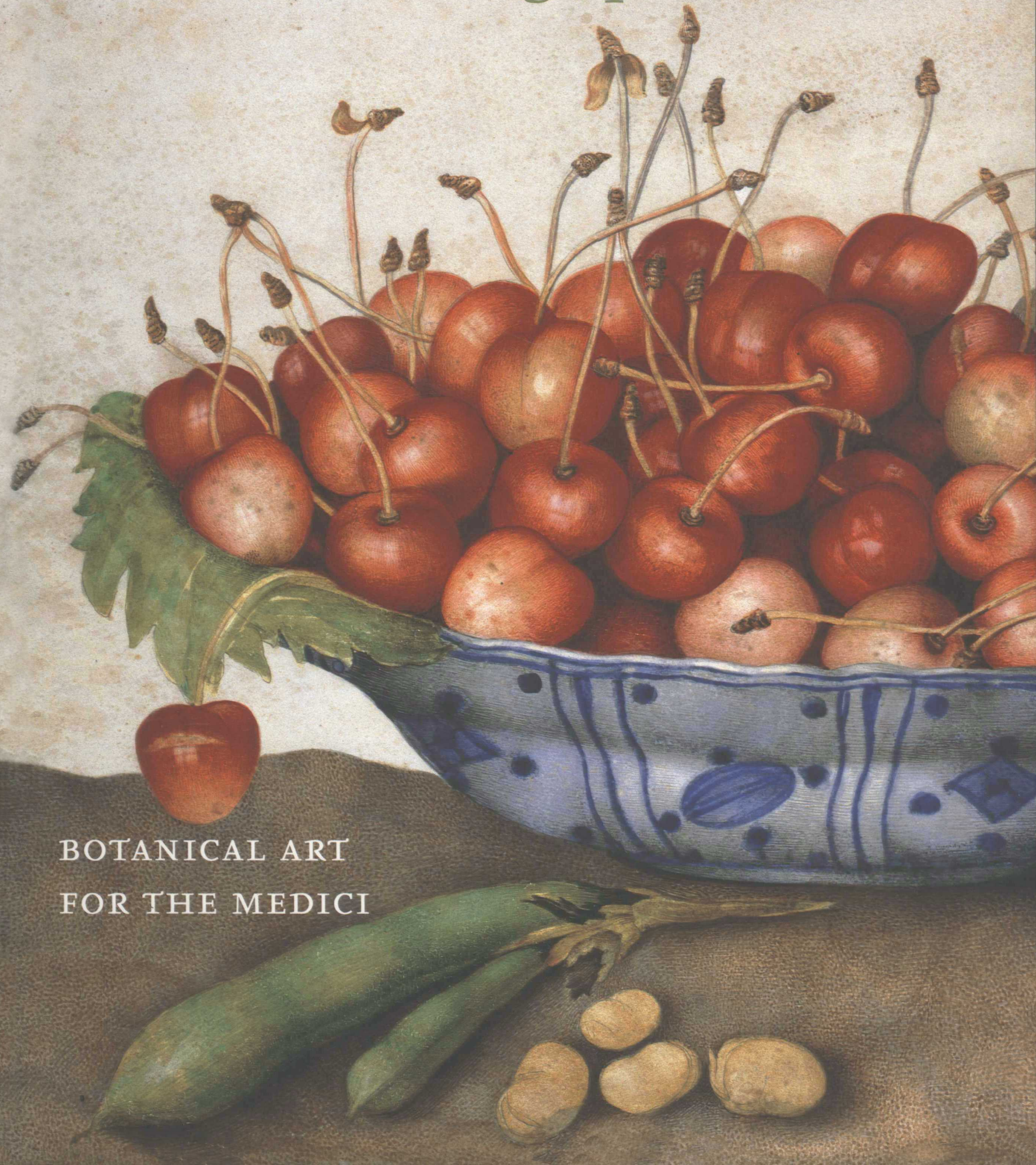


The Flowering of Florence



BOTANICAL ART
FOR THE MEDICI



The Flowering of Florence



The Flowering of Florence

BOTANICAL ART FOR THE MEDICI

LUCIA TONGIORGI TOMASI

GRETCHEN A. HIRSCHAUER

NATIONAL GALLERY OF ART, WASHINGTON

The exhibition was organized by the National Gallery of Art, Washington

Exhibition dates
3 March–27 May 2002

Copyright © 2002 Board of Trustees
National Gallery of Art, Washington
All rights reserved. This book may not be reproduced, in whole or in part (beyond that copying permitted by Sections 107 and 108 of the U.S. Copyright Law, and except by reviewers from the public press), without written permission from the publisher.

Produced by the National Gallery of Art,
Washington
www.nga.gov

Editor-in-chief, Judy Metro
Edited by Ulrike Mills
Translation by Lisa Chien
Designed by Chris Vogel, with production assistance from Rio DeNaro

This book was typeset in *Seria* and *Fago* and printed on *Garda Matt* by *Conti Tipocolor*, Florence, Italy

Front cover: cat. 48. Giovanna Garzoni, *Chinese Plate with Cherries and Bean Pods* (detail), c. 1620, gouache on vellum, Private collection

Back cover: cat. 29. Daniel Froeschl, *Sunflower (Helianthus annuus) Seen from the Back* (detail), tempera on paper, from *Codice Casabona*, illuminated manuscript, Biblioteca Universitaria, Pisa

LIBRARY OF CONGRESS

CATALOGING-IN-PUBLICATION DATA

Tongiorgi Tomasi, Lucia
The flowering of Florence: botanical art for the Medici / Lucia Tongiorgi Tomasi, Gretchen A. Hirschauer.

p. cm.

Catalog of an exhibition held at the National Gallery of Art, Washington, DC, Mar. 3–May 27, 2002.

Includes bibliographical references.

ISBN 0-89468-288-1 (paper)

ISBN 0-8331-857-3 (cloth)

1. Plants in art—Exhibitions. 2. Flowers in art—Exhibitions. 3. Botanical illustration—Italy—Florence—Exhibitions. 4. Art, Italian—Italy—Florence—Exhibitions. 5. Art, Late Renaissance—Italy—Florence—Exhibitions. 6. Medici, House of—Art patronage—Exhibitions.

I. Hirschauer, Gretchen A. II. National Gallery of Art (U.S.) III. Title.

N768o .T66 2002

758'.42'094551074753—dc21 2001057964

BRITISH LIBRARY

CATALOGING-IN-PUBLICATION DATA

A catalogue record for this book is available from the British Library

Clothbound edition first published in 2002 by Lund Humphries, Gower House, Croft Road, Aldershot, Hampshire GU11 3HR, UK, and 131 Main Street, Burlington, VT 05401, USA

www.lundhumphries.com

Lund Humphries is part of Ashgate Publishing





Contents

- 7 Foreword
- 9 Acknowledgments
- 11 Lenders to the Exhibition
- 13 Medici Genealogy
- 15 The Flowering of Florence: Botanical Art for the Medici
LUCIA TONGIORGI TOMASI
- 109 Meditations on a Theme: Plants in Perugino's "Crucifixion"
GRETCHEN A. HIRSCHAUER
- 119 Checklist of the Exhibition
- 125 Bibliography



Foreword

While the wonders of nature have long been an inspiration to artists, the birth of modern science in the sixteenth century provided a new way of seeing and interpreting the natural world. *The Flowering of Florence: Botanical Art for the Medici* celebrates the close ties linking the arts and the sciences in Tuscany between the sixteenth and eighteenth centuries. The pursuit of the natural sciences, in particular botany and horticulture, and a passion for the arts found ardent supporters in the Medici grand dukes, following a Florentine tradition from the time of Lorenzo the Magnificent.

Among the sixty-eight works in this elegant exhibition are paintings, works on vellum and paper, *pietre dure* (hardstone mosaics), manuscripts, printed books, and sumptuous textiles that were created in this remarkable culture. The exhibition focuses primarily on the art of three distinguished yet very different painters, Jacopo Ligozzi, Giovanna Garzoni, and Bartolomeo Bimbi, each gifted with a masterly technique, originality, and freshness of style. Lucia Tongiorgi Tomasi of the University of Pisa first proposed this exhibition on botanical imagery, and she was joined in the project at the National Gallery of Art by Gretchen A. Hirschauer, assistant curator of Italian Renaissance paintings.

The idea for the show emerged from Lucia Tongiorgi Tomasi's research and study at the Oak Spring Garden Library. We gratefully acknowledge Mrs. Paul Mellon's pivotal role in the connoisseurship and collecting of botanical art. We are also greatly indebted to the museums and institutions of Florence that have generously lent so many works of art. The exhibition could not have come about without the extraordinary support of the Florentine superintendents, Antonio Paolucci, Mario Lolli Ghetti, and Cristina Acidini Luchinat. Our gratitude goes to the directors of lending institutions and to private collectors who have allowed us to exhibit their treasures: Biancastella Antonino, James Billington, Angela Cipriani, Curzio Cipriani, Antonia Ida Fontana, Tom Freudenheim, Annamaria Giusti, Edward Keenan, Isabella Lapi Ballerini, Mrs. Paul Mellon, Giovanna Nepi Sciré, Patrizio Osticresi, Serena Padovani, Marco Paoli, Roberta Passalacqua, Katharine Lee Reid, Chiara Silla, Paolo Tongiorgi, and those collectors who wish to remain

anonymous. A special thanks is extended to Annamaria Petrioli Tofani of the Galleria degli Uffizi for her support and advocacy of the project from the outset, and for the unprecedented loan of twenty-two works by Jacopo Ligozzi and Giovanna Garzoni from the Uffizi's collection.

We would also like to thank Ferdinando Salleo, Italian ambassador to the United States, and Luigi Macotta, first counselor, for their continued assistance in obtaining loans.

Earl A. Powell III

Director, National Gallery of Art

Acknowledgments

At the National Gallery of Art, colleagues in many departments helped make this exhibition possible. Director Earl A. Powell III and deputy director Alan Shestack encouraged the project from its inception, as did D. Dodge Thompson, chief of exhibitions. Virginia Clayton, associate curator in the department of old master prints, was a collaborator in the early stages and continued to contribute welcome botanical advice. David Alan Brown, curator of Italian Renaissance paintings, offered much-appreciated guidance and good counsel. He also served as the reader for an essay, as did Therese O'Malley, associate dean of the Center for Advanced Study in the Visual Arts. Elon Danziger, department of Italian Renaissance paintings, provided crucial assistance and suggestions on many aspects of the exhibition and catalogue. Special thanks go to the following Gallery staff: Mark Leithauser, Gordon Anson, Bill Bowser, Mari Forsell, Barbara Keyes, Susan Arensberg, Ruth Anderson Coggeshall, Jennifer Cipriano, Jennifer Bumba-Kongo, Melissa Stegeman, Hugh Phibbs, Sara Sanders-Buell, and Ira Bartfield. Ulrike Mills proved to be an excellent catalogue editor, and Chris Vogel designed a very appealing book. Lucia Tongiorgi Tomasi's essay was fluidly translated from the Italian by Lisa Chien of Pisa.

The paintings by Bartolomeo Bimbi from the Museo di Storia Naturale of the University of Florence were cleaned for the exhibition at the Università Internazionale dell'Arte in Florence under the direction of Umberto Baldini. We owe much to the following colleagues and friends, in America and Italy: Gianni Bedini, Alessandro Bicchi, Marco Chiarini, Michel Conan, Gigetta Dalli Regoli, Diane De Grazia, Donata Devoti, Roberto Fontanari, Carter Foster, Fabio Garbari, Linda Lott, Laura Lucchesi, Lucia Monaci Moran, Chiara Nepi, Bret Payne, Debra Pincus, Carla Pinzauti, Margaret and William Price, Shelby Scott, Cathryn Scoville, Alessandro Tosi, Mary Westerman Bulgarella, and Tony Willis.

Finally, we would like to express our gratitude to Mrs. Paul Mellon. She very generously made it possible for Lucia Tongiorgi Tomasi to study the unique collection at the Oak Spring Garden Library and thus provided the initial inspiration for this exhibition.

Gretchen A. Hirschauer

Lucia Tongiorgi Tomasi



Lenders to the Exhibition

Accademia Nazionale di San Luca, Rome

Biblioteca Nazionale Centrale, Florence

Biblioteca Universitaria, Bologna

Biblioteca Universitaria, Pisa

The Cleveland Museum of Art

Collection of Mrs. Paul Mellon, Oak Spring Garden Library,
Upperville, Virginia

Dumbarton Oaks, Trustees for Harvard University,
Washington, DC

Gabinetto Disegni e Stampe degli Uffizi, Florence

Galleria Palatina, Palazzo Pitti, Florence

Gallerie dell'Accademia, Venice

Gilbert Collection, Somerset House, London

Library of Congress, Washington, DC

Museo dell'Opificio delle Pietre Dure, Florence

Museo Storico Topografico "Firenze Com'era," Florence

National Gallery of Art, Washington

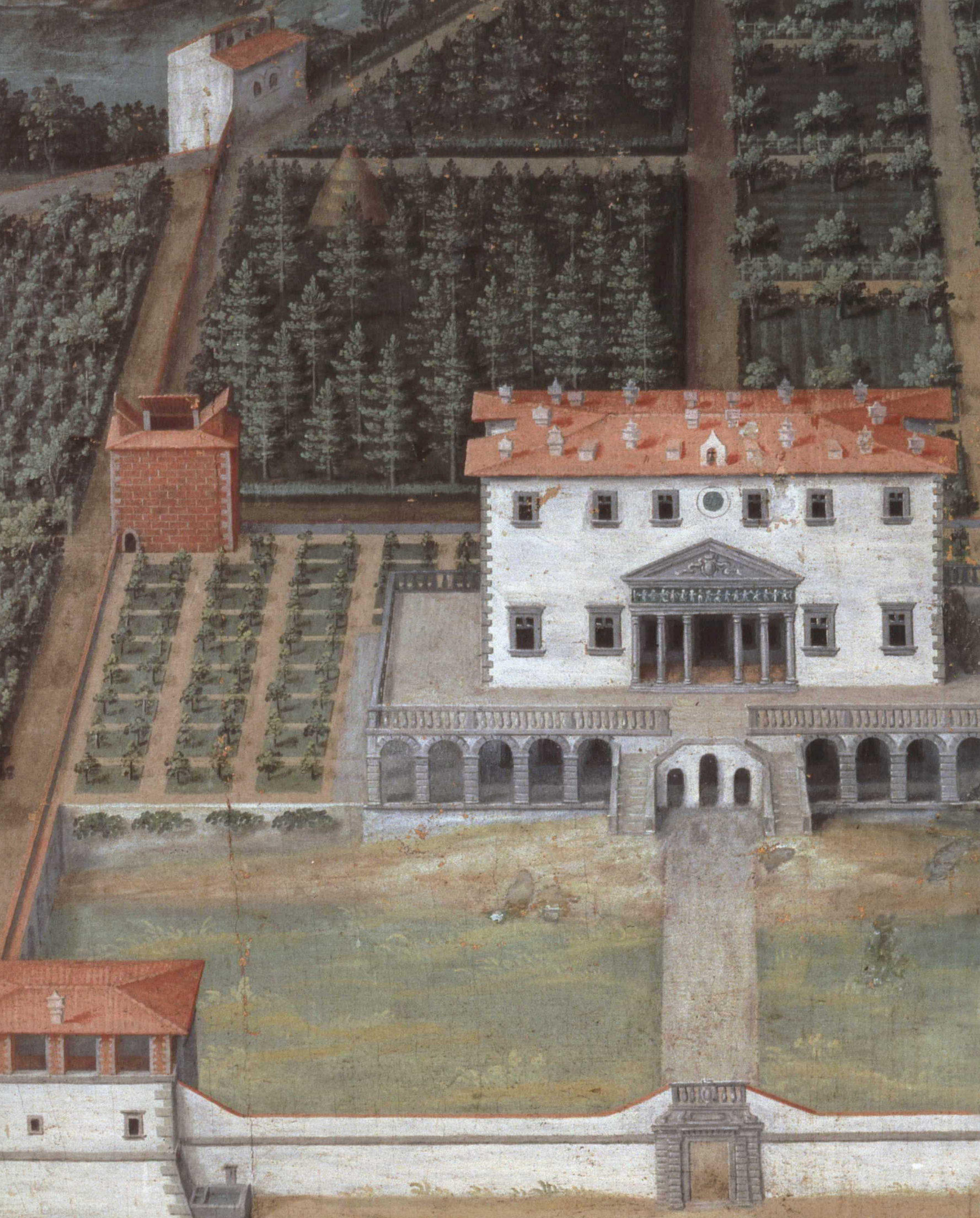
Opera di Santa Maria del Fiore, Florence

Private collections

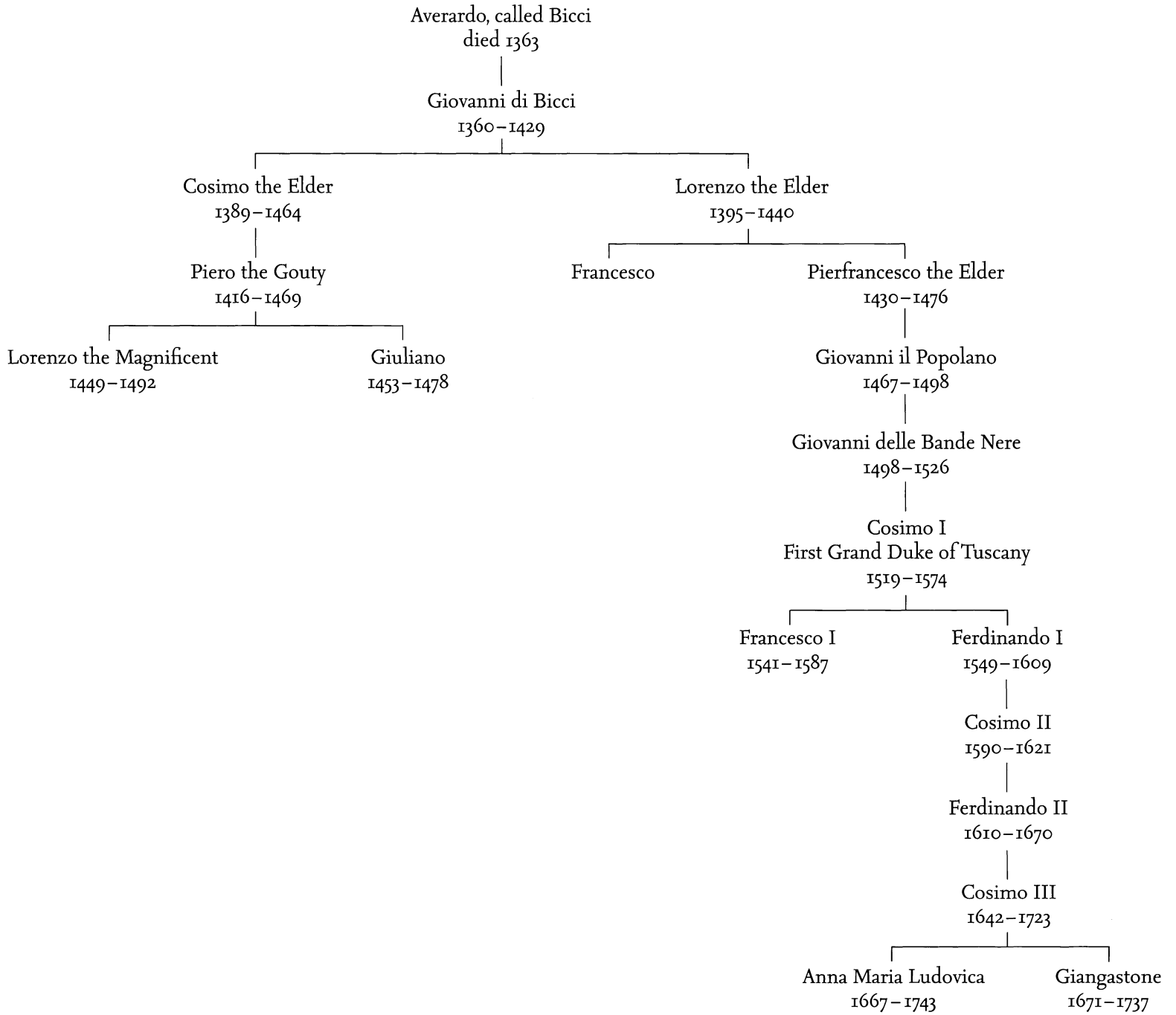
Sezione Botanica "F. Parlatore" del Museo di Storia Naturale,
University of Florence

Villa Medicea della Petraia, Florence

Villa Medicea, Poggio a Caiano, Florence



Abridged Medici Family Tree





The Flowering of Florence: Botanical Art for the Medici

LUCIA TONGIORGI TOMASI

Living immersed in landscapes of great natural beauty, Tuscans have always harbored a deep love of flowers and gardens. During the Renaissance, in intellectual circles this propensity developed naturally into an interest in horticulture and the botanical sciences, subjects that would coexist in perfect harmony with the Medici family's love of the arts. By attracting to their court outstanding intellectuals, scientists, and artists, the dynasty created a cultural ambience that was rarely matched elsewhere in this period for its dynamism and vivacity, one in which the arts and sciences benefited from stimulating interchanges on many different levels.

FROM NATURAL PHILOSOPHY TO THE NATURAL SCIENCES:

THE PRINCIPALITY OF THE MEDICI

In the fifteenth century the study of natural history and the practice of horticulture received the wholehearted support of Cosimo I the Elder (1389–1464), known as *Pater Patriae* (Father of His Country). This policy was continued by Lorenzo the Magnificent (1449–1492) and subsequently by all the members of the family's second branch during the sixteenth century. Cosimo I (1519–1574), who came to power in 1537 and founded the grand duchy, his sons Francesco I (1541–1587) and Ferdinando I (1549–1609), and finally Giangastone (1671–1737), with whom the noble line would expire exactly two hundred years later, all took an ardent interest in the botanical sciences and sponsored the work of eminent botanists.

These scientific inclinations, always closely linked with the Medici family's interest in the arts, found ideological support in the philosophical discussions conducted in fifteenth-century Florence by the leading minds of the *Accademia Platonica* (founded by Cosimo the Elder), in particular Marsilio Ficino, and in the study of the *veteres auctores* (authors from antiquity), whose original texts were sought out and studied with a renewed critical purpose. We can imagine the excitement that must have been felt in intellectual circles over the news that the humanist Poggio Bracciolini had discovered a precious copy of Lucretius' *De rerum natura* in the monastery of Saint Gall, or when Cosimo the Elder, on the advice of the humanist Niccolò Niccoli, acquired a rare manuscript copy of Pliny the Elder's *Historia naturalis*. An Italian edition

of this fundamental work—translated by Cristoforo Landino, annotated by Angelo Poliziano (a poet and humanist who was among the first to appreciate the importance of the sciences as a new branch of knowledge), and published in Venice in 1476—was distributed widely in cultivated circles in Florence. Another indispensable work was placed at the disposal of scholars when Lorenzo de' Medici commissioned Marcello Adriani to translate the medical-botanical texts of the Greek physician Dioscorides into Latin. Copies of these works could be found in the library established by the Medici family at the convent of San Marco.

This new “scientific humanism” led to a revival of classical ideals regarding the virtues and amenities of the pastoral life. Scholars earnestly studied the works of the *Scriptores rei rusticae* from Cato to Varro and from Palladius to Columella, and sought to apply their teachings, albeit adapting these to modern economic conditions that demanded the reinvestment of capital in agriculture.¹

Given this stimulating atmosphere, which combined a critical reevaluation of the knowledge of antiquity with the modern, scientific study of nature and landscape, it should come as no surprise that the principles for an entirely new conception of garden architecture developed in Florence during the second half of the fifteenth century. Leon Battista Alberti was the first to envisage the garden as a centralized, unified, and orderly construction mirroring the typology of the ideal Vitruvian city. He seems to have been generous with his advice to Giovanni Rucellai, the owner and probable designer of the oldest “humanistic garden” of which we have any mention. Built before 1460, this garden surrounded Rucellai's villa, Lo Specchio, at Quaracchi in the countryside not far from Florence. From surviving descriptions it appears that the new laws of perspective were applied in its layout and that a deliberate effort was made to harmonize the garden with the landscape around it, two cardinal rules that, according to Alberti, the wise architect must always keep in mind.²

In 1469 Lorenzo the Magnificent, grandson of Cosimo the Elder, inherited the mantle of power and assumed rule over the *città del fiore* (city of flowers), inaugurating a particularly glorious period in its cultural life. The similarity of the name Lorenzo (“Laurentius” in Latin) to the word *lauro* or laurel, with its many classical associations, offered the point of departure for many felicitous citations and literary digressions on the part of the poets in his circle. Angelo Poliziano, for example, wrote these lines of celebratory verse in *Stanze per la Giostra del Magnifico Giuliano di Piero dei Medici*: “And you well-born Laurel, under whose veil / Florence rests happily in peace / Fearing neither the wind nor the threat of the sky.”³

The Medici family also built, or acquired and renovated, a series of magnificent villas outside the city that became masterpieces of Renaissance architecture, embellished with gardens that grew ever more elaborate and imposing. No longer mere plots of land dedicated to the cultivation of useful plants for the kitchen and dispensary, the garden came to be viewed as a space

formed by art and nature to provide delight for the eye and repose for the spirit, where plants were lovingly cultivated for the sheer pleasure offered by their shapes, colors, and fragrance. The Villa di Careggi, where the Accademia Platonica seems to have held its meetings under the auspices of Cosimo the Elder, became celebrated as a veritable *luogo di delizie* (place of delights) after it was renovated by the architect Michelozzo. He surrounded the central residence with an immense garden adorned with fountains and rare plants. We can imagine that these verses by Poliziano were inspired by the poet's visits to Careggi: "Maidens, one fine morning / in the middle of May I found myself in a green garden. / All around me were violets and lilies / [dotting] the green grass, and many new flowers / of azure blue, bright yellow, and scarlet . . ."⁴

Lorenzo the Magnificent also looked on the villa and garden as an ideal setting where art and nature could coexist in perfect harmony, and in 1485 commissioned Giuliano da Sangallo to construct a splendid complex at Poggio a Caiano. Lorenzo's son, Cardinal Giovanni, who would later become the redoubtable Pope Leo X and who restored the *signoria* (governing council) in 1512 after civil disorders broke out following the death of his father, was particularly attached to this quiet haven.

The idealized and aristocratic conception of nature that developed in Florence during the second half of the fifteenth century found an immediate echo not only in the poetry of the period (in addition to the erudite verses of Poliziano, the poems of Luigi Pulci stand out and not a few verses penned by Lorenzo himself), but also in the work of artists who sought to portray their vision of a harmonious world shaped by the ideals of classical antiquity. During this period a body of works was produced that would never be surpassed for artistic quality, refinement, and sophisticated ideological content, and a complex symbology was developed in order to express the neo-Platonic ideas then in circulation. Botanical references abounded, for the world of nature offered an inexhaustible source of symbolic images. While we may have difficulty in construing the hidden meaning of many of these paintings today, their naturalistic details lend them an irresistible charm. At the same time they provide us with surprisingly exact information on the state of botanical knowledge in this period; we can even follow the rapid changes that were taking place as, over the span of a few decades, this knowledge expanded vertiginously with the arrival of new species from distant lands.

If we study an early work such as the sumptuous and elegant court procession painted by Benozzo Gozzoli in 1459 for Cosimo the Elder in the chapel of the Medici palace in Via Larga, we realize that while the artist has sought to portray the Medici family and its retinue as a completely new order of men invested with a serene gravitas, the setting is a highly stylized, late-Gothic landscape. The vegetation has been borrowed directly from medieval sources, and it is often difficult to identify the exact species represented, although prominently displayed is that quintessential medieval symbol, the rosebush covered with red and white flowers. Yet Gozzoli

cat. 1. Domenico Veneziano, *Madonna and Child*, c. 1445, tempera (and oil?) on panel, National Gallery of Art, Washington, Samuel H. Kress Collection



depicted the birds and animals that enliven the procession with striking realism, perhaps reflecting the aristocratic predilection for the pleasures of the hunt.⁵

The rosebush with its “white rose of virginity, and red rose of martyrdom, the rose incarnate born of study and of the true doctrine,” as the Dominican friar Giovanni Dominici of Florence wrote,⁶ was an important element in the medieval iconography of the Church. It can be found in many early Renaissance paintings on a popular theme—the Virgin and Child seated in a garden—such as the *Madonna and Child* by Domenico Veneziano (cat. 1) and the *Madonna and Child* by the artist known as the Pseudo Pier Francesco Fiorentino (cat. 2). Like Gozzoli, the two artists here were not at all concerned with portraying nature in realistic detail; the flowers in their gardens are purely decorative elements, reminiscent of the intricate arabesques of vegetation that define the *hortus conclusus* (enclosed garden) of the *Madonna and Child with Saint Catherine* by Stefano da Zevio (Museo di Castelvecchio, Verona), a work typical for the style of the late Gothic.

Instead, beginning in the mid-1470s, a more exacting and attentive eye was cast on the natural world in the wake of the study of the humanities that laid the groundwork for this development. Direct knowledge of and careful reflection on the texts of antiquity, in particular Pliny the Elder’s *Historia naturalis* (his chapters on the arts as well as those devoted to scientific phenomena), led to the emergence of naturalism in the arts and an ever more vivid interest in nature and landscape, now regarded as an important, and indeed inseparable, aspect of reality.⁷ The studio of the artist Andrea del Verrocchio, a meeting point for the most talented artists of the period where many a discussion on aesthetic theory must have taken place, played a fundamental role in these developments.⁸

One of the artists most clearly influenced by this awakening interest in the natural world was the young Leonardo da Vinci, who spent considerable time around 1481–1482 producing *molti fiori ritratti al naturale* (many flowers portrayed from nature), as he wrote in his *Codex Atlanticus*. The drawing of a Madonna lily or *Lilium candidum* (Royal Library, Windsor Castle) is one of these early studies and testifies to the artist’s innate sensitivity to natural phenomena. He has depicted the delicate fleshiness of the lily’s petals and bracts with great skill, punctiliously drawing the blossoms in various stages of flowering, and achieved an almost palpable realism through his use of the mixed technique of chalk and wash.

Art historians Carlo Pedretti and William A. Emboden lean toward an attribution of the *Studies of Flowers* (cat. 3)⁹ to a student of Leonardo, Francesco Melzi. However, this sheet of sketches in pen and ink, which depict with scrupulous accuracy the delicate flowers of a common pear (*Pyrus communis*), the sweet violet (*Viola odorata*), a flowering stem of pearl grass (*Briza maxima*), and various species of roses,¹⁰ bespeaks the same precocious and assured approach to



cat. 2. Pseudo Pier
Francesco Fiorentino,
Madonna and Child,
c. 1470, tempera
on panel, National
Gallery of Art,
Washington, Widener
Collection



cat. 3. Leonardo da Vinci, *Studies of Flowers*, c. 1483, pen and ink over metalpoint on paper, Gallerie dell'Accademia, Venice



natural phenomena and the same careful analysis of each specimen as the Windsor drawing of the lily.

