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The petal and the brush: Gherardo Cibo's ways of working with nature

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Abstract

This dissertation explores aspects of the multifaceted relationship between nature and art/science during the early modern period. I explore this relationship through the lens of the work of Gherardo Cibo (1512-1600), an Italian polymath with a particular interest in plants. Cibo left an amazing oeuvre behind, including some of the most sophisticated botanical images of his time. Plants and landscapes were his favourite subjects. At the same time, he was a collector of natural things and was also known for making his own colours from plants' juices. The methodology used throughout the thesis combines long-established practices of the discipline with more recent reconstruction methods, shedding new light on Cibo's life and work. My main focus is how his knowledge of the natural world shaped his various practices (collecting, making and illustrating) and vice versa. Cibo's activities highlight the complexity of early modern encounters with nature and illustrate the nexus of factors that played a role in producing and disseminating knowledge about the natural world. Through his example, I point towards some general trends in studying and visualising nature during the early modern period.

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Completing this PhD has been a journey filled with challenges, discoveries, and reconstructions. As someone from Sparti, I will keep this brief and to the point – true to our Laconic style.

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Fig. 6.37 *Detail of page from Egerton MS 747 showing the extraction of orpiment*, folio 9r, c.1280–1350 C.E., British Library, London.

Fig. 6.38 *Detail of page from Egerton MS 747 showing Umbilicus rupestris (navelwort)*, folio 29r, c.1280–1350 C.E., British Library, London.

Fig. 6.39 *Page from Ortus sanitatis […] showing a fish and a tree*, capitulum XIX, 1491 C.E., digitised copy from the Wellcome Library, London.

Fig. 6.40 *Page from Herbario Novo showing both ways of depicting plants*, page 85, 1585 C.E., digitised copy from the Wellcome Library, London.

Fig. 6.41 *Detail of page from Mattioli's Commentary on Dioscorides showing 'Lente palustre'*, page 1173, 1568 C.E., digitised copy from the Getty Research Institute Research Library, Los Angeles.

Fig. 6.42 *Page from Herbario Novo showing Querqus suber (cork oak)*, page 442, 1585 C.E., digitised copy from the Wellcome Library, London.

Fig. 6.43 *Page from Pietro Antonio Michiel's work showing Anagyris foetida (stinking bean trefoil),* vol. 5, folio 59r, c.1553–1565 C.E., Biblioteca Nazionale di San Marco, Venice.

Fig. 6.44 Gherardo Cibo, *page from Add MS 22332 showing Oenanthe crocata (hemlock water-dropwort) or Peucedanum cervaria (hog's fennel)*, folio 8r, 16th century C.E., British Library, London.

Fig. 6.45 *Page from Autumnus horti floridi rariores autumni […] showing plants belonging to the genus Crocus*, table 24, 1616 C.E., digitised copy from the Biblioteca Digital del Real Jardín Botánico de Madrid, Madrid.

Fig. 6.46 Giovanna Garzoni, *Ranunculus with two almonds and a hymenopteran*, 17th century C.E., tempera and black pencil, Uffizi, Florence (inv. no. 2149 O).

Fig. 6.47 *Page from Flora Graeca […] showing a landscape*, vol.1, frontispiece, 1806 C.E., digitised copy from the Bodleian Library, Oxford.

Fig. 6.48 On the left: *Page from Rari 278 showing honey producing bees*, page 409, 16th century C.E., Biblioteca Universitaria Alessandrina, Rome.

On the right: *Page from Mattioli's Commentary on Dioscorides showing honey producing bees*, page 409, 1568 C.E., digitised copy from the Getty Research Institute Research Library, Los Angeles.

Fig. 7.1 *Porta of St Peter*, May 2022, Arcevia.

Fig. 7.2 *Porta of St Lucy*, May 2022, Arcevia.

Fig. 7.3 *Porta of St Augustine*, May 2022, Arcevia.

Fig. 7.4 *Porta del Sasso*, May 2022, Arcevia.

Fig. 7.5 Gherardo Cibo, *Detail of page from Historiarum libri duo […] showing Rocca Contrada*, folio 77v, 1596–1601 C.E., Biblioteca Comunale Antonelliana, Senigallia.

Fig. 7.6 *Tourist map of Arcevia*, May 2022, Arcevia.

Fig. 7.7 *A step street*, May 2022, Arcevia.

Fig. 7.8 *Corso Mazzini*, May 2022, Arcevia.

Fig. 7.9 Giovanni della Robbia, *Altarpiece*, 1511 C.E., Collegiate Church of St Medardus, Arcevia.

Fig. 7.10 *St Francis' cloister*, May 2022, Arcevia.

Fig. 7.11 *A building with potted plants*, July 2022, Arcevia.

Fig. 7.12 *A building with plants on its roof*, July 2022, Arcevia.

Fig. 7.13 *A flock of birds*, July 2022, Arcevia.

Fig. 7.14 *View from the Belveder spot*, May 2022, Arcevia.

Fig. 7.15 *Church of St Augustine with two road signs*, May 2022, Arcevia.

Fig. 7.16 *Arcevia's surroundings*, May 2022, Arcevia.

Fig. 7.17 *View of the Church of St Mary of Grace*, May 2022, Arcevia.

Fig. 7.18 *Flowers of plants belonging to the genus Cyclamen*, May 2022, Arcevia.

Fig. 7.19 *Dried plants*, July 2022, Arcevia.

Fig. 7.20 *Flowering plants*, July 2022, Arcevia.

Fig. 7.21 *Church of St Mary of Renali*, July 2022, Arcevia.

Fig. 7.22 *View of Arcevia*, July 2022, Arcevia.

Fig. 7.23 Gherardo Cibo, *Southern landscape*, 16th century C.E., ink and watercolour, Albertina, Vienna (inv. no. 32938).

Fig. 7.24 Gherardo Cibo, *View of Arcevia*, 16th century C.E., pen and ink, Staatsgalerie Stuttgart, Stuttgart (inv. no. C 1990/3975,a).

Fig. 7.25 Gherardo Cibo, *View of a small church and city walls, a church and a gate*, c.1570 C.E., ink and watercolour, Szépművészeti Múzeum, Budapest (inv. no. 1927-2038).

Fig. 7.26 Gherardo Cibo, *View of the Church of St Sebastian at Senigallia; buildings and a tower*, c. 1570 C.E., ink and red chalk, Szépművészeti Múzeum, Budapest (inv. no. 1927-2033).

Fig. 7.27 Gherardo Cibo, *detail of page from Add MS 22332 showing Gladiolus italicus (field gladiolus)*, folio 72r, 16th century C.E., British Library, London.

Fig. 7.28 Gherardo Cibo, *A wooded landscape; view of an Apennine valley*, 16th century C.E., pen and ink, Pinacoteca Civica, Ascoli Piceno (inv. no. 305).

Fig. 7.29 Gherardo Cibo, *page from Add MS 22332 showing two naturalists*, folio 6r, 16th century C.E., British Library, London.

Introduction

Leaning against a tree trunk, a man paints a plant specimen (Fig. 0.1). On the top of a pole, some plants in a vase are placed in front of his eyes. Although the painting tool is not discernible, two branches have already been painted on the page before him. Near the vase, an enlarged version of the plant *Cruciata laevipes*, commonly known as crossword, has been portrayed in the centre of the composition. A rare example of an early modern illustration that captures the act of depicting a plant together with its enlarged version on the same page, the image graces a herbal (London, British Library, Add MS 22332) created by the Italian nature-lover Gherardo Cibo (1512-1600).[1] The figure of the artist illuminating a manuscript could be representative of Cibo himself, an idea already explored in the literature.[2]

During the sixteenth century, Cibo was, perhaps, unique in excelling at a wide range of processes related to nature and the natural world, from gathering and desiccating plant specimens to depicting landscapes and creating plant illustrations using his own colourants. In this thesis, I investigate how Cibo's work played on the relationship between portraying nature and investigating its processes, not only in his illustrating but also in his collecting and colour-making practices. To that end, I use a combination of traditional research methods with performative methodologies as a key research approach.

Throughout the thesis, 'performative methods' have the same meaning that Marieke M. A. Hendriksen gives to the term in her historiographical article of 2020, as a catch-all term that covers

[1] The manuscript was found by Lucia Tongiorgi Tomasi in the British Library together with another herbal by Cibo. The first one, namely the London, British Library, Add MS 22332, will be subsequently referred to as the British Library manuscript/a. The second one, namely the London, British Library, Add MS 22333, will be subsequently referred to as the British Library manuscript/b. Both can be found online, see "Add MS 22332," British Library, accessed September 16, 2023, https://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Add_MS_22332; "Add MS 22333," British Library, accessed September 16, 2023, https://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Add_MS_22333. For the facsimile of the British Library manuscript/a, see Pietro Andrea Mattioli and Gherardo Cibo, *Mattioli's Dioscorides illustrated by Cibo: Add. Ms. 22332* (c.1564–1584; facs., Barcelona: M. Moleiro Editor, 2021). Some folios have also been reproduced in Stéphane Marie, Marc Jeanson, and Dany Sautot, *L'Herbier de Gherardo* (Paris: Le Chêne, 2018). Identifying plants can sometimes be challenging and, thus, throughout the thesis some identifications are highly speculative. Early modern plant names are in single quotation marks and scientific plant names used today in Italics.

[2] For the recurring figure in the manuscript assuming the role of Cibo's self-portrait, see Lucia Tongiorgi Tomasi, "Gherardo Cibo: visions of landscape and the botanical sciences in a sixteenth-century artist," *The Journal of Garden History* 9, no. 4 (2012): 202. For an early example of the image of an artist illuminating a manuscript within a herbal, see Lilian Armstrong, "The Illustration of Pliny's Historia naturalis: Manuscripts before 1430," *Journal of the Warburg and Courtauld Institutes* 46 (1983): 27, footnote 32.

all methods of research where scholars bodily engage with tools and sources, which are often unconventional, in order to investigate a historical question.[3] The use of such performative methodology has gained impetus over the last decade, but has a long history. Jilleen Nadolny et al. traced its beginnings in Count Caylus' exploration of historical recipes in the eighteenth century.[4] Some disciplines were quicker and more receptive concerning the appropriation of performative methods, notably archaeology, with experimental archaeology having its roots in the nineteenth century.[5] Technical art history also started to use this methodology relatively early. An early example concerned with materials used in art comes from Mary P. Merrifield's book of 1849, where she refers to reconstruction experiments of enamel and oil paints aimed at the examination of their historical counterparts.[6] In the twentieth century, Daniel V. Thompson also followed medieval instructions to reconstruct many pigments while working at the Courtauld Institute.[7]

Many reconstructions of historical materials and techniques by conservators and art historians followed ever since.[8] In the last few decades, the surge of studies belonging to different disciplines that employ performative methods prompted an interdisciplinary dialogue on the methodology channelled through publications such as the *Reconstruction, Replication and Re-enactment in the Humanities and Social Sciences* (2020) volume, where experts from various fields are brought together to reflect critically on this research method.[9] The title of this book brings to the fore the various terms related to performative methodology, each with its own connotations.[10]

My close study and experimentation with Cibo's processes brought attention to the issue of early modern approaches to nature, a major topic related to this period. An inexhaustible source of

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[3] Marieke M. A. Hendriksen, "Rethinking Performative Methods in the History of Science," *Berichte zur Wissenschaftsgeschichte* 43, no. 3 (2020): 314.
[4] Sven Dupré et al., "Introduction," in *Reconstruction, Replication and Re-enactment in the Humanities and Social Sciences*, eds. Sven Dupré et al. (Amsterdam: Amsterdam University Press, 2020), 11.
[5] Dupré et al., "Introduction,"15-7.
[6] Mary P. Merrifield, *Original Treatises Dating from the XIIth to XVIIIth Centuries on the Arts of Painting, in Oil, Miniature, Mosaic, and on Glass* (New York: Dover Publications, 1999), liv-lv, ccxxxv.
[7] Daniel Varney Thompson, "Oral History interview," interview by Robert F. Brown, Archives' Oral History Program, September 25, 1974 / November 2, 1976, https://www.aaa.si.edu/collections/interviews/oral-history-interview-daniel-varney-thompson-13166.
[8] Examples of such reconstructions are: Maartje Stols-Witlox, "Sizing layers for oil painting in western European sources (1500–1900): Historical recipes and reconstructions," in *Art Technology : Sources and Methods ; Proceedings of the Second Symposium of the Art Technological Source Research Working Group*, ed. Stefanos Kroustallis (London: Archetype Publications, 2008), 148-63; Marjolijn Bol, "Coloring Topaz, Crystal and Moonstone: Gems and the Imitation of Art and Nature, 1300–1500," in *Fakes!?: Hoaxes, Counterfeits and Deception in Early Modern Science, eds. Marco Beretta and Maria Conforti* (Sagamore Beach: Science History Publications, 2014), 108-29.
[9] Sven Dupré et al., eds., *Reconstruction, Replication and Re-enactment in the Humanities and Social Sciences* (Amsterdam: Amsterdam University Press, 2020).
[10] For an overview of the terms, see Hjalmar Fors, Lawrence M. Principe, and H. Otto Sibum, "From the Library to the Laboratory and Back Again: Experiment as a Tool for Historians of Science," *Ambix* 63, no. 2 (2016): 93.

inspiration until today, nature and its relationship with art and science in early modern Europe is a key area of interest that has received a great deal of scholarly attention since the nineteenth century and remains a subject of great interest today.[11] This is partly because of the environmental challenges that our world faces, rendering the need to establish a new relationship with our environment an urgent matter, and partly because of the manifold interaction of humans with nature.[12] From using herbs in cooking to their symbolic meaning in heraldry, the contact points of human activities with the natural world seem countless.[13] These various aspects of human interaction with nature are one of the reasons why this field is such a fertile ground for academic research.

Cibo's illustration of crossword and its placement in front of the artist's eyes brings to mind Gerald Needham's definition of naturalism: '[naturalism] implies a style in which the artist tries to observe and then faithfully record the subject before him without deliberate idealization or stylization'.[14] There is a long-running debate about naturalism in the history of art, a complex term the essence of which is difficult to define, as it can express different meanings in different contexts and periods.[15] This debate has recently been revitalised by the research of historians of science, such as Pamela Smith, who interprets naturalism as a means of communication of non-verbal knowledge and correlates the naturalistic art of the fifteenth and sixteenth centuries with the '*processes* of nature'.[16] Smith does not interpret artisanal creations as mere representations of the natural world

[11] Some of the main texts on this topic are: Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago; London: University of Chicago Press, 2004); Allan Ellenius, ed., *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century; an International Symposium* (Uppsala: Uppsala University, 1985); Jean A. Givens, Karen M. Reeds, and Alain Touwaide, eds., *Visualizing Medieval Medicine and Natural History, 1200-1550* (Aldershot: Ashgate, 2006); Thomas DaCosta Kaufmann, ed., *The Mastery of Nature: Aspects of Art, Science, and Humanism in the Renaissance* (Princeton: Princeton University Press, 1993); Pamela H. Smith and Paula Findlen, eds., *Merchants & Marvels: Commerce, Science, and Art in Early Modern Europe* (Abingdon; New York: Routledge, 2002).

[12] For some interesting thoughts on the roots of the environmental crises of our times, see Gunnar Broberg, "Natural History Frontispieces and Ecology," in *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century; an International Symposium*, ed. Allan Ellenius (Uppsala: Uppsala University, 1985), 89.

[13] For the many 'possible uses' of nature by humans as reflected in museums' catalogues like the one that Giovan Battista Olivi wrote for Calzolari's collection , see Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994), 37-40.

[14] "Naturalism," Grove Art Online, accessed September 16, 2023, https://www.oxfordartonline.com/groveart/view/10.1093/gao/9781884446054.001.0001/oao-9781884446054-e-7000061451#oao-9781884446054-e-7000061451.

[15] For the complexity of term, see Sarah M. Guérin, Itay Sapir, and Marie-Hélène Bohémier, "Introduction: The Nature of Naturalism: A Trans-Historical Examination / Introduction: La nature du naturalisme: un examen transhistorique," *RACAR: Revue D'art Canadienne / Canadian Art Review* 41, no. 2 (2016): 5-16. For an early example of an overview concerning naturalism in western European art during the Middle Ages, see Lynn White, "Natural Science and Naturalistic Art in the Middle Ages," *The American Historical Review* 52, no. 3 (1947): 421-35.

[16] Smith, *The Body*, 16.

but as manifestations of the engagement of early modern bodies with materials of nature and their effort to understand and manipulate the qualities of each material in order to produce objects.[17]

Throughout the centuries, the changing attitudes of bodies towards nature come through the writings and art of each period. For example, such change can be traced in Italy in the late fourteenth to early fifteenth century, with art theorists like Leon Battista Alberti advocating a well-informed approach to the natural world based on observation.[18] A similar approach can be traced in Cennino Cennini's *Il Libro dell'Arte* (1821), written at the end of the fourteenth century.[19] A few decades later, Leonardo da Vinci's art exemplifies this growing interest in faithfully depicting nature that characterised the period, with his meticulous studies of flowers and the depicted flora of his paintings being portrayed with a high degree of accuracy to the prototype.[20] In his *Trattato della pittura*, published after his death, Leonardo writes, 'painting which alone is the imitator of all works to be seen in nature' and continues by saying, 'all things we sense are born of nature, and painting is born of all those things'.[21] His writings and works communicate his idea of the imitation of nature not as a sterile copying of the prototype but as an active process of gaining knowledge.[22]

During the first decades of the sixteenth century, there was also a surge of commissions by naturalists and wealthy patrons of images depicting natural objects and creatures per se.[23] This group of images occupies a central place within literature. Agnes Arber's book, *Herbals: Their Origin and Evolution […]*, first published in 1912, remains the standard history of herbals – that is, books about plants and other substances, especially regarding their medicinal properties – which

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[17] Smith, *The Body*, 16.

[18] Leon Battista Alberti, *Leon Battista Alberti: On Painting: A New Translation and Critical Edition*, trans. Rocco Sinisgalli (Cambridge: Cambridge University Press, 2011).

[19] For the transcription of the original text and its translation into English, see Cennino Cennini, *Cennino Cennini's Il Libro Dell'arte: A New English Translation and Commentary with Italian Transcription*, trans. Lara Broecke (London: Archetype Publications, 2015).

[20] Lucia Tongiorgi Tomasi, "The Flowering of Florence: Botanical Art for the Medici," in *The Flowering of Florence: Botanical Art for the Medici*, eds. Lucia Tongiorgi Tomasi and Gretchen A. Hirschauer (Aldershot: Lund Humphries, 2002), 19-22. For more on Leonardo and his drawings of plants, as well as for the Codex Atlanticus nature print, see Karen M. Reeds, "Leonardo and Botanical Illustration," in *Visualizing Medieval Medicine and Natural History, 1200-1550*, eds. Jean A. Givens, Karen M. Reeds, and Alain Touwaide (Aldershot: Ashgate, 2006), 205-37.

[21] Reproduced and discussed in James S. Ackerman, "Early Renaissance "Naturalism" and Scientific Illustration," in *Distance Points: Essays in Theory and Renaissance Art and Architecture*, ed. James S. Ackerman (Cambridge, Mass.; London: MIT, 1991), 185.

[22] For Leonardo's thoughts on the artist's imitation of nature, see Martin Kemp, "From Mimesis to Fantasia: The Quattrocento Vocabulary of Creation, Inspiration and Genius in the Visual Arts," *Viator* 8 (1977): 381.

[23] Tomasi, "The Flowering," 28. Examples of such commissions are discussed in David Freedberg, *The eye of the Lynx: Galileo, his friends, and the beginnings of modern natural history* (Chicago; London: University of Chicago Press, 2002). For an overview of the artists employed by the naturalist Ulisse Aldrovandi, see Fulvio Simoni, "La natura incisa nel legno. La collezione delle matrici xilografiche di Ulisse Aldrovandi conservata all'università di Bologna," *Studi di Memofonte* 17 (2016): 131-2.

extensively discusses the development of botanical illustration in Europe.[24] Arber focuses on the printed botanical illustration in herbals, mainly of the fifteenth and sixteenth centuries, while she also comments on their style (for example, if they look naturalistic or not, and why).[25] Arber's group of printed images is enriched by Florike Egmond's more recent book *Eye for Detail* (2017), where the scholar brings to the fore a significant corpus of drawings belonging to collections created from 1500 to 1630, including both animal and plant illustrations.[26]

Although the scholarship of the first half of the twentieth century was mainly concerned with recording the works that demonstrate the shift towards more naturalistic depictions of the natural world, there were few studies investigating the cultural context that brought about this change. The art historian Lynn White links 'the first phase of modern artistic naturalism' with the 'life and interests of the burgeoning commercial cities of the twelfth and thirteenth centuries'.[27] In the same article, there is also a reference to the new, elevated status of the artisans at that time.[28] White's research is in accordance with the more recent focus of the scholarship on how these depictions relate to factors such as the period and society. In her seminal research, Smith further developed these ideas by suggesting that artisans played a key role in shifting attitudes towards nature and knowledge.[29]

Apart from the changing attitudes towards nature observed in the art of the period, the above scholars also investigated a widely explored and highly interconnected topic, namely the relationship between art and science.[30] White correlated the two notions by stating that 'Art, like

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[24] Agnes Arber, *Herbals: Their Origin and Evolution: A Chapter in the History of Botany, 1470–1670* (Cambridge: Cambridge University Press, 2010), 185-246.

