

CITIES AT WAR IN EARLY MODERN EUROPE

Between 1550 and 1700, artillery siege warfare transformed the European city, which was theorized, fortified, violated, rebuilt, and celebrated by leading artists and architects. The fortified perimeter, with its regular bastions, redefined the identity of the early modern city. Military planning also generated new forms of urban spaces, such as the orderly grid, the tree-lined avenue, the great central square dominated by triumphal sculpture, and the greenbelt that provided clear boundaries and controlled viewpoints. In *Cities at War in Early Modern Europe*, Martha Pollak offers a pan-European, richly illustrated study of early modern military urbanism, an international style of urban design characterized by uniformity, geometrical clarity, architectural economy, and unadorned monumentality. Pollak examines this new urbanism as visualized by engravers, painters, and cartographers in accurate plans and powerful panoramic views. Her comparative, transnational study ranges from Britain to the Ottoman Empire, and from Malta to Scandinavia, and focuses on major centers – Naples, Paris, Antwerp, and Stockholm – and “fortress cities” such as Valletta and Palmanova, which are still defined by their immense, geometrically perfect fortifications.

Martha Pollak is Professor of Architectural History at the University of Illinois in Chicago. A recipient of fellowships from the American Council of Learned Societies, the Andrew Mellon Foundation, the Center for Advanced Study in the Visual Arts, the Kress Foundation, and the American Academy in Rome, she is the author and editor of several books, including *Turin, 1564–1680: Urban Design, Military Culture and the Creation of the Absolutist Capital*.

Cambridge University Press
978-0-521-11344-1 - Cities at War in Early Modern Europe
Martha Pollak
Frontmatter
[More information](#)

CITIES AT WAR IN EARLY MODERN EUROPE

MARTHA POLLAK

University of Illinois, Chicago



CAMBRIDGE
UNIVERSITY PRESS

32 Avenue of the Americas, New York NY 10013-2473, USA

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107622722

© Martha Pollak 2010

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2011

First Paperback edition 2014

Printed in the United States of America

A catalog record for this publication is available from the British Library.

Library of Congress Cataloging in Publication data

Pollak, Martha D.

Cities at war in early modern Europe / Martha Pollak.

p. cm.

Includes bibliographical references and index.

ISBN 978-0-521-11344-1 (hardback)

1. Cities and towns – Europe – History. 2. City and town life – Europe – History.
3. City planning – Europe – History. 4. Military planning – Europe – History.
5. Fortification – Europe – History. 6. Architecture – Europe – History. 7. Siege
warfare – Social aspects – Europe – History. 8. War and society – Europe – History.
9. Europe – History, Military – 1492–1648. 10. Europe – History, Military –
1648–1789. I. Title.

HT131.P644 2010

307.76094 – dc22 2009047372

ISBN 978-0-521-11344-1 Hardback

ISBN 978-1-107-62272-2 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication, and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

CONTENTS

<i>List of Illustrations</i>	<i>page</i> vii
<i>Acknowledgments</i>	xiii
<i>Abbreviations and Frequently Cited Works</i>	xv
INTRODUCTION	I
I THE GEOMETRY OF POWER: PENTAGONAL CITADELS AND THE EMERGENCE OF MILITARY URBANISM	9
1. Paradigmatic citadels: Antwerp/Turin	13
2. Searching for a form: The origins of the pentagonal citadel	25
3. Dissemination	39
4. Louis XIV, Vauban, and the French border citadel	49
2 MILITARY CULTURE AND THE DISSEMINATION OF URBAN KNOWLEDGE	61
1. Paper pentagons: Geometry and the military treatise	63
2. Representing the military city	78
3. “Irregular” fortifications, or the conflict of theory and praxis	86
4. Patronage, publication, and military education	95
3 SIEGE VIEWS: THE WAR OF MILITARY IMAGES	109
1. Origins and continuities of the siege view	112
2. Siege views of the High Baroque: Callot, Merian, Dahlbergh	121
3. The sieges of Louis XIV	142
4 THE FORMS OF MILITARY URBANISM: STREETS, DEFENSIVE FORTIFICATION, AND PUBLIC SPACES	155
1. Fortress-cities: Palmanova and Valletta, radial and orthogonal models	156
2. Streets, gates, and the fortified perimeter (Rome, Paris)	178