According to Giorgio Vasari and the Anonymous Magliabechiano, during this period Leonardo was also engaged in the preparation of a (now lost) cartoon showing Adam and Eve “in a meadow, in grisaille with white highlights, containing much vegetation and some animals, which is unsurpassed for finish and naturalness.”¹¹ His *Annunciation* (Uffizi, Florence) from the same period is set in a garden, but in this case Leonardo preferred to focus on the effect of the sudden flurry in the air produced by the arrival of the Archangel Gabriel, who has just alighted on the dewy grass, rather than concentrating with microscopic attention on the botanical composition of the meadow.¹² Shortly afterward, in the portrait of *Ginevra de' Benci* (National Gallery of Art, Washington), Leonardo seized the opportunity to experiment with yet another effect; this time a forest glade of juniper trees is used to create a striking background in which the artist focuses on the play of light and shadow among the dark branches.¹³

The flower-strewn meadow depicted in “scientific” detail reappears in various purported copies of lost works by Leonardo, such as the *Leda* in the Uffizi and the later, considerably over-painted picture in the Galleria Borghese, Rome, in both of which the maiden is shown standing enveloped in the embrace of the swan. Another example is the kneeling *Leda* from the Staatliche Museen, Kassel.¹⁴

The meadow of flowers thus became a favorite theme in Florentine painting, remaining so through the first decades of the sixteenth century and offering an arena in which botanical knowledge and symbolical allusions could merge in an extraordinary equilibrium between naturalism and symbolism. One of the most significant examples is seen in the well-ordered and harmonious *prato del verziere* (flowering meadow) in which the figures of Botticelli's *Primavera* (Uffizi, Florence) enact their mysterious allegory. The many species of plants and trees in the painting,¹⁵ which have all been definitely identified, are imbued with symbolic meanings that have offered scholars material for fascinating, and sometimes fantastical, speculation. Botticelli's masterpiece also presents considerable evidence regarding the more modern approach to botanical studies that was emerging in this period. The plants, which have been depicted with great realism, represent for the most part indigenous Italian species known to flower between the months of April and May, the sole exceptions being the hellebore, which blooms in January, and the coltsfoot (*Tussilago farfara*), which flowers in March.¹⁶ Many species completely unrelated to the late medieval iconographic tradition have been included as well, such as the hellebore, the dandelion, and various orchids and grasses.

The purple iris (*Iris germanica*) that appears at the feet of the nymph Cloris is particularly rich in symbolic associations. This flower was assumed in classical times to have been created by Cloris-Flora after her marriage to the West wind, Zephyr.¹⁷ Included by Hugo van der Goes in the foreground of his *Portinari polyptych*, which created a great stir when it arrived in Florence in 1483 as one of the first great works of the Netherlandish school seen in Tuscany and already a symbol of the Virgin Mary and the incarnation of Christ, it subsequently assumed yet other symbolic meanings. As the *giglio fiorentino*, the Florentine lily, it had already been adopted as a symbol of the city of Florence, although it is not to be confused with the more modest white *Iris florentina*. Almost certainly a cultivar of the *Iris germanica*, known since antiquity and once quite common in the Arno valley, the *Iris florentina* has only rarely been depicted by Italian painters.¹⁸ The vast and constant popularity of the *Iris germanica* can instead be thoroughly documented; it appears frequently in the works of Florentine artists and is even listed in a late fifteenth-century edition of the *Ricettario fiorentino*,¹⁹ the official pharmacopoeia of the city. One of the most important texts of the period on the subject of botany, the Sienese botanist Pietro Andrea Mattioli's commentary on the works of Dioscorides, first published in 1544, opens with a description and illustration of this very flower.²⁰

Similar attention to botanical detail begins to appear in less celebrated works from the same period or slightly later, such as the *Adoration of the Infant Jesus* in the chapel of the Medici palace in Via Larga (fig. 1). This work was placed in the chapel as a substitute for the original *Adoration* that Filippo Lippi had painted for Cosimo the Elder before 1459, when Benozzo's frescoes were added to the walls, and which was removed shortly afterward. Once thought to be the



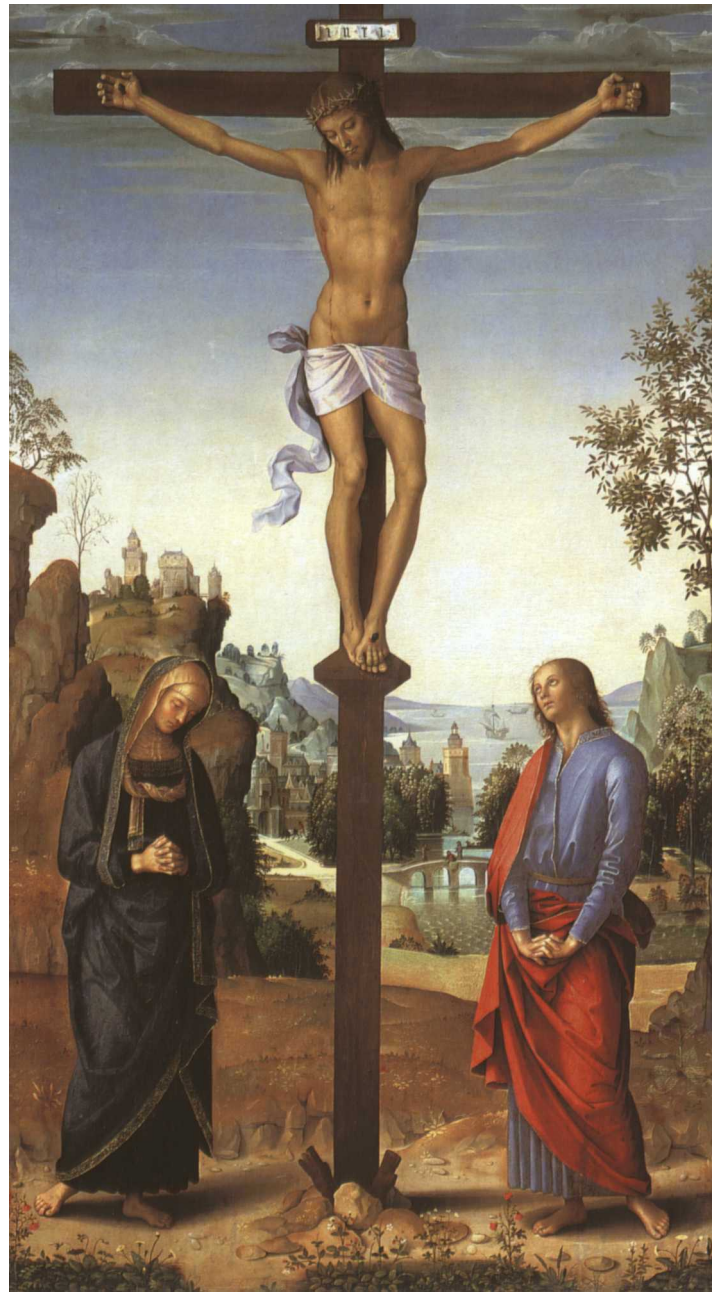
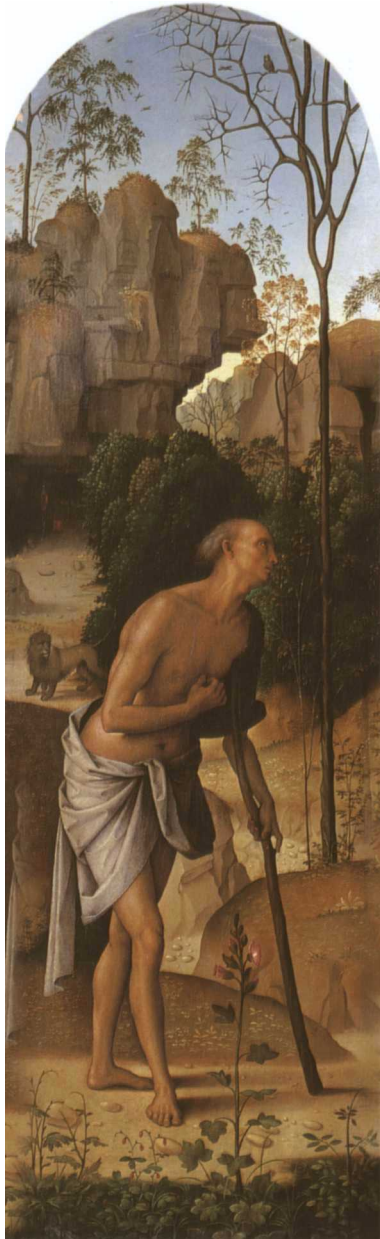
fig. 1. Follower of Filippo Lippi, *Adoration of the Infant Jesus*, last quarter 15th century, tempera on wood panel, Medici Chapel, Palazzo Medici Riccardi, Florence

work of the so-called Pseudo Pier Francesco Fiorentino (now called more simply a “Follower of Lippi and Pesellino”), this panel contains a large number of plant species depicted with great accuracy. The anonymous artist has included the medieval symbol of the red and white roses, but to enhance their realism portrays some rosebuds as well as flowers in full bloom. In addition there are carnations, white lilies, and two magnificent purple irises, one of which springs from beneath the body of the infant as if to underline the mystery of his incarnation.²¹ Finally, the artist has surrounded the panel with an elaborate and unusual frame painted to suggest a garland of fruit, vegetables, and leaves.

In his extraordinary triptych of c. 1485, *The Crucifixion with the Virgin, Saint John, Saint Jerome, and*

Saint Mary Magdalene (cat. 4),²² Pietro Perugino incorporated what he had assimilated of this new botanical language during his sojourns in the Tuscan capital, beginning with his stay in the studio of Verrocchio. As Ettore GAMESASCA observed, “the artist’s eye has been transformed into an infrared camera that probes the underbrush behind Saint Jerome’s shoulder, [and] loses itself in the folds of the deep red robe of Saint John and in the limpid mirror of water that lies beyond the crucifix,”²³ and, we may add, lingers over the many plants in the landscape. A botanical microcosm lies at the feet of the saintly figures, while the vegetation of the landscape—including a service tree, a palm, and an acacia—stands out in the clear, still atmosphere typical of the Umbrian school, which has been transformed by Perugino into an almost sacred light. Carefully ranged in the foreground are the mallow, columbine, strawberry, poppy, plantain, violet, dandelion, bulrush, and, at the feet of Mary Magdalene, the noble *Iris germanica*, in a juxtaposition of naturalistic realism and emblematic meanings of which the artist must have been fully aware. The mallow and the bulrush, for example, were the symbols of salvation (the bulrush figures prominently in another work by Perugino, the *Baptism of Christ*, Galleria Nazionale dell’Umbria, Perugia), and the poppy that appears at the base of the cross is a symbol of the Crucifixion. Finally, the acacia representing Christ’s Passion—the central theme of the painting—is visible just behind the cross itself.²⁴

The natural world continued to provide a source of inspiration for Florentine artists during the first decades of the sixteenth century. Another work celebrating the pleasures and virtues of the rural life is a fresco in one of the rooms of the Medici villa at Poggio a Caiano. Painted by Jacopo Pontormo in an iconographic scheme of startling originality, it depicts the fable of



cat. 4. Pietro Perugino, *The Crucifixion with the Virgin, Saint John, Saint Jerome, and Saint Mary Magdalene*, c. 1482–1484, oil on panel transferred to canvas, National Gallery of Art, Washington, Andrew W. Mellon Collection

Vertumnus and Pomona, the god and goddess of horticulture.²⁵ This innovative painter worked for many years at the court of the Medici, where he executed a magnificent portrait of the Pater Patriae, Cosimo the Elder (fig. 2). At Cosimo's side appears a naturalistic laurel plant, among whose leaves is entwined a scroll bearing a verse from Virgil that alludes to the regeneration, like a vigorous plant, of the Medici stock: *Uno avulso non deficit alter* (When the first is torn away, a second fails not).²⁶

Leonardo da Vinci intuitively grasped and set about exploring in a scientific manner the consequences of this new relationship between art and nature. Yet it was only during the course



fig. 2. Jacopo Pontormo, *Portrait of Cosimo the Elder*, c. 1519–1520, oil on wood panel, Uffizi, Florence

of the long and complex process known as the scientific revolution or the birth of modern science that artists in general began to experiment with fresh ways of seeing and analyzing the natural world, developing a new set of criteria to document what they saw. The study of the “natural sciences” in the modern sense of the term received considerable impetus in this period from the arrival of a vast number of previously unknown plants and animals from Asia and the recently discovered New World, which would soon profoundly modify the flora and fauna of central and Mediterranean Europe.

Scientists immediately focused on these unknown species and found themselves confronted with the daunting task of describing and classifying plants to which they could find no reference in the classical authorities. As a result of these developments, between 1530 and 1550 a series of treatises

emerged that were so innovative in their approach as to replace a textual and iconographical tradition that had held sway from the Middle Ages to the advent of printing. The title of the first of these texts is particularly significant—*Herbarum vivae eicones, ad naturae imitationem summa cum diligentia et artificio effigiatae* (Strasbourg, 1530–1539)—with its reference to *eicones*, “images of living plants,” drawn directly from nature rather than from the traditional iconography. The author, Otto Brunfels, presents and describes the plants of Germany, establishing their links with the flora of Mediterranean countries, kinships already known in part from Greek and Arab texts. *Herbarum vivae eicones* deserves to be singled out because it was the first text to employ an iconography based on direct observation rather than accepted convention. Instead of resorting to the tired iconographic tradition of the antique herbals, Brunfels engaged the services of an artist capable of looking at nature “with fresh eyes,” in this case a German painter, Hans Weiditz, who had studied the works of Albrecht Dürer.

Dürer was preoccupied with botanical and landscape themes and not only included many plants in his paintings and engravings but also executed brilliant studies of single plants.²⁷ Unlike Leonardo da Vinci, however, Dürer did not take a “scientific” interest in botany; he preferred to rely on his eyes and on his preternatural sensitivity to the observable facts of the natural world. Furthermore, while the Tuscan artist experimented freely in his botanical drawings with various techniques to create an almost tangible atmosphere of light and air and movement, the German artist focused on an objective portrayal of the subject itself, devoid of nearly any spatial or atmospheric context. He also perfected a technique based on the use of watercolor and gouache, which, combined with his painstakingly realistic approach, came to be termed “miniature painting.” This style was adopted as a model by many naturalistic illustrators, and watercolor with gouache has remained the preferred medium of painters in this genre to the present day.²⁸

cat. 5. Albrecht Dürer,
Tuft of Cowslips, 1526,
gouache on vellum,
National Gallery of
Art, Washington, The
Armand Hammer
Collection



Among Dürer's nature studies, his celebrated *Large Piece of Turf*, 1503 (*Graphische Sammlung Albertina*, Vienna), stands out because of the striking originality of its subject matter and the technical virtuosity of its execution. Here the artist has succeeded in depicting every plant, each slender blade of grass, with such convincing realism that the clod of earth seems to have just been drawn from the soil, still fresh and damp and full of life. This revolutionary work was followed by many copies and imitations, some by the artist himself and some by students and other painters.

Another remarkable example is the magnificent *Tuft of Cowslips*, dated 1526 (cat. 5), which could very well be by Dürer also, for it bears several stylistic similarities to the drawing in the *Albertina*. The artist in this case has "carefully observed the organic forms of the plant, not only by indicating the rhythm of its leaves, stems, and blossoms, but also by capturing the nuances of color that enliven its form."²⁹

Thus, from the luxuriant meadows of the Florentine school with their mysterious symbolic content (even Dürer occasionally ventured into this metaphysical territory, as in his

Madonna with the Iris, National Gallery, London) to the humble clump of earth, nature in its infinite variety came to be regarded as a noble theme, and natural phenomena as subjects worthy of portrayal by talented artists. This new perspective found reinforcement among scientists, who now began to consider the most ordinary plants, such as the common primrose, to be as worthy of study as rarer species and demanded that these be depicted with the same scrupulous care.

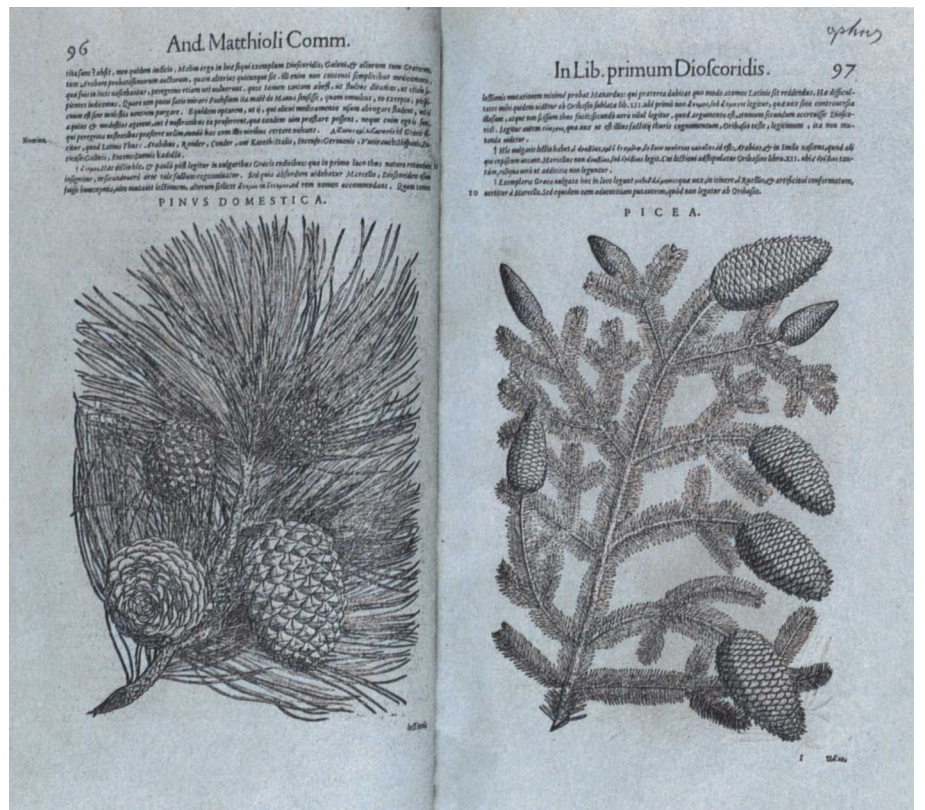
Henceforth, portrayals executed *dal vivo* (from life) became the rule, as may be seen in the botanical illustrations produced during the first half of the sixteenth century. Naturalists began to collaborate with specialized artists in order to have a permanent record of the results of their research on natural specimens, both for their own use and to illustrate books and treatises. Artists capable of rendering both accurate and aesthetically pleasing portrayals of botanical and zoological specimens were greatly sought after and were paid high prices for their work. Although the costs of producing illustrations for publication were prohibitively high and scientists could not often afford the luxury of having a series of drawings specially prepared for a new work, their printers found ingenious ways of overcoming this obstacle—for example, using the same illustrations for different texts.

The close, many-faceted relationship between art and scientific documentation eventually gave rise to a new artistic genre, the naturalistic illustration, whose aim was to capture in a work the particular forms and functions of a given species.³⁰ The genre found enthusiastic supporters and patrons, not only among scientists but also in august circles ranging from wealthy connoisseurs to the sovereigns of Europe, who were intrigued by the novelty of this rigorously objective “mirror of nature.” On the one hand scientists were quick to appreciate its practical applications; botanical drawings could capture and summarize information in remarkably memorable form and hence be used to document new knowledge for the purposes of research, teaching, and the exchange of information with colleagues. At the same time, kings and private collectors fascinated by the infinite variety and complexity of the natural world, where new discoveries were being made every day, sought to add botanical and zoological paintings to their *Wunderkammern* and encyclopedic collections; these works would eventually take the place of actual specimens that collectors were unable to obtain for their gardens and museums.³¹

In this historical, cultural, and aesthetic context, texts on the natural sciences, in particular botany but also zoology, soon came to occupy an important place in the panorama of sixteenth-century book publishing. The illustrations in the many botanical treatises that were published in this period differed considerably from one work to the next because they were produced by artists with very different styles, sensibilities, and technical skills. In some cases artists did not aspire to more than a rudimentary portrayal of their subject matter, but in other instances we find works of the highest quality, in which artists have managed to impose their own personal style in the rendition and placement on the page of a botanical specimen, despite the frequent



cat. 6. Wolfgang Mayerpeck and Giorgio Liberale, *Woodblock of Sea Lavender (Limonium)*, pear wood, used to illustrate Pietro Andrea Mattioli, *Commentarii in Sex Libros Pedacii Dioscoridis* (Venice, 1565), Collection of Mrs. Paul Mellon, Oak Spring Garden Library, Upperville, Virginia



cat. 7. *Pine and Spruce (Pinus Domestica and Picea)*, woodcut with silver highlights, from Pietro Andrea Mattioli, *Commentarii in Sex Libros Pedacii Dioscoridis* (Venice, 1565), illustrated volume, Collection of Mrs. Paul Mellon, Oak Spring Garden Library, Upperville, Virginia

recurrence of the same subject (the most popular species were depicted over and over again) and the relative similarity of available techniques. The plants portrayed by Hans Weiditz for Otto Brunfels' *Herbarum vivae eicones*; those drawn by other German artists (Albrecht Meyer, Henrich Fullmaurer, and Rudolph Speckle) for Leonhart Fuchs' *De historia stirpium*, published 1542 in Basel; and the botanical paintings by Giorgio Liberale of Udine, which were brilliantly translated into woodcuts by the German Wolfgang Mayerpeck (cat. 6) for Pietro Andrea Mattioli's *Commentarii in Sex Libros Pedacii Dioscoridis*, differ radically from one another in style even if their final goal was the same—that of portraying nature as realistically as possible. Mattioli's *Commentarii*, which examined a considerable part of the flora of Europe from the viewpoint of the teachings of Dioscorides, became so celebrated that it was translated into several languages and reprinted in new editions until well into the eighteenth century. The large, dense engravings by Liberale, which illustrate the folio editions known as the “large Mattioli,” are characterized by a harmonious symmetry as well as a decided horror vacui.

Copies of these works destined for presentation to wealthy patrons had hand-colored plates that further enhanced the realism of the illustrations and conferred on them the precious quality of miniature paintings. Remarkable in this regard is a copy of the Latin edition of Mattioli's *Discorsi*, printed on fine gray-blue paper by the publisher Valgrisi in Venice in 1565, in

which the plates have been highlighted with subtle touches of silver paint (cat. 7).³² Mattioli himself had some copies of his *Discorsi* meticulously colored by hand using this refined technique, perhaps for presentation to members of the Hapsburg court, which he frequented in the capacity of court physician. As he wrote in a letter sent in February 1554 to the naturalist Ulisse Aldrovandi in Bologna: “I . . . retained a miniaturist for three months at my home, who colored and decorated in gold and silver [the *Commentarii*] in such a way that in Venice it was considered the most rare thing that had ever been seen in this type of work.”³³ A similarly decorated copy is today in the Nationalbibliothek, Dresden.³⁴

THE GARDENS OF COSIMO I

After an interregnum during which republican institutions were temporarily installed, another member of the Medici family who bore the same name as that of the *Pater Patriae*—Cosimo—ascended to power in 1537 with the title of duke. As descendant and sole heir to the estates of two different branches of the Medici family, the title of grand duke of Tuscany would be conferred on Cosimo I in 1569 by Pope Pius V. From control over the city of Florence, Cosimo I gradually extended his power to include dominion over the entire region, although in reality this territory did not achieve stability, for he was constrained to observe a careful political policy in order to maintain a position of equilibrium between Spain and France. He and his descendants also attempted, in vain as it turned out, to establish power and influence on the European stage through astute political marriages. Finally, in economic terms the era of the *fiorino d'oro* (gold florin)—one of the pillars of the city's wealth since the time of Cosimo the Elder, which her banking families had lent to popes and sovereigns—had passed.

Notwithstanding these signs presaging the waning of its power, the Florentine state never enjoyed such immense prestige as under the reign of the first three grand dukes, Cosimo I and his sons Francesco I and Ferdinando I. Florence's primacy in the arts remained unchallenged, and works of painting, sculpture, and architecture of outstanding quality continued to be produced at least through the first decade of the seventeenth century. Cosimo I undertook the prestigious project, directed by Giorgio Vasari, of renovating and redecorating the Palazzo Vecchio. The “Florentine style” also found expression in refined products of the applied arts—tapestries, embroidery, porcelain, glass, and the celebrated *pietre dure* or mosaics of semiprecious stone—works of unparalleled craftsmanship that were sought after by aristocratic clients in every part of Europe. Indeed, many rulers attempted to establish workshops in their own countries to produce copies of these coveted goods.³⁵ During the course of the sixteenth century, the three far-sighted grand dukes would each in his turn also sponsor the work of scientists, particularly in areas such as garden design, where a fruitful symbiosis with the arts could be established.

Giorgio Vasari may be considered a paradigmatic figure of this brilliant epoch. Beginning his career as a painter, he eventually became artistic adviser to Cosimo I, architect of the cultural policy of the grand duke's new state and the guiding spirit behind his great reconstruction projects (which included the building of the Uffizi), one of the founders of the Accademia delle Arti del Disegno, and last but not least author of the celebrated *Lives of the Most Eminent Italian Painters, Sculptors, and Architects*.... The "Medici legend" was in large part his creation. Nevertheless, in-depth studies based on the detailed information furnished by contemporary authors³⁶ have shed light on the very cognizant role assumed by the Medici prince and his immediate successors in the dynasty's patronage of the sciences.³⁷ Although political considerations certainly played a role in the formation of Cosimo I's cultural policies—they were seen as a means of augmenting the prestige of the Medici family and of consolidating popular support for its reign—he cultivated a genuine interest in the natural sciences, especially botany. This is attested by his eager search for copies of the original texts of the classical authorities, by the handwritten notes that fill the margins of his copy of Mattioli's *Commentarii*,³⁸ and, above all, by the fact that he sponsored the construction of the very first botanical garden in Europe.

Baccio Baldini, first physician to the grand duke, wrote in his biography of Cosimo that "he knew... an enormous quantity of plants, and the places where they hid themselves, where they would best flourish, where they would produce the most numerous and most flavorful fruit, the season in which they came into flower, and when they would come into fruit, and the virtues that many of them had to cure ills..."³⁹ Later Riguccio Galluzzi would write that "[Cosimo] had a genius for botany, such that [he was] the first to distinguish himself in Italy for having many medicinal plants brought to him from America, in order that he might try to acclimatize them in the soil of Tuscany."⁴⁰ We know that in this very period the *Amaryllis* and *Ornithogalum* (bulbous species of the family Liliaceae) arrived in Italy from Africa, and the *Mirabilis jalapa* (the four o'clock plant or marvel of Peru), *Quamoclit* (twining vines of the family Convolvulaceae, such as the star ipomea and the cypress vine), sunflower, and pineapple from the Americas.

In order to restore the University of Pisa to its former level of academic excellence, Cosimo sought by means of generous offers to attract celebrated scientists from all over Europe to teach there. When the German naturalist Leonhart Fuchs refused for religious reasons to move to Italy (although a Catholic by education, Fuchs later became a member of the Protestant reform movement), Cosimo extended his invitation to Luca Ghini, then a professor in Bologna whose gifted teaching had already left its imprint on an entire generation of students from both Italy and abroad.

Ghini managed to convince the grand duke that it would be useful to provide the cities of Florence and Pisa with public gardens in which collections of indigenous and exotic plants could be cultivated for the purposes of teaching since, as he pointed out, theoretical knowledge

was of little use if not complemented by the direct study of living specimens. Therefore, Europe's first botanical garden was established in Pisa between the years 1543 and 1544 (almost contemporaneously the city of Padua founded its own garden). Cosimo soon found himself amply rewarded for his sponsorship of Ghini's project. The garden became renowned all over Europe and many naturalists and travelers, including Pierre Belon, Ulisse Aldrovandi, and Carolus Clusius, visited it during the course of the sixteenth century. Mattioli himself wrote in his *Commentarii*: "His Excellency Cosimo the Duke of Florence, persuaded principally by the most eminent physician Luca Ghini, had constructed in the very ancient city of Pisa . . . a garden, where today by the grace of his patronage there flourish many rare plants, which elsewhere have never before been seen, [conceived] as a public ornament and for the benefit of physicians, scholars, and all others who may find delectation in this subject."⁴¹

Just one year later, in 1545, Ghini created a similar garden in Florence, close to the royal stables and therefore called the *Giardino delle Stalle*. It was built by the order of Cosimo I for the benefit of students who were matriculated in Pisa but returned home to Florence for the long vacations. The quadripartite layout of the Florentine garden was conceived by the architect Niccolò Pericoli, known as Tribolo, an expert in garden design. His plan circulated widely and was used for many of the botanical gardens built in succeeding years in other European countries.⁴²

Soon the activities in these gardens—both the private gardens of wealthy connoisseurs and the public gardens connected with seats of learning—expanded as botanists and gardeners began to engage in horticultural experiments, seeking to obtain ever more beautiful cultivars, especially of the highly prized bulbous species recently arrived from the Orient such as the tulip, fritillaria, iris, and narcissus. An interest also developed in anomalous forms such as double blooms, which initially appeared by chance but then were procured by "secret" procedures jealously guarded by master gardeners.

Cosimo also threw himself into the absorbing task of restoring the family villas, including the magnificent Villa di Castello, which had been given to him by a member of the younger branch of the family, Pierfrancesco de' Medici. He entrusted these restorations to Tribolo, and after Tribolo's death to the architect Bernardo Buontalenti. The garden at Castello boasted an enviable collection of exotic plants and was much admired by visitors, as emerges from the accounts of two travelers par excellence, Pierre Belon and Michel de Montaigne. Cosimo chose this villa as his personal residence when he retired from public life in 1564, remaining there until his death in 1575.