[25] For example, when referring to the *German Herbarius,* or *Herbarius zu Teutsch*, Arber writes: 'Their greater realism, as compared with those in the Latin Herbarius, is no doubt partly due to their larger size. Naturalism in the earlier botanical woodcuts tended, indeed, to be a function of scale', see Arber, *Herbals*, 194.

[26] Florike Egmond, *Eye for Detail: Images of Plants and Animals in Art and Science, 1500-1630* (London: Reaktion Books, 2017).

[27] White, "Natural Science," 434.

[28] White, "Natural Science," 423.

[29] Pamela H. Smith, "Artisanal Knowledge and the Representation of Nature in Sixteenth-Century Germany," *Studies in the History of Art* 69 (2008): 27-8; Smith, *The Body*.

[30] Both art historians and historians of science made valuable contributions to the question of this relationship. Some of the leading publications on this topic are: Pamela H. Smith, "Art, Science, and Visual Culture in Early Modern Europe," *Isis* 97, no. 1 (2006): 83-100; Paula Findlen, "Inventing Nature: Commerce, Art, and Science in the Early Modern Cabinet of Curiosities," in *Merchants & Marvels Commerce, Science, and Art in Early Modern Europe*, eds. Pamela H. Smith and Paula Findlen (Abingdon; New York: Routledge, 2002), 297-323; Giorgio de Santillana, "The Role of Art in the Scientific Renaissance," in *Critical Problems in the History of Science: Proceedings of the Institute for the History of Science at the University of Wisconsin, September 1-11, 1957*, ed. Marshall Clagett (Madison: The University of Wisconsin Press, 1959), 33-65; Michael Baxandall, "The Bearing of the Scientific Study of Vision on Painting in the 18th century: Pieter Camper's 'De visu'," in *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century; an International Symposium*, ed. Allan Ellenius (Uppsala: Uppsala University, 1985), 125-32.

science, normally deals with the objects of our physical environment, and both art and science therefore presumably reflect any modification of attitude toward that environment'.[31] Other scholars also commented on this puzzling relationship, with James S. Ackerman suggesting that the culture of the late fifteenth century witnessed a movement towards the union of art and science, a union that was finally not completed.[32] Although the literature on this topic is too extensive to be referred to in this Introduction, the critical turn that occurred in the field, exemplified by the work of Smith, should be emphasised. Smith examined the relationship between art and science in terms of 'making' and 'knowing'.[33] Specifically, her focus on the making of objects and the embodied knowledge that it can induce, led her to important conclusions about the contribution of early modern artisans to the production of knowledge and their key role in the Scientific Revolution.[34]

All these issues raised by the irrefutable but also challenging-to-define relationship between art and nature/art and science of the period indicate the complexity of the context during which Cibo lived and created his work. New stimuli, for example, the introduction of previously unknown plants from the New World, provoked changes in both fields and in broader society.[35] As for the community of naturalists, its members witnessed the inclusion of plant studies in the curricula of universities, the opening of the first botanical gardens and the establishment of new activities, such as field trips.[36] New tools of study were also introduced, among which are the collections of dried plants called herbaria, while at the same time a growing interest in collecting natural things was manifested.[37] In her investigation of the development of natural studies at that time, Karen Meier

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[31] White, "Natural Science," 424.
[32] Ackerman, "Early Renaissance," 194.
[33] Smith, "Art," 83-100.
[34] Smith, "Art," 83-100; Smith, "Artisanal Knowledge," 28.
[35] For the engagement of naturalists with the nature of Americas at that time, see Paula Findlen, "Natural History," in *The Cambridge History of Science. Vol. 3*, eds. Katherine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2006), 435-68. For the reception of new plant species from the Americas in Italy, see David Gentilcore, "The Impact of New World Plants, 1500 -1800: The Americas in Italy," in *The New World in Early Modern Italy, 1492-1750*, eds. Elizabeth Horodowich and Lia Markey, (Cambridge: Cambridge University Press, 2017), 190-205.
[36] For a comprehensive account concerning botany in the Universities' curricula with a focus on the University of Montpellier and Basel during the sixteenth century, see Karen Reeds, *Botany in Medieval and Renaissance Universities* (New York; London: Garland, 1991). For the development of botanical gardens, see Brian W. Ogilvie, "Observation and Experience in Early Modern Natural History," (PhD diss., University of Chicago, 1997), 221-51; Cristina Bellorini, *The World of Plants in Renaissance Tuscany Medicine and Botany* (Farnham: Ashgate, 2016), 87-96; Findlen, *Possessing*, 256-61. For field trips, see Florike Egmond, "Into the Wild: Botanical Fieldwork in the Sixteenth Century," in *Naturalists in the Field: Collecting, Recording and Preserving the Natural World from the Fifteenth to the Twenty-first Century*, ed. Arthur MacGregor (Leiden: Brill, 2018), 166-211; Bellorini, *The World*, 98-101; Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2006), 70-7; Findlen, "Natural History," 445-7.
[37] For the first herbaria, see Jean Baptiste Saint-Lager, "Histoire des herbiers," *Annales de la Société botanique de Lyon* 13, no. 1 (1886): 1-120. For the growing interest in collecting, see Findlen, *Possessing*; Krzysztof Pomian, *Collectors and Curiosities: Paris and Venice, 1500-1800*, trans. Elizabeth Wiles-Portier (Cambridge: Polity, 1990); Ogilvie, *The Science of Describing*, 39-43.

Reeds also stressed the importance of classical tradition and ancient texts of which new printed editions, sometimes also translated from Latin, started to circulate.[38]

Although not exhaustive, the review of the main texts and research questions touched upon by modern scholarship gives an idea of the complexity of the notions of science, art and naturalism, concepts that underlie this study. My thesis builds upon these crucial works and asks similar questions about the nature of these illustrations, and how modern scholars should read them. However, it takes on novel methodologies to investigate early modern attitudes to nature at three levels. Specifically, apart from exploring the depiction of nature in botanical illustrations and landscapes, the thesis also seeks to investigate how nature is captured in collecting processes and in the making of materials. Cibo was interested in the developments of the natural history of his time; he participated in field trips with a natural history orientation, he collected *naturalia* and created a collection of dried plants, while he also drew botanical illustrations and landscapes, the colourants of which he made himself through the extraction of juices from plants. In other words, he was actively involved in collecting, illustrating and making procedures, a triptych that will be the basic organisational scheme of the thesis. Having all these interests and talents, Cibo is one of the few characters involved in such a wide range of activities related to the natural world. Thus, his example offers the possibility to investigate different approaches to nature (nature as a collectible, as the subject of depictions, and as a material in colourants) that have not been looked at together before. This will allow us to gain a broader understanding of the procedures used by early modern people to experience nature and to gain knowledge of the natural world.

All academic work on Cibo is fundamentally indebted to the research of Enrico Celani, librarian of the Biblioteca Angelica. His 1902 article was the first to investigate the authorship of two herbaria found at the Biblioteca Angelica (subsequently called *Erbario A* and *Erbario B*), making the name of Cibo widely known by identifying him as their creator. Not all scholars agreed with Celani's attribution, and until today, the question of the authorship of the two herbaria remains unresolved, as discussed in more detail in Chapter 2. Nevertheless, by identifying Cibo as the creator of the two herbaria through his archival research and palaeographical analysis, Celani made Cibo's name known to scholarship, also bringing to light some important information about his life.

[38] Karen Meier Reeds, "Renaissance humanism and botany," *Annals of Science* 33, no. 6 (1976): 519-42. For a short overview of the circulation of ancient texts in the early modern period, see Findlen, "Natural History," 439-40. For further thoughts on the classical tradition and development of natural history, see Ogilvie, *The Science of Describing*, 88-138.

The art historian Jaap Bolten was the first to form the corpus of Cibo's landscape drawings, even though he initially attributed it to Ulisse Severino da Cingoli.[39] In his study, Bolten provided a short biography of Da Cingoli, reassembled many of the dispersed landscape works, and formed the initial core of what would prove to be Cibo's oeuvre.[40] It was on the occasion of an exhibition in San Severino in Marche that the attribution of this body of work to Cibo was initiated; the exhibition's catalogue, edited by Arnold Nesselrath, as well as the accompanying essays, illuminated many aspects of Cibo's life and popularised his work.[41] In his review of this catalogue, Bolten agrees with the new attribution to Cibo.[42]

This body of work has been enriched in subsequent years, for example, by Luigi Dania in 1976 and took a definitive shape in the most recent catalogue of Cibo's oeuvre, published by Giorgio Mangani and Lucia Tongiorgi Tomasi in 2013.[43] In this publication, apart from the catalogue of his landscape works, there is also a consideration of the books (manuscripts and printed copies) that he either coloured or illustrated himself, together with the two herbaria of the Biblioteca Angelica. Apart from the catalogue, Tomasi, the great scholar of Cibo to whom the present thesis is highly indebted, has published extensively on Cibo, providing both an art historical look to his oeuvre and an overview of his other activities related to natural history.[44]

Cibo's preoccupation with colours was brought to the fore by Erma Hermens, who critically discusses a technical manual on miniature painting, landscape drawing and botanical illustration, attributing its authorship to both Cibo and a seventeenth-century miniaturist, called Valerio Mariani

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[39] Jaap Bolten, "Messer Ulisse Severino da Cingoli, a Bypath in the History of Art," *Master Drawings* 7, no. 2 (1969): 123-47, 184-204.

[40] For the biographical information about Da Cingoli, see Bolten, "Messer Ulisse,"126-7. For the provisional catalogue of Severino's works by Da Cingoli, see Bolten, "Messer Ulisse," 137-46.

[41] Arnold Nesselrath, ed., *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane* (Florence: S.P.E.S., 1989).

[42] Jaap Bolten, "Reviewed Work(s): Gherardo Cibo, alias Ulisse Severino da Cingoli. Disegni e opere da collezioni italiane [Exhibition Catalogue] by Arnold Nesselrath, Lucia Tongiorgi Tomasi and Christiane Denker Nesselrath," *Master Drawings* 28, no. 2 (1990): 193-6.

[43] Luigi Dania, "Messer Ulisse Severino da Cingoli: Addenda," *Master Drawings* 14, no. 1 (1976): 43-5, 80-9; Giorgio Mangani and Lucia Tongiorgi Tomasi, "Catalogo," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 131-206.

[44] Tomasi, "Gherardo Cibo: visions," 199-216; Lucia Tongiorgi Tomasi, "Arte e scienza negli erbari dipinti di Gherardo Cibo," in *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane*, ed. Arnold Nesselrath (Florence: S.P.E.S., 1989), 37-47; Lucia Tongiorgi Tomasi, "Gherardo Cibo: un percorso tra arte e scienza," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 9-44; Lucia Tongiorgi Tomasi, "Fare piante col penello: Gherardo Cibo e Pietro Andrea Mattioli," in *I discorsi di P.A. Mattioli: l'esemplare dipinto da Gherardo Cibo: eccellenza di arte e scienza del Cinquecento*, eds. Duilio Contin and Lucia Tongiorgi Tomasi (Sansepolcro: Aboca Edizioni, 2017), 19-32; Lucia Tongiorgi Tomasi, "Plants, Landscapes, Colours. The Life, Writings and Works of Gherardo Cibo," in *Mattioli's Dioscorides illustrated by Cibo: Add. Ms. 22332*, ed. Manuel Moleiro (c.1564–1584; facs., Barcelona: M. Moleiro Editor, 2021), 13-65.

da Pesaro.[45] Her co-attribution to Mariani prompted scholars to discuss the authorship of this treatise that will be discussed in more details in Chapter 4. The publications of Sandro Baroni, Sara Mascherpa, Romina Salvadori, Veronica Bonizzoni and Michele Mariani, either further explore the text of the above treatise or introduce some other technical writings by Cibo, an overview of which will be given in Chapter 4.[46] The uncertainty surrounding the authorship of the two herbaria in the Biblioteca Angelica and the above technical manual, and Bolten's initial attribution of Cibo's landscape works to a different person, all presented in more detail in the respective chapters, are probably because Cibo's work was largely forgotten after his death, as Domenico Maria Corsi testifies in a letter to Leopoldo dei Medici in 1673, where he refers to 'the Bolognese Gherardo Cibo, who is not known'.[47] The subsequent dispersal of Cibo's works in museums and private collections, often without attribution, mandated the need for a continuous effort by scholars to recover his works. This task continued even in recent years.[48]

This core literature on Cibo outlines his main interests and shows the manifold nature of his works, which include collections of dried plants, illustrations in manuscripts and printed books, sketches in notebooks and loose sheets, as well as the results of his colouring and colour-making activities. Three hundred and sixty-six of his works on paper survive, in addition to the eight preserved manuscripts and books he either coloured or illustrated and the two herbaria in the Biblioteca Angelica.[49] However, despite this extraordinary amount and range of materials associated with Cibo, he has yet to receive a proportional amount of attention in the scholarly literature. My research brings this spectacular body of works to the fore, seeking to put it in a new light by

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[45] Erma Hermens, "The Mariani-Cibo Treatise: Contents and Context," *Studies in Conservation* 51, no. 2 (2006): 260-6.

[46] Sandro Baroni, "La trattatistica tecnica di Gherardo Cibo," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi, (Ancona: Il lavoro editoriale, 2013), 245-63; Sara Mascherpa, "Modo di colorire e far paesi," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi, (Ancona: Il lavoro editoriale, 2013), 265-92; Romina Salvadori, "Colorire ad acquarella," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi, (Ancona: Il lavoro editoriale, 2013), 293-7; Veronica Bonizzoni and Michele Mariani, "Il Trattato della miniatura," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi, (Ancona: Il lavoro editoriale, 2013), 299-308.

[47] 'Gherardo Cibo Bolognese, qui non è cognito', reproduced in Arnold Nesselrath, "Gherardo Cibo: "qui non è cognito"," in *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane*, ed. Arnold Nesselrath (Florence: S.P.E.S., 1989), 5.

[48] For an example of a recent recovery in the Biblioteca Ambrosiana, see Tomasi, "Plants," 28.

[49] Three hundred and sixty-six works are the entries in Cibo's most recent catalogue, see Mangani and Tomasi, "Catalogo," 131-204, no. 1-399. For the related manuscripts and books, and the two herbaria, see Giorgio Mangani and Lucia Tongiorgi Tomasi, "Manoscritti botanici, libri illustrati ed erbari secchi," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 209-38.

combining traditional research tools with performative methods. This synergistic relationship between visual and textual analysis and performative work gave new impetus to the study of Cibo's oeuvre and offered some new interpretations.

In this thesis, I use the terms reconstruction and re-enactment, exploiting their distinct underlying meanings. In Chapters 3 and 5, I use 'reconstruction' for its association with the making of objects, while in Chapter 7, the term 're-enactment' is used to emphasise the bodily action taken.[50] The use of different terminology speaks for the shift in the line of research between the chapters. Namely, in Chapters 3 and 5, historical texts and materials guided me through the procedure of reconstructing herbarium specimens and colours, while in Chapter 7, I used the experience of walking as my key research method, guided not only by Cibo's landcape depictions but also from my general understanding of naturalists' field trips and personal experience of the landscape itself.

In Chapters 3 and 5, the following of a procedure informed by historical sources (both textual and visual), does not necessarily equate to a focus on the final results. Instead, my goal was to understand better the procedure and materials of the past that formed 'the practitioner's worldview of matter and skill - his "material imaginary",' as Tillmann Taape, Smith, and Tianna Uchacz put it.[51] Although I tried to source materials appropriate for the early modern period, there were compromises that I made due to restrictions of time and resources. Regardless of the restrictions, it was the scope of my research that regulated these compromises.

Historical accuracy is a concept that greatly concerns practitioners of performative methods. Leslie Carlyle draws a parallel between ISO 5725-1 depiction of accuracy in a bullseye diagram with different approaches to reconstruction that can bring research closer to historical accuracy and, hence, closer to the centre of the bullseye diagram.[52] In their overview of performative methodologies, Hjalmar Fors, Lawrence Principe, and Heinz Otto Sibum outlined a range of approaches with different degrees of similarity to the original processes while acknowledging that the approximation of historical accuracy and the validity of results depends on the requirements of

[50] For these two terms, see Fors, Principe, and Sibum, "From the Library," 93.
[51] Tillmann Taape, Pamela H. Smith, and Tianna Helena Uchacz, "Schooling the Eye and Hand: Performative Methods of Research and Pedagogy in the Making and Knowing Project," *Berichte zur Wissenschaftsgeschichte* 43, no. 3 (2020): 324.
[52] Leslie Carlyle, "Reconstructions of Oil Painting Materials and Techniques: The HART Model for Approaching Historical Accuracy," in *Reconstruction, Replication and Re-enactment in the Humanities and Social Sciences*, eds. Sven Dupré et al. (Amsterdam: Amsterdam University Press, 2020), 143-4.

each project.[53] Thus, different solutions can be followed by scholars, resulting in a varying degree of historical accuracy depending on the goals of each project.

Overall, my focus was not on creating 'highly characterised reconstructions' as those resulting from Carlyle's HART model and used in the formation of reference collections.[54] An influential methodology in the field of technical art history, the HART method begins with the study of the material-object in question and its contextualisation using primary sources, then asks for chemical analysis for the identification of materials used, and finally invites to reconstruction using historically appropriate tools and substances; the reconstructed materials-objects are then used as a reference set for the interpretation of the historical subjects and for future analyses.[55] Since its formulation, the HART model continues to be tailored and adjusted to the needs of research.[56] My approach differs in that, instead of aiming at the creation of robust experimental data, it seeks to establish a 'proof of concept ', as in the case of many reconstructions of the Making and Knowing project led by Smith.[57] Namely, my reconstructions aim at testing whether a specific process could lead to the desired results – or not – and addressing questions related to the procedure and embodied experience developed by early modern practitioners.

As mentioned above, I also use the term re-enactment since walking is applied as the main research method in Chapter 7. Indeed, it is the nature of the question asked that defined the methodology I used, and different questions about history require a different approach. In this instance, I asked questions related to Cibo's sensory world and therefore, it seemed fitting to experiment with performative methods. Through my re-enactment of Cibo's walks in Rocca Contrada, nowadays called Arcevia, the place where he spent most of his life, and its surroundings, I aim to explore how it was to move around the town's streets and countryside, to smell the various scents, to hear the sounds of both urban and natural surroundings and to be surprised by some ephemeral elements, for example, weather phenomena or a Sunday service, and, then, examine whether this sensory world informs Cibo's landscape production.[58]

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[53] Fors, Principe, and Sibum, "From the Library," 93-4.
[54] Leslie Carlyle and Maartje Witlox, "Historically Accurate Reconstructions of Artists' Oil Painting Materials," *Tate papers*, no. 7 (2007): n.p.
[55] Carlyle and Witlox, ""Historically Accurate Reconstructions," n.p.
[56] For a more recent consideration of the model and its applications, see Carlyle, "Reconstructions," 141-67.
[57] Pamela H. Smith, "Making the Edition of Ms. Fr. 640," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, eds. Pamela H. Smith et al. (New York: Making and Knowing Project, 2020), n.p.
[58] I use both names of the town depending on whether I refer to the early modern period (Rocca Contrada) or the contemporary era (Arcevia).

Performative methodology allows a multisensory approach to history, which means that inconcrete phenomena, such as the senses, can find a place in academic research. Over the last two decades, many scholars have endeavoured to re-enact past senses such as taste, sounds and smell. Recent examples include the Historical Cooking Project, Historical Soundscapes, and the Odeuropa project, to name a few.[59] Nevertheless, engaging with the ephemeral world of senses is a relatively new undertaking, which requires a more systemised approach, as the scholars Ann-Sophie Barwich and Matthew Rodriguez point out in their article of 2020 on the methodologically complex world of historical perfumes.[60] I felt the 'newness' of these approaches particularly in my chapter on walking. Moving through space as a historical methodology has only recently received scholarly attention with the book *Walking in the European City: Quotidian Mobility and Urban Ethnography* (2014) popularising this approach in the field of ethnography.[61] As for art history, walking is a method not embedded in the gamut of established methodologies, yet it can offer exciting possibilities. Using Michael Baxandall's concept of the 'Period eye' as a baseline framework, my re-enactment of Cibo's walks will draw on recent research that also adapts Baxandall's approach to recover some of the early modern experiences of Italian cities.[62]

I seek to explore here how, subjective experiences such as walking can offer insightful results that raise further research questions. However, my reconstruction and re-enactment attempts do not claim direct access to the past (something that most practitioners of performative methodology acknowledge) and also have a few caveats attached. Especially during my re-enactment of Cibo's walks, it quickly became clear that a twenty-first-century body carries a utterly different baggage than an early modern body. This concept, already explored by Baxandall, highlights questions on how modern historians can approach the past without imposing their

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[59] For the Historical Cooking Project, see "About," The Historical Cooking Project, accessed October 5, 2023, http://www.historicalcookingproject.com/p/about.html. For the Paisajes sonoros históricos-Historical Soundscapes, see "Acerca de," Paisajes sonoros históricos, accessed October 5, 2023, https://www.historicalsoundscapes.com/informacion/1. For the Odeuropa project, see"Our Mission," Odeuropa, accessed October 5, 2023, https://odeuropa.eu/our-mission/.