3.	The concentric city: Fortification and representation	195
4.	Port cities: Naples and Genoa, Amsterdam and Hamburg	206
5.	Conclusion: London	224
5 CELEBRATING PEACE: TRIUMPHS, WAR GAMES, AND THE TRANSFORMATION OF URBAN SPACE		233
1.	Processions	235
2.	Triumphal arches	244
3.	The equestrian statue and the militarized square	265
4.	War games: Jousts, <i>naumachie</i> , and fictive assaults	276
EPILOGUE: FIREWORKS AND ILLUMINATED ARCHITECTURE		291
<i>Notes</i>		309
<i>Index</i>		345

LIST OF ILLUSTRATIONS

1.1 Antwerp, view of citadel and allegorical figures, Peter Paul Rubens	<i>page</i> 13	
1.2 Antwerp, plan of fortifications and citadel, Adam Freitag	14	
1.3 Antwerp, bird's-eye view, Georg Braun and Frans Hogenberg	15	
1.4 Turin, plan, Johann Criegher after Giovanni Caracha	17	
1.5 Antwerp, partial demolition of the citadel, Frans Hogenberg	18	
1.6 Antwerp, fortification plan with integrated citadel, Philips Galle	19	
1.7 Fortified city with pentagonal citadel, Pietro Cataneo	20	
1.8 Antwerp, citadel with swans in moat	20	
1.9 Pentagonal citadel, Gabrio Busca	21	
1.10 Hexagonal fortress straddling a river, Antoine de Ville	22	
1.11 Pentagonal citadel, Hendrick Hondius	22	
1.12 Antwerp, bird's-eye view, Theodor van Thulden	23	
1.13 Turin, bird's-eye view to the west, Tommaso Borgonio	24	
1.14 Turin, plan with expansions, Tommaso Borgonio	24	
1.15 Florence, plan, detail with Fortezza da Basso, Stefano Bonsignori	28	
1.16 Fortified town with pentagonal citadel, Francesco de' Marchi	29	
1.17 Piacenza, plan, Matteo Florimi	31	
1.18 Rome, view of Castel Sant'Angelo, Bartolomeo Faletti	32	
1.19 Rome, Castel Sant'Angelo expansion plan, attr. Francesco Laparelli	33	
1.20 Mantua, plan, Gabriele Bertazzoli	34	
1.21 Mantua, plan of fortifications with pentagonal citadel, Antoine de Ville	35	
1.22 L'Aquila, aerial view with fortress	36	
1.23 Vitry-le-François, bird's-eye view with pentagonal fortress, Claude Chastillon	37	
1.24 Caprarola, view with section, Francesco Villamena	38	
1.25 Pentagonal house for a tyrant, Sebastiano Serlio	39	
1.26 Pamplona, plan of fortifications and pentagonal citadel	40	
1.27 Parma, fortification plan with cannon firelines, Francesco de' Marchi	41	
1.28 Parma, plan, detail with citadel and <i>Stradone</i> , Giuseppe Patrini after Pietro Sardi	42	
1.29 Parma, aerial view with citadel	43	
1.30 Casale Monferrato, siege view with hexagonal citadel	44	
1.31 Ferrara, plan with pentagonal fortress	45	
1.32 Copenhagen, plan with fortifications and pentagonal fortress, Johan Huusman	47	
1.33 Coevorden, plan with pentagonal fortress, Matthias Dögen	50	
1.34 Wolfenbüttel, pentagonal expansion plan, attr. Daniel Speckle	51	
1.35 Huningue, <i>plan-relief</i> model	53	
1.36 Lille, plan with pentagonal fortress, Pieter van Call	54	