During Cosimo's reign the palace of Luca Pitti on the other side of the Arno river, which had been acquired by his wife, Eleonora of Toledo, was renovated and enlarged, becoming the new residence of the Medici court. The work on the palace itself was overseen by the architect Bartolomeo Ammannati, but Cosimo asked Niccolò Tribolo to design the spacious garden

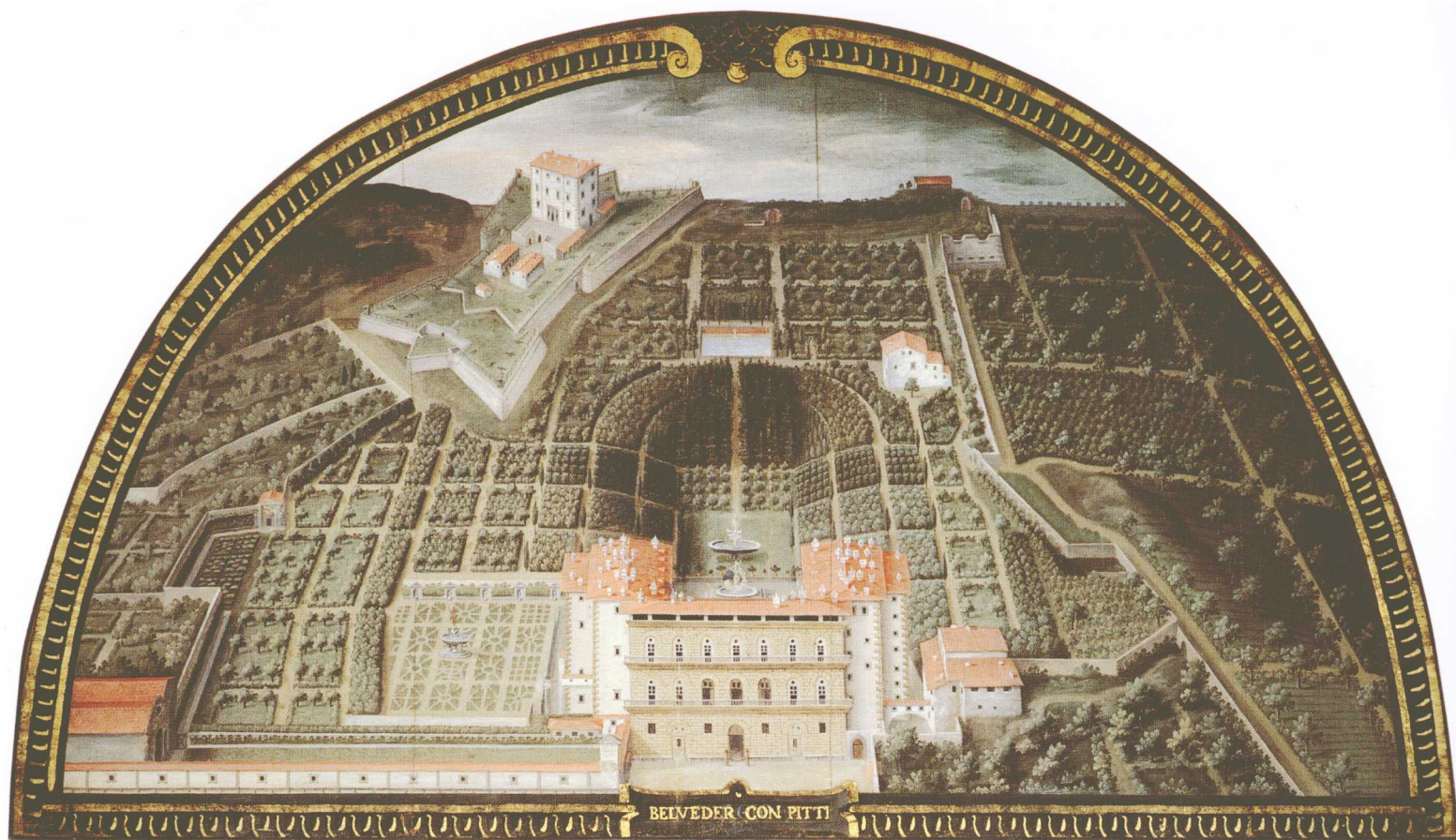
behind it, which he desired to be built on a truly grand scale. The project begun by Tribolo was continued after his death in 1550 by Ammannati and Buontalenti.

Cosimo's son, the third grand duke Ferdinando I, commissioned a Flemish artist, Giusto Utens, to depict the Medici villas in a series of fourteen large lunettes for a room in the Villa di Artimino. This unique collection of paintings, executed between 1598 and 1599, provides us with a good idea of what these villas, with their surrounding gardens, must have looked like during the sixteenth century. The paintings have their own peculiar charm because they combine a markedly realistic style with an idiosyncratic, almost ingenuous use of perspective. Little is known about the artist Utens except that he lived in the town of Carrara, but presumably the Medici, aware of the excellence of the Flemish school of landscape painting, engaged him for the specific purpose of documenting the family's estates in the form of a series of landscapes.⁴³

Utens' paintings resemble relief maps in their meticulous detail, for the artist adopted a bird's-eye view of the terrain, which he evidently studied carefully during his visits to each of the sites. However, his eccentric interpretation of the rules of perspective, including the use of an abnormally elevated horizon line and multiple points of view, often resulted in severe distortions, particularly in the proportions of the buildings and their relationship with the landscape. His rendition of the vegetation in the gardens and beyond the walls was equally singular, for he was not at all interested in creating an effect of realism. Instead nature is represented schematically by means of geometrical "garden units" that recede into the distance with mathematical orderliness, lending his landscapes a naive, slightly surreal quality. In a few of the paintings, such as those depicting the villas of Castello and Pratolino, one can barely glimpse tiny figures and animals that seem to occupy, rather than animate, the scene. Otherwise these verdant landscapes, bathed in golden light, float before us in static and silent perfection.

The lunette depicting the Pitti Palace and Boboli Garden (cat. 8)—labeled *Belveder con Pitti* on the cartouche beneath the painting—is one of the most complex works in the series, not only because of its dense, gridlike composition, but also because Utens decided, or was requested, to include the Belvedere fortress situated at the top of the hill behind the garden. The painting therefore contains two perspectives, the dominant one anchored by the massive ashlar façade of the palace in the center foreground and receding to the distant horizon along the central axis of the garden, and the other a skewed perspective for the fortress sprawling along the hill in the upper left.

The greater part of the picture is taken up by the stately garden that rises behind the palace, the crowning achievement of Tribolo's career. This garden was intended not only as a haven for repose and contemplation, but also as a suitable setting for grand celebrations. At the very center of the garden was an amphitheater composed of shrubbery, in the form of a Roman circus with a fountain of Oceanus at one end. This became the backdrop for spectacles and



cat. 8. Giusto Utens,
*The Belvedere with
 Palazzo Pitti*,
 1598–1599, oil on
 canvas, Museo Storico
 Topografico "Firenze
 Com'era," Florence

open-air festivities, usually held on the terrace overlooking the courtyard designed by Ammannati (in the painting this courtyard is partially hidden from view behind the palace).⁴⁴

The immense garden that surrounds the palace on three sides is divided into plots for the cultivation of shade trees; on the left one can also distinguish a large formal garden of flower beds laid out in geometrical designs. This garden was referred to as *di madama*, because it was constructed for Johanna of Austria, the first wife of Francesco I. From the manuscript *Agricoltura Sperimentale e Teorica* (see note 36), a precious source of information on Florentine gardens and horticulture written by the Dominican friar Agostino del Riccio at the end of the sixteenth century, we learn that the Boboli was also adorned with "great vases of orange and citron trees and other noble plants," vast trellises of citruses, and a priceless collection of dwarf fruit trees cared for by the prince himself, which were "laden with fruit of great variety and beauty, and also delightful to the taste."⁴⁵

During the reign of Cosimo I, interest in the botanical sciences was reflected not only in gardens and in the fine and applied arts, but also in the considerations of authors on the subject of the visual arts. Pertinent observations on the importance of various recently published

botanical treatises may be found, for example, in *Lezione nella quale si disputa della maggioranza delle arti*, published in 1546 by the historian and man of letters Benedetto Varchi. Joining in the lively debate on the comparison between the arts (*paragone*, a central theme in Renaissance aesthetic theory) and advocating the supremacy of painting, the author points out the useful service that painting could offer to scientists. In support of his argument he mentions “the book of plants by Fuchsio and, even better and with a higher degree of naturalism, those [paintings] by Francesco Bacchiacca portrayed for the Most Illustrious Duke of Florence, as may still be seen in His Excellency’s study.”⁴⁶

Varchi’s citation of Fuchs’ “book of plants,” which had been published just four years earlier in 1542, demonstrates that he was fully aware of the ground-breaking importance of *De historia stirpium* to science and to European culture in general. With illustrations of the highest quality, it became the model all subsequent works sought to emulate. Varchi brings up a significant example from the art of painting itself: the private study of Cosimo I located on the mezzanine of the Palazzo Vecchio, whose walls were covered with images of plants and animals painted by the artist Francesco Ubertini, known as Bacchiacca. The artist, according to Vasari a student of Perugino, was greatly influenced by the works of Leonardo and Michelangelo, which he saw in Florence, and had evidently closely studied the engravings of Dürer, for his works are rich in naturalistic detail expressed with minute accuracy in a brilliant palette of colors. Also of interest is a set of cartoons for ten tapestries of grotesques destined for the audience hall of the Palazzo Vecchio, in which Bacchiacca accurately portrays a variety of fishes.⁴⁷

As Vasari wrote enthusiastically, “the study is full of birds of different sorts and rare plants, all of which [Bacchiacca] has translated into oils with divine skill.”⁴⁸ Only faded and tattered traces of Bacchiacca’s work remain, but we can nevertheless imagine the rare beauty of the august private chamber of the grand duke, entirely decorated—using the difficult but brilliant technique of painting in oil directly on the surface of the wall—with images of grotesques and plants and animals, creating an ambience peculiarly suited to solitary meditation on the world of nature.

Another noteworthy fact has up to now escaped the attention of most art historians: the eclectic Giorgio Vasari himself had some youthful experience as a botanical artist. In 1537 Vasari, then twenty-six years of age and working in Arezzo, wrote a letter to his friend, the Florentine physician Baccio Rontini, declaring that he had just executed for him from life a series of paintings (now lost) on botanical subjects: “[I have prepared for] your copy of Dioscorides some ten sheets with various plants by my hand, portrayed and colored from nature, like the others that I have already executed for you”⁴⁹

FRANCESCO I: INVENTIONS OF NATURE

In 1574 Cosimo I retired from public office, designating as his successor his elder son Francesco. Solitary and melancholy by nature, with little inclination for the intrigues of state and uninterested in the pleasures of court or the excitements of the hunt, the new sovereign preferred to immerse himself in the study and contemplation of nature. One of his particular interests was alchemy, and he drew great pleasure from conducting his own experiments, as Michel de Montaigne, who visited him in 1580, records in his notes.⁵⁰ Francesco spent a large part of his time in the Casino di San Marco, a building designed by Buontalenti, where in 1574 he ordered a foundry to be set up next to the artists' workshops. In this laboratory, medicines and other essences were distilled under the grand duke's supervision from the plants that grew in the nearby botanical garden.

This introverted prince was responsible for two of the most remarkable and original inventions of the mannerist period—his study in the Palazzo Vecchio and the garden at the Villa di Pratolino. The complex artistic and symbolic conceptions underlying the decorative scheme for Francesco's study have already been examined by distinguished scholars. However, the contrast between the sober style of Cosimo's private chamber and the sophisticated setting created by his son could not be more striking. Francesco's room was a precious *Schatzkammer* filled with rare and valuable objects, its walls decorated with elegant images (many of them drawn from philosophy and natural history) designed by the cultivated and learned Vincenzo Borghini and translated into paintings by the most talented artists then working in Florence.⁵¹

The garden at Pratolino, in a sense the plein-air companion piece to the hermetic study in the Palazzo Vecchio, is the artistic monument most closely associated with the grand duke's name. Inheriting his father's love of gardens, Francesco decided to construct one of his own, choosing as his site a vast, characterless tract of land to the northeast of the city that had been purchased by the family in 1568. Here he stubbornly pursued the realization of his extraordinary project down to the last detail, despite its astronomical costs. Francesco entrusted the design of his garden to Buontalenti, an artist this difficult patron found extremely congenial and with whom he collaborated closely. By their combined efforts, the unprepossessing site was transformed into an astounding work of art, a garden of such incredibly original conception that visitors of the most exigent tastes, acquainted with the wonders of the great collections of Europe, remained spellbound before its marvels.

Here art and nature merged in a surreal landscape composed of vegetation, flowing water, and grottoes alternating with still pools, splashing fountains, sculptures, whimsical automatons, waterworks, and musical sound effects created by hydraulically powered organs. Even nature was forced to participate in the fantasies of this strange and magical place. For example, the branches of a monumental oak tree were furnished with tables and seats, while in a "secret" garden rare

and precious plants were cultivated. A distinguished visitor, Ulisse Aldrovandi, who was also a friend of the prince, admired during his second visit to Florence in June 1586 a particularly fine horse chestnut, or *Castanea equina* (*Aesculus hippocastanum*), a large number of *Callis precox ex ilva folia crasso* (not identifiable), and an *Altea magno flore* (probably a hibiscus, according to Mattioli), as we know from the list he compiled of the most valuable plants in the garden at Pratolino.⁵²

The poet Raffaello Gualtierotti described these wonders in his verse, rhapsodizing over the picturesque contrast between the “wild green” of the laurel, myrtle, fir tree, and beech, as well as the willow with its flowing branches, and the flowering vegetation in plant beds where narcissi, fleurs-de-lis, lilies of the valley, daisies, and roses of such unsurpassed beauty grew that, as he observed, “Here Art and Nature / Together compete, each its graces to display.”⁵³

Unfortunately, this magnificent garden was abandoned in the nineteenth century, but many descriptions survive in the form of laudatory poems written by awestruck visitors. Utens also dedicated one of his finest lunettes to the Villa di Pratolino, in which an expansive survey is provided of the garden and villa viewed from the south (fig. 3). A broad, grassy avenue descends from the entrance of the grand villa, dividing the park into two asymmetrical halves. The park itself is crisscrossed by a labyrinthine network of paths, continually opening onto new and unexpected vistas punctuated by statues, fountains, bright rivulets, and spurting jets of water and, of course, the myriad wonders of flora. In his lunette Utens has succeeded in suggesting the genius loci of this *teatro del mondo* (theater of the world), whose purpose was to initiate the visitor into the endless mysteries of the natural world.⁵⁴

In addition to the grand duke’s garden at Pratolino, many other private gardens graced the city of Florence, established for such aristocratic families as the Salviati, the Bandini, the Scali, and the Vecchietti. One personage who deserves mention is the Cavalier Niccolò Gaddi, a prominent figure in political, artistic, and scientific circles.⁵⁵ A man of great culture and diverse interests and a refined collector entrusted with procuring works of art for the grand duke, he was also a keen student of floriculture and horticulture. The garden that adjoined his residence in Via del Melarancio was one of the showplaces of the city; indeed, it was dubbed “Gaddi’s

Paradise.” The cultivation of rare and medicinal plants being one of his pastimes, he welcomed to his home a guest who was destined to play an important role in the development of the botanical sciences in Tuscany—the Flemish virtuoso “messer Giuseppe Benincasa, who cared for all the noble plants and simples,” as Agostino del Riccio wrote.⁵⁶

The botanist Joseph de Goethuysen probably first arrived in Florence during the final years of the reign of

fig. 3. Giusto Utens, *Villa di Pratolino*, 1598–1599, oil on canvas, Museo Topografico, Florence



Cosimo I. At some point he Italianized his Flemish name, which must have been difficult for Florentines to pronounce, to Benincasa or Casabona, the names by which he was to become known in all of Tuscany.⁵⁷ Cavalier Gaddi presented the botanist to Francesco I, who immediately invited Casabona to join the Medici court, bestowing upon him the title of *semplicista* (herbalist) or *herbarius*, with the duties of finding new plants and overseeing their acclimatization, initially in the garden of the Casino di San Marco and afterward in the Giardino delle Stalle. Casabona decided to settle permanently in Florence, gradually developing into an outstanding example of the “courtier-botanist” and a recognized authority on the botanical sciences. Naturalists all over Europe appreciated the skill and competence with which he carried out his herborizing expeditions, and the generosity with which he shared the fruits of his endeavors through the exchange of specimens and scientific information.

Assisted by Casabona, Francesco I dedicated himself with laudable industry to the expansion of the botanical gardens founded by his father. These he visited often, as is testified by Giovanni Targioni Tozzetti, “and he not only enjoyed their amenities, but also took great pleasure in observing and conducting experiments on the properties and qualities [of the plants].”⁵⁸ Nevertheless, this idiosyncratic prince, with his passion for artifices, almost seemed to prefer the portrayals on paper over the living plants and flowers, executed from life by his favorite artists in a never-ending search for “a truth more veracious than the truth itself.”

THE BOTANICAL PAINTINGS OF JACOPO LIGOZZI

In 1577 the grand duke extended an invitation to join his court to a young, practically unknown but extremely promising artist from Verona, Jacopo Ligozzi. Born into a family of artisans and embroiderers, this enterprising young man had already visited Vienna and impressed the Hapsburg emperor with a series of paintings of animals on vellum executed with remarkable facility. In these works Ligozzi freed the animal from its traditional, purely decorative role and accorded it the formal status of a subject worthy of the full attention of the artist.⁵⁹

It seems likely that the invitation originated from, or at least was strongly seconded by, the grand duke’s wife, Johanna of Austria, the daughter of Emperor Maximilian II of the Hapsburgs. Ligozzi would remain at the Medici court until his death in 1626. He produced dozens of exceptional paintings for Francesco I depicting the plants and animals found in his gardens and menageries, works the grand duke would admire for hours in the privacy of his study.

Ligozzi combined a unique sensitivity to the minutiae of natural phenomena with a masterly technique that enabled him to achieve pictorial effects rarely matched in the history of naturalistic painting. Just a few months after he had moved into the Casino di San Marco, the naturalist Ulisse Aldrovandi came to visit his studio, accompanied by the grand duke himself.

There Aldrovandi admired “all the pictures painted by Signor Jacopo Ligozzi,” which “lack nothing but the breath of life itself,” as the naturalist affirmed with sincere admiration in his notes. The grand duke generously promised his guest that “in the future . . . he would share with him all the precious things that came into his hands, and every time he had two he would give him one,”⁶⁰ a promise that he would keep at least in part. The close ties between the grand duke Francesco, Ligozzi, and the naturalist Aldrovandi, who described the artist as “another Apelles,”⁶¹ continued for many years, sustained by their mutual interest in the portrayal of natural history specimens.

In 1583 it appears that Ligozzi also participated in the decoration of the Tribuna degli Uffizi. This building was intended by the grand duke to house the rarest “natural” and “artificial” treasures in his collections, and he had the wainscot painted with a frieze of birds, fishes, plants, and shells (these decorations unfortunately no longer exist). It is known that several paintings by Ligozzi could be found hanging on the walls of the Tribuna, including a “vase of azure blue with many flowers and leaves and butterflies” (also lost), which may very well have represented a precocious example of still-life painting, a genre that was destined to become extremely popular in Tuscany.

Ligozzi continued to produce botanical and zoological paintings for Francesco I up until the grand duke’s death in 1587; thereafter he turned to other topics and rarely executed other naturalistic illustrations. One exception is the stupendous *Passiflora coerulea* (fig. 4),⁶² which he painted at the request of Ferdinando I in 1609, during the last year of the third grand duke’s reign. This work demonstrates the artist’s undiminished powers of observation and technical virtuosity; in an elegant composition he depicts both the fruit and the extravagant blossom with its multicolored, filamentous stamens. The exotic plant, apart from its botanical interest, had a

special significance for the devoutly Catholic grand duke. Just recently discovered and brought to Europe from South America, it immediately attracted attention because of the curious disposition of its stamens and pistils, which in the eyes of the pious resembled a crown of thorns. It was adopted as a religious symbol (and a sign that the native peoples of the Americas were waiting to be converted to Christianity). The plant’s original appellations—*maracot* or *Granadilla*, derived from its original South American names—were dropped in favor of the name passionflower.

By far the largest collection of botanical paintings by Ligozzi is in the Gabinetto Disegni e Stampe of the Uffizi. It consists of seventy-eight works in gouache on paper, some unfinished and others that perhaps are not entirely by his hand. As we learn from contemporary sources, the artist had two collaborators—his son Francesco and a cousin who was also named

fig. 4. Jacopo Ligozzi, *Passionflower* (*Passiflora coerulea*), 1609, gouache on paper, Biblioteca Nazionale Centrale, Florence



Francesco (the son of Ligozzi's uncle, Mercurio)—who may have been employed in producing copies of his work.⁶³

Jacopo Ligozzi developed a unique style that was admirably suited to his task of portraying plants and animals as accurately as possible in their natural dimensions. With rare skill and patience he mastered the techniques of the medieval illuminated manuscript, and his paintings were often described by contemporaries as miniatures. However, he brought the technique up to date by introducing a broader and more subtle palette of colors, laid down with great skill in a succession of transparent layers.⁶⁴ His unfinished works allow us to follow the various phases of this time-consuming procedure. After tracing an outline of his subject in black pencil, Ligozzi would spread a uniform layer of opaque gouache within the outline. To this prepared surface he added a succession of translucent layers of colors using an ever finer series of brushes. In this way he managed to achieve a remarkably subtle range of chromatic effects, rich in the tones and reflections necessary to capture the most minute details of his subjects, such as the fuzzy surface of a leaf, the fine filaments in a mass of roots, or the transparent colors of a flower petal. The artist finished each of his works with a layer of varnish, perhaps containing egg white, to further enhance the brilliance of his colors. We can retrace this process in his unfinished painting of a sea daffodil (*Pancratium maritimum*) (cat. 9). Two of the flowers and the bulb have been roughly sketched using broad washes of color, while the third flower and the leaves are almost complete, their details filled in to reflect the play of light and shadow in each curve and fold.

Although Ligozzi, following the tradition of Dürer, usually did not attempt to suggest any background in his works or to set off his subject matter by the use of chiaroscuro, the magical rapport between color and light that transfuses his works not only lends his plants and animals an almost tactile reality, but also suspends them in an air- and light-filled space where they float, appearing—as Aldrovandi justly observed—truly “alive.”

Ligozzi concentrated primarily on indigenous species, no doubt at the request of the grand duke Francesco, but from time to time he also applied his remarkable talent to the cultivars and exotic species that were the showpieces of the most notable gardens of the period. He produced one of the first known drawings of the fruit of the pineapple or *Ananas sativus* (cat. 10), a copy of which was sent to Aldrovandi.⁶⁵ Ligozzi renders the fruit of this South American plant, which must have appeared very strange to European eyes, with careful precision, from the basal rosette of yellowing leaves to the spiny bracts that cover the fruit and the stiff tuft of leaves rising from its crown. The jaggedly cut stalk, with its interior turning brown on exposure to the air, suggests that the artist had only one specimen to serve as his model, perhaps carefully transported from the other side of the world and presented to the grand duke with great ceremony as a genuine marvel of nature.



cat. 9. Jacopo Ligozzi,
Sea Daffodil
(*Pancratium mariti-*
mum), gouache on
paper, Gabinetto
Disegni e Stampe degli
Uffizi, Florence



cat. 10. Jacopo Ligozzi,
Pineapple (*Ananas*
sativus), gouache on
paper, Gabinetto
Disegni e Stampe degli
Uffizi, Florence



cat. 11. Jacopo Ligozzi, *American Century Plant (Agave americana)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 12. Jacopo Ligozzi, *Cypress Vine Morning Glory (Ipomoea quamoclit)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

In another painting Ligozzi depicts the American century plant (*Agave americana*) (cat. 11), which was brought to Europe from the Americas, probably Mexico, in the mid-sixteenth century. The plant, whose name signifies “wonderful” in Greek (*agavós*), was introduced in 1561 to the botanical garden in Padua but was soon cultivated in Florence and Pisa as well. In Ligozzi’s portrayal the rosette of fleshy leaves with its characteristic blue-green coloring has an austere and monumental simplicity. He could not show the entire plant in its actual dimensions, but on another sheet furnishes a life-size drawing of the flowering stem, herald of the plant’s death.

Contrasting with the bold, sculptural forms of the century plant is the lacelike delicacy of the cypress vine morning glory (*Ipomoea quamoclit*) (cat. 12), a Convolvulacea that Gianvettorino Soderini observes in his botanical treatise, *Della coltura degli orti e giardini*, and that was brought to Florence “from the Indies” (actually Mexico). Agostino del Riccio mentions the plant several times as well, describing how greatly it was admired by visitors to the gardens of Florence. The



cat. 13. Jacopo Ligozzi, *Mourning Iris (Iris susiana) and Spanish Iris (Iris xiphium)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 14. Jacopo Ligozzi, *Wild Snake's Head Iris (Iris tuberosa)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

floriculturist Matteo Caccini (1573–1640), owner of a fine garden in Borgo Pinti, sent some seeds from this plant to the eminent botanist Carolus Clusius, director of the botanical garden of Leiden.⁶⁶ Ligozzi depicts the twining plant with its feathery leaves in an elegant composition in which the star-shaped scarlet flowers are embedded like precious jewels.

The iris, as we have already seen, has been cultivated since antiquity in the gardens of Tuscany, and Ligozzi shows two very different varieties, captured with astonishing realism, in a single painting (cat. 13). In harmonious equilibrium he depicts on the right the humble Spanish iris (*Iris xiphium*), a common species with many cultivars, and on the left the more imposing mourning iris (*Iris susiana*), which had recently been brought to Europe from Persia. Using minute brush strokes, the artist has succeeded in reproducing with extraordinary verisimilitude the fragile consistency of the petals with their fine network of veins and subtle coloring. The yellowing tips of the bladelike leaves show that the painter worked from living models that were



cat. 15. Jacopo Ligozzi, *Butterwort (Pinguicula longifolia) and Gentian (Gentiana clusii)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 16. Jacopo Ligozzi, *Thrift (Armeria pseudoarmeria)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

beginning to wilt, an understandable circumstance considering how long it must have taken him to finish each work. Also belonging to the family Iridaceae is the native wild snake's head iris or *Iris tuberosa* (*Hermodactylus tuberosus*) (cat. 14), first described by Mattioli, who possessed a specimen that had been brought from Constantinople. Ligozzi depicts its modest flower framed by long, arcuate leaves that bend in such elegant, perfect curves they seem to have been deliberately posed.

As these works show, the artist adopted a rigorously objective approach, according the modest wildflower the same respect, attention, and skill as that given to the rarest plant in the grand duke's collection. Thus he spent much of his time portraying native species, such as the butterwort (*Pinguicula longifolia*) and the gentian (*Gentiana clusii*) with its remarkably intense blue color, perhaps brought to Florence from the Apuan Alps or the Apennines (cat. 15); and the charming thrift (*Armeria pseudoarmeria*) with its long slender stem and heads of tiny pink flow-



cat. 17. Jacopo Ligozzi, *Valerian (Valeriana phu and Valeriana officinalis)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 18. Jacopo Ligozzi, *Sanicle (Sanicula europaea)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

ers (cat. 16), which occupies a portion of a sheet that the artist perhaps intended to fill in with another drawing. Much more elaborate is his rendition of two varieties of valerian (*Valeriana phu* and *Valeriana officinalis*) (cat. 17), in which the differing shades of green in the leaves and pink in the flowers between the two varieties are reproduced with conscientious exactitude. Crawling on the ground beneath the tuberous roots of the first plant is a hairy caterpillar, depicted with microscopic precision. In his painting of a sanicle (*Sanicula europaea*) (cat. 18), Ligozzi has portrayed the tiny umbels of white flowers, the branching roots, and the palmate-partite leaves. Furthermore, he has taken advantage of the contrast between the dark green upper sides and the pale, almost silvery undersides of the leaves with their prominent central vein to create an elegant pattern.

Other works by Ligozzi have a presence that commands the observer's attention. His portrayal of the spurge laurel or *Daphne laureola* (cat. 19), an evergreen species native to southern



cat. 19. Jacopo Ligozzi, *Spurge Laurel (Daphne laureola) with Tortoiseshell Butterfly (Nymphalis polychloros) and Midges*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 20. Jacopo Ligozzi, *Peony (Paeonia officinalis)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

Europe, is carefully composed and admirably executed. The branches with their long, lustrous leaves are counterpoised by a tangled mass of roots depicted with great naturalism, and the plants seem to be engaged in a silent dialogue with the colorful tortoiseshell butterfly (*Nymphalis polychloros*) poised on the left and three tiny midges on the right. Ligozzi also painted a magnificent cultivar of the *Paeonia officinalis* (cat. 20), a native peony that was extremely popular among gardeners during this period, taking care to show both a tightly closed bud and a fully opened blossom with its dense corolla of bright red petals. His life-size portrayal of the wild parsnip (*Angelica archangelica*) (cat. 21), a plant endowed with magical properties according to folk tradition, has a majestic authority. The luxuriance of this meadow plant is captured from the interlacing branches that spring from the plant's thick pink stem to the graceful leaves with their serrated edges and the distinctive umbels shown in different stages of flowering.



cat. 21. Jacopo Ligozzi,
*Wild Parsnip (Angelica
archangelica)*,
gouache on paper,
Gabinetto Disegni e
Stampe degli Uffizi,
Florence



In his justly celebrated painting of the mandrake (*Mandragora autumnalis*) (cat. 22), Ligozzi abandons the anthropomorphic tradition that had been associated with this plant from antiquity for a representation of scientific, almost tactile clarity and distinctness—the plant is so convincing in its three-dimensionality that it seems to spring from the page. The immense, bifurcated, reddish-brown root contrasts dramatically with the rosette of gray-green, scabrous leaves and the delicate, pale violet flowers, whose stems and veins are shown in minute detail.

As we have seen, the artist took delight in inserting butterflies, caterpillars, or other insects in many of his botanical paintings. Birds constituted another favorite motif; these he included



cat. 22. Jacopo Ligozzi, *Mandrake (Mandragora autumnalis)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 23. Jacopo Ligozzi, *Globe Candytuft (Iberis umbellata) with a Hazel Hen (Tetrastes bonasia)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

on occasion as his imagination dictated, but more often after careful deliberation, choosing a species that formed part of the natural habitat of the plant. Unlike most artists, who preferred to work from mounted specimens, Ligozzi with his remarkable gift of observation was able to paint directly from living models. Thus, his portrayal of the dainty globe candytuft (*Iberis umbellata*) (cat. 23) is dominated by the squat, dowdy figure of a hazel hen (*Tetrastes bonasia*), whose unusual brown plumage is captured in meticulous detail.