[60] Ann-Sophie Barwich and Matthew Rodriguez, "Fashion fades, Chanel No. 5 remains: Epistemology between Style and Technology," *Berichte zur Wissenschaftsgeschichte* 43, no. 3 (2020): 367-84.

[61] Timothy Shortell and Evrick Brown, eds., *Walking in the European City: Quotidian Mobility and Urban Ethnography* (Farnham: Ashgate, 2014). For a short overview of walking as a research methodology, see Stephanie Springgay and Sarah E. Truman, "Introduction: Walking Methodologies in a More-than-human World," in *Walking Methodologies in a More-than-human World: WalkingLab*, eds. Stephanie Springgay and Sarah E. Truman (Abingdon; New York: Routledge, 2018), 3-4.

[62] For Michael Baxandall's 'Period eye', see Michael Baxandall, *Painting and experience in fifteenth century Italy: a primer in the social history of pictorial style* (Oxford: Oxford University Press, 1988). For recent research about early modern experiences of Italian cities, see Georgia Clarke and Fabrizio Nevola, "Introduction: The Experience of the Street in Early Modern Italy," *I Tatti studies* 16, no. 1/2 (2013): 49; Georgia Clarke, "The Emperor's Hat: City, Space, and Identity in Contemporary Accounts of Charles V's Entry into Bologna in 1529," *I Tatti studies* 16, no. 1/2 (2013): 203.

contemporary gaze. Despite the caveats attached, the knowledge produced by these differences in bodily experience, and the flashes of similarity, makes these performative methodologies worthwhile essaying. It is not the intention of this thesis to pretend that these methodologies replace tried-and-tested approaches to archives, texts and objects, but to show that they can provide additional insights and pose new questions.

The general questions that this thesis addresses are: What can the output and procedures of early modern people tell about their approach to nature? How did they represent and investigate the natural world? How did the different forms of representation of nature interact with each other? In order to tackle these issues, the thesis has the work of the polymath, collector, maker and illustrator Gherardo Cibo as a core focus. The thesis structure is as follows. Firstly, there will be an introduction to Cibo's life and work, presenting an overview of the primary sources and revealing a new detail concerning his participation to the wider network of investigators of the natural world. Then, the focus will be on the procedures of collecting and the formation of Cibo's herbarium. Subsequently, I will examine his colouration activities as reflected in his works and writings, and finally, I will explore his landscape production and sensory world.

In more detail, following the introduction to Cibo's life and work (Chapter 1), the thesis will focus on Cibo's collection of plants and the creation of dried plant specimens (Chapters 2 and 3). It will put the creation of herbarium collections into context and co-examine *Erbario A* and *Erbario B* with botanical illustrations by Cibo, providing further evidence in favour of the attribution of the two herbaria to him. As noted above, the more traditional historical research method involving the study of primary and secondary sources related to early modern collections of dried plants in general and the two herbaria in specific is supplemented by my use of early modern techniques to reconstruct a herbarium collection. Following sixteenth-century practices, the aim was to better understand the process behind the making of such collections and the choices that a practitioner must make.

The second central theme of the thesis concerns Cibo's colouration activities and the making of colours from plants (Chapters 4 and 5). Cibo left a considerable amount of writings on colours, either organised as textbooks or scattered as notes. He also participated in projects involving the colouration of plant images in printed books, and he was also known for making his own colourants using the juices of plants. Again, as noted in the description of the methodology above, a combination of textual and visual analysis with performative methodology was initiated in order to delve into Cibo's world of colours. After careful consideration and contextualisation of his writings and works, I reconstructed two of Cibo's plant-based recipes to gain first-hand experience with the materials and processes described by Cibo.

The thesis' last part concerns Cibo's landscape production and his sensory world (Chapters 6 and 7). Cibo drew landscapes either as individual works with a variant degree of finish – from sketches to highly polished compositions – or as elements embedded in his botanical illustrations. By investigating his landscape works, the aim is to better understand their nature and relationship with Cibo's activities as a naturalist. My research is wider than a plain consideration of landscape as something to be studied only through Cibo's works. Instead, I visited Arcevia where I viewed and experienced the landscape myself, using methodologies drawn from ethnography and historical investigation into walking practice, as mentioned before. Therefore, I was able to discern some elements of the local landscape to which Cibo was certainly familiar and gain a glimpse of his sensory world that could possibly have shaped his practice, something that would have been – if not impossible – then indeed difficult with a plain study of the works themselves.

To conclude, the thesis offers an overview of Cibo's practices, namely his collecting, illustrating, colouring and making procedures, and their role in approaching and understanding the natural world at that time. While studying nature and its relationship with the scientific and artistic output of sixteenth-century Italy is not a new consideration in historical research, in this thesis, these three different practices, usually studied separately, are brought together through the study of Cibo.[63] With the close examination of these aspects, I aim to explore their intersections and contribute to our understanding of early modern approaches to the natural world. In addition, Cibo's methods will be compared with the general procedures of representing nature at that time since Cibo was not alone in investigating the natural world but part of a vibrant community interested in similar research questions. My research also highlights some aspects of Cibo's oeuvre that were not previously discussed, and, at the same time, approaches his practices anew through the application of experimental methods that have led to some thought-provoking observations. The common thread that transcends the whole thesis is the question of how Cibo tried to gain knowledge and understanding of the natural world and how his example fits in and illuminates the general tendencies and practices of the period.

[63] To my knowledge, there is no publication that brings together these three different activities in early modern Europe because scholars tend to focus on one aspect. Nevertheless, Mangani and Tomasi's publication contributes widely to this thesis by gathering all the works of Cibo in one publication but without analysing the process of their creation, see Mangani and Tomasi, "Catalogo," 131-242, no. 1-366.

Chapter 1: The formation of Cibo's identity

As is often the case with many biographical accounts of early modern individuals, my attempt to narrate Cibo's life events will be based on bringing together scraps of information that are from disparate source material, and sometimes quite disconnected. Especially since there is not much extant primary evidence concerning Cibo's life, some parts of his biography must rely on assumptions based on broader reading about the period. The two main primary sources that will be used are the eulogy delivered by the historian Marco Gilio at Cibo's funeral in 1600 and a book about Arcevia (formerly Rocca Contrada), titled *De situ et origine Rocchae Contratae* (1636) and written by the seventeenth-century historian Lelio Tasti.[1] Furthermore, some of Cibo's correspondence has been preserved, the nucleus of which can be found at the Biblioteca Comunale degli Intronati in Siena, including some letters that will be presented in due course.[2] Cibo also had a diary, which Anselmo Anselmi, a local historian of Arcevia, held in the early twentieth century, which is nowadays considered lost.[3] However, a few excerpts were reproduced, some by Celani and others by Nesselrath, also published in the 2013 catalogue of Cibo's works.[4] Finally, his will of 1599 adds some important information concerning his estate and how it was divided after his death.[5]

Born in 1512, Cibo was a member of a noble family and a descendant of Pope Innocent VIII via his father, Aranino.[6] His mother, Bianca Vigerio Della Rovere, was a member of the Della Rovere

[1] Unless otherwise indicated, translations are my own. For Gilio's eulogy, titled'Marci Lilii Rocchensis philosophi Oratio habita Rocchae in funere perillustris Gherardi Cybo patricii Genuensis pridie nonas Februarii M. DC.', see Vatican City, Biblioteca Apostolica Vaticana, Ott.lat.3135, f. 215r-22r. This manuscript can be found online, see "Ott.lat.3135," Biblioteca Apostolica Vaticana, accessed September 16, 2023, https://digi.vatlib.it/view/MSS_Ott.lat.3135. Its text is reproduced in Pierre-Louis Galletti, *Memorie per servire alla storia della vita del cardinale Domenico Passionei segretario de brevi e bibliotecario della S. sede apostolica* (Rome: Stamperia di Generoso Salomoni, 1762), 79-83. Reproduced excerpts in Enrico Celani, "Sopra un erbario di Gherardo Cibo conservato nella R. Biblioteca Angelica di Roma," *Malpighia: rassegna mensuale di botanica* 16 (1902): 187-8. For Tasti's *De situ et origine Rocchae Contratae* translated into Italian, see Paolo Santini, ed., *Sito e origine di Rocca Contrada. Storie e cronache del '600. Lelio Tasti, anno 1636* (Rome: Exòrma, 2009).

[2] Twelve letters concerning Cibo (not all of which are preserved in the Biblioteca Comunale degli Intronati in Siena), either in whole or in parts, are reproduced in Celani, "Sopra," 221-6.

[3] Giorgio Mangani and Lucia Tongiorgi Tomasi, "Dal diario perduto di Gherardo Cibo," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 309.

[4] For Celani's reproduced excerpts of Cibo's diary, see Celani, "Sopra," 208-10. For Nesselrath's reproduced excerpts, see Nesselrath, "Gherardo Cibo," 14, 26. For all reproduced excerpts, see Mangani and Tomasi, "Dal diario," 309-10.

[5] For Cibo's will, see Ott.lat.3135, f. 208r-12v. Reproduced excerpts in Celani, "Sopra," 192-3.

[6] The genealogical tree of the Cibo family is reproduced in Giorgio Mangani, "L' Arcadia marchigiana di Gherardo Cibo," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 46-7.

clan, another illustrious family of the period, and a close relative of both Marco I Vigerio and Marco II Vigerio della Rovere.[7] His place of birth has yet to be pinned down, with some sources saying that Cibo was born in Rome and some others in Genoa.[8] He had three sisters, namely Marzia, who married Count Antonio Mauruzi di Tolentino; Maddalena, who married Domenico Passionei; and Ortensia, who became a nun in the convent of St Agatha at Rocca Contrada, taking on a new name and henceforth called Maria Maddalena; he also had one brother called Scipione, who was unmarried.[9] Cibo also never married. However, it is suggested in the scholarship that he was romantically involved with his servant, Mattia.[10] Indeed, his will, apart from the bequests to his relatives and his other servant, Camilla, dictates that a house with a vineyard be left to Mattia's daughter, Maddalena.[11] The fact that they held common property at Fossato (Mattia's place of origin) reinforces the hypothesis of a romantic relationship between them.[12] Scholars also point to a note in the British manuscript/b, where Cibo refers to the aid he received for the drawing by his son, Antonio, something that further supports this claim.[13]

Gilio's eulogy remarks that Cibo spent his childhood in Rome in an environment close to ecclesiastical circles.[14] Gilio also informs us that Cibo was present at the Sack of Rome of 1527, after which he fled from the city and went to Camerino, where he stayed at the residence of his relatives, Giovanni Maria Varano, Duke of Camerino, and Caterina Cibo.[15] Subsequently, according to Gilio, he engaged in a series of military campaigns in the Po Valley and its mountain fringes, realised by Francesco Maria I Della Rovere, Duke of Urbino.[16] Today's scholarship is sceptical about the

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[7] Augusto De Ferrari, "CIBO, Gherardo," in *Dizionario Biografico degli Italiani. Vol. 25* (Istituto dell'Enciclopedia Italiana, 1981; online ed., 2011-), http://www.treccani.it/enciclopedia/gherardo-cibo_%28Dizionario-Biografico%29/.

[8] It is because of the inscription on his tombstone, not preserved until today but reproduced in Tasti, where he is called 'Januensis', that some scholars such as Nesselrath argue that Cibo was born in Genoa, see Nesselrath, "Gherardo Cibo," 33, footnote 10. Also, Ulisse Aldrovandi calls Cibo 'genuensis', see Tomasi, "Gherardo Cibo: un percorso," 41, footnote 1. Nevertheless, Tomasi suggests that he was born in Rome, see Tomasi, "Plants," 16.

[9] De Ferrari, "CIBO."; Tomasi, "Plants," 17.

[10] Giorgio Mangani and Paolo Santini, "Vita di Gherardo Cibo, straordinario personaggio cinquecentesco, tra arte, natura, scienza, realtà e idealismo," in *I discorsi di P.A. Mattioli: l'esemplare dipinto da Gherardo Cibo: eccellenza di arte e scienza del Cinquecento*, eds. Duilio Contin and Lucia Tongiorgi Tomasi (Sansepolcro: Aboca Edizioni, 2017), 57; Tomasi, "Plants," 19.

[11] For Cibo's bequest to Maddalena, see Ott.lat.3135, f. 208v.

[12] Mangani and Santini, "Vita," 57; Tomasi, "Plants," 19.

[13] Mangani and Santini, "Vita,"57; Tomasi, "Plants," 19. For the note, see Add MS 22333, f. 58r.

[14] Gilio mentions: 'Traduxit hic puerilem aetatem et adolescentiam Romae, ut optimis moribus et disciplinis in quibus non parum profecit, imbutus, ad dignitates ecclesiasticas, sed magis ad felicitatem consequendam suorum maiorum more aditum sibi patefaceret', see Ott.lat.3135, f. 219r.

[15] Gilio mentions: 'Gherardus igitur Roma profectus ad Johannem Mariam Varanum, cum quo arcta sibi affinitas et necessitudo intercedebat, se se contulit a quo humanissime quidem, ut decuit, in illa calamitate et vastitate exceptus fuit', see Ott.lat.3135, f. 219v.

[16] Gilio mentions: 'Sed nec ibi diu commoratus est otiosam vita abhorrens, immo Franciscum Mariam Ruereum Urbini ducem felicissimum, in omnibus, quae tunc in Gallia Cisalpina bellis gestis, veluti comes et assecla

reliability of Gillio's eulogy concerning Cibo's participation in this campaign, proposing instead Cibo's relocation to Rocca Contrada with his mother.[17] To prove this claim, Mangani reproduces a letter of introduction of Cibo to Guidobaldo II della Rovere, son of Francesco Maria I Della Rovere, written by Marco II Vigerio, Bishop of Senigallia, in 1531; in this letter there is no mention of Cibo's participation in the said campaigns, something that would probably have been mentioned if it had happened (further information concerning this letter will follow later in the chapter).[18]

Celani proposed that Cibo was in Bologna from around 1529 to 1532, which is generally accepted by modern scholarship.[19] While in Bologna, although his name does not show up in the records of students at the University of Bologna, he most likely attended the lectures by the famous naturalist Luca Ghini (1490 –1556), who probably imparted knowledge and enthusiasm to Cibo for the natural world.[20] In his letter to Cibo, the naturalist Andrea Bacci (1524–1600) recalls Cibo's interest in nature from a young age and his ventures into the wild in search of plants to paint, a reference that strengthens the hypothesis of Cibo's attendance at Ghini's lectures.[21] In support of this claim, Celani also mentions that in the Index of *Erbario B*, the name of Ghini is the only one that it is not abbreviated, and points to the similarities between Cibo's herbarium collection and that of Andrea Cesalpino (1524 or 1525–1603), student of Ghini while studying at the University of Pisa, suggesting that collectors of the same school probably created them.[22] Furthermore, Celani quotes Cibo's two notes of botanical character from his trip in 1532, arguing that they testify to a training in botany prior to his departure.[23]

At the age of twenty, in 1532, Cibo and his father were sent to Ratisbon to the court of the Holy Roman emperor, Charles V, on behalf of their relative, the already-mentioned Caterina, duchess of Camerino, to negotiate the wedding of Caterina's daughter with a son of Charles of Lannoy, viceroy of Naples.[24] During this trip, they visited the cities of Trento and Ingolstadt.[25] The two notes mentioned above in relation to Celani's argument concerning Cibo's botanical knowledge

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perpetuus secutus est; cui in cunctis periculis, proeliisque praesto fuit, egregiam navavit operam et non minus nobilitate, quam fortitudine gratissimus et acceptissimus omni tempore fuit', see Ott.lat.3135, f. 219v.

[17] Tomasi, "Plants," 17. Mangani and Paolo Santini suggest that he went to Senigallia or Rocca Contrada, see Mangani and Santini, "Vita," 51.

[18] Mangani, "L' Arcadia," 48.

[19] Celani, "Sopra," 205. Mangani suggests that the relationship of Cibo with the city of Bologna has not yet been sufficiently clarified, and he cites the letter written by Filippo Baldinucci in 1673, where Cibo is referred to as 'bolognese', see Mangani, "L' Arcadia," 100.

[20] Celani, "Sopra," 205-6; Tomasi, "Plants," 18.

[21] For Bacci's letter, see Ott.lat.3135, f. 224. Reproduced in Celani, "Sopra," 218-20.

[22] Celani, "Sopra," 206.

[23] Celani, "Sopra," 205.

[24] Celani, "Sopra," 205; Tomasi, "Plants," 18.

[25] Celani, "Sopra," 205; Tomasi, "Plants," 18.

prior to this trip, show us that Cibo used this opportunity to continue his botanical studies. The first one remarks that the 'Betula' (most probably referring to a species belonging to the genus *Betula*) is called 'Bedollo' in Trento, and the other says that he saw a 'Pimpinella magiore' (most probably referring to *Pimpinella major*, commonly known as greater burnet-saxifrage) in Ratisbon or Ingolstadt.[26] Both notes testify to his interest in plants and nomenclature, which will follow him for the rest of his life. Celani also points to another note by Cibo that records a visit to his uncle, Lorenzo Cibo, Marquis of Massa, at Agnano in 1534, when Lorenzo moved there.[27] Namely, in the margins of the page dedicated to Pietra asia, Cibo recalls his trip to Agnano during which he found a fine dust in a cave.[28]

According to Gilio's eulogy, Cibo would find himself once again in northern Europe in 1539, following Cardinal Alessandro Farnese, who was sent to help Charles V in the battle against the 'rebels of the Catholic religion'.[29] Gilio does not offer any further information concerning their trip; however, it is known in the literature that Farnese was sent on a diplomatic mission to Francis I, King of France, and Charles V, then in Paris, which would end in Ghent following Charles V.[30] The embassy stayed in Flanders for approximately three months and then returned to Rome in 1540.[31] Shortly after his return to Italy, in the same year, Cibo moved permanently at the age of twenty eight to the small town of Rocca Contrada, where his mother and nun sister lived.[32] Gilio mentions that Marco II Vigerio prompted him to make this decision.[33] It has been suggested in the scholarship that Cibo distanced himself from the Roman environment because of the Pope's politics concerning Camerino, which were against Cibo's family interests.[34] However, his true feelings and motives to settle permanently there remain a mystery.

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[26] When citing printed books annotated, coloured or illustrated by Cibo, I use the format of footnotes related to manuscripts. Otherwise, early modern printed texts appear with the usual format. For the note about 'Betollo', see Rome, Biblioteca Angelica, SS.15.16, p. 129. For the note about 'Pimpinella maggiore', see SS.15.16, p. 663.

[27] Celani, "Sopra," 206.

[28] Cibo writes: 'una polvere sottile che si puo chiamare fiore, ritrovai io in una grotta sopra de quei sassi a Agnano, loco del Sig. marchese di Massa, presso a Pisa', see Rome, Biblioteca Angelica, TT.8.11, p. 742. Reproduced in Celani, "Sopra," 197.

[29] 'Catholicae religioni rebelles', see Ott.lat.3135, f. 220r.

[30] Nesselrath, "Gherardo Cibo," 11; Mangani and Santini, "Vita," 53; Tomasi, "Plants," 18.

[31] Nesselrath, "Gherardo Cibo," 11-2.

[32] Celani, "Sopra," 207-8; Tomasi, "Plants," 19.

[33] Gilio mentions: 'Marco Vigerio episcopo Senogalliense eius avunculo hortante, in has nostras oras coeli falubritate et amoenitate haud injucundas, veluti in tutum tranquillitatis portum confugit', see Ott.lat.3135, f. 220r.

[34] Celani, "Sopra," 207-8; Nesselrath, "Gherardo Cibo," 12-3; Tomasi, "Plants," 19.

Celani, who had the opportunity to read Cibo's now lost diary in his entirety, informs us that there were references there that testify to Cibo's frequent changes of places of accommodation.[35] Two notes from his correspondence confirm this situation.[36] From 1570, Cibo dwelled in a property owned by the monastery of St Agatha, where his sister was a nun, and from 1580, he rented a house from Paride Leoncini located in the area called Carnaluccio or Carnalduccio.[37] According to the official website of the municipality of Arcevia, Cibo lived in the *Strada principale*, the central road of Rocca Contrada, in the house of the Leoncini family next to the Church of St Catherine of Alessandria; however, I was not able to verify this information independently with primary source material.[38]

On many occasions, Cibo did travel outside Rocca Contrada, around Marche and Umbria, as well as to Rome.[39] Apart from his artistic activities and investigations of the natural world, Cibo was also a philanthropist. As Tasti remarks, in 1590, Cibo co-founded a charitable institution at Rocca Contrada, which supported the destitutes, who needed hospitalisation.[40] Cibo was buried in the Church of St Francis, but his tomb was dismantled in the eighteenth century.[41] As noted in the Introduction, his oeuvre was largely forgotten after his death. Thus, controversies surrounding authorship and provenance have been raised throughout the years concerning many of his works. Maria Maddalena, his nun sister, inherited many of her brother's papers, which stayed in possession of the monastery of St Agatha until the Napoleonic suppression when the monastery's archives and possessions were dispersed.[42] Anselmi, the historian who held the now-lost diary of Cibo, assembled many of the related documents and his works, while others were dispersed in collections all over Europe and the United States.[43]

Cibo's artistic training

[35] Celani, "Sopra," 194, footnote 1.
[36] Reproduced in Celani, "Sopra," 194, footnote 1.
[37] Mangani and Santini, "Vita," 57. Celani transcribed the name of the area that Cibo's will was drawn up as 'Camaldule', which he continues was called Camalduzzi in his days, see Celani, "Sopra," 193, footnote 2. Mangani and Santini opted for Carnaluccio or Carnalduccio, as already seen. Unfortunately, the will's text is illegible at this part; it reads: 'Heredici Parides Leonciai…contrada Cam[?]alduli[?]', see Ott.lat.3135, f. 212r.
[38] "Principe Gherardo Cybo (1512-1600)," Comune di Arcevia, accessed September 16, 2023, http://www.arceviaweb.it/arcevia/arcevia/cybo.html.
[39] Mangani and Santini, "Vita," 56; Tomasi, "Plants," 19.
[40] Mangani and Santini, "Vita," 56.
[41] Tomasi, "Gherardo Cibo: visions," 216, footnote 10; Christiane Denker Nesselrath, "Rocca Contrada - La città di Gherardo Cibo," in *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane*, ed. Arnold Nesselrath (Florence: S.P.E.S., 1989), 64.
[42] Celani, "Sopra," 194; Tomasi, "Plants," 20.
[43] Tomasi, "Plants," 20.