1.37 Arras, plan of fortifications and pentagonal fortress	56	2.20 Heptagonal fortress, Andreas Cellarius, <i>Architectura militaris</i>	79
1.38 Strasbourg, plan of fortifications and pentagonal citadel, Sigismund Hipschman	57	2.21 Octagonal fortress, Menno van Coehorn, <i>The New Method of Fortification</i>	80
1.39 Strasbourg, <i>plan-relief</i> model	58	2.22 Hexagonal fortress, Francesco Tensini, <i>La fortificatione, guardia, difesa et espugnazione delle fortezze</i>	81
2.1 Frontispiece, Matthias Dögen, <i>Architectura militaris moderna</i>	63	2.23 Frontispiece, Daniel Speckle, <i>Architectura von Vestungen</i>	82
2.2 Allegory of military education, Sébastien Leclerc, "De la fortification ou Architecture Militaire"	64	2.24 Fortress of Milan, Israel Silvestre, <i>Leçons données aux pages du Roy</i>	84
2.3 Fortification design, Adam Fritach [Freitag], <i>L'Architecture militaire</i>	65	2.25 Louis XIV's play-fortress in Paris, Israel Silvestre	85
2.4 Fortified town with pentagonal fortress, Jacques Perret, <i>Des Fortifications et artifices, architecture et perspective</i>	66	2.26 Stage design with view of Wolfenbüttel	86
2.5 Fortified town with two pentagonal citadels, Francesco de' Marchi, <i>Della architettura militare</i>	67	2.27 Hexagonal palace and bastioned garden, Tommaso Borgonio	87
2.6 Plan of city resembling Palmanova, Buonaiuto Lorini, <i>Fortificationi</i>	68	2.28 Garden in the form of a pentagonal fortress, Diego de Saavedra Fajardo, <i>Idea di un prencipe politico-christiano</i>	88
2.7 Pentagonal fortress, Cristobal de Rojas, <i>Teoria y practica de fortificacion</i>	69	2.29 Varadinum (Oradea), pentagonal fortress, Anton Heirat and Abraham Hogenberg, <i>Theatri praecipuarum totius mundi urbium</i>	89
2.8 Two bastions of a seven-sided fortress, Carlo Tetti, <i>Discorsi delle fortificationi</i>	70	2.30 Paris, Place Royale and Louis XIII instructed by Antoine de Pluvine, Crispijn de Passe the Younger	90
2.9 Plan of bastion, Blaise Pagan, <i>Les Fortifications</i>	70	2.31 Semicircular army camp, Leonhart Fronsperger, <i>Von kayserlichem . . . Kriegsrechten Ordnung und Regiment</i>	91
2.10 Pentagonal fortress-city, Carlo Tetti	71	2.32 Regular and irregular fortification, Allain Manesson Mallet, <i>Les Travaux de Mars ou L'Art de la guerre</i>	92
2.11 Heptagonal fortress, Jean Errard de Bar-Le-Duc, <i>Fortification reduicte en art</i>	72	2.33 Plan of three fortress-cities, Adam Freitag, <i>Architectura militaris</i>	93
2.12 Hexagonal fortress, Daniel Speckle, <i>Architettura von Vestungen</i>	72	2.34 Frontispiece, Jean Errard de Bar-Le-Duc, <i>La Fortification reduicte en art</i>	94
2.13 Frontispiece, Antoine de Ville, <i>De la Charge des gouverneurs des places</i>	73	2.35 Conquests of Marchese Spinola in "Teutschland"	97
2.14 Frontispiece, Francesco Tensini, <i>La fortificatione, guardia, difesa et espugnazione delle fortezze</i>	74	2.36 German generals using Fig. 2.35 as a board-game	97
2.15 Frontispiece, Wilhelm Dilich, <i>Peribologia</i>	75	2.37 Karlskrona, plan, Erik Dahlbergh	101
2.16 Frontispiece, Nicolas Goldman, <i>La Nouvelle Fortification</i>	76	2.38 Stralsund, view, Erik Dahlbergh	102
2.17 Frontispiece, Adam Fritach [Freitag], <i>L'Architecture militaire</i>	77	2.39 Stockholm, view, Erik Dahlbergh	104
2.18 Frontispiece, Samuel Marolois, <i>Fortification ou Architecture militaire</i>	78	2.40 Stockholm, view of triumphal coronation arch of Queen Christina, Erik Dahlbergh	106
2.19 Frontispiece, Jean Dubreuil, sieur de Bitainevieu, <i>L'Art universel des fortifications</i>	79		