In another painting, the botanical and zoological subjects are given equal weight. A bright green parakeet (*Psittacula krameri*) with a long forked tail and an impertinent eye, which Ligozzi must have borrowed from the grand duke's aviary, is shown perched on the branch of a European plum tree (*Prunus domestica*) (cat. 24), whose leaves and fruit have been depicted with painstaking care. The leaves with their brownish patches and nibbled edges betray the ravages of insects with scientific accuracy, while the pearly iridescence of the fruit has been carefully reproduced.



cat. 24. Jacopo Ligozzi, *Plum Branch (Prunus domestica) with a Rose-ring Parakeet (Psittacula krameri)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 25. Jacopo Ligozzi, *Fig Branch (Ficus carica) with Bird of Paradise and Exotic Finches (Vidua macroura, Steganura paradisaea, and Hypochero chalybeata)*, gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence

Finally, a stunning example of *natura viva* (living nature) may be found in Ligozzi's painting of the branch of a common fig (*Ficus carica*), upon which are perched three exotic birds—a pin-tailed finch (*Vidua macroura*), a paradise finch (*Steganura paradisaea*), and a combassu finch (*Hypochero chalybeata*) (cat. 25). These also were denizens of the grand duke's menageries, as is described in a passage from Michel de Montaigne's *Voyage* regarding his sojourn in Florence in the year 1580.⁶⁷ The tiny birds with their variegated plumage have been perfectly integrated into the composition, which is dominated by the S-shaped curve of the branch. Like the components of an elegant puzzle, the fig's magnificent leaves fill the empty spaces of the page, the artist capturing with photographic realism the different tonalities of their upper and lower sides, which modulate with each curve, fold, and shadow. The tree's fruit, shown in various stages of matura-



cat. 26. Possibly by Jacopo Ligozzi, *Fig Branch with Two Birds*, tempera and watercolor on paper, from Ulisse Aldrovandi, *Tavole di Animali*, vol. 1, illuminated manuscript, Biblioteca dell'Università, Bologna

tion, have a palpable realism. From this painting, a genuine tour de force of naturalistic illustration, Ligozzi derived—perhaps with the help of collaborators—two more modest works in gouache. Following through on his promise, the grand duke sent these to his friend Aldrovandi in Bologna, where they can now be found among the naturalist's papers. The first shows the pin-tailed finch on the branch of a jujube tree, while the second depicts the paradise finch and the combassu finch, once again on the branch of a fig tree (cat. 26). Aldrovandi referred to these birds as *passeri caudati* or long-tailed sparrows and had two woodcuts prepared from Ligozzi's paintings that he published in his *Ornithologiae* in 1599 (cat. 27).⁶⁸

cat. 27. *Bird of Paradise and Exotic Finch on Fig Branch*, woodcut, from Ulisse Aldrovandi, *Ornithologiae* (Bologna, 1599), illustrated volume, Rare Book and Special Collections Division, Library of Congress, Washington, DC

THE GARDENS OF FERDINANDO I

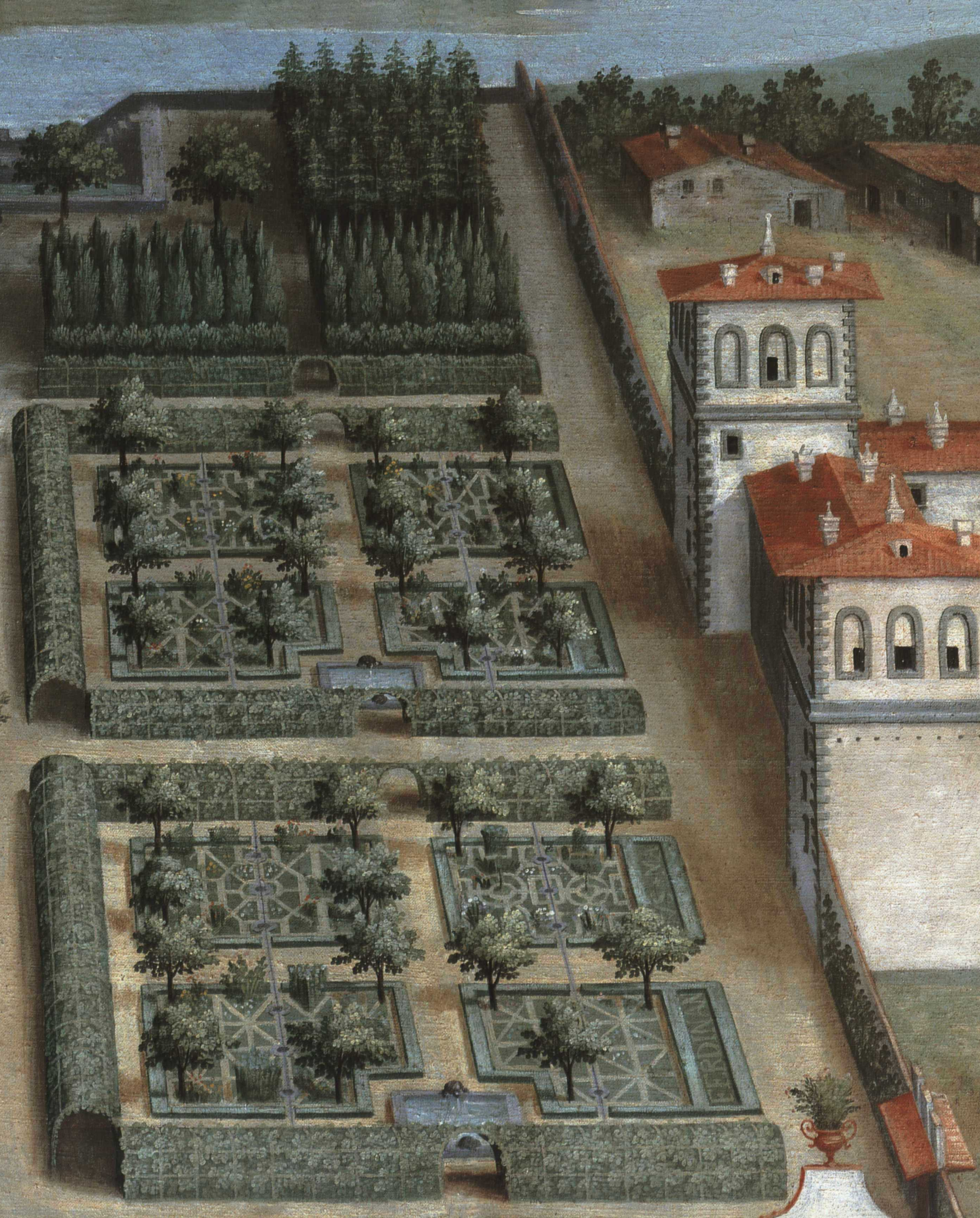
While the moody and disquieting Francesco I—“the prince in his study”—ruled in Florence, his brother Ferdinando was in Rome pursuing a brilliant ecclesiastical career. The cardinal installed himself in the luxurious family villa on Pincio Hill, which was decorated with an invaluable collection of antiques and surrounded by a splendid garden containing a fine variety of medicinal plants, dwarf fruit trees, and trellises of rare citruses. The Medici botanist Casabona regularly sent him specimens of rare plants from Florence. For example, in May 1586 he dispatched for the second time a “double peony,” perhaps a specimen of the very *Paeonia officinalis* depicted by Ligozzi (cat. 20), to replace one he had sent earlier but that either had been lost or else had failed to acclimatize in the Roman garden, together with a chamomile, a rose elder (*sambuco rosa*), and several irises Casabona had found during a herborizing expedition “on a mountain near Genoa.”⁶⁹

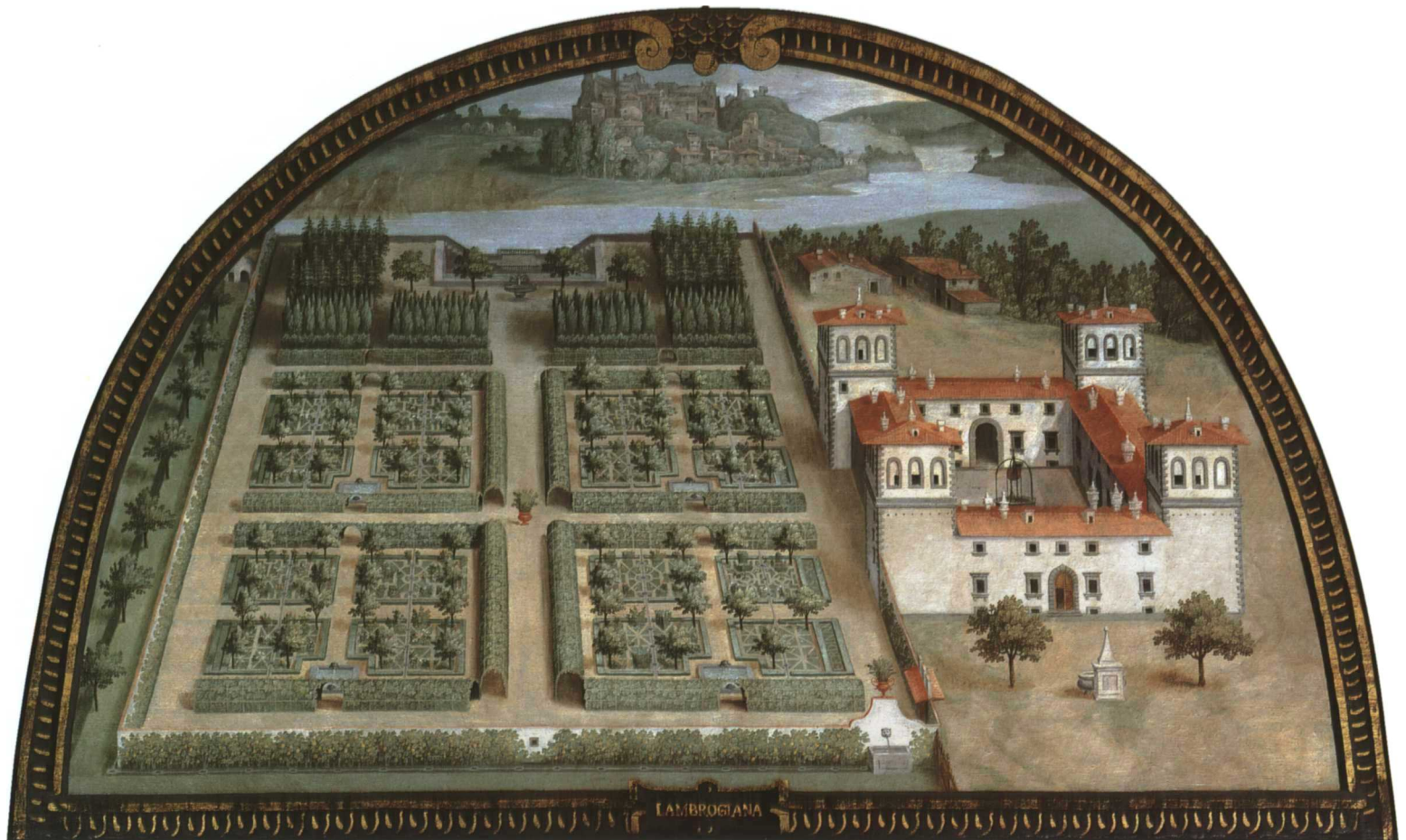
When Francesco died one year later, the cardinal was forced to return to Florence and assume the title of the third grand duke of Tuscany. Extroverted and gifted with a more realistic political instinct than his brother, Ferdinando threw himself into the difficult task of restoring the diminishing reputation of the dynasty in the eyes of the other Italian and European states. This he did in part by generously funding those arts and industries with which the Medici were most closely associated, thus raising them to new heights of magnificence.

Ferdinando’s sophisticated tastes embraced the family’s traditional interest in natural history and its passion for gardens. One of his first building projects was the restoration of the Villa L’Ambrogiana, agreeably situated along the main road from Florence to Pisa at the point where the Pesa river joins the Arno. Utens painted a lunette of this estate shortly after the work on the complex was completed (cat. 28). The lunette presents a broad landscape with the Arno river wending its way through the background at the foot of the fortress of Capraia. The massive quadrangle of the villa with its four square towers is shown on the right, and on the left appears a large, quadripartite garden laid out in accordance with the traditional, rigidly geometric ground plan of an herb garden.⁷⁰

Like the garden of the Villa Medici in Rome, this space was divided into large squares, each further divided into sixteen identical *orticini* (small beds) in which trees were planted in *quincunx* (the classical arrangement of five objects within a square, one at each corner and the fifth in the center). Minuscule flowers can be seen growing in these beds, while *cerchiate* or barrel-vault-shaped arbors, such as those that could be found in the gardens of the Medici villas in Rome and Petraia, neatly delimit three sides of each large quadrangle.

A singular detail worth noting is the name of the grand duke, which is spelled out in greenery, *FERDINAN/DUS M/DUX*, along the sides of the two flower beds closest to the villa in the lower right quadrangle of the garden. This was a typical example of the art of topiary that





cat. 28. Giusto Utens, *Villa L'Ambrogiana*, 1598–1599, oil on canvas, Museo Storico Topografico "Firenze Com'era," Florence

had become extremely popular. Examples are described—with illustrations showing the delightfully varied, often bizarre forms into which shrubs or flower beds might be shaped—in many of the manuscripts and printed texts of the period.⁷¹ A *selvatico* (woodland) in the form of a forest of cypresses has been planted at the far end of the park, which is bordered by the river, while an artificial grotto carved into the riverbank completes this elegant work of art and nature.⁷²

Ferdinando I also did much to promote the development of the botanical gardens built by his father, entrusting the direction of the Giardino delle Stalle in Florence first to Niccolò Gaddi and then to Casabona. He sent the Flemish botanist on herborizing expeditions all over Italy and as far away as the island of Crete, which was then considered a true botanical paradise because of the rare plants that flourished there. This latter expedition, which lasted several months between 1590 and 1591, is documented in the many letters Casabona sent from the island to his colleagues Aldrovandi in Bologna, Clusius in Leiden, and Camerarius in Heidelberg, as well as in the official reports to Belisario Vinta, the Medici administration's secretary of state, and to the grand duke himself, who took a personal interest in the progress of this mission.



fig. 5. Georg Dyckmann, *Crete Fagonbush* (*Fagonia cretica*), gouache on paper, Biblioteca Universitaria, Pisa

On 1 January 1591 the botanist wrote to inform his patron: “A most happy chance has befallen me, that is, [I have met] a young German with whom I have come to an agreement that during this entire trip he will paint for me all of the plants from life on royal paper for an honest price including expenses, and he is quite talented in this profession and I trust will make a beautiful work, which will be [complemented] with descriptions of [all these plants], and in this way I hope to do honor to Your Most Serene Lordship.”⁷³ This fortuitous meeting with the German artist, whose name, Georg Dyckmann, Casabona mentions in a letter to Camerarius,⁷⁴ made it possible for the botanist to compile a visual record of many species he had found on the island. Toward the end of 1591, permission was finally granted to Casabona to terminate his expedition, and he returned to Florence bearing not only the precious collection of rare plants he had gathered, but also the botanical illustrations so ably executed by the German artist. These

paintings of the indigenous flora of Crete, which include various specimens of the Persian buttercup (*Ranunculus asiaticus*), a peony (*Paeonia clusii*), and the Crete fagonbush (*Fagonia cretica*) (fig. 5), are today at the University of Pisa library (ms. 462).

Casabona’s successful expedition to Crete, which had not been without dangers and discomforts, further increased the favorable regard bestowed on the botanist by his patron Ferdinando I. When he returned to Tuscany, Casabona was immediately dispatched to Pisa to oversee the construction of a new botanical garden, which the grand duke wanted to have built on a larger site, better adapted to the cultivation of plants, and located closer to the university than the existing garden. This project is documented in the papers of Agostino del Riccio who, up-to-date as always on the latest artistic and scientific developments, wrote, “messer Giuseppe Casabona was sent by the grand duke Ferdinando to the city of Pisa, to create a beautiful garden entirely of simples and plants of great virtue, and this he did with great promptness and, as it may be seen today, it has become both a [place of] pleasure and a support to the Excellent and Honored University of Pisa.”⁷⁵ The garden thus conceived was in perfect accord with the aesthetic principle of the Renaissance—*miscere utile dulci*, “mingle the useful with the pleasant.”

Casabona was so pleased with the results of his collaboration with the artist Dyckmann on Crete, his paintings having proved to be of invaluable use for scientific and teaching purposes, that he did everything he could to encourage the practice of botanical illustration during his all too-brief tenure as director of the new botanical garden in Pisa before his death in 1595. We learn from del Riccio that “in order to add greater luster to the honored University of Pisa he invited his Flemish compatriot messer Daniello, a dear [friend] of mine, and gave the order that he paint all of the simples and rare plants of the garden on imperial folios, but that he do so when they



fig. 6. Daniel Froeschl, *Sunflower (Helianthus annuus)*, tempera on paper, Biblioteca Universitaria, Pisa



cat. 29. Daniel Froeschl, *Sunflower (Helianthus annuus)* Seen from the Back, tempera on paper, from *Codice Casabona*, illuminated manuscript, Biblioteca Universitaria, Pisa

were in flower, so that they could be known to all of those [living] in Pisa and to others who in the future might come to the university of this city.”⁷⁶

The artist who helped Casabona establish what was to become an artists’ workshop on the grounds of the botanical garden of Pisa was the German Daniel Froeschl (he was not Flemish, as del Riccio had erroneously thought). Born in Augsburg in 1563, Froeschl settled in Prague after leaving the Medici court, serving from 1604 until his death in 1613 as the antiquarian and director of the celebrated collections of Rudolf II of the Hapsburgs.⁷⁷ A note among the manuscripts of Ulisse Aldrovandi tells us that “the son of Doctor Fresso Augustano is in Pisa [as]

painter to His Highness, with the provision of ten scudi per month for the things of nature that he paints.”⁷⁸

At the garden, in addition to portraying numerous plants and animals in gouache paintings that are today preserved in two large codices, Froeschl executed a remarkable florilegium in folio—the very work cited by Agostino del Riccio—of which all trace had until recently been lost. When this work suddenly reappeared it was acquired by the Italian government and deposited in the archives of the University of Pisa library.⁷⁹ In this unique manuscript Froeschl portrays from life many of the exotic plants that were being cultivated in the botanical garden of Pisa at the end of the sixteenth century. The artist concentrated in particular on the rare bulbous species and precious cultivars that were the pride of Casabona’s collection; the manuscript opens, for example, with a painting of two tulips.

This florilegium was conceived not only as a work of science, but also as a work of art. In the pages that follow, Froeschl depicts many other beautiful flowers, arranged not according to any system of botanical classification but rather with an eye to creating pleasing compositions. Particularly impressive are his two paintings of the sunflower (*Helianthus annuus*), a plant introduced from Peru during the course of the sixteenth century and already being cultivated in the botanical garden of Padua in 1568. Froeschl portrays this enormous exotic flower twice, first in a frontal view (fig. 6) and then, perhaps for the first time in the history of naturalistic illustration, in a posterior view with the dark green involucre of bracts providing a striking contrast to the brilliant yellow of the petals (cat. 29).

The studio in the botanical garden of Pisa continued to function well into the seventeenth century; with the financial support provided by the Medici rulers many artists came to work there, among them Filippo Paladini, Giovanni Rocchi, and others whose names have not come down to us. The terrible plague of 1630 and the economic crisis that followed brought to a close the most important chapter in the history of this prestigious garden; it passed through a period of neglect and never quite recovered its former size and splendor.

THE GALLERIA DEI LAVORI

At the request of Ferdinando I, in 1588 Ligozzi left the studio at the Casino di San Marco where he had spent eleven years producing naturalistic paintings for Francesco I. He transferred to the Guardaroba, a complex of offices, exhibition rooms, and workshops connected with the Galleria dei Lavori (located in the Uffizi), which he would direct with great competence for many years. The Galleria housed the workshops of artists and artisans—goldsmiths, jewelers, mosaicists, cabinetmakers, embroiderers, and even herbalists versed in the art of distilling aromatic essences—one of whose functions (not unlike state factories and studios of today) was to pro-



fig. 7. Filippo Napoletano, *Two Citrons*, oil on canvas, Museo Botanico, Florence

duce works of great value for presentation to visitors of state. In 1594–1595 Ligozzi was also appointed to head the Accademia delle Arti del Disegno that had been founded by Vasari. In this capacity he dedicated himself to a wide variety of tasks, from teaching drawing to the Medici children to copying celebrated works from the family's collections, planning decorating projects, preparing designs for the Galleria's artisans as well as costumes and sets for the court's theatrical spectacles, and painting historical works (such as the large painting

executed in oil on a slate panel in the audience hall of the Palazzo Vecchio) and devotional pictures for the religious grand duke.⁸⁰

In all these areas Ligozzi found opportunities to apply the vast experience he had accumulated as a naturalistic painter. Many of his later paintings contain passages that may be considered genuine “fragments of still lifes.” Floral motifs also appear regularly in the decorative projects with which he was engaged during the last two decades of his life, by this time under the patronage of the fourth grand duke, Cosimo II (1590–1621), who succeeded his father Ferdinando in 1609. These included designs for embroidery, for example on the sleeves of ornate costumes;⁸¹ for glassware; or even for the decoration of a telescope, a recent invention by Galileo that had raised enormous interest and curiosity at court.⁸²

At this time the genre of still-life painting was becoming popular; Cosimo II acquired works by various northern European masters to add to his collections,⁸³ while local artists began to devote themselves to this new subject. For example, Filippo Napoletano, a painter of naturalistic subjects and the owner of a small *Wunderkammer* himself, in 1618 delivered to the Medici Guardaroba two *ostensioni* or demonstration paintings, *Two Conches* and *Two Citrons* (fig. 7), works that combined the qualities of the scientific illustration with those of the still life.

PIETRE DURE

Beginning in the first years of the seventeenth century, Florence became increasingly celebrated all over Europe for *commesso in pietre dure* or Florentine mosaics in semiprecious stones, an art that reached an exceptionally high level of accomplishment with the sponsorship of the Medici family. This patronage began with Cosimo I and his project (perhaps conceived by Vasari) for the decoration of the Cappella dei Principi, the Medici burial chapel in the church of San Lorenzo, the family's parish church. The grand duke was determined to have the walls of his family's mausoleum entirely covered with fine marble and mosaics. This monumental undertaking was

not completed until 1640, thus offering Florentine artisans decades of uninterrupted work and the opportunity to perfect a difficult art that came to be associated, perhaps more closely than any other, with the Medici dynasty.

Carved gemstones, particularly antique gems, had been a passion of Lorenzo the Magnificent. Later Francesco I, with his interest in the sciences and in alchemy, would assemble a large collection of rare minerals and semiprecious stones. Agostino del Riccio, who included mineralogy among his many interests and wrote a treatise entitled *Istoria delle Pietre*, notes that Lorenzo Mazzanghi, the director of the botanical garden of Pisa, was sent by the grand duke to Barga in the mountains of Garfagnana to search for “jaspers . . . of a dark red color.”⁸⁴ In the second edition of his *Lives*, Vasari records that Francesco also commissioned “a table that was an object of great rarity, being composed entirely of oriental alabaster, with large inlaid pieces of jasper, heliotrope, carnelian, lapis lazuli, and agates, with other stones and valuable gems.”⁸⁵ Francesco had a special predilection for rock crystal and conducted alchemy experiments on this transparent stone in his laboratories at the Casino di San Marco. In the Tribuna degli Uffizi vases fashioned from rock crystal and other precious minerals were on display, including a “flask” of lapis lazuli, gold, and enamel executed by the Flemish goldsmith Jacques Bilivert after a design by Buontalenti.⁸⁶

During his period as a cardinal in Rome, Ferdinando regularly sent specimens of precious minerals, as well as antique statues and pieces of marble, to his brother in Florence, while his agents, in addition to seeking out works of art, were charged with searching for rare and singular stones all over Europe, the Mediterranean, and even the Orient. The growing popularity of furniture decorated with fine mosaic work, destined for the churches and the sumptuous residences of the grand duke or to serve as gifts of state, had generated the need for stones in an ever greater array of colors and patterns.

When he became grand duke, Ferdinando officially founded the Galleria dei Lavori in 1588 (whose name was changed to its current one, Opificio delle Pietre Dure or Pietre Dure Workshop, in the middle of the nineteenth century), and the production of mosaic inlays became one of the most important industries of the Medici. Many artists chose to specialize in it, and with their collaboration works of remarkable elegance and beauty were realized. During the late mannerist and early baroque periods, in which the relationship between art, science, and nature continued to play a central role, artists found in these fragments of colored stone the perfect medium, one that offered—unlike colors applied to such fragile supports as paper, glass, or porcelain—the promise of works of beauty that would last for eternity.⁸⁷

The astonishing trompe l’oeil effects achieved by the Florentine mosaicists were the result of a long and laborious process. Expert designers would prepare a model drawing, on the basis of which artisans would choose their stones. With great sensitivity and ingenuity they sought



fig. 8. Jacopo Monica, after design by Jacopo Ligozzi, *Tabletop with Scattered Flowers*, 1614–1621, *pietre dure* mosaic, Uffizi, Florence

those with the most beautiful colors, the most suitable grain, and the most striking patterns for their composition. A panel of stone (often black marble) was then prepared to form the base of the mosaic, and the spaces to be filled in with pieces of *pietre dure* were cut away with great precision based on the furnished model. The artisans would cut the colored stones with bow drills into slices of almost transparent thinness, trim them to the exact shapes required by the model, and fit them meticulously into the spaces cut out of the base. The first

works produced by Florentine mosaicists were inspired by the ancient Roman tradition of *opus sectile*, in which geometric designs were used to highlight the qualities of the stones themselves. These were gradually replaced by subjects suggested by the world of nature, and many works would portray vases of flowers, a theme reflecting the popularity of the floral still life at the Medici court.

The universal admiration inspired by these mosaics spurred many other European states to establish similar workshops, hiring Florentine artists to direct them and to train local artists. Discriminating patrons might also commission pieces to be produced, following their specifications, directly from the Galleria dei Lavori. One of the first to do this, as we learn from Agostino del Riccio, was Rudolf II of the Hapsburgs, who ordered a (now lost) table in *pietre dure* that was realized between the years 1589 and 1597. The emperor furnished both the stones—as del Riccio notes in detail: “the most beautiful agates, of various sorts and colors, some were white and red, others white and gray, others tawny shades of yellow, and others in various colors and patterns”⁸⁸—and the design, which was prepared by “a naturalistic painter,” Daniel Froeschl, the same artist who produced the florilegium for the botanical garden of Pisa (cat. 29).

It was not at all unusual for a naturalistic artist to be asked to prepare the design for a mosaic, particularly with the growing popularity of such subjects as landscapes, branches of fruit, vegetable vines, birds, and flowers, ranging from single blossoms to bouquets arranged in vases. With the arrival of Jacopo Ligozzi as director, the Galleria dei Lavori began to specialize in such motifs. Ligozzi himself would furnish many designs, beginning in the first years of the seventeenth century and continuing during the reign of Cosimo II, which ended in 1621. Various mosaics conceived by Ligozzi have survived, including a table decorated with a complex motif of scattered flowers, now in the Uffizi, that was completed in 1621 (fig. 8). We know that for the preparatory cartoon of his work he requested in 1615 a suitable amount of the very expensive pigment referred to as *azzurro oltremarino* (ultramarine blue).⁸⁹



fig. 9. After designs by Bernardino Poccetti, Jacopo Ligozzi, and Daniel Froeschl, *Table-top with Vases, Grape Clusters, and Ears of Wheat (detail)*, 1603–1610, *pietre dure* mosaic, Galleria Palatina, Palazzo Pitti, Florence

Another refined example of Ligozzi's work is a table of chalcedony inlaid with a design of vases, grape clusters, and sheaves of wheat, as well as birds, insects, and butterflies. It is executed in *pietre dure* mosaic and is today in the Galleria Palatina, Palazzo Pitti, Florence (fig. 9). Consisting of two pendant panels, this mosaic originally deco-

rated the frontal of a monumental altar surmounted by a ciborium, which stood in the Cappella dei Principi but was dismantled in 1799. The designs for these panels were furnished by Bernardino Poccetti and Jacopo Ligozzi, and the hand of the latter can be seen in many images, such as that of the crown imperial fritillaria (*Fritillaria imperialis*), which is clearly reminiscent of a gouache painting of the same flower in the Uffizi.⁹⁰ We may also note the reappearance of the paradise finch, which the artist first portrayed in his painting of the *Ficus carica* (cat. 25).⁹¹ The presence of another exotic bird, the cardinal (*Cardinalis virginianus*), can be traced to a painting executed by Daniel Froeschl while he was at the botanical garden of Pisa, which is conserved among the papers of Ulisse Aldrovandi in Bologna.⁹²

The Florentine mosaics included in this exhibition represent examples of one of the most refined and sophisticated arts associated with the latter part of the Medici reign, but whose motifs, derived from nature, can be traced back directly to the keen interest in the natural sciences of the first Medici princes.

A panel of Flemish prasinite depicts a stylized vase of hyacinths, tulips, a yellow anemone, and other flowers in *pietre dure*; the elegant composition is framed by a border of yellow jasper with a design of fleurs-de-lis in each corner (cat. 30). One of a pair dating from approximately 1615, both are today in the Museo dell'Opificio delle Pietre Dure, Florence. They may well have been inspired by the "vase with hyacinths and butterflies" designed by Ligozzi in 1603 for the altar of the Cappella dei Principi.⁹³

Another panel dating from the early seventeenth century, again one of a pair, is decorated with a floral still life in an even more refined design, perhaps by Matteo Nigetti (cat. 31). Against an elegant background of black chalcedony the artist has arranged a bouquet of flowers in a precious, two-handled vase. The blossoms shown resting on the finely curved lip of the urn or balancing gracefully on long stems of *verde d'Arno*, a local limestone, are composed of pieces of jasper, yellow limestone, and lapis lazuli, while the lily in the center of the composition was

cat. 30. Possibly after Jacopo Ligozzi, *Vase of Flowers (Yellow Anemones)*, c. 1615, *pietre dure* mosaic, Museo dell'Opificio delle Pietre Dure, Florence



made from transparent chalcedony laid over a piece of orange-colored metal foil. The still life is framed by a wide octagonal border of *pietre dure* and *pietre tenere* (hard and soft semiprecious stones) in various colors, inlaid in a sophisticated pattern of cartouches and lozenges.⁹⁴ In this case the designer has freely interpreted the naturalistic subject matter, adapting it to this purely decorative function.

In contrast, the flowers decorating a table—one of a pair—from the Medici Villa della Petraia near Florence have the appearance of *trompe l'oeil* (cat. 32). Against a background of black chalcedony from Flanders, the artist has woven into the interstices of a geometric design

cat. 31. Attributed to Matteo Nigetti, *Vase of Flowers*, early 17th century, *pietre dure* mosaic, Museo dell'Opificio delle Pietre Dure, Florence



cat. 32. Possibly after Jacopo Ligozzi, *Table Top with Floral Ornaments*, 1619, *pietre dure* and *pietre tenere* mosaic, Villa Medicea della Petraia, Florence



of filiform arabesques a carnation, a narcissus, a rose (with its characteristic leaves and a rosebud), and tulips in various stages of flowering. Each corner is decorated with a bouquet composed of white jasmine and blue flowers bound with a yellow ribbon. The marked naturalism of this design suggests that it may be attributed to an artist in the circle of Ligozzi who was active around the year 1615.⁹⁵

A panel signed and dated 1664 on the back (although the date is no longer legible) by a lesser-known artist, Gerolamo della Valle, is strikingly decorated with a sunflower beneath



cat. 33. Gerolamo della Valle, *Sunflower*, 1664, *pietre tenere* mosaic, Museo dell'Opificio delle Pietre Dure, Florence



whose leaves hover two fanciful butterflies (cat. 33). This panel—a mosaic of *pietre tenere* on a base of black Belgian marble—is perhaps even more effective than its pendant of *pietre dure*, owing to the skillful use made by the artist of the different colors and patterns of the local stone (jasper, alabaster, and limestone) to depict the plant's broad leaves, its central disk spotted with tubular flowers, and its yellow ray flowers. Its monumental aspect is reminiscent of the flower painted by Daniel Froeschl for the botanical garden of Pisa (cat. 29).

Two panels dating from the late seventeenth century reflect the enduring influence of Ligozzi. The first (cat. 34), a mosaic of yellow limestone, lapis lazuli, green marble, and chal-

cat. 34. Florentine,
Parrot in a Pear Tree,
last quarter 17th cen-
tury, *pietre dure*
mosaic, Museo
dell'Opificio delle
Pietre Dure, Florence



cedony (from the nearby hill town of Volterra) on a base of black marble, shows a parrot perched on the branch of a fig tree, in a design reminiscent of the paintings by Ligozzi in the Uffizi (cat. 25). However, in the place of figs the artist has chosen to fill the branch with some very naturalistic pears.⁹⁶ The second panel is decorated with a more stylized design of flowers and butterflies (cat. 35), among which can be identified some of the favorite species of the period—tulips, ranunculi, and what appear to be sprigs of jasmine.