Within the growing community of early modern naturalists, some had the ability to draw plants themselves, and, sometimes, they were even knowledgeable about engraving and etching.[44] When venturing into the wild, they also tried to produce images by themselves depicting the specimens they encountered.[45] However, the execution of naturalists was often rather amateur in technique, and, thus, it was most common that artists were employed to depict the natural world.[46] They would also hire artists to accompany them in expeditions, like, for example, the Swiss physician Conrad Gessner (1516-1565), who used to visit mountains together with at least one painter.[47] Inversely, there were even artists who were considered experts on matters of nature at that time, such as Giuseppe Arcimboldo.[48] Not only naturalists and artists but also noblemen, apothecaries and ordinary people were interested in the natural world, and it was the interaction of all these groups with different backgrounds that formed the body of knowledge about natural sciences in the period.[49] However, to which group Cibo felt most closely related and what educational background offered him the necessary skills to create both herbaria and fine drawings at a young age are research questions that will be investigated more closely in this part of the chapter.

As already mentioned, Cibo was a member of a noble family who, during his adolescence, lived in Rome in an ecclesiastical environment and participated in military campaigns against religious insurgencies by Protestants, according to Gilio. It is quite surprising, however, that Gilio did not refer to Cibo's scientific or artistic output and training, but perhaps this is something that the rhetorical character of the eulogy can explain. During Cibo's time, the curriculum of courtly education included the practice of drawing, which could be particularly useful in military campaigns.[50] Cibo also played the lute, which was quite popular in the sixteenth century, as testified by the existence of musical notation typical of this instrument in his notes, including a composition in his hands.[51] Mangani reasonably assumes that he was taught to draw and play the lute by his

[44] Sachiko Kusukawa, "Patron's Review, The Role of Images in the Development of Renaissance Natural History," *Archives of Natural History* 38, no. 2 (2011): 203.
[45] Ogilvie, "Observation," 273-4; Tomasi, "Gherardo Cibo: visions," 201.
[46] Kusukawa, "Patron's Review," 202; Tomasi, "Gherardo Cibo: visions," 201-2; Ogilvie, "Observation," 273.
[47] Egmond, "Into the Wild," 176-7.
[48] Kusukawa, "Patron's Review," 207. For more information on Arcimboldo and nature, see Thomas DaCosta Kaufmann, "Metamorphoses of Nature: Arcimboldo's Imperial Allegories," in *The Mastery of Nature: Aspects of Art, Science, and Humanism in the Renaissance*, ed. Thomas DaCosta Kaufmann (Princeton: Princeton University Press, 1993), 100-35.
[49] Kusukawa, "Patron's Review," 207.
[50] Tomasi, "Plants," 17; Stefano Rinaldi, "Nel laboratorio paesaggistico di Gherardo Cibo," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo*, eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 108.
[51] Dinko Fabris, "Una composizione per liuto di Gherardo Cibo," in *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane*, ed. Arnold Nesselrath (Florence: S.P.E.S., 1989), 49.

father, Aranino, who was also competent in music and drawing, or his uncle's tutor and professor of classics, Giuliano da Camerino, during Cibo's stay in Rome.[52]

Although only hypotheses can be made about Cibo's artistic training, his sketch of a horse-head now found in the Biblioteca Civica "Passionei" (fig. 1.1), indicates that he had a skill for drawing from a young age.[53] At the bottom of the sheet, Cibo wrote 'lionardo vinchi'; later in his life, he also added a note saying that he was fourteen or fifteen when he made this image in Pesaro in 1526 or 1527.[54] Cibo also made a later copy of this early work (fig. 1.2).[55] The question of which model Cibo used still needs to be answered. In Nesselrath's catalogue, even though Cibo's drawing is compared with an engraving by Giovanni Antonio da Brescia of Leonardo's study of horse-heads (fig. 1.3), it is suggested that the research for the exact model should continue.[56] The fact that Cibo 'revisited' his work in later years, wrote a note about the date and place of execution, and created a copy of it indicates that he considered it a very significant work within his oeuvre. Its place of execution, namely Pesaro, brings to mind the connections that Cibo had with the Della Rovere family, making the use of their collection as a point for reference for Cibo's sketch possible.

The already-mentioned letter of introduction of Cibo to Guidobaldo II della Rovere, written by Marco II Vigerio in 1531, provides additional information about Cibo's skills at that time. The letter indicates that Cibo would visit Pesaro with his father and describes him as 'not being devoid of some good skills, among which he has drawing, so that when Genga is not around…you can use this skill, as well as everything else, for your service'.[57] Gerolamo Genga, an architect and a painter, was employed in 1528 for the restoration of the Villa Imperiale of Pesaro, a project that included the creation of frescoes with naturalistic themes.[58] Tomasi suggested that Cibo participated in the fresco decoration of the Villa Imperiale of Pesaro, but there are no primary sources to prove Cibo's actual employment by the Duke of Urbino in this project and his collaboration with Genga.[59] In any case, the above letter of recommendation shows that, by that time, Cibo must have developed significant artistic skills.

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[52] Mangani, "L' Arcadia," 52.
[53] Tomasi, "Gherardo Cibo: visions," 199; Mangani and Tomasi, "Catalogo," 158, no. 111; Arnold Nesselrath, "Catalogo," in *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane,* ed. Arnold Nesselrath (Florence: S.P.E.S., 1989), 81-3, no. 5.
[54] Nesselrath, "Catalogo," 81-3, no. 5; Mangani and Tomasi, "Catalogo," 158, no. 111.
[55] Nesselrath, "Catalogo," 83-4, no. 6; Mangani and Tomasi, "Catalogo," 158, no. 112.
[56] Nesselrath, "Catalogo," 82-3.
[57] 'non essendo in tutto nudo di alcuna bona qualità, tra le quale ha il disegnare, ché quando non harà in Gengha apresso…potrà di esso valersene, così d'ogni altra cosa che la retroverà in esso a servitio suo', reproduced in Mangani, "L' Arcadia," 48.
[58] Tomasi, "Plants," 18.
[59] Tomasi, "Gherardo Cibo: un percorso," 14-6.

Apart from his interest in arts, Cibo must have been trained in matters of natural history from a young age, as suggested above. His artistic skills and training related to natural history do not necessarily exclude each other. On the contrary, they go hand in hand throughout Cibo's life. As mentioned at the beginning of this chapter, Bacci's letter reveals Cibo's interest in the natural world, which prompted him to explore different areas of Italy and the Apennines for 'his love to investigate the nature of plants', excursions during which he was in search of plants to paint 'ad vivum'.[60] The use of the 'ad vivum' term by Bacci is thought-provoking. 'Ad vivum' images in the natural history of the sixteenth century are a phenomenon that has received much scholarly attention.[61] Although the term's first known use is in a thirteenth-century sketchbook, the word became more widespread during the sixteenth century as a promise of the accuracy of images.[62] Ulisse Aldrovandi, an illustrious early modern naturalist, when describing 'ad vivum' practice, says: 'Those who wish to paint plants naturally need not only to be practised artists but must, moreover, have the fresh plant, picked within the hour, before them...the excellent painter will imitate it in all its details'.[63]

The very first illustration presented in the Introduction, Cibo's portrayal of a *Cruciata laevipes* (crosswort) plant, echoes Aldrovandi's description of the 'ad vivum' practice. In this image, an artist depicts a plant specimen that has been placed in front of his eyes. Thus, for Bacci, Cibo had the ability from a young age to both collect specific plant specimens and depict them in a way probably similar to the one that his image of the crossword narrates. Bacci's reference also reveals that Cibo's botanical excursions were tightly interwoven with his painting activities. Therefore, although there is no specific information about his artistic training or natural historical background, Cibo must have been trained from a young age to identify plant specimens into the wild and portray them accurately, activities that he probably considered them to go hand in hand. This is a mindset that is refelected in his practice throughout his life (as discussed in subsequent chapters) and it is also where his distinctiveness lies; being knowledgeable in both botany and drawing, Cibo was able to create well-informed and good-quality images of plants by combining his skills.[64]

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[60] 'ac amore indagandae naturae plantarum', see Ott.lat.3135, f. 224.
[61] Some of the main texts are: Claudia Swan, "Ad vivum, naer het leven, from the life: defining a mode of representation," *Word & Image* 11, no. 4 (1995): 353-72; Florike Egmond, "The ad vivum Conundrum. Eyewitnessing and the Artful Representation of Naturalia in Sixteenth-Century Natural Science," in *Zeigen – Überzeugen – Beweisen: Methoden der Wissensproduktion in Kunstliteratur, Kennerschaft und Sammlungspraxis der Frühen Neuzeit*, eds. Elisabeth Oy-Marra and Irina Schmiedel (Merzhausen: Ad Picturam, 2020), 33-62; Thomas Balfe, Joanna Woodall, and Claus Zittel, eds., *Ad Vivum?: Visual Materials and the Vocabulary of Life-likeness in Europe before 1800* (Leiden: Brill, 2019); Smith, "Artisanal Knowledge," 14-31.
[62] Swan, "Ad vivum," 355.
[63] Reproduced in Swan, "Ad vivum," 359.
[64] Tomasi, "Gherardo Cibo: visions," 201-2.

A small but specialised library

Unfortunately for historians, Cibo's will does not contain an account of the books he had in his possession or his own works, and it seems that there is no extant inventory. As already discussed, it was Celani's initial research that brought to the fore a nucleus of Cibo's books preserved in the Biblioteca Angelica. According to his paleographic analysis, Cibo's notes can be found in three different editions of Mattioli's *Commentary on Dioscorides*, specifically the 1548, 1558 and 1573 editions.[65]

Indeed, the handwriting is consistent in all three editions, and the plant images within them provide solid evidence for Cibo's ownership. In the 1548 edition (Rome, Biblioteca Angelica, TT.8.11), which lacks printed illustrations, Cibo drew small plant images in the margins depicting the plants to which the text was referring. These drawings, bear a great similarity with the illustrations in the British Library manuscript/a and the British Library manuscript/b demonstrating Cibo's ownership. For example, when comparing the two images of the *Iris germanica* (commonly called bearded iris), apart for some small details such as the lay-out of the root (the root in the British Library manuscript/a has been drawn more horizontally onto the page), their portrayal is almost identical (fig. 1.4 and fig. 1.5). The other two copies (Rome, Biblioteca Angelica, SS.15.15, written in Latin, and Rome, Biblioteca Angelica, SS.15.16, in Italian), both have printed illustrations that have been coloured by hand; they also include a few small drawings of plants in the margins (for example, fig. 1.6) and have some landscapes embedded in their printed images (for example, fig. 1.7), all being common to Cibo's oeuvre, as will be discussed in following chapters. In addition to Mattioli's texts, some further books owned by Cibo are now preserved in the Biblioteca Angelica, namely, two books on plants, including the translated treatises by Garcia da Orta for the flora of the East Indies and by Nicolás Monardes for the flora of the West Indies, together with a copy of the 1530 edition of Sannazaro's *Arcadia*, a book that suggests fascination with rural life at that time.[66]

The findings in the Biblioteca Angelica sparked further research on the books' provenance. Celani was the first to notice the title *Herbae ac Plantae reapsae super chartam conglutinatae and pluribus Tomis in folio comprehensae*, in a small book printed in Rome in 1608, which outlines the Biblioteca Angelica's subject classification scheme.[67] This book was compiled by Angelo Rocca, an Augustinian friar, who, by donating his book collection to the Augustinian friars in Rome, became the

[65] For see the 1548 edition, see TT.8.11. For the 1558 edition, see Rome, Biblioteca Angelica, SS.15.15. For the 1573 edition, see SS.15.16. For Celani's paleographic analysis, see Celani, "Sopra," 196-99.
[66] Tomasi, "Plants," 15-6.
[67] Celani, "Sopra," 181-2. For this title in the inventory of 1608, see Angelo Rocca, *Bibliotheca Angelica: litteratorum: litterarumq. amatorvm: commoditati dicata Romae in aedibus Augustinianis* (Rome: Stephanum Paulinum, 1608), 57.

founder of the Biblioteca Angelica, which was named after him.[68] Celani suggests that this title, written in the 1608 inventory, refers to Cibo's herbaria, which must have been included, thus, in Rocca's collection by 1608.[69]

He then developed two hypotheses. Firstly, he makes a reasonable assumption that Rocca, who was from Rocca Contrada (where, as noted, Cibo lived from 1540 until he died in 1600), acquired the books now preserved in the Biblioteca Angelica from Cibo himself.[70] At the end of the sixteenth century, Cibo was of advanced age, while Rocca was in search of books to enrich his library within the context of his plan to establish the Biblioteca Angelica, circumstances under which it is plausible that he asked Cibo to contribute to this initiative.[71] Celani continues by arguing that if Cibo did not give the books, then they could have been given by his sister, Maria Maddalena, who, as noted, inherited Cibo's papers.[72] Given that Rocca Contrada was a small place and that Cibo and his family were prominent figures, it is perfectly likely that Rocca got the books from either Cibo before he died or from the only close relative who lived in Rocca Contrada shortly afterwards. A more recent study concerning Cibo's books in the Biblioteca Angelica and their provenance suggests they ended up there via two different routes.[73] The first one is via Rocca, who, as Celani suggests, could have acquired the books from either Cibo or his sister, and the second one via the Passionei family, relatives of Cibo, which must have inherited the books now bearing the stamp of the Cardinal Domenico Passionei library, like the copy of Mattioli's 1548 edition mentioned above (fig. 1.8).[74]

Apart from books housed in this library, Cibo has been identified as the owner of a copy of the first edition of Leonhart Fuchs' *De Historia Stirpium commentarii insignes […]* (1542), now preserved in the Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana.[75] This copy demonstrates hand-coloured prints, landscapes drawn by Cibo and embedded in the printed images, and, at the same time, it also preserves a dried leaf, which will be discussed in more detail in Chapter

[68] Elisabetta Sciarra, "Breve storia del fondo manoscritto della Biblioteca Angelica," *La Bibliofilía* 111, no. 3 (2009): 258-62. For more information about Rocca, see Alfredo Serrai, *Angelo Rocca fondatore della prima biblioteca pubblica europea* (Milano: Edizioni Sylvestre Bonnard, 2004).
[69] Celani, "Sopra," 182.
[70] Celani, "Sopra," 194-5.
[71] Celani, "Sopra," 194-5.
[72] Celani, "Sopra," 194-5.
[73] Paola Monafò and Nicoletta Muratore, "Il fondo Cibo nella Biblioteca Angelica: contributo per una ricerca," in *Gherardo Cibo alias Ulisse Severino da Cingoli: disegni e opere da collezioni italiane*, ed. Arnold Nesselrath (Florence: S.P.E.S., 1989), 56.
[74] Monafò and Muratore, "Il fondo," 57-8.
[75] Rome, Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, 139.I.8. For some information concerning this book, see Mangani and Tomasi, "Manoscritti," 235.

3. Cibo also had in his possession a herbal, now preserved at the Biblioteca Civica Romolo Spezioli.[76] A note signed by Cibo testifies to his possession or at least to his consulting of the manuscript.[77]

Cibo's preserved books show that he owned works of special interest to him. Rather than having books as collectable items, he likely owned works that he was most interested in terms of his advancement of knowledge. His preserved books, highly annotated in their majority and illustrated or coloured by hand, were probably used as tools, ready to hand, rather than as a collection stored away and rarely looked at. The observation made by Paola Monafò and Nicoletta Muratore that Cibo most probably would not have an extensive collection of books since he did not have his own house in Rocca Contrada fits in with the hypothesis of a smaller, specialised library oriented towards his activities and interests.[78]

Correspondence and networking – A hitherto unknown connection

Focusing on the preserved documents that reveal Cibo's place within the network of early modern naturalists, there are three preserved letters by the famous Mattioli indicating that he knew Cibo. Specifically, in two letters written in 1563 and 1565 and sent to Cibo's brother, Scipione, Mattioli speaks highly of Cibo and his art.[79] In another letter, this time sent directly to Cibo, Mattioli expresses his enthusiasm for Cibo's depictions of plants and his gratitude for Cibo's gift of three drawings of plants, which, in Mattioli's own words, are: 'the most beautiful that I have ever seen in all my life, which make me believe that in the rendering of plants with the brush, you, honoured Sir, do not have equal in the world'.[80] Mattioli also refers to Cibo in the 1568 and 1573 edition of his treatise. He writes: 'The kindest Sir Gerardo Cibò already sent me from Rome a plant drawn by his own hand, and coloured with the most incredible art, which in every part resembles the Theophrastus' white Cneoro plant'.[81] Mattioli recalls this gift by Cibo one more time in another part

[76] Mangani and Tomasi, "Manoscritti," 239-42.
[77] Mangani and Tomasi, "Manoscritti," 241.
[78] Monafò and Muratore, "Il fondo," 56.
[79] Reproduced in Celani, "Sopra," 216-8.
[80] 'Ie piu belle che mai io habbi veduto in tutto il tempo di mia vita, et me do a creder che V. S. in far piante del pennello non habbi pari al mondo', see Add MS 22333, f. 1r.
[81] 'Una pianta disegnata di sua propria mano, & con arte fottilissima colorita, mi mandò gia di Roma il gentilissimo Signor Gerardo Cibò, la qual tanto in ogni sua parte si rassomiglia al Cneoro bianco di Theophrasto', see Pietro Andrea Mattioli, *I Discorsi [...]* (Venice: Vincenzo Valgrisi, 1573), 44. For the same reference in the 1568 edition, see Pietro Andrea Mattioli, *I Discorsi [...]* (Venice: Vincenzo Valgrisi, 1568), 51. Theophrastus' white Cneoro plant does not seem to correspond to a widely known plant name, and, therefore, I was not able to identify it.

of his treatise.[82] Interestingly, the name of Cibo was highlighted in Cibo's copy of the 1573 edition of the treatise, now held in the Biblioteca Angelica, while a manicule was also added in the margins (fig. 1.9). In the table of contents of the same book, the name of Cibo was added by hand together with the page number and line that the above reference is made (fig. 1.10). These additions, probably made by Cibo, suggest a feeling of pride that he must have felt for these references by the renowned Mattioli.

Cibo was also acquainted with Aldrovandi, who refers to Cibo in the list of the individuals who helped him in his study, specifying that Cibo sent him a list of plants with images drawn by his hand.[83] A drawing by Cibo of the 'Galiopsi vera' plant (a figwort) bearing his initials (GC) has also been preserved in Aldrovandi's collection.[84] The previously mentioned letter of Bacci reveals Cibo's connection to yet another important figure in the network of naturalists that defined the ongoing discussion and research concerning the natural world at that time.[85]

An overlooked reference to Cibo in the printed herbal called *Herbario novo*, written by the Italian physician Castore Durante and published in 1585, proves once more that he was held in high esteem in the circle of naturalists of his time. In the description of a plant called 'Scorzonera Italiana' (probably a plant belonging to the *Tragopogon* genus), Durante gives the plant's alternative name ('castracane'), attributing this name to Cibo:

> NAMES. Latin. Vipera. Italica. Italian. Scorzonera Italiana and Castracane, called that way by the most Illustrious Sir Gherardo Cibo, who is very trained in the knowledge of simples. The mentioned Sir sent one such plant to the very Illustrious and Most Reverend Monsignor Mattheo Ravario, my very Lord and benefactor, who as a very virtuous person takes great pleasure in this divine faculty of the simples and the occult secrets of the herbs.[86]

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[82] For the reference in the 1573 edition, see Mattioli, *I Discorsi*, 788. For the same reference in the 1568 edition, see Mattioli, *I Discorsi*, 1328.

[83] Tomasi, "Plants," 13. Although he attributed to Petrollini the creation of *Erbario A* and *Erbario B*, the scholar Giovanni Battista De Toni was the first to investigate in depth the relationship between Cibo and Aldrovandi, see Giovanni Battista de Toni, "Spigolature Aldrovandiane. III. Nuovi dati intorno alle relazioni tra Ulisse Aldrovandi e Gherardo Cibo," *Memorie della Reale Accademia di Scienze, Lettere ed Arti in Modena* 7 (1908): 99-108.