LIST OF ILLUSTRATIONS

ix

3.1 Vienna, siege view, Hans Sebald Beham or Nicolaus Meldemann	112	3.25 Copenhagen, siege view, Erik Dahlbergh	140
3.2 Vienna, view of fortifications and Turkish trenches, Henricus Schmits	113	3.26 Frederiksodde (Fredericia), section and view of assault, Erik Dahlbergh	142
3.3 Vienna, plan, Augustin Hirschvogel	115	3.27 Mons, siege view from the trenches, Pierre Lepautre	143
3.4 Vienna, siege view with Turkish trenches, Daniel Suttinger	117	3.28 Cambrai, siege view with Louis XIV, attr. Adam Frans van der Meulen	145
3.5 Ingolstadt, view of Imperial encampment from inside the city, Hans Mielich	119	3.29 Louis XIV with plan of Luxembourg, Pierre Lepautre	147
3.6 Wolfenbüttel, siege view, Lucas Cranach the Younger	120	3.30 Luxembourg, siege view, Romeyn de Hooghe	148
3.7 Hohenasperg, siege view, Albrecht Dürer	121	3.31 Coevorden, view of assault, Romeyn de Hooghe	149
3.8 Saint-Quentin, siege view, Frans Hogenberg	122	3.32 Montmélian, view, Romeyn de Hooghe	150
3.9 Montmélian, siege view, Claude Chastillon	123	3.33 Luxembourg, detail of Fig. 30.	151
3.10 Model of Montmélian at Versailles victory celebration, Sébastien Leclerc	124	3.34 Rees, siege view, Sébastien Leclerc	152
3.11 Frontispiece, Johan Orlers and Heinrich von Haestens, <i>Warhaffige Beschreibung und eigentliche Abbildung aller Züge und Victorien</i>	125	3.35 Mons, siege view, Sébastien Leclerc	153
3.12 Grolle, siege view, Johan Orlers and Heinrich von Haestens, <i>Warhaffige Beschreibung und eigentliche Abbildung aller Züge und Victorien</i>	126	4.1 Haarlem, plan with fortification expansion, Romeyn de Hooghe	157
3.13 Grolle, siege plan, Hendrick Hondius	126	4.2 Palmanova, plan	158
3.14 Breda, siege view, Jacques Callot	127	4.3 Valletta, bird's-eye view, Antonio Francesco Lucini and Nicolo Allegri	159
3.15 Breda, siege view, detail, Jacques Callot	128	4.4 Circular town with diagonal streets, Girolamo Maggi, <i>Delle fortificazioni delle città</i>	160
3.16 La Rochelle, siege view, detail, Jacques Callot	129	4.5 Valletta and Floriana, aerial view	161
3.17 La Rochelle, siege view, Jacques Callot	130	4.6 Wolfenbüttel, plan with fortification project	164
3.18 Saint-Omer, siege view, Stefano della Bella	131	4.7 Guastalla, plan, Domenico Giunti	165
3.19 Candia (Heraklion), siege plan	132	4.8 Sabbioneta, plan	166
3.20 Frankfurt, plan, Matthaeus Merian	133	4.9 Livorno, plan of fortifications, Nicolas de Fer, <i>Forces d'Europe</i>	167
3.21 Frankfurt, siege view, Conrad Faber	134	4.10 Rocroi, plan	167
3.22 Frankfurt, bird's-eye view with Sachsenhausen, Matthaeus Merian	136	4.11 Philippeville and Mariembourg, plans, Georg Braun and Frans Hogenberg, <i>Urbium praecipuarum totius mundi</i>	168
3.23 Frankfurt and Sachsenhausen, plan with projected fortifications, Matthaeus Merian	137	4.12 Thionville, fortification plan, Nicolas de Fer, <i>Forces d'Europe</i>	169
3.24 Corbie, siege plan, Antoine de Ville	139	4.13 Glückstadt, plan	170
		4.14 Gothenburg, plan	171
		4.15 Karlovac, plan	172
		4.16 Charleville, plan, Edmé Moreau	173
		4.17 Neuf-Brisach, Vauban, aerial view	174
		4.18 Naarden, aerial view	175
		4.19 Hanau, plan, Christoph Metzger	177
		4.20 Nancy, plan, Friedrich Brentel	178