Mosaic panels such as these were generally used to decorate the fronts of elaborate cabinets of architectonic design, another Florentine specialty that was in great demand all over



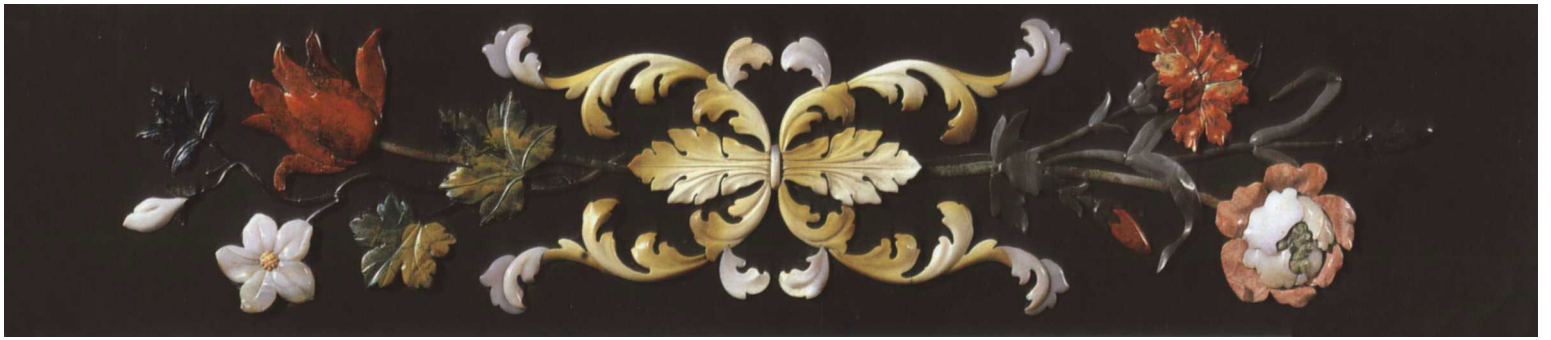
cat. 35. Florentine, *Tulips and Other Flowers*, last quarter 17th century, *pietre dure* mosaic, Museo dell'Opificio delle Pietre Dure, Florence

Europe. Made of ebony and other precious woods, with numerous drawers and niches, and decorated with great displays of marquetry, carving, inlay, and gilding, these cabinets were often considered objects of art rather than functional pieces. Although most have long vanished or been dismantled, some examples fortunately have come down to us intact, and two of these are displayed in the Palazzo Vecchio. On one cabinet, dating from the 1620s, the central panel is decorated with a view of the Villa della Petraia in Florentine mosaic, while the second, which can be dated to the second half of the seventeenth century, is adorned with more customary bird, fruit, and flower motifs.⁹⁷

Also of great interest is a cabinet from the Gilbert Collection, London, datable to the last quarter of the seventeenth century, which was perhaps brought to England around the year 1700 by Daniel Finch (1647–1730), the second earl of Winchelsea and Nottingham (cat. 36). Made of ebony and built, as was the prevailing fashion, in an architectural style (with some later modifications), it is decorated with Florentine mosaics in jasper, lapis lazuli, and various colored marbles. Its front is subdivided in a manner similar to that of the later cabinet in the Palazzo Vecchio, with sixteen lateral panels that depict alternately birds and flowers.⁹⁸ The panels opposite each other on either side are taken from the same design but use different stones. The central part of the cabinet has three panels; the lowermost consists of a drawer front decorated

cat. 36. Florentine, *Cabinet with Birds and Flowers*, third quarter 17th century, *pietre dure*, ebony, and exotic woods, Gilbert Collection, Somerset House, London





cat. 37. Florentine, *Floral Ornaments in Relief*, first half 18th century, *pietre dure* mosaic, Museo dell'Opificio delle Pietre Dure, Florence

with a bowl of fruit and flowers, while the large middle panel presents a vase of flowers containing narcissi and other flowers, and the uppermost panel displays a lunette decorated with a flower arabesque. Among the flowers depicted in the side panels we can recognize the rose, the carnation, and the lily, while the birds shown perched on branches can also be found in other panels in the Museo dell'Opificio delle Pietre Dure. Dating from the end of the seventeenth century, these must originally have been used for similar pieces of furniture.⁹⁹

The final panel shows a mosaic of flowers executed in bas-relief (cat. 37), in which the colored stones have been shallowly embedded rather than inlaid into the base of black marble. Executed during the first decades of the eighteenth century, this work testifies to the longevity of the Florentine mosaic workshops and to the creative vitality of the artisans, who were constantly experimenting with new techniques.¹⁰⁰ However, the naturalism that marked the works produced at the beginning of the seventeenth century has by this time become attenuated. Here the emphasis is placed on decorative solutions, the designs showing a studied symmetry and a simplification of forms, which no longer make any direct reference to the world of nature.

FLOWERS OF SILK

The art of embroidery blossomed in Florence with the studio of Pollaiuolo (c. 1431–1498), where pieces of the highest workmanship and beauty were produced, and continued over several centuries. Like their colleagues engaged in the other decorative arts, embroiderers adopted naturalistic themes as they came into vogue, particularly after Jacopo Ligozzi, who was born into a family of embroiderers, became director of the Galleria dei Lavori and began to furnish designs for costumes and other applications. Botanical themes were uniquely suited to the decoration of rich fabrics for ceremonial occasions, as may be seen in the pieces shown here.

The first is a sumptuous baptismal cover, traditionally used to wrap an infant during the baptismal ceremony (cat. 38). The two sides, one in green and the other in burgundy satin, have been embroidered with the same elaborate floral motif using colored silk in a running stitch.





cat. 39. Tuscan,
Chalice Veil, first quar-
ter 17th century, silk,
Opera di Santa Maria
del Fiore, Florence

LEFT
cat. 38. Tuscan,
Baptismal Cover,
17th century, embroi-
dered satin, Private
collection



The borders are decorated with a design in gold and silver thread (in the form of wire and very thin strips of metal) in satin and shading stitch. By this time traditional floral motifs with their Christian symbolism had been almost entirely abandoned, even in the decoration of religious accoutrements, in favor of more modern designs, artisans turning for inspiration to the paintings in florilegia or illuminated manuscripts or to the engravings in printed books. The naturalistic style of these illustrations, as well as their subject matter—the most prized flowers of the period, particularly bulbous species—were soon translated by Florentine embroiderers into

cat. 40. Tuscan,
Chasuble from the
"Parato di Santa
Reparata," first quar-
ter 17th century, silk
with gold and silver
thread, Opera di Santa
Maria del Fiore,
Florence



designs that were copied all over Europe. The style, technique, and choice of flowers for this baptismal cover suggest that it may be attributed to a studio active during the 1630s.

A chalice veil of red taffeta belonging to the cathedral of Florence, which can be dated to the first quarter of the seventeenth century, offers another remarkable example of floral decoration (cat. 39). The borders of this veil are decorated with a motif of paired volutes and stylized flowers (perhaps irises) worked in gold and silver strip and wire thread; the leaves have been executed in stumpwork using gold and silver strips. Each of the four corners is decorated with a different flower, realistically rendered in split stitch—a rose, a marigold, and two narcissi executed in a subtle range of green and yellow tones.

The broad diffusion of botanical themes is reflected in a magnificent chasuble (cat. 40) dating from the same period. It formed part of the liturgical vestments—including a cope, two dalmatics, two stoles, and three maniples—intended to be worn during the festival of Saint Reparata held annually in the cathedral of Florence on 8 October. The chasuble has over the centuries undergone a series of modifications, repairs, and attempts at restoration, none of which has lessened the great beauty of its decoration. The borders have been worked in gold and silver strip and wire thread. The vestment itself is decorated with a series of beautifully embroidered flowers, including the fritillaria, iris, squill, carnation, narcissus, rose, marguerite, violet, and variegated tulips, each framed by elegant arabesques worked in gold and silver thread.

FERDINANDO II AND GIOVANNA GARZONI

In 1621 the grand duke Cosimo II died, leaving behind an eleven-year-old son, Ferdinando. Power passed temporarily into the hands of two appointed regents, the mother of Ferdinando, the *serenissime* Tutrici Christine of Lorraine; and the wife of Cosimo II, Maria Magdalena of Austria. Under the mismanagement of these two complex personalities, the administration of justice, finance, and trade in the Tuscan state swiftly deteriorated. The regents also initiated a period of austerity, which had negative repercussions in terms of cultural production.

Ferdinando II finally assumed the reins of government in 1628, remaining in power until his death in 1670. This gentle prince was not endowed with great forcefulness as a statesman and was little capable of defending his interests in the constant wars and feuding of the period, which involved France, Spain, and various city states, including those of the Pope. The fifth grand duke had a decided interest in the arts and sciences, however, and pursued a cultural policy perfectly in keeping with the Medici tradition, whose goal was to reinforce the prestige of his reign. In this effort he was ably seconded by his intelligent and cultivated brothers, the cardinals Giovan Carlo and Leopoldo. It is in this light that the projects he undertook, such as the expansion and decoration of the Pitti Palace and the Boboli Garden, may be interpreted. He also

increased the allowances granted to the most popular artists at his court, such as Agostino Mitelli of Bologna and, above all, the rising star of the Roman school, Pietro da Cortona, who was commissioned to decorate various rooms of the renovated palace in 1637, the year in which the grand duke's marriage to his cousin Vittoria della Rovere was celebrated with great pomp.

Ferdinando II was forced to witness the persecution and trial of the great scientist Galileo Galilei, who had been appointed "first professor of philosophy and mathematics" at the University of Pisa in 1610 by Ferdinando's father, Cosimo II. He offered the scientist constant, albeit not public, support but could do nothing to save him from the condemnation handed down by the Holy See. The Church's decision at the same time dealt a severe blow to the prestige of the Medici dynasty and to its international reputation as patron of the sciences.¹⁰¹

The grand duke himself was more interested in practical experiments and observations than in elaborate mathematical or theoretical concepts. He periodically summoned to his private apartments in the Pitti Palace scientists of the school of Galileo who, having sagely abandoned astronomical speculation in favor of investigations into the laws of physics (a much less dangerous pastime), were happy to repeat their experiments before him. They also demonstrated the use of new instruments such as the microscope, the thermometer, and the hygrometer to the curious prince and his scholarly brother, the cardinal Leopoldo. Galileo's *gran libro dell'universo*—his "great book of nature"—embraced not only the mysteries of the heavens, but also the most varied and extraordinary aspects of the earth, which were awaiting investigation and a scientific explanation. Out of this free assembly of gentlemen the Accademia del Cimento was born in 1657 under the protection of the two gifted Medici princes. Although not an official institution such as the Accademia dei Lincei, which had been founded in Rome in 1603, its activities contributed significantly to the progress of scientific thought, not only in Tuscany but in Italy as a whole.

Ferdinando's other brother, Giovan Carlo, did not participate in these activities for his principal interests were botany and horticulture. He accumulated a large collection of rare flowers, including a unique array of anemones, which, as is demonstrated by his correspondence, he went to great lengths to procure from all over the world. In the left wing of the Pitti Palace Giovan Carlo also constructed a *salottino detto il Paradiso dei Fiori* (a small drawing room called the Paradise of Flowers) entirely decorated *a scagliola* (with colored plaster of paris), which mimicked the effects of *pietre dure*.¹⁰² The scientist perhaps closest to this refined Medici prince was Lorenzo Magalotti, an author who never tired of rhapsodizing over the form, color, and scent of botanical rarities in his eclectic writings.¹⁰³

Under the reign of Ferdinando II, even the botanical gardens of Pisa and Florence recovered some of their former glory after decades of decline. We know that the director of the garden in Pisa, Domenico Veglia, greatly expanded its collections, as a catalogue was compiled and

published of 219 new plants that could be found there.¹⁰⁴ The Florentine garden was also refurbished under its new director, Agnolo Donnini, with the assistance of his brothers Ferdinando and Filippo, both of whom were very able herborizers. Expressly “for the benefit of the gardens of Florence” the grand duke acquired “a most beautiful and important book of demonstrations and explanations of simples, illuminated in gold” (today unfortunately lost),¹⁰⁵ while Giuseppe Baldi, *ostentore* (demonstrator) at the botanical garden of the Hospital of Santa Maria Nuova, revived the tradition of botanical illustration and in 1650 painted a *Viridarium Botanicum* (Oxford University) documenting the plants and flowers that were growing in the gardens of Florence.¹⁰⁶

The popularity of still-life painting continued to grow in Tuscany during this period. The grand duke’s emissaries, scattered all over Europe, succeeded in acquiring many paintings by the most widely known Dutch and Flemish masters. Some of these, like Willem van Aelst and Otto Marseus van Schrieck, even worked in Florence for periods of time, while local artists such as Agnolo Gori, Bartolomeo Ligozzi (grandson of the great Jacopo Ligozzi), and Carlo Dolci began to apply themselves to the genre, often with a more markedly naturalistic approach than that of the Dutch school.¹⁰⁷

It was against this cultural background, in which the threads of art and science were so closely interwoven, that Giovanna Garzoni—one of the most important woman painters in the history of Italian art—came to Florence. She spent several years there (1642–1651) and consolidated her already brilliant reputation as a still-life painter, becoming one of the preferred artists of the Medici court.

Born in the town of Ascoli in the region of the Marches in 1600, Garzoni completed various youthful works that demonstrated a precocious talent. In 1616 she went to Rome, where she found herself immediately immersed in an ambience dominated by the innovative ideas of the Accademia dei Lincei, which had been founded by the nobleman Federico Cesi and of which Galileo was an illustrious member. In Rome the pharmacist Enrico Corvino encouraged the young artist to dedicate herself to botanical painting, advising her to study the engravings in what was still considered by European botanists the canonical text on the subject, Mattioli’s *Commentarii*, and recommending in particular the beautiful edition printed in Venice in 1565.

An important manuscript in the library of rare books at Dumbarton Oaks, Washington, offers valuable insight regarding Giovanna Garzoni’s formation in the area of botanical illustration, as it contains works executed by her at various points in her career.¹⁰⁸ It opens with a portrait of the by now elderly artist, added at some later point to the manuscript. Next to various paintings closely modeled on the illustrations in the *Commentarii*, which betray a certain rigidity and schematization—such as the Carlinleaf plumeless thistle (*Carduus carlinaefolius*), eryngium (*Eryngium campestre*), colocasia (*Colocasia antiquorum*), and peucedanum (*Peucedanum ostruthium*)—we find later works in which the plants have been portrayed from life with great

cat. 41. Giovanna Garzoni, *Mandrake* (*Mandragora autumnalis*), watercolor and ink on vellum, from *Plantae Variæ*, illustrated manuscript, Dumbarton Oaks, Trustees for Harvard University, Washington, DC



assurance, and Garzoni gives ample demonstration of her artistic maturity. Her paintings of an eryngium (*Eryngium maritimum*), a banana tree (*Musa paradisiaca*) (this work is curiously signed on the flower itself), and a beautiful mandrake (*Mandragora autumnalis*) (cat. 41) are not only scientifically correct but also pleasingly arranged on the page. The artist has devoted careful attention to the leaves and flowers, and even to the root systems of these plants; varying markedly from species to species, their tangled filaments offered an opportunity for her to exercise her great talent as a miniature artist.

The practice of botanical illustration constituted valuable training for Giovanna Garzoni, who gradually broadened her repertoire until she felt prepared to attempt her first still-life paintings, a genre that would win her fame at many of the most illustrious courts of Europe—Paris, Rome, Naples, and Turin. These works were almost always executed on vellum, never on



cat. 42. Giovanna Garzoni, *Hyacinth (Hyacinthus orientalis) with Four Cherries, a Lizard, and an Artichoke*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 43. Giovanna Garzoni, *Ranunculus (Ranunculus asiaticus) with Two Almonds and a European Carpenter Bee (Xylocopa violacea)*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence

canvas, and she became known as the “illustrious miniaturist.” The important role played by botanical painting in her art can be seen in a series of four large works in gouache at the Uffizi and datable to the late 1640s, three of which are included in this exhibition. In each work the plant is depicted with its roots and flowers, suspended in the center of the page, in accordance with the tradition of Ligozzi. However, the artist enlivens each composition by unobtrusively adding other elements such as small fruits, vegetables, insects, and reptiles; portrayed with minute precision, each casts a faint shadow against the page on which it seems to have been delicately posed.¹⁰⁹ These paintings can be identified as the *carte di semplici* (drawings of herbs) mentioned in a list of works sent by Garzoni to the grand duke.¹¹⁰

One shows a hyacinth (*Hyacinthus orientalis*), to which the artist has added four cherries, a small lizard, and an artichoke with a tiny fly resting on the cut stem that she surely must have

cat. 44. Giovanna Garzoni, *Dittany (Dictamnus albus) with Three Hazelnuts and Two Pears*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence



studied through a magnifying lens (cat. 42). Another portrays a showy cultivar of the ranunculus (*Ranunculus asiaticus*) with double blooms composed of striated red-and-white petals (cat. 43). Next to the plant the artist has placed an insect, perhaps a European carpenter bee (*Xylocopa violacea*), and two almonds, one still encased in its husk. The third painting depicts a flowering stem of dittany (*Dictamnus albus*) with three hazelnuts and two small pears that have been portrayed with great accuracy, from the spiny husks of the nuts to the delicate tints of the pears (cat. 44).

Another album containing a miscellaneous collection of “miniatures and drawings” at the Accademia di San Luca, Rome,¹¹¹ the artists’ institute to which Giovanna Garzoni left her estate at her death, sheds light on the various stages in her artistic development. This assemblage includes many studies of flowers, both spontaneous and cultivated varieties, portrayed either singly, in groups, or in bouquets, as well as drawings and paintings of fruits and vegetables,



cat. 45. Giovanna Garzoni, *Plate with Apples and Almonds*, gouache on vellum, from *Libro di miniature e disegni*, illustrated manuscript, Accademia Nazionale di San Luca, Rome

butterflies and other insects, all depicted with great realism and attention to detail.¹¹² Of primary significance are seven pen-and-ink drawings of animals and a landscape inserted in the last pages of the album, which the artist had copied with great fidelity from a sheet of drawings by Dürer, a sheet that had perhaps belonged to her and that is today at the Sterling and Francine Clark Art Institute, Williamstown, Massachusetts.¹¹³ Seventeenth-century artists clearly still considered Dürer a master of naturalistic illustration. Among the “finished” works in this album is a fine still life showing, against a dark background, a ceramic plate on which four apples have been arranged (cat. 45). Resting on the plane beside the plate are a few almonds, including one broken in half, and a piece of hull—small touches of reality the artist has focused on in loving detail. The bowl of fruit was a favorite theme of Garzoni, one that appears again and again in her larger still lifes.

Various members of the Medici family were enthusiastic patrons of the artist’s work; above all the cardinal Giovan Carlo, but also the cardinal Leopoldo, the grand duke Ferdinando II, and Ferdinando’s wife, the grand duchess Vittoria, for whom most of the works commissioned by the grand duke were intended. When Giovanna Garzoni moved back to Rome, she kept in close contact with her Florentine patrons, executing commissions for them from time to time.¹¹⁴

Garzoni also studied the works of the great northern European masters of still life, in particular Ambrosius Bosschaert the Elder, Balthasar van der Ast, and the French artist Louise Moillon; their influence can be seen in her mature work. With her observant eye and sensitivity



fig. 10. Giovanna Garzoni, *Chinese Vase with Various Flowers*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence



fig. 11. Giovanna Garzoni, *Vase of Flowers and Two Conches*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence

to nature, she was able to capture the most subtle details of the flowers in her compositions (many conceived as pendants), which might range from a few blossoms in a simple glass carafe to extravagant bouquets arranged in vases of Chinese porcelain (figs. 10, 11); in buffoni, round glass vases with bright reflections in their curved sides (cats. 46, 47); or even in urns of semi-precious stone. She portrayed above all cultivated varieties (in large part bulbous species, many of them seasonal) among which we may find anemones (the favorite flower of Giovan Carlo), tulips, narcissi, carnations, jasmine, bellflowers, and buttercups, although she sometimes included more exotic species. She often painted butterflies, ants, or other insects balanced on the petals and leaves.

Next to her floral paintings, Garzoni also executed many charming still lifes consisting of bowls overflowing with fruits or vegetables that ranged from prized delicacies to modest products of the kitchen garden. A series of twenty such works, executed in gouache on vellum between 1650 and 1662 for Ferdinando II, is today in the Galleria Palatina of the Palazzo Pitti. These vibrant paintings display a conscious yet subtle balance between scientific realism and decorative beauty, between symbolism and the naturalistic rendition of reality. The subjects include fruits that were particularly sought after in the seventeenth century to grace the tables of the aristocracy, because they were not only a pleasure to the palate but also a delight to the eye. Similar to the works in the Galleria Palatina is Garzoni's *Chinese Plate with Cherries and Bean Pods* (cat. 48); the piles of small red fruit constituted a favorite subject for the artist. In the *Plate of Apricots with a Rose* (cat. 49) she uses a more subdued yet luminous palette of colors applied in fine brush strokes to suggest the soft fleshiness of the fruit.

In these works we can retrace the complex technique used by Garzoni, which began with a rapid pencil sketch; this was completed in gouache, perhaps mixed with gum arabic, applied in firm, decided brush strokes or lighter, more minuscule touches and often accompanied by tiny, closely arranged dots in different colors. As the artist herself once lamented with a touch of pride, because of the complexity and slowness of the process her paintings were truly “works of great labor.”¹¹⁵

In this exhibition, several so far unpublished works by Giovanna Garzoni are presented that greatly enrich the corpus of the artist. Two paintings on vellum show, respectively, a quince with a lizard (cat. 50), and three figs (one of which has been split open to show the red pulp and tiny seeds) together with a long-horned beetle whose rigidity suggests that it was probably not



cat. 46. Giovanna Garzoni, *Glass Vase with Flowers*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence



cat. 47. Giovanna Garzoni, *Glass Vase with Flowers*, gouache on vellum, Gabinetto Disegni e Stampe degli Uffizi, Florence

Painted from a live specimen (cat. 51). The small size of these trompe l'oeil works, as well as their almost metaphysical quality, indicates that they may have been used to decorate the fans that are mentioned many times in documents concerning the artist; they would have offered an ideal setting for these diminutive masterpieces.

Another extraordinary painting from the same collection portrays two large squash (cat. 52). This was an unusual subject for Garzoni, although paintings of common garden vegetables would become popular in Florence between the late seventeenth and early eighteenth centuries. In this striking composition the homely vegetable with its irregular, spotted rind is ennobled by the brush of the artist. The smaller squash has been cut open to show its pale yellow flesh and white seeds, three of which have fallen out and lie on the rough stone surface. A vine with three large leaves and various tendrils is shown in the background, forming an elegant frame to the composition.



cat. 48. Giovanna Garzoni, *Chinese Plate with Cherries and Bean Pods*, c. 1620, gouache on vellum, Private collection



cat. 49. Giovanna Garzoni, *Plate of Apricots with a Rose*, gouache on vellum, European collection



cat. 50. *Giovanna Garzoni, Quince with a Lizard, gouache on vellum, Private collection*



cat. 51. *Giovanna Garzoni, Figs with a Beetle, gouache on vellum, Private collection*

cat. 52. Giovanna Garzoni, *Squash*, gouache on vellum, Private collection



Three paintings on vellum depict very different subjects but share the same assured technique. One shows a bouquet of flowers consisting of a hyacinth, four double anemones, two narcissi, and two tulips in a glass vase resting on an uneven stone surface (cat. 53). This work constitutes a pendant to a painting of the carafe (in much poorer condition, both in terms of the conservation of the colors and the state of the vellum) in the Uffizi, which, according to contemporary inventories, formed part of a set of four similar works.¹¹⁶ In another painting the artist has depicted six cut flowers from different angles and with brilliant realism—four tulips, a double anemone, and a narcissus (cat. 54). The subtle range of colors and the play of light on the lustrous petals demonstrate the artist's attentive study of the original specimens. Equally extraordinary is Garzoni's painting of two lemon branches bearing both fruit and flowers, shown on a dark stone plane with other lemon flowers and a wilted rose. The exuberant forms and intense yellow color of the three rough-skinned lemons contrast strikingly with the delicate white flowers (cat. 55). Although the green of the leaves has faded owing to their prolonged exposure to the light (an all too frequent occurrence in the gouache paintings of Garzoni), the bumblebee hovering above the flowering branch seems as alive as the day it was painted, its microscopic rendering animating the composition and irresistibly drawing the eye.

cat. 53. Giovanna Garzoni, *Bouquet of Flowers in a Glass Vase*, gouache on vellum, European collection



Finally, a watercolor from the Cleveland Museum of Art, depicting a bee-eater and three small goldfinches in different positions among various fruit scattered on a stone surface—a pear, a fig, a peach, and two plums—(cat. 56), constitutes a unique achievement by the artist. Once thought to be the work of Jacopo Ligozzi, it has since been correctly attributed to Giovanna Garzoni.¹¹⁷ She may have painted it for her Medici patrons, for whom paintings that combined botanical with ornithological subjects had a particular appeal since they formed part of the heritage of Ligozzi.¹¹⁸ This refined work tells us much about how the artist constructed her compositions, for she often reused the same elements in different combinations. For



cat. 54. Giovanna Garzoni, *Study of Flowers*, gouache on vellum, European collection

cat. 55. Giovanna Garzoni, *Three Lemons with a Bumblebee*, gouache on vellum, European collection





cat. 56. Giovanna Garzoni, *Still Life with Birds and Fruit*, c. 1650, watercolor with black chalk heightened with lead white, on vellum, The Cleveland Museum of Art, Bequest of Mrs. Elma M. Schniewind in memory of her parents, Mr. and Mrs. Frank Geib

example, the fruit here could have been taken from the various bowls depicted in her still lifes, while the finch reappears in one of her paintings in the Galleria Palatina, this time shown pecking away at a fig. She never simply copied previous examples, instead adding new elements or an unusual and original detail in order to beguile our eye, our sense of touch, and even our sense of taste and smell, seeking with her brush to re-create the very essence of nature.

COSIMO III AND BARTOLOMEO BIMBI

In 1642 Cosimo III (1642–1723), the son of Ferdinando II, ascended to power as the sixth grand duke of Tuscany. While historians have been severe in their judgment of this bigoted, gloomy, and eccentric sovereign, the arts and sciences continued to flourish under his reign. Sculpture in particular, but also Florentine mosaic work and the decorative arts in general enjoyed a period of great flowering. In 1677 the grand duke, who shared his predecessors' interest in natural history and was passionately fond of exotic animals, had a large menagerie constructed in the Boboli Garden. As Giovanni Targioni Tozzetti wrote, "he took pleasure in assembling everything that he could of the myriad Products of Nature presented to him by Travellers and Missionaries."¹¹⁹ Nevertheless, among the natural sciences he had a decided preference for botany, in part motivated by his obsession with frugal vegetarian regimens such as the Pythagorean diet recommended by his court physician Francesco Redi, a member of the Accademia del Cimento and a respected naturalist in his own right.¹²⁰ The wife of Cosimo III, Marguerite-Louise d'Orléans—whose father Gaston d'Orléans (the brother of Louis XIII of

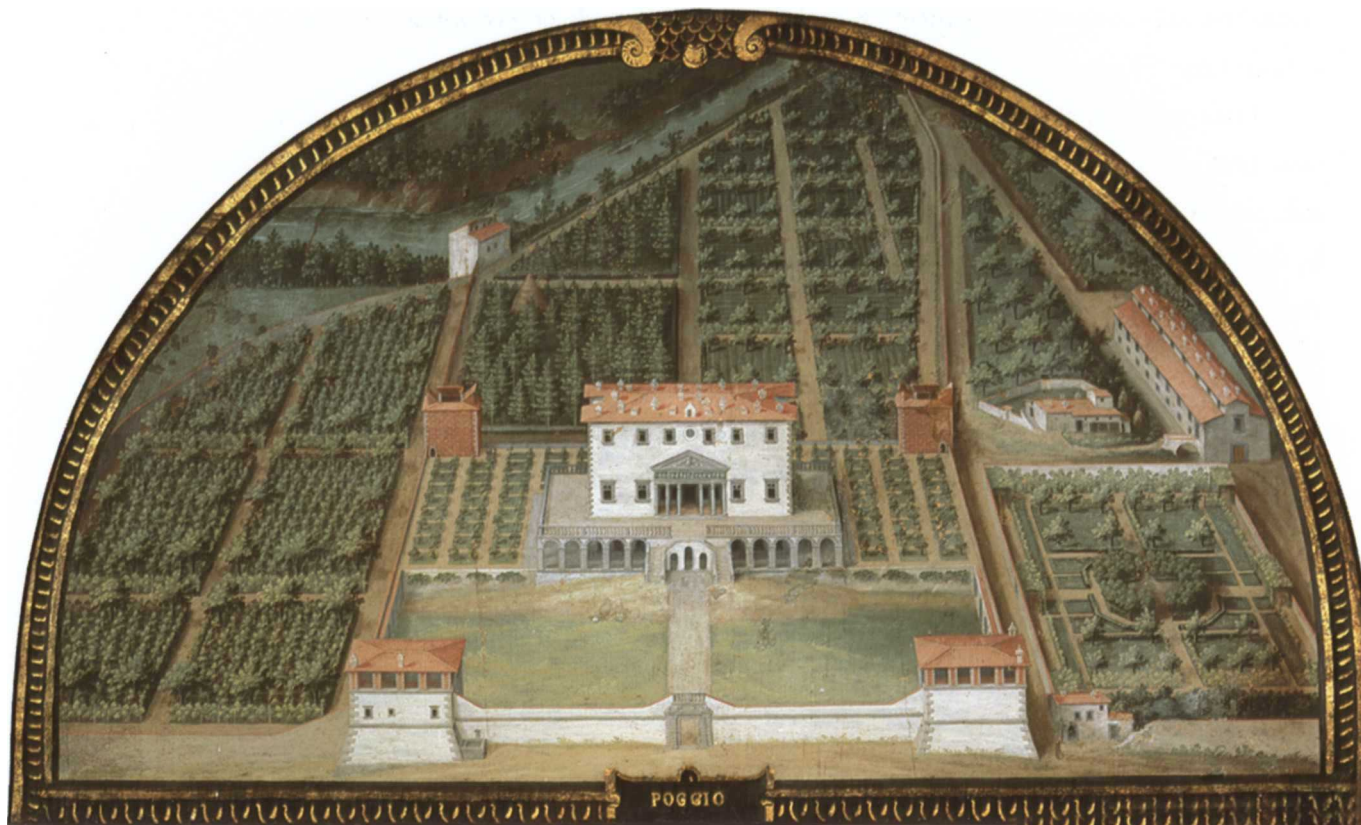
France) owned a magnificent garden at the château of Blois and actively promoted the art of botanical illustration in France—was also passionately fond of gardens.

Francesco Redi had in his service a painter of natural history subjects, Filizio Pizzichi,¹²¹ who must be credited with having discovered and introduced to the Medici court the remarkable painter Bartolomeo Bimbi. As Pizzichi recounts, one day he saw a flower garland painted by this obscure artist. So great was his admiration that he “seized the work and immediately carried it off to show to His Highness, telling him that there was in Florence a painter not known to anyone, who for his own sheer pleasure painted flowers as well as this. For which work the prince remained in such admiration, that he immediately ordered the artist to come to the palace, and acquiring for himself the said garland at a fair price, he never ceased thereafter to send the most beautiful and rare flowers to the same in order that he might, as he immediately did, paint [them].”¹²²

Bartolomeo Bimbi was born in 1648 in Settignano close to Florence. During a voyage to Rome as part of the retinue of Cardinal Leopoldo de’ Medici he met the celebrated artist Mario Nuzzi, widely known as Mario dei Fiori because of his opulent floral compositions. It does not appear that these works made a particular impression on the young artist at the time, but when he returned to Florence he began to paint flowers as well. After his fortunate meeting with Pizzichi, and with the encouragement and patronage of various members of the Medici family, not only the grand duke Cosimo III, but also his children—the refined *Gran Principe* Ferdinando, Anna Maria Luisa, and Giangastone—Bimbi began to specialize in “portraits from nature,” that is, the portrayal not of persons but of flowers, plants, and animals. These canvases were destined to decorate the walls of the many villas of the grand duke, but Bimbi’s work was also in great demand among Florentine collectors and cultivated visitors from other parts of Italy and abroad.

Bimbi was not a naturalistic artist in the same sense as Ligozzi but a painter of still lifes, a genre that had already been popular for many years at the Medici court. By means of his brush he would literally transform the genre, introducing imaginative touches and innovative connotations inspired by the same “scientific” component that had been the moving spirit behind the art of naturalistic painting in Tuscany since the beginning of the Medici dynasty.

Next to his traditional floral compositions, which ranged from single flowers to opulent bouquets in ornate vases and were often conceived as pendants, Bimbi dedicated himself to painting large-scale canvases from life. These document the extraordinary variety of fruits, many of which have since disappeared, and the monstrous and aberrant specimens of vegetables that were cultivated in the gardens of the Medici and other wealthy Florentines. His flower paintings were hung at the Villa di Castello, while the canvases depicting the fruits and vegetables grown in the grand duke’s gardens were hung at the Villa della Topaia, and paintings on zoological sub-



cat. 57. Giusto Utens, *Villa Poggio*, 1598–1599, tempera on panel, Museo Storico Topografico “Firenze Com’era,” Florence

jects, including game, at the Villa dell’Ambrogiana. Many of these canvases are now installed in the Villa Poggio, commissioned by Lorenzo the Magnificent in the late quattrocento. One of the most important of the Medici villas, it is also the subject of a lunette by Utens (cat. 57).

Almost every one of Bimbi’s works was furnished with an inscription giving the name of the specimen and the place and date on which it was gathered. Notwithstanding this scientific approach, which included the faithful portrayal of each specimen from life, the subjects of his works are arranged in picturesque compositions, against landscape backgrounds or piled on costly carpets or drapery.

The imposing canvas *Pears* (cat. 58) constitutes one of the many “inventories” of fruit and vegetables created by the artist for Cosimo III. This work depicts no less than 115 different types of pears. They have been divided into six groups based on their time of maturation, and are arranged in opulent pyramids in baskets and platters or placed on the marble plane in the foreground. The grand background consists of an antique marble bas-relief on the left and two massive columns on the right against a turquoise sky filled with clouds, a frequent motif in the works of this artist. Each variety is labeled with a number, by which means one can find its common name—*cipolletta di Francia*, *giugnolona*, *becco d’oca*, *bugiarda*, *brutta-buona*, and so on—in the large cartouche at the base of the painting (which may have been rewritten at some later date).¹²³ This painting, like many others by the artist, is furnished with a magnificent gilded frame by



cat. 58. Bartolomeo Bimbi, *Pears*, 1699, oil on canvas, Villa Medicea, Poggio a Caiano, Florence

the Dutch wood-carver Vittorio Crosten, who also worked at the Medici court. Crosten often incorporated themes in his carved decorations from the painting for which his frame was intended, or else borrowed motifs such as the classical festoons that decorated the bas-reliefs of Luca della Robbia or the tapestries produced in the Medici workshops during the first half of the sixteenth century.¹²⁴

Dating from the same year is the painting *Cherries* (cat. 59), which features an unusual composition. Against a deep blue sky dramatically lit by the setting sun, an enormous basket of cherries spills out onto the ground toward the observer, culminating in a small, brilliantly polished pewter plate that bears a heap of particularly translucent fruit. The artist has depicted thirty-four different varieties of cherries that were cultivated in Tuscany at the end of the seventeenth century. Their names (*Ciliegia visciolina*, *Moraiola*, *Ciliegia del Podere della Cassetta*, and so forth) are



carefully listed on the plinth of a fountain surmounted by the statue of a putto that is almost lost in the shadows on the left. The light that floods the cascade of fruit highlights their glassy colors, which range from light pink to deep red. This work is also enhanced by an ornate frame by Crosten.

cat. 59. Bartolomeo Bimbi, *Cherries*, 1699, oil on canvas, Villa Medicea, Poggio a Caiano, Florence

Bimbi documented the grand duke's valuable collection of 116 different varieties of citrus fruit in the year 1715 in four canvases of similar composition, each one showing a luxuriant trellis flanked by two herms. *Citrus Fruits* (cat. 60) presents the rounded, golden-yellow forms of thirty-four different citruses, carefully arranged with their leaves and flowers. The rarest varieties—the products of complicated crosses—appear in the lowermost row: the *limone teresiano* (the first two citruses on the left), two large *cedrati* in the center, and the *limone barba d'oro* on the right. In the center of the composition (labeled with the number 14) are three round *melangole*



cat. 60. Bartolomeo Bimbi, *Citrus Fruits*, 1715, oil on canvas, Villa Medicea, Poggio a Caiano, Florence

or Seville oranges, the strongly scented, bitter citrus variety popular at the time for use in desserts and perfumes.

Among the other exotic fruit Bimbi painted for his patrons is a branch of dates arranged on a platter. The dish rests on a red cloth decorated with gold embroidery that is draped over a rough-hewn stone surface (cat. 61). This still life, with its subtle play of various tones of brown, is furnished with an appropriately “exotic” background of palm trees and a pyramid.

In the tradition of Ligozzi, the artist sometimes combined both plants and animals in a single composition, as in the case of *Two Pear Tree Branches, with a Hoopoe* (cat. 62). Here, in addition to the handsome bird perched on one branch, Bimbi has painted a translucent cicada resting on the other branch. Arranged on the ledge are several fruit cut in half to expose their endocarps, and on the left, before a window opening on a landscape, some flowering branches



1 Limone Teresiano

2 Cedro

3 Cedrato

4 Limone di S. Remo legittimo

5 Limone detto Pera Bronca

6 Limone del Bandino

10 Spungino

11 Limone di Messina scorza sottile

12 Limone lungo senza fugo

13 Limone detto A. file

18 Limone Cedrangolo

19 Limone di Paradiso

20 Limone Ponzino dorato

21 Limone di Calauria a fette di popone

22

cat. 61. Bartolomeo
Bimbi, *Plate of Dates*,
1720, oil on canvas,
Galleria Palatina,
Palazzo Pitti, Florence





cat. 62. Bartolomeo Bimbi, *Two Pear Tree Branches with a Hoopoe*, 1717, oil on canvas, Sezione Botanica "F. Parlatore" del Museo di Storia Naturale, University of Florence



cat. 63. Bartolomeo Bimbi, *Giant Cardoon* (*Cynara cardunculus*), 1706, oil on canvas, Sezione Botanica "F. Parlatore" del Museo di Storia Naturale, University of Florence

of the exotic morning glory (*Mirabilis jalapa*) and the trumpet creeper (*Bignonia grandiflora*), both of which were well known to Florentine gardeners.

Among the many horticultural "monstrosities" Bimbi was asked by the grand duke to document is the giant cardoon (*Cynara cardunculus*), a vegetable that was frequently depicted in Spanish still-life paintings of the period and which the Italian artist has rendered with luminous brush strokes (cat. 63). This particular specimen was cultivated in the garden of the Paschalites, an order of reformed Franciscans introduced to Tuscany by Cosimo III. They had a convent not far from the Villa dell'Ambrogiana. To counterbalance the artist's *sermo humilis* (simple language), an elegant basin of embossed copper has been placed next to the vegetable.¹²⁵

In another painting Bimbi depicts two botanical curiosities that had been presented to the grand duke as gifts. The magnificent cauliflower weighing eighteen *librae* (pounds) and dramat-



ically framed by its halo of dark green leaves veined in white came from the garden of the Venuti family near Cortona, while the equally extraordinary eight-pound horseradish was discovered in the garden of the Marchese Corsi (cat. 64). Also of interest is the Squash from the Granducal Garden at Pisa or “Squash born in Pisa in the Garden known as San Francesco [belonging to] His Royal Highness, year 1711, weighing 160 librae (pounds)” (cat. 65), in which the gigantic vegetable, together with a slice showing its golden pulp and seeds, is shown against the idyllic background of one of the many *giardini di delizia* (pleasure gardens) of the grand duke in Pisa. In the distance the cathedral square with its leaning tower is shown in ironically minuscule proportions.

Among the “monstrosities” portrayed by Bimbi is “a double sunflower . . . yellow in color,” shown life-size, its corolla sprouting tiny ligulate flowers (cat. 66). Thus the giant sunflower that was brought to Italy from the Americas, depicted by Daniel Froeschl, and used as a motif by

cat. 64. Bartolomeo Bimbi, *Monstrous Cauliflower and Horseradish*, 1706, oil on canvas, Sezione Botanica “F. Parlatore” del Museo di Storia Naturale, University of Florence



cat. 65. Bartolomeo Bimbi, *Squash from the Grand Ducal Garden at Pisa*, 1711, oil on canvas, Sezione Botanica "F. Parlatore" del Museo di Storia Naturale, University of Florence

Florentine mosaicists (cat. 33), continued to fascinate botanists and botanical painters, as it does to this day.

There are no known drawings or paintings in gouache or watercolor by Bartolomeo Bimbi. However, at the Abbey of Vallombrosa—an important center for botanical studies between the end of the seventeenth and the first decades of the eighteenth centuries¹²⁶—the monk and botanist Don Bruno Tozzi assembled a manuscript containing a miscellaneous corpus of gouache paintings (now at the Biblioteca Nazionale, Florence) (cat. 67), which can clearly be placed within the Florentine tradition of paintings of fruits and vegetables extending in an uninterrupted line from Garzoni to Bimbi. Of unknown authorship, these works comprise a large collection of flowering plants (mostly cultivated varieties), and an extraordinary selection of fruits and vegetables including figs, pears, apples, cherries, citruses, squash, asparagus, and artichokes.

cat. 66. Bartolomeo
Bimbi, *Sunflower*
(*Helianthus annuus*),
1721, oil on canvas,
Galleria Palatina,
Palazzo Pitti, Florence



cat. 67. Tuscan,
Artichokes, tempera
on paper, from
*Ornithologiae vivis
expressae coloribus*
(1729), Biblioteca
Nazionale Centrale,
Florence, Conventi
Soppressi



Finally, an elegant canvas by the Neapolitan artist Gaspare Lopez, also known as Gasparo dei Fiori, who died in Florence in 1740, shows two views (anterior and posterior) of an extraordinary variegated double tulip with no less than three scarlet and white blossoms growing from a single stem (cat. 68).¹²⁷ This singular marvel appeared in the Boboli Garden. It was the Electress Palatine Anna Maria Luisa (1667–1743), widow of the Elector Palatine John William of Neuburg and the dearest of the three children of Cosimo III, who requested that it might be portrayed for posterity. The Electress Palatine was the last protagonist of the singular Medici tradition of patronage of the arts and sciences. She survived her brother Giangastone, who



became grand duke in 1723 but died without issue, therefore bringing the Medici dynasty to an end. To her befell the unhappy lot of representing the family at the moment of its extinction and of overseeing the destiny of its extraordinary collections during the transfer of power to the dukes of Lorraine. Anna Maria Luisa bequeathed all of the art treasures of the Medici to the grand duchy and to Florence. Engraved on her tomb in the Cappella dei Principi are the words *Ultima della stirpe reale dei Medici* (Last of the royal Medici line).

cat. 68. Gaspare Lopez, *Tulips*, 1730, oil on canvas, Galleria Palatina, Palazzo Pitti, Florence

Notes

1. Lucia Tongiorgi Tomasi and Alessandro Tosi in exh. cat. Florence 1990, 5–6.
2. Alessandro Perosa, ed., *Giovanni Ruccellai e il suo Zibaldone* (London, 1960), 20–23. See also Battisti 1972, 15–17; Acidini Luchinat 1996; and Azzi Visentini 1999, 13–14.
3. Angelo Poliziano, *Poesie italiane*, ed. Saverio Orlando (Milan, 1986), Book 1, 4, *Stanze per la Giostra del Magnifico Giuliano di Piero dei Medici* (Some verses written on the occasion of a tournament held in honor of the magnificent Giuliano di Piero of the Medici): “E tu ben nato Laur, sotto el cui velo / Fiorenza lieta in pace si riposa, / né teme i venti o il minacciar del cielo.” On this topic, see Battisti 1972, 23, and Levi d’Ancona 1983, 83.
4. Poliziano 1986, 131: “Tmi trovai, fanciulle, un bel mattino / Di mezzo maggio in un verde giardino. / Eran d’intorno violette e gigli / Fra l’erba verde, e vaghi fiori novelli / Azzurri gialli candidi e vermigli....”
5. Cristina Acidini Luchinat, ed., *Benozzo Gozzoli: La cappella dei Magi* (Milan, 1993).
6. Giovanni Dominici, *Libro d’amore di carità*, ed. A. Ceruti (Bologna, 1889), 52. The quotation is from Dalli Regoli 1991, 150.
7. Brown 1998, 18–19.
8. Kemp 1981, 61; Dalli Regoli 1991, 147; and Brown 1998, 35.
9. For a detailed description of the sheet of botanical drawings in the Accademia, Venice, see the catalogue entry by Giovanna Nepi Sciré in *Leonardo a Venezia* [exh. cat., Gallerie dell’Accademia] (Milan, 1992), 300. See also Pedretti 1977, 1174, and Emboden 1987, 116. On Leonardo’s drawings of plants and flowers, see Francis Ames Lewis, “Leonardo’s Botanical Drawings,” *Accademia Leonardi Vinci* 10 (1977), 117–127.
10. De Toni 1922, 17.
11. Vasari 1906, 4:22. See also Brown 1998, 47.
12. Mirella Levi d’Ancona has identified various plants in the painting, including a horticultural tulip that arrived in Europe no earlier than the mid-sixteenth century; see Levi d’Ancona 1977, 390–391. On the depiction of trees in the Annunciation, see Natali 2000.
13. On *Ginevra de’ Benci*, see Brown 1998, 101–121.
14. Dalli Regoli, Nanni, and Natali 2001.
15. On the typology and forms of the trees that appear in the works of Leonardo and Botticelli, see Gigetia Dalli Regoli, “Leonardo e Sandro all’inizio degli anni settanta: La forma degli alberi,” in *Scritti per i 70 anni di Carlo Pedretti: “Tutte le opere non son per istancarmi”* (Rome, 1989), 59–76.
16. Guido Moggi, “Le piante nella pittura italiana dei secoli XV e XVI: Problemi e metodi di identificazione botanica,” in Prinz and Beyer 1987, 71.
17. On the identity of these two figures, see Dempsey 1992, 30.
18. The differences between the diagnostic traits of these two irises are minor or even nonexistent and do not justify their separation into two distinct species, subspecies, or varieties.
19. “Di Aprile si coglie il fior di ireos” (The flower of the iris may be gathered in April). See *Nuovo ricettario composto dal famosissimo Chollegio degli eximii doctori dell’arte et medicina dell’indita città di Firenze* (Florence, 1499), folio 1-b.
20. See in particular the 1557 edition published in Venice: Pietro Andrea Mattioli, *I Discorsi di M. Pietro Andrea Mattioli... nei sei libri della materia medicinale di Pedacio Dioscoride Anazarbeo* (Venice, 1557), 17–19.
21. Beatrice Paolozzi Strozzi, “L’ ‘Adorazione del Bambino’ della bottega di Filippo Lippi,” in Acidini Luchinat 1993, 29–32.
22. Regarding this triptych, see in particular the analysis by David Alan Brown, *Raphael and America* (Washington, 1983), 110–112.
23. Ettore Camesasca, “Sublimazione senza dramma,” in *L’opera completa di Perugino* (Milan, 1969), 6.
24. For the symbolic meaning of these plants, see Levi d’Ancona 1977, 486.
25. Elizabeth Cropper, “L’arte cortigiana a Firenze: Dalla repubblica dissimulata allo stato paterno,” in Ciardi and Natali 2000, 95.
26. *Aeneid* 6, v. 143. See Virgil, *Eclogues, Georgics, Aeneid 1–6*, transl. H. R. Fairclough, revised by G. P. Goold (Cambridge, Mass., 1993), 543.
27. Emboden 1977, 1–21.
28. Lucia Tongiorgi Tomasi, “L’illustrazione naturalistica: tecnica e invenzione,” in Olmi, Tongiorgi Tomasi, and Zanca 2000, 133–151.
29. Arthur K. Wheelock Jr. in exh. cat. Washington 1999, 19. Koreny 1988, 206, instead attributes this work to a German artist active during the first quarter of the sixteenth century.

30. Battisti 1962, 254.
31. Snapper 1988, 54.
32. This copy of *Commentarii P.A. Matthioli in sex libros Pedacii Dioscoridis Anaz: De materia medica* (Ventiis, ex Officina Valgrisiiana, 1565) once belonged to Sydney Cockerell and is now part of the collection of Mrs. Rachel Mellon, Oak Spring Garden Library, Upperville, Virginia. It has plates that are embellished with silver highlighting up to page 194. The illustration of *Tilia foemina* (lime tree) is reproduced in Blunt and Raphael 1979, 11.
33. Carlo Raimondi, "Lettere di P.A. Mattioli a Ulisse Aldrovandi," in *Bollettino Senese di Storia Patria* 13, fasc. 1-2 (1906), 15. See also Lucia Tongiorgi Tomasi, "Il problema delle immagini nei 'Commentarii,'" in Ferri 1997, 370.
34. This magnificent copy may be found in the Sächsische Landesbibliothek, Dresden (call number "Botan. 204 [S.B.87]"). The volume is entirely illuminated in silver and contains further decoration on several pages. Unfortunately, its provenance is unknown. It is cited in Blunt and Raphael 1979, 136.
35. Mina Gregori and Detlef Heikamp in exh. cat. Florence 1997.
36. See in particular Agostino del Riccio, *Agricoltura Sperimentale e Teorica*, Florence, Biblioteca Nazionale Centrale, Ms. Targioni Tozzetti 56, I-III; Giovanni Targioni Tozzetti, *Selve di notizie dei progressi delle scienze fisiche in Toscana*, Florence, Biblioteca Nazionale Centrale, Ms. Targioni Tozzetti 189, 18 vols; Targioni Tozzetti 1780; and Galluzzi 1781.
37. Galluzzi 1980a, 189-215.
38. This was a copy of the Venice edition of 1544. See Galluzzi 1980b, 127-134.
39. Baccio Baldini, *Vita di Cosimo dei Medici, primo Gran Duca di Toscana* (Florence, 1578), 86.
40. Galluzzi 1781, 2:130.
41. Pietro Andrea Mattioli, "Agli Studiosi Lettori, p.n.n.," in *I Discorsi* (see note 20). On the botanical garden of Pisa, see exh. cat. Pisa 1980, 513-526, and Garbari, Tongiorgi Tomasi, and Tosi 1991, 115-212.
42. Tongiorgi Tomasi 1983, 1-34.
43. Giusto Utens was born in Brussels, and his presence in the Tuscan city Carrara in 1588 is clearly documented. He married a local woman, became a citizen of Carrara, and died there in 1609. See Giuseppe Campori, *Memorie biografiche degli scultori, architetti, pittori nativi di Carrara* (Modena, 1873), 369. On the series of lunettes by Utens, see Mignani 1980.
44. Chaterfield and Gurrieri 1972. For an analysis of the lunette of the Villa di Castello, see Acidini Luchinat and Galletti 1992, 70-71.
45. Agostino del Riccio, *Agricoltura Teorica*, Florence, Biblioteca Nazionale Centrale, Ms. Targioni Tozzetti, 56, III, folio 26 verso.
46. Benedetto Varchi, "Lezione nella quale si disputa della maggioranza delle arti e qual sia la più nobile, la scultura o la pittura," in *Barocchi* 1960, 139.
47. Exh. cat. Pisa 1980, 522.
48. Giorgio Vasari, "Vita di Aristotele da Sangallo," in Vasari 1906, 6:455. Cosimo's study was rediscovered during restoration work at the Pitti Palace in 1908. On this topic, see Francesco Vossilla, "Cosimo I, lo scrittoio del Bacchiacca, una carcassa di capodoglio e la filosofia naturale," in *Mitteilungen des Kunsthistorischen Institutes in Florenz* 37, no. 2/3 (1993), 381-395.
49. See Frey 1923, 80.
50. Montaigne 1972, 134.
51. See Cristina Acidini Luchinat, "La pittura fiorentina di corte alla fine del Cinquecento," in exh. cat. Florence 1997, 370-374.
52. Ulisse Aldrovandi, *Observationes Variarum*, Bologna, Biblioteca Universitaria, Ms. 136, XI, folio 73 recto. For further reference see Tosi 1989, 350-351.
53. Berti 1967, 101: "Qui l'arte, e la Natura / Insieme a gara ogni sua gratia porge."
54. Raffaello Gualtierotti, *Vaghezze sopra Pratolino* (Florence, 1579), 10. On the garden itself, see Berti 1967, 85-108; Zangheri 1979; and Tagliolini 1991, 160-169.
55. Acidini 1980, 359-361, 141-175.
56. Agostino del Riccio, *Agricoltura Sperimentale*, Ms. Targioni Tozzetti 56, I, folio 74 verso.
57. Tongiorgi Tomasi and Garbari 1995.
58. Giovanni Targioni Tozzetti, *Selve di notizie*, Florence, Biblioteca Nazionale Centrale, Ms. Targioni Tozzetti 188, 8, folio 41.
59. The most important early studies on Ligozzi are Giglioli 1924, 554-570; Mina Bacci and Anna Forlani in exh. cat. Florence 1961; and Bacci 1963, 45-84. The reader may also consult more recent studies such as Conigliello 1991, 493-495, 22-29; and Tongiorgi Tomasi 1993.

60. Ulisse Aldrovandi, "Vita d'Ulisse Aldrovandi cominciando dalla sua natività sin a l'età di 69 anni vivendo egli ancora," in *Frati* 1907, 25–26. On the ties between Aldrovandi and Ligozzi and on naturalistic illustration in general, see Olmi 1992, 21–164.
61. *Frati* 1907, 26.
62. The painting, which is signed and dated, was trimmed and attached to the page of a manuscript now at the Biblioteca Nazionale Centrale, Conventi Soppressi, Florence, Ms. A I. 830, IV, folios 114–115.
63. The scientific name was added to the foot of the page during the nineteenth century.
64. Exh. cat. Florence 1961, 21.
65. Bologna, Biblioteca Universitaria, Ms. Aldrovandi, *Tavole di Piante*, III, folio 196.
66. Carolus Clusius, *Curae posteriores* (Leiden, 1611), 8–9.
67. Montaigne 1972, 132.
68. Ulisse Aldrovandi, *Ornithologiae hoc est de avibus historiae libri XII* (Bologna, 1599), 2:59.
69. This information was very kindly furnished to me by Giorgio Galletti. For further reference see Suzanne Butters, "Ferdinand et le jardin du Pincio," in Chastel and Morel 1991, 2:351–410; and Hervé Brunon, "Il bell'ordine della natura: spazio e collezioni nel giardino di Villa Medici," in exh. cat. Rome 1999, 71.
70. Tongiorgi Tomasi 1983.
71. See for example the manuscript by Bartolomeus Menkins in the Biblioteca Nazionale Centrale, Florence, and cited in Tongiorgi Tomasi 1983, 23.
72. Mignani 1980, 88.
73. Florence, Archivio di Stato, *Guardaroba Mediceo* 813, c.1.
74. Giuseppe Olmi, "Molti amici in molti luoghi": Studio della natura e rapporti epistolari nel secolo XVI," in *Nuncius* 6 (1991), 25.
75. Agostino del Riccio, *Agricoltura sperimentale*, Ms. Targioni Tozzetti 56, I, folio 75 recto.
76. Agostino del Riccio, *Agricoltura sperimentale*, Ms. Targioni Tozzetti 56, I, folio 75 recto.
77. Tongiorgi Tomasi 1988, 289–298.
78. Bologna, Biblioteca Universitaria, Ms. Aldrovandi 136, XXVI, folio 50 recto.
79. Pisa, Biblioteca Universitaria, *Codice Casabona*, Ms. 513 bis. Many paintings by Froeschl are also collected in Mss. 513 and 514.
80. Exh. cat. Poppi 1992.
81. Alessandro Cecchi, "Per Jacopo Ligozzi disegnatore di apparato festivi e costumi teatrali," in *Verona Illustrata* 10 (1997), 5–14.
82. In a letter Galileo wrote on 4 June 1612 to the secretary of state, Belisario Vinta, he complains about the delay in the decoration of his telescope by Ligozzi. See Alessandro Tosi, "Il ritratto della scienza," in exh. cat. Cremona 1999, 17–32.
83. Chiarini 1997.
84. Agostino del Riccio, *Istoria delle pietre*, ed. Paola Barocchi (Florence, 1979), facsimile of Cod. 230, Biblioteca Riccardiana, folio 38 verso.
85. Vasari 1906, 7:616.
86. Exh. cat. Florence 1997, 156–179.
87. Annamaria Giusti in exh. cat. Florence 1989, 7. See also Annamaria Giusti, "Origine e sviluppo della manifattura granducale," in exh. cat. Florence 1988, 10–22.
88. Del Riccio in Barocchi 1979, folio 104.
89. Florence, Archivio di Stato, *Guardaroba Mediceo*, 332, 7, folio 647 recto. Another document dated 24 November 1621 notes that Ligozzi worked with Jacopo Monicca in the selection of the design and the stones for this table. See Lucilla Conigliello in exh. cat. Poppi 1992, 215. The table is currently on display in the Correggio Room of the Uffizi (inv. Mobili Artistici, n. 1508).
90. Gabinetto Disegni e Stampe, Uffizi, Florence, Orn. 1943.
91. See Claudia Przyborowski in exh. cat. Florence 1989, 108.
92. Bologna, Biblioteca Universitaria, Ms. Aldrovandi, *Tavole di animali*, II, folio 155. See exh. cat. Pisa 1980, 573.
93. See Claudia Przyborowski in exh. cat. Florence 1989, 110.
94. See Annamaria Giusti in exh. cat. Florence 1989, 138.
95. See Annamaria Giusti in exh. cat. Florence 1989, 152.
96. See in particular cat. 25 in this volume and the parrot in the Gabinetto Disegni e Stampe, Uffizi, 1797 Orn.
97. See Palazzo Vecchio, Inv. Sculture 1882, nos. 1093 and 1087. Regarding the first panel, see Annamaria Giusti in exh. cat. Florence 1989, 148.
98. Massinelli 2000, 38–40.
99. Giusti, Mazzoni, and Pampaloni Martelli 1978, 292.

100. Giusti, Mazzoni, and Pampaloni Martelli 1978, 37.
101. Exh. cat. Florence 2001.
102. Florence, Archivio di Stato, *Norma per la Guardaroba del gran Palazzo nella città di Firenze dove habita il Ser.mo Granduca di Toscana*, in *Magliabechiano 2:2*, 284, folio 101. On Giovan Carlo de' Medici's drawing room, see Silvia Mascalchi, "Il Paradiso dei fiori a Palazzo Pitti," in exh. cat. Florence 1988, 135–137. In the same catalogue, see also Mosco, "Flora medicea in Florentia," 14–15.
103. Cochrane 1973, 232–235.
104. Targioni Tozzetti 1780, 3:243–250.
105. Florence, Archivio di Stato, *Scrittoio delle Regie Possessioni*, 4124, folio 70.
106. Oxford, Library of the Department of Plant Studies, Ms. Sherard, H158.
107. Lucia Tongiorgi Tomasi and Alessandro Tosi, "L'accademia del Cimento e le arti: tracce per un dialogo," in exh. cat. Florence 2001, 59–63.
108. For the dating of this manuscript, which is mentioned in an unedited document by Giovanni Targioni Tozzetti, see Lucia Tongiorgi Tomasi, "Fiori, giardini, giardinieri, naturalisti e artisti a Roma nella prima metà del Seicento," in *Scritti in onore di Corrado Maltese*, eds. Stefano Marconi and Marisa Dalai Emiliani (Rome, 1997), 183–189. On the manuscript herbal itself, see Mongan 1984, 268–272, and Paola Lanzara, "Un problematico erbario figurato a Dumbarton Oaks," in Casale 1991, 35–44.
109. Lucia Tongiorgi Tomasi, "L'immagine naturalistica a Firenze tra XVI e XVII secolo: Contributo al rapporto 'arte-natura' tra manierismo e prima età barocca," in exh. cat. Florence 1984, 64, 128–130.
110. Casale 1991, 216–217. The document, now at the Accademia di San Luca in Rome, was published in Cipriani 1976, 1–2, 241–254.
111. This bound collection of paintings and drawings, entitled *Miniature di Giovanna Garzoni in carta pecora*, at present consists of twenty sheets bearing twenty-two "miniature" paintings and seven drawings in pen and ink; three portraits were removed at some time in the past. Published in Cipriani 1976, a further analysis of these works may be found in exh. cat. San Severino Marche 1996, 97–99.
112. See Casale 1991, 121–136.
113. Strauss 1974, 1–6.
114. Silvia Meloni, "Giovanna Garzoni miniatora medicea" in *FMR* (1983), 15, 77–96. See also Meloni Trkulja and Fumagalli 2000.
115. Meloni 1983, 92.
116. Ciardi and Tongiorgi Tomasi 1984, 130 (2138 Orn.). A similar painting, but with different flowers, appears in the volume in the Accademia di San Luca (folio 16).
117. Zeri and Porzio 1989, cat. entry by Mina Gregori, 27–28.
118. On this topic, see the observations in Casale 1991, 90.
119. Giovanni Targioni Tozzetti, *Catalogo delle produzioni naturali che si conservano nella Galleria Imperiale di Firenze*, Florence, Museo della Scienza, Ms., 1763, folio n.n.
120. Exh. cat. Florence 1974. On Cosimo III, see Angiolini, Becagli, and Verga 1993.
121. Lucia Tongiorgi Tomasi and Paolo Tongiorgi, "Il naturalista e il cappellano: Osservazione della natura e immagini 'dal naturale,'" in Bernardi et al. 1997, 29–47.
122. Matteoli 1975, 241. On Bartolomeo Bimbi, see Strocchi and Baldini 1985; Meloni Trkulja and Tongiorgi Tomasi 1998; and exh. cat. Cesena 2001.
123. See Riccarolo Spinelli in Meloni Trkulja and Tongiorgi Tomasi 1998, 140–141.
124. Mosco 1991, 93–110.
125. Massimiliano Rossi, "Fra retorica e storia naturale: il 'sermo humilis' di Bartolomeo Bimbi nelle fonti settecentesche," in Meloni Trkulja and Tongiorgi Tomasi 1998, 39–58.
126. On this manuscript, see Lucia Tongiorgi Tomasi, "Bartolomeo Bimbi, 'pittore eccellente nei fiori, nelle frutta e negli animali' e la tradizione toscana dell'immagine naturalistica," in Meloni Trkulja and Tongiorgi Tomasi 1998, 17–37.
127. See Marilena Mosco and Milena Rizzotto in exh. cat. Florence 1988, 112–113. See also Stefano Casciu, "Il granducato di Giangastone (1723–1737) e l'epilogo del collezionismo mediceo," in Chiarini 1997, 297–342.