[84] Tomasi, "Plants," 43.

[85] For Bacci's letter, see Ott.lat.3135, f. 224.

[86] 'NOMI. Lat. Vipera Italica. Ital. Scorzonera Italiana, et Castracane, così chiamata dall' Illustriss. Sig. Gherardo Cibo, il quale nella cognitione de i semplici è exercitatissimo. Mandò questo Signore una di queste piante al molto Illust. et Reverendiss. Monsig. Mattheo Ravario, mio molto Signore, et benefattore, che come persona virtuosissima si diletta molto di questa divina facoltà de i semplici, et de gli occulti secreii dell'herbe.', see Castore Durante, *Herbario novo* (Rome: Giacomo Bericchia and Giacomo Tornieri, 1585), 421. For some information about this treatise, see Arber, *Herbals*, 234-5.

This reference brings to light a previously unknown connection of Cibo with Durante's acquaintance, a certain Mattheo Ravario, highlighting the recognition given to Cibo for his knowledge of simples, meaning the fundamental medicinal substances, which were mainly plant-based. This time, Cibo sent not a drawing of a plant but a living specimen, speaking once again to the many gifts of plant specimens, as well as drawings and notes, that circulated amongst naturalists in this period.

Apart from naturalists, Cibo was in contact with other individuals as well. His social network has been recorded in detail by the scholar Lucio Tribellini.[87] From mill owners to men of science and individuals belonging to aristocracy, Cibo had a big circle of acquaintances, among whom there was Giovanni Francesco Landriani, a member of a noble family in Milan.[88] Cibo's letter to Landriani testifies that not only did he exchange drawings and plant specimens, as suggested by the above primary sources, but also colours. Specifically, in his letter, Cibo states that he sent Landriani a colourant called *rosetta* together with five of his drawings, as he had promised in Senigallia.[89]

As already noted, Cibo participated in excursions of botanical nature, often together with companions, the names of whom he records in his notes. For example, he wrote in his now-lost diary: 'with Gaspare Marchetti and Berardo Bianchi we went to the cave of Aracoeli to find the *lunaria odorata* or *greca*, which we did not find…we reached the top of the mountain and gathered some *sassifraga*'.[90] Perhaps the most well-known of Cibo's companions in these field trips, is the physician and forger of documents Alfonso Ceccarelli (1532-1583). In 1569, Ceccarelli also began a project related to the history of the Cibo family, describing Cibo as a most kind man, who knew about simples and plants.[91]

Judging by his preserved correspondence, Cibo's most frequent addressee was his brother, Scipione. Sometimes, Cibo gives him advice for gardening. For example, in one of his letters, he gives detailed guidance on how his brother should measure anew the dimensions of his garden, so as Cibo to be able to visualise the space better; however, he thinks that the suggested by his brother space within the garden seems small at first glance ('but I don't see that anything good can be done in such

[87] Lucio Tribellini, "Album amicorum: Gli amici, i parenti e corrispondenti," in *Gherardo Cibo, dilettante di botanica e pittore di 'paesi'. Arte, scienza e illustrazione botanica nel XVI secolo,* eds. Giorgio Mangani and Lucia Tongiorgi Tomasi (Ancona: Il lavoro editoriale, 2013), 309-36.
[88] Tribellini, "Album," 325-6.
[89] 'per il suo mandato gli mando de quella rosetta che dice messer Gironimo, la quale per essere da dieci anni che fu fatta ha perso di colore…Ho ffatto cinque pezzi di disegni come in Senigaglia gli promessi, quali gli mando per il presente suo mandato', reproduced in Celani, "Sopra," 221.
[90] 'con Gaspare Marchetti e con Berardo Bianchi andai alla grotta dell'Aracoeli per ritrovar la lunaria odorata o greca che non trovammo…giunsimo alla cima del monte cogliemo della sassifraga', reproduced in Celani, "Sopra," 210.
[91] The relevant excerpt is reproduced in Tomasi, "Arte," 43; Tribellini, "Album," 317.

a small space').[92] They also exchanged recipes for treating specific maladies. Cibo is referred twice to the pain of hips that his brother had, sharing with him some recipes for alleviation.[93] As it was often the case at that time, these involved herbs; cumin, mint, and rosemary, are some of them. Sometimes, Cibo also refers to the origins of these recipes. For example, he writes: 'Also, there is this secret for sword wounds[?]: a Capuchin friar used it as a certain remedy, which he learned in Genoa from a gentleman'.[94] The fact that this recipe has as its source a nobleman seems to add to the credibility of the recipe at that time; also, the use of the word 'secreto' brings to mind the culture of the books of secrets and the context within which this kind of publications appeared and gained popularity.[95] His correspondence clearly manifests Cibo's expertise in plants, not only as subjects of study, but also as subjects in garden planning and pharmacopoeia.

Many studies related to sixteenth-century natural history touch upon the topic of networking and the formation of a broad community of naturalists during that period.[96] Apart from the discoveries related to plants, which were circulated through letters, naturalists also used to exchange plant specimens and images of them.[97] In the same vein, Cibo sent images, plant specimens, colours, advice and recipes and shared his knowledge with his network, as suggested by the sources above. Therefore, he cannot be seen as an individual working in isolation in the small town of Rocca Contrada but as a noteworthy member of this growing network of knowledge sharing.

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[92] 'ma non vedo che in sì piccolo spazio si possa far cosa garbata', reproduced in Celani, "Sopra," 225.
[93] Reproduced in Celani, "Sopra," 224-6.
[94] 'Anchora per la pontura havuto questo secreto: che un cappuccino per rimedio sicurissimo avuto in Genova da un gentilhuomo', reproduced in Celani, "Sopra," 225. According to Florio's 1611 Italian/Engish dictionary, *pontura* is translated as 'a pricking, a thrust or pricke with any weapon. Used also for a stitch or pleurisie. Also griefe, paine and smarting. Also annoyance and importunitie', see John Florio, "Puntúra," in *Queen Anna's New World of Words, Or, Dictionarie of the Italian and English Tongues* (Melch. Bradwood, for Edw. Blount and William Barret, 1611; online ed., n.d.), http://www.pbm.com/~lindahl/florio/426.html.
[95] For more information about this context, see William Eamon, "Science and Popular Culture in Sixteenth Century Italy: The "Professors of Secrets" and Their Books," *The Sixteenth Century Journal* 16, no. 4 (1985): 471-85; Jacqueline Spicer, "'A fare bella': The Visual and Material Culture of Cosmetics in Renaissance Italy (1450-1540)," (PhD diss., University of Edinburgh, 2014), 107-46.
[96] Ogilvie, "Observation," 125-70. Paula Findlen traces the emergence of a community centered around the treatise of Mattioli, see Paula Findlen, "The Formation of a Scientific Community: Natural History in Sixteenth-Century," in *Natural Particulars: Nature and the Disciplines in Renaissance Europe*, eds. Anthony Grafton and Nancy Siraisi (Cambridge, Mass: MIT Press, 1999), 391-2.
[97] Kusukawa, "Patron's Review," 195.

Chapter 2: The 'scientific' herbarium and the 'artistic' herbal

> The plant specimen I drew, namely the plant and its roots, in autumn 1569. Then, I painted the flowers on the 18th and 19th of April 1570.[1]

This note, written by Cibo on the British Library manuscript/b, addresses one of the major questions of the chapter. Placed underneath Cibo's image of a plant belonging to the genus *Cyclamen* (fig. 2.1), it hints at the intricate nature of botanical illustrations. Despite the liveliness and seeming fidelity to nature, given the timeframe of the execution, Cibo could not have used one specific specimen as a model of the illustration, because uprooted plants cannot be kept alive for that long. Consequently, he must have looked at multiple specimens existing in nature at different times to create his image of a single specimen. This example is typical of the fictive nature of the representations of plants, and it highlights the multifaceted relationship between nature and art.

This relationship is explored in this chapter that looks at both collections of dried plants (herbaria) and books containing a variety of information about plants (herbals). My investigation will begin with an introduction to the concepts of herbals and herbaria, followed by a comparison between the dried specimens collected by Cibo and his illustrations of plants. Although there are studies that provide both an art historical look to Cibo's oeuvre and an overview of his activities related to the natural world, to my knowledge, this is the first time that these two different aspects of his work, namely the 'scientific' herbarium and the 'artistic' illustrations in his herbal, are co-examined to this extent.

My aim is to understand better the practices and ideas behind these works and shed light on common approaches towards nature. Indeed, the more scholars look at patterns of how early modern people approached nature and how they studied it during that period, the richer our understanding will be.[2] By analysing Cibo's work and methods, we can gain a better understanding of the general trends that defined the early modern era, for his example can be viewed as a microcosm of the broader cultural and intellectual context that defined the period. Through the co-examination of herbals and herbaria, the chapter also highlights the relationship between the

[1] 'la pianta la designai cio e' l'herba, et radice' nell' autuno 1569 li fiori poi li ho depinti li 18 et 19 de' aprile' 1570', see Add MS 22333, f. 36r.
[2] José Ramón Marcaida, "Echoes of Aldrovandi: Notes on An Illustrated Album from the Natural History Museum in London," in *Ulisse Aldrovandi: Libri e immagini di storia naturale nella prima età moderna*, eds. Giuseppe Olmi and Fulvio Simoni (Bolonia: Bononia University Press, 2018), 27.

different representations of the natural world in the early modern output, suggesting the existence of a strong link between dried and illustrated plant specimens.

It is impossible to study Cibo's work without looking at the general conditions and developments of his era. As briefly noted in the Introduction, Cibo lived in a period when many changes related to natural history occurred in Italy and Europe in general.[3] From the second half of the fifteenth century onwards, many ancient texts with natural-historical interest, written by Theophrastus, Pliny, Dioscorides and Galen, were translated, edited and printed.[4] Pliny's first printed edition of his *Natural History* appeared in 1469, and by the end of the sixteenth century, approximately fifty-five editions had rolled off the presses.[5] By the time Cibo was born, Pliny had already received critical attention from scholars. The Italian physician Niccolò Leoniceno was the first to report numerous errors within Pliny's account of plants in his *De Plinii et plurium aliorum medicorum in medicina erroribus* published in 1492.[6] In that same year, Christopher Columbus landed on the New World, where he found plants and ainmals that did not bear resemblance to any European species.[7] After approximately eight decades, in the 1570s, the Spanish physician Francisco Hernández organised one of the most important expeditions to the New World during which he collected a large amount of plant specimens.[8] In these expeditions, naturalists and artists worked side by side to produce images that were then sent to Europe. Cesalpino, a contemporary of Cibo, testifies to this explosion of natural-historical knowledge when commenting that something new in nature is manifested daily.[9]

The discovery of plants not included in the descriptions of ancient texts that were mainly focused on Mediterranean flora stimulated a new approach to nature based on observation.[10] However, this did not imply that naturalists neglected ancient sources.[11] It was the combination of both observation and written tradition that characterised their activities. A telling example is an

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[3] For an overview of the developments related to natural science at that time, see Findlen, "Natural History," 435-468; Findlen, *Possessing*; Nicholas Jardine, James A. Secord, and E. C. Spary, eds., *Cultures of Natural History* (Cambridge: Cambridge University Press, 1996); Ogilvie, *The Science of Describing*, 25-86; Peter Dear, "The Meanings of Experience," in *The Cambridge History of Science. Vol. 3*, eds. Katherine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2006), 106-31; Ann Blair, "Natural Philosophy," in *The Cambridge History of Science. Vol. 3*, eds. Katherine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2006), 363-406.

[4] For a summary of the translations and editions of these authors' texts, see Reeds, "Renaissance," 522-7.

[5] Findlen, "Natural History," 439.

[6] For a summary of the debate concerning Pliny, see Ogilvie, *The Science of Describing*, 30-1.

[7] Findlen, "Natural History," 448-9.

[8] For this expedition, see Simon Varey, Rafael Chabrán, and Dora V. Weiner, eds., *Searching for the Secrets of Nature: The Life and Works of Dr. Francisco Hernández* (Stanford: Stanford University Press, 2000).

[9] Ogilvie, *The Science of Describing*, 52.

[10] Findlen, "Natural History," 442-3; Ogilvie, *The Science of Describing*, 140-1.

[11] Findlen, "Natural History," 444-5.

illustration by Cibo found in the British Library manuscript/a. On this folio, a man is depicted holding a book and a living specimen of oregano (fig. 2.2). He is understanding the plant through both direct observation and with recourse to written authorities. As this example suggests, observing, collecting and reading were, thus, interconnected activities in Cibo's practice. The naturalist Euricius Cordus followed a similar approach according to his *Botanologicon* (1534); his ventures into the wilds gave him great delight, for he could find living herbs that he knew through his readings and could also compare them with images of others, suggesting, therefore, that the combination of close observation of living plants and written tradition was a practice followed by naturalists at that time.[12]

Another change that gave new impetus to the development of the field was the inclusion of courses related to plants in the curricula of various universities. The first permanent chair in simples was appointed at the University of Padua in 1533 and held by Francesco Bonafede (1474-1558), followed by the appointment of Ghini to a similar position at the University of Bologna in 1534.[13] More universities were to follow this development resulting in the engagement of many students with the study of plants. Established in connection with the appointment of Ghini in a similar position at the University of Pisa in 1544, the botanical garden of the same university was one of the first gardens to be connected with the operation and studies of a university.[14] Indeed, gardens existed before 1544, however, they are now taking on a new, didactic function (Ghini conducted some of his lessons in the garden, showing plants to his students).[15] By promoting a new way of studying plants, based not only on ancient texts but also on observation, Italian universities became a pole of attraction for many early modern scholars interested in the study of nature.[16] Ghini also

[12] The translated by E. L. Greene excerpt from *Botanologicon* is reproduced in Claudia Swan, "Lectura-Imago-Ostensio: the Role of the Libri picturati A.18-A.30 in Medical Instruction at the Leiden University," in *Natura-cultura: l'interpretazione del mondo fisico nei testi e nelle immagini: atti del Convegno internazionale di studi, Mantova, 5-8 ottobre 1996*, eds. Giuseppe Olmi, Lucia Tongiorgi Tomasi, and Attilio Zanca (Florence: L.S. Olschki, 2000), 189.

[13] Findlen, "Natural History," 444; Elsa M. Cappelletti and Andrea Ubrizsy Savoia, "Didactics in a botanic garden: garden plans and botanical education in the 'horto medicinale' of Padua in the 16th century," in *A Passion for Plants: Materia Medica and Botany in Scientific Networks from the 16th to 18th Centuries*, eds. Sabine Anagnostou, Florike Egmond, and Christoph Friedrich (Stuttgart: Wissenschaftliche Verlagsgesellschaft mbH, 2011), 81. A chair was appointed at the University of Rome in 1513, but it only lasted for a few years, see Findlen, "Natural History," 444, footnote 27.

[14] Bellorini, *The World*, 88. For the universities having botanical gardens and their year of establishment, see Paula Findlen, "Anatomy Theaters, Botanical Gardens, and Natural History Collections," in *The Cambridge History of Science. Vol. 3*, eds. Katherine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2006), 282, Table 12.2.

[15] Bellorini, *The World*, 88. The university of Padua also had a botanical garden by 1544, where plants were demonstrated during lessons, see Findlen, "Natural History," 444.

[16] Findlen, "Natural History," 444.

played a significant role in popularising the organisation of field trips in search of plant specimens, being one of the first to use this kind of trips for didactic purposes.[17]

Although my focus was mainly on the academic community in the above discussion, it should be noted that the people who were interested in nature and partook in these developments were not limited to physicians, professors and students, but they were also nobles, apothecaries, clerics, men of leisure, scholars with various backgrounds and ordinary people, each of whom had different motives and interests encouraging their interaction with the natural world.[18] For example, during that time, a growing interest in collecting natural things emerged, a trend that resulted in the formation of the first cabinets of curiosities.[19] People with different backgrounds were involved in the creation of collections of natural things resulting in the great diversity of early modern collections in terms of size, form, organisation and function.[20] For example, aristocrats were also partaking in this trend, with Rudolf's II collection being one of the most magnificent and extensive European collections including a variety of natural things. This collection signifies more than a simple gathering of natural things, and it has convincingly been argued that there was an underlying message related to the emperor's will for absolute control in a way similar to the control he had over his collection-microcosm.[21] A similar interpretation was given to other collections as well, such as that of Francesco I de' Medici.[22]

Cibo was collecting natural things, namely plants and rocks. There are numerous references in his writings related to his findings of plants, many examples of which are mentioned throughout the thesis. Regarding his rock collecting, his notes in the copy of Mattioli's 1548 edition testify to his interest in identifying and recording information related to rocks that are mentioned in Mattioli's treatise. The following reference also shows that rock specimens were also sent to him by his acquaintances. Specifically, he wrote next to the entry of a rock called 'Pietra Morochto':

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[17] Bellorini, *The World*, 99.
[18] Ogilvie, "Observation," 125-34.
[19] Ogilvie, *The Science of Describing*, 39-43.
[20] Giuseppe Olmi, "Science – Honour – Metaphor: Italian Cabinets of the Sixteenth and Seventeenth Centuries," in *The Origins of Museums: The Cabinet of Curiosities in Sixteenth- and Seventeenth-Century Europe*, eds. Oliver Impey and Arthur Macgregor (London: House of Stratus, 2001), 1-2.
[21] Ogilvie, *The Science of Describing*, 66.
[22] Olmi, "Science," 1.

> It could be the rock that Pieragostino gave me; he gave me three of them; he took them from the island of Malta inside the cave where it is said that Saint Paul had stopped. This rock is white, soft and it has marks almost like chalk, October 1565.[23]

Apart from Cibo's notes, the numerous studies of rock formations and vegetation by Cibo's hand testify to a genuine interest in closely studying this kind of natural things. In particular, among the three hundred and sixty-six entries of the Mangani and Tomasi catalogue in total, sixty-eight are studies of rocks, and sixty are studies of flora ranging from trees to flowers.[24] Plant specimens can be dried and stored within books and Cibo is known for creating such a collection, as will be discussed below. In relation to his collection of rocks, there is no information coming from his writings that he kept and stored the specimens he mentioned. However, he most likely kept a careful selection of rocks in the same spirit as he did with his books; small groups of rocks were probably kept ready to hand, selected on the basis of Cibo's studies and interest. Cibo, with his notes and meticulous study of plants and rocks, was partaking in the systematic collection and documentation practices that formed the first cabinets of curiosities during the early modern period and laid the groundwork for modern science and museums. All the aforementioned developments indicate the vibrant and stimulating context within which Cibo lived and created his herbals and herbaria.

Cibo's herbals and their context

Illustrations in herbals appeared centuries before Cibo's time; Krateuas' herbal of the first century B.C.E. is known to include images of plants.[25] The advent of printing press and the discovery of the art of printing images changed completely the format of texts, which could henceforth have the form of a printed book. Agnes traces two traditions in printed botanical illustration, one that followed the previous manuscript production, and the other that shifted its attention towards nature and its observation.[26] As in all forms of book illustration, with artsists such as Albrecht Dürer giving a fresh impetus to the field, illustrations in printed herbals enjoyed a significant development at the beginning of the sixteenth century.[27] The publication of Otto Brunfels' herbal *Herbarum vivae*

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[23] 'potriá essere quella pietra che Pieragostino, mi ha donato 3 di sono, che lui la prese nella isola de Malta nella grotta dove si dice che si fermò Santo Paolo. Questa è bianca, tenera et segna quasi come il gesso, de X.re 1565', see TT.8.11, p. 747.
[24] Mangani and Tomasi, "Catalogo," 131-204.
[25] Arber, *Herbals*, 185. For an overview of the history of herbals until the fifteenth century, see Minta Collins, *Medieval Herbals: The Illustrative Traditions* (London; Toronto: The British Library; University of Toronto Press, 2000).
[26] Arber, *Herbals*, 186.
[27]Arber, *Herbals*, 202.

eicones […] in 1532-1536, is one of the factors that prompted this development.[28] As the title of this herbal suggests, the images created by Hans Weiditz were drawn from real specimens, and therefore, they closely resemble actual plants rather than their idealised or simplified versions.[29] This does not mean that manuscript tradition lacks examples of images that are highly reminiscent of their natural counterparts; for example, in the Carrara herbal, a manuscript created in the late fourteenth century, there are images of plants closely resemble actual specimens.[30] Nevertheless, Weiditz's innovation lies in his approach; his preliminary drawings for the creation of the woodblock prints pay close attention and render every minute detail of the plants that he must have carefully observed before depicting them; by taking notes of the name, size, colour and texture of the specimens, he is the reason why this herbal is considered 'scientific'.[31]

Some years after the publication of Brunfels' *Herbarum*, the naturalist Mattioli published the already-mentioned *Commentary on Dioscorides* originally titled *Di Pedacio Dioscoride Anazarbeo Libri cinque […]* (1544).[32] Mattioli's treatise is another important landmark for the history of herbals during the sixteenth century. The sale of over thirty thousand copies of its early editions, the subsequent publication of new editions with additional comments and images, as well as its translation into French, German and Bohemian indicate its popularity.[33] Its images, a key element of its success, would have a lasting use in herbal production and copied even two centuries after their first appearance.[34] Cibo's art is highly interconnected with Mattioli's publication. As noted in Chapter 1, he had three books of this treatise in his possession where he embedded his own compositions and perhaps colour; he also coloured by hand a copy of Mattioli's *Commentary on Dioscorides* that belonged to Francesco Maria II Della Rovere, a project that will be discussed in more detail in subsequent chapters; and he created the British Library manuscript/a by copying to a large extent Mattioli's text (the illustrations of which, together with these in the British Library manuscript/b, will be central to this chapter).