4.21 Nancy, bird's-eye view, Matthaeus Merian	179	4.49 London, view of civil war fortifications, Wenceslas Hollar	225
4.22 Rome, plan, detail with Via Giulia, Antonio Lafrery	183	4.50 London, reconstruction plan of 1666, Valentine Knight	226
4.23 Rome, plan, detail with street trident, Leonardo Bufalini	184	4.51 London, post-fire plan with 1666 reconstruction, Robert Hooke	227
4.24 Rome, plan, Giovanni Battista Falda	185	4.52 London, reconstruction plan of 1666, John Evelyn	227
4.25 Rome, view of Via Pia and Porta Pia	186	4.53 London, reconstruction plan of 1666, Christopher Wren	228
4.26 Rome, bird's-eye with Sixtus V's planned streets, Giovanni Guerra and assistants	187	5.1 Antwerp, triumphal gallery, Cornelius Scribonius Grapheus, <i>La tres admirable, tres magnifique et triomphante entrée du... Prince d'Espagne</i>	236
4.27 Paris, bird's-eye view, Matthaeus Merian	191	5.2 Brussels, triumphal entry of Archduke Ernst	237
4.28 Paris, plan, Pierre Bullet and François Blondel	192	5.3 Rome, papal procession from the Vatican to the Lateran, Giovanni Battista Falda	238
4.28a Paris, detail of Fig. 4.28	193	5.4 Paris, royal wedding celebration in Place Royale, Jan Ziarnko	240
4.29 Paris, project for "Place de France," Claude Chastillon	194	5.5 Rome, view of Campidoglio as designed by Michelangelo, Etienne Dupérac	241
4.30 Vienna, plan of fortifications and bird's-eye view, Jan Covens and Cornelis Mortier	197	5.6 Venice, entry at the Lido in 1574, Master GDM	241
4.31 Milan, plan, Francesco Maria Ricchini	199	5.7a, b, and c Stockholm, view of the city with royal funeral, Erik Dahlbergh	243
4.32 Milan, plan, Antonio Lafrery	200	5.8 Antwerp, entry procession, Caspar Gevertius, <i>Pompa Introitus . . . Ferdinandi</i>	244
4.33 Milan, plan, Marco Antonio Barateri	201	5.9 Paris, view of joust, Frans Hogenberg	245
4.34 Udine, plan with expansion project	203	5.10 Rome, Campidoglio triumphal arch, Carlo Rainaldi	247
4.35 Udine, view, Bernardino Gazoldi and Giovanni Battista Cosatino	204	5.11 Bologna, Banchi side of Piazza Maggiore, Jacomo Barozzi da Vignola	248
4.36 Augsburg, plan with fortification project, Wolfgang Kilian	205	5.12 Turin, triumphal arch and wedding procession, attr. Antonio Tempesta	250
4.37 The Hague, plan, Jacob II de Gheyn	207	5.13 London, Fenchurch arch, Stephen Harrison, <i>The Arches of Triumph</i>	252
4.38 The Hague, plan with fortifications, Hans van Groll	208	5.14 Equestrian portrait of Charles I and M. de Saint-Antoine, Anton van Dyck	253
4.39 Naples, plan, Carlo Tetti	209	5.15 Ghent, entry procession, Guglielmus Becanus, <i>Serenissimi Principi Ferdinandi . . . Triumphalis Introitus</i>	254
4.40 Naples, bird's-eye view, Alessandro Baratta	210	5.16 Amsterdam, triumphal arch, Caspar Barlaeus, <i>Medicea Hospes</i>	255
4.41 Naples, bird's-eye view, Etienne Dupérac	212	5.17 Antwerp, triumphal arch, Peter Paul Rubens	256
4.42 Genoa, view	213		
4.43 Genoa, bird's-eye view, Pierre Mortier	214		
4.44 Amsterdam, plan of expansion project	218		
4.45 Amsterdam, plan of smaller expansion, Pieter Bast	220		
4.46 Amsterdam, plan with fortified expansions, Carel Allardt and Romeyn de Hooghe	221		
4.47 Hamburg, plan, Arendt Petersen	223		
4.48 London, plan with fortifications of 1642–43, George Vertue	225		