Meditations on a Theme: Plants in Perugino's "Crucifixion"

GRETCHEN A. HIRSCHAUER

Pietro Perugino's altarpiece *The Crucifixion with the Virgin, Saint John, Saint Jerome, and Saint Mary Magdalene* (cat. 4) includes the most extensive representation of botanical imagery in the National Gallery of Art's Italian collection. Many other paintings feature flowers as an important part of the composition, for example, Fra Angelico and Fra Filippo Lippi's *Adoration of the Magi*, c. 1445, with its luxuriant garden meadow, or Piero di Cosimo's *Visitation with Saint Nicholas and Saint Anthony Abbot*, c. 1490, with its single stalk of wallflower conspicuously placed below Mary and Elizabeth.¹ Perugino's painting, however, offers an unusual and compelling example of how Renaissance artists used plants to convey symbolic meaning and message.

Successful and prolific, Perugino (c. 1450–1523) was considered one of the greatest of all painters during his lifetime. His precise, elegant, and classical painting style earned him considerable fame. While his work was always in demand, his influence diminished in later years as stylistic innovations passed him by, and he was heralded by later generations primarily as the teacher of Raphael.

Perugino's *The Crucifixion with the Virgin, Saint John, Saint Jerome, and Saint Mary Magdalene* is first recorded on the altar of the chapel of the Nome di Dio in the church of San Domenico, San Gimignano, having been donated by Bartolomeo Bartoli, bishop of Cagli, probably upon his death in 1497.² The relatively small size of the triptych for a church altar and the date of the donation, more than a decade after its likely execution, suggest that the work was commissioned as an object of personal devotion and perhaps intended for a private chapel. Bartoli was a penitentiary of Santa Maria Maggiore in Rome and private confessor to Pope Sixtus IV from 1471–1483.³ As such, he must have been witness to Perugino's presence in Rome in 1481–1482 as a painter in the Sistine Chapel, and the Washington triptych may have been ordered soon thereafter.

The *Crucifixion* is divided into three sections. The central scene shows Christ flanked by his Mother, Mary, and Saint John the Evangelist. In separate panels (originally painted on wood but now transferred to canvas) stand Mary Magdalene, with her traditional ointment jar on a nearby rock, and Jerome, leaning on a staff and hitting his chest in an act of contrition. Jerome is accompanied by a lion, and his discarded cardinal's hat, robes, and books are visible in the cave



ABOVE
fig. 1. Detail of a
mallow, cat. 4



ABOVE, RIGHT
fig. 2. Detail of a
poppy, a violet, and
a dandelion, cat. 4



RIGHT
fig. 3. Detail of a
strawberry, a poppy,
and a plantain, cat. 4

behind him. Of these figures, all but Jerome were actually present at the event. They are placed in an exquisitely serene landscape, and their faces show a quiet but ardent devotion to Christ, who looks down at his Mother. His face, too, is devoid of the pain and anguish that would have accompanied a real crucifixion. The triptych is infused with a sense of calm, for Perugino's scene is not intended as an accurate portrayal of a violent event but rather as a meditation on the theme of the Crucifixion. The work's size and location in a private chapel allowed for a very personal contemplation of the story of Salvation through Christ's sacrifice. The spectator, in close proximity to the painting, could be drawn into the story through prayer and reflection, as though a bystander at the event.

While the artist includes plants, flowers, and his signature feathery trees in earlier works, such as *The Adoration of the Magi* (Galleria Nazionale dell'Umbria, Perugia),⁴ the Crucifixion marks the most prominent use of botanical specimens in Perugino's work. Placed at the base of the painting, the flowers would have caught the eye of the kneeling bishop Cagli before he gazed up at the crucified Christ. Realistically portrayed, these growing plants functioned as devotional aides in clarifying the triptych's meaning. Their choice and placement, while creating a decorative effect, is not random, for each plant has a symbolic role leading to a deeper comprehension of the theme of the Crucifixion. The tall, deep-pink mallow (*Malva sylvestris*) at Jerome's feet (fig. 1), with its beneficial, healing properties, came to symbolize Salvation.⁵ The small owl high in a barren tree above Jerome is a common symbol of wisdom and therefore sometimes associated with the hermit-cardinal, who is almost always portrayed with his lion. Identified as an eared or scops owl (*Otus scops*), the bird of darkness, it also has associations with the Crucifixion.⁶

Almost touching the right foot of the Virgin Mary (fig. 2) is a red poppy (*Papaver somniferum*), its sleep-inducing property emblematic of death and its color a reminder of blood. The poppy is said to bear the sign of the Cross in its center, another allusion to the Passion of Christ.⁷ Also just beneath Mary's feet are purple violets (*Viola odorata*), a well-known Marian symbol of humility, and the yellow dandelion (*Taraxacum officinale*), one of the bitter herbs used at the beginning of the Last Supper, which initiated the Passion of Christ and in turn led to his Crucifixion.⁸ Directly below the Cross (fig. 3) are wild strawberries (*Fragaria vesca*) with their spring-blooming white flowers and red berries, symbols of the Incarnation of Christ and of humility.⁹ The sweetness of the strawberries, which are without thorns or stones, also refers to the Virgin; because of their proximity to the Cross they may here represent drops of Christ's redeeming blood.¹⁰ Another red poppy appears next to the humble plantain (*Plantago major*), whose "mixed nature" refers to the battle between good and evil, and therefore to Salvation.¹¹ Because the plantain thrives along paths and roads, it also stands for those who seek a path to Christ and is appropriate in its placement near the beloved Apostle John. One of the most beautiful passages of the painting, near the feet of Mary Magdalene (fig. 4), shows a stand of bulrush

(*Typha latifolia*) in a small pool of water, another symbol of Salvation because Moses was placed in a bed of bulrushes and saved from death. Its location near the Magdalen implies that even a sinner can be saved.¹² The deep-purple iris (*Iris germanica*) came to symbolize divine message and thus became a common attribute of the Virgin Mary in the Renaissance. Its swordlike leaves, compared to a sword piercing her heart, recall her sorrow at Christ's death.¹³ What appears to be another very large strawberry plant frames Mary Magdalene on her left. Perugino has added large thorns to the stems, perhaps referring to Mary Magdalene's previous state of sin. Beneath her, in the dense foliage, may be a purple columbine (*Aquilegia vulgaris*) (detail, page 108), with its sad, drooping blossoms suggestive of the sorrow and bereavement of the two Marys at Christ's death.¹⁴ Even the trees impart meaning: the thorny acacia (*Acacia arabica*), poplar (*Populus alba*), willow (*Salix alba*), palm (*Phoenix dactylifera*), and mountain ash (*Sorbus domestica*) with their many symbolic implications have been called a "sacred symphony," representative of the Passion of Christ.¹⁵ The open gate near the palm may allude to the departure from this life and the entrance into paradise (fig. 5).

Perugino's *Crucifixion* has been called the most naturalistic and precisely painted work in his oeuvre.¹⁶ It belongs to a small group of paintings by the artist in which plants have such a prominent place.¹⁷ No preparatory sketches or studies of plants by Perugino are known to survive, making his painted botanical displays even more significant. Nevertheless, precedents of plant symbolism abound in earlier Florentine art of the quattrocento. Lorenzo Ghiberti's *Gate of Paradise* at the Baptistery, Florence, commissioned in 1425 and completed in 1452, provides an example that would have been familiar to Perugino. While the ten bronze relief panels with scenes from the Old Testament are widely studied, the faithful plant and animal depictions that make up an elaborate cornice also must have attracted notice by fellow artists. More than thirty-five different plants are accurately shown on the doorjambs, as are a number of animals.¹⁸ The complicated plant forms on Andrea del Verrocchio's *Tomb of Giovanni and Piero de' Medici* in the Old Sacristy of the church of San Lorenzo, dated to 1472, are a hallmark of one of the most striking tomb monuments in Renaissance Florence. Some of the plants are so delicate and exact in detail that they appear to have been taken from nature studies or casts.¹⁹

Floral imagery is even more prevalent in earlier paintings. The motif of a crystal, maiolica, or stone vase with cut flowers, signifying Mary as the honored vessel of the Incarnation and thus alluding to her purity, can be found in several versions of the *Annunciation* by Fra Filippo Lippi and in many other works of the time.²⁰ The lily-bearing archangel Gabriel is a standard motif of the same theme. Many depictions of Mary show her in an enclosed garden, or *hortus conclusus*, another reference to her virginity and a favored environment for artists in both Italy and the North to illustrate flowers and fruits.²¹



fig. 4. Detail of a
bulrush and an iris,
cat. 4

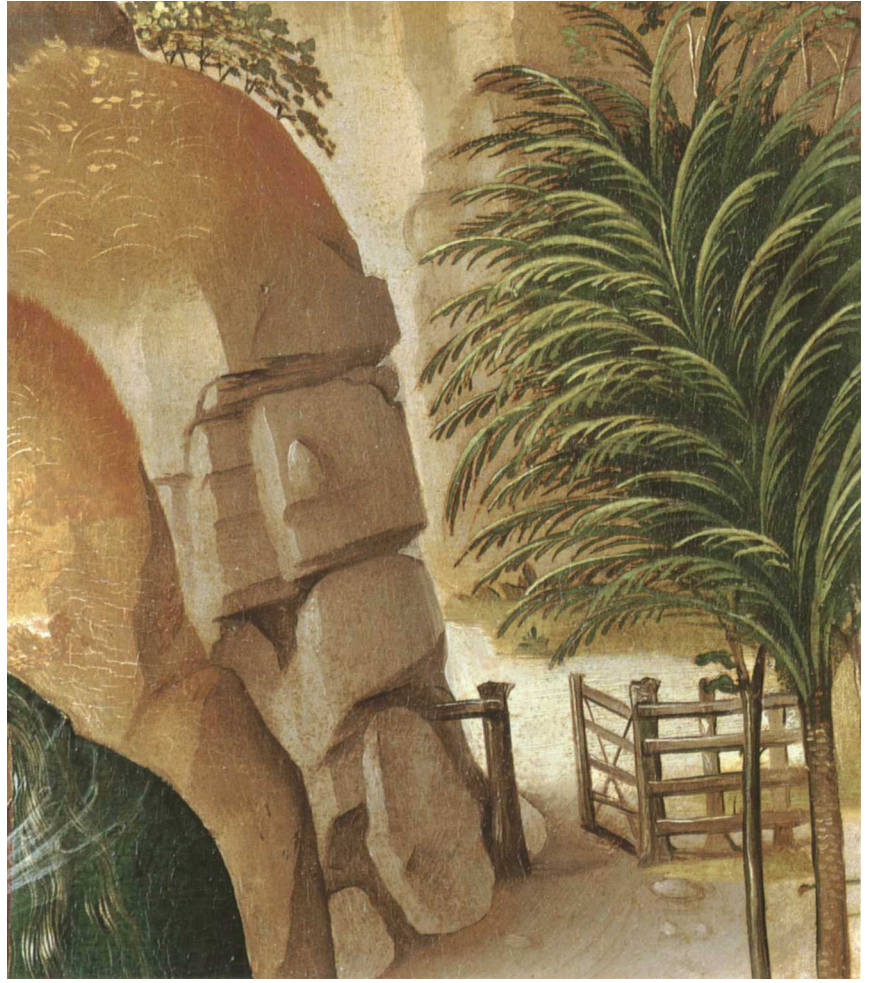


fig. 5. Detail of a
palm, cat. 4

Leonardo da Vinci revolutionized the study of nature and botanical representation. His drawing of a lily (*Lilium candidum*) (Royal Library, Windsor Castle) captures every stage of the plant, from buds just beginning to form to a blossom soon past its prime. As David Brown has observed, however, in the *Annunciation* of c. 1472–1473 (Uffizi, Florence), Leonardo reinterprets his plants in paint with a much more liberal rendering. Perhaps satisfied with a careful study on paper, he abandons the detailed observation of flowers in favor of an overall impression of a meadow or garden.²²

Closer in date to Perugino's *Crucifixion* is Botticelli's famed *Primavera* (Uffizi, Florence).²³ By its very theme, this painting displays a wealth of flora. The multiple sources and possible interpretations of Botticelli's canvas are much debated. Given the mythological subject of the *Primavera*, its botanical symbolism could be regarded differently than that of a religious painting. Many of the fruits and flowers have been identified, while others cannot be clearly named.²⁴ Some plants are invented by combining the blossoms of one species with the leaf of another.²⁵ Perhaps Botticelli's dense spring garden, similar to a flower-strewn carpet and not unlike Fra Angelico's gardens of paradise of an earlier generation, was primarily meant to convey a sense of nature and its abundance.

Unlike Botticelli's meadow, Lippi's transitory cut flowers, or the sculptural framework of Ghiberti or Verrocchio, the plants in Perugino's *Crucifixion* are conceived in a manner suggestive of a source outside Florence. A Sforza family inventory of 1500 from Pesaro records portraits by Perugino of Costanzo Sforza (d. 1483), confirming the artist's presence in that city. Perugino thus would have had the opportunity to study the so-called Sforza triptych of the *Crucifixion*, then in Pesaro (now Musée Royal des Beaux-Arts, Brussels), which is attributed to the workshop of Rogier van der Weyden (fig. 6).²⁶

In both *Crucifixions*, a continuous, uninterrupted landscape runs across the entire altarpiece, bypassing the confines of the separate panels. These landscapes begin on a rocky hill, then turn sharply downward to silhouette the main theme of Christ on the Cross before a blue sky and the city below. Perugino's clear light and gradually changing color of the landscape, from brown to green to blue, also recalls the Netherlandish prototype. The carefully placed and minutely depicted living plants of the Sforza triptych are even more strongly emphasized by Perugino as he arranges his botanical specimens at the base of the painting.

Another painting thought to have influenced Perugino is Hugo van der Goes' *Portinari altarpiece* (Uffizi, Florence), which arrived in Florence after a long journey from Ghent on 28 May 1483.²⁷ A probable date of c. 1482–1484 for Perugino's *Crucifixion* would also support general knowledge of this significant northern painting. Its effect on Florentine painters, especially Ghirlandaio, is unmistakable. While Perugino undoubtedly saw the triptych, however, it is less likely that his botanical representations in the *Washington Crucifixion* were influenced by it. Van

fig. 6. Workshop of Rogier van der Weyden, *The Sforza Triptych*, c. 1458, oil on panel, Musées Royal des Beaux-Arts, Brussels



der Goes' exquisite still life, with its cut flowers in glass and maiolica vases and its gathered sheaves of wheat, is more akin to representations in earlier Florentine art than to Perugino's clusters of growing, living plants in the manner of Rogier van der Weyden.

Perugino returned to the theme of the Crucifixion several more times in panel paintings and in frescoes. As was the artist's habit, all these versions repeat elements of the Washington triptych in the figures and type of landscape, but not the specific use of botanical imagery.²⁸ Under the inspiration of the Sforza triptych, which then soon waned, Perugino used botanical specimens of elegantly painted flowers and trees to emphasize the contemplative nature and symbolic meaning of the Washington Crucifixion.

Notes

1. The reddish-purple perennial wallflower (*Chieranthus* or *Erysimum chieri*) is usually a symbol of divine love. Here appropriate to the theme of the meeting of the two pregnant women, Mary and the aged Elizabeth, it is also a symbol of fertility. According to the fifteenth-century illustrated herbal *Hortus sanitatus*, the consumption of distilled wallflower petals was thought to aid in both fertility and the pain of childbirth (unpublished Middle Atlantic Symposium paper by Lynne Johnson, 4 August 1987).
2. Vincenzo Coppi, *Annali, memorie ed huomini illustri di San Gimignano*, 2 vols. (Florence, 1695), 2:80. Bartoli was also present at the consecration of the church in 1496. Marilyn Bradshaw assumes that the altarpiece was placed in San Domenico by 1495. See Marilyn Bradshaw in exh. cat. *Grand Rapids 1997*, 260.
3. See David Alan Brown's entry on the painting in *Italian Paintings of the Fifteenth Century*, collections of the National Gallery of Art systematic catalogue (forthcoming).
4. See Garibaldi 1999, cat. no. 6, pl. 21–23, in which the work is dated c. 1470–1473. It is generally dated 1476 by Camesasca and others; see Ettore Camesasca, *L'Opera completa del Perugino* (Milan, 1969), 89, no. 16.
5. I owe this and other plant identifications to Lucia Tongiorgi Tomasi. See also Levi d'Ancona 1977, 224. This plant has also been identified as a hollyhock (*Althea rosea*).
6. Herbert Friedmann, *A Bestiary for Saint Jerome: Animal Symbolism in European Religious Art* (Washington, 1980), 274, 278–279.
7. Levi d'Ancona 1977, 321–323. Apparently a columbine (*Aquilegia vulgaris*) is not found in this location, as has been stated by Levi d'Ancona 1977, 108. One does appear near Mary Magdalene.
8. Levi d'Ancona 1977, 398–401, 126–128.
9. Levi d'Ancona 1977, 365–368.
10. Fisher 1998, 11.
11. Jerydene M. Wood, "Perugino and the Influence of Northern Art on Devotional Pictures in the Late Quattrocento," *Konsthistorisk Tidskrift* 56 (1989), 9.
12. Levi d'Ancona 1977, 73–75.
13. Levi d'Ancona 1977, 185–189.
14. Fisher 1998, 11.
15. Peverelli and Pratesi 1994, 67. See also Benzi and Berliocchi 1999, 64, for a discussion of the mountain ash.
16. Wood 1989, 7.
17. *His Saint Sebastian*, c. 1489–1490 (National Museum, Stockholm), makes use of an iris, lily, plantain, ivy, anemone, and hyssop to reinforce the theme of martyrdom (Wood 1989, 9). *His Apollo and Marysas*, c. 1490 (Musée du Louvre, Paris), features several wild plant species, as does the *Saint Jerome*, c. 1490 (Kunsthistorisches Museum, Vienna), by Perugino or his workshop. See Garibaldi 1999, cat. nos. 25–27, 110–111.
18. Mirella Levi d'Ancona, Alberto Chiti-Batelli, and Maria Adele Signorini, *Piante e animali intorno alla Porta del Paradiso* (Lucca, 2000), 18. The symbolism of each plant relates to the message of the biblical scene that it surrounds.
19. Andrew Butterfield, *The Sculptures of Andrea del Verrocchio* (New Haven and London, 1997), 44–51, cat. 7, pls. 54–60.
20. See Jeffrey Ruda, *Fra Filippo Lippi: Life and Work with a Complete Catalogue* (London, 1993), 123. Works that immediately come to mind are the Annunciations (Alte Pinakothek, Munich, and Palazzo Doria-Pamphilj, Rome) from the mid-1440s and 1445–1450, respectively, and the Annunciation (National Gallery, London), likely of Medici patronage and from the late 1450s. See Ruda 1993, cats. 29, pls. 87–89, 248; cat. 38, pls. 91–92, 265; and cat. 50a, pls. 116–117, 298.
21. See, for example, Jan van Eyck, *The Virgin and Child by the Fountain*, 1439 (Musée des Beaux-Arts, Antwerp). See Max J. Friedländer, *Early Netherlandish Painting*, 14 vols. (Leiden, 1967), 1:44–45, pl. 27.
22. Brown 1998, 74, 87–90.
23. Charles Dempsey, in Dempsey 1992, dates the work to c. 1477–1478. It is dated to c. 1482–1483 by Ronald Lightbown in *Sandro Botticelli*, 2 vols. (London, 1978), 1:69–81, 2:51–53; and as late as c. 1482–1485 by Cristina Acidini Luchinat in *Botticelli: Allegorie mitologiche* (Milan, 2001), 28–107.
24. Levi d'Ancona 1983.

25. Levi d'Ancona 1983, 10; and Acidini Luchinat 2001, 31.
26. Francis Russell, "Perugino and the Early Experience of Raphael," in *Raphael before Rome*, ed. James Beck, National Gallery of Art, Studies in the History of Art 17 (Washington, 1986), 189. The triptych may have been brought to Pesaro by Alessandro Sforza in 1458. On the Sforza triptych, see Martin Davies, *Rogier van der Weyden* (London, 1972), 206–208.
27. Bianca Hatfield-Strens, "L'arrivo del Trittico Portinari a Firenze," *Commentari* 29 (1968), 315–319. See Elisabeth Dhanens, *Hugo van der Goes* (Antwerp, 1998), 250–301, for discussion of the triptych and many color plates.
28. See his *Crucifixion*, 1485–1490 (Uffizi, Florence), the lunette of the 1491 polyptych (Albani-Torlonia Collection, Rome), and the 1496 tripartite fresco (Santa Maria Maddalena dei Pazzi, Florence). The foreground landscape in the fresco is nearly barren. See Garibaldi 1999, 107, pl. 18; 111–112; and 118, respectively.



Checklist

1. Domenico Veneziano (Florentine, c. 1410–1461), *Madonna and Child*, c. 1445, tempera (and oil?) on panel, 82.6 x 56.5 cm (32½ x 22¼ in.), National Gallery of Art, Washington, Samuel H. Kress Collection 1939.1.221
2. Pseudo Pier Francesco Fiorentino (Florentine, active second half 15th century), *Madonna and Child*, c. 1470, tempera on panel, 69 x 46.5 cm (27¼ x 18½ in.), National Gallery of Art, Washington, Widener Collection 1942.9.50
3. Leonardo da Vinci (Florentine, 1452–1519), *Studies of Flowers*, c. 1483, pen and ink over metal-point on paper, 18.3 x 20.6 cm (7¾ x 8⅞ in.), Gallerie dell'Accademia, Venice, no. 237
4. Pietro Perugino (Umbrian, c. 1450–1523), *The Crucifixion with the Virgin, Saint John, Saint Jerome, and Saint Mary Magdalene*, c. 1482–1484, oil on panel transferred to canvas, left panel 95 x 30.1 cm (37⅞ x 11⅞ in.), middle panel, 101.5 x 56.5 cm (39⅞ x 22¼ in.), right panel, 95 x 30.1 cm (37⅞ x 11⅞ in.), National Gallery of Art, Washington, Andrew W. Mellon Collection 1937.1.27.a.b.c.
5. Albrecht Dürer (German, 1471–1528), *Tuft of Cowslips*, 1526, gouache on vellum, 19.3 x 16.8 cm (7⅝ x 6⅝ in.), National Gallery of Art, Washington, The Armand Hammer Collection 1991.217.1
6. Wolfgang Mayerpeck and Giorgio Liberale (German, active second half 16th century [?]; Italian, born 1527), *Woodblock of Sea Lavender (Limonium)*, pear wood, 22.2 x 15.9 cm (8¾ x 6¼ in.), used to illustrate Pietro Andrea Mattioli, *Commentarii in Sex Libros Pedacii Dioscoridis* (Venice, 1565), Collection of Mrs. Paul Mellon, Oak Spring Garden Library, Upperville, Virginia
7. *Pine and Spruce (Pinus Domestica and Picea)*, woodcut with silver highlights, plate: 42.5 x 29 cm (16¾ x 11½ in.); open: 42.5 x 68 cm (16¾ x 26½ in.), from Pietro Andrea Mattioli, *Commentarii in Sex Libros Pedacii Dioscoridis* (Venice, 1565), illustrated volume, Collection of Mrs. Paul Mellon, Oak Spring Garden Library, Upperville, Virginia
8. Giusto Utens (Flemish, active mid-sixteenth century–died 1609), *The Belvedere with Palazzo Pitti*, 1598–1599, oil on canvas, 143 x 285 cm (56⅝ x 112⅝ in.), Museo Storico Topografico “Firenze Com'era,” Florence, 1890 n. 6314
9. Jacopo Ligozzi (Italian, 1547–1626), *Sea Daffodil (Pancratium maritimum)*, gouache on paper, 68 x 45.5 cm (26¾ x 17⅙ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1893 Orn.
10. Jacopo Ligozzi (Italian, 1547–1626), *Pineapple (Ananas sativus)*, gouache on paper, 67.5 x 46 cm (26⅞ x 18⅞ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1931 Orn.
11. Jacopo Ligozzi (Italian, 1547–1626), *American Century Plant (Agave americana)*, gouache on paper, 67.5 x 46 cm (26⅞ x 18⅞ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1928 Orn.
12. Jacopo Ligozzi (Italian, 1547–1626), *Cypress Vine Morning Glory (Ipomoea quamoclit)*, gouache on paper, 68 x 46 cm (26¾ x 18⅞ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1899 Orn.
13. Jacopo Ligozzi (Italian, 1547–1626), *Mourning Iris (Iris susiana) and Spanish Iris (Iris xiphium)*, gouache on paper, 59.5 x 45 cm (23⅞ x 17⅙ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1891 Orn.

14. Jacopo Ligozzi (Italian, 1547–1626), *Wild Snake's Head Iris* (*Iris tuberosa*), gouache on paper, 68 x 46 cm (26³/₄ x 18¹/₈ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1905 Orn.
15. Jacopo Ligozzi (Italian, 1547–1626), *Butterwort* (*Pinguicula longifolia*) and *Gentian* (*Gentiana clusii*), gouache on paper, 36 x 26.5 cm (14³/₁₆ x 10⁷/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1927 Orn.
16. Jacopo Ligozzi (Italian, 1547–1626), *Thrift* (*Armeria pseudoarmeria*), gouache on paper, 68 x 45.5 cm (26³/₄ x 17¹⁵/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1900 Orn.
17. Jacopo Ligozzi (Italian, 1547–1626), *Valerian* (*Valeriana phu* and *Valeriana officinalis*), gouache on paper, 68 x 45.5 cm (26³/₄ x 17¹⁵/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1907 Orn.
18. Jacopo Ligozzi (Italian, 1547–1626), *Sanicle* (*Sanicula europaea*), gouache on paper, 67.5 x 45.5 cm (26⁹/₁₆ x 17¹⁵/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1909 Orn.
19. Jacopo Ligozzi (Italian, 1547–1626), *Spurge Laurel* (*Daphne laureola*) with *Tortoiseshell Butterfly* (*Nymphalis polychloros*) and *Midges*, 1587, gouache on paper, 67 x 46 cm (26⁷/₈ x 18¹/₈ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1955 Orn.
20. Jacopo Ligozzi (Italian, 1547–1626), *Peony* (*Paeonia officinalis*), gouache on paper, 67.5 x 46 cm (26⁹/₁₆ x 18¹/₈ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1912 Orn.
21. Jacopo Ligozzi (Italian, 1547–1626), *Wild Parsnip* (*Angelica archangelica*), gouache on paper, 67.5 x 46 cm (26⁹/₁₆ x 18¹/₈ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1897 Orn.
22. Jacopo Ligozzi (Italian, 1547–1626), *Mandrake* (*Mandragora autumnalis*), gouache on paper, 67.5 x 46 cm (26⁹/₁₆ x 18¹/₈ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1915 Orn.
23. Jacopo Ligozzi (Italian, 1547–1626), *Globe Candytuft* (*Iberis umbellata*) with a *Hazel Hen* (*Tetrastes bonasia*), gouache on paper, 55 x 42 cm (21⁵/₈ x 16⁹/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1947 Orn.
24. Jacopo Ligozzi (Italian, 1547–1626), *Plum Branch* (*Prunus domestica*) with a *Rose-ring Parakeet* (*Psittacula krameri*), gouache on paper, 55 x 42 cm (21⁵/₈ x 16⁹/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1952 Orn.
25. Jacopo Ligozzi (Italian, 1547–1626), *Fig Branch* (*Ficus carica*) with *Bird of Paradise and Exotic Finches* (*Vidua macroura*, *Steganura paradisaea*, and *Hypochero chalybeata*), gouache on paper, 67 x 45 cm (26⁷/₈ x 17¹¹/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 1958 Orn.
26. Possibly by Jacopo Ligozzi, *Fig Branch with Two Birds*, tempera and watercolor on paper, from Ulisse Aldrovandi, *Tavole di Animali*, vol. I, illuminated manuscript, plate: 46 x 36 cm (18¹/₈ x 14¹/₈ in.); open: 47.5 x 77 cm (18³/₄ x 14¹/₈ in.), Biblioteca Universitaria, Bologna
27. *Bird of Paradise and Exotic Finch on Fig Branch*, woodcut, from Ulisse Aldrovandi, *Ornithologiae* (Bologna, 1599), illustrated volume, plate: 36.5 x 24.8 cm (14³/₈ x 18 in.); open: 36.5 x 45.7 cm (14³/₈ x 18 in.), Rare Book and Special Collections Division, Library of Congress, Washington, DC
28. Giusto Utens (Flemish, active mid-sixteenth century–died 1609), *Villa L'Ambrogiana*, 1598–1599, oil on canvas, 144 x 239 cm (56¹¹/₁₆ x 94¹/₈ in.), Museo Storico Topografico "Firenze Com'era," Florence, 1890 n. 6313
29. Daniel Froeschl (German, 1563–1613), *Sunflower* (*Helianthus annuus*) *Seen from the Back*, tempera on paper, from Codice Casabona, illuminated manuscript, closed: 43 x 32 cm (16¹⁵/₁₆ x 12⁵/₈ in.); open: 43 x 65 cm (16¹⁵/₁₆ x 25⁹/₁₆ in.), Biblioteca Universitaria, Pisa, ms. 513 bis
30. Possibly after Jacopo Ligozzi, *Vase of Flowers* (*Yellow Anemones*), c. 1615, *pietre dure* mosaic, 28 x 19 cm (11 x 7¹/₂ in.), Museo dell'Opificio delle Pietre Dure, Florence, 1905 n. 561