Although Cibo's hand-colouration of images of plants and the colouration of printed illustrations in general will be discussed in more detail in Chapter 4, it bears pointing out here that

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[28] Arber, *Herbals*, 52-5, 202; Findlen, "Natural History," 457; Smith, "Artisanal Knowledge," 15.
[29] Brent Elliott, "The world of the Renaissance herbal," *Renaissance Studies* 25, no. 1 (2011): 28.
[30] Smith, "Artisanal Knowledge," 15-9. For a detailed study concerning the Carrara herbal, see Sarah R. Kyle, *Medicine and Humanism in Late Medieval Italy: The Carrara Herbal in Padua* (Abingdon; New York: Routledge, 2017).
[31] Smith, "Artisanal Knowledge," 15.
[32] Pietro Andrea Mattioli, *Di Pedacio Dioscoride Anazarbeo Libri cinque [...]* (Venice: Nicolo Bascarini, 1544). For the evolution and reception of Mattioli's treatise throughout the years, see Findlen, "The Formation," 375-80. For relevant information about Mattioli, see Reeds, "Renaissance," 525-6; Arber, *Herbals*, 81-4.
[33] Reeds, "Renaissance," 525-6.
[34] Arber, *Herbals*, 223.

this practice testifies to one of the many functions of herbals at that time. Apart from herbals' function as a tool for investigating nature, which can be clearly deduced, the scholar Minta Collins demonstrated their wide-ranging function, which was not limited to practical use.[35] The hand-colouring of the book belonging to Francesco Maria II Della Rovere, Duke of Urbino, points out to an early modern trend of possessing herbals for their value as deluxe items and not exclusively for their practical use. This use of herbals is reminiscent of the physicians' calendars of the fourteenth and fifteenth centuries, where images and text were intended to impress and emphasise physician's authority alongside their practical role.[36]

Besides their aesthetic value, herbals, especially Mattioli's treatise, were also used as teaching tools.[37] This is why the scholar Joachim Camerarius published a reduced version of Mattioli's *Commentary on Dioscorides* for students in 1586.[38] Herbals were also used in field trips as reference guides, and this is the reason why Fuchs published in 1545, a version of his treatise with smaller-sized illustrations, the extended title of which stated clearly that its reduced format was addressed for walkers or travellers interested in the identification of plants in situ.[39] The fact that the original versions were large and heavy was a deterring factor to be carried during long expeditions. In the already-mentioned *Botanologicon*, Cordus refers to his habit of carrying one or two little books in his expeditions.[40] This does not mean that the books carried by naturalists in field trips were necessarily herbals, but their small-sized editions point to their frequent use as field guides.[41]

Being brought to light by the research of Tomasi, Cibo's herbals (British Library manuscript/a and British Library manuscript/b), do not seem to fall into any of the aforementioned categories. Since they were not intended for public circulation, Cibo was not restricted by conditions imposed by publication procedures. Although the reason behind their creation is not clearly stated by Cibo in his notes, it seems that they were intended for his own pleasure or research, for they are imbued with a highly personal character, as suggested by the frequent addition and erasure of notes, signs of a continuous revision on behalf of Cibo. In the same vein, Tomasi interprets the two herbals as a sort of 'visual diary', in which Cibo recorded names and places that he experienced throughout his life.[42]

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[35] Collins, *Medieval Herbals*, 301-2, 305, 307-10.
[36] Peter Murray Jones, ''Image, Word, and Medicine in the Middle Ages,'' in *Visualizing Medieval Medicine and Natural History, 1200-1550*, eds. Jean A. Givens, Karen M. Reeds, and Alain Touwaide (Aldershot: Ashgate, 2006), 9-11.
[37] Ogilvie, *The Science of Describing*, 45.
[38] Ogilvie, *The Science of Describing*, 45.
[39] Swan, "Lectura-Imago-Ostensio," 191; Bellorini, *The World*, 100.
[40] The translated excerpt is quoted in Swan, "Lectura-Imago-Ostensio," 189; Bellorini, *The World*, 100.
[41] For example, Mathieu de l'Obel's *Plantarum seu Stirpium Icones* (1581) was another option available to them, see Ogilvie, *The Science of Describing*, 73.
[42] Tomasi, "Gherardo Cibo: visions," 205-6.

Although Cibo more or less copied Mattioli's text in his British Library manuscript/a, he also incorporated some personal comments.[43] Thus, the text could be described as an amalgamation of contemporary readings and his own observations. British Library manuscript/b does not include a text proceeding the plant illustrations, but, like the British Library manuscript/a, it includes Cibo's notes written above or below the illustrations. These include information concerning the name of the plant, the place and date of the illustration's execution, the date of the plant's collection, as well as some other information of a personal character.[44] British Library manuscript/a and British Library manuscript/b are respectively 26.5x19.5cm and 34x22,5cm.[45] However, their original size must have been bigger since the illustrations have been trimmed to fit in a new binding – as can be seen on some pages, where the name of the plant goes off the page.[46]

The dates written in the British Library manuscript/b run from 1564 to 1584, while there is also a date of 1597 (the latest throughout his oeuvre) in the British Library manuscript/a.[47] Therefore, Cibo's involvement in this project spanned for two decades, a span that can be further extended to include the years before 1558, when the sea spurge illustration was probably created (fig. 2.3). Specifically, in the British Library manuscript/a, the basal part of 'Tithimallo paralio', nowadays called sea spurge, was designed as if having the shape of a bulb; this is incorrect, since the plant has a fibrous taproot growing vertically downwards. However, not only did the bulb remain incomplete in the illustration, but its outline was also covered by the green colourant used in the creation of the background. Two specimens of the same plant can be found in *Erbario B* (fig. 2.4) but without their roots, suggesting that either the practitioner did not uproot the plant himself or that he only collected its upper part. In any case, Cibo most probably have not seen the basal part of the plant and, thus, the correction of its roots in his illustration must have been prompted by the publication of Mattioli's illustrated edition of his *Commentary on Dioscorides* in 1554, where an illustration of the complete plant is included.[48] As mentioned in the Introduction, Cibo owned a copy of the 1548 edition of Mattioli's treatise, unillustrated, as well as the illustrated 1558 and 1573 editions. Therefore, it is likely that this image was created before 1558, when Cibo would not have

[43] Tomasi, "Plants," 50-3.
[44] For the practice of taking notes near botanical illustrations, see Ogilvie, "Observation," 273-7.
[45] Mangani and Tomasi, "Manoscritti," 211, 223.
[46] Tomasi, "Plants," 44.
[47] Tomasi, "Plants," 56. Also, Mangani and Tomasi, "Manoscritti," 223. The date of 1597 is on f. 185, rear past-down.
[48] For the description of sea spurge in the 1544 edition, see Mattioli, *Di Pedacio*, 365. For the illustration of sea spurge in the 1554 edition, see Pietro Andrea Mattioli, *Petri Andreae Matthioli medici senensis Commentarii, in libros sex [...]* (Venice: Vincenzo Valgrisi, 1554), 539.

had access to Mattioli's illustration of the plant (and its root system), situating the project's starting point at an earlier date than the one suggested in the scholarship.[49]

Regarding the illustrations included in the two manuscripts, most of them present a complete image of a plant in the middle. Some have been drawn on without any background or other sketched setting (like, for example, in the case of soapwort, fig. 2.5) whereas, in some other cases, the depicted plants are placed within elaborate backgrounds (as can be seen in fig. 0.1, fig. 1.4, fig. 2.2, and fig. 2.3, discussed above). It is precisely these backgrounds that make Cibo's work stand out from the rest of the botanical images of his time. Although Cibo's compositions are not the only to include additional elements apart from the image of the plant, the most prevailing trend in this period was to depict the plant by itself, judging from the early modern production of both hand-drawn illustrations and printed images of plants.[50] For example, in the well-known collection of Aldrovandi that exerted a strong influence even on later botanical works, plants are drawn by themselves without a painted context (for example, fig. 2.6), underlying that Cibo's work was at variance with the prevailing trend of his time, something that will be discussed in more depth in Chapter 6.[51]

The practice of drying plants and Cibo's herbarium

Apart from herbals, early modern naturalists used herbaria, also called *Horti hiemales* and *Horti sicci*.[52] Nowadays, the word herbaria, designates collections of plants that were pressed, dried, and then affixed to paper sheets. The early history of the technique and the formation of herbaria is relatively obscure. Historians generally attribute the authorship of the creation of collections of dried and pressed plants affixed on paper sheets to Ghini.[53] It seems to have been common for naturalists of the sixteenth century to use herbaria, a handy tool during winter when most plants are not blooming.[54] Jean Baptiste Saint-Lager's text of 1886 remains the most comprehensive work on

[49] For the dating of the project between c.1564–1584, see "Add MS 22332" and "Add MS 22333."
[50] For the lack of backgrounds in drawings of plants as the prevailing trend at that time, see Egmond, *Eye*, 100-4.
[51] For the strong influence of the illustrations curated by Aldrovandi, see Marcaida, "Echoes," 23-7; Emma Sallent Del Colombo, "Natural History Illustration between Bologna and Valencia: The Aldrovandi-Pomar Case," *Early Science and Medicine* 21 (2016): 182-213.
[52] For a brief history on the usage of the terms, see Saint-Lager, "Histoire," 18-9.
[53] Guido Moggi, "L'erbario di Andrea Cesalpino," in *Gli erbari aretini da Andrea Cesalpino ai giorni nostri Museo di storia naturale*, eds. Chiara Nepi and Enrico Gusmeroli (Florence: Firenze University Press, 2008), 4; Agnes, *Herbals*, 139.
[54] Ogilvie, *The Science of Describing*, 42-3.

the early history of herbaria.[55] He suggests that the emergence of herbaria occurred during the period from 1480 to the first half of the fifteenth century.[56] Saint-Lager, therefore, argues that the technique was invented well before the creation of the first collections that were preserved and known to him, namely the herbaria of Aldrovandi (1553–1563) at Bologna, the Lyonnaise surgeon Gréault or Girault (1558) in Paris, Cesalpino (1563), Leonhard Rauwolf (1560 to 1563 and 1573–1575) at Leiden, the unknown creator of the *Erbario estense* (end of the sixteenth century) at Modena, and that of Gaspard Bauhin (c.1577–1623) at Basel, all of which were formed during the second half of the sixteenth century.[57] Throughout the years, more herbaria have been discovered by scholars. A recent overview of the extant sixteenth-century herbaria lists fifteen herbaria, of which the oldest were formed during the first half of the sixteenth century.[58]

Saint-Lager also includes in his study references related to herbaria that had not been preserved until his time. For example, he refers to an excerpt from João Rodrigues de Castelo Branco's *Enarrationes […]* (1553), where this physician refers to his stay at Ferrara from 1540 to 1547.[59] During his visit, he became acquainted with the English naturalist John Falconer and his collection of dried plants, which were pressed and affixed to the pages of a book, a collection that is now considered lost.[60] Another reference to an even earlier herbarium than Falconer's can be found in George Sarton's *Introduction to the history of science*, where Sarton mentions a late fourteenth-century collection of dried plants kept by Thomas of Sarepta, a Silesian physician.[61]

Apart from being the creator of the two herbals in the British Library mentioned above, Cibo is also considered as the collector who gathered and dried the plant specimens that form the collection consisting of five volumes at the Biblioteca Angelica in Rome (Ms 2344-2348). It was Celani the first scholar who attributed their creation to Cibo, as briefly noted in the Introduction. To prove his claim, Celani noted the names of all authors cited in the Index of *Erbario B*; he reasonably assumed that the collector behind this collection of dried plants should have had in his possession their works since he quoted them with precision.[62] He, thus, searched the collection of the Biblioteca

[55] Saint-Lager, "Histoire," 1-120. For a short overview of the herbaria's history: Ogilvie, "Observation," 251-73; Agnes, *Herbals*, 138-43.
[56] Saint-Lager, "Histoire," 29-96.
[57] Saint-Lager, "Histoire," 29-96.
[58] Riccardo M. Baldini, Giovanni Cristofolini, and Carlos Aedo, "The extant herbaria from the Sixteenth Century: a synopsis," *Webbia. Journal of Plant Taxonomy and Geography* 77, no. 1 (2022): 23-33.
[59] Saint-Lager, "Histoire," 17-8.
[60] Saint-Lager, "Histoire," 17-8.
[61] Unfortunately, the scholar does not cite the primary source that he consulted, see George Sarton, *Introduction to the History of Science. Vol. 3. Part 2, Science and Learning in the Fourteenth Century* (Baltimore: Published for the Carnegie Institution of Washington by Williams & Wilkins, 1948), 1177, 1709.
[62] Celani, "Sopra," 182.

Angelica and found works where the handwritten notes were written in the same handwriting as that of the Index.[63] Among these books was a copy of the 1573 edition of Mattioli's *Commentary on Dioscorides* with a note that reads: 'Dryopteris, drawn here from nature, I believe in 1583 or 84 by me, Ghirardo Cibo, owner of this book' (fig. 2.7).[64] This note revealed to Celani the identity of the person with the specific handwriting and, thus, the creator of the collection of dried plants.[65]

The attribution of the collection to Cibo has not been unanimously agreed upon. For example, Emilio Chiovenda claimed that another naturalist, namely Francesco Petrollini, was the creator of the collection.[66] The already-mentioned overview of the preserved sixteenth-century herbaria also maintain that the herbaria's creator is Petrollini.[67] However, the paleographical analysis by Celani, and the comparisons between the dried specimens and Cibo's illustrations that follow later in this chapter, show that the balance of opinion suggests that their creator was Cibo.

The construction and materiality of all five volumes of the dried plants' collection indicate that they were probably made during the first half of the sixteenth century in Italy.[68] It is the technique of sewing over double supports, which was initially used on medieval manuscripts on parchment, that suggests a date in the mid-sixteenth century as this particular technique of binding gradually died out in the sixteenth and seventeenth centuries.[69] The first volume, *Erbario A* (Ms 2344), is the oldest of the five, as the analysis of the watermarks suggests, according to Albert Julius Otto Penzig, a botanist and a scientific researcher who collaborated with Celani.[70] Its dimensions are 26x19.5cm, while its depth is noteworthy.[71] In fact, it is so thick that it makes its handling and reading difficult. It far exceeds the depth of the other four volumes, which prompted Celani to suggest that Cibo miscalculated the increase in volume that the addition of the dried specimens would bring.[72] It includes numbered folios (1-332) and specimens (1-516), but due to various

[63] Celani, "Sopra," 182-3.
[64] The note reads: 'Driopteri, vero, ricavato qui dal naturale, credo del 1583 o 84 da me ghirardo Cibo, Patrone di questo libro', see SS.15.16, p. 803.
[65] Celani, "Sopra," 183. The same book has the name of Cibo also on the frontispiece, see SS.15.16, frontispiece.
[66] Emilio Chiovenda, "Francesco Petrollini botanico del secolo XVI," *Annali di botanica* 7 (1909): 339-447.
[67] Baldini, Cristofolini, and Aedo, "The extant herbaria," 24.
[68] Celani, "Sopra," 213.
[69] My thanks to Prof. Nicholas Pickwoad, Senior Research Fellow at the University of London, and Elizabeth Quarmby Lawrence, Rare Books librarian at the Edinburgh University Library, for generously sharing their expertise on this matter.
[70] Albert Julius Otto Penzig, *Contribuzioni alla storia della botanica* (Milano: Ulrico Hoepli Editore Libraio della Real Casa, 1905), 5-7.
[71] Celani, "Sopra," 201; Penzig, *Contribuzioni*, 7; Mangani and Tomasi, "Manoscritti," 237.
[72] Celani, "Sopra," 201.

omissions and repetitions, the number 516 of the last specimen does not correspond to either the number of plant species or to the affixed examples, which are 494 and 553 respectively.[73]

Concerning the arrangement of plants, unlike the other volumes, in *Erbario A*, the specimens are not placed alphabetically. Although some groups of plants share the same provenance – for example, some consecutive numbers correspond to plants found in the Alps – there are others placed next to each other that do not grow within a similar natural environment.[74] Furthermore, most of the dried specimens grow in the wild and are native to Italy.[75] However, cultivated plants have also been inserted, for example, *Gossypium herbaceum* (commonly known as Levant cotton, fig. 2.8), *Saccharum officinarum* (commonly known as sugarcane, fig. 2.9), and *Zea mays* (commonly known as maize, fig. 2.10).[76] Corn at that time was a recently introduced species to Italian agriculture, and thus, the example found in the volume is one of the oldest surviving dried specimens.[77]

As for the other four volumes, commonly referred to as *Erbario B* (Ms 2345-8), there is a strong connection to each other since the enumeration of the specimens begins in the first volume and continues until the end of the fourth volume without interruption (1-1347). In addition, the already-mentioned Index that includes the plants of all four volumes, testifies to their unity.[78] Their size is similar, with 31x21.5cm being their approximate dimensions and their depth at around 12cm.[79] The third volume has 251 numbered folios, whereas the rest of them have approximately 230.

When examining the format of early modern herbaria, it is clear that there was a variety of ways that the specimens were kept; sometimes sewn, glued or even loose, their presentation was not the same in all collections.[80] As for the technique used by Cibo, Penzig suggests that he dried the plants in the middle of heavy books and kept them loose, and only glued them on sheets when he accumulated a certain quantity.[81] Thus, Penzig argues against a one-by-one addition of plants, which

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[73] For the actual number of species, see Penzig, *Contribuzioni*, 8. For the examples, see Mangani and Tomasi, "Manoscritti," 237.
[74] Penzig, *Contribuzioni*, 9-10.
[75] Penzig, *Contribuzioni*, 10.
[76] Penzig, *Contribuzioni*, 10. For the specific specimens, see Penzig, *Contribuzioni*, 28-9, 36.
[77] Penzig, *Contribuzioni*, 29.
[78] For a reproduction of the Index, see Penzig, *Contribuzioni*, 197-204.
[79] Mangani and Tomasi, "Manoscritti," 237.
[80] For the absence of standardization concerning the format of the early herbaria, see Davina Benkert, "The 'Hortus Siccus' as a Focal Point: Knowledge, Environment, and Image in Felix Platter's and Caspar Bauhin's Herbaria," in *Sites of Mediation Connected Histories of Places, Processes, and Objects in Europe and Beyond, 1450–1650*, eds. Susanna Burghartz, Lucas Burkart, and Christine Göttler (Leiden: Brill, 2016), 217.
[81] Penzig, *Contribuzioni*, 10.

would lead to a chronological arrangement, reflecting Cibo's chronological order of his acquisitions.[82] As already stated, plants belonging to different natural habitats have been placed next to each other in *Erbario A*, rendering the chronological arrangement of specimens improbable.[83] Penzig continues by stating that the plants' pasting on sheets a long time after their desiccation would explain the rare instances where two plants are intermingled in the same example.[84] The same scholar also mentions his unsuccessful effort to find remains of dried specimens inside books belonging to Cibo, something that would back up his argument.[85] My acquaintance with a previously overlooked dried leaf inside Cibo's copy of Fuchs' *De historia stirpium*, discussed in Chapter 3, complements and further supports Penzig's hypothesis.

The temporary storage of dried specimens and their later arrangement and pasting on the sheets are highly reminiscent of the technique used by Aldrovandi in his innovative commonplace book, the *Pandechion Epistemonicon*, where he organised and stored his reading matter for future use.[86] Aldrovandi stored his notes, written on paper slips, in linen bags and then pasted them on the sheets in an alphabetical order.[87] However, the handling and storage of dried specimens of plants for a long time outside the herbarium space must have been carried out more carefully than paper slips because of the dried plants' delicacy. There were precedents for this. Dried plants were often stored and preserved inside books of hours, an already known practice well before Cibo's time.[88] As for the plants' arrangement, the alphabetical order of *Erbario B* and the organisation in a more random way in Erbario A are also techniques that can be found in other collections of the period. For example, in the *Erbario estense,* the specimens are placed in the same random way as in *Erbario A*, while Jean Girault included an alphabetical Index of the dried specimens in his herbarium.[89] By Cibo's time, only Cesalpino's herbarium was innovative regarding the arrangement of plants, following an order that presages the Linnaean classification system.[90] Therefore, it can be argued that Cibo followed already-known techniques in creating and arranging his herbaria.