LIST OF ILLUSTRATIONS

xi

5.18 Cuneo, triumphal arch, Giovenale Boetto	257	5.37 Nancy, joust in Place de la Carrière, Jacques Callot	282
5.19 Paris, Faubourg Saint-Antoine triumphal arch, Jean Marot and Jean Lepautre	258	5.38 Florence, <i>naumachia</i> in Palazzo Pitti, Orazio Scarabelli	282
5.20 Paris, Porte Saint-Antoine triumphal arch, Jean Marot	259	5.39 Florence, fan with view of <i>naumachia</i> on the Arno, Jacques Callot	283
5.21 Paris, two triumphal arches, Jean Lepautre	260	5.40 Paris, <i>naumachia</i> on the Seine, Jacques Callot	284
5.22 Paris, Place Dauphine with “amphitheatre” and “pyramid” arch, Jean Marot and Nicolas Cochin	261	5.41 Rome, joust in Piazza Navona, François Collignon	287
5.23 Paris, Saint-Denis gate, François Blondel	262	5.42 Paris, joust in the Tuileries garden, Israel Silvestre	288
5.24 Frontispiece, Claude Perrault, <i>Les Dix Livres de Vitruve</i>	263	5.43 Stage set with Pont-Neuf (Paris), Giacomo Torelli	289
5.25 The Hague, triumphal arch, Romeyn de Hooghe	264	6.1 Paris, fireworks on the Seine, Matthaeus Merian	293
5.26 Stockholm, view with triumphal arch, Erik Dahlbergh	265	6.2 Rome, Girandola at Castel Sant’Angelo, Ambrogio Brambilla	295
5.27 Rome, Marcus Aurelius equestrian statue	266	6.3 Rome, stage set with Girandola at Castel Sant’Angelo, Giovanni Francesco Grimaldi	296
5.28 Paris, “pyramid” arch and equestrian statue of Henri IV, Jean Lepautre	267	6.4 Allegory of fireworks engineer, Nicholas de Larmessin	297
5.29 Florence, equestrian statue of Cosimo I, Giambologna and Pietro Tacca	269	6.5 Nuremberg, fireworks duel of two fortresses, Jost Amman	298
5.30 Piacenza, equestrian statue of Alessandro Farnese, Francesco Mochi	270	6.6 Halle, fireworks display around hexagonal fortress, Joachim Krositen	299
5.31 Paris, Place Royale with Louis XIII’s equestrian statue, Stefano della Bella	271	6.7 Versailles, palace of Alcina, Israel Silvestre	300
5.32 Paris, Louis XIV’s equestrian statue in Place Louis-le-Grand, François Girardon	274	6.8 Versailles, fireworks around the palace of Alcina, Israel Silvestre	300
5.33 Paris, Place Louis-le-Grand with Louis XIV’s equestrian statue, Pierre Lepautre	275	6.9 Brussels, imperial fireworks, Romeyn de Hooghe	301
5.34 Berlin, equestrian statue of Frederick the Great, Andreas Schlüter	277	6.10 Rome, Piazza Navona fireworks, Carlo Rainaldi	302
5.35 Florence, <i>Guerra di Bellezza</i> , Jacques Callot	280	6.11 Rome, Piazza di Spagna fireworks, square tower, Claude Lorrain	304
5.36 Florence, Piazza Signoria with annual tribute to Ferdinand II, Jacques Stella	281	6.12 Rome, Piazza di Spagna fireworks, cylindrical tower, Claude Lorrain	305
		6.13 Rome, Piazza di Spagna fireworks, equestrian statue, Claude Lorrain	306

Note: Unless otherwise specified in the caption, the medium is copperplate engraving or etching.

Cambridge University Press
978-0-521-11344-1 - Cities at War in Early Modern Europe
Martha Pollak
Frontmatter
[More information](#)

ACKNOWLEDGMENTS

My decade-long research for this book has been aided by a number of institutions. A Kress Foundation Fellowship at the Courtauld Institute of Art in London first allowed me to delve deeply in the collections of the Map Room of the British Library, where Peter Barber and his staff helped immeasurably. David Park introduced me to the Royal Society of Antiquarians' peerless collection of early modern party books, and Geoffrey Fisher, of the Conway Library at the Courtauld Institute, agreed to photograph a considerable number of the engraved illustrations. To Sharon Cather, who offered hospitality for extended periods of time in her home in Greenwich, and helped in innumerable ways, I owe the opportunity of using London as a research base.

The Herzog August Bibliothek in Wolfenbüttel provided two research fellowships, and Jill Bepler and Christian Hogrefe made my stays there extremely rewarding.

During my stay in Washington, D.C., while a Senior Visiting Fellow at the Center for Advanced Study in the Visual Arts at the National Gallery of Art, Henry Millon and Therese O'Malley steered me toward the Millard collection of the Prints and Drawings Department, and the Rosenwald Collection of the Library of Congress.

Most of the writing was completed on a Fellowship from the American Council of Learned Societies, and during a Post-Doctoral Mellon Foundation Fellowship at the Newberry Library. My work at the Newberry was aided by the ready and kind

attention of James Ackerman, David Buisseret, Paul Gehl, and Robert Karow, and the assiduous service of the Special Collections staff. In Chicago, my thanks also go to the attentive staff of the Ryerson and Burnham Libraries of the Art Institute, especially to Mary Wolover and to its director Jack P. Brown.

From my home institution, the University of Illinois in Chicago, I received a year-long Fellowship at the Institute for the Humanities, several summer research grants from the Office of the Vice-Chancellor for Research, two sabbatical leaves, and the three-year term of a University Scholar from the University of Illinois Foundation. The Vice-Chancellor and Dean Judith Kirshner of the College of Architecture and the Arts provided much-needed publication subsidies.

For shorter but equally fruitful research stays at numerous archives and libraries, I want to thank in particular the staffs of the Guildhall Library in London, the Prints and Drawings department of the British Museum, the Estampes and Cartes et Plans departments of the Bibliothèque Nationale de France in Paris, the Bibliothèque du Genie (Service Historique de l'Armée du Terre) at Vincennes, the Württembergische Landesbibliothek in Stuttgart, the Kupferstichkabinett in Berlin, the Print Collection of the Veste Coburg Museum in Coburg, the Print Room of the Herzog Anton Ulrich-Museum in Braunschweig, the Royal Library and the War Archives in Stockholm, the Manuscript department at the Austrian National Library and the Albertina Museum in Vienna, the Biblioteca Reale and the

Archivio di Stato in Turin, the Civica Raccolta Achille Bertarelli at the Castello Sforzesco in Milan, the Archivio di Stato in Parma, the Biblioteca Laurenziana and the Prints and Drawings department of the Uffizi in Florence, the Biblioteca Apostolica Vaticana in Vatican City, the Hertziana, the Biblioteca del Istituto Storico e di Cultura dell'Arma del Genio and the library of the Ecole Française in Rome, the Print Room of the Museum Plantin Moretus in Antwerp, the Folger Shakespeare Library and the Library of Congress in Washington, D.C., the Avery Architectural Library at Columbia University and the New York Public Library in New York, Special Collections at the library of the University of Michigan in Ann Arbor, the Bancroft Library of the University of California at Berkeley, and the Getty Research Institute in Los Angeles.

I received much valuable response to portions of the book presented in various venues. In Paris, Maurice Aymard sponsored the three formative meetings of the War Studies Group convened by me at the Maison des Sciences de l'Homme. I thank all the members of that group, and especially Henning Eichberg, Charles van den Heuvel, and Donatella Calabi. In Cambridge, Mass., there was expert questioning from the members of the History, Theory, and Criticism Forum in architecture at the Massachusetts Institute of Technology, especially Nancy Stieber and Nasser Rabbat. While I was a Resident at the American Academy in Rome, Carmela Vircillo Franklin and the Fellows, especially Stephanie Pilat and Marina Rustow, helped to hone my argument. I presented parts of this book in lectures at symposia at the University of Minnesota (organized by James Tracy, who edited the volume where the conference papers were published, including an earlier version of my Chapter 3 on siege views), at the Folger Library in Washington, D.C. (organized by Kathleen Lynch), and at the Musée des Plans Reliefs in Paris (organized by Max Polonovski and Isabelle Warmoes). Additional far-flung invitations to discuss early modern urbanism and military architecture, at the Warburg Institute in London in the Director's seminar organized by

Nicholas Mann, at the Map Forum in London chaired by Catherine Delano-Smith, the doctoral seminar at the Politecnico in Turin chaired by Carlo Olmo, and at the Technion School of Architecture in Haifa, provided me with incisive feedback to the work in progress from colleagues and students in art history, cartography, and architecture. My graduate students at the University of Illinois, especially Laura Kramer, Allan Berry, Jeffrey Campbell, and Margaret Klinkow offered insightful evaluations and critical reader response at various stages of writing.

For their support in carrying out my research, and time and attention in reading and commenting on parts of the book, I am especially grateful to Nicholas Adams, Diane Ghirardo, John Pinto, and John Beldon Scott.

For companionship, guidance, and all manner of kindnesses I want to thank Stefania and Salvatore Amodeo, Thomas Arnold, Andrea Bayer, Bruce Boucher, Alfred Bruckstein, Mario Carpo, Maristella Casciato, Jean-Louis Cohen, Claudia Conforti, Martha Feldman, Daniela Ferrari, Francesca Filippi, Christine Godet, Jeroen Goudeau, Hellmut Hager, the late Sir John Hale, Ian Jackson, Mark Jarzombek, David Jordan, Richard Kagan, Olga Kogan, the late Hanno-Walter Kruft, Daniela Lamberini, David Landau, Hellmut Lorenz, John Marino, Naomi Miller, Anna Minta, Robert Munman, Stephen Ostrow, Geoffrey Parker, Chiara Passanti, Simon Pepper, Antoine Picon, Maxime Préaud, Marta and Giuseppe Rebecchini, Stephen Rustow, Victoria Sanger, Cesare de' Seta, the late Richard Solomon, Ruti Stark, Gennaro Toscano, Marc Treib, James Van Sweden, Marino Viganò, Martha Woodmansee, and Simone Zurawski.

It is my great fortune to have as in-house editor an exceptionally erudite and demanding scholar, James Grantham Turner. He has shared in all my travels; hunted for drawings, maps, and fortified cities; read various drafts; edited the entire book more than once; and offered throughout ardent support, expert guidance, and critical insight. I thank him with all my heart.

ABBREVIATIONS AND FREQUENTLY CITED WORKS

BL	The British Library, London	<i>Diary</i>	<i>The Diary of John Evelyn, Now first printed in full from the manuscripts belonging to Mr. John Evelyn</i> , ed. E. S. De Beer (Oxford, 1955); cited by volume and page
BM	The British Museum, London, Department of Prints and Drawings		
BnF	Bibliothèque Nationale de France, Paris, département des Estampes et de la photographie	Guidoni- Marino, <i>Cinquecento</i>	Enrico Guidoni and Angela Marino, <i>Storia dell'urbanistica: Il Cinquecento</i> (Rome and Bari, 1982)
Braun- Hogenberg	Georg Braun and Frans [Franz] Hogenberg, <i>Civitates orbis terrarum</i> [<i>Cities of the Countries of the Globe</i>] (1572–); cited by volume and item number from the expanded Latin edition (Cologne, 1593) and from sequels, each with their own title page: <i>De praecipuis totius universi urbibus,</i> <i>liber secundus</i> (Cologne, 1593)	Guidoni- Marino, <i>Seicento</i>	Enrico Guidoni and Angela Marino, <i>Storia dell'urbanistica: Il Seicento</i> (Rome and Bari, 1979)
II		HAB	Herzog August Bibliothek, Wolfenbüttel, Germany
III	<i>Urbium praecipuarum totius mundi,</i> <i>liber tertius</i> (Cologne, 1606)	MA	Martha Pollak, <i>Military Architecture, Cartography and the Representation of the Early Modern European City: A Checklist of the Treatises on Fortification at the Newberry Library</i> (Chicago, 1991)
IV	<i>Liber quartus, Urbium praecipuarum totius mundi</i> (Cologne, 1594)	Palmanova	<i>Palmanova: Fortezza d'Europa, 1593–1993</i> , ed. Gino Pavan, catalog of exhibition held June 6–Nov. 15, 1993, Palmanova and Codroipo (Venice, 1993)
V	<i>Urbium praecipuarum mundi</i> <i>theatrum quintum</i> (Cologne, 1597), with plates also by or after Joris [Georg] Hoefnagel	Turin	Martha Pollak, <i>Turin 1560–1680: Urban Design, Military Culture and the Creation of the Absolutist Capital</i> (Chicago, 1991)
VI	Anton Heirat and Abraham Hogenberg, <i>Theatri praecipuarum totius mundi urbium liber sextus</i> (Cologne, 1618), text in French, with plates by or after Hoefnagel		