31. Attributed to Matteo Nigetti (Florence, 1580–1649), Vase of Flowers, early 17th century, *pietre dure* mosaic, 134.5 x 77.5 cm (52¹⁵/₁₆ x 30¹/₂ in.), Museo dell'Opificio delle Pietre Dure, Florence, 1905 n. 576
32. Possibly after Jacopo Ligozzi, Table Top with Floral Ornaments, 1619, *pietre dure* and *pietre tenere* mosaic, 78 x 121 cm (30¹¹/₁₆ x 47⁵/₈ in.), Villa Medicea della Petraia, Florence, 1911 n.198
33. Gerolamo della Valle (Italian, 17th century), Sunflower, 1664, *pietre tenere* mosaic, 31 x 21.5 cm (12³/₁₆ x 8⁷/₁₆ in.), Museo dell'Opificio delle Pietre Dure, Florence, 1905 n. 560
34. Florentine 17th Century, Parrot in a Pear Tree, last quarter 17th century, *pietre dure* mosaic, 27 x 20 cm (10⁵/₈ x 7⁷/₈ in.), Museo dell'Opificio delle Pietre Dure, Florence, 1905 n. 469
35. Florentine 17th Century, Tulips and Other Flowers, last quarter 17th century, *pietre dure* mosaic, 20 x 31 cm (7⁷/₈ x 12³/₁₆ in.), Museo dell'Opificio delle Pietre Dure, Florence, 1905 n. 472
36. Florentine 17th Century, Cabinet with Birds and Flowers, third quarter 17th century, *pietre dure*, ebony, and exotic woods, 76.5 x 115.9 x 40.3 cm (30¹/₈ x 45⁵/₈ x 15⁷/₈ in.), Gilbert Collection, Somerset House, London, 1996.600 (MM112)
37. Florentine 18th Century, Floral Ornaments in Relief, first half 18th century, *pietre dure* mosaic, 11 x 50 cm (4³/₁₆ x 19¹/₁₆ in.), Museo dell'Opificio delle Pietre Dure, Florence, 1905 n. 651
38. Tuscan 17th Century, Baptismal Cover, 17th century, embroidered satin, 117 x 154 cm (46¹/₁₆ x 60⁵/₈ in.), Private collection
39. Tuscan 17th Century, Chalice Veil, first quarter 17th century, silk, 65 x 63 cm (25⁹/₁₆ x 24¹³/₁₆ in.), Opera di Santa Maria del Fiore, Florence
40. Tuscan 17th Century, Chasuble from the "Parato di Santa Reparata," first quarter 17th century, silk with gold and silver thread, front: 106 x 74 cm (41³/₄ x 29¹/₈ in.); rear: 116 x 76 cm (45¹¹/₁₆ x 29¹⁵/₁₆ in.), Opera di Santa Maria del Fiore, Florence
41. Giovanna Garzoni (Italian, 1600–1670), Mandrake (*Mandragora autumnalis*), watercolor and ink on vellum, from *Plantae Variæ*, illustrated manuscript, plate: 49.5 x 38 cm (19¹/₂ x 15 in.); open: 49.5 x 77.5 cm (19¹/₂ x 30¹/₂ in.), Dumbarton Oaks, Trustees for Harvard University, Washington, DC
42. Giovanna Garzoni (Italian, 1600–1670), Hyacinth (*Hyacinthus orientalis*) with Four Cherries, a Lizard, and an Artichoke, gouache on vellum, 53.2 x 40.1 cm (20¹⁵/₁₆ x 15¹³/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 2147 Orn.
43. Giovanna Garzoni (Italian, 1600–1670), Ranunculus (*Ranunculus asiaticus*) with Two Almonds and a European Carpenter Bee (*Xylocopa violacea*), gouache on vellum, 53.7 x 41.1 cm (21¹/₈ x 16³/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 2149 Orn.
44. Giovanna Garzoni (Italian, 1600–1670), Dittany (*Dictamnus albus*) with Three Hazelnuts and Two Pears, gouache on vellum, 55.5 x 41.7 cm (21⁷/₈ x 16⁷/₁₆ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 2150 Orn.
45. Giovanna Garzoni (Italian, 1600–1670), Plate with Apples and Almonds, gouache on vellum, from *Libro di miniature e disegni*, illustrated manuscript, plate: 22.9 x 33.3 cm (9 x 13¹/₈ in.); open: 43.5 x 58.6 cm (17¹/₈ x 23¹/₈ in.), Accademia Nazionale di San Luca, Rome
46. Giovanna Garzoni (Italian, 1600–1670), Glass Vase with Flowers, gouache on vellum, 45.2 x 31.1 cm (17¹³/₁₆ x 12³/₄ in.), Gabinetto Disegni e Stampe degli Uffizi, Florence, 2140 Orn.
47. Giovanna Garzoni (Italian, 1600–1670), Glass Vase with Flowers, gouache on vellum, 44.4 x 31.1 cm (17¹/₂ x 12¹/₄), Gabinetto Disegni e Stampe degli Uffizi, Florence, 2141 Orn.
48. Giovanna Garzoni (Italian, 1600–1670), Chinese Plate with Cherries and Bean Pods, c. 1620, gouache on vellum, 24 x 35 cm (9⁷/₁₆ x 13³/₄ in.), Private collection
49. Giovanna Garzoni (Italian, 1600–1670), Plate of Apricots with a Rose, gouache on vellum, 26 x 36 cm (10¹/₄ x 14³/₁₆ in.), European collection
50. Giovanna Garzoni (Italian, 1600–1670), Quince with a Lizard, gouache on vellum, 15.4 x 18.7 cm (6¹/₁₆ x 7³/₈ in.), Private collection

51. Giovanna Garzoni (Italian, 1600–1670), *Figs with a Beetle*, gouache on vellum, 15.2 x 18.5 cm (6 x 7⁵/₁₆ in.), Private collection
52. Giovanna Garzoni (Italian, 1600–1670), *Squash*, gouache on vellum, 22.2 x 34.3 cm (13¹/₂ x 8³/₄ in.), Private collection
53. Giovanna Garzoni (Italian, 1600–1670), *Bouquet of Flowers in a Glass Vase*, gouache on vellum, 33 x 23 cm (13 x 9¹/₁₆ in.), European collection
54. Giovanna Garzoni (Italian, 1600–1670), *Study of Flowers*, gouache on vellum, 20 x 30 cm (7⁷/₈ x 11¹³/₁₆ in.), European collection
55. Giovanna Garzoni (Italian, 1600–1670), *Three Lemons with a Bumblebee*, gouache on vellum, 23 x 33 cm (9¹/₁₆ x 13 in.), European collection
56. Giovanna Garzoni (Italian, 1600–1670), *Still Life with Birds and Fruit*, c. 1650, watercolor with black chalk heightened with lead white, on vellum, 25.7 x 41.6 cm (10¹/₈ x 16³/₈ in.), The Cleveland Museum of Art, Bequest of Mrs. Elma M. Schniewind in memory of her parents, Mr. and Mrs. Frank Geib, 1955.140
57. Giusto Utens (Flemish, active mid-sixteenth century–died 1609), *Villa Poggio*, 1598–1599, tempera on panel, 141 x 237 cm (55¹/₂ x 93⁵/₁₆ in.), Museo Storico Topografico “Firenze Com’era,” Florence, 1890 n. 6324
58. Bartolomeo Bimbi (Florentine, 1648–1729), *Pears*, 1699, oil on canvas, 171 x 228 cm (67⁵/₁₆ x 89³/₄ in.), Villa Medicea, Poggio a Caiano, Florence, 1910 n. 611
59. Bartolomeo Bimbi (Florentine, 1648–1729), *Cherries*, 1699, oil on canvas, 116 x 155 cm (45¹¹/₁₆ x 61 in.), Villa Medicea, Poggio a Caiano, Florence, 1910 n. 610
60. Bartolomeo Bimbi (Florentine, 1648–1729), *Citrus Fruits*, 1715, oil on canvas, 175 x 232 cm (68⁷/₈ x 91⁵/₁₆ in.), Villa Medicea, Poggio a Caiano, Florence, 1910 n. 597
61. Bartolomeo Bimbi (Florentine, 1648–1729), *Plate of Dates*, 1720, oil on canvas, 95.5 x 77.5 cm (37⁵/₈ x 30¹/₂ in.), Galleria Palatina, Palazzo Pitti, Florence, 1890 n. 6765
62. Bartolomeo Bimbi (Florentine, 1648–1729), *Two Pear Tree Branches with a Hoopoe*, 1717, oil on canvas, 97 x 76 cm (38³/₁₆ x 29¹⁵/₁₆ in.), Sezione Botanica “F. Parlatore” del Museo di Storia Naturale, University of Florence, 1930 n. 330
63. Bartolomeo Bimbi (Florentine, 1648–1729), *Giant Cardoon* (*Cynara cardunculus*), 1706, oil on canvas, 88 x 117 cm (34⁵/₈ x 46¹/₁₆), Sezione Botanica “F. Parlatore” del Museo di Storia Naturale, University of Florence, 1930 n. 340
64. Bartolomeo Bimbi (Florentine, 1648–1729), *Monstrous Cauliflower and Horseradish*, 1706, oil on canvas, 88 x 118 cm (34⁵/₈ x 46⁷/₁₆ in.), Sezione Botanica “F. Parlatore” del Museo di Storia Naturale, University of Florence, 1930 n. 351
65. Bartolomeo Bimbi (Florentine, 1648–1729), *Squash from the Grand Ducal Garden at Pisa*, 1711, oil on canvas, 95 x 138.5 cm (37³/₈ x 54¹/₂ in.), Sezione Botanica “F. Parlatore” del Museo di Storia Naturale, University of Florence, 1930 n. 361
66. Bartolomeo Bimbi (Florentine, 1648–1729), *Sunflower* (*Helianthus annuus*), 1721, oil on canvas, 101 x 78 cm (39³/₄ x 30¹¹/₁₆ in.), Galleria Palatina, Palazzo Pitti, Florence, 1890 n. 6932
67. Tuscan 18th Century, *Artichokes*, tempera on paper, from *Ornithologiae vivis expressae coloribus*, vol. 4 (1729), illuminated manuscript, plate: 43.3 x 28.7 cm (17¹/₄ x 11³/₈ in.); open: 44.4 x 67 cm (17¹/₂ x 26³/₈ in.), Biblioteca Nazionale Centrale, Florence, Conventi Soppressi, ms.A.I.830, IV
68. Gaspare Lopez (Neapolitan, died 1740), *Tulips*, 1730, oil on canvas, 56 x 70.2 cm (22¹/₁₆ x 27⁵/₈ in.), Galleria Palatina, Palazzo Pitti, Florence, 1910, n. 278



Select Bibliography

- ACIDINI 1980**
Acidini, Cristina. "Niccolò Gaddi: Collezionista e dilettante del Cinquecento," *Paragone* (1980), 141–175, 359–361.
- ACIDINI LUCHINAT 1996**
Acidini Luchinat, Cristina, ed. *Giardini medicei, giardini di palazzo e di villa nella Firenze del Quattrocento*. Milan, 1996.
- ACIDINI LUCHINAT AND GALLETTI 1992**
Acidini Luchinat, Cristina, and Giorgio Galletti. *Le ville e i giardini di Castello e Petraia a Firenze*. Pisa, 1992.
- ACTON 1987**
Acton, Harold. *Gli ultimi Medici*. Turin, 1987.
- ANGIOLINI, BECAGLI, AND VERGA 1993**
Angiolini, Franco, Vieri Becagli, and Marcello Verga, eds. *La Toscana nell'età di Cosimo III*. Florence, 1993.
- AZZI VISENTINI 1999**
Azzi Visentini, Margherita, ed. *L'arte dei giardini*, 2 vols. Milan, 1999.
- BACCI 1963**
Bacci, Mina. "Jacopo Ligozzi e la sua posizione nella pittura fiorentina," *Proporzioni* 6 (1963), 45–84.
- BAROCCHI 1960**
Barocchi, Paola, ed. *Trattati d'arte del Cinquecento fra manierismo e controriforma*, 3 vols. Bari, 1960.
- BATTISTI 1962**
Battisti, Eugenio. *L'Antirinascimento*. Milan, 1962.
- BATTISTI 1972**
Battisti, Eugenio. "Natura artificiosa to *Natura artificialis*." In *The Italian Garden*, *Dumbarton Oaks Colloquium*. Washington, 1972.
- BENZI AND BERLIOCCHI 1999**
Benzi, Fabio, and Luigi Berliocchi. *Paesaggio Mediterraneo: Metamorfosi e storia dall'antichità preclassica al XIX secolo*. Milan, 1999.
- BERNARDI ET AL. 1997**
Bernardi, Walter, Guido Pagliano, Luciano Santini, Franco Strumia, Lucia Tongiorgi Tomasi, and Paolo Tongiorgi, eds. *Natura e immagine: Il manoscritto di Francesco Redi sugli insetti delle galle*. Pisa, 1997.
- BERTI 1967**
Berti, Luciano. *Il principe dello studiolo: Francesco I dei Medici e la fine del Rinascimento fiorentino*. Florence, 1967.
- BLUNT AND RAPHAEL 1979**
Blunt, Wilfrid, and Sandra Raphael. *The Illustrated Herbal*. Exh. cat., *The Metropolitan Museum of Art*. New York, 1979.
- BROWN 1998**
Brown, David Alan. *Leonardo: Origins of a Genius*. New Haven and London, 1998.
- CASALE 1991**
Casale, Gherardo. *Giovanna Garzoni: "Insigne miniatrice," 1600–1670*. Milan, 1991.
- EXH. CAT. CESENA 2001**
Savoia, Daniela, and Maria Letizia Strocchi, eds. *Le belle forme della natura: Bartolomeo Bimbi (1648–1730) tra scienza e meraviglia*. Exh. cat., *Biblioteca Malatestiana*, Cesena. Modena, 2001.
- CHASTEL AND MOREL 1991**
Chastel, André, and Philippe Morel. *La villa Medici*. 3 vols. Rome, 1991.
- CHATERFIELD AND GURRIERI 1972**
Chaterfield, Judith, and Francesco Gurrieri. *Boboli Gardens*. Florence, 1972.
- CHIARINI 1997**
Chiarini, Marco, ed. *Il giardino del granduca: Natura morta nelle collezioni medicee*. Turin, 1997.
- CIARDI AND NATALI 2000**
Ciardi, Roberto P., and Antonio Natali. *Storia delle arti in Toscana nel Cinquecento*. Florence, 2000.

- CIPRIANI 1976
Cipriani, Angela. "Giovanna Garzoni, miniatrice," *Ricerche di Storia dell'Arte* 1 (1976), 241–254.
- COCHRANE 1973
Cochrane, Eric. *Florence in the Forgotten Centuries*. Chicago and London, 1973.
- CONIGLIELLO 1991
Conigliello, Lucilla. "Pesci, crostacei e un'iguana per l'imperatore Rodolfo," *Paragone* (1991), 493–495, 22–29.
- EXH. CAT. CREMONA 1999
Bona Castellotti, Marco, Enrico Gamba, and Fernando Mazzocca. *La ragione e il metodo: Immagini della scienza nell'arte italiana dal XVI al XIX secolo*. Exh. cat., Centro Culturale Sant Agostino, Cremona. Milan, 1999.
- CROPPER 2000
Cropper, Elizabeth. "L'arte cortigiana a Firenze: Dalla repubblica dissimulata allo stato paterno." In Ciardi and Natali 2000.
- DALLI REGOLI 1991
Dalli Regoli, Gigetta. "Il rapporto tra uomo e natura nel tema della Sacra Conversazione." In *Uomo e natura nella letteratura e nell'arte italiana del Tre-Quattrocento*. Edited by Wolfram Prinz. *Quaderni dell'Accademia delle arti del Disegno* 3. Florence, 1991.
- DALLI REGOLI, NANNI, AND NATALI 2001
Dalli Regoli, Gigetta, Romano Nanni, and Antonio Natali. *Leonardo e il mito di Leda*. Milan, 2001.
- DEMPSEY 1992
Dempsey, Charles. *The Portrayal of Love: Botticelli's "Primavera" and Humanistic Culture at the Time of Lorenzo the Magnificent*. Princeton, N.J., 1992.
- DE TONI 1922
De Toni, Giovanbattista. *Le piante e gli animali in Leonardo da Vinci*. Bologna, 1922.
- EMBODEN 1977
Emboden, William A. "Plants in the Works of Albrecht Dürer (1471–1528)," *Hortulus aliquando* 2 (1977).
- EMBODEN 1987
Emboden, William A. *Leonardo da Vinci on Plants and Gardens*. London, 1987.
- FERRI 1997
Ferri, Sara, ed. *Pietro Andrea Mattioli: Siena 1501–Trento 1578. La vita e le opere*. Perugia, 1997.
- FISHER 1998
Fisher, Celia. *Flowers and Fruit: The National Gallery Pocket Guides*. London, 1998.
- EXH. CAT. FLORENCE 1961
Bacci, Mina, and Anna Forlani, *Mostra di disegni di Jacopo Ligozzi*. Exh. cat., Gabinetto Disegni e Stampe, Uffizi. Florence, 1961.
- EXH. CAT. FLORENCE 1974
Chiarini, Marco, and Frederick J. Cummings, eds. *Gli ultimi Medici: Il tardo barocco a Firenze, 1670–1743*. Exh. cat., Palazzo Pitti. Florence, 1974.
- EXH. CAT. FLORENCE 1980a
"Palazzo Vecchio: committenza e collezionismo medicei." In *Firenze e la Toscana dei Medici nell'Europa del Cinquecento*. Exh. cat., Consiglio d'Europa, XVI European Exposition of Art, Science, and Culture. Florence, 1980.
- EXH. CAT. FLORENCE 1980b
"La corte, il mare e i mercanti. La rinascita della scienza, editoria e società. Astrologia, magia, alchimia." In *Firenze e la Toscana dei Medici nell'Europa del Cinquecento*. Exh. cat., Consiglio d'Europa, XVI European Exposition of Art, Science, and Culture. Florence, 1980.
- EXH. CAT. FLORENCE 1984
Giardi, Roberto P., and Lucia Tongiorgi Tomasi. *Immagini anatomiche e naturalistiche nei disegni degli Uffizi: Sec. XVI e XVII*. Exh. cat., Gabinetto Disegni e Stampe, Uffizi. Florence, 1984.
- EXH. CAT. FLORENCE 1988
Mosco, Marilena, and Milena Rizzotto. *Floralia: Florilegio delle collezioni fiorentine di Sei-Settecento*. Exh. cat., Palazzo Pitti. Florence, 1988.
- EXH. CAT. FLORENCE 1989
Giusti, Annamaria, ed. *Splendori di pietre dure*. Exh. cat., Palazzo Pitti. Florence, 1989.
- EXH. CAT. FLORENCE 1990
Tongiorgi Tomasi, Lucia, and Alessandro Tosi. "Flora e Pomona": *L'orticoltura nei disegni e nelle incisioni dei secoli XVI–XVIII*. Exh. cat., Gabinetto Disegni e Stampe, Uffizi. Florence, 1990.
- EXH. CAT. FLORENCE 1997
Gregori, Mina, and Detlef Heikamp, eds. *Magnificenza alla corte dei Medici: Arte a Firenze alla fine del Cinquecento*. Exh. cat., Palazzo Pitti, Florence. Milan, 1997.
- EXH. CAT. FLORENCE 1998
Chiarini, Marco, ed. *La natura morta a palazzo e in villa. Le collezioni dei Medici e dei Lorena*. Exh. cat., Palazzo Pitti, Florence. Livorno, 1998.

- EXH. CAT. FLORENCE 2001
Galluzzi, Paolo, ed. *Scienziati a Corte: L'arte della sperimentazione nell'Accademia galileiana del Cimento (1657-1667)*. Exh. cat., Uffizi. Florence, 2001.
- FRATI 1907
Frati, Luigi. *Intorno alla vita e alle opere di Ulisse Aldrovandi*. Bologna, 1907.
- FREY 1923
Frey, Karl. *Der Literarische Nachlass Giorgio Vasari*. Munich, 1923.
- GALLUZZI 1980a
Galluzzi, Paolo. "Il mecenatismo scientifico e le scienze." In *Idee, istituzioni, scienza e arti nella Firenze dei Medici*. Florence, 1980.
- GALLUZZI 1980b
Galluzzi, Paolo. "I Medici protettori delle scienze tra mito e realtà." In exh. cat. Florence 1980b.
- GALLUZZI 1781
Galluzzi, Riguccio. *Istoria del Granducato di Toscana sotto il governo della casa Medici*. 5 vols. Livorno, 1781.
- GARBARI, TONGIORGI TOMASI, AND TOSI 1991
Garbari, Fabio, Lucia Tongiorgi Tomasi, and Alessandro Tosi, eds. *Giardino dei Semplici: L'orto botanico di Pisa dal XVI al XX secolo*. Pisa, 1991.
- GARIBALDI 1999
Garibaldi, Vittoria. *Perugino: Catalogo completo*. Florence, 1999.
- GIGLIOLI 1924
Giglioli, H. Odoardo. "Jacopo Ligozzi disegnatore e pittore di piante e animali," *Dedalo* 9 (1924).
- GIUSTI, MAZZONI, AND PAMPALONI MARTELLI 1978
Giusti, Annamaria, Paolo Mazzoni, and Annapaula Pampaloni Martelli, eds. *Il Museo dell'Opificio delle Pietre Dure*. Florence, 1978.
- EXH. CAT. GRAND RAPIDS 1997
Bradshaw, Marilyn. "Pietro Perugino: An Annotated Chronicle," in *Pietro Perugino: Master of the Italian Renaissance*, ed. Joseph Becherer. Exh. cat., Grand Rapids Art Museum. Grand Rapids, Mich., 1997.
- HOCHSTETLER AND WILSON-GLOVER 1989
Hochstetler, Barbara Meyer, and A. Wilson-Glover. "Botany and Art in Leonardo's *Leda and the Swan*," *Leonardo* 22, no. 1 (1989).
- KEMP 1981
Kemp, Martin. *Leonardo da Vinci: The Marvellous Work of Man and Nature*. London, 1981.
- KORENY 1988
Koreny, Fritz. *Albrecht Dürer and the Animal and Plant Studies of the Renaissance*. Boston, 1988.
- LEVI D'ANCONA 1977
Levi d'Ancona, Mirella. *The Garden of the Renaissance: Botanical Symbolism in Italian Painting*. Florence, 1977.
- LEVI D'ANCONA 1983
Levi d'Ancona, Mirella. *Botticelli's Primavera: A Botanical Interpretation Including Astrology, Alchemy and the Medici*. Florence, 1983.
- MASSINELLI 2000
Massinelli, Anna Maria. *The Gilbert Collection: Hardstones*. London, 2000.
- MATTEOLI 1975
Matteoli, Anna, ed. *Francesco Saverio Baldinucci, Vite di artisti dei secoli XVII-XVIII (1725-1730)*. Rome, 1975.
- MELONI TRKULJA AND FUMAGALLI 2000
Meloni Trkulja, Silvia, and Elena Fumagalli. *Nature morte: Giovanna Garzoni*. Paris, 2000.
- MELONI TRKULJA AND TONGIORGI TOMASI 1998
Meloni Trkulja, Silvia, and Lucia Tongiorgi Tomasi, eds. *Bartolomeo Bimbi: Un pittore di piante e animali alla corte dei Medici*. Florence, 1998.
- MIGNANI 1980
Mignani, Daniela. *Le ville mediche di Giusto Utens*. Florence, 1980.
- MONGAN 1984
Mongan, Agnes. "A Fete of Flowers: Women Artists' Contribution to Botanical Illustration," *Apollo* 119 (1984).
- MONTAIGNE 1972
Montaigne, Michel de. *Viaggio in Italia*. Translated by Alberto Cento. Bari, 1972.
- MOSCO 1991
Mosco, Marilena. "La quadreria di Pomona," *FMR* 86 (1991), 93-110.
- NATALI 2000
Natali, Antonio, ed. *L'Annunciazione di Leonardo: La montagna sul mare*. Milan, 2000.
- OLMI 1992
Olmi, Giuseppe. *L'inventario del mondo: Catalogazione della natura e luoghi del sapere nella prima età moderna*. Bologna, 1992.

- OLMI, TONGIORGI TOMASI, AND ZANCA 2000
Olmi, Giuseppe, Lucia Tongiorgi Tomasi, and Attilio Zanca, eds. *Natura—Cultura: L'interpretazione del mondo fisico nei testi e nelle immagini*. Conference proceedings Mantova 1996. Florence, 2000.
- PEDRETTI 1977
Pedretti, Carlo. "Commentary." In *The Literary Works of Leonardo*. Edited by Jean Paul Richter. 2 vols. Oxford, 1977.
- PEVERELLI AND PRATESI 1994
Peverelli, Maria de, and Ludovico Pratesi. *Dentro l'immagine: Paesaggi, arredi e dettagli nella pittura del Rinascimento Italiano*. Cinisello Balsamo, 1994.
- EXH. CAT. PISA 1980
Livorno e Pisa: Due città e un territorio nella politica dei Medici. Exh. cat. Pisa, 1980.
- EXH. CAT. POPPI 1992
Conigliello, Lucilla, ed. *Jacopo Ligozzi: Le vedute del Sacro Monte della Verna. I dipinti di Poppi e Bibbiena*. Exh. cat., Castello dei Conti Guidi. Poppi, 1992.
- PRINZ AND BEYER 1987
Prinz, Wolfram, and Andreas Beyer, eds. *Die Kunst und das Studium der Natur vom 14. zum 16. Jahrhundert*. Acta Humaniora. Weinheim, 1987.
- RAPHAEL 1989
Raphael, Sandra. *An Oak Spring Sylva*. Upperville, Va., 1989.
- EXH. CAT. ROME 1999
Hochmann, Michel, ed. *Il sogno di un cardinale*. Exh. cat., Villa Medici. Rome, 1999.
- EXH. CAT. SAN SEVERINO MARCHE 1996
Casale, Gherardo, ed. *Gli incanti dell'iride: Giovanna Garzoni pittrice nel Seicento*. Exh. cat., Fondazione Salimbeni, San Severino Marche. Milan, 1996.
- SNAPPER 1988
Snapper, Alain. *Le Géant, La Licorne et La Tulipe: Collections et collectionneurs dans la France du XVII^e siècle*. Paris, 1988.
- STRAUSS 1974
Strauss, Walter L. *The Complete Drawings of Albrecht Dürer*. New York, 1974.
- STROCCHI AND BALDINI 1985
Strocchi, Maria Letizia, and Enrico Baldini. *Agrumi, frutti e uve nella Firenze di Bartolomeo Bimbi, pittore mediceo*. Rome, 1985.
- TAGLIOLINI 1991
Tagliolini, Alessandro. *Storia del giardino italiano*. Florence, 1991.
- TARGIONI TOZZETTI 1780
Targioni Tozzetti, Giovanni. *Notizie degli aggrandimenti delle scienze fisiche accaduti in Toscana nel corso di anni LX del secolo XVII*. 4 vols. Florence, 1780.
- TONGIORGI TOMASI 1983
Tongiorgi Tomasi, Lucia. "Projects for Botanical and Other Gardens: A Sixteenth-Century Manual," *Journal of Garden History* 3, no. 1 (1983).
- TONGIORGI TOMASI 1988
Tongiorgi Tomasi, Lucia. "Daniel Froeschl before Prague: His Artistic Activity in Tuscany at the Medici Court." In *Prag um 1600: Beiträge zur Kunst und Kultur am Hofe Rudolph II*. Freeren, 1988.
- TONGIORGI TOMASI 1990
Tongiorgi Tomasi, Lucia. "Il giardino, l'orto e il frutteto: Le scienze orticole in Toscana nei disegni, tempere e incisioni dal XVI al XVIII secolo." In exh. cat. Florence 1990.
- TONGIORGI TOMASI 1993
Tongiorgi Tomasi, Lucia, ed. *I ritratti di piante di Jacopo Ligozzi*. Pisa, 1993.
- TONGIORGI TOMASI 1997
Tongiorgi Tomasi, Lucia. "Il problema delle immagini nei Commentarii." In *Ferri 1997*.
- TONGIORGI TOMASI 2000
Tongiorgi Tomasi, Lucia. "L'illustrazione naturalistica: tecnica e invenzione." In *Olmi, Tongiorgi Tomasi, and Zanca 2000*.
- TONGIORGI TOMASI 2001
Tongiorgi Tomasi, Lucia. "The Study of the Natural Sciences and Botanical and Zoological Illustration in Tuscany under the Medicis from the Sixteenth to the Eighteenth Centuries," *Archives of Natural History* 28, no. 2 (2001), 179–193.
- TONGIORGI TOMASI AND GARBARI 1995
Tongiorgi Tomasi, Lucia, and Fabio Garbari. *Il giardiniere del Granduca: Storia e immagini del codice Casabona*. Pisa, 1995.
- TONGIORGI TOMASI AND TONGIORGI 1997
Tongiorgi Tomasi, Lucia, and Paolo Tongiorgi. "Il naturalista e il cappellano: Osservazione della natura e immagini 'dal naturale.'" In *Bernardi et al. 1997*.

TONGIORGI TOMASI AND
TOSI 2001

Tongiorgi Tomasi, Lucia, and
Alessandro Tosi. "L'accademia del
Cimento e le arti: tracce per un
dialogo." In Galluzzi 2001.

TOSI 1989

Tosi, Alessandro, ed. *Ulisse
Aldrovandi e la Toscana: Carteggio e
testimonianze*. Florence, 1989.

TOSI 1999

Tosi, Alessandro. "Il ritratto della
scienza." In exh. cat. Cremona
1999.

VASARI 1906

Vasari, Giorgio. *Le vite dei più cele-
bri pittori e scultori e architettori*....
Edited by Gaetano Milanesi. 8
vols. Florence, 1906.

EXH. CAT. WASHINGTON
1999

Wheelock, Arthur K. Jr. *From
Botany to Bouquets*. Exh. cat.,
National Gallery of Art.
Washington, 1999.

ZANGHERI 1979

Zangheri, Luigi. *Pratolino: il giardi-
no delle meraviglie*. Florence, 1979.

ZERI AND PORZIO 1989

Zeri, Federico, and Francesco
Porzio, eds. *La natura morta in
Italia*. 2 vols. Milan, 1989.



ILLUSTRATION DETAILS

page 1

Tuscan, Baptismal Cover, 17th century, embroidered satin, Private collection (cat. 38)

page 2

Gerolamo della Valle, Sunflower, 1664, *pietre tenere* mosaic, Museo dell'Opificio delle Pietre Dure, Florence (cat. 33)

pages 4–5

Bartolomeo Bimbi, Cherries, 1699, oil on canvas, Villa Medicea, Poggio a Caiano, Florence (cat. 59)

page 6

Jacopo Ligozzi, Fig Branch (*Ficus carica*) with Bird of Paradise and Exotic Finches (*Vidua macroura*, *Steganura paradisaea*, and *Hypochero chalybeata*), gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence (cat. 25)

page 10

Tuscan, Chasuble from the "Parato di Santa Reparata," first quarter 17th century, silk with gold and silver thread, Opera di Santa Maria del Fiore, Florence (cat. 40)

page 12

Giusto Utens, Villa Poggio, 1598–1599, tempera on panel, Museo Storico Topografico "Firenze Com'era," Florence (cat. 57)

page 14

Jacopo Ligozzi, Wild Parsnip (*Angelica archangelica*), gouache on paper, Gabinetto Disegni e Stampe degli Uffizi, Florence (cat. 21)

page 71

Tuscan, Baptismal Cover, reverse, 17th century, embroidered satin, Private collection (cat. 38)

page 108

Pietro Perugino, The Crucifixion with the Virgin, Saint John, Saint Jerome, and Saint Mary Magdalene, c. 1482–1484, oil on panel transferred to canvas, National Gallery of Art, Washington, Andrew W. Mellon Collection (cat. 4)

page 118

Attributed to Matteo Nigetti, Vase of Flowers, early 17th century, *pietre dure* mosaic, Museo dell'Opificio delle Pietre Dure, Florence (cat. 31)

page 124

Bartolomeo Bimbi, Sunflower (*Helianthus annuus*), 1721, oil on canvas, Galleria Palatina, Palazzo Pitti, Florence (cat. 66)

page 130

Giovanna Garzoni, Figs with a Beetle, gouache on vellum, Private collection (cat. 51)

PHOTOGRAPHIC CREDITS

Bridgeman Art Library
International Ltd., New York,
cat. 68

Oswaldo Böhm, Venice, cat. 3

The Gilbert Collection Trust,
London, cat. 36

Studio Fotografico Paolo Tosi,
Florence, cats. 9–25, 29–35, 37, 42–
44, 46, 58–66, 68

Foto Vasari, Rome, cat. 45