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[82] Penzig, *Contribuzioni*, 9.
[83] Penzig, *Contribuzioni*, 9.
[84] Penzig, *Contribuzioni*, 10
[85] Penzig, *Contribuzioni*, 10.
[86] Fabian Kraemer, "Ulisse Aldrovandi's 'Pandechion Epistemonicon' and the Use of Paper Technology in Renaissance Natural History," *Early Science and Medicine* 19, no. 5 (2014): 398-423. Findlen, *Possessing*, 63-4.
[87] Kraemer, "Ulisse," 414.
[88] Kaufmann and Kaufmann, "The sanctification," 42-3.
[89] For a view concerning the question of why Aldrovandi opted for an alphabetical order in his *Pandechion Epistemonicon*, see Kraemer, "Ulisse," 419-20. For the order of the dried specimens in *Erbario estense* and the herbarium of Jean Girault, see Saint-Lager, "Histoire," 51, 85-6.
[90] Saint-Lager, "Histoire," 68.

Herbals and herbaria; Plant comparisons

Within the community of naturalists, it was a common practice to exchange both botanical illustrations and plant specimens. For example, Aldrovandi sent Mattioli a letter including dried plants, while the former also asked Cibo to send him a specimen that he wanted to study, either dried or painted.[91] Aldrovandi's notes give another indication of the close relationship between botanical illustrations and dried plants. A contemporary of Cibo, Aldrovandi had a vast collection of both dried and illustrated plants.[92] When describing his collection, Aldrovandi enumerated his dried specimens of plants together with the illustrations in his possession; he also mentioned that from the seven thousand dried plants, three thousand are also painted 'al vivo', a comment that manifests their closeness in his perception.[93]

It is also possible that collections of dried specimens were a source of inspiration and points of reference for the creation of botanical illustrations. For example, Weiditz drew the *Symphytum officinale* plant, known as common comfrey, with a sharp bend in the stem (fig. 2.11), probably inspired by dried specimens mounted in herbaria. This is because the bending of stems was an often-occurring phenomenon in herbaria where there were limitations concerning the physical space of the page. Furthermore, it is known that Mattioli used dried plants that were sent to him for the illustrations of his treatise, but he used to immerse them in water in an effort to make them look alive.[94] The same practice of putting dried plants in water was also followed by Carolus Clusius, a Flemish physician and botanist from the sixteenth century.[95] Although Clusius was sceptical of the usefulness of herbaria and the quality of the illustrations and descriptions produced by dried specimens, he was willing to use them when he could not access other sources.[96]

In some instances, illustrations and dried specimens also exist in the same space. Specifically, in *Erbario A*, there are two sketches. The first one seems to be the sketch of a bird, or perhaps an overturned petal, found among the dried specimens of the plant *Arabis turrita* (fig. 2.12), while the second one found at the top right of the folio, is possibly a detail of the dried *Cynodon dactylon*, which is affixed on the page (fig. 2.13). Their presence, thus, indicates the interaction between illustrating and collecting, while they also point to a collector-creator who was interested in

[91] For Aldrovandi's letter to Mattioli, see Saint-Lager, "Histoire," 31. For Aldrovandi's request to Cibo, see Tomasi, "Gherardo Cibo: un percorso," 20.
[92] Claudia Swan, "From Blowfish to Flower Still Life Paintings Classification and Its Images, circa 1600," in *Merchants & Marvels Commerce, Science, and Art in Early Modern Europe*, eds. Pamela H. Smith and Paula Findlen (Abingdon; New York: Routledge, 2002), 110-1.
[93] Swan, "From Blowfish," 110-1.
[94] Saint-Lager, "Histoire," 15-6.
[95] Ogilvie, "Observation," 262. Ogilvie, *The Science of Describing*, 171.
[96] Ogilvie, "Observation," 259-62.

botanical illustrations, such as Cibo. In Cibo's oeuvre, dried specimens and images of plants share the same physical space in one more instance, namely in his copy of Fuchs' *De historia stirpium*, discussed in the next chapter.

Furthermore, illustrators and collectors of plants shared a common ground in their practice. In the same way that illustrators create an image of a plant that is the result of their personal choices, collectors likewise create their own representation of the plant by manipulating its image in a certain way. The collector of *Erbario A* and *Erbario B* intervenes in the actual appearance of the plant by cutting, compressing, and arranging it on the page according to his will. In some instances, he even combines plant parts not originally found together to draw attention to specific traits. For example, in *Erbario A'*s dried specimen of stemless gentian (fig. 2.14), Cibo added a flower and stretched its petals open, so as to be ready for inspection. Cibo also cut the petals of the left flower of the Canterbury bells specimen to reveal its interior structure (fig. 2.15), while he also agglutinated together selected parts of *Senecio alpinus* (specifically, its roots with its upper part, fig. 2.16). His intention was probably to make the dried specimens more accessible for a better examination, even at the expense of the plant's original appearance.

These interventions by Cibo are reminiscent of Felix Platter's herbarium (Bern, Burgerbibliothek, ES 70). Platter, a physician and professor in Basel, not only paired illustrations with dried specimens on facing pages but also curated the specimen's final appearance to a great extent. Platter's most remarkable intervention in a plant's appearance is the replacement of the flowers of *Campanula rapunculus*, commonly known as rampion bellflower, with flowers of a species belonging to the genus *Delphinium,* keeping only one original (fig. 2.17). The result was that the flowers of the specimen belonging to the genus *Delphinium* preserve their blue colour until today, whereas the original flower apppears yellow.[97] If Platter had not left the one original flower attached to the specimen, this replacement might not have been perceived by later viewers. Platter's example shows us the active role of collectors in constructing a specific vision of nature, as well as the interrelation of herbals and herbaria reflected by the pairs of dried and illustrated specimens in his herbarium.

More insight can be shed on this subject by carefully co-examining dried specimens with plant illustrations. Indeed, there are many plants illustrated by Cibo that can also be found in *Erbario A* and *Erbario B*. However, I will begin with a particularly telling example that of *Asarum europaeum*, commonly known as European wild ginger. Wild ginger is an evergreen perennial with rounded, green leaves and purple flowers. In the British Library manuscript/a, Cibo drew the plant together

[97] Benkert, "The 'Hortus Siccus'," 232-3.

with a painted scenery in the background (fig. 2.18), copying on the facing page that precedes the illustration Mattioli's text concerning the plant's leaves, flowers, seeds, roots, and its diuretic and purging effects (fig. 2.19).[98] The text also talks about a recipe for a drink made with the roots of wild ginger that provokes menstruation.[99] Furthermore, it refers to the plant's use in the production of ointments.[100] Cibo (quoting Mattioli's text) also makes mention of the plant's natural habitat, which is shady mountains, mainly in Pontus, Phrygia, Illyricum, and specific areas of Italy.[101] When discussing the plant, the scholars Stéphane Marie and Marc Jeanson mention that it is still used in herbal medicine.[102]

Cibo also dried and affixed the same plant in both *Erbario A* (fig. 2.20) and *Erbario B* (fig. 2.21). When comparing the illustration with the herbarium specimens, it can be easily understood that there are many differences, as well as similarities between them. To begin with, the presence of a painted background and the accompanying text on the facing page is one of their main differences. In the background of the illustration, which will be analysed in Chapter 6, a whole narrative is unfolding, adding to the aesthetic value of the image, conveying valuable information about the plant itself and at the same time, bringing insight into the personal views of the artist-creator. In addition, the text accompanying Cibo's depiction is illustrative of some of the main characteristics of the plant, as already seen. In contrast, the dried specimens are affixed to blank sheets of paper accompanied only by their respective numbers. They are, thus, part of a different system manifested by consecutive numbers that classify the specimens under a certain concept of organisation different from the one in Cibo's herbals.

As for the outer appearance of the plant per se, in *Erbario A*, the specimen has three leaves and roots, and it is, thus, similar to the wild ginger of the illustration. However, it is affixed together with another plant, and thus, the page's design is markedly different from the illustration. In *Erbario B*, which is closer to the creation of the herbal in terms of chronology, the dried specimen has four rather than three leaves and does not include the plant's roots. Although roots will be discussed extensively in Chapter 3, at this point, it should be noted that basal parts were not always included in Cibo's illustrations either, and even when they were, this did not always guarantee his actual knowledge of the plant's root system, as seen in the example of the sea spurge illustration above, where the depicted bulb has been erased at a later stage.

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[98] For Cibo's text, see Add MS 22332, f. 91v. For Mattioli's text, see Mattioli, *I Discorsi*, 40. For the rest of the thesis Mattioli's 1568 edition will be cited.
[99] Add MS 22332, f. 91v.
[100] Add MS 22332, f. 91v.
[101] Add MS 22332, f. 91v.
[102] Marie, Jeanson, and Sautot, *L'Herbier*, 50.

Despite these discrepancies in the appearance of the dried and the illustrated wild ginger, their arrangement on the page highlights a strong connection between them. Apart from the fact that both occupy the central part of the page, the leaves are arranged in almost the same way. Thus, the two leaves on the left overlap in the same way (fig. 2.22), while the flower occupies the same space next to them (fig. 2.23). In addition, although in a different way, the leaf on the right has been reversed so as its lower surface to be visible (fig. 2.24). The reversal of the right leaf, the overlapping of the two leaves on the left, the placement of the flower, and the whole display of the plant cannot be mere coincidences. This striking resemblance in their arrangement makes the dried wild ginger and the illustrated one look almost identical.

As far as the arrangement of plants is concerned, there are quite a few other examples where Cibo's herbarium specimens are placed in a similar way to their illustrated counterparts, the most noticeable of which are the examples of saffron crocus, meadow saffron and mouse-ear hawkweed (fig. 2.25 – fig. 2.27). Both dried and illustrated specimens of saffron crocus are placed at the bottom left of the page, while the two specimens of meadow saffron have been placed in the same order next to each other. As for the mouse-ear hawkweed, in both cases, the right stem of the plant extends towards the right side of the page. Although this could be interpreted as simply an arrangement fitted in the plant's anatomy at first glance, that is not entirely true, as there was also the choice of placing the left stem towards the left side of the page.

The stylisation of plants is a practice that can be traced throughout Cibo's work. Wild ginger has been portrayed close to an angel amid clouds in Cibo's composition, and at the same time the plant's arrangement at the centre of an empty page in *Erbario B* evoke ideas related to the opposites of earth-sky/gravity-lightness. When examining his oeuvre, there are some examples suggesting the same concept of plants moving between earth and sky, materiality and mental imagery. The most illustrating example that epitomises this concept is the dried specimen of southern bugle (fig. 2.28). The plant is affixed to the top half of the page (the space where the sky is usually depicted in Cibo's illustrations), whereas its roots are placed in the most dynamic way, giving motion and life to the plant. In his illustrations, Cibo often drew plants between the sky and the earth, whereas he also drew a tongue fern specimen floating in the air amidst the sky (fig. 2.29). Thus, this idea of plants being presented in a way that gives them a sort of movement and interior life is a concept that unites these dried and illustrated specimens.

Stylisation can also be seen in a different way in the example of dried and illustrated scarlet pimpernel (fig. 2.30). In these examples, Cibo trimmed the roots and placed the leaves and flowers in a highly decorative way. It is unlikely, thus, that one escapes stylisation when creating an image of

a plant, and in most cases, the inclusion of his style can be traced in the representation. Interestingly, the botanists Diane Bridson and Leonard Forman caution against a stylised display of dried plants in modern-day herbaria, advising the modern-day collectors to present their specimens in a way that its characteristics are as visible as possible and 'not just to show the most pleasing or artistic arrangement'.[103] Stylisation is, thus, a characteristic still visible in modern-day collections (otherwise, there will be no need for the above warning) and can be observed in early modern collections as well, linking the dried with the illustrated plants in the case of Cibo's oeuvre.

As already noted, Cibo included the reverse side of a leaf in his wild ginger illustration and dried specimen. A common technique throughout Cibo's work, the inclusion of both sides of plant parts often occurs in the case of leaves, flowers and fruits. For example, in both illustrated and dried strawberry specimens, Cibo presented the flowers in a full-frontal position and profile, while he also reversed some of the flowers to make their back visible (fig. 2.31). A typical characteristic of early modern herbaria and herbals, the inclusion of flowers and fruits can be seen throughout Cibo's work. For example, Cibo placed the basal leaf rosette next to a branch with flowers in both his dried and illustrated specimens of 'sassifragia' (fig. 2.32).[104] Cibo not only included flowers, but he also sometimes encompassed the plant's fruit. For instance, he placed branches with flowers next to branches carrying seedpods in both his herbal and herbarium specimens belonging to the genus *Lunaria*, commonly known as honesty (fig. 2.33). A similar display is present in the Kraków, Jagiellońska Biblioteka Cyfrowa, *Libri picturati* A16-31, where honesty's seedpods and flowers are seen together (fig. 2.34), bringing questions about the relationship between time, nature and representation to the fore.[105]

Indeed, time is circumscribed into both types of collections. Apropos botanical illustrations, they depict a particular plant, having as a goal to either evoke a specific specimen, as in the case of Weiditz's image of the greater burdock, which is depicted withered (fig. 2.35), or a more generic image that excludes certain signs of time.[106] With respect to herbarium specimens, they can evoke a specific temporal context in like manner or escape their timeframe to a certain extent. For example, when collectors add plant parts at a later point or affix together fruits and flowers not typically seen in nature at the same time, these can be considered as efforts to transcend time. Furthermore,

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[103] Diane Bridson and Leonard Forman, eds., *Herbarium Handbook 3rd Edition* (Richmond: Royal Botanic Gardens, Kew, 2010), 66.
[104] Both plants have been annotated: 'Saxifrag.' is written in the middle of the page in *Erbario B* and 'Sassifragia' at the top of the page in the British Library manuscript/a. They could be identified as *Sison amomum* (stone parsley) or *Pimpinella saxifraga* (burnet-saxifrage).
[105] Egmond, *Eye*, 131-2, 147. The *Libri Picturati* can be found online, see "Libri Picturati," Jagiellońska Biblioteka Cyfrowa, accessed September 16, 2023, https://jbc.bj.uj.edu.pl/dlibra/publication/236888/edition/928387.
[106] For Weiditz's burdock, see Arber, *Herbals*, 206.

mounting plants to a herbarium is a complex process through which the specific specimen changes appearance and internalises a different context. This is not to suggest that plant specimens can completely escape their timeframe, for every work is imbued with signs of the period during which it was made. In the case of the works in question, colour is the most indicative manifestation of how time leaves its marks on their material essence, either on the dehydrated, dried leaves or the fading colours of the illustrations (a thorough consideration of colour in dried specimens and plant illustrations will follow in subsequent chapters). However, the way specimens were treated (either highlighting or concealing specific traits) and the concept behind their creation was a matter of choice. In the case of Cibo, it seems that he mainly created generic images of plants that would encompass the necessary characteristics for their identification, as in the case of honesty seen above, where both its seedpods and flowers are included.

One other technique that Cibo applied to both his herbarium collection and plant illustrations is the truncation of specimens. For example, in the illustration of common gromwell, he depicted only the lower part of the right branch, while in his herbarium specimens belonging to the same genus, he most probably cut off a branch from the specimen on the left (fig. 2.36). Interestingly, he followed this method in both representations, even though he could have depicted the whole plant in his illustration. A strong link is manifested, thus, in such examples, where the treatment of plants remains the same even though the means and potential of each medium are different. Cibo also applied this technique in other examples, probably as a way to render plants more easily perceived and studied.

Although not always the case, Cibo sometimes drew the plants flat. For example, the flowers of common rock-rose (fig. 2.37) are depicted without any sign of volume. Their colouration is almost transparent, and only a thin black line gives a rough outline of their shape. The flatness of plants in herbals is reminiscent of the actual pressing of specimens destined for herbaria and suggests that the illustrator possibly was bearing in mind, or even consulting, the flat dried specimens of a herbarium when creating his image.[107] Probably because of the flatness of specific illustrations of Carrara herbal, Smith mentions that they were drawn from pressed plants.[108] Although Cibo used devices to create depth in some of his images (for example, wild ginger's leaves and bud present a certain degree of volume), perspective and shadows are not always exploited. This play of volumes (flatness–bulkiness, two-dimensionality – three-dimensionality) transcends Cibo's work and is an issue related to both his herbals and herbaria.

[107] Egmond, *Eye*, 116-8.
[108] Smith, "Artisanal Knowledge," 16-7.

Concluding remarks

With the close co-examination of dried and illustrated plants, the chapter offers a new insight into Cibo's working practice that has not been looked at before. The abovementioned similarities strongly link Cibo's herbal and herbarium specimens and indicate their close relationship. The observation that Cibo used similar techniques to present the same plants, as indicated above, provides strong evidence in favour of the attribution of the herbarium in question to Cibo.

In general, both collections can be interpreted as portable pieces of nature and are the result of Cibo's interaction with the natural world. After studying the common patterns in his approach to nature, it can be concluded that Cibo was both a faithful observer of the natural world and a creator of new images of natural subjects at the same time. He was a faithful observer since he created images that encompassed useful and accurate botanical information necessary for the plant's study. He was also a creator of new images of the natural world since he added an extra layer of meaning with his interventions that were based on his viewpoints. For example, the presence of a narrative in many of his painted backgrounds that accompany his plant illustrations, the dynamic way in which he affixed southern bugle's roots, and many other examples that were already discussed or will be discussed, manifest his personal style and imagination behind the creation of each of his works.

Because of this approach, his works straddle the boundaries of nature and art. Neither natural nor artificial, his herbal and herbaria blur the lines between the natural and artificial spheres. As for his dried specimens specifically, they have natural origins, but their nature has changed through the craftsmanship of the collector, who uprooted, dried, pressed, trimmed and affixed them to paper sheets. This is where the role of imagination comes into play. Cibo not only dried the specimens but also united plant parts not seen originally in this way, truncated specimens, and generally used his creativity to reach the final result. As for the illustrations, he referenced the natural prototypes throughout his oeuvre and even used colours of natural origin extracted from plant juices (a topic that will be discussed in more detail in later chapters). In other words, he continuously used his artistic skills and ideas to create the works that we much admire today, changing the original natural context of the plant into something more complex.

Apart from the conclusions drawn concerning Cibo's approach to nature, the similarity in the presentation of dried and illustrated plants in Cibo's oeuvre suggests that he used his herbaria, which were created at an earlier date than his herbals, as a point of reference for his botanical

images. In doing so, Cibo gives insight into the creative process of making botanical illustrations during that time. Specifically, the chapter suggests that apart from the rich visual culture of his time and the living specimens per se, he also exploited dried specimens mounted on herbaria. Although Cibo and his oeuvre have not received tremendous attention from scholars, this does not diminish the fact that his example could offer reflections on early modern practices more generally and the relationship between the different fictive representations of the natural world. The already noted examples of Mattioli, Clusius and the creator of the Carrara herbal further support this argument. Apart from enriching our knowledge concerning the production of botanical imagery, the chapter also brings to the fore Cibo's methods of collecting plants, practices that were an integral part of the natural-historical study in sixteenth-century Italy. Despite the focus of the chapter on the specific naturalist, I hope it lays the foundations for a better understanding of the creation of this imagery.

Chapter 3: Drying plants as a tool for understanding early modern practices

An overlooked dried leaf

Chapter 2 focused on the relationship between dried and illustrated plants in Cibo's oeuvre, and reflected on how this may be suggestive about wider practice in the early modern period. At the beginning of this chapter, one further aspect of their interconnection will be explored, namely the presence of dried leaves and other plant parts within pages of early modern herbals. Indeed, the practice of keeping plants inside books can be traced to well before Cibo's lifetime, and the subject matter of the books in which they were preserved is not restricted to natural history. For example, Thomas DaCosta Kaufmann and Virginia Roehrig Kaufmann reference the preservation of dried plants inside books of hours, the Material Evidence in Incunabula database records the existence of a dried plant inside a fifteenth-century philosophy book, the University of Edinburgh holds a copy of the *Lexicon Graecum Souida* dictionary with both dried plant parts and impressions of flowers on its pages, and the list can go on.[1] However, the development of natural history in the early modern period and the growing body of literature related to this field provided a new context for this practice, where dried plant parts shared the same space with botanical illustrations and texts.

The hypothesis that these plants found their way by chance into natural history books seems unconvincing, especially since many preserved materials are directly linked with the book's contents. Julia Heideklang's research concerning a group of botanical books housed in the Biblioteca Botanica and the Biblioteca Marucelliana, both in Florence, has shown that there are more preserved plants that correspond to the contents of the book they are in, than those that do not seem to have a direct link.[2] However, Heideklang also suggests that it is possible that some plants could have been preserved unintentionally within the pages; for example, plant matter could have fallen when a reader was comparing specimens with the text.[3] Even in this case, the preserved plants belong to the context of the developing field of natural history and are directly linked to the early modern investigations of nature.

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[1] For dried plants inside books of hours, see Kaufmann and Kaufmann, "The sanctification," 42-3. For the dried plant inside a fifteenth-century philosophy book, see "De proprietatibus rerum," Material Evidence in Incunabula, accessed September 16, 2023, https://data.cerl.org/mei/02142340. My thanks to Elizabeth Quarmby Lawrence, Rare Books librarian at the Edinburgh University Library, for bringing to my attention plant remains within books belonging to the university's collection, including the *Lexicon Graecum Souida*.
[2] Julia Heideklang, "Leaf: The Twofold Materiality of Early Modern Herbals," in *Natural Things in Early Modern Worlds*, eds. Mackenzie Cooley, Anna Toledano, and Duygu Yıldırım (Abingdon; New York: Routledge, 2023), 276-81, Table 9.1.
[3] Heideklang, "Leaf," 282.

As noted in the previous chapter, Penzig suggested that Cibo probably kept his dried specimens loose inside thick books, but he 'searched in vain for some traces in the books that already belonged to our author'.[4] Thus, my acquaintance with a dried leaf (fig. 3.1) in Cibo's copy of Fuchs' *De historia stirpium*, now preserved in the Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, complements and further supports Penzig's research. Although the existence of Cibo's copy was already known, the presence of the leaf has gone unnoticed in the literature. Between this single leaf and the contents of the book, a direct link can be drawn. The leaf, dried and loose, and the two illustrated plants on the facing pages that enclose it are examples of the same plant species. The illustration on the left page bears the name 'Quinquefolium maius luteum', while the one on the right 'Quinquefolium minus'. In other words, both dried and printed specimens seem to belong to the *Potentilla reptans* species, known as the creeping cinquefoil. Apart from this leaf, there are also some other plant remains in other parts of the book; however, these are not in good condition, and it is impossible to identify them (fig. 3.2).

The fact that the pages enclosing the specimen do not have any kind of stain demonstrates that the specimen was probably placed after it had already lost all its juices (otherwise, it would have left a mark). The size of the book also suggests that it was probably not used during botanical excursions, and, therefore, the specimen was not plucked during one such trip and placed within. Even if there is not any primary source that would indicate with certainty the person who placed the plant there, the fact that Cibo knew and collected the same plant, at least in one other instance, suggests that he could have been the one who placed it there. Creeping cinquefoil can be found among other dried specimens preserved in the third volume of *Erbario B* (fig. 3.3). The Index that accompanies the collection, created by the same hand as the herbarium, calls the specific specimen 'Pentaphyllum', which is the Greek version of 'Quinquefolium'.

Nevertheless, it should also be noted that the specimen inside Fuchs' book is loose and thus extremely fragile, while at the same time, the book has its own history after Cibo's death. Bearing the stamp 'Biblioteca Corsinia vetus', it is a part of the nucleus of books that entered the library before 1754, belonging to Lorenzo Corsini's family collection.[5] Thus, in order for the leaf to be in this excellent state of preservation (the leaf is complete and has no damage to its margins), either the book was not used frequently, or it was placed there by a later reader. A nineteenth-century note

[4] 'cercato invano qualche traccia nei volume che già appartenevano al nostro autore', see Penzig, *Contribuzioni*, 10.
[5] Mangani and Tomasi, "Manoscritti," 235. For the addition of the stamps *Bibliotheca Corsinia vetus* and *Bibliotheca Corsinia nova*, see Armando Petrucci, "I Bibliotecari Corsiniani fra Settecento e Ottocento," in *Studi offerti a Giovanni Incisa della Rocchetta*, ed. Giovanni Incisa della Rocchetta (Rome: Societá romana di storia patria, 1973), 409.

testifies to the continuation of this practice, although in a different context. Specifically, the note inside the front cover of *Lectura super secundo Decretalium* (1477) now preserved at the library of the Law school in Harvard University, reads: 'Alexr. S. Jenkins. Decr. 22nd. 1856. To keep his dried leaves in.' indicates the presence of this practice up to the nineteenth century, at least in the English context.[6] Therefore, dried specimens' preservation inside books can span for many years, rendering the identification of the collector a laborious task. The method that can give accurate results about the age of a plant specimen is carbon dating; however, this is a long and specialised process that cannot be used in this instance.[7]

Even if the identity of the person who placed the leaf within the pages remains obscure, they most certainly should have had a particular interest in natural history. As already mentioned, the dried leaf belongs to the same plant species as the illustrations, and therefore, it is quite possible that its presence can be explained within the context of studying the plant in question. Moreover, it is suggested that they were also actively engaged in knowledge acquisition; collecting, drying, touching, and juxtaposing the plant specimen to the text and botanical illustrations suggests a person having a multifaced approach to the natural world. This juxtaposition of dried and illustrated plants shows their closeness in the naturalists' perception but can also be viewed in light of the different experiences they offer. As already seen, Cibo himself was involved in different projects concerning nature and could well have been the collector who placed the dried plants inside his book, but this must remain a tantalizing possibility without more conclusive evidence.

The following part of the chapter will present my experiences of creating dried specimens myself. As noted in the Introduction, this has been informed by the RRR methodology, which over the last decade has shown how re-making allows researchers further insight into early modern materials and practices. My goal is to gain a better understanding of this early modern practice of drying plants, which were then kept either in isolation among the pages of books (as in the previous example) or placed collectively in herbaria (like, for example, in Cibo's collection of dried plants at the Biblioteca Angelica).

Collecting and drying plant specimens as part of historical research

[6] "Lectura super secundo Decretalium," Material Evidence in Incunabula, accessed September 16, 2023, https://data.cerl.org/mei/02010854.

[7] My thanks to Lesley Scott, Assistant Herbarium Curator at the Royal Botanic Garden Edinburgh, for sharing information about carbon dating.

Isagoges in Rem Herbariam by Adriaan van de Spiegel includes, to my knowledge, the earliest known guidelines on how to create herbarium specimens in the Italian context.[8] Published in 1603 or 1606, the book came many decades after the creation of the earliest herbaria preserved today (many of which are noted in the previous chapter). Nevertheless, it encompasses the most extensive text of the early modern period that discusses the creation of herbaria. Most of the naturalists of that period often neglected to give details on their technique for drying plants, usually focusing on other aspects of herbarium collections. For example, Cesalpino's handwritten letter at the beginning of his herbarium addressed to Bishop Afonso Tornabuoni, focuses on the purpose of herbaria as a tool for comparison and plant identification, also discussing the arrangement of plant specimens according to specific criteria (introducing in this way the concept of classification) rather than the actual procedure of their creation.[9] Sometimes, though, naturalists would give some descriptions concerning the technique. For example, Aldrovandi's description of the procedure reads:

> Apart from this, you still need to increase your ability to dry all sorts of rare plants by placing them in scraps of paper that are not suitable for writing; they are placed in such a way that one does not touch the other, inserting three sheets between each plant, so that the humidity of one does not corrupt the next. Then, be aware that every three days one should change the paper because it absorbs all the dampness and getting wet through this moisture would easily cause decay and that you should make this change five or six times in a period of fifteen days when it dries. And in doing so, they remain so dry and green with their natural colour, and can then be easily glued into books, as I did in mine.[10]

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[8] Adriaan Van de Spiegel, *Isagoges in rem herbariam. Libri Primi* (Padua: Paulum Meiettum ex typographia Laurentii Pasquati, 1606), 79-81. Van de Spiegel's book can be found online, see "Adriani Spigelii Bruxellensis philosophi ac med. pat. Isagoges in rem herbariam libri duo. Ad illustrissimam quae patavii est germanicam nationem," Les Bibliothèques D'université Paris Cité, accessed September 16, 2023, https://www.biusante.parisdescartes.fr/histoire/medica/resultats/index.php?do=chapitre&cote=pharma_res012063.

[9] Moggi, "L'erbario," 12-4.

[10] 'Oltra questo avrebbe ancora bisogno per aiumento di questa facultà, essiccare ogni sorte di piante pellegrine, ponendole nelle carte straccie che non sono atte a scrivergli sopra, et si pongono in modo ch'una non tocchi l'altra interponendossi fra ciascuna pianta tre carte, acciò che l'humidità d'una non corrompa l'altra prossima. Appreso avvertendo che ogni tre giorni si mutano perche quella carta sorbisce, tutto l'humido et bagnandosi per l'humore facilmente saria causa di putredine, et questa mutation si fa cinque o sei volte, a talche uno spacio de quindeci giorni si secca. Et facendo a questo modo restono talmente essiccate, e verdi col suo colore naturale, che di poi agevolmente si possono agglutinare ne' libri, com'ho fatto io nelle mie', reproduced in Leonardo Magionami, "L'Hortus siccus Pisanus di Castiglion Fiorentino," in *Gli erbari aretini da Andrea Cesalpino ai giorni nostri Museo di storia naturale*, eds. Chiara Nepi and Enrico Gusmeroli (Florence: Firenze University Press, 2008), 31.

As for Mattioli, he briefly refers to dried plants in his treatise, recommending their desiccation through air exposure and not through compression between sheets, as the two previous sources do. Specifically, he suggests placing and covering the specimens with sheets of cloth, as well as turning them over, so that they do not become yellow.[11] A little further down the page, he briefly mentions examples of plants that are dried better when placed over a fire.[12] However, he is not known to have created a collection of dried plants, while he confessed in his letters that he did not keep the specimens he used.[13] Mattioli was also focused on the plants' medicinal value, stating that 'these flowers that lose all their colour when dried, are of no value whatsoever in medicine'.[14] He also confessed to Androvandi: 'You know that I have never cared to observe dried plants, save for some of the rarest ones, having resolved that I do not wish to show them except in my commentaries where they are printed'.[15] He, nevertheless, used dried specimens that were sent to him for the creation of the illustrations of his treatise, as already mentioned in the previous chapter.[16]

In the description of *Amaranthus purpureus*, the English translation by Henry Lyte of Rembert Dodoens' *A niewe herball, or historie of plantes [...]*, which was written in Dutch and published in 1554, reads: 'but may be preserved and kept a long time in theyr colour and beautie, especially if they be dryed in an oven that is halfe hoate'.[17] Dodoens refers here to a third way of desiccating plants by applying heat. He writes that the plant will keep its colour if dried in an oven, while he also advises the reader to keep the oven at medium heat.

Mattioli and Dodoens do not specify the cause of plant desiccation, and the fact that they were naturalists does not necessarily mean that they had the creation of specimens useful for their investigations in mind. Furthermore, there were various reasons behind plant desiccation in the early modern era, including decoration, dietary needs, and artistic production, to name a few. For example, the late sixteenth-century recipe 'Keeping dry flowers in the same state all year' in the BnF Ms. Fr. 640 (c.1580–1600) manuscript, on which the Making and Knowing Project is focused, gives

[11] Mattioli, *I Discorsi*, 7.
[12] Mattioli, *I Discorsi*, 7.
[13] Saint-Lager, "Histoire," 16-7.
[14] 'quei fiori, che nel seccarsi perdono in tutto il colore, non sono di valore alcuno nella medicina', see Mattioli, *I Discorsi*, 7.
[15] Translated in Findlen, "The Formation," 391-2. Reproduced in Carlo Raimondi, *Lettere di P.A. Mattioli ad Ulisse Aldrovandi* (Siena: Tip. e Lit. Sordomuti di L. Lazzeri, 1906), 58.
[16] Saint-Lager, "Histoire," 15-6.
[17] Rembert Dodoens, *A niewe herball, or historie of plantes [...]*, trans. Henry Lyte (London: Gerard Dewes, 1578), 168.

instructions on how to preserve plants with the help of sand or vinegar for decorative purposes.[18] There was, therefore, a variety of methods that early modern people applied in order to dry out their plants; pressing, air-drying, heat-drying and placing them in sand or vinegar were the ones that I was able to trace in the early modern writings, but there perhaps could have been more.

All the above sources add to our knowledge of handling plants after their collection. However, the two texts that mainly informed my practice are those by Van de Spiegel (despite his book being published a few years after Cibo's death) and Aldrovandi, whom Cibo knew. Not only are they the most extensive ones, but they are also explicitly focused on the making of herbaria specimens, presenting a similar procedure without many discrepancies. The relationship between Aldrovandi and Cibo could suggest that they most probably prepared specimens in the same way.[19] Furthermore, after carefully viewing Cibo's specimens mounted in his herbaria, it is clear that they present a flattened appearance. Especially in relation to the bulkier specimens (for example, fig. 3.4), it would have been very challenging to achieve this flattened appearance that they present today without applying any weight during the drying process. In addition, there are also no signs of sand or vinegar, which would have probably left a mark on the paper if used. Unfortunately, Cibo's notes do not reveal any information concerning the procedure he followed, and the only relative reference is a recipe on how to draw a dried rose.[20] In my reconstruction of dried specimens, the practice of pressing plants between sheets of paper described by Van de Spiegel and Aldrovandi was preferred over the other methods, but the different techniques for plant desiccation available to early modern practitioners should be kept in mind, since Cibo may well have experimented with more than one.

Like the early modern practitioners, I was also presented with various choices. My goal was to get close to the original process, but my making procedure was not result-oriented. As discussed in the Introduction, the process of making can be as important as the results in recent reconstruction methodology. Thus, modern materials and recent writings on preparing herbarium specimens were also used when judged appropriate since my goal was to gain insight into the practice and tacit knowledge of early modern practitioners rather than create dried specimens characterised by high historical accuracy.

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[18] Folio 120v, see "BnF Ms. Fr. 640," Making and Knowing Project, accessed September 16, 2023, https://edition640.makingandknowing.org/#/folios/120v/f/120v/tl; All excerpts from BnF Ms. Fr. 640 are taken from the manuscript's translation by the Making and Knowing Project. For an essay concerning the specific recipe, see Caitlyn Sellar, "Keeping Dry Flowers in the Same State All Year," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, eds. Pamela H. Smith et al. (New York: Making and Knowing Project, 2020), n.p.

[19] For their relationship, see Toni, "Spigolature Aldrovandiane," 99-108.

[20] Leiden, Universiteitsbibliotheek, Ms VGG 5q, f. 59r-59v.

The role of tacit knowledge is at the core of the performative methodology used throughout the thesis, bringing together the reconstruction methods applied in Chapters 3 and 5 with the focus on the senses, walking through and re-enactment in Chapter 7. These three chapters explore how knowing is in the making/experiencing through the body. In Chapter 7, re-enactment unveils insights into historical life and culture through the immersive experience of walking. In Chapters 3 and 5, reconstruction methods take the same immersive approach of re-enactment but apply it with a greater focus on the technical and material processes, investigating how historical objects were made and how specific early modern techniques were performed. The application of these methods revealed a close relationship between them, suggesting that reconstruction practices are an extension of re-enactment methods.

The making of dried specimens and a herbarium

The plant specimens were collected in May 2018 from three different locations Mid- and West Lothian, Scotland (one day for each location).[21] I went on these excursions during dry days since rain would impede the procedure. In addition to the wild plants collected from these regions, some houseplants have also been selected and dried for the purpose of this chapter. The two criteria for the selection of specimens were availability and variety, also bearing in mind Cibo's historical collection. Although our goal was not to create specimens identical to those found in Cibo's herbarium, having them as a guide proved to be extremely fruitful, as highlighted in the case of poppies below.

When I arrived at each location, I first looked around to familiarise myself with the surroundings and, specifically, the flora of the area. Concerning the first criterion of plant selection (availability), I searched for plants found in large amounts in the landscape to avoid cutting a rare or threatened plant.[22] In general, I selected plants that seemed to be vigorous, avoiding those that were damaged by insects or other factors. The majority of the selected specimens were flowering plants since May is a period when these are abundant in Scotland, something that coincides with the early modern collecting trend that favoured plants in bloom. Moreover, I also tried to demonstrate the various stages of a plant's development (according to the second criterion of variety) by including, when possible, both buds and mature flowers, a feature that can also be observed in early

[21] These are the Union Canal, the Meadows and a walking route near Wilkieston. These places were selected to cover as many different habitats as possible (stream edge, meadows, and roadside, respectively).
[22] One should also bear in mind that in some cases a permit is required for collecting, see Bridson and Forman, *Herbarium*, 193; Lyn Fish, *Preparing Herbarium Specimens* (Pretoria: National Botanical Institute, 1999), 5-7.

modern herbaria. Variation in leaf and flower size, as well as in colour, was also taken into consideration throughout the plant selection procedure. Although there are few examples of bryophytes (mosses, liverworts, and hornworts) preserved in Cibo's herbaria and other collections, all my selected specimens belong to the dominant group of the plant kingdom, namely the vascular plants, again following the focus of early modern collections.[23] From this broad category, I mainly collected angiosperms (flowering plants) and ferns.

For collecting the specimens, I used secateurs and, for carrying them, plastic bags for practicality. In the early modern period, a sharp knife was likely used to cut specimens that would then be transported presumably in waste paper or cloth. Both collecting and placing the plants to dry under the heft of books were completed in one day because I wanted them to be freshly collected when put to dry. Otherwise, they could wilt and fade, and at the same time, they become more susceptible to fungal attacks.[24] Modern-day writings informed these first steps due to the lack of relevant reference in Van de Spiegel's and Aldrovandi's texts.[25] The author of the previously mentioned BnF Ms. Fr. 640 manuscript, makes mention of the desired freshness of plants before being molded.

> One needs to choose them in their full verdure & vivacity, & not pick them, if possible, until the time one will want to mold them, so that they do not wilt. Or, if you need to carry them from afar, soak their stems in a bottle of water or, better still, wine.[26]

Although referring to a different procedure, the author's suggestion that plants should be fresh when possible was likely also the case for creating herbarium specimens.

After collecting, I laid the plants on the work table, spreading their parts as much as possible to avoid overlap and removing the soil by shaking and cutting away excess material when necessary. Then, I followed a procedure similar to the one described in both *Isagoges* and Aldrovandi's text cited above, where specimens are placed between sheets of paper. Specifically, each specimen was enclosed in a layer of corrugated cardboard (the outermost layer) and two layers of wrapping paper sheets (forming the inner layer). I did not choose hard paper (lest it destroy the specimens) but an absorbent type of paper that takes away the moisture from plants, even though Van de Spiegel suggests that white paper should be used ('put it between two sheets of white paper'), and cautions

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[23] By vascular plants, I mean flowering plants, conifers, ferns and fern allies, see "Iowa's Fragile Flora," University of Iowa Herbarium, accessed September 16, 2023, http://bio.cgrer.uiowa.edu/herbarium/HerbariaAndSpecimens.htm.

[24] Tony Bean, *Collecting and preserving plant specimens, a manual* (Brisbane: Queensland Herbarium, 2016), 4, 10.

[25] For example, for the use of polythene bags, see Bridson and Forman, *Herbarium*, 194.

[26] Folio 117r, see "BnF Ms. Fr. 640."

against the use of absorbent paper ('Paper of lower quality, which absorbs liquid, should not be considered appropriate, even though everyone used it for this purpose up to this time').[27] As Van de Spiegel testifies (even if he disagrees) and Aldrovandi confirms ('placing them in scraps of paper that is not suitable for writing', cited above), an absorbent type of paper of lower quality was more commonly used in this procedure than paper for writing. Even nowadays, absorbent paper is used for the pressing and drying of plants by professionals.[28] As already noted, two sheets of paper are suggested by Van de Spiegel and three by Aldrovandi. However, I also enclosed the specimens in corrugated cardboard, lest the moisture would penetrate the layers of absorbent paper sheets and destroy them.[29]

Each specimen was enclosed on its own, carefully arranged so that the different parts would not overlap and, therefore, be as visible as possible. The prepared sheets, together with the outermost layers of corrugated cardboard, were placed on top of each other, forming a pile. When forming the pile of sheets, I tried to balance its volume by placing the bulkier plant parts on different sides, avoiding putting them all in the same spot (for example, all gathered in the centre of the pile). Even though some treatments can prevent flower decay and colour discolouration, for example, using an alcohol-bichloride of mercury solution, I did not treat the specimens with any substance, for there is no such indication in the early modern sources that I consulted.[30]

Once prepared, Van de Spiegel suggests placing the specimens inside a book:

> The sheets mentioned earlier should then be placed in a thick book with many pages following the size of the sheets that will be placed within. A weight is superimposed on this book, where gradually, by the means of the presser as it is, the plant is compressed.[31]

I did not enclose the specimens inside a book because the layer of corrugated cardboard made the prepared sheets too bulky. Instead, I placed heavy books on top of the pile, exerting pressure on the plants. I took care to find books that were larger than the sheets where the specimens had been

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[27] 'inter chartae candidae duo folia ponantur', see Van de Spiegel, *Isagoges*, 80; 'Nam ignobilior charta, & quae per fluit, quanquam ab omnibus hactenus recipitur ad hunc usum, nequaquam apta censetur', see Van de Spiegel, *Isagoges*, 80.

[28] Fish, *Preparing*, 21.

[29] Corrugated cardboard is used in plant presses to facilitate air circulation, see Bridson and Forman, *Herbarium*, 27.

[30] For the application of alcohol-bichloride of mercury as a treatment before the drying process of plants, see W. H. Horr, "Techniques in Preparing Herbarium Specimens," *Transactions of the Kansas Academy of Science (1903-)* 52, no. 2 (1949): 258.

[31] 'Ponenda autem ea quae dixi folia in crasso, & plurium paginarum libro, qui respondeat magnitudini foliorum imponendorum. Libro huic superponatur pondus, quo tanquam torculari paulatim Planta comprimatur', see Van de Spiegel, *Isagoges*, 80. Also, Gessner's refers to the desiccation of plants within the pages of books, see Jules Camus, "Historique des premiers herbiers," *Malpighia* 9 (1895): 300.

placed in order for the weight to be applied evenly to every part of the plants. This was in accordance with Van de Spiegel's suggestion (cited above) that the prepared plants with the sheets should be placed in books with adequate-sized pages.

The specimens were then left on the worktable, which was in front of an east-facing window; therefore, the sun's rays contributed to creating a warm and dry environment so that plants could dry fast and without losing leaves and flowers.[32] Although, as mentioned, there is no reference to this practice by Cibo, he was aