning was Ferdinando's foolishness in giving this girl a document proving the legitimacy of their marriage. Almost immediately upon making this colossal mésalliance, Ferdinando realized his serious error and set about a match that was better calculated to increase the reputation of his family, and his chance of producing a legitimate heir. Promising negotiations proceeded with the Medici. There were no obstacles—except that the abandoned Camilla da Faà still had her piece of paper. And Camilla da Faà, to the great embarrassment of the Gonzaga and the irritation of the Medici, soon proved quite willing to wave that paper about. In the end, the document had to be forcibly torn from the girl, after which it was promptly destroyed—allowing all sorts of doubts as to the veracity of the document. However, since there would have been no point in destroying the paper had it not at the least hinted at the legitimacy of Camilla's marriage, it can be assumed that there was more than a grain of truth to her protestations. In February of 1616 Ferdinando married Caterina de' Medici (b. 1593), sister of Cosimo II, the Grand-Duke of Tuscany, and cousin to Maria de' Medici,
widow of Henry IV and regent to the young Louis XIII. This was a marriage worthy of Ferdinando's political place. However, Ferdinando apparently still had time for the attentions of the young Camilla, because on December 4, 1616 she bore him a son, christened Giacinto. The child was born in Casale in Montferrat, as that is where Ferdinando had sent Camilla, perhaps as to not offend his new bride with a pregnant mistress--or even wife, as the whispers would have noted. Camilla furthermore refused a marriage to a young nobleman of the court, insisting that she was legally Ferdinando's wife. Finally, she joined the convent of the Poor Clares in Ferrara in 1618, where she took her perpetual vows in 1622 and died in 1662. This whole episode would be merely colorful, except that Ferdinando's marriage to Caterina de' Medici produced no children, and his brother Vincenzo was also without heir. In the 1620s the impending disaster of a Mantuan succession crisis inspired Ferdinando's final idiocy, the impossible project of arranging the legitimization of Giacinto. In this project Ferdinando had neither allies nor well-wishers; any legitimacy legally attached to Giacinto would fail to deter the contestants now gathering to dispute the Mantuan succession. Giacinto as Duke was an impossibility, the suggestion of which only weakened the prestige of the whole family and hastened the possibility of a disputed succession--or worse, a partition. The young man himself eventually became a priest and died in the great pest epidemic of 1630.

If Ferdinando's marriage to Camilla da Faà was idiocy, then his younger brother's marriage was--again from a dynastic point of view--lunacy. Vincenzo was intended to assume the cardinalate that Ferdinando abandoned in order to become Duke in 1613; and Vincenzo dutifully became the Gonzaga cardinal in 1615. But Vincenzo chaffed in his purple robes, and abandoned
his office in the following year. Instead he resolved to be a soldier, the family's other great professional tradition, and he did in fact fight in Spanish service during the Wars of the Mantuan Succession, being active at the siege of Vercelli in 1617. In 1616 Vincenzo married, without his brother the Duke's knowledge or consent, his own country cousin, the forty year old Isabella Gonzaga da Novellara. Vincenzo was only twenty. Therefore Vincenzo compounded the mistake of marrying a woman without dowry or connections by choosing a woman who almost certainly could not bear him the heir his family would desperately need. Almost immediately, Vincenzo repented of his love-match—but Isabella, like Camilla da Faà, proved a tenacious defender of her rights. In this case there was no doubt of the marriage being genuine; the only relief would be through an annulment. That meant time and money as the case worked its way through the Court of Rota in Rome. Unfortunately for Vincenzo and Duke Ferdinando, there were other individuals who were willing to spend their cash and influence at Rome in support of Isabella da Novellara's claims. Among these was the Duke of Savoy, who was only too happy to further complicate the Gonzaga succession and prevent a second marriage for Vincenzo that might save all. To prevent any skulduggery, Isabella committed herself to the custody of the Pope, who had her locked up securely in the Castello S. Angelo prison—from where she emerged to successfully refute the charges levelled at her by the Gonzaga. Vincenzo now insisted he had been bewitched by a sorceress—Isabella. Duke Ferdinando tried to ensure that Isabella testified under torture, the effects of which, it can be assumed, he hoped would end the issue one way or another. The trial dragged on endlessly, and cost a fortune to continue. Vincenzo's chance of a second marriage and a legitimate heir disappeared.
As the 1620s wore on the possibility that Ferdinando and Vincenzo would both die without an heir gradually became a surety. Ferdinando died on October 29, 1626, leaving the Gonzaga duchies to Vincenzo, who was without an heir, trapped in a hopeless marriage, and ill to boot. It was clear to all observers—and the courts of Europe attentively watched the situation in Mantua—that the Duchy of Mantua would pass to some other branch of the Gonzaga family. But what about Montferrat? A Mantuan succession crisis would reopen the question of Montferrat, especially as the Gonzaga cousin who inherited Mantua might not share in the Paleologo legacy; that is, the eventual inheritor of Mantua might trace his claim to the ducal house from a generation before the marriage of Duke Federigo of Mantua and Margherita Paleologo of Montferrat in 1530. If that were the case, then the Princess Maria would become the almost unquestionable heiress to the Duchy of Montferrat.

For Duke Carlo Emanuele of Savoy, frustrated in 1613-1617 and in 1625, a succession crisis in Mantua meant a new opportunity for a land-grab in Montferrat.

But Carlo Emanuele was hardly the only interested foreign prince. The Emperor Ferdinand II (whose wife Eleanora Gonzaga (married 1622) was the sister of Dukes Ferdinando and Vincenzo), King Philip IV of Spain and King Louis XIII of France, and their ministers Richelieu and Olivares, all recognized the Mantuan succession as a grave crisis capable of igniting the threatening confrontation between France and Spain, and connecting that conflict to the existing wars between Spain and the Netherlands and between the Emperor and his rebellious subjects. In short, the Mantuan succession threatened to explode the on-going regional wars of Europe into an international conflict. As always, the Spanish Road and the security of North
Italy both demanded Spanish concern and attracted French interference. The Emperor Ferdinand II was connected with the Mantuan problem not only by his own marriage, and his dependence on military and financial support from his cousin Philip IV of Spain, but also because as Holy Roman Emperor and therefore suzerain of both Mantua and Montferrat his decision regarding the succession would be crucial. France, Spain, and the Emperor gradually aligned themselves behind either of the two princes with the best claims to the Duchy of Mantua: Carlo Gonzaga, the Duke of Nevers, and Ferrante Gonzaga, Duke of Guastalla (figure 5.1).

Ferrante Gonzaga, the Duke of Guastalla (b. 1563), traced his claim to the Duchy of Mantua back to his grandfather Ferrante, the younger brother of Duke Federigo of Mantua and Montferrat. The elder Ferrante (1507-1557) had served Charles V of Spain long and well; as a personal friend, as a captain and commander in Italy, Hungary, the Netherlands, and North Africa, and as the Viceroy of Sicily and Governor of Milan. In 1539 Ferrante purchased the Countship of Guastalla, a tiny principality on the south bank of the Po at the border of the Duchy of Mantua. Two years later the Emperor Charles V recognized the independence of Guastalla from Spanish Lombardy. The miniature nature of this state is emphasized by the fact that its purchase price was only 22,280 scudi. Into the seventeenth century the Gonzaga of Guastalla maintained both their tiny independent state and their tradition of service to Spain and the Habsburgs. Count Cesare of Guastalla (1533-1575) fought for Spain in Flanders and against the Turk in the Mediterranean; his younger brother Andrea (1539-1586) commanded galleys for Philip II. Cesare's son, the second Ferrante (1563-1630), also pursued a military career in Spanish service. In 1621 the Emperor Ferdinand II made Ferrante the first Duke of Guastalla,
and this elevation in status assisted Ferrante's claim to the Duchy of Mantua in the late 1620s. Despite this newly-minted title, the Duke of Guastalla's general weakness hindered his pretensions greatly; because he had little money and no independent military power, Ferrante depended on the patronage of others. Duke Ferrante's plan centered on a marriage of his son Cesare (1592-1632) to the Princess Maria, still locked in the Ursuline Convent in Mantua. This would have reinforced the claim to Mantua and added a claim to Montferrat, thus preserving the Gonzaga state. But Duke Ferrante pursued his goal with a heavy hand; unsuccessful at ingratiating himself with Dukes Ferdinando and Vincenzo, and with their court officials, he concentrated on winning the favor of the Emperor and the King of Spain. In this he was successful, but he became a pawn in a game of the great princes, his claim to Mantua a convenient excuse for their own intervention. The Duke of Guastalla was always a little fish.

Carlo Gonzaga, the Duke of Nevers (b. 1580), was something else entirely. His claim flowed more recently from the ducal house of Mantua, and he himself was a great prince. The Duke of Nevers' claim came from his father Ludovico Gonzaga, the son of Duke Federigo Gonzaga and Margherita Paleologo. Thus he could demand Montferrat as well as Mantua as his inheritance. The Duke of Nevers' appreciation of the Paleologo legacy—witness his crusading activity—equalled his respect for the Gonzaga heritage. His father Ludovico (1539-1585) had left Italy to seek his fortune in France and claim the lands of his grandmother, Anne of Alençon, the mother of Margherita of Montferrat. In France Ludovico married the heiress Henriette of Clèves, who brought further territories. Carlo Gonzaga (1580-1637) was therefore by birth one of the largest landowners in the kingdom of France,
consisting principally of the Duchies of Nevers and Rethel (the title of which was born by his son.) Carlo added to this territory with a marriage to Catherine of Lorraine. Furthermore, his lands were strategically placed near the French border with the Spanish Netherlands; Carlo well knew the position of a smaller prince caught by geography in the concerns of greater princes. His prestige matched his lands. Within the Kingdom of France the Duke of Nevers ranked just below the Princes of the Blood as a member of one of the eight foreign families recognized as cousin by the King. The Duke of Nevers was therefore one of the most important noblemen in the Kingdom of France; he had the ear of the King and his ministers whenever he wanted it. He had influence at the court: in 1624 Louis XIII sent the Cardinal de Guise to the Bastille for having the temerity to challenge the Duke to a duel. The Duke of Nevers' was also used to making independent policy; and not just in regard to his crusading schemes. His political education came during the challenge to royal authority of the last French Religious Wars and the chaos following the assassination of Henry IV. With the other great semi-independent Catholic princes of France, the Duke of Nevers had rebelled during the regency of Maria de' Medici. Even before he came to claim the Duchies of Mantua and Montferrat, the Duke of Nevers' was long accustomed to think of himself as sovereign. Wealthy, independently powerful, skilled in negotiations and familiar in conversation with the greatest princes of Christendom, the Duke of Nevers was a very different prince from the Duke of Guastalla.

The Duke of Nevers' greater prestige, power, and experience showed in his maneuverings for control of the Mantuan succession. Rather than depending on the support of a greater power--and of course he could count on
at least some support from Louis XIII—the Duke of Nevers cultivated his connections with Dukes Ferdinando and Vincenzo, and—as importantly—with the highest officials of the Gonzaga state. Significantly, the Duke of Nevers had never lost contact with the ruling line of his family in Mantua; when the possibility of a succession developed, he could hardly be viewed as a foreign prince. In 1613 the Duke of Nevers raised an army of his retainers and vassals and rode to Italy to help defend Montferrat from the Duke of Savoy's invasion. There he rendezvoused with Vincenzo, come from Mantua with his own force, and the Spanish troops of the Governor of Milan. Such family solidarity doubtless appealed to his relatives at court in Mantua; and his demonstrated ability and willingness to defend Montferrat must have made an impression on those who wished to see the Gonzaga state, and true Gonzaga independence, survive a succession crisis. Through diplomatic contacts the Duke of Nevers flattered Dukes Ferdinando and Vincenzo, and never ceased offering them his support. He remitted costly presents with his frequent letters, including prayer books decorated with diamonds for Giacinto, Duke Ferdinando's beloved bastard son, at a time when the young man was otherwise almost universally despised and plotted against at the Mantuan court. Such a gift, besides being simply kind, could not help but increase the Duke of Nevers' standing with Duke Ferdinando. At the death of Duke Ferdinando, rather than trying to take advantage of the impending crisis, the Duke of Nevers immediately lent his support to Duke Vincenzo. The Duke of Nevers also gained an ally at the Mantuan Court hardly less valuable than the Duke, namely Count Alessandro Striggi, Grand Chancellor of Mantua and the highest official of the state. Striggi headed a large family accustomed to wealth and power; for the Striggi family the succession crisis
was a personal crisis as a new ducal family would transfer the reigns of power to their own creatures. Count Striggi feared that the succession of the Duke of Guastalla would promote the interests of Striggi's arch-rival, the Marquis Federico Gonzaga, a member of a minor branch of the ruling family and commander of the army with the title of *generale delle forze armate.* Thus Count Striggi became a natural ally of the Duke of Nevers, and he actively prepared for the Duke of Nevers' succession.

The Duke of Nevers' strategy focused on a marriage between his son Carlo, the Duke of Rethel (160-1631), and the Princess Maria. Secret negotiations for such a match took place between the Duke of Nevers and Duke Ferdinando in Mantua in 1625; the occasion of the Papal Jubilee being a cover for the Duke of Nevers' visit to Italy. However, the possibility of Prince Vincenzo himself marrying the Princess was still alive and no agreement came of this meeting. When it became obvious that an annulment to Vincenzo's marriage was hopeless, the secret plans for a marriage between the Duke of Rethel and the Princess Maria revived. In the late fall of 1625 the Duke of Rethel traveled to Mantua, where he arrived in the last week of December to represent his father in the complex power struggles of the Gonzaga court.

By December of 1627 it was clear that Duke Vincenzo, ill for quite some time, faced death. With a disputed succession nearer at hand than ever, the court at Mantua became the scene of frenzied maneuvers and plots. Every evidence suggested that the Duke of Nevers was winning the battle for the support of the dying Duke. The Duke of Guastalla, realizing that he had all but lost, planned a *coup d'état* with Marquis Federico Gonzaga and the Spanish Governor of Milan, Don Gonzalo Fernandez of Cordoba. On the
night of December 10, 1627 partisans of the Duke of Guastalla secretly brought weapons into Mantua and hid them at his palace. An informant alerted Duke Vincenzo and Count Striggi of this, and also of a suspicious correspondance between the Duke of Guastalla and the Marquis Federico Gonzaga; when confronted, Federico maintained that the discovered weapons were only to prevent any disturbance on the death of Duke Vincenzo. This response, of course, could not be accepted; it was clear that there had been a plot to ensure the accession of the Duke of Guastalla through force.

From this moment Duke Vincenzo's government made final preparations, both secret and open, for the Duke of Nevers' succession. The possibility of armed intervention by the supporters of the Duke of Guastalla, as well as the declining condition of Duke Vincenzo, forced Count Striggi to work with haste. On December 17 Duke Vincenzo replaced the Marquis Federico Gonzaga with the Duke of Rethel as commander in chief of the army; the government of the state was now entirely in the hands of those in the interest of the Duke of Nevers. The day before, December 16, Duke Vincenzo, with the guidance of Count Striggi, wrote the Pope requesting his blessing for the marriage of the Duke of Rethel to the Princess Maria. On Christmas Eve the courier from Rome reached Mantua with Urban VIII's reply; the letter addressed to Count Striggi contained the Pope's full approval. Fearing the imminent death of Duke Vincenzo, no time was lost. Rethel and Striggi took a coach to the bishop's palace with a handful of courtiers and attendants, where they added the bishop—they needed a priest—to their entourage. From there they went to the Ursuline Convent, where they explained their mission to the Princess Maria through the bars of the convent gate. Convinced of the rightness of her uncle Duke Vincenzo's will,
Princess Maria agreed to an immediate marriage. The whole party trooped by torchlight into the convent church, where the bishop performed the necessary ceremony. Rethel and his new bride returned to the palace for a light dinner, and soon after they retired for the consummation of their union. The bishop, meanwhile, went on to the chamber of the dying Duke Vincenzo and informed him of the marriage. Duke Vincenzo hardly survived the news; he died early Christmas morning.

Christmas Day, 1627, all Mantua awoke to stunning news: Duke Vincenzo was dead, his will made the Duke of Nevers his heir, and the Duke of Rethel was married to the Princess Maria. The victory of the Duke of Nevers was not only a personal victory, but a victory for those who wanted to see the Dukes of Mantua retain control of Montferrat and maintain themselves as independent princes. There were clear differences between the two men who had vied for the succession: the Duke of Guastalla was a Spanish client, while the Duke of Nevers was an independent prince who clearly had dynastic ambitions above and beyond his estates in France. As news of the Christmas events in Mantua reached the various capitals of the concerned princes of Europe, they and their ministers had to decide their reaction to the Duke of Nevers' succession.

Any doubt of the Duke of Guastalla's position were erased by the reaction to the news from Mantua in Milan and Turin. Carlo Emanuele and the Spanish Governor in Milan, Don Gonzalo Fernando of Cordoba, had concocted a plan for the partition of Montferrat in the event of a disputed succession. The claims of the Duke of Guastalla were obviously only a cloak for this enterprise; had the true concern been for the rights of the Duke of Guastalla, Spanish troops would have marched on Mantua. Instead, the lure
of Montferrat, connecting Milan with Genoa, compelled more than any real outrage on behalf of the Duke of Guastalla; the Mantuan succession was nothing more than an excuse. The joint Spanish and Savoyard invasion of Montferrat would begin the Third War of the Mantuan Succession.

Even before news of the events of Christmas day could reach him from Mantua, the Duke of Nevers, alerted to the developments of December 10-17, had left his capital at Charleville in Northern France for the road to Italy. Because of the political sensitivity of his trip, he traveled incognito and by a round-about route via Lorraine, South Germany, the Valtelline, and then to Mantua from Venetian territory. He left Charleville on December 28. On January 10 he was in the Valtelline, and he reached Mantua on January 17.28 There, as Duke Carlo I of Mantua and Montferrat, he immediately took over the defense of his duchies against the combined forces of the Duke of Savoy and the Governor of Milan.

Conclusion

The so-called Mantuan succession crisis was actually two crises. The first crisis, over the Duchy of Montferrat, had in fact simmered—in the minds of the Savoia—since the original Gonzaga acquisition of Montferrat in 1533 and the Emperor Charles V's confirmation of that Gonzaga right to Montferrat in 1536. Whenever possible, the Duke of Savoy interfered in the affairs of Montferrat in the hopes of eventually occupying that Duchy, or of forcing some compromise, some partition that increased his territory. By such expansions the Duke of Savoy had created a territorially integrated state: the Savoia claims to Montferrat were not very different from their claims to
Saluzzo (satisfied by invasion in 1588 and diplomacy in 1601); their attempts on the towns of Montferrat were not very different from their attempts on Genoa and Geneva. The Dukes of Savoy saw the questionable Gonzaga inheritance of Montferrat as a tool, as an excuse for their expansion in the region. Duke Carlo Emanuele—untiring if unscrupulous—attempted to wrest at least part of Montferrat from the Gonzaga in the so-called First and Second Mantuan Wars of 1613-1617 and then during the 1625 Genoa War. For Duke Carlo Emanuele, the events leading to Christmas 1627 were simply another opportunity for another attempt on Montferrat. The marriage of Rethel to the Princess Maria antagonized her grandfather Carlo Emanuele and her mother Margherita of Savoy; this was an insult to the house of Savoy, and furthermore ensured that the Montferrat question could only be settled to the Duke of Savoy's satisfaction through war.

The disastrous marriages of Dukes Ferdinando and Vincenzo II created a second succession crisis, this one over the Duchy of Mantua. The death of Duke Ferdinando in 1626, and the accession of his sickly brother Vincenzo, gave that crisis a real urgency that accentuated the danger to peace in Italy. The competition between the Duke of Nevers and the Duke of Guastalla, both with strong claims to the Duchy of Mantua, was not a competition of equals. The Duke of Guastalla was a truly minor prince, incapable of supporting his claim except through the influence, money, and soldiers of his patrons, principally the Governor of Milan and the King of Spain. The Duke of Nevers was a very different prince: as "Carlo Paleologo" he had schemed to become the Emperor of a new Eastern Empire; though the vassal of the King of France, he interpreted his obligations to that Kingdom loosely indeed—he certainly thought of himself as independent and, in dynastic terms, of a
family equal to the house of Habsburg or Bourbon. The marriage of his son the Duke of Rethel to the Princess Maria was the final move of an adroit campaign that had won the support of Dukes Ferdinando and Vincenzo and the Grand Chancellor of Mantua, Count Striggi. The marriage of Rethel and Maria returned all the various claims to the Gonzaga state to one line; their son would be an undisputed Duke of Mantua and Montferrat. However, the Duke of Nevers' maneuvers only gave him control of the Gonzaga state; he still faced the opposition of those who had worked to stymie his succession. Defeated at the Gonzaga court in Mantua, these enemies now had no alternative but war.

Upon arriving in Mantua in January of 1628 the Duke of Nevers faced a grave challenge to his new position. War against Spain and Savoy would not be a light affair, and the record of the previous wars in Montferrat—certain to be the focus of the first campaign—showed the real vulnerability of that state. From 1613-1618 and then in 1624-1626 Savoyard, French, and Spanish troops entered and pillaged the Duchy at will. Yet, every campaign in Montferrat eventually showed a marked tendency towards stalemate and inertia. Every campaign was marked by sieges, and the sieges of even weakly protected cities could be long and difficult. This suggested that certain towns, certain fortresses in Montferrat might be able to withstand the combined assault of Savoy and the Governor of Milan; that an audacious invasion might soon bog down. The greatest fortress city in Montferrat, of course, was Casale—untested by any siege so far. Casale, if properly defended, could be expected to hold out for quite some time. And that time could be very useful to the new Duke of Montferrat. If his territories were quickly overrun, and Casale quickly fell, he would be chased back to France, Montferrat would be
divided between Savoy and Spain, and Mantua given to the Gonzaga of Guastalla. But if Casale in Montferrat could check the Hispano-Savoyard invasion long enough, international opinion could be rallied to the support of the new Duke. And if Spain were once again bogged down in a war in Montferrat, France—as in 1625, but perhaps without the internal distractions of 1625—might be induced to intervene massively. In that case Spain would be threatened with the disaster of losing control of the Spanish Road. Such an issue transcended the fate of the Duke of Nevers, and ensured that any large-scale war over the Mantuan and Montferrat successions intimately concerned the balance of power in Europe.

1 The wedding celebration was described by the eyewitness Federico Follino in his *Compendio delle sontuose feste per le reali nozze del Serenissimo Principe don Francesco Gonzaga con la Serenissima infanta Mergherita di Savoia* (Mantua 1608). Follino made this record for the Duchess Margherita Gonzaga of Lorraine. Bertazzalo engraved a view of his naval spectacular, entitled the *Difsego della Battaglia Navale et del castelle de fuochi trionfali Fatti nelle feliciifsime nozze del Serenis. S.r Principe di Mantova et di Monferrato Con la Serenisima Infanta di Savoia*, and dated 1608.

2 This personal diplomacy is mentioned in Romolo Quazza, *Mantova e Monferrato nella politica europea alla vigilia della guerra per la successione (1624-1627)* (Mantua 1922) 17 n 3. I have been unable to discover the actual terms of the match, especially the all-important question of the Infanta Margherita's dowry.

3 For the dynastic events of 1611-1613 see Romolo Quazza, *Mantova e Monferrato* 17-19.

4 For this diplomatic and military support of the Gonzaga in 1613 see Romolo Quazza, *Preponderanza Spagnuola* (1559-1700) (Milan 1950) 410.

5 Romolo Quazza, *Preponderanza Spagnuola* 416.


9 For the 1624 negotiations regarding a trade see Romolo Quazza, *Mantova e Monferrato* 59-60.

10 Romolo Quazza, *Mantova e Monferrato* 54-58.

11 For this plan see Romolo Quazza, *Preponderanza Spagnuola* 444-445.

12 Romolo Quazza, *Mantova e Monferrato* 75.

13 Romolo Quazza, *Mantova e Monferrato* 76.


15 Romolo Quazza, *Mantova e Monferrato* 72.


17 The tale of Ferdinando and Camilla has been much romanticized, inspiring Giacommetti's play *Camilla Faà di Casale* (1846) and many other literary treatments. For the history of the affair see Sorelli Bonfà, *Camilla Gonzaga Faà* (Bologna 1918).

18 For this marriage see G. Errante, "Il processo per l'annullamento del matrimonio tra Vincenzo II duca di Mantova e donna Isabella Gonzaga di [sic] Novellara," *Archivio Storico Lombarda* series 5 number 4 (1916).


20 For Carlo Gonzaga, Duke of Nevers, see his biography by Émile Baudson, *Charles de Gonzague, Duc de Nevers de Rethel et de Mantoue* 1580-1637 (Paris 1947).

22 A. Lloyd Moote, Louis XIII, The Just (Berkeley 1989) 120. Though the King temporarily banished the Duke to his estates, it was clear which man fully suffered the King's wrath by challenging the edicts against dueling.

23 Romolo Quazza, Mantova e Monferrato 159 n 3.

24 Romolo Quazza, Mantova e Monferrato 136.

25 Romolo Quazza, Mantova e Monferrato 164.

26 For this plot see Romolo Quazza, Mantova e Monferrato 185-187.

27 For the events of December 15-25 see the exacting account in Romolo Quazza, Mantova e Monferrato 187-195.

28 Émile Baudson, Charles de Gonzague, Duc de Nevers de Rethel et de Mantoue 1580-1637 (Paris 1947) 258-259 and Romolo Quazza, La Guerra per la successione di Mantova e del Monferrato (1628-1631) (Mantua 1926) 44.
CHAPTER VI
THE WAR OF THE MANTUAN SUCCESSION, PART ONE:
THE FIRST SIEGES OF CASALE AND MANTUA, 1628-1629

The Initiative for War

On Christmas Day, 1627--the same day that Duke Vincenzo II expired and the Duke of Rethel married the Princess Maria, sealing the Duke of Nevers' victory at the Mantuan court--Duke Carlo Emanuele of Savoy and the Spanish Governor of Milan, Don Gonzalo de Cordoba, secretly agreed to an offensive alliance for the partition of Montferrat by act of war. This compact was a reaction to the situation in Mantua as of the second week of December. By that time the Duke of Nevers held an obvious advantage over his rival at the Gonzaga court, exemplified by the Grand Chancellor Count Alessandro Striggi's support for Nevers and the failure of an attempted coup by the supporters of the Duke of Guastalla. The discovery of this plot, on December 10, exploded the Duke of Guastalla's position, and evaporated the hopes of his closest international supporters--the Duke of Savoy and the Governor of Milan. In the spring of 1628 diplomatic attention focused on the questionable marriage of the Duke of Rethel to the Princess Maria. Though the Pope had given his blessing, the young woman's mother, the dowager Duchess of Mantua, Margherita of Savoy, and her grandfather Carlo Emanuele, of course only learned of the marriage after the fact. The Savoia court at Turin reacted
to the news from Mantua with outrage. But, in fact, Carlo Emanuele's interests at the Mantuan court, which depended on the victory of the Duke of Guastalla, were long lost by December 25. Carlo Emanuele planned his invasion of Montferrat even as Rethel married the Princess Maria. Outrage—real, not sham—at this marriage became a diplomatic excuse: it was never a true *casus belli*, except in argument.

The December 25 pact between Carlo Emanuele and Don Fernando aimed at the surgical partition of Montferrat.\(^1\) Carlo Emanuele would invade from Savoy, occupying Trino, Alba, Nizza Monferrato and the rest of Montferrat between the Tanaro and the Po; the Governor of Milan, invading from Lombardy, would take Casale for his master the King of Spain. Don Gonzalo further agreed to support the Duke of Savoy against the very possible interference of Louis XIII. The agreement clearly showed that Carlo Emanuele and Don Gonzalo anticipated little resistance from the Gonzaga government in Mantua, whether that government was in the name of a dying Duke Vincenzo or a newly arrived Duke of Nevers. Considering the real weakness of the Gonzaga position in Montferrat under Duke Ferdinando, during the wars of 1613-1618 and especially during the disastrous neutrality policy of 1625, the Duke of Savoy and the Governor of Milan were not unwise to expect an easy partition of Montferrat. This partition would satisfy Carlo Emanuele, at long last giving him parts of Montferrat, and Philip IV, who would gain an important addition to his military corridor across North Italy. Spanish soldiers and couriers would enjoy secure travel between Genoa and Milan, guarded by a Spanish garrison in the fortress at Casale. Such were the plans of Don Gonzalo and the Duke of Savoy.
On the Spanish side, the December 25 pact was entirely the initiative of Don Gonzalo. Such high-handed diplomatic and military action was not without precedent; Count Fuentes, Governor of Milan from 1600 to 1610, had increased Spain's power and prestige (and his own all-important reputation) by moving quickly and decisively, and then informing Madrid of his actions after the fact. Fuentes' independent intervention in the Valtelline in 1603, including construction of the famous Fuentes fort, had given Spain a jump on France and Venice. Madrid later appreciated that advantage. In 1628 Don Gonzalo acted with similar independence, and he hoped for equal success.

But for Spain the invasion of Montferrat held as many potential disadvantages as advantages, especially considering Spain's already extensive and expensive commitments: the never-ending war with the Dutch in Europe and in America, and the obligation to support the Emperor's war in Germany. There were several problems with Don Gonzalo's initiative. First, the need for an invasion was debatable. There was no real indication that the Duke of Nevers as Duke of Mantua and Montferrat would automatically and perpetually work in the interest of Louis XIII against that of Philip IV and the Habsburgs. His record as one of the haughtiest grands in France should have assured Spain that the Duke of Nevers was a man who could be bargained with as an independent prince. He was no lackey or outrider of the King of France. The House of Gonzaga's traditional support of the Habsburgs in North Italy was by no means beyond recall. Therefore, an attack on Montferrat only guaranteed a military confrontation with the Duke of Nevers, and increased--rather than reduced--the possibility of French intervention in Italy. Second, though a quick strike at Montferrat offered the possibility of an easy partition and the seizure of Casale, the example of the
wars of 1613-1618 and 1625 should have warned as much as encouraged. Invasion would be easy to begin, difficult to complete. The siege of Casale in particular would have to be well-managed and well-supported to be successful. To expect Casale to fall to a *coup de main* was a dangerous assumption. Third, military intervention in Montferrat might drive a wedge between Madrid and Vienna. Though the Emperor Ferdinand II counted on Spanish military, material, and diplomatic support, his wife was, after all, a Gonzaga princess, the sister of the last two Dukes, and her loyalty and sympathy were with the Duke of Nevers—the legal heir established by Duke Vincenzo II's will. And in late 1627 and early 1628 the Emperor was at his least dependent on Spanish aid. He had his own very successful General, Wallenstein, who had shattered the army of Christian IV of Denmark; in January, as news of the events in Mantua reached Vienna, Wallenstein's troops were ravaging Jutland. The Emperor could afford to be independent and aloof of the King of Spain's adventures in Montferrat. In the spring of 1628 the Emperor seemed triumphant; confrontation with the electors over the Edict of Restitution was still a year away. At this time—before Wallenstein's failed summer siege of Stralsund—there was a real possibility of an eventual joint Habsburg assault on Holland, with a Habsburg war fleet in the Baltic choking Dutch trade, and Habsburg armies invading the United Provinces from the southern Netherlands and from Germany. Why risk these possibilities by stirring up war in Italy? However, Don Gonzalo's precipitate Christmas alliance with the Duke of Savoy effectively neutralized all these real arguments against a Spanish invasion of Montferrat. When news of Don Gonzalo's action (or intention of acting) reached Madrid, Philip
IV and Olivares had a simple choice: to support or countermand the chosen policy of their Governor in Milan.

On December 20, 1627 Don Gonzalo wrote to Madrid informing the King and Olivares that Duke Vincenzo of Mantua and Montferrat, long sick, was on his death bed. Don Gonzalo expressed his concern at the probable succession of the Duke of Nevers; he reported the need for action, but also complained of his unpreparedness to intervene militarily. This dispatch reached Madrid on January 3, and meetings on January 5 and 11 considered the long-anticipated Mantuan succession crisis. The meeting of the 11th was a full session of the Spanish council of State, with the King in attendance. It was decided that the Duke of Nevers would be accepted; Philip IV spent that afternoon hunting, apparently unconcerned. Certainly, from the perspective of the central government of Spain, there was no imperative for war over the Duke of Nevers' succession, no drive to intervene militarily in Montferrat.

Later on January 11 a second dispatch from Don Gonzalo reached Madrid. This was written in Milan on December 27, and announced the death of Duke Vincenzo, an issue already confronted by the Spanish King and his ministers; but this second dispatch also included a description of Don Gonzalo's own response to the events in Mantua. Don Gonzalo announced to Madrid his pact with the Duke of Savoy and declared that "I intend immediately to enter with your majesty's arms into Montferrat." This second letter completely changed Olivares view of the Mantuan succession. What had seemed a fait accompli now appeared a golden opportunity. Since a fortnight separated the writing of this letter and its receipt, Olivares assumed that the Hispano-Savoyard invasion of Montferrat was already under way. Olivares immediately sought to reverse official Spanish policy to
conform with the developments detailed in Don Gonzalo’s letter. The King proved hard to convince, but a committee of theologians concluded on January 15 that the King’s military intervention would be just. The legal nicety that allowed such an opinion was the possibility that the Duke of Nevers had wrongfully acquired Mantua and Montferrat; here, attention focused on the marriage of Rethel and the Princess Maria, a marriage without the approval of the Emperor or the young woman’s mother. Philip IV came around to his first minister’s point of view. Technically, Spain would be occupying Montferrat in the name of the Emperor, pending his ultimate decision regarding the succession—though this argument did nothing to explain the participation of the Duke of Savoy. In truth, Spain accepted Don Gonzalo’s policy as an opportunity, and nothing more; all other arguments were personal and diplomatic fictions conjured up to cloak a naked act of aggression. From January 15 the Spanish government whole-heartedly supported Don Gonzalo’s war in Montferrat. This hasty reversal, made between 11 and 15 January, obligated Spain to what would become an increasingly difficult and demanding war effort. On January 16, official support for Don Gonzalo’s initiative left Madrid for Milan; one letter underlined the importance of a quick seizure of Casale. Clearly, Madrid expected a short, decisive stroke—not a long and involved campaign. Spain received the latter.

The Invasion of Montferrat and the Siege of Casale

Despite the tone of his dispatches to Madrid, the Governor of Milan was not prepared to act immediately. Don Gonzalo had limited forces with which to
invade Montferrat and besiege Casale: only 9,000 infantry and 3,000 cavalry. And this small army was not prepared for immediate action. Don Gonzalo’s search for more men and money in early 1628 broadcast his intentions, despite the continuing secrecy of his alliance with the Duke of Savoy. The mustering of troops, and especially the concentration of artillery, boats, and bridging equipment at Pavia gave notice of impending operations. In early March Don Gonzalo requested military help from Genoa, including the transfer of two regiments in Spanish service stationed on the Ligurian coast, one of Germans and the other Corsican troops. In all, by the middle of March Don Gonzalo gathered about 16,000 troops, mostly infantry, for the coming invasion. Most of these forces (10,000 infantry), under Don Gonzalo’s personal command, were in the vicinity of Alessandria, positioned for an invasion of either the northern or southern lobe of Montferrat. Two detachments, of a couple thousand men each, were at Lake Como (2,000 men), to guard against French intervention via the Valtelline, and around Cremona (4,000 men), to protect Spanish Lombardy from a counter-invasion by the Gonzaga forces in the Duchy of Mantua. Don Gonzalo’s artillery gathered at Pavia, on the river Ticino near the Po; well placed for easy movement upstream to a siege of Casale; or, alternatively, shipment downstream in support of an invasion of the Duchy of Mantua.

Duke Carlo Emanuele of Savoy began his invasion of Montferrat on March 29. Savoyard troops occupied Alba within a few days. From there the Duke of Savoy’s forces moved on to Trino, beginning the siege on May 13. Trino gave up on May 23, 1628. Exhausted of ammunition, the garrison and townspeople negotiated a surrender. By its terms the governor could return to Mantua, and the militia could safely return to their civilian lives. The
mercenaries could take service with either Don Gonzalo or the Duke of Savoy. The soldiers of the Duke of Savoy received their satisfaction as well: the Jews of the town were free game for their sack. After Trino the Duke of Savoy aimed at Nizza Monferrato. This campaign was proceeding exactly as had Duke Carlo Emanuele's previous attempts to partition Casale; the goals of 1628 were exactly those of 1613. The siege of Nizza Monferrato began in late May. After a twenty day siege, the governor capitulated on June 13. The terms were more lenient than those at Trino. The soldiers of the garrison could leave for Mantua, and the citizens were only obliged to furnish lodging, but not food, for the occupying victors. There was no sack. The Duke of Savoy had occupied his half of Montferrat; meanwhile, the Spanish invasion proceeded less successfully.

The Spanish invasion of Montferrat began on March 30. Don Gonzalo's little army crossed the Tanaro, brushed past a small detachment of Gonzaga troops, and marched along the right bank of the Po towards Casale. They reached the Gonzaga capital of Montferrat in the first week of April; Don Gonzalo requested that the Governor, Traiano Guiscardi, yield the citadel in the name of the Emperor. Guiscardi asked to see the Emperor's orders in writing; as these did not exist, they could not be given, and the garrison ended the parley by chasing off the unfortunate Spanish messenger with musket shots. The citadel could not be taken by bluff.

The Spanish settled down for a formal siege of the city. Don Gonzalo's army was not a homogenous force, but was made up of three nationalities. These each established their own, separate cantonments to the east of the city, the direction of the army's approach march and the direction of supplies coming up the Po (plate XVI). The Spanish camped along the Po, the
Neapolitans took the center, and the Italians under Luigi Trotta held the south. To the left of the Italians was the cavalry under Pechio. Separating the nationalities was standard procedure, reflecting administrative divisions and also being a practical matter to lessen incidents in camp. Don Gonzalo’s forces were hardly in position to enforce a strict blockade of Casale. They were simply encamped where their line of march ended at the city. Casale was still open to communication and possible relief from the south and west, and perhaps by the river Po as well (though downstream both banks were in Spanish Lombardy). A fortress-city such as Casale—if not taken by guile, as Don Gonzalo had already tried and failed—had to be completely isolated from the surrounding country. All communications with the outside world had to be ended. A single courier with a message of hope, a few horsemen with bags of silver, a few wagons of grain; any of these events could be enough to prolong the siege for days or weeks. Standard procedure would be to invest the city of Casale on three sides—east, south, and west—with a continuous circuit of trenches, a line of circavallation, connecting armed camps, sentry posts, and other strong points. If a sizable army of relief could be expected, then a second line of encircling siege works would be needed, facing outward; these were known as lines of circumvallation. The river side would have to be blocked by fortifications on the far bank, by armed boats, and perhaps by pilings and even chains stretching across the river. Don Gonzalo clearly did not have the resources to properly besiege Casale. If Casale were a small town, with weak fortifications, that lack of resources would not be crippling; but Casale was one of the strongest fortresses in Europe.

Don Gonzalo had neither the men nor the cannon for a serious siege. Nor, apparently, the expertise. At Don Gonzalo’s request, in April the
government of Genoa loaned their engineer Paolo Riccio to work at the siege of Casale for three months—after that he would be needed back in Genoa for work at the port and other civilian projects. The weakness of Don Gonzalo's effort is evidenced by a surviving sketch of the siege in progress (plate XVI). The first Spanish siege work was an angled line of trenches and battery positions (marked as fronte bandiere e trinciere). From here an assault trench, zig-zagging to avoid enfilade fire from the city, headed towards the Capuchin church on the road leading to the city's eastern gate, actually in the ala surrounding the Borgo Nuovo. Obviously, the Spanish engineers' intent was to use the existing road as a covered way, a ready-made trench aimed at the city. Supporting the Spanish assault trench was an extremely weak battery of two guns, described on the sketch as "battering the city." Considering the massive size and sophistication of Casale's defenses, even the weaker walls of the ali, this battery was entirely insufficient. This sketch of the siege of Casale does give evidence of a vigorous defensive fire from the city. The Capuchin church and chapel are in ruins, suggesting that the defending gunners worked hard, and successfully, to prevent the Spanish from enjoying any cover along their route of attack. Don Gonzalo's assault works were certainly not up to the defenses of the city.

The weakness of the Spanish siege works can be contrasted with the strength of the fortifications at Casale. Though obviously the work of an amateur, with little idea of how to render in perspective, the sketch does show the construction of supplementary earthworks by the defenders of the city (plate XVII). The artist has carefully indicated the fortifications of the Castello (at the top edge of the sheet) and the citadel. The fortifications of the eastern ala are less well depicted; the bastion drawn as overlapping the citadel
is probably one of the citadel's own bastions, as the *ala* wall met the citadel between two bastions. The second heavily-drawn bastion next to the Po may well be the St. Bartolomeo bastion. The above were the permanent fortifications of the city, the fruits of Duke Vincenzo I's long construction program at the end of the last century. There are two new earthworks shown. First, a ravelin (a simply angled trenchwork) at the eastern gate—here labeled *Porta di Casale che va a capuccinii*, that is, the "gate of Casale that goes to the Capuchin [church]"—with what seem to be adjoining ditches. Second, on the north-east side of the city, facing the Po, a more extensive multi-pointed ravelin labeled the *Fortino fatto di novo*, or "the newly-made little fort." The first trenchwork, jutting from the eastern gate, directly confronted the Spanish effort to use the Capuchin road as an assault trench on the city. The second trenchwork prevented the Spanish from flanking the new fortifications on the eastern side of the city by crossing the land between the Po and the Borgo Nuovo with trenches, and then investing the old, medieval walls (or the Po gate) on the north side of the city proper.

The Spanish besiegers made little progress over the course of the late spring and early summer. By mid-June Duke Carlo Emanuele had occupied the portions of Montferrat given to him by the December 25, 1627 agreement with the Governor of Milan. However, the Spanish invasion was now firmly bogged down before the walls of Casale, with no sign of an imminent capitulation. The stalemate was one of general weakness. Don Gonzalo could not take Casale; Duke Carlo of Mantua and Montferrat could not relieve Casale—at least, not yet. Each side looked for reinforcements and the intervention of greater powers. Spain sought the full diplomatic support and the military intervention of the Emperor; Duke Carlo sought the
intervention of the King of France or Venice. It would seem that the Duke of Savoy had the power to end the stalemate before Casale, but after the fall of Nizza Monferrato on June 13 Carlo Emanuele retired to concentrate on diplomatic gambits (and the threat of a small army raised by the Duke of Mantua in France), and did little to help Don Gonzalo's siege. With his half of Montferrat occupied, the Duke of Savoy had little interest in promoting the success of the Governor of Milan. Illustrative of the Duke of Savoy's ambiguity was an abortive diplomatic effort, led by Savoy, to negotiate a fifteen-day truce at Casale, ostensibly to allow negotiations to install a neutral garrison in Casale pending a settlement. Margherita of Savoy, dowager Duchess of Mantua and Montferrat, signed an agreement with representatives of Spain and France on June 14 in Turin—the day after the fall of Nizza Monferrato sealed the Duke of Savoy's gains in Montferrat.\textsuperscript{17} Don Gonzalo, in the trenches before Casale, refused to allow any such truce, recognizing that it would be an easy opportunity for the complete resupply of Casale; any pause would negate the limited gains of several month's siege work. The truce never took place—but the initiative alone proves that the Duke of Savoy would hardly have minded Spain's failure to take Casale. After all, the long-term interests of the Savoia were hardly advanced by Spain acquiring the strongest fortress in the region.

Though with little way of striking back at his attackers, Duke Carlo of Mantua and Montferrat, monitoring the siege of Casale from Mantua, showed himself to be resourceful and tenacious. The preparations of both the Duke of Savoy and Don Gonzalo left no doubt as to the impending invasion of Montferrat. The Gonzaga government therefore had time to act. In early February, the Governor of Casale, Traiano Guiscardi, stockpiled grain at the
citadel; later in the month 1,000 troops reinforced the garrison at Nizza Monferrato to defend against any sudden attack.\(^{18}\) The reinforcement of Nizza Monferrato, though not enough to prevent its being taken, certainly lengthened the town's defense, delaying the overall occupation of Montferrat. Concerned with the lack of cash in Casale, Duke Carlo authorized the minting of copper siege money in the city. These coins would be tokens, redeemable after the war for specie. These coins were also an opportunity for propaganda, similar to the medal Duke Vincenzo I commissioned in 1590 to mark the construction of his citadel at Casale. Duke Carlo's siege money in 1628 would be boldly marked with messages of defiance: *non timeo, non retrogradior* (no fear, no retreat) and *In obsidione Casalis* (in besieged Casale).\(^{19}\) These mottoes not only put a bold face on a potentially dire situation, but made the defense of Casale an act of civic pride.

Money was lacking everywhere, not just in besieged Casale, though there the need was most acute. Though he had inherited the Duchies of Mantua and Montferrat, he had also inherited the empty coffers that came with those Duchies.\(^{20}\) But Duke Carlo could call upon his lands and contacts in France, where he still held not inconsiderable resources. Sparing only his territories of Nevers and Rethel, he sold whatever he could in France. In April of 1628 he even sold his position as Governor of Champagne—a lucrative post he had held for almost thirty years, since he was nine years old in 1589—to the Duke of Maine.\(^{21}\) More was needed. The government of Venice initially refused a loan, but Venetian bankers proved willing to extend cash and letters of credit. Some of that cash was transported to Mantua from Brescia in an armed boat. But as the defense of Casale continued, Venetian faith in the new Duke of Mantua increased. At the end of September the
Senate authorized a subvention of 30,000 ducats for the support of the Gonzaga war effort. Though the King of France could not yet intervene, relief of Casale could still come by way of France. In April Duke Carlo began to organize an army of his French vassals and supporters, and any mercenaries they could hire or organize. In May he authorized various French nobles to raise troops for the relief of Casale. By July a force of some 8,000 troops had assembled at Lyon under the command of the Marquis of Uxelles, preparing for an attack on Savoy and a march to the relief of Casale. Unfortunately for Duke Carlo in Mantua, these troops were ill paid and ill disciplined, and they proved correspondingly ineffective. In early August the Marquis of Uxelles tried to force the passes into Savoy, now reinforced by the Duke of Savoy with the troops that had taken half of Montferrat. He failed in the attempt. After two engagements on the Franco-Savoyard frontier, on August 4 and 6, the Marquis of Uxelles' little army disintegrated, ending Duke Carlo's hope of prompt relief for the siege of Casale. The stalemate at Casale continued.

With the defeat of the Marquis of Uxelles' relief expedition, the eventual fall of Casale seemed certain. In early September Don Gonzalo redoubled his efforts at Casale with the help of reinforcements from Spain and Genoa. At last, the full weight of Spain's imperial position weighed against the fortress of Casale; the Gonzaga ambassador to Venice reported that Spanish ministers had concluded that there would be no relief expedition. Troops even arrived from Don Gonzalo's ally, the Duke of Savoy. In late October several companies of cavalry passed from Naples through the Papal States on their way to Casale. The previous effort had been more in the way of an army of observation; at last with proper strength
and supplies, Don Gonzalo could seal Casale off from communication and resupply. The Spanish army occupied the hills to the south of the city, and Don Gonzalo used his new manpower to completely surround the city. On November 10 the duke of Mantua estimated that the city would not be able to hold out much longer than the end of the month.  

But the fall of La Rochelle at the end of October changed the situation entirely; news of the fall of the Huguenot fastness reached Italy in the first weeks of November. French intervention, long discussed by the diplomats, now seemed ominously possible. Meanwhile, despite his reinforcements, Don Gonzalo's siege progressed no better. The weather, turned wet and rainy, made camp life miserable and also made an effective blockade of the city difficult, and an outbreak of plague in Milan—an ominous sign of horrors to come—obliged Don Gonzalo to leave the siege for the capital of Spanish Lombardy. By the first week of December, the soldiers in the trenches facing Casale had not been paid in two months. Don Gonzalo's opportunistic grab for Casale now stood on the brink of failure.

French Intervention and the end of the First Siege of Casale

Throughout 1628, Duke Carlo of Mantua and Montferrat stood alone. Notwithstanding multiple diplomatic efforts, and a ground swell of moral support from the Pope, Venice, and other Italian princes, little aid helped Duke Carlo's defense of Montferrat. All eyes watched the impasse at Casale. For France, the sight of Spanish arms impotently trapped in a lengthening siege offered an opportunity for French intervention. In April Richelieu laid out the case for intervention, along with its costs; he estimated that an
expedition of relief would need 12,000 infantry, 2,000 cavalry, ten cannon, and 400 horses for the artillery train. Careful attention would need to be paid to the route to Casale and back. But except for words, French assistance was not forthcoming, despite Duke Carlo's frequent requests, from early 1628 on. On April 26 Duke Carlo wrote to Louis XIII and the Queen Mother Maria de' Medici (no friend of the Duke) urging the King to liberate Italy from the Spanish, suggesting that this would be the completion of Henry IV's interrupted policy. At exactly the same time, Gaston, brother of Louis XIII, first in line to the throne and the Duke of Nevers's personal friend (there would be talk of his marrying Duke Carlo's daughter Maria), wrote to Richelieu emphasizing the consequences of standing idly by, "so shameful to France and advantageous to Spain." But there was little Richelieu or the King could do.

The cause of the Duke of Nevers, now Duke Carlo of Mantua and Montferrat, was indeed an opportunity for France. Spain's current weakness in North Italy was manifest, and any sizable military support for Duke Carlo could conceivably permanently cripple Spain's long-standing dominance in Italy. As Richelieu had outline in April, a small army of relief, with the proper diplomatic support, could force Don Gonzalo to raise the siege of Casale. But overriding domestic concerns meanwhile prevented any French intervention. The situation in 1628 was similar to that of 1625. In 1625 a French army in Italy (actively supporting the Duke of Savoy's attack on Genoa) was forced to retreat to confront a Huguenot rebellion; in 1628 another rebellion prevented any Italian enterprise in the first place. In 1628 the anti-royal and religious rebellion centered on the city of La Rochelle. Richelieu made the crushing of La Rochelle the first and only goal of the
French government; there would be no compromise with the rebels, as in the past, and there would be no secondary campaigns or issues to distract from the siege. Any intervention on behalf of the Duke of Mantua would have to wait.

In Spain, Olivares also recognized that the war in Montferrat was a race between the sieges of Casale and La Rochelle; whichever city fell first might well determine the whole issue in North Italy. In diplomatic discussions with the French—he well understood that French intervention might be gathering—in the summer of 1628, Olivares emphasized the link between Casale and La Rochelle in another way. In a note to a French diplomat he described Spanish operations against Casale as "not against a general and foreign enemy, but against a local and domestic [enemy] as with the affair of La Rochelle." This was, of course, nonsense: the affair of Montferrat intimately concerned France (just as Spain happily observed the continued Huguenot revolt in France), and Duke Carlo of Montferrat was in no way a wayward vassal of the King of Spain. Olivares' note only alerted France to Spain's growing powerlessness to influence events in Italy, to prosecute the siege of Casale. If the original impulse to seize Montferrat—with Casale—had been an opportunity for Spain, now that Spain was locked in an intractable siege of Casale, French intervention was an equal opportunity for Richelieu and Louis XIII.

With the fall of La Rochelle on October 28, 1628, France could at last mount an invasion of Italy in support of the Duke of Mantua. Richelieu had been considering such an operation from the near-beginning of the siege of Casale, from at least the middle of April, but the long delay enforced by the deadlock at La Rochelle had raised the ante for an intervention in Italy. In
April a small army of 12,000 men could conceivably have forced Don Gonzalo to raise his siege; but by the end of the year Spanish and Spanish-allied reinforcements at the siege of Casale meant that a greater French army of intervention would be needed. Intervention in Italy involved further internal debate as well. Though Louis XIII, fresh from his triumph over La Rochelle, eagerly sought further adventure, and Richelieu saw intervention as a piece with his grand design for a confrontation with the Habsburgs, other figures at court were less enthusiastic. Some viewed the potential conflict with Spain over Mantua as a deviation from the more important work of healing France's hurts: the Huguenot peril (defanged but not eradicated) and fiscal disaster. To these individuals, Spain looked more like an ally than an enemy. The Queen Mother, Maria de' Medici, personally disliked the new Duke of Mantua, the Duke of Nevers, as an advocate of noble particularism and a ringleader of revolt during her regency, and she frankly preferred that the king's brother Gaston be married to a Medici princess, and not dally with the Duke of Mantua's daughter Maria. In early November the King wrote the Duke of Mantua pledging his intention to intervene massively in Italy, by sea or by land, to relieve the siege of Casale. The final decision was made at a royal council meeting held in Paris on December 14; an invasion would take place forthwith.

Though winter was fast approaching, Richelieu prepared a royal army for a quick campaign over the Alps and, if necessary, down the Po to force Don Gonzalo to give up his siege. No armed confrontation with Spain would be necessary; the threat of war should be enough. At the end of 1628 Spain was in no position to accept war with France, and that was obvious in both Madrid and Paris. Earlier in the year it had been Louis XIII whose hands were
tied, by the Huguenot rebellion and the siege of La Rochelle; now it was Philip IV who was without options: the siege of Casale was dragging on interminably (and the coming wet weather of winter, with trenches flooded and powder sodden, did not suggest an end in sight); in early September the entire Indies silver fleet had been captured by the Dutch under Piet Heyn at Matanzares Bay in Cuba; and the hideously expensive and inconclusive war of sieges in the Netherlands was as insoluble as ever. Spain could not risk war with France. That fact gave Richelieu his opportunity.

There were several possible options for a French relief expedition. One was an overland expedition that reached Italy by way of the Valtelline and Venetian Lombardy (the Bresciano); with the fall of La Rochelle and French intervention imminent, Venice increasingly openly supported the Duke of Mantua. A second option would be a maritime expedition aimed at the Ligurian coast. But the most efficient campaign plan was the one Richelieu had harbored since April; an over-the-Alps thrust by way of Pinerolo or the Marquisate of Saluzzo. This route was not only the most direct, but it suggested the profits of intervention that Richelieu had in mind. Both places had been the property of the King of France: Pinerolo from 1536 to 1574 and Saluzzo from 1559 to 1588 (and the King did not yield title to Saluzzo until the Treaty of Lyons in 1601). A confrontation with Savoy and Spain might not only lift the siege of Casale and assist the Duke of Mantua, but give the King of France a position on the Italian side of the Alps.

The French invasion would be coordinated with an attack on Spanish Lombardy by Duke Carlo. In a letter dated February 1, 1629 Louis XIII outlined the plan: French forces would reach the border with Savoy by February 15 or 16; in conjunction with this attack, Duke Carlo should raid the border with
Cremona from Mantua. The French imagined that Gonzaga forces would be about 10,000 men; in fact, there were less than half that number available. The raiding party was of 2,000 infantry, 500 horsemen, and 24 armed boats. These forces converged on Casalmaggiore on the Po, the first town in Spanish territory. There was no opposition and the raiders contented themselves with thieving from the inhabitants. In the confusion, some soldiers even looted the Monte di Pietà, the charity pawn bank. Though an extremely minor engagement, the capture of Casalmaggiore excited the diplomatic community—perhaps it was seen as a precursor of a larger effort—and combined with the simultaneous French invasion of Savoy to show how Spain had lost the initiative in the war.

The French army, personally commanded by Louis XIII, stood poised on the border with Savoy on March 1. It was indeed a royal force: some 35,000 experienced soldiers, many of them veterans of La Rochelle. Last minute negotiations with the Duke of Savoy failed to win safe passage for the French. Carlo Emanuele determined to hold the defiles at Susa, a fort on his side of the Monginevra pass, where 6,000 Savoyard and 5,000 Spanish troops (on loan from Don Gonzalo) under the Savoia crown prince Vittorio Amadeo barred the way behind stout earthworks. On March 5 the French army moved forward to dislodge this obstacle, and the Spanish and Savoyard defense immediately disintegrated in rout. This easy victory at Susa completely undermined the Spanish position in Italy; representatives of the various Italian princes flocked to make their obeisance to the French King. The road to Montferrat and Lombardy lay open; Duke Carlo Emanuele of Savoy—always willing to strike a bargain—now felt obliged to talk.
The result was the first of several peace agreements negotiated at Susa. The first accord, agreed to in the first week of March, saved Duke Carlo Emanuele the consequences of the French military victory—namely, a French invasion of Savoy—but completely destroyed Don Gonzalo's war effort. Carlo Emanuele abandoned his compact with Spain, allied with France, recognized the Duke of Nevers as Duke of Mantua and Montferrat, and promised to add his forces to those of Louis XIII for a march on Casale. Don Gonzalo had little means of opposing such an advance. Rather than facing this combined threat, Don Gonzalo lifted his siege of Casale on the morning of March 19, retreated to Milan, and negotiated a compromise to avoid war with France—a war that might have ended with the French conquest of Lombardy. This compromise, the second accord reached at Susa, was signed on March 31. Don Gonzalo agreed to evacuate all places seized in Montferrat, and agreed to let a French force garrison Casale and any other strong points in Montferrat. These terms were a crushing humiliation, personally for Don Gonzalo and politically for Spain. Don Gonzalo's attempt on Casale, begun without proper consideration of that place's strength and without the necessary men, artillery, or money, had ended in disaster. And not only was Spain humbled; but French arms had clearly overawed the Governor of Milan, and the sharp French victory at Susa stood in marked contrast to the embarrassingly long-winded and failed siege of Casale. The damage to Spanish self esteem was made more manifest by the comparison of Louis XIII to Philip IV; Louis had personally attended his armies, while Philip IV had remained cloistered with his ministers in Madrid. The conclusion of Don Gonzalo's ragged year-long siege of Casale emphasized Spain's fading position in Italy and France's rising fortune.
A graver threat to Spain came of the combat at Susa and Don Gonzalo's diplomatic humiliation: a six-year defensive alliance between France, the Venetian Republic, and the Duke of Mantua, signed at Venice on April 19. Its terms authorized creation of an allied army to defend against aggression, specifically the aggression of the Emperor or the King of Spain; France would supply 20,000 infantry and 2,000 cavalry, Venice 12,000 infantry and 1,200 cavalry, and Mantua 5,000 infantry and 500 cavalry. This league, together with the French alliance with Savoy, encircled Spanish Lombardy and threatened Spanish communications in the Valtelline and in Montferrat as well. In conjunction with Spain's defeat at Casale, this treaty suggested a revolution in the political balance of North Italy. This state of affairs was unacceptable in Madrid, where Don Gonzalo's agreement at Susa was summarily rejected.

Olivares sacked Don Gonzalo and replaced him with the Genoese Ambrogio Spinola, the hero who had taken Breda from the Dutch in the epic siege of 1624-1625, a man with extensive experience of serious large-scale siege warfare. He well knew the abilities and perseverance of Richelieu and Louis XIII, having toured their siege works before La Rochelle on his return from the Netherlands. He was an excellent choice to manage the war in Montferrat. As a Genoese noble, he was well-connected with the ruling families of that city, whose interests as bankers were inextricable from the financial health of the Spanish Habsburg empire. As the new Governor of Milan, detailed to Milan with the specific task of taking Casale, his experience and personal fortune would be entirely devoted to the restoration of Spanish prestige. In 1629 there would be a second, incomparably greater Spanish effort to take Casale. Meanwhile, the French army that won the pass of Susa
went no farther into Italy. Instead, after gathering the considerable diplomatic fruits of intervention, Louis XIII and Richelieu concentrated on the uncompleted task of subduing the last Huguenot military resistance to the King. The French royal army undertook a spring and summer campaign against the few towns bold enough to deny the King's government. In May the King's army took and sacked Privas after a short siege; in June the Grace of Alais ended Louis XIII's crusade against the Huguenots with a complete royal victory. The last Huguenot warlord, the Duke of Rohan, left France for exile in Venice. Protestantism in France survived on the sufferance of the King. But Louis XIII and Richelieu were not finished with Italy. A renewed war would attract a repeat, in March of 1630, of 1629's gallant assault on Savoy. Again, the focus of the campaign would be the relief of Casale.

The raising of the first siege of Casale is generally considered, and rightly, as a humiliation of Spain and as the first conspicuous foreign policy success of Richelieu and Louis XIII. But there is another perspective. Louis XIII appeared on the French border with Savoy on March 1, 1629, and Don Gonzalo abandoned his siege of Casale on the 16th of the same month. That siege had begun—though desultorily and ineffectively—eleven months earlier, in April of 1628. For the remainder of 1628, and the first three months of 1629, Casale withstood siege by the Governor of Milan with no prospect of relief in sight. The citadel and city of Casale proved as formidable in action as it appeared in design. This great project of Duke Vincenzo I, almost vainglorious in the political context of 1590, proved itself immensely valuable in 1628. Without the bastions of its citadel, Casale would probably have been overrun as were the other towns of the Duchy: Alba, Trino, Moncalvo, and Nizza Monferrato. When the international support for Duke
Carlo of Mantua and Montferrat was only words and promises, the bastions of Casale gave its Duke hope. The strength of Casale allowed the political survival of Duke Carlo. If Casale had not been able to survive through to the early spring of 1629 there would have been no object for Louis XIII's expedition to Italy; if the race between the sieges of Casale and La Rochelle had been won by Spain, then Philip IV would probably have acquired Casale and a momentary threat to the Spanish position in North Italy would have passed. For there to be a revolution in the balance of power in Italy in early 1629, there needed to be not only a Louis XIII and a Richelieu eager to confront Spain, but a Duke Carlo and a Casale giving them that opportunity.

Imperial Intervention and the First Siege of Mantua

The Emperor proved a somewhat reluctant supporter of Spain's initiative in Montferrat—even though Spain was acting in his name. Throughout 1628 the diplomatic representatives of Spain and the Duke of Mantua argued their opposing points of view before almost anyone of any importance at the Imperial court; the agents of Venice, France, Savoy, the Pope, and numerous other princes freely joined the debate. Cesare Gonzaga, the son of the Duke of Guastalla, and the Duke of Rethel, son of Duke Carlo of Mantua, both made trips to Prague and Vienna to represent their rival branches of the Gonzaga family. In April, 1628 the Emperor sent Count John of Nassau to Mantua as his representative, with instructions to demand that the Duke of Nevers recognize the Emperor's jurisdiction (as technical suzerain of both Mantua and Montferrat as territories of the Holy Roman Empire), pledge himself to the Emperor's decision regarding the disputed succession, and give up the
fortresses of Mantua and Montferrat to an Imperial governor. Through diplomatic wriggling Duke Carlo would continually avoid either rejecting outright or unconditionally accepting Imperial terms; the Duke of Mantua ran out of room for maneuver in the winter of 1628-1629. Meanwhile, the debate at the Imperial court curiously mirrored the arguments at the French court prior to Louis XIII's intervention. One faction, including Wallenstein, held that threats closer to home precluded Italian adventures. Through the campaign season of 1628 Wallenstein's concentration at the sieges of Stralsund (abandoned in July as impossible without a supporting fleet) and Stettin (successful) and then a last campaign against the Danes (with an Imperial victory at Wolgast in September) made Imperial intervention practically impossible, anyway. As the conflict that would become known as the Thirty Years' War seemed all but won by the Emperor in 1628-1629 (witness the Edict of Restitution in March, 1629), there was less consideration given to Wallenstein's concerns than would have proved wise. In fact, the Duke of Mantua was not only in league with France, the ardent (if undeclared) enemy of Imperial and Habsburg ambitions everywhere, but was in contact with both King Gustavus Adolphus of Sweden and Bethlen Gabor of Transylvania; Imperial intervention in Italy would risk dangerously dispersing Ferdinand II's forces between widely separated theaters: the Baltic Coast, Hungary, and the Po Valley. Despite these real issues, the Emperor Ferdinand II decided on military support of his cousin Philip IV; the final straw was word of the Duke of Mantua's seizure of Casalmaggiore in the Cremonese. Preparations, already begun, intensified for an Imperial assault on the Duchy of Mantua in 1629, as the forces of the new Governor of Milan, Ambrogio Spinola, prepared for a second siege of Casale.
The Emperor assembled an army with difficulty. Money, as usual, was the rub: many colonels would not raise a regiment for less than 63,000 thalers a month. Wallenstein initially refused to divert any of his forces to provide for an army to invade Italy. However, funding and soldiers were scraped together, and at the end of April the first regiments passed into the Valtelline, taking the Grisons for the Emperor on the way. The Imperial army gathered, bit by bit, in the folds of the Valtelline over the summer of 1629: doubtless the Governor of Milan (Don Gonzalo and then Ambrogio Spinola) had no desire to feed and quarter this host in the Milanese. Equally, the Imperial commanders probably had no desire to expose their soldiers to the pest ravaging Milan. The Imperial army in the Valtelline eventually numbered some 25,000 troops. Commanding were the Count of Collalto as lieutenant general and Aldringen as commissary general. The regiments under these two apparently numbered a little over half the total effectives. Joining Collalto and Aldringen in late summer was general Galasso with 9,000 infantry in four regiments (Colonel Cerboni's of 3,000 men, Saffenberg's 2,000, Sot's of 2,000, and Chiesa's of 2,000) and 1,500 cavalry in two regiments (Ferrari's cuirassiers of 500 men and 1,000 musketeers under Sot): these soldier's were already infected with the plague. Galasso's forces were detached from Wallenstein's command in Germany. In the first week of September the advance into Italy proper began; the Imperial army fanned out across the Milanese in a broad front, only gradually concentrating against the border with Mantua.

Duke Carlo and the government in Mantua had already anticipated the threat to Mantua and acted accordingly. In the fall of 1629 Duke Carlo did not have to plan the defense of his Duchy from scratch; in January 1628, before
Duke Carlo had even arrived from France, a meeting of the ducal council, with the Grand Chancellor Alessandro Striggi presiding, surveyed the strategic situation, analyzed the readiness of the ducal forces, and planned for the Duchy's defense. Equal attention was given to an attack _per terra, o' per aqua_, that is, by land over the Mantuan border with Cremona, or by water along the Po. The line of defense would be the river Oglio, and the bend of Gonzaga territory on the north bank of the Po upstream as far as Viadana. To Viadana the council ordered an armed galley dispatched. The council ordered two companies stationed at towns on the Oglio line: a Captain Guadagno to Marcaria and a Captain Brugiotto to Gazzuolo. Each of these companies was probably of around 100 men. Other companies were to be sent to guard the several fords along the Oglio. Patrols were to seize every boat and floating mill on the river and clear the brush along the banks so as not to obscure musket fire. Guards would be posted along the river by day and by night. A system of signaling would announce the enemy's approach with musket shots, bonfires at night, and smoking fires during the day. The rest of the duchy received attention as well, but the most extensive instructions concerned the river defense of the Duchy. A garrison would be sent to Governolo, where the Mincio met the Po. Across from Governolo, at the so-called Mouth of the Mincio, a fort would be built "where Duke Francesco desired to make it, that is on the river bank." The militia, apparently the armed populace, would patrol the river banks to shadow any invading enemy boats. It is clear that in January of 1628 the ducal council of Mantua most feared a waterborne attack along the Po; this was a wise assumption, considering that an invasion of the Duchy of Mantua would necessarily
culminate in a siege of the city of Mantua, and for such a siege water transport from Spanish Lombardy (down the Po, up the Mincio) would be ideal.

The council meeting of January 5, 1628 also outlined specific preparations for the city of Mantua, including extensive earthwork additions to the city's fortifications. 2,000 infantry would be raised from the citizenry with captains coming from the local nobility. Notice was made of the need to write to Brescia (in Venetian Lombardy and famous for its armors) for 2,000 muskets, 1,000 corselets, and 1,000 pikes. Of the new companies raised to defend the city, presumably mercenaries as well as citizens, the cavalry would be quartered at Cerese, to the south of the city, and the infantry would be housed at the Porto citadel and at the S. Giorgio castle. Detailed instructions provided for new earthwork defenses to supplement the existing fortifications. Mezzalune, half moon-shaped curved or angled ditches and ramparts, would be built outside the Predella, Cesere, and Te gates, and outside "the other gates" as well. The woods at Marmirolo, a ducal property with country house to the north of Porto, would provide 200 gabions for the earthworks and other fortifications of Mantua. If a siege were joined, then the defenders would not have access to the withies and branches needed to make gabions; they had to be prepared ahead of time. The artillery stored at the Castello di S. Giorgio was to be mounted on carriages, and the powder kept there as well was to be distributed "to the places that most needed it."

For the citadel at Porto the ducal council minutes record a detailed list of necessary preparations:

First make sure that the gate is secure from [attack by] a Petard [a charge affixed to a door and then exploded] because there is no defense from some fires. Make two guard parties ... for the gate and one for the well. ... Make another well at the other gate.
Make two ladders of wood for the gate. Prepare the *molino da cavalli* [a horizontal grain mill powered by horses]. Provide 50 torches. For the Artillery 12 of the same. ... 300 baskets for carrying dirt. Fifty gabions. 200 picks. 6 lanterns not the round type. ... Several hundred-lengths of rope. ... Mattocks and shovels 200. [Extra] handles 200.

The defenders would clearly be ready to repair and rebuild their defenses if necessary. The ducal council also had access to the papers of Gabriele Bertazzalo (the elder) detailing various military secrets, including a way of manufacturing saltpeter so as to be able to make enough powder for 400 soldiers in a single day.62 This secret process, of course, was chimerical, but Bertazzalo's book perhaps included other more practical ideas for the defense of the city. It is impossible to tell how completely the council orders of January 5, 1628 were carried out, but they do indicate the measures necessary to prepare the city for siege. Also, it is clear that through 1629 Duke Carlo made the Oglio river line his Duchy's first line of defense, and extensive earthworks at Mantua did strengthen the city's fortifications.

By the end of September, 1629 all Gonzaga troops were along the Oglio line.63 A surviving sketch map, undated but probably from early September, with troop numbers attached, explains the defenses built along the Oglio line (figures 10 and 11).64 The bottom of the page is east. The lower left of the sketch map, with two boats, is the confluence of the Oglio (flowing north to the right on the map) and the Po (the right bank of which is shown paralleling the left margin of the page) at the town of St. Francesco. The map shows, from south to north, eight fords or bridges crossing the Oglio: at Canejo, Gazzuolo (bridge), S. Michele, Marcaria (bridge), Mosio, Canneto (bridge), and Vola. Another bridge is indicated at Bizzolano across the Chiese river, flowing into the Oglio. These crossings were the key to holding the
entire line. There are two Gonzaga strong points on the east bank of the Oglio: at Gazzuolo and at Rivellino, across from Canneto. The single-digit numbers along the Oglio mark the distance between the points indicated. Troop dispositions are shown by the number of soldiers and the initials of their commanders; also, the reverse of the map is a tally of troops with their location. Though the tallies on front and back do not completely agree, they do reveal the general strengths of the Gonzaga defense. From south to north these dispositions were: 500 men at Scorzarolo (actually on the Po), 200 infantry at S. Francesco, three detachments of 160 cavalry along the lower Oglio, 500 men at Campitello, 500 at Marcaria, 1,000 infantry at Acquanegre, 300 infantry at Bizzolano on the Chiese, 1,000 infantry at Canneto, 500 infantry at Fontanella, and 500 infantry and 250 cavalry at Volongo. The total forces would be 5,730. These dispositions compare with the ducal council's goal of providing 8,000 infantry and 1,500 cavalry for the defense of the Oglio. Actual unit returns from the Oglio line in late 1628 indicate that actual effectives would probably be about seventy-five percent of nominal figures. There would be only a few thousand men to hold the Oglio line against perhaps 25,000 Imperial troops. Fortifications would of course help, but the numbers remained a mismatch. And the Imperial army would prove brutally professional. The very bottom of the sketch map shows, in crude outline, the planned earthwork linear defense system of star shaped forts and square sconces connected by ramparts. This would indeed be an ideal defensive system with which to hold the Oglio, but it is doubtful that the Duke of Mantua had the troops or money to more than plan such a system. However, some earthwork barrier system was constructed, and the Venetian military architect Tensini—a noted expert on loan from the Republic—did
personally supervise the design and construction of the defenses at Gazzuolo and Canneto, which were inspected by the Duke in the first week of August. These were considerable strong points; at Gazzuolo were 200 barrels of powder, abundant quickmatch, 2,000 sacks of grain, 60,000 musket balls, and nine unspecified artillery pieces. Tensini was a master of such defenses; in his 1624 treatise on fortification he had argued that earth fortifications were superior to those to brick or stone.

There is more detailed information concerning the position at Revillino, across the river from Canetto. A sketch of the defenses at Revillino was included with dispatches for the Duke. In this sketch south, mezzogiorno, is at the top of the map. Revillino, a defended bridgehead on the far, western side of the Oglio, was an obvious focus of Imperial or Spanish attack. The core of the defensive position was the medieval castle (the artist clearly indicates the crenellation) just over the bridge (labeled porto) from Canneto. On the south side of this castle was a ditch (fossa) filled by the Oglio at high water (and the sketch indicates that the water was twelve yards, braccia, high, two yards above normal). Beyond that were fresh earthworks consisting of an earth rampart (contra muraglia) and a series of ravelins or redans (trinciera), angled firing positions. The greatest weakness of this position was its susceptibility to flooding. High water would fill the ditch in front of Revillino castle and isolate the earthworks. Though a crude sketch, this drawing gives a good indication of the earthworks making up the Oglio defensive line.

One of the particularly well-documented positions defending the western edge of the Duchy of Mantua is that of Viadana, on the north bank of the Po just downstream from Casalmaggiore. Here earthworks and some
light artillery—falconers, an ancient spingarde (a stone-throwing cannon), and heavy wall-guns (extra heavy muskets)—guarded the frontier. The garrison totaled about 1,000 men in four companies under Colonel Cornelio de Vimes; in September 1628 about one-fifth were listed in an official strength return as ill and ineffective. Throughout 1628 and 1629 Vimes' reports back to Mantua were full of local incidents and concerns: Spanish deserters, skirmishes on patrol and on the river, and a constant stream of complaints regarding supplies. Side by side with these complaints by Vimes are complaints by local civic officials that the badly disciplined soldiers were thieves and troublemakers. In December 1628 Alfonso Guerriero, inspecting the troops at Viadana, reported back to the Duke in Mantua that the horses were dying of hunger and that the soldiers were stealing bread to eat. The condition of the Viadana garrison was typical of all Gonzaga troops: unpaid, under-supplied, and on the verge of breakdown—even before contact with the enemy.

By the end of September, 1629 the Imperial army, traveling locust-like over Spanish Lombardy, reached the Oglio at the western border of the Duchy of Mantua. Rather than concentrating at any one point, the Imperial army covered the entire length of the frontier, leaving it to individual captains and colonels to probe for weak spots in the Gonzaga defenses. A few weeks of skirmishing ensued as Collalto, Aldrighen, and Galasso prepared their troops for an assault on the Oglio. Torrential rains in the first week of October inundated the countryside of Viadana and sent the Po and Oglio over their banks; this inclement weather delayed the Imperial attack, but also must have weakened the earthworks of the Gonzaga defenses. As noted above, high water at Revillino would flood the defenders out; the rest of the Oglio line's
defenses were probably similarly susceptible to rain and flood. A steady correspondence with the local Gonzaga commanders kept the Duke in Mantua informed of the situation on the frontier. Duke Carlo himself examined the fortifications at Gazzuolo. Miniature assaults on Viadana and all the strong points of the Oglio line took place near simultaneously on October 19. In Mantua, the sound of artillery and the sight of smoke plumes on the western horizon informed the city of the attack. Effective opposition was brief. The first place to fall was Canneto, on October 19, at the very north of the Oglio line. Here the German troops of Aldringen crossed the Oglio on a pontoon bridge and took Canneto by assault. From here Aldringen swiftly moved south to take the crossing over the Chiese at Bizzolano. This was defended by Alfonso Guerrieri with all available cavalry and a few companies of Venetian infantry; the confrontation was a rout, with the Venetian infantry fleeing at first contact. Aldringen's Germans easily took the crossing. The southern positions of the Oglio line were now hopelessly outflanked. Acquanegre fell to Aldringen on October 20 or 21. Meanwhile, Galasso took the suburbs of Viadana on the 19th; the medieval castle fell the next day. Galasso and Aldringen arrived before Gazzuolo on the 24, investing it from both sides of the Oglio, and they took it by assault two days later. The defenses of the Oglio line simply collapsed. Most of the defenders were killed, captured, or scattered beyond recall. The invading German troops spread out over the countryside in pursuit while those defenders who could fled to Mantua.

Duke Carlo had ordered the defenses of the Serraglio strengthened with earthworks, but these were incomplete and there were not enough men to hold this line. The next line of defense would be the city of Mantua
itself. Meanwhile, of the Duke of Mantua’s allies, Venice offered the best chance of immediate relief. In early October the first Venetian reinforcements, of a total of only a few thousand, had arrived in Mantua to help defend the Duchy. Most of these were captured or lost in the collapse of the Oglio line. Venice had been expected to intervene massively, but the Republic held back as long as the Emperor’s troops stayed away from Venetian territory and seemed to threaten only the Duchy of Mantua. Though the pact of April obligated Venice to provide over 10,000 troops, only 650 were in the city when the siege began.

With the outer defenses of the Duchy failing, emergency measures prepared the city of Mantua for an imminent siege. Even before the collapse of the Oglio line, on September 22 a printed proclamation organized the entire populace of Mantua to work on the fortifications of the city:

Carlo the First, by the Grace of God Duke of Mantua, Montferrat, Nevers, Umena, Rethel, &c. Because the fortifications of the City are necessary for the defense of everyone ... for the love of country and Prince you are all required to volunteer. ... With this public proclamation all the inhabitants of this city, heads of households ... nobles, citizens, merchants, shop owners, without exceptions whatsoever [will be required to work] from tomorrow. Everyone ... will be required to carry with them a tool for working with earth, or to bring a basket, barrel, scoop, wheelbarrow, barrel, cask, or anything else of that sort. At Mantua, the 22 of September 1629.

Attached to this proclamation were instructions dividing the sections of the city walls between the various parishes and other administrative units of the city. Even the monks and other religious were given their own section, as were the Jews. Lists of all the able-minded men in each district were prepared. Duke Carlo appointed four gentlemen as captains of the city, each
with a company of 100 experienced soldiers, *fanti artisti*, under the direct command of the Duke.83

In late October, after the collapse of the Oglio defenses, the destructive fury of the advancing Imperial troops—soldiers of an army hardened by ten years of warfare in Central Europe—inspired near panic in the city. Duke Carlo commented on the mood in Mantua:

It is incredible the terror of these people, and of the nobility as well, seeing everything completely burned, and ruined, without regard on the part of the enemy for any sacred thing; they throw the Sacred Holy Eucharist on the ground, and we say with horror and humility that these barbarians trample on the ground, and cut out the eyes, and cut off the heads of the sacred Images of the glorious Virgin, and offend Crucifixes with arquebus fire.84

It was important to clear the suburbs and outskirts of Mantua of any structures that the enemy might use as cover in a siege. On November 8 explosive charges destroyed the church of S. Matteo and the church and convent of S. Biagio on the Isola del Te.85 The Palazzo del Te, apparently not a compromise of the city's defense, was spared. Outside the Predella gate the churches of S. Bartolomeo and S. Simone and other religious buildings were destroyed; more destruction outside the Cerese gate made way for earthworks on that quarter. These fortifications were apparently those planned in the January 5, 1628 ducal council meeting; it is unclear whether any had been built in the eighteen months since that meeting. On December 9 the ducal council authorized the payment of 3,600 scudi for the purchase of a house outside the city walls that needed to be destroyed to make way for new fortifications.86

The siege of the city had already begun.87 Within days of the collapse of the Oglio line there were cavalry skirmishes outside the Predella and
The Imperial army crossed the Mincio above and below Mantua, surrounding the city. Duke Carlo agreed to the capitulation of the S. Giorgio suburb on the eastern side of the city, across the Mincio; without troops and fortifications the defense of S. Giorgio was hopeless. In the last week of October the first Imperial artillery arrived, some cannon and a culverin belonging to the Duke of Guastalla. This artillery probably came by water, down the Po and then up the Mincio. This artillery was placed in two batteries to either side of the Borgo S. Giorgio. From here these guns began a long-range bombardment of the city across the middle and lower lakes. The Mantuan chronicler of the siege noted that these cannon were too far away to do any damage, and that this bombardment killed only three or four people; though he did add that on October 31 a cannon ball crashed into the room in the ducal palace where the Princess Maria was giving birth to a son. This incident strangely brought the causes and effects of the war together.

On November 5 a new front opened. On that day the Germans began to encroach on the western side of the city, where the two earthwork forts on the Cerese island countered the Imperial approach with the fire of two cannon. As these forts overlooked the far bank, they had an advantage over the cannon the Imperials emplaced against them. However, the explosion of several powder barrels in one of the forts killed many of the defenders and both places fell with their cannon on the next day, the 6th. To forestall Imperial siegeworks being brought up directly against the western walls of the city, the defenders fell back on a long ditch and rampart across the Te island. These works were cunningly built from a north-south road, probably a raised causeway. To the west of this wall lower and wetter ground made the construction of attacking earthworks difficult; assault saps and
trenches would simply flood with water. It was at this time, on November 8, that the churches outside the walls on this side of the city were destroyed so as not to give the Imperial troops defensive positions. This line of earthworks outside the Cerese gate would be continually improved over the next few weeks to include a half moon outside the Cerese gate and other angled defensive positions. Cannon and musketeers posted in these fortifications had a clear, raised field of fire over the gardens, orchards, and swamps of the rest of the Te and Cerese islands.

On the other side of the city, the Imperial gunners manning the batteries to either side of the Borgo S. Giorgio concentrated on blasting the gate tower on the Ponte S. Giorgio causeway. After collapsing under this fire, the Gonzaga defenders abandoned this position to the Imperials on about the 10 of November. The long covered S. Giorgio causeway appeared to be a relatively protected route into the city. With flags flying and drums beating a column of Germans marched along the causeway in an assault on the city along the S. Giorgio causeway; perhaps their easy progress in the campaign so far suggested this folly. At the other end of the causeway, at the Giardino bastion, a company of Venetians under a French lieutenant had two cannon, loaded with musket balls, prepared for any such assault and with a clear line of fire enfilading the causeway. At the last minute, with the Germans almost to the city side, these cannon discharged to sweep the causeway with a hail of small shot. This instantly decimated the advancing Germans and ended the threat to the city. The chronicler of the siege morbidly added to his description of this incident the fact that the bodies of the killed Germans covered the end of the bridge for days, as the Imperials were too afraid of the
flanking fire from the two cannon at the Giardino bastion to recover their dead and wounded.\textsuperscript{90}

After this nasty repulse the Imperial generals switched to more gradual, but surer methods of siegecraft. Skirmishing on the Cerese front and a steady, but ineffectual bombardment replaced any determined preparations for assault. In late November the besiegers emplaced a battery at S. Pietro di Ongaria, just north of Porto, to batter the Porto citadel, but again the Imperial cannon were too far away to do much damage.\textsuperscript{91} However, the siege still went on in earnest. At the bottom of the lower lake, where the Mincio again narrowed, the Imperials constructed a bridge and dam against the current. This both allowed the easy movement of besieging troops between the east and west banks of the Mincio, and more insidiously raised the water level of the river and lakes upstream. This rise in the water level was high enough to inundate the water wheels of the city's mills (there were not apparently any, or enough, floating mills), preventing any grain from being ground to meal.\textsuperscript{92} The city soon exhausted its stocks of flour, and the defenders were without bread though there was no shortage of grain. Meanwhile, the horses in the city had eaten all the hay and all the water weeds that could be pulled from the lake; dogs disappeared from the streets; prices soared.\textsuperscript{93} Mantua was on the road to starvation. The defenders responded to this situation with a water-borne sortie against the bridge and dam at the base of the lower lake. On a night raid in late November or early December a lieutenant Albanese, with forty other men, crossed the lake in rowboats and burned the bridge, destroying it and killing about fifteen of the enemy.\textsuperscript{94} With the destruction of this blockage the water level of the river and lakes dropped, the mill wheels could turn, and the city was saved. The night after this raid several
more raiding parties surprised detachments of enemy troops as far as Curtatone on the Serraglio and Governolo at the mouth of the Mincio. It was a very vigorous defense of the city.

To support their siege of Mantua the Imperial generals needed to isolate the city from any possibility of relief. On the night of November 13 a fisherman, with expert knowledge of the little streams and canals that flanked the countryside to either side of the Mincio, guided 800 Venetian infantry into the city under siege. The Imperials needed to prevent any future reinforcement or replenishment of Mantua. The most important link between Mantua and Venice was the town of Goito, on the west bank of the Mincio upstream from Mantua. The easiest route for Venetian relief was down the Mincio from Peschiera, the Venetian fortress astride the source of the Mincio at Lake Garda. If Goito fell any such relief would be much more difficult. The place was not strongly fortified, and after the failure of a Venetian effort to float reinforcements down the Mincio from Valleggio, Goito capitulated on November 22. Even after Goito fell, small numbers of troops could be smuggled into the city at night by using small boats and the many canals and stream of the area. These could not all be covered by the Imperial soldiers. On December 7, 400 more Venetian troops entered the city.

By December both sides were suffering. In the imperial lines, the plague that some regiments had brought to Italy was now spread throughout the army. General Collalto himself fell gravely ill. On the city side, a lack of certain provisions caused concern and real problems. Though the stockpiled grain was rumored as enough for two years consumption, other goods and materials were in short supply. Hay for horses and livestock was in acute
shortage. These were then slaughtered, causing a strange abundance in a city of want; at one time meat fell to two pennies a pound, while hay sold for forty or fifty silver coins a cartload. Wine prices skyrocketed, and the lack of it caused soldiers to drink water, which was infected and made them ill. And these soldiers were as badly paid as ever; in fact, there is no record that they were paid during the siege. On occasion bands of soldiers broke into houses at night and stole wine, hay for fodder, and wood—the last indicating that there was a shortage of fuel for winter fires. Bread was no longer openly sold in the market places because unpaid soldiers would seize it by force, and armed guards needed to accompany the bakers bringing bread to the houses of gentlemen and citizens.

Despite the deprivations suffered by the citizens, soldiers, and countryfolk in the city, the Imperial army, under winter skies and in the open, with plague well established in the ranks, faced disintegration. Collalto and the other imperial generals, Galasso and Aldringhen, had tried to take the city in several different ways. Attacks on the Cerese and S. Giorgio fronts had failed; in each situation the defender's fortifications easily trumped the attacking Imperial forces. On the S. Giorgio front the two cannon mounted in the Giardino bastion completely flanked the long S. Giorgio causeway. In a classic example of the power of well-positioned cannon firing in enfilade against a mass of men, these cannon instantly decimated the assault along the S. Giorgio causeway with a cloud of point-blank musket shot. On the Cerese front the earthwork defenses built across the Isola del Te completely covered the marshy low ground to the west. Unable to assault this quarter with saps and other siege techniques, Imperial forces limited themselves to some inconsequential skirmishes. These tests found the defenses too stiff for
further attack. Attempts to weaken the city’s defenses through bombardment had failed as well. The wide lakes made it impossible to effectively batter the city; the attempt to bombard the Porto citadel was equally ineffectual. With assault and bombardment ruled out, the Imperial forces had turned to trying to blockade and starve the city. Damming the Mincio had raised the level of the lakes, temporarily denying the city bread as the rising waters covered the city’s mill wheels, but the destruction of this dam by a daring sortie party ended that strategy and served notice that the defenders would not passively await their fates. Further raids, plus perhaps the knowledge that Venetian forces could still sneak into the city, even after the fall of Goito, demonstrated the ineffectiveness of a blockade strategy. To take Mantua a much longer, much tighter blockade would be needed. In December of 1629, with several months of winter rains and spring floods to be expected before good campaigning weather, such a siege would break the besiegers before cracking the city.

The Imperial commanders lifted their siege of Mantua in the last week of December. Over that week the Imperial troops gradually abandoned their positions before the city, using night as cover. By Christmas day the Imperial troops, now ragged, who had three months earlier burned and looted their way to the gates of the city, were all on the march towards winter quarters to the south and west of the city of Mantua. As they retreated, the Imperial troops levied one last contribution on the inhabitants who had quartered them during the two months of siege. As usual, there was the peasants’ revenge: the long-oppressed countryfolk, seeing the companies and regiments depart, murdered what straggling soldiers they could. There was official revenge as well. On December 26 Duke Carlo personally led a raid of
horsemen against retreating Imperial units near Curtatone and Montanara. The next night a second raid struck Marmirolo. The raiding continued. On the night of January 15 the Gonzaga cavalry commander Trussa left the Predella gate with 200 troopers and ambushed a party of Imperial soldiers between Curtatone and Montanara on the Serraglio line, massacring 100. The initiative in the campaign seemed to have shifted. But the Imperial soldiers left something behind them in their retreat: the plague bacillus.

The failure of the 1629 Imperial siege of Mantua was a check, not a final defeat. Duke Carlo, his subjects, and his Venetian allies had won a respite. There would be a second siege. Meanwhile, the fortifications of the city needed repair and improvement, and diplomatic discussions continually sought peace on good terms. Nevertheless, what had seemed an irresistible invasion of the Mantovano in early November—with the Oglio line flanked and taken in a matter of days—had quickly bogged down in a formal and difficult siege of Mantua. As the dead piled on the S. Giorgio causeway attested, this city could not be taken by simple coup de main. The fortifications of the city of Mantua, both permanent (the Porto citadel, the Giardino bastion) and ad hoc (the earthworks on the Isola del Te), had withstood their first challenge. This was a victory won in part by the past Dukes of Mantua who had looked to the defense of their city as one of their most important obligations. The defenses of the Porto citadel, and elsewhere, were generations old by 1629; they still proved immensely valuable in the test of battle. As long as Mantua could not be taken, the Duke of Mantua could not be humbled. His fortress-cities—Mantua and Casale—were the guarantors of his political and dynastic independence.
Conclusion

To paraphrase Napoleon, the Spanish enterprise to deny the Duke of Nevers his accession, and take Casale, was worse than wrong: it was a mistake. Don Gonzalo de Cordoba's December 25, 1627 pact with the Duke of Savoy to partition Montferrat touched off a chain of events that rocked the Spanish position in North Italy. There were several reasons why Spain should have let the Duke of Nevers assume his family inheritance without confrontation. Opposing the Duke of Nevers might needlessly upset the Empress, his cousin; Spain's existing military commitments were straining enough. Most importantly, there was no logical reason to fear the Duke of Nevers as "French." As a great noble of extremely distinguished family (the Gonzaga were of equal lineage to the Habsburgs; the Paleologhi were far greater), who just happened to possess estates--the Duchies of Nevers and Rethel--and offices (the governorship of Champagne) in France, Carlo Gonzaga should have been courted and respected as an independent prince, not mindlessly labeled the lackey of the King of France. Spain could understand this: on May 3, 1629 the government of Olivares and Philip IV made a treaty with the Huguenot grand the Duke of Rohan as though he was a prince independent of the King of France. The Duke of Nevers' political past, particularly his behavior during the regency of Maria de' Medici, showed a haughty independence equal to that of the greatest Huguenot princes. Why would the Duke of Nevers blindly follow the policies of the King of France outside France while he insisted on his particular rights and privileges, independent of the King, within France? The greatest French nobles of the day were notoriously headstrong and fractious. If Spain could help bend, through
diplomacy, the king's own brother Gaston into rebellion, why couldn't they accept the Duke of Nevers as Duke of Mantua and Montferrat? The answer was, Spain could and did. It was only Don Gonzalo's foolishly aggressive pact with the Duke of Savoy that turned Madrid away from a policy of accepting Duke Carlo of Mantua and Montferrat. Olivares' decision to accept Don Gonzalo's action, in hopes of a windfall in the form of Casale, the greatest citadel of the region, reversed the cautious but sensible earlier decision to accept the new Duke of Mantua.

This mistake was fatal; after failing to seize Casale at the outset, Spain never really regained the initiative. The sticking point was the formidable fortifications of Casale. Olivares compounded the original mistake of supporting the attempt on Casale by not properly supplying Don Gonzalo with the necessary men, money, and equipment. Meanwhile, from March to August, the Spanish siege of Casale was ludicrously incapable of taking the city. Only in late summer did Spain authorize the necessary support in a vain effort to make a bad decision sound. When these forces arrived at Casale in September and October, a real blockade was at last possible, but the coming of wet weather in the fall and winter made the attempt impossible. As usual, the typically badly paid troops suffered in their trenches; and the outbreak of plague in Milan crowned Don Gonzalo's troubles. With the fall of La Rochelle at the very end of October, and the siege of Casale merely marking time, the initiative passed to France. Richelieu and Louis XIII did not let the moment pass: merely by defeating the Duke of Savoy at the pass of Susa in early March, 1629 they broke the Hispanic-Savoyard alliance, lifted the siege of Casale, humiliated Don Gonzalo and his masters Philip IV and Olivares, and organized a comprehensive anti-Habsburg alliance of France, Savoy, Venice,
Mantua, and even the lukewarm Pope Urban VIII. Thus a momentary burst of opportunism, namely Don Gonzalo's scheme to seize Casale, became a nightmare for the King of Spain; a situation where further effort had to be expended to recover a position in grave threat of total collapse.

The imperial invasion of the Duchy of Mantua in 1629 proceeded much like the Spanish invasion of Montferrat in 1628. Easy initial progress turned to stalemate. After taking the Oglio line, the Imperial army balked before the tricky island site and formidable defenses of Mantua. In late October 1629 the entire Duchy of Mantua seemed about to fall; by Christmas a rotting Imperial army had to abandon the siege of Mantua for the safety of winter quarters. For Ferdinand II there was little wisdom in undertaking this campaign. Attacking Mantua only added a new theater to the Emperor's many actual or potential military fronts: Bethlen Gabor in Hungary, Gustavus Adolphus and Christian IV in the Baltic, and the German Protestants, defeated but still dangerous.

By December of 1629 the Habsburgs could well rue the decision of the Governor of Milan two Christmases previous: to attack the Duke of Mantua out of hand, in expectation of an easy campaign. That easy campaign had turned into two hard, expensive, and fruitless years of war. The reputations of both Philip IV and Ferdinand II, as well as the Habsburg presence in Italy, were now tied to this war against the Duke of Mantua. That war had brought France into Italy as a conqueror--and without having to fight, only threaten to fight. While Habsburg treasure was wasted against Montferrat and Mantua, Richelieu and Louis XIII availed themselves of a final campaign within France to mop up the last armed Huguenot opposition. France was now stronger; Spain and the Emperor weaker. And successful French interference
in Italian affairs had culminated in a grand anti-Habsburg alliance of Venice, France, and Mantua. All this flowed from the resistance of Casale and Mantua. From the perspective of Spain and the Emperor, restoring the disintegrating Habsburg position in North Italy required a successful conclusion to the Mantuan war, and that meant taking the Duke of Mantua's two great fortress-cities. Until Mantua and Casale fell there would be no hope of chastising the Duke of Mantua; a political victory demanded the seizure of his well-fortified capitals. Thus both Habsburg monarchs committed themselves to second sieges of Casale and Mantua.

1 For a discussion of the terms of the December 25 pact see Romolo Quazza, *La guerra per la successione di Mantova e del Monferrato* (1628-1631) (Mantua 1926) vol. I 37-38.

2 The government in Mantua communicated Vincenzo II's will to the Emperor and Empress in separate correspondence dated February 12. These are in the minutes of the Mantuan chancellery, ASMn, AG, 2309.

3 Quoted in R. A. Stradling, "Prelude to Disaster; the Precipitation of the War of the Mantuan Succession, 1627-29," *The Historical Journal* 33 (1990) 772.

4 The Spanish reaction to Don Gonzalo's alliance with Savoy and plan for the partition of Montferrat is reconstructed and ably analyzed in R. A. Stradling, "Prelude to Disaster; the Precipitation of the War of the Mantuan Succession, 1627-29," *The Historical Journal* 33 (1990).

5 For these figures, Romolo Quazza, *La guerra* vol. I 61.


7 Viadana, on the western border of the Duchy of Mantova, was the center of Duke Carlo’s intelligence operation regarding the intentions of the Governor of Milan. Daily reports from Viadana of Spanish forces mustering at Pavia hinted at an invasion of the Duchy of Mantua as much as an invasion of
Montferrat. As early as January 6, 1628 there was notice of a build up of munitions at Pavia. ASMn, AG, 2782, 27-28, January 6, 1628.

8 Letter from the Gonzaga agent at Genoa, Marquis Luigi Centurione, to Alessandro Striggi, Grand Chancellor of Mantua, March 4, 1628. ASMn, AG, 789.

9 These dispositions are recorded in a letter from Sennazaro, Gonzaga agent at Milan, to Duke Carlo at Mantua, March 11, 1628. ASMn, AG, 1759.

10 For the surrender of Trino see Romolo Quazza, La guerra vol. I 144-145.

11 The defense of Nizza Monferrato is described in an anonymous letter dated June 20, 1628 and included with Parma's dispatch to Mantua from Venice. ASMn, AG, 1559.

12 This incident was reported by Sannazaro from Milan in a letter to the Duke of Mantua, April 5, 1628. ASMn, AG, 1759.

13 This undated, anonymous sketch indicates Don Gonzalo's camp and the attacking siege works of 1628. ASMn, AG, 50.

14 Quazza asserts that the Spanish under Don Gonzalo "were placed so that they encircled the city from three sides," but gives the same dispositions as the sketch in the ASMn: "the Spanish on the side of the Po ... the Neapolitans to the right of the Capuchins, the Italians towards the hill." Romolo Quazza, La guerra vol. I 118. These positions were all to the east of the city, almost exactly as indicated in the sketch; Casale was hardly encircled, only confronted on one side.

15 Romolo Quazza, La guerra vol. I 117 n 3. This request was not necessarily a sign of weakness: Duke Carlo asked his ambassador to Venice, Parma, to request permission for the Venetian engineer Tensini to inspect the Gonzaga fortifications in Mantua. May 15, 1628. ASMn, AG, 2309. Tensini would eventually serve at Mantua, after Venice openly decided to support Duke Carlo.

16 ASMn, AG, 50.

17 For the truce negotiations see Romolo Quazza, La guerra vol. I 178-182. Among the possibilities supposedly under discussion was the immediate
trade of Montferrat for Cremona—the final revival of that project. Quazza elsewhere avers that at this time the Duke of Savoy was also secretly aiding the defenders at Casale by suppling food and munitions; Romolo Quazza, Preponderanza Spagnuola (1559-1700) (Milan 1950) 461. Such duplicity was well within the Duke's character.

18 These preparations are discussed in Romolo Quazza, La guerra vol. I 66 n 1.

19 Chancellery minute dated April 12, 1628. AS Mn, AG, 2309.

20 For Duke Carlo's money raising efforts see Romolo Quazza, La guerra vol. I 134-135.


23 For Duke Carlo's early plans regarding intervention from France see Romolo Quazza, La guerra vol. I 66 and 130-131. At this time Richelieu believed this force to be about 12,000 infantry and 1,200 cavalry. "Advis que le Cardinal donna au Roy à son retour de Paris à La Rochelle" of about April 20, 1628. In Pierre Grillon, Les Papiers de Richelieu vol. III 1628 (Paris 1979) 208.

24 These nobles were Blacon, d'Avancourt, La Ferté-Imbault, and de Marolles. Chancellery minute, May 20, 1628. AS Mn, AG, 2309.


26 The new and larger siege forces are described in a letter from the Frenchman Antony Gilles, Gonzaga agent at Genoa, to the Duke of Mantua, September 28, 1628. AS Mn, AG, 789.

27 Only in early August did the government in Madrid realize that Casale was not about to fall at any moment, and that Don Gonzalo would need sizeable reinforcements. R. A. Stradling, "Prelude to Disaster; the Precipitation of the War of the Mantuan Succession, 1627-29," The Historical Journal 33 (1990) 783.
Letter from Parma in Venice to the Grand Chancellor Alessandro Striggi in Mantua, October 15, 1628. ASMn, AG, 1559. Parma reported that new Spanish troops were coming from Barcellona, Naples, Sicily, and Flanders.


Letter from Faenza in Rome to Duke of Mantua, October 24, 1628. ASMn, AG, 1034.

Letter from the Duke of Mantua to ambassador Priandi at Paris, November 10, 1628. ASMn, AG, 2310.

Letter from Sannazaro at Milan to the Duke of Mantua, December 6, 1628. ASMn, AG, 1759.


As early as February, 1628. At that time Duke Carlo hoped for a diversionary attack on Savoy by Marshal Créqui with 6,000 infantry and 1,000 cavalry. Romolo Quazza, La guerra vol. I 66.

Chancellery minutes, April 26, 1628. ASMn, AG, 2309.


For the idea that Spanish and French policy in late 1628 hinged on a "race for time as to which of the besieged cities, Casale or La Rochelle, would be first to fall," J. H. Elliott, Richelieu and Olivares (Cambridge 1984) 96.

Quoted in R. A. Stradling, "Prelude to Disaster; the Precipitation of the War of the Mantuan Succession, 1627-29," The Historical Journal 33 (1990) 783.

Opposition to intervention in Italy at court centered on Cardinal Bérulle and Michel de Merillac. A. Lloyd Moote, Louis XIII, The Just (Berkeley 1989) 200-204.
Letter from Louis XIII to the Duke of Mantova, November 4, 1628. ASMn, AG, 628.


Letter from Louis XIII to the Duke of Mantua, February 1, 1629. ASMn, AG, 628.

Letter from Captain Trussa, commanding the cavalry, February 21, 1629. ASMn, AG, 1759.

Letter from Captain Giacomo Filippo Ratazzi, February 26, 1629. ASMn, AG, 1759.

An interesting anonymous painting of the combat at Susa (with Louis XIII—in a hat with a great white plume suggestive of his father's famous *panache*—and Cardinal Richelieu conversing on horseback in the foreground) is in the Musée national du château de Versailles. Clearly a commemorative piece (part of a series of contemporary paintings celebrating Louis XIII's successful battles and sieges) it well depicts the steep ground and narrow defile at Susa, with the road completely blocked and overlooked by fortifications. These, in the painting, are being taken by storm.

Including an end to the state of war between England and France (a consequence of the La Rochelle war) agreed to in April; this agreement is what is commonly known as the Peace of Susa, 1629.


Romolo Quazza, *La guerra* vol. I 337.

Romolo Quazza, *La guerra* vol. I 335.


Where in 1630 the Duke of Rohan would command a Venetian army preparing to support the Duke of Mantua in the continuing Mantuan War.
Extensive arguments over the preliminaries to a general peace eventually exasperated the Emperor and his government: the agents of the Duke of Mantua objected to the location of a peace conference, to the inclusion or exclusion of various parties, and finally, as to which power should be given control of the fortresses of Mantua and Montferrat pending the Emperor's decision. The Emperor suggested Spain, while the Duke of Nevers suggested one of the secular Electors of the Empire, particularly Brandenburg—a prince who might well be considered less than an ally by the Emperor. Such debates could be extended endlessly, especially considering that couriers needed to connect the various ambassadors at Vienna with their own capitals. For a meticulous discussion of the various diplomatic gambits see Romolo Quazza, La guerra vol. I especially 216-320.

A Colonel Farensbach, the agent of Gustavus Adolphus, was in Mantua in February of 1629—as the Emperor decided for military intervention—where he received a diamond belt from the Duke and letters to pass on to the King of Sweden and Bethlen Gabor, as that was Farensbach's next mission. Romolo Quazza, La guerra vol. I 317-318.

Through September the government in Mantua had no idea whether the Imperial army aimed at attacking Casale or Mantua. The Gonzaga ambassador in Venice, Striggi, feared that the Imperial and Spanish forces might combine, though friction between the imperial commander Collalto and Spinola made such a prospect difficult. Letter from Striggi of September 16, 1629. ASMn, AG, 1561. Also, especially considering the spreading pest and growing economic catastrophe that followed in its wake, and the size of the Habsburg forces, it is probable that it would have been impossible to feed such
a large (greater than 35,000 men) combined force concentrated at one location, either Casale or the city of Mantua.

61 ASMn, AG, 2309, January 5, 1628.

62 This book of papers was consulted on January 6, 1628, the day after the extensive council minutes of January 5 detailed the Duchy's response to a probable state of war. ASMn, AG, 1759, January 6, 1628.

63 Capilupi directly states, in the context of his narrative of September 21, that "the Duke [had] sent all his troops to the border with Cremona and the banks of the Oglio." Scipione Capilupi, "Memoria di molte miserie," in Raccolta di cronisti e documenti storici lombardi vol. II (Milan 1857).

64 ASMn, AG, 3590, 159. Though undated, this sketch map is currently filed with documents from the first week of September, 1629.

65 ASMn, AG, 3590, 154-155, dated only "1629." However, this document did assume that several thousand Venetian troops would be present.

66 ASMn, AG, 3590, 138-140, November 3, 1628. These returns show 472 men at Viadana, 606 at Canetto, and 792 at Gazzuolo. At this time Gazzuolo was considered defended by 1,000 men.

67 Letter from Striggi to Parma in Venice. ASMn, AG, 2785, August 3, 1629.

68 Letter from Striggi to Parma in Venice. ASMn, AG, 2785, October 27, 1629.

69 Francesco Tensini, La fortificatione, guardia difesa et espugnazione delle fortezze esperimenta in diverse guerre (Venice 1624).

70 This document is currently unfiled at the ASMn as a miscellaneous cartographic item. This sketch probably belongs in ASMn, AG, 2782 or 2783 as an illustration to a dispatch from Canneto dating from 1628 or 1629.

71 These cannon are mentioned in a dispatch of April 4, 1628. ASMn, AG, 2782, 106.

72 One troop return has survived, ASMn, AG, 2782, 259, September 3, 1628. The strengths of the four companies were: Colonel Vimes' company (terzo in the document) 368 effectives, 53 ill (amalati) for 421 total; Company of Baron
Gillio, 130 effectives, 21 ill, 151 total; Company of Count Montevuoli 185 effectives, 64 ill, 249 total; Company of Signore Santii 266 effectives, 37 ill. The grand total was 1,124 soldiers, 949 of them effectives (the document rounds this figure to 950 as the total reported effective strength.)

73 Capilupi reported that in May of 1628 the unpaid soldiers were already close to eating up the peasantry. Capilupi, "Memoria di molte miserie" 486.

74 ASMn, AG, 2782, 926. December 2, 1628.

75 Capilupi, "Memoria di molte miserie" 513-514.

76 Letter from Martinelli to Parma in Venice, October 17, 1629. ASMn, AG, 2785.

77 Capilupi, "Memoria di molte miserie" 515.

78 Earthworks were planned at Curtatone, Rochetta, Montanara and Buscoldo along the Serraglio. Letter from Grand Chancellor Striggi to Parma in Venice, October 1, 1629. ASMn, AG, 2785. In the context of his discussion of the events of late October, Capilupi remarks that the fortifications at Curtatone, Montanara, and Borgoforte were incomplete, obliging Duke Carlo not to try and defend the Serraglio line. Capilupi, "Memoria di molte miserie" 515. However, given the complete collapse of the Oglio defenses, with many—perhaps most—of the Gonzaga and Venetian allied troops lost (killed, captured, surrounded, or scattered) even if these defenses were complete there would not have been either the men or the time to prepare a defense at the Serraglio line.

79 Letter from Grand Chancellor Alessandro Striggi to Parma in Venice, October 3, 1629. ASMn, AG, 2785. Capilupi reported seeing 4,000 infantry and 400 cavalry pass through the city under "many captains and colonels." Scipione Capilupi, "Memoria di molte miserie," in Raccolta di cronisti e documenti storici lombardi vol. II (Milan 1857) 513.

80 Letter from Grand Chancellor Alessandro Striggi to Parma in Venice, October 27, 1629. ASMn, AG, 2785.

81 ASMn, AG, 2047 bis, 134-135, September 22, 1629.
One meticulous list survives, for the District of the Bear, the Contrada dell' Orso, as reported by Count Vincenzo Caffini on September 1, 1629. ASMn, AG, 3590, 163-168. There are actually two lists. The first records 129 civilians by name, identified as nobles, servants, shopkeepers, even one artist. A second tally of soldiers, apparently those quartered on the district, lists 76 men by name and unit or professional specialty. This suggests that when not at their posts the soldiers of the city garrison, even those of the citadel, were scattered throughout the town.

Capilupi, "Memoria di molte miserie" 513. Capilupi confirms that citizens, gentlemen, and merchants all worked on the fortifications at this time.

Quoted in Romolo Quazza, La guerra vol. I 472.

Romolo Quazza, La guerra vol. I 280.

ASMn, MCA, O-I, December 6, 1629.

Mantova Assediata Dall Essercito Imperiale Anno 1629 Prefa 1630, an anonymous contemporary engraving held in the Biblioteca Comunale, Mantua, album B4. This engraving, though dated to both the sieges of 1629 and 1630, actually shows the events of the first siege.

Capilupi, "Memoria di molte miserie" 517.

Capilupi, "Memoria di molte miserie" 518.

Capilupi, "Memoria di molte miserie" 519-520.

Capilupi, "Memoria di molte miserie" 525.

Capilupi, "Memoria di molte miserie" 521.

Capilupi, "Memoria di molte miserie" 522.

Capilupi, "Memoria di molte miserie" 525.

Capilupi, "Memoria di molte miserie" 521.

Romolo Quazza, La guerra 490-493.
97 Capilupi, "Memoria di molte miserie" 526.

98 Two soldi per libbra of meat and forty or fifty scudi per cartload of hay. Capilupi, "Memoria di molte miserie" 528.

99 Capilupi, "Memoria di molte miserie" 525-526.

100 Capilupi, "Memoria di molte miserie" 528.

101 Capilupi's chronicle states that the besiegers lifted their siege on the night of the Christmas vigil, but that seems to be an overly dramatic observation. Capilupi, "Memoria di molte miserie" 529. The individual units of the Imperial army more probably moved from the siege for winter quarters over a period of up to a week, starting around December 22 or 23. By December 25 the siege was lifted. Romolo Quazza, La guerra 525.

102 Letter from Soardi, Gonzaga ambassador at Vienna, to the Duke of Mantua. ASMn, AG, 496, January 26, 1630. Soardi reported that such raids made peace talks difficult.
CHAPTER VII

THE WAR OF THE MANTUAN SUCCESSION, PART TWO:
THE SECOND SIEGES OF CASALE AND MANTUA, 1629-1630

The Second Siege of Casale, 1629-1630

For Spain, the accord agreed to by Don Gonzalo, the Governor of Milan, on March 11, 1629 was unacceptable. Don Gonzalo, of course, had had little choice: after the French military victory at Susa in the first week of March, with the Duke of Savoy's opportunistic switch to the French camp, Don Gonzalo's choices were between securing a cease fire or risking the total collapse of Spain's position in North Italy. But from the perspective of Madrid, Don Gonzalo's acquiescence in the face of a threatened French relief march on Casale was a diplomatic defeat for Spain almost as disastrous as a military one. The eventual diplomatic consequences of successful French intervention, and the successful Gonzaga defense of Casale, showed in the anti-Habsburg league of April. With Venice and France formally allied to Mantua, much more was now at stake than the succession to the Duchies of Mantua and Montferrat. For Spain, the Spanish Road and all it supported was now at risk: Milan, the Franche-Comté, the Netherlands, subsidies for the Emperor. Without Spanish and Italian soldiers, and without Spanish silver, the Habsburg position in northern Europe could crumble. In Madrid Olivares felt lost at sea, all his plans for Europe scuttled by this one set-back in 295
North Italy: "I have quite lost my navigating aids, my quadrant and my compass." Philip IV felt personally humiliated by French success. Goaded by the example of Louis XIII at Susa, the King of Spain even considered taking personal command of the war in the Netherlands or North Italy. In June of 1629 the King replied to a memorandum sent him by Olivares asking for the clarification of the King's policy desires. The King replied that "it is my aim and intention that not a single Frenchman should remain in Italy" and "my intention is to get my revenge on France for its recent behavior." Olivares therefore repudiated Don Gonzalo's actions, recalled the Governor of Milan, and appointed Ambrogio Spinola as his replacement with the specific task of taking Casale. The war in Italy would now be Spain's primary focus; even the Netherlands would have to wait. Spanish pressure on the Emperor demanded that he support his cousin the King of Spain in Italy; the result was Imperial intervention and the first Imperial siege of Mantua. Meanwhile, Spain would tackle Montferrat for the second time. Olivares and Philip IV hoped that Spinola, the hero of Breda, would reverse the diplomatic disasters of early 1629 with a conspicuous Spanish military triumph. If anyone could take Casale, he could. A successful siege of Casale, in concert with an Imperial seizure of Mantua, would repair Philip IV's damaged reputation, demonstrate the limits of French power in North Italy, and serve notice to the princes of Italy that the Habsburg's were still to be feared and respected.

Spinola would not actually arrive in Italy until August 19, 1629. His sensational landing at Genoa, his family home, signaled the beginning of preparations for a new round of war in North Italy. Meanwhile, before a triumphant Louis XIII recrossed the Alps (he and his army had hardly even entered Italy), the French King underlined his commitment to Italy by
dispatching Marquis Toiras to Casale with a flying column to garrison Casale. This, for the time being, would be all that France could spare; the final Huguenot rebellion required the return of the royal army and the leadership and attention of the King and his first minister.³ It was this distraction, a distraction in part caused by Spanish subsidies for the revolt of Rohan, that gave Spinola a chance to besiege Casale without the threat of French intervention. Spain hoped that the situation in Italy could be reversed without the risk of a general war with France.

The French soldiers sent to reinforce the Gonzaga garrison of Casale served as a concrete symbol of Louis XIII's pledge of support to Duke Carlo of Mantua. Their commander, Toiras, was an excellent choice. The Marquis of Toiras had vigorously and successfully defended the fort of St. Martin on the Ile de Ré against Buckingham during the English intervention at La Rochelle. Toiras was therefore personally experienced with siege warfare on the grand scale, and could be counted on to provide Casale with competent and tenacious leadership in any siege. His presence in Casale was France's equivalent to Spain making Spinola the Governor of Milan. Both Spain and France had made Casale--its fall or its resistance, respectively--the foundation of their policy in North Italy; though the two states were technically at peace, both Olivares and Richelieu were willing to risk a military confrontation. The cold war between France and Spain seemed about to explode.

Toiras was a symbol of Louis XIII's commitment; Spinola of Philip IV's. To represent his personal commitment the Duke of Mantua sent his youngest son, the Duke of Mayenne, to Casale from Mantua. The governor of Casale, Guiscardi, had held the young Duke over the font at his christening; as the prince's godfather Guiscardi's obligations to the Gonzaga dynasty and
to the defense of Casale were clear. Unfortunately, from Mantua Duke Carlo could send to Casale no more material sign of his concern than his son. Even that was difficult. Traveling incognito with a small escort, the Duke of Mayenne was captured by a Spanish patrol and briefly held before escaping and eventually reaching Casale. This harrowing personal journey illustrated the impossibility of Duke Carlo's supplying Casale—even if he had the cash and materials to spare, which he did not. Separated from Montferrat by a hostile Spanish Lombardy, the Duke of Mantua required the aid of his French and (nominal) Savoyard allies to reinforce and restock his great fortress. Luckily for Duke Carlo, this aid was considerable.

The French forces under Toiras now formed a little over half of the garrison. Toiras' command was of five weak regiments commanded by Mouchat, Pompadour, Villeroy, La Grange, and Ribérac. These reinforcements were appreciated; in late May of 1629 the garrison of Casale totaled only 1,500 French infantry, 250 French cavalry, and 1,000 Gonzaga troops remaining from the first siege. Under 3,000 troops total defended the city and citadel. Yet though slight in total, these French troops were a critical reinforcement; without them, the defense of Casale might well have been impossible. Besides French reinforcements, in early 1629 Casale received war supplies from the Duke of Savoy as part of the terms agreed to at Susa in March. In late April and May 3,000 mule-loads of slow-match, 2,000 of lead, and two barge-loads of grain reached the city. These were essential supplies for the garrison. Later in the year, after the Spanish invasion of Montferrat and the Imperial invasion of Mantua, Duke Carlo Emanuele would once again slither out of his treaty obligations, but in the spring of 1629, with
France appearing strong and Spain looking weak, the Duke of Savoy honored his agreement and considerably helped the resupply of Casale.

The defense of Casale was, after all, in Carlo Emanuele's best interest; an independent Savoyard foreign policy saw as its ultimate goal the weakening of both French and Spanish power in the Po Valley. Had the King of Spain taken Casale, then further Savoyard expansion in Piedmont could be easily checked. Similarly, the Duke of Savoy had no use for a French occupation of Casale, either. The long-term interests of Savoy would be best served by an eventual Gonzaga victory, but not one strong enough to allow the eviction of the Duke of Savoy from those towns in Montferrat occupied since 1628. That fact explains the Duke of Savoy's duplicitous policy throughout the war.

The French garrison and Savoyard supplies were critical supports of Duke Carlo's war effort in Montferrat. Duke Carlo in Mantua was ferociously strapped for cash; the cupboard was bare and the Venetians were doing very little to support their ally. What sums were available were used for the defense of Mantua. Nothing was available for Casale, even if it could have been transported to Montferrat. The Duke in Mantua did what he could to provide cash for the defense of Casale. In mid-August, at about the same time that Spinola first arrived in Milan, Duke Carlo ordered the confiscation of the property of all Milanese in the Duchy of Montferrat. A few days later another decree authorized the minting of money in Casale--but from what is unclear. Given Duke Carlo's pressing poverty, this currency, if it was actually minted, must have been copper of little intrinsic value. The inflation of a city under siege may have begun even before the onset of
hostilities. Eleven months later the city under blockade would once again resort to siege money.

The preparation of Casale for a new siege reflected the obvious designs of the new Governor of Milan, Ambrogio Spinola, and the Emperor for a new round of fighting in North Italy. At this time the German and other Imperial troops assembling in the Valtelline were not obviously preparing for an invasion of the Duchy of Mantua. In late summer there was a real fear that Collalto and Spinola would combine for a massive invasion of Montferrat and a truly gigantic siege of Casale. Only when war broke in late September was the Habsburg plan for a simultaneous invasion of Montferrat and Mantua made clear. Over the late summer and early fall of 1629 Spinola ardently prepared a large new Spanish army for the invasion of Montferrat. In August, six weeks before hostilities, a Gonzaga agent in Milan reported that Spinola's force totaled 27,310 infantry and 2,330 cavalry.10

By the standards of the day, the Spanish army in Lombardy was the population of a good sized town. But unlike a town, an army laying siege was unproductive and entirely un-self-supporting: food, gunpowder, munitions, forage, and every other material need would have to be supplied from outside the battle zone. An army laying siege could not hope to support itself by plundering the countryside surrounding the target city or fortress: within a few weeks, a month or so at the most, the majority of peasants would be eaten out of hearth and home, and the wisest would have long ago fled with whatever livestock, food, money, and other possessions they could carry. Spinola needed to mobilize much more than an army. The Governor of Milan had to gather the agricultural surplus of a wide territory to sustain his army, over a long period of time, in the trenches before Casale. With the
example of Don Gonzalo's failed siege of Casale before him, Spinola had to mass supplies for an extended effort. Over October and November, after war was joined, 160,000 sacks of grain flowed to the Spanish army in Piedmont from Sicily, Naples, and Sardinia. It was this stockpile, with further installments, that fed the Spanish army while it labored to take Casale. Contrasting the size and needs of the besieging and besieged forces reveals the burden placed on the attacker. A small but parsimonious, fully stocked, and aggressive garrison, willing to sortie and defend every inch of ground, might well outlast a huge besieging force with only so much time before cash and supplies ran short. In the case of the siege of Casale, it would be an issue of whether a garrison of a few thousand could delay the assault of an army of 20,000 long enough for that army to disintegrate, or for a relieving army to arrive.

Spinola timed his assault on Montferrat to coincide with the Imperial invasion of Mantua. As the Imperial army under Collalto gathered against the duke of Mantua's Oglio defensive line, Spinola crossed into Montferrat and put in motion the first stages of a ponderous and slow-moving plan. As a veteran of the Low Countries war, where enormous sieges were the rule, Spinola planned on a gradual campaign. Unlike Don Gonzalo, who had dashed towards Casale only to find his army was under-manned and under-equipped for a siege, Spinola respected the defenses of Casale. Spinola's first move into Montferrat was with a force totaling only about one-half of his available troops. An anonymous letter from Casale to the Gonzaga ambassador to Venice described the initial Spanish invasion as being of 12,000 Italian infantry and 12 cannon. These crossed into Montferrat on September 29. The Grand Chancellor of Mantua, Alessandro Striggi, had already
written to the Duke of Mayenne detailing the overall strategy to resist Spinola. Striggi told the Duke of Mayenne to rely on the fortifications of Casale, and not waste his strength by defending the lesser places of the Duchy. These would be selectively defended, but not so as to uselessly weaken the defense of Casale.\(^3\) In fact, Spinola would not press to quickly take these outlying garrisons. When news of the Spanish invasion reached Mantua, the second half of the Gonzaga strategy came into play: beseeching the King of France to once more cross the Alps and effect the relief of Casale.\(^4\) The Gonzaga government spared no emotional appeal—a surviving cipher sheet reveals that one code-word for Cardinal Richelieu was Rolando!\(^5\) This two-part strategy depended on the fortifications at Casale to hold off Spinola long enough for Richelieu and Louis XIII to prepare and launch another army of intervention.

Spinola's strategy equally aimed at the long-term. Rather than rushing to begin a winter siege—as Collalto was doing against Mantua—the Spanish army in Montferrat systematically reduced the minor strong points of Gonzaga resistance. Meanwhile, intense diplomatic activity aimed at pulling Savoy back into the Spanish camp. With Spanish armies again in Montferrat and the Duchy of Mantua all but overrun with Imperial troops, the Duke of Savoy indeed began to see advantage again in cooperating with Spain. Over September and October, as Spinola's army closed in on Casale, the Duke of Savoy forbid agents from Casale buying grain in those parts of Montferrat occupied by Savoyard troops. Finally, on October 27, after long negotiations, the Gonzaga government in Casale secured permission to purchase grain in these towns.\(^6\) However, by this point Casale was all but closed off, the
Gonzaga government had little cash, and the license to purchase grain did little good.

Over the winter of 1630 Spinola held off from a premature investment of Casale. There were other difficulties for the Governor of Milan not directly related to the Spanish war effort. The plague already established when he arrived in Italy was now beginning to wreak its consequences; the countryside and city of Milan faced dirth and large-scale economic catastrophe loomed. These conditions made supporting the war effort in Montferrat all the more difficult. And Spinola needed men as much as supplies. Spinola's effort to raise yet another regiment for service against Casale led to disturbances in the streets of Milan in February.17 Earlier in the winter Spinola may have hoped that a successful Imperial siege of Mantua would eliminate the need for a campaign against Casale, but the abandonment of that siege at Christmas meant that Spinola had to prepare for action in the spring.

Spinola waited for the beginning of the campaigning season in the late spring of 1630. On April 30 he presided over a council of war that laid plans for a spring and summer siege of Casale. Spinola outlined a careful and comprehensive effort; the siege-lines would begin in mid-June, and he expected the citadel and city of Casale to fall by the end of September.18 The King of Spain's army was once again an international force, organized and generaled by "nations:" the "Italians" under Giovanni de' Medici; two Lombard units under Colonels Trotta (a veteran of Don Gonzalo's failed siege of Casale) and Sforza; the Spanish under the Duke of Lerma; the Germans under Richebourg. Total effectives were on the order of 18-20,000 infantry and 3-6,000 cavalry.19
In the first weeks of May Spinola moved to surround Casale by an even advance from all sides. On May 3 the Spanish force was within two miles of Casale after taking the hamlet of S. Giorgio. On the night of 26-27 May the various commands of Spinola's force crept up on the city under cover of darkness to take their positions for the coming siege; the citizens of Casale would awake to see the Spanish army completely surrounding their town. Spinola placed the Italians under Trotta and Sforza on the plain in front of the citadel; on the hills to the south-west of the city he put the Duke of Lerma with 1,500 Spanish, a unit of Sardinians, and a free-company of German cavalry; on another hill were 2,500 Germans in two regiments and several free companies with the Neapolitans under Filomarino and Camplattaro. The formal siege began immediately with the construction of fortified camps ringing the city.

Toiras delayed the Spanish siege works as long as possible by sending sorties against their compounds every night. These could only harass; there was no real delay to the beginning of the coming siege. Solidarity of soldier and citizen within the besieged city was an important consideration of the defenders. The Duke of Mantua directed the Duke of Mayenne to rally the inhabitants of the city to the support of the soldiers of the garrison. Though the citizens of Casale had a long tradition of bucking their Gonzaga master, in this situation there must have been no doubt as to the common danger. Everyone in Casale would have understood the consequences of defeat: if the city capitulated the victorious Spanish troops would be quartered and fed at the citizens' expense; if the city fell by assault this disaster would only be prefaced by an all-destructive sack. In either case the fall of Casale would be a personal disaster for the people of the city. There is no evidence of any anti-
Gonzaga fifth column working to undermine the defense of the city, despite Casale's long history of anti-Gonzaga sentiment.

Within Casale there were immediate and vigorous official efforts to coordinate the defense and provide for the maintenance of life as usual for as long as possible. On June 14 a proclamation of the Duke of Mayenne, signed by Guiscardi as well, notified the city that the Gonzaga garrison was combined with the French and that the entire city was under the military command of Toiras.23 Four days later, on June 18, another proclamation announced the minting of copper siege money.24 Since these coins were actually cast from a cannon—presumably a useless piece—they must have actually been bronze coins. These tokens would be redeemable at face value for specie at the end of the siege. The mint in Casale eventually produced 110,000 coins of various denominations. Though ersatz, siege money would allow the city to function economically; an unanswered question is whether the coins ever were redeemed by the government after the siege. The siege money of Casale became a great curiosity.25 Decorated with emblems including the lilies of France, the personifications of Justice (with scales) and Victory (crowned and with a palm), and the stylized six bastions of the Casale citadel, these coins must have become a daily reminder to the people of city and the citadel alike that they were linked by the needs of common defense. The mottoes on these coins reinforced the theme of defiance. This siege money, together with the Duke of Mayenne's various proclamations, made the siege a civic event and emphasized the common task of garrison, government, and citizenry in defeating Spinola's best efforts. Interestingly, these coins were in fact saved by the superstitious as talismans against the plague; somehow the power of the fortifications of Casale, or at least the power of the successful defense of the
city, was felt to be transmitted through these coins to protect against the other dangers of the day.

Spinola went about the work of taking Casale in methodical fashion; his council of war on April 30 had aimed at a capitulation by the end of September, after four months' siege. Spinola took his time. His approach avoided haste and depended on the cumulative effects of blockade and a progressively tightening noose of extensive siege works. First, after the construction of fortified camps ringing the city, Spinola connected these camps with lines of circavallation, shutting the besieged off from resupply and communication with the outside world. Ironically, this blockade was perhaps more an advantage for the defense than for the attack. Shutting Casale off from help in essence erected a quarantine barrier between the besieged and besiegers; while the plague ravaged the Spanish army, there is no evidence that it struck the defenders during the siege. Once the city was invested, the aggressive siege work began: the cannon began their battery, and the saps, the zig-zag assault trenches, aimed for the points of two bastions, S. Francesco and Gonzaga. A simultaneous attack aimed at the Castello on the western side of the city. Toiras responded with his own earthworks. To the west of the citadel a hornwork jutting from between the S. Barbara and S. Francesco bastions flanked the advancing Spanish trenches aiming for the point of the S. Francesco bastion. This hornwork also prevented the Spanish from taking the line of the western ala linking the city to the citadel; if taken, that rampart and ditch would have provided Spinola with a ready-made assault trench to the salient of the S. Barbara bastion. The ravelin between the Gonzaga and Madonna bastions (number 8 on Merian's plan) flanked the Spanish assault trenches aiming at the adjacent ditch salients. On the western
side of the city, between the assault trenches aiming at the citadel and that aiming at the Castello, Toiras had a complete line of earthworks dug in front of the existing city wall and ala. Such aggressive defensive fortifications kept the Spanish army at bay. As Spinola's siege ground forward in the summer of 1630, events in Mantua and on the Franco-Savoyard frontier affected the course of the war in Montferrat.

The Second French Intervention, 1630

Given Louis XIII's commitment to Casale, and the success of French intervention in 1629, a second French intervention in Italy was only a matter of time and opportunity. Here Spinola's cautious approach to the siege of Casale had one notable defect: that the longer it took to take Casale, and even begin the effective siege of Casale, the more likely that a French army of relief could arrive in time. After all, once Casale fell—and Spain had the use of the citadel—there was almost no chance of a French army crossing a probably hostile Savoy to besiege a Spanish fortress so close to Spain's areas of strength, Genoa and Milan. But the cautious, almost dilatory Spanish progress in Montferrat over the winter and spring of 1630 gave Richelieu all the time he needed for a second intervention in Italy.

Over the winter of 1630 Richelieu prepared for a new campaign in Italy and the relief of Casale. Negotiations with the Duke of Savoy through March failed to win the right of passage for the French army; despite his alliance with France, Carlo Emanuele repeatedly played both ends against the middle, happy to frustrate the polices of both France and Spain. On 19 March the French army crossed the frontier and on March 29 took the notable fortress of
Pinerolo commanding the entrance to Italy; Richelieu would not let this prize, a permanent gate into the Po Valley, out of his grasp. From the French seizure of Pinerolo the Duke of Savoy actively worked in concert with Spain and Spinola. Note that at this time Spinola had not yet begun the actual siege of Casale. On May 11 a French council of war decided the course of future operations. Richelieu determined to take all of Savoy proper (as distinguished from the other territories of the Duke of Savoy) and then move on to the relief of Casale. This would not only chastise the Duke of Savoy—who though the greatest instigator of the entire Mantuan mess was conspicuously unaffected by the resulting war—but would give France an established foothold on the Italian side of the Alps and provide an excellent springboard for a campaign down the Po to the relief of Casale. This project went forward posthaste, and a string of important Savoyard towns and fortresses fell in May and early June; Conflans, one of these, was in French hands on March 29th. From here the Gonzaga ambassador to France wrote to the Duke of Mantua with the good news that the relief of Casale was on its way. Between June 30 and July 6 the French army of Italy traversed the Mount Cenis pass, and was now poised for the completion of the campaign, a march on Casale. On July 10 the French scattered the army of the Duke of Savoy under Prince Thomas in a sharp encounter at Avigliano; this ended all Savoyard opposition to the French advance. The way to Casale was open.

Unfortunately for the French soldiers, the passage to Italy exposed them to the plague raging along the Po Valley. The units of the French army melted away as infection took its toll. Not just the common people suffered. On July 26 Duke Carlo Emanuele of Savoy died of the plague; and Spinola would die of it on September 25. The progress of the plague cast a
damper over all activity, diplomatic and military, through the summer of
1630. There was never any question of Louis XIII—a sickly man—taking
personal command of the army as it advanced on Casale.

Command went instead to Marshal Schomberg, who passed over the
Mount Cenis pass with substantial reinforcements on August 14 and marched
steadily towards Montferrat. Schomberg was the perfect choice to come to
Toiras' rescue. The two had cooperated in similar circumstances before; in
1628 Schomberg had defeated the English army on the Île de Ré when Toiras
had defended the island's St. Martin fortress. Schomberg had later directed
the siege works that successfully took La Rochelle. He understood the
operational strategy as well as the tactics of siege warfare, and his gradual
advance on Casale put enormous political as well as military pressure on the
Habsburgs to make peace or risk a direct confrontation with a field army of
the King of France.

The advance of the French army put a spur to diplomacy, as there was
now every risk of a full-fledged battle between the army of Schomberg and the
army of Spinola, still locked in the siege of Casale though Spinola himself
hovered near death. Such a battle would bring France and Spain to open war.
Even before the French took Pinerolo the Papal diplomat Giulio Mazzarini—
the future Cardinal Mazarin and first minister of France—had tried to
establish a truce between France, Savoy, and Spain to prevent a confrontation
over Casale and a larger war. In late July Mazzarini dashed between Casale
and the French headquarters, searching for a formula acceptable to
Schomberg, Spinola, Toiras, and the Duke of Mayenne. In September all sides
agreed to an armistice, first signed on September 4. The curious terms of
this agreement essentially gave a little over five weeks for the solution of the
crisis by diplomacy, and then allowed a further fifteen days for a military solution. First, there would be an immediate and general cessation of all hostilities lasting until October 15. During this period the French army would hold its ground and all siege operations at Casale would halt. Accompanied by an exchange of hostages, the Spanish army would be given the town and Castello at Casale; they would only be allowed to garrison these with a token force. The citadel would remain in the hands of Toiras. If a lasting settlement had not been agreed by October 15, hostilities would recommence and Schomberg would have until the end of the month to come to the relief of the citadel at Casale. If the French army could not rescue Toiras between October 15 and 31, then the whole town and citadel would pass to the King of Spain. It was hoped that word from the peace conference at Regensburg in Germany would reach North Italy in time to prevent a final armed confrontation. It did, but barely. Though by October 15 Schomberg knew of some settlement reached at Regensburg, he was convinced that the terms were unequal to the King of France and so he resolved to march on Casale just the same. Schomberg decided to position his French army on the far side of the Spanish siege works and advance on Casale from the east. The French army reached the vicinity of Casale on October 26 and deployed in battle array for the last few miles march; the Spanish army likewise prepared for combat. Incredibly, at this last minute Mazzarini convinced both sides to abide by the peace agreement reached at Regensburg on October 13. The terms of this peace just averted a battle of Casale, a battle that would have brought France and Spain to open war.
The Second Siege of Mantua, 1630

Following the retreat of Collalto's Imperial army in late December of 1629, the Duke of Mantua lost no time in repairing and bolstering the fortifications of his capital. The first task was the destruction of the Imperial siege works: a ditch and rampart with eight angled ravelins and two battery sites protected by gabions at the Borgo S. Giorgio suburb, placed there for the battery of the S. Giorgio causeway and the preparation of the failed assault along that causeway; on the Cerese front trench works with four ravelins and a large assault sap, the latter flooded (indicating the difficulties of digging trenches in an area with a low water table). Though there had been no Imperial siege works at the end of Predella causeway, on this front in early 1630 several religious houses and other buildings were destroyed to prevent their use in a future siege. This destruction, of Imperial siege works and suburban obstacles, cleared the ground for the construction of new defensive fortifications, and provided these new works with clear fields of fire.

Over the winter of 1630 an ambitious program of earthwork construction prepared for the possible resumption of the Imperial siege in the spring. The defenses of Mantua essentially had four sides of differing vulnerability. On the north-east the Porto citadel had weathered the slight attention of a distant Imperial siege battery in 1629 with no problem; even so, new earthworks, two hornworks, increased the defensive strength of the citadel. The three other sides of Mantua all needed greater attention. On the east the S. Giorgio Borgo had been given up to the enemy with no defense. Though the following Imperial assault along the S. Giorgio causeway had ended in bloodbath, the proper fortification and defense of the S. Giorgio
suburb would materially reduce the risk of attack from that side of the city. In particular, cannon at S. Giorgio would be able to fire on any Imperial siege batteries that attempted to repeat the previous siege’s cross-lakes battery of the Castello S. Giorgio and Reggia Palace area. On the south of the city were the now one-hundred year old walls of Beccagutto facing the Isola del Te and Cerese. On this front the successful earthworks of the previous campaign could be bolstered and otherwise improved. As this was the water-bound city’s widest land front, this is where an Imperial attack might most be expected. On the north-west was the Predella gate and short causeway. Here the lack of any modern fortifications demanded a major earthwork construction effort.

A remarkable miniature water-color map of the defenses of Mantua (figure 12) shows both the existing permanent fortifications of the city and the full program of earthworks and new fortifications planned during the winter of 1630. Because of the very small size of this map, only about 5 by 7 1/4 inches, it could only have been a *vade mecum* carried by a ranking defender, the Venetian engineer Tensini or perhaps even Duke Carlo himself, as a guide to the city’s defenses. This full program was ambitious indeed. Only the Porto citadel (M) shows no new works (though improvements to the citadel, two hornworks, were indeed proposed and made over the winter of 1630). The city proper (A) was to receive several new bastions: halfway along the western wall (A1) and at the Predella gate (A2); a new bastion (A3) to dominate the end of the Molini causeway; a second bastion (A4) flanking the S. Giorgio causeway; a bastion halfway along the lower lake (A5); three new bastions (A6) at the south-east corner of the city (A7-9); and Alessio Beccagutto’s century-old artillery tower would finally be made an angle
bastion (A10). Given their locations, between the lakes and existing walls, these bastions (A1-10) would have to have been of masonry construction—they could hardly have been part of the crash program of earthworks built over the winter of 1630. The S. Giorgio suburb (L) would be rebuilt with several bastions and paired half-bastion (hornwork-like) fronts to lie completely behind a narrow watercourse. On the Cerese and Te fronts the earthworks of the 1629 siege (N) would be replaced by a more sophisticated line of earthworks behind the southern branch of the Mincio. These earthworks (X) would include hornworks (X1 and X4) guarding causeways to the mainland connected by two bastion fronts (X2 and X3). The Palazzo del Te (Y) would receive its own hornwork (Y1) and half-bastion (Y2). Apparently the marshes on the western side of the Isola del Te, facing the Pajoulo lake, were considered inviolable. On the western side of the city, to this time perhaps Mantua's weakest front, a narrow earth dike would be bolstered by two ravelins (Z1 and Z2) and the Predella causeway would receive an indistinct work (Z3) on the city side and a hornwork (Z4) on the far side. This was a very ambitious program, and it anticipated the possibility of being able to refortify Mantua over an extended peace as well as preparing the city for an immediate second siege. Considering that German troops were still inside the Duchy (along the Po and Oglio) over the winter of 1630, the emergency at hand demanded the immediate construction of the necessary earthworks.

In February a contract with one Benedetto Guarnieri described the work to be done outside the Predella gate in exacting detail over eighteen clauses—yet these details give only a vague idea of the form of the fortification to be built. The second clause of this contract explains why so few written descriptions of contemporary fortification projects, especially earthworks,
survive: "the artillery platform will conform to the model." This document directed the builder, Guarnieri, to pay attention to the Duke's engineers in all particulars of construction. Most of the clauses detail the costs and sources of labor and the type of work to be done. Ditches needed digging, trees would be removed, and the contractor would supply his own tools. Fascines, bundles of brushwood used like sandbags, would be made from trees on the grounds of nearby monastic communities. To transport these fascines, carry other materials, and grade earth, for every cart with two pair of oxen and two men the contractor would receive twelve lire a day, and for every horse cart one scudo per horse. 150 laborers would be paid forty scudi each for the duration of the work, any boys proportionally less; they would also be given bread and firewood daily. Work would go forward every day—presumably also on the sabbath, given the threat. The contractor would receive compensation according to a complicated formula: five soldi for every cubic yard \((per\ ogni\ braccia\ cubo\ di\ misura\ Mantova)\) of platform or parapet raised up; ten soldi for every chain \((catena)\) of length completed. These figures would be calculated every week by one of the Duke's engineers and the contractor paid accordingly.

A second, similar document arranged two days later spelled out the contractor's obligations in the addition of two hornworks \((due\ Tennaglie)\) at the Porto citadel. At Porto the contractors were Giovanni Benaglio and Alessandro Nani, and each of them agreed to build one of the two hornworks. Once again a document falls short of describing the fortifications because the contractors were directed to work "in conformity with the model." These works were deemed large enough to employ 200 men, while the construction at Predella employed 150. The work at Porto was apparently
considered less difficult; the contractors would receive three soldi, not five, for every cubic yard of firing platform and parapet raised. Otherwise the eighteen clauses of this contract were practically identical to those detailing the work on the Predella front.

There is further information regarding the earthworks constructed on the far side of the Predella causeway. One of Duke Carlo's engineers, the Frenchman Baptiste de Soly de Vomainville, executed a design for a hornwork with a ravelin, or half moon, between the half-bastion flanks. In this interesting plan Vomainville superimposed his design over a map of the site before construction, showing three rough tracks branching off at the end of the causeway. This is a confusing document, with the hornwork to the lower left of the site apparently some second or lower level to the fortification. However, despite the ambiguities of the drawing, the design clearly indicates a state of the art earthwork defensive position. The two flanks of the hornwork would provide flanking fire to the front of the fortification, and the half-bastion faces and ravelin faces would provide further cross fire. This would be a very strong defensive position. The only remaining difficulty with this design is that it shows the hornwork bearing to the left, the south-west. This orientation would make the position blind on the opposite side, a seeming vulnerability, but this side of the site must have been judged safe from attack, perhaps because the soft ground near the river would prevent trench work.

These February contracts reveal only a small part of a very careful scheme by the great Venetian military engineer Francesco Tensini for the defense of Mantua. His autograph report suggesting improvements in the defenses of the S. Giorgio front, made on February 5, 1630, is the sole
surviving written description of any part of that program.\textsuperscript{43} This document is an explanation of a labeled plan of the S. Giorgio defenses; that plan is now unfortunately lost. This loss compromises the value of Tensini's report, except that the fortifications he describes conform well to the surviving miniature watercolor plan of the entire city's fortifications. Also, the formal comparison of these documents suggests that the water-color map (figure 12) is the work of Tensini.\textsuperscript{44} Therefore, it is possible to conclude that the water-color map which gives such an excellent overall view of the fortifications of Mantua actually describes Francesco Tensini's plan for the entire refortification of the city. The date of Tensini's description of the defenses for S. Giorgio, February 5, suggests a further conclusion: that the two surviving contracts for construction work, at Predella and at the Porto citadel and dated to February 11 and 13, are examples of Tensini's plan put in action.\textsuperscript{45} This would have required the supervisory direction of several junior engineers; Vomainville among them. Vomainville's plan for the hornwork with ravelin at the Predella gate in fact complies with Tensini's principles of fortification—though that similarity does not guarantee Tensini's authorship, of course.\textsuperscript{46} At the very least, what is clear is that in February of 1630 there was a major effort to substantially rebuild the fortifications of Mantua in earth, and that Tensini participated in, and probably directed, that effort. On all four faces of Mantua—the Porto citadel, the S. Giorgio suburb, the Cerese and Te front, and the Predella causeway—new earthwork fortifications prepared the city for the imminent resumption of the Imperial siege.

The winter of 1630 saw the reinforcement of the garrison of Mantua and the city's resupply as well. On January 29, only days after the Imperial evacuation of the first siege, a Venetian convoy of 400 wagons escorted by
1,000 cavalry and 1,000 infantry arrived at Mantua with wine, oil, gunpowder, and 3,000 sacks of grain. Another convoy arrived on February 8. Symbolic assistance arrived from the King of France as well: the Marquis of Coeuvres arrived in January to help manage the defense of the city. Imperial cavalry patrols tried to intercept these shipments and reinforcements, and the winter and spring saw a little war of skirmish and ambush in the countryside of Mantua. The peasants joined in, massacring isolated detachments of Germans whenever they could. Meanwhile, the Imperial army prepared for a second siege of Mantua.

The Imperial army's efforts, however, were only a secondary threat to the people of Mantua and Duke Carlo's political and military resistance. The plague, far more than any offensive Imperial action, decimated garrison and citizenry, and in the end made the city indefensible, despite the natural strength of Mantua's site and the efforts to protect the city with new fortifications. The raising of the first Imperial siege in late December, 1629 had only given the plague bacillus an opportunity to enter the city. In February 1630, 104 people died of the plague in their homes; the doctors of the city purposefully denied that it was the feared pest that killed them. Their denials could not stop the spread of the contagion. The first broad indication of the plague in Mantua came in March, when the cattle and horses kept in the open area of the Te began to die off in large numbers. Healthy animals sickened and then expired, all within four days. The people in the city were as crammed together as the animals on the Isola del Te; once established, infection spread like wildfire. Disease quickly overcame the citizens and refugees huddled in the city, their deaths carefully totaled in the records of the charnel-house: 1,176 dead in January, 1,088 in February, 1,100 in March, 2,243
in April, 3,978 in May, and 1,152 in the first week of June. For the rest of June, and the whole of July, there is no record: the pest was raging out of control, and the city, not just its defense, was collapsing. The doctors and barbers were of course among the first to die, and the priests as well; many people died without receiving the sacraments, an additional anguish. There was soon no place to bury the dead. Instead, corpses were piled in heaps or tipped into the lakes. This practice must only have added to the unhealthiness of the city. Religious processions, on April 7 and May 9, failed to check the tragedy. Mantua was dying, citizens and city alike. Fatalities doubled between March and April, and nearly doubled again between April and May. From this point the plague, and not any Imperial attack, doomed the city's defense. In mid-June an official census found the population half that of its previous, peacetime total of 30,000: 13,500 secular Christian citizens, 1,434 religious, and 1,700 Jews, only 16,624 total. And of that total, how many were able defenders? And how many would not soon succumb to the plague themselves? Without defenders, the city could hardly be defended.

In May, as the plague intensified, the Imperial army at last began their second siege effort. On May 15 an advance force of Imperial cavalry arrived outside the Predella defenses and burned the countryside on that side of the city. This action came in concert with an Imperial advance towards Venetian territory. This advance culminated in the defeat of a small Venetian army of relief, on May 29 at Villabuona. The Venetian forces, badly led and worse disciplined, disintegrated after the first Imperial cannonade. This defeat allowed Imperial scavengers to ravage not only the Mantovano, but much of Venetian territory in the Veronese up to Peschiera and Verona. Venice was no longer able—or willing, perhaps—to offer any real aid to its ally,
the Duke of Mantua. Collalto now quietly surrounded the city of Mantua, incapable of resisting actively because of the progress of the plague. From the middle of May to the middle of June the Imperial army simply watched the defense of the city disintegrate as garrison and citizenry succumbed to disease.

The eventual Imperial assault, beginning on the night of July 16, 1630, aimed simultaneously at all four sides of the city: against the Predella causeway, the Cerese and Te gates, the S. Giorgio causeway, and the Porto citadel. Had the garrison been intact, and the city therefore defensible, then these simple and unprepared headlong assaults would have failed miserably, witness the failure of the attack along the S. Giorgio causeway in the 1629 siege. But after the devastation of the plague, there could be only minimal resistance. The attack began, on the S. Giorgio causeway, at one hour past midnight on the night of July 16. Supporting an advance by German troops along the causeway, small boats carried other attackers across the lake. One boat with 80 German soldiers led this attack, crossing the lake without detection and landing on the city side of the lake. Here these troops seized the Giardino bastion after easily overcoming its defenders, a small band of Frenchmen, and then took the nearby gate in the city walls. The way across the S. Giorgio causeway was now secure, and Imperial troops rushed into the city, seizing the Reggia Palace compound and beginning the sack of the city. Meanwhile, on the other side of the city, Imperial troops similarly overwhelmed the defenders of the earthworks outside the Cerese gate. They took the gate intact, and the Imperial soldiery then poured into the city from that quarter as well. The defenders at the Predella gate held out longer; after five hours of combat the defense failed and then on this side, too Imperial soldiers entered the city. Only the Porto citadel remained. Here Duke
Carlo, his family, and the leaders of his government and military sought refuge. On July 18, further resistance being useless, Duke Carlo surrendered on terms. These gave up the Porto citadel to the Imperial army but allowed the safe passage of Duke Carlo with his family and retinue to the Papal States, neutral territory.\textsuperscript{59}

The Imperial soldiers pillaged the stricken city during the customary three-day sack on July 18, 19, and 20.\textsuperscript{60} This was their reward for the risks of assault and the privations of many months of campaigning; this sack was also a disaster from which the city never fully recovered during the reign of the Gonzaga. The Imperial troops utterly despoiled the ducal Reggia Palace; rampaging soldiers smashed crystal vases to get at the gold wires holding the crystal in place and ripped to pieces paintings, tapestries, silks, and cloths of gold too large to carry off whole. Soldiers looted the townhouses of the rich, and a few were even torched. The Jews suffered immense damage; the Imperial soldiers emptied the five warehouses in the Ghetto of cloths worth an estimated 800,000 ducats. The common people suffered as much as the privileged. The soldiers emptied the Monte di Pieta, the charity pawn shop for the poor. And it was not just movable property that was lost; the soldiers burned the workshops where silk was weaved and finished. Such destruction, together with the tremendous loss of population caused by the plague, ensured that the twin disasters of 1630, the plague and the sack, permanently crippled the city of Mantua.

On Sunday, July 21 Collalto brought the Imperial army to heel and appointed Giovanni Francesco Gonzaga--a partisan of the Gonzaga Duke of Guastalla--supreme governor of occupied Mantua. Colonel Aldringen would command the Imperial garrison. On July 30 the governor and Colonel
Aldringen presided over a meeting of representatives from every parish of the city; Mantua's suffering was not yet ended. Every household would have to provide contributions for the support of the Imperial army, now quartered on the citizens. The extent of the devastation caused Mantua by the sack and Imperial occupation is indicated by the length of the train of baggage that accompanied the Imperial army when it finally departed the city in September of 1631: 287 wagons of loot.

The plague and the pillaging of Mantua were terrible calamities for its citizens, and permanently reduced the wealth of the city. But despite the real magnitude of this disaster, the fall of Mantua, and even the surrender of Duke Carlo, did not finally or simply end the Mantuan dispute. The Imperial army occupying Mantua began to rot from the same affliction, the plague, that had allowed the city's fall. It would be a greatly reduced force that recrossed the Alps in the fall of 1631. The terms of Duke Carlo's personal surrender on July 18 did not explode his cause. Mantua was lost, but not his claim to Mantua. Demonstrating haughty bluster, but also a keen sense of how his personal cause connected with the far-flung issues of European politics, at his capitulation Duke Carlo spoke to the Imperial captains Aldringen and Galasso about the continuing war, especially of the Dutch and Albanians, who he averred were in a position to support Venice. The fall of Mantua had not ended this war, and Duke Carlo knew it; though Venice did nothing more militarily for Duke Carlo after the fall of Mantua, Duke Carlo was far from alone. France, in particular, still supported him at the ongoing siege of Casale. Issues and pressures on Habsburg power elsewhere assisted Duke Carlo's cause: in North Germany, where Gustavus Adolphus landed as the Protestant Champion to challenge Ferdinand II just before Mantua fell; in
Brazil, occupied in part by the Dutch from February 1630, and in the Netherlands, where the Spanish concentration on Italy almost fatally compromised Philip IV's power. Duke Carlo passed into temporary exile, in Ferrara in the Papal States, from where he continued to maintain his claim to the Duchies of Mantua and Montferrat. Had Casale fallen to Spinola later in the same summer of 1630, then indeed Duke Carlo's position would have become grave. Between mid-July and the fall of 1630, the survival of the Franco-Gonzaga garrison at Casale alone supported Duke Carlo's cause. Considering the strength of Casale's fortifications, this was hardly a slender string on which suspended the Duke of Mantua's position. With the failure of the second Spanish siege of Casale, with the death of Spinola, and finally with the advance of Schomberg's French army into Montferrat in late October, the Habsburg attempt to squelch Duke Carlo's succession to Mantua and Montferrat failed as well. For Habsburg policy in North Italy to succeed, both Mantua and Casale needed to be taken; with Mantua held but Casale defiant, the cause of Duke Carlo demanded further military commitment. A third Habsburg siege of Casale would have been required, and this was at last too great a price for the King of Spain to stomach. Though Mantua had fallen, the Mantuan question would in the end be settled by diplomacy and arbitration, and not to the satisfaction of the King of Spain and his cousin the Emperor.

The Treaty of Regensburg and the Treaties of Cherasco

Even before the fall of Mantua, in early July representatives of France and Spain met with the Emperor himself at the electoral conclave at Regensburg
(or Ratisbon) to attempt the negotiated settlement of the war in North Italy. The Emperor's attention increasingly focused on the situation north of the Alps, making him eager to arrange a peace. The Regensburg electoral meeting brought Ferdinand II face to face with the Electors of the Empire, the latter nervous at the terms of the Edict of Restitution (the full restoration of the Catholic Church in Germany) and the sweeping victories of Wallenstein's armies, which suggested that the Emperor's power was on the verge of overshadowing that of the Empire's constitutive princes. The immediate issues at Regensburg were the election of the Emperor's son Ferdinand to the title of King of the Romans, which title would guarantee his future election as Emperor, and the ratification of the Edict of Restitution. These were the Emperor's goals; the princes sought the dismissal of Wallenstein. In August the Emperor did relieve Wallenstein of his command and essentially disbanded the army Wallenstein had created. This grave weakening of the Emperor's military strength won no real concessions from the Electors, who instead concentrated on further reducing the real powers Ferdinand II had acquired since 1620. Ferdinand II did win approval of his precious Edict of Restitution, but that document was unenforceable without Wallenstein or Wallenstein's army.

Meanwhile, on July 6 Gustavus Adolphus had landed in Pomerania, brought into the German conflict by a France eager to increase the pressure on the Emperor as part of Richelieu's overall anti-Habsburg foreign policy. The full import of Swedish intervention was only gradually apparent (witness the Emperor's dismissal of Wallenstein in August), but in the long term the Swedish threat forced the Emperor to accept only the most minimal concessions from France and Duke Carlo of Mantua regarding the war in
North Italy. Ferdinand II would gain nothing from his victory at Mantua, a victory which only caused the ruination of a veteran army desperately needed in Germany. The remnants of that army only left Mantua in September of 1631, too late to significantly help the Imperial situation in Germany. The Imperial disaster of 1631, Gustavus' great victory at Breitenfeld on September 17 (the Imperial army included a few veterans of the Mantuan war force-marched from Italy), was partly a consequence of Imperial intervention in Italy in 1629. The Imperial occupation of Mantua between July of 1630 and September of 1631 was an unfortunate distraction to the Emperor and a useless diminution of his already reduced military strength. The Mantuan War gained the Emperor nothing, and cost him much.

However, these consequences of Imperial intervention only gradually emerged. In the summer of 1630, during the negotiations at Regensburg, it seemed that the Emperor and the Habsburgs held the upper hand. The fall of Mantua in mid-July suggested that Gonzaga defiance was about to crack. Had Casale fallen as well, then the Habsburg victory would have been complete. But the continuing resistance of Casale kept the French and Gonzaga bargaining position alive at Regensburg. The military stalemate in North Italy, as Casale held out and the French, Imperial, and Spanish armies all withered under the onslaught of the plague, eventually allowed a status quo ante peace at Regensburg that essentially vindicated Duke Carlo's long struggle.

The terms of the treaty at Regensburg, signed on October 13, gave little to the three great powers--Spain, France, and the Emperor--that had committed their treasure and armies on behalf of, or against, the Duke of Mantua. From the perspective of Duke Carlo, the most important point
was the recognition of his right to the Duchies of Mantua and Montferrat. The Emperor agreed to grant his investiture to Duke Carlo, but to save face this would be granted three months after the "Duke of Nevers" humbly wrote a letter of submission to Ferdinand II. This humility was only on paper; it was obvious that Duke Carlo had outlasted the Emperor militarily and diplomatically. Duke Carlo's Italian rivals received little. The Duke of Savoy would gain the town of Trino and other towns worth a total of 18,000 ducats annual income, in return he would acknowledge the rights of Duke Carlo to the rest of Montferrat, thus finally ending the long Gonzaga-Savoia feud over that Duchy—on terms favorable to the Gonzaga, and dismissive of Duke Carlo Emanuele's long efforts to subvert Gonzaga rule. The Duke of Guastalla would similarly renounce his claim to the Duchy of Mantua, receiving as compensation a small package of lands to be adjudicated by the Duke of Parma. Otherwise, the terms of the treaty recognized the military stalemate in North Italy and authorized a general evacuation by all parties from occupied lands. First, there would be an immediate cease fire. Second, the armies would retreat: Spain from the city and Castello of Casale, and the rest of Montferrat and Piedmont; the Imperial army from Mantua and Canneto (on the Oglio); France from the citadel at Casale and from the rest of Montferrat, Piedmont, and Savoy, including Pinerolo and Susa; the Duke of Savoy from Montferrat, excepting Trino. Though a clear victory for the Duke of Mantua, the intervening great powers had gained nothing.

The Emperor was happy to be done with the Mantuan problem. But neither France nor Spain could accept the terms of the Regensburg document. In France, the lack of advantage won by the Peace so compromised an outraged Cardinal Richelieu that it precipitated the famous Day of Dupes on
November 11, during which Richelieu narrowly retained the favor of Louis XIII and his power. In Spain, Olivares similarly found the terms unacceptable. France therefore balked at ratifying the Regensburg Treaty, but Spain, though equally disappointed, had neither the will nor the ability to muster a further military challenge to the French and Gonzaga position in Montferrat. The Emperor, of course, was completely occupied by the deteriorating situation in Germany. Casale would not face a third siege.

Despite the lack of a comprehensive, signed peace the cease fire in Italy held. Flurries of diplomatic negotiations through the winter of 1630 and the spring of 1631 aimed at solving the essential problem remaining: the evacuation of occupied territories. This was a tricky point, as simultaneous and equal evacuations were difficult to agree upon. In fact, fears of double crosses and broken promises were entirely justified. Representatives of the parties involved settled at the town of Cherasco to iron out a final peace document. The Papal diplomat Mazzarini, architect of the original cease fire, hovered over the deliberations and shepherded them through to a satisfactory conclusion, finally ending the Mantuan war. By and large, the conditions of the previous Treaty of Regensburg—status quo ante—remained markedly intact. Two documents emerged. The first Treaty of Cherasco, signed on April 6, 1631 ended the conflict between the Duke of Mantua and Montferrat and the Duke of Savoy. As before, the Duke of Savoy won Trino and 72 associated communities worth a total of 15,000 ducats income (calculated with excruciating care and after much argument). In return, however, the Duke of Savoy had to abandon any greater claims on Montferrat. The details of the treaty eliminated any frictions that might lead to further conflict: the navigation of the Po was to remain unimpeded and as
per the customs existing before the war; the Duke of Mantua retained the right to nominate the abbot of a monastic community in the lands now given over to the Duke of Savoy.

The larger issue, the demilitarization of the Po valley, remained unsolved by the first treaty of Cherasco. A second treaty, agreed to on June 19, provided for a gradual and complete French and Imperial evacuation of Italy. Imperial troops would leave Mantua exactly as French troops left the territory of the Duke of Savoy at the other end of North Italy. This process of evacuation continued into the fall, but was in fact never entirely completed. A secret agreement between France and Savoy allowed France to keep the fortress of Pinerolo, on the Italian side of the Alps (French troops even hid in casemates while an Imperial inspection team toured the fortress to assure compliance with the treaty terms). This critical amendment to the otherwise status quo ante gave France a permanent gateway into Italy, allowing easy future intervention. Franco-Savoyard duplicity, in clear violation of the spirit and the letter of the Treaties of Cherasco, illustrated exactly what all sides had feared throughout the negotiations: that one side would wring advantage from the other's full evacuation from occupied territories. The French acquisition of Pinerolo ensured that France was the one intervening power to emerge from the Mantuan conflict with advantage and increased reputation.

The two Treaties of Cherasco successfully ended the Habsburg-Bourbon confrontation in Italy only because both sides now concentrated on the situation in Germany. For France, the intervention of Gustavus Adolphus brought new opportunities, and did not require the risk of open war with Spain and the Emperor, the open war very nearly joined over Casale.
Richelieu, through his proxy the King of Sweden, could combat the Habsburgs with less risk; less risk not only of military defeat, but of drawing the European conflict into France. The connections between the war in Italy and the war in Germany were direct. In his Testament Politique Richelieu defended his engagement of the Protestant King of Sweden to intervene in central Europe as necessary to protect the Catholic Duke of Mantua in Italy. This policy, whether conscious or not at the time, encouraged a peace process that eventually acknowledged the accession of Duke Carlo of Mantua and Montferrat.

Thus, despite the loss and the devastating sack of his greatest city, Mantua, Duke Carlo won the larger political conflict. The Duke of Savoy, the Emperor, and the King of Spain were the losing parties of the Mantuan War; the winners were the Duke of Mantua and France. There was no partition of Montferrat; the Dukes of Savoy only received a small portion of Montferrat and gave up their larger claims—and some of that territory was probably only won with French assistance as a trade for the French acquisition of Pinerolo. Spain failed to take Casale, and that failure left Spain without any gains at the peace table, only bills for the inconclusive campaigns of 1628-1630. The Emperor won only a single intangible: the right to invest certain princes of North Italy with their titles. That dubious legal victory was hardly worth the time, men, and material invested in the Mantuan campaign. By 1629-1630 the Emperor's real power in North Italy was long past recovery, though Lombardy, Tuscany, and other territories were technically still within the bounds of the Holy Roman Empire. Imperial intervention in Italy only put at risk the Emperor's remaining powers in Germany. Duke Carlo of Mantua and Montferrat emerged from war with the Emperor's investiture and
uncontested titles to both his Duchies. Furthermore, though ravaged by war
and disease, these Duchies were held almost entire. France acquired the
fortress of Pinerolo, the single territorial settlement of any strategic
consequence. But as importantly, France had challenged the King of Spain
and the Emperor both successfully and economically. French intervention on
behalf of Mantua was the first great Habsburg defeat of the Thirty Years' War
period, and marked the great sea change in Habsburg fortunes. Before
Mantua, Spain and the Emperor were on the verge of truly crushing the
Protestant revolt in Germany and perhaps combining to finally subdue the
United Provinces. After the disastrous Habsburg campaigns of 1628-1630 in
North Italy, Spain and the Emperor increasingly reacted to France, rather than
controlling the pace of the continuing war. The Mantuan War was an
opportunity that Richelieu wisely exploited, and a disaster that Spain and the
Emperor never fully recovered from.

Conclusion

The dramatic sack of Mantua by Imperial troops in mid-July 1630 was not the
crowning event of the Mantuan War. The continued resistance of Casale was
in the end politically more important than the failure of the Gonzaga defense
of Mantua. Toiras' able defense of Casale, and Schomberg's advancing army
of relief, pressured the diplomats at Regensburg to accept a status quo ante
peace--negating the Habsburg advantage of having taken Mantua. July, 1630
was indeed a turning point in the affairs of the Emperor, but not in his favor.
The landing of Gustavus Adolphus in North Germany--according to
Richelieu at least in part a consequence of the Emperor's intervention in the
Mantuan affair—and the Electors' successful challenge of Ferdinand II's newly won power at the Regensburg electoral meeting (emphasized by the retirement of Wallenstein) forced the Emperor to abandon his position in North Italy, leaving his partner and cousin Philip IV of Spain hanging. The Treaties of Regensburg and Cherasco completely vindicated Duke Carlo of Mantua and Montferrat's boldness in risking war with Spain and the Emperor. Duke Carlo's Italian rivals, the Duke of Savoy and the Duke of Guastalla, received minor increases to their territory, for which they paid in full by formally recognizing Duke Carlo's right to the titles and lands of the Duchies of Mantua and Montferrat. The Cherasco Treaties—with their secret, hidden Franco-Savoyard agreement—satisfied Richelieu by giving France the fortress of Pinerolo and therefore a protected permanent entry way into the Po Valley. 1631 ended with France, Savoy, Venice, and the Duke of Mantua formally or informally allied in an anti-Habsburg north-Italian bloc. It would have been hard for the Habsburg ministers in Madrid or Vienna to have imagined a worse consequence of challenging the small Gonzaga state.

In the end, the Mantuan war was a humiliation of the Habsburg powers, especially Spain. The Duke of Mantua had proved his essential independence of the King of Spain and the Emperor, and France was now obviously a major player once again in the politics of the peninsula. Meanwhile, the wasted Habsburg two-year, four-siege war effort in North Italy was a grave and unnecessary diversion of resources from the larger war at hand. The troops, supplies, and money to pay for both could have been better used in Brazil, the Netherlands, on the north coast of Germany, in Hungary—almost anywhere else.
The Bourbon and Gonzaga victory was entirely the consequence of the strength of the two Gonzaga fortress complexes at Casale and Mantua. Like the first French intervention, the second French intervention in Italy, in 1630, was only possible with the continued resistance of Casale. Had Casale fallen, then French intervention would have been impossible, unless Richelieu were willing, and able, to declare war directly on Spain and the Emperor. Considering the reaction in France to the news of the unsatisfactory Regensburg Treaty, it is doubtful that with the fall of Casale (and the fall of Mantua) Richelieu could have convinced the King and overcome his rivals at court. It is true that without French intervention Gonzaga resistance would sooner or later have disintegrated, and Casale fallen; but the greater truth is that the massive fortifications of Casale gave France the window of opportunity to raise an army of relief, challenge and defeat the Duke of Savoy, and march from the French border across Savoy and down the Po to Montferrat. Casale survived many months of siege before rescue, and that survival made that rescue possible.

The real strength of Casale's fortifications is shown by the city and citadel's defense in 1630. The first failed siege of Casale had been an intemperate and ill-prepared affair. Spinola replaced Don Gonzalo's temerity with a perhaps excessive caution and care. Don Gonzalo had rushed into a siege without respecting the power of Casale's bastions to withstand attack, and without properly mobilizing the resources an army needed to maintain a large siege. Spinola certainly respected Casale's strength, and planned a deliberate and sure campaign of gradual encirclement, blockade, envelopment with siege lines, and then assault by battery and approach trenches. Unfortunately, Spinola did not have the time his campaign
demanded. Throughout the summer of 1630, Casale held firm while Spinola's plan ground forward; after all, the Spanish general himself had predicted in late April that the city would not fall until the end of September. The approach of Marshal Schomberg's army of relief, in concert with the plague enfeebling the Spanish army and killing its commander, ended the Spanish siege of Casale. The failure of that second Spanish siege proved that the designers of the citadel and other fortifications at Casale had indeed created one of Europe's strongest fortified sites.

The record of the second Imperial siege of Mantua, despite the sad fate of that city and its citizens, shows that Mantua as well was a world-class fortified site. The first Imperial siege, in late 1629, had shown that the fortifications at Mantua could not be lightly assaulted--if they were adequately defended. In the winter of 1630 the Venetian master-engineer Tensini provided for a new system of earthworks to supplement the already strong defenses of the city. A crash program of earthwork construction in February put Tensini's plan in effect, and materially strengthened Mantua, especially on the more vulnerable S. Giorgio, Predella, and Isola del Te sides. Mantua, in the spring of 1630, was well prepared to withstand even a massive siege effort. However, the Imperial army never needed to even test these new fortifications. The plague decimated the population of the city, and made the long perimeter of defenses at Mantua undefendable. The Imperial assault, simultaneously against all four sides of the city, showed that Collalto knew the city's weakness: a lack of able defenders. Without preparation by bombardment, the Imperial attack of July 16 and 17 should have been easily repulsed. Due to the pitiful state of garrison and citizenry, the few defenders at the walls and barricades of the city were easily overcome and the city fell
into Imperial hands. The horrible sack that followed was indeed a disaster; however, the fall of Mantua was no death blow to Duke Carlo's political position. Duke Carlo passed into temporary exile, his claims to Mantua and Montferrat protected by the continuing resistance of Casale. The treaties which closed the Mantuan war reflected the survival of Casale more than the fall of Mantua; in September of 1631 Duke Carlo returned to Mantua as its unquestioned Duke. The Duke of Mantua and Montferrat had won; the King of Spain and the Emperor had lost.

1 In a letter of May 4, 1629. Quoted in J. H. Elliot, *Richelieu and Olivares* (Cambridge 1984) 100.


3 In a letter of July 9, 1629 Louis XIII explained to the Duke of Mantua that even after the Grace of Alais (June 28) this rebellion required his presence and attention—and that of his army. ASMn, AG, 628, July 9, 1629.


5 Romolo Quazza, *La guerra* vol. II 75 and 76 n 1.

6 Letters from Alberighi in Genoa to the Duke of Mantua. ASMn, AG, 789, April 21 and 28 and May 22, 1629.

7 Carlo Emanuele's policy of playing off Spain and France is well detailed in Romolo Quazza, *La guerra* vol. II Chapter VI.

8 Letter from the Duke of Mantua and Monferrat to the ducal council of Monferrat. ASMn, AG, 2311, August 21, 1629.

9 Letter from the Duke of Mantua and Monferrat to the ducal council of Monferrat. ASMn, AG, 2311, August 23, 1629.

10 Letter from Ottavia Natta-Sennazaro to the duke of Mantua. ASMn, AG, 1759, August 10, 1629.

12 Anonymous letter from Casale to Parma at Venice, ASMn, AG, 2785, September 29, 1629.

13 Letter from Grand Chancellor Striggi to the duke of Mayenne at Casale. ASMn, AG, 2784, September 2, 1629.

14 Letter from Duke of Mantua to Louis XIII. ASMn, AG, 2311, October 18, 1629.

15 ASMn, AG, 2311, "1629 Minutes."

16 Letters from Servient, French diplomat at Turin, to the Duke of Mayenne at Casale. ASMn, AG, 737, October 14 and 30, 1629.

17 Romolo Quazza, La guerra vol. II 29.

18 Letter from Cornaro at Torino to Busanello, the Venetian ambassador to Mantua, at Mantua. ASMn, AG, 737, May 4, 1630.

19 Romolo Quazza, La guerra vol. II 76-77.

20 Letter from Marini at Milan to Busanello, the Venetian ambassador to Mantua, at Mantua. ASMn, AG, 1760, May 7, 1630.

21 Letter from Marini at Milan to Busanello, the Venetian ambassador to Mantua, at Mantua. ASMn, AG, 1760, June 5, 1630.

22 Letter from the Duke of Mantua to the Duke of Mayenne at Casale. ASMn, AG, 2312, May 14, 1630.

23 ASMn, AG, Gridario (Bound register of proclamations) for years 1568-1650. June 14, 1630.

24 ASMn, AG, Gridario (Bound register of proclamations) for years 1568-1650. June 18, 1630.

25 Woodcut illustration from the description of the siege of Casale in Mathew Merian, Theatrum Europeum (Frankfurt 1662) v. II 282.
26 Engravings (plates 7.3 and 7.4) from the description of the siege of Casale in Mathew Merian, *Theatrum Europeaum* (Frankfurt 1662) v. II between 282 and 283. This view and plan of the siege of Casale depicts the fortifications of both attacker and defender at Casale with accuracy and compare well with the very clear anonymous painting of the siege in the Museum of the Château de Versailles (plate 7.4).

27 The Merian engraved plan miss-identifies these as S. George and "S. Caroli."


30 Letter from Priandi to the Duke of Mantua. ASMn, AG, 737, May 29, 1630.

31 Jacques Humbert, *Une grand entreprise oubliée* 170.

32 Jacques Humbert, *Une grand entreprise oubliée* 171-172.

33 Jacques Humbert, *Une grand entreprise oubliée* 177.

34 It was actually several weeks before all prties learned of the document and agreed to it. Toiras accepted the truce on September 27. The truce is reproduced in Romolo Quazza, *La guerra* vol. II 188 n 3.

35 Merian's engraving, plate 7.3, erroneously shows an attack on the citadel simultaneous with the advance of the French army; this is incorrect. In fact the terms of the September armistice were held to. Plate 7.4 is an anonymous painting in the Museum of the Château de Versailles.

36 Romolo Quazza, *La guerra* vol. II 203-105. The traditional, dramatic account of Mazzarini galloping between the generals of the opposing armies is apocryphal.

ASMn, AG, 50, 333. The size of this watercolor map is particularly remarkable: 18.7 x 12.7 cm. Bundled with documents related to the fall of Mantua in July, 1630, there is no doubt but that this map depicts the defenses of the 1630 siege. Internal details regarding the fortifications depicted also dates this map to 1630: Baptiste de Soly de Vomainville's hornwork fort at the far end of the Predella causeway; the label of a line of earthworks at Cerese as "old" (at letter N) certainly identifies the earthwork defense of the 1629 siege. Also, as argued below, there is convincing circumstantial evidence that this watercolor plan is actually the work of the Venetian engineer Francesco Tensini.

ASMn, MCA, O-I, 75, February 11, 1630.

ASMn, MCA, O-I, 76, February 13, 1630. Tennaglie, literally "pincers," were at this time a hornwork, and not a tennale, a firing platform within the ditch of a frotress between two bastion flanks.

ASMn, AG, 90, 173. The name and date in the lower right corner are later additions.

ASMn, AG, 2786, 15, February 5, 1630.

Compelling evidence suggests that the watercolor plan might be in Tensini's own hand. It is signed, but it is unfortunately such a minute work that the signature is illegible; all that can be made out for certain are the letters "Cav," the abbreviation for the title cavagliere. The February 5 explanation of Tensini's defenses for the Borgo S. Giorgio is signed "Il Cavaglier Fran.co Tensini." There is also a convincing stylistic link between the two documents: both are careful, indeed exacting, works, (exactly what one would expect of an engineer) and the handwriting of the legend on the watercolor map is at least similar to that of the letter. The extreme legibility and craftsmanship of the February 5 letter is indeed exceptional, the work of an artist rather a clerk. Also, the letter constantly refers to a map labeled with letters: A, B, etc. Such a map would be very much like the watercolor plan of the entire city. Though no one of these connections is proof, the sum is enough to conclude that the map may very well be the work of Francesco Tensini.
The two contracts are clearly related to each other: they were drafted by the same clerk, have the same number of articles, these articles are very similar, and the two contracts were drawn up of the same day. That only two of several—even several dozen—contracts have survived is not very surprising. However, there is a problem with the February 13 contract for two hornworks at Port because these do not appear on the watercolor map.

Francesco Tensini's 1624 text was a treatise on the advantages of earth fortifications over stone and brick and emphasized the use of detached ravelins; on stylistic grounds the Predella earthwork could be Tensini's design. Francesco Tensini, *La fortificazione, guardia difesa et espugnazione delle fortezze experimentata in diverse guerre* (Venice 1624) and *La fortificazione, guardia, difesa e espugnazione delle fortezze con le figure* (Venice 1644).

Capilupi, "Memoria di molte miserie" 531.

Capilupi, "Memoria di molte miserie" 535.

Amadei, op. cit. February 1630.

Capilupi, "Memoria di molte miserie" 537.

ASMN, AG, Registri Necrologici, XXVII, 68.

Capilupi, "Memoria di molte miserie" 540-541.

Letter from Francesco Nerli. ASMn, AG, 2786, June 12, 1630.

The pre-war population of Mantua was on the order of 30,000 people. Capilupi reckoned that the besieged population of the city under siege in 1630 numbered 30,000 citizens of Mantua and 70,000 refugees from the countryside. Of these almost all, 100,000 people according to Capilupi, died in the epidemic, leaving only 8,000 survivors of the eventual sack. Scipione Capilupi, "Memorie di molte miserie," in *Raccolta di cronisti e documenti storici lombardi* vol. II (Milan 1857) 541. Though perhaps an exaggeration in numbers, this reckoning is no exaggeration of the impact of the plague disaster on the defense of the city. Capilupi's chronicle ends with a standard conclusion: that the misery of siege, plague, and sack was God's wrath on a city that had failed to respect God and the Virgin.
55 Capilupi, "Memoria di molte miserie" 539.

56 Romolo Quazza, *La guerra* vol. II 96.

57 The assault of July 16-17 is described in Giovanni Mambrino, "Vera relatione del modo col quale l'armata Imperiale alloggiata nel Mantovano...," in *Raccolta di cronisti e documenti storici lombardi* vol. II (Milan 1857) 545-548.

58 Mambrino, "Vera relatione" 548.

59 The capitulation is preserved in ASMn, AG, 50, 338-339.

60 The sack is described by Mambrino, "Vera relatione" 552.

61 Mambrino, "Vera relatione" 554.

62 Mambrino, "Vera relatione" 555-556. With the regiments that left on September 4, 50 wagons; September 8, 80 wagons; September 12, 70 wagons; September 20, 87 wagons.

63 Mambrino, "Vera relatione" 549.

64 Venice's real failures to support the Duke of Mantua perhaps came from a secret understanding between Emperor and Venice precluding Imperial operations against the territory of the Republic; the Emperor's quarrel, after all, was the Duke of Mantua, not Venice. On this point see Romolo Quazza, *La guerra* vol. II 98-99.


66 The twenty articles of the Treaty of Regensburg are summarized in Romolo Quazza, *La guerra* vol. II 202 n 2.

67 The terms of the first Treaty of Cherasco are summarized and discussed in Romolo Quazza, *La guerra* vol. II 273-278.

68 The terms of the second Treaty of Cherasco are summarized and discussed in Romolo Quazza, *La guerra* 275-278 and 303-306.
In 1527, the watershed year of sixteenth-century Italian politics, the Florentine historian Guicciardini commented unfavorably on the political importance of the Gonzaga: "the Marquis of Mantua is worth little." Up to 1527 that opinion was perhaps not entirely incorrect; before that year the Gonzaga Marquises of Mantua had distinguished themselves primarily as *condottiere* captains fighting on behalf of other powers' policies. But the importance of the Gonzaga lords of Mantua, the rulers of Montferrat as well after 1533, rose steadily from the late 1520s. In the long run Guicciardini was wrong; the Gonzaga were indeed worth much.

The Habsburg-Gonzaga alliance of the sixteenth century reflected the real power and prestige of the Gonzaga. The Gonzaga were useful to the Habsburgs for several reasons. They provided skilled and loyal captains, such as Ferrante of Guastalla and Vespasiano of Sabbioneta. But the heads of the family were also loyal to the Habsburg. Duke Vincenzo I answered the appeals of Emperor Rudolph II in 1595, 1597, and 1601 and rode off to Hungary with a small army of vassals. These adventures were in part inspired by Vincenzo's personal ambition, but they also materially assisted the Habsburg Emperor's offensive in Hungary. The Gonzaga state in North Italy also bolstered the Spanish positions of Milan and Genoa. Montferrat watched over the Spanish Road, vital to the King of Spain's entire position in...
Europe from 1568 and the beginning of the Dutch Revolt. The measure and continuity of this Habsburg-Gonzaga relationship can be gauged by the Gonzaga brides of Emperors Ferdinand II and Ferdinand III in the seventeenth century.

Before the late 1560s the Gonzaga were demonstrably dependent on their Habsburg ally. The circumstances of the Gonzaga acquisition of Montferrat illustrated this dependency. Montferrat was not eager to pass to the Gonzaga after the death of the last Paleologo in 1533, and the Duke of Savoy and King of France used troops to further obstruct the Gonzaga succession. Spanish troops from Milan enforced Gonzaga rule in Montferrat several times: in 1533, 1536, 1559, and finally in 1565. The Gonzaga needed Spanish troops in 1565 to suppress a dangerous revolt by the citizens of Casale and the provincial nobility of Montferrat, both groups being encouraged by the Duke of Savoy. The weakness of Gonzaga rule in Montferrat, highlighted by a dependence on the Spanish garrison in Milan, led to the adoption of a fortress-building strategy concentrating on the city of Casale. By the end of the century the fortifications of Casale made any citizen revolt useless and also removed the previous Gonzaga military dependence on Spanish Lombardy—though that independence would not be demonstrated until 1628-1630. Through their fortifications at Casale and Mantua the Gonzaga became increasingly less dependent on their Habsburg allies.

It is clear that the Gonzaga intended their fortifications to be political symbols, not just utilitarian military objects. Ornate gates and bastion salients displayed the Gonzaga arms and inscriptions relating fortifications to the timeless dynastic claims of the family, reinforcing the themes of Gonzaga greatness demonstrated by civic architecture. Giulio Romano’s gate at the
Porto Fortezza in Mantua was clearly finished in time for Philip II of Spain's triumphal entry into the city in 1549. The fortifications at Mantua also figured in the visits of Charles V and Maximilian II. In Montferrat elaborate ceremony, including a commemorative medal, marked the beginning of construction of Savorgano's great citadel project in 1590. Far from being isolated from the world of court politics, fortifications were objects of prestige, demonstrating power in peacetime as well as offering protection in war.

The sixteenth-century fortification projects of the Gonzaga are an excellent case study of both the adoption of angle bastion fortifications, and the political advantages of that adoption. The first extensive sixteenth century Gonzaga fortification project, that of Alessio Beccaguto at Mantua in the 1520s, relied on thick new walls, stout gates, and artillery towers, independent platforms radiating defensive cannon fire. The modification of a single one of Beccaguto's towers, the Torre S. Alessio, to angle bastion form in 1530 marked the first application of the new style of military architecture at Mantua. The S. Alessio angle bastion also reveals a perhaps incomplete understanding of the angle bastion defensive system, as opposed to the angle bastion architectural form. As the S. Alessio tower was an isolated angle bastion, there could be no advantage by way of cross-fire from neighboring bastions; the angle bastion system was not yet in use at Mantua. Angle bastion form and function came together with the Porto Cittadella project. This textbook angle bastion citadel was designed to anchor the defenses of Mantua, rather than protect the entire city's perimeter. Despite that apparent compromise, the Cittadella took decades to complete, and at great expense. The long labor on the citadel shows the continued importance of fortifications, despite the later sixteenth century's many years of peace.
Though the sixteenth century did not see the complete modernization of Mantua's defenses with angle bastions *alla moderna*, the completion of several key projects, such as the citadel and the Giardino bastion, in conjunction with the natural defenses of river and lakes, made Mantua one of Europe's strongest sites.

At the other end of the Po valley, the Gonzaga fortifications at Casale were among the most extensive and sophisticated of the century. The first modernization project, that of the medieval Castello, again illustrates the distinction between the angle bastion as form and as system. The castle was cunningly rebuilt with massive ravelins rather than with the addition of textbook angle bastions. Nevertheless, casemates in the ravelins and within the old medieval corner towers provided complete protection by way of overlapping flanking fire; the angle bastion system in action without a single recognizable angle bastion. The greatest project at Casale was the construction of Savorgnano's massive hexagonal citadel from 1590, the first of its kind in Italy or Europe and a real challenge to Duke Vincenzo I's neighbors and rivals. The completion of this citadel in the last years of the century, together with the completion of the *ala* walls linking the citadel to the city, made Casale one of Europe's strongest sites—perhaps the strongest site depending entirely on fortifications, not natural geographic advantage.

By the death of Duke Vincenzo I in 1612 the fortresses of Mantua and Casale gave the Gonzaga Dukes of Mantua and Montferrat real military, and therefore political, independence. However, Casale and Mantua could only be useful if they supported an aggressive and well-considered larger diplomatic policy. Duke Ferdinando failed to use his fortresses to advantage during the First and Second Mantuan Wars of 1613-1618 and the Genoa War
of 1625. Instead, Duke Ferdinando unwisely relied on Spanish intervention from Milan and passive policies, including the resurrection of old plans to trade the Montferrat problem away or solve all with a marriage to the Savoia. These weak policies only made Montferrat the battleground of the Duke of Savoy, the King of France, and the Spanish Governor of Milan in 1625. Duke Ferdinando's final folly was an attempt to remain neutral, a policy which only left the Duke of Montferrat without allies when war was joined. The events of 1613-1618 and 1625 seemed to confirm the old Gonzaga dependence on Spain and the weakness of the Gonzaga state.

The 1628-1630 final Mantuan War revealed that the Gonzaga were no longer necessarily dependent on Spain or any other greater prince. The resolute policies of the Duke of Nevers, Duke Carlo of Mantua and Montferrat from January of 1628, demonstrated how the fortifications of Casale and Mantua could indeed support an independent Gonzaga state. Duke Ferdinando had been a churchman by profession; the new Duke Carlo was an experience soldier, and he relied on his own military strength, and an aggressive diplomacy, to fight off the claims of the Duke of Savoy and the Duke of Guastalla and the armies of the King of Spain. Duke Carlo's defense relied on his fortresses at Mantua and Casale.

The fortress city of Casale withstood two massive Spanish siege efforts, in by Don Gonzalo in 1628-1629 and Spinola in 1630. Twice the Gonzaga defenders at Casale held off the armies of Spain long enough for French armies of relief to force a cessation of hostilities. The fortifications of Mantua similarly held off the Imperial army of Collalto in 1629, and only fell to the same Imperial army in 1630 after the plague ravaged both population and garrison, making effective defense impossible. Even after the fall of Mantua
in the summer of 1630, the continuing resistance of Casale encouraged both a French army of relief and the peace negotiations at Regensburg. The terms of the eventual Peace of Regensburg (October 13, 1630) confirmed the status quo ante; a vindication of Duke Carlo of Mantua and Montferrat's strategy and a humiliation of Philip IV of Spain, his first minister Olivares, and his cousin the Emperor Ferdinand II. The two Treaties of Cherasco (of April 6 and June 19, 1631) confirmed Duke Carlo's victory.

The Gonzaga experience with angle bastion fortifications between 1530 and 1630 shows that the early modern military revolution was not limited to the great powers. Spain, France, and the United Provinces might have built modern fortifications by the dozen, in defense of their extensive territories in Europe and around the world, but their many fortresses illustrate no monopoly. States as small as Geneva or as politically backward as Lucca could reach for the new architecture, and the Gonzaga used only two great fortress complexes to stymie the King of Spain and the Emperor.

Though the fact was not tested until the war of 1628-1630, Gonzaga fortress construction had eaten away at Spanish dominance in Italy. Considering that the Gonzaga were hardly unusual in building fortifications, except that they led their rivals in promoting fortifications of advanced technical merits and large scale, it is possible to conclude that the fashion for fortress construction that occupied every North Italian state in the second half of the sixteenth century materially weakened Habsburg power in Italy. The Habsburg fortification of Milan with angle bastions--undertaken in fact by Ferrante Gonzaga when he was Governor in the 1540s--must be seen in the context of every other states' fortification program. Though Spain's resources towered over those of the Italian princes, individually and even collectively,
Spain's resources were not great enough to be able to reduce at will the largest and most modern of the Italian princes' fortification complexes, such as at Casale and Mantua. These fortification complexes gave real and increasing independence to the so-called "minor" Italian princes, including the Gonzaga, throughout the later sixteenth century.

The history of the Mantuan War of 1628-1630 also illustrates the importance of fortifications in defining the balance of power in early modern Europe. Fortifications doubtless encouraged all powers and princes to think of that balance of power in geographic as well as dynastic terms. The wars in North Italy between 1628 and 1630 (and 1613-1618 and 1625) concentrated on the defense and siege of certain key fortresses, especially Casale and Mantua but also lesser sites such as Canneto on the Oglio and Goito in the Duchy of Mantua. The peace which ended the fighting in North Italy also concentrated on certain key fortification complexes. Their evacuation by the various occupying powers delayed a firm peace from the fall of 1630 until June of 1631, and the terms of the Treaties of Cherasco were not carried out until September of 1631. Even a single fortress could impinge on the regional, and indeed European, balance of power, witness Pinerolo. Richelieu's retention of Pinerolo after the second Treaty of Cherasco (and in violation of that treaty), ensuring future access to the valley of the Po, richly rewarded his policy of intervention in Italy.

The history of Gonzaga fortifications between 1530 and 1630 is therefore not a discussion limited to architectural history, or the history of an only regionally important Italian family. Rather, Gonzaga fortifications are an excellent example of how the general adoption of a military technical improvement, the angle bastion fortress, had far-ranging political
consequences, three in particular. First, this new military architecture, a key factor in the larger process now being explored as the early modern military revolution, was not limited to the great powers, but contra the case of Siena revolutionized the military strengths of the lesser powers of Europe as well. Second, the fortress building of the various Italian powers eventually eroded Spain's dominant military and political position in sixteenth-century Italy. And third, the events of the Mantuan Wars show how fortresses encouraged dynastic Europe to think of the balance of power in geographic terms.

1 Quoted in Egon Verhyen, *The Palazzo del Te in Mantua; Images of Love and Politics* (Baltimore 1977) 16.
Archival sources

The holdings of the Archivio di Stato di Mantova (ASMn) in Mantua contain thousands of documents relating to the construction of fortifications, the Mantuan succession crisis, and the 1628-1630 war. Almost all of these documents are part of the Archivio Gonzaga (AG). A few relevant documents are in other collections, principally the Magistrato Camerale Antico (MCA), which holds some of the records of the ducal council. There is a general indexed description of all the holdings of the ASMn in: Ministero per i beni culturali e ambientali, ufficio centrale per i beni archivistici, Guida Generale degli Archivi di Stato Italiani (Rome 1983) II 760-811. The contents of the Archivio Gonzaga have been meticulously described and indexed in two volumes. The first volume covers the administrative documents and records of the Gonzaga state: Pietro Torelli, L’Archivio Gonzaga di Mantova (Ostiglia 1920). The second volume concerns the correspondence of the Gonzaga: Alessandro Luzio, L’Archivio Gonzaga di Mantova, La correspondenza familiare, amministrativa e diplomatica dei Gonzaga (Verona 1922).

Austrian and then Italian nationalist archivists sorted the materials of the Archivio Gonzaga in the nineteenth century. These archivists organized the materials of the Gonzaga archives by subject and, for the larger document series, by year and by place as well. These subject areas have neatly gathered together most of the documents regarding military affairs, including fortifications, from the Gonzaga period. Each of these subject areas is identified by a cyper letter. All records are bundled together by topic, date, or place. Within these bundles (buste) some documents are numbered; in other bundles, there is no numbering. Some documents can therefore not be further identified beyond their date, if the document is dated, and the busta

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number. Other documents are part of numbered sheafs within the bundle, or can be further identified.

In the footnotes, documents are identified by the initials of the state archive (ASMn), the document series (AG for Archivio Gonzaga), bundle number, and then document number within the bundle. Dates are given when known. A very few large bundles have numbered subsections or numbered bound collections of documents.

Several document collections within the Gonzaga archives were particularly useful for the development of fortifications at Mantua in the sixteenth century and during the sieges of 1629 and 1630. These are identified below by the subject area code letter and bundle number:

<table>
<thead>
<tr>
<th>subject area</th>
<th>code letter</th>
<th>bundle number</th>
<th>description</th>
</tr>
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<tbody>
<tr>
<td>military affairs</td>
<td>X</td>
<td>3585</td>
<td>Organization and raising of the Gonzaga army</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3590</td>
<td>Army at war up to 1629</td>
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<td></td>
<td></td>
<td>3591</td>
<td>Army at war, 1630 and after</td>
</tr>
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<td></td>
<td></td>
<td>3613</td>
<td>Repair and maintenance of fortifications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3644</td>
<td>Arms and arsenals</td>
</tr>
<tr>
<td>family affairs</td>
<td>D</td>
<td>386 and 386bis</td>
<td>Military matters concerning members of the Gonzaga family</td>
</tr>
</tbody>
</table>
| internal affairs    | C           | 90, 3         | Topographic items military maps related to the sieges of Viadana,
From the archives of the Magistrato Camerale Antico (MCA) two bundles in particular were useful:

<table>
<thead>
<tr>
<th>subject area</th>
<th>code letter</th>
<th>bundle number</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>military matters</td>
<td>O</td>
<td>O-I</td>
<td>Fortifications</td>
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<td>O-II</td>
<td>Artillery</td>
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For the war years of 1628-1630 two very useful record series were Foreign Correspondence, E, including diplomatic letters, and Internal Correspondence, F. The Gonzaga ambassadors and other representatives at Venice, Milan, Genoa, Turin, the French court, Madrid, and the Imperial court all reported on the action of those princes; and their reactions to the events of the war in Mantua and Montferrat. Particularly detailed and comprehensive are the diplomatic reports of Count Parma at Venice; for the year 1630, when the other bundles relating to events at Mantua are scarce, obviously due to the siege, sack, and plague, Parma's letters from Venice are the most extensive series regarding 1628-1630. These buste are (series E) 1558-1563.

The bundles making up series F, internal correspondence, are a grab bag of miscellaneous papers. For each year there are at least two bundles, one for correspondence regarding the city of Mantua (Mantova), and one for the
other towns of the Duchy (paesi). For the 1628-1630 war both are important. The bundles for the towns along the Oglio line are full of references to skirmishes, false alarms, and discipline problems. These bundles, for city and country, are (series F) 2778-2786. There are very few items from the period of the actual sieges of Mantua, that is from September-October or so of 1629 through the sack. The bundle 2786 actually contains all the records for the city and countryside of Mantua for the years 1630-1632, an indication of the magnitude of the twin disasters of plague and sack. Another subsection of series F includes the minutes of the ducal council. For the war years 1628-1630 these are bundles 2309 to 2312.

Almost all of the papers relating to Gonzaga rule in Montferrat have been dispersed, many of which are now in the Archivio di Stato di Torino, as Montferrat did eventually become part of the Savoia kingdom, the kernel of the later Kingdom of Italy of the Risorgimento. For the critical years of the construction of Savorgnano's citadel there is, however, a very important bound volume of over two hundred copies of letters sent from Casale. This is ASMn, AG, 1960, 16, "Raccolta di lettere scritte da Casale al Duca da vari ministri e ufficiali," covering the years 1590-1595. Several of these refer to the ongoing fortification construction, but unfortunately most of these letters simply report satisfactory progress without going into details. There is, in general, a real lack of documentary evidence for the fortifications at Casale. However, a collection of these documents has been published: Anna M. Serralunga Bardazza, *Richerche documentarie sulla Cittadella di Casale Monferrato* (Turin 1985).

Unlike the fortifications at Mantua, for which no architectural drawings survive, a very complete series of drawings for the fortifications at Casale still exist at the Archivio di Stato di Torino (AST) as Corte (the archives of the old Savoia court), Carte Topografiche serie V Casale Monferrato and Carte Topografiche per A et B, Casale. These drawings are far and away the best sources for the forms of the fortifications at Casale and are the primary documents informing this present study.
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APPENDIX A

FIGURES
Figure 1. Map of North Italy. Shaded area represents Po Valley below approximately 500 feet elevation.
Figure 2. The House of Gonzaga.

FRANCESCO 1466-1519 Marquis of Mantua

FEDERICO 1500-40
1 Duke of Mantua Marquis of Monferrat

FRANCESCO I 1535-50
2 Duke of Mantua Marquis of Monferrat

GUGLIELMO 1538-87
3 Duke of Mantua Duke of Monferrat

VINCENZO I 1562-1612
4 Duke of Mantua, Duke of Monferrat

FRANCESCO II 1586-1612
5 Duke of Mantua D. of Monferrat

CARLO 1580-1637
Duke of Nevers Duke of Montferrat

Ludovico 1611-12

Maria 1609-40
Duke of Rethel

Isabella d'Este

Ferrante 1507-57
Count of Guastalla

Henrietta

Cesare 1533-75
Count of Nevers

 lays of

1  1  1  = Caterina de'Medici
1594-1627 Gonzaga 1598-1655 Ferdinand II

1587-1626 de'Medici

1616-30

1600-31

Figure 3. Diagram showing fortifications at the siege of Pavia, 1525. From Barnaert van Orley's c. 1535 tapestry series in the Capodimonte Museum, Naples.
Figure 4. Woodcut view of fortifications at the siege of Pavia, 1525. By Jörg Breau the Elder, c. 1526-1527.
Figure 5. Woodcut views of bastions at the siege of Ingolstadt, 1542. Details from Hans Mielich's sixteen-block woodcut.
Figure 6. Woodcut of artillery tower, 1527. From Albrecht Dürer's two-block woodcut of an imaginary artillery fortress.
Figure 7. Diagram comparing medieval tower and angle bastion. Based on illustration in Simon Pepper and Nicholas Adams, *Firearms and Fortifications* (Chicago 1986) 4.
Figure 8. Topography and fortifications of Mantua.
Figure 9. The modernized Castello at Casale. Detail from an engraving of the siege of Casale in 1630 by Merian in *Theatrum Europeum* vol. II 283.
Figure 10. Map of the Duchy of Mantua.
Figure 11. The Oglio line defenses in early September, 1629. AS Mn, AG, 3590, 159.
Figure 12. Diagram of fortifications at Mantua in winter, 1630. From water-color map in ASMn, AG, 50, 33.
APPENDIX B
PLATES
Plate I. Bernardino Faciotto's proposal for a citadel at Casale. AST, Corte, Carte Topografiche serie V Casale Monferrato, 48.
Plate II. The modernized Castello at Casale. AST, Corte, Carte Topografiche per A e B, Casale, 1.
Plate III. Plan of Casale, 1585. AST, Corte, Carte Topografiche serie V Casale Monferrato, 8.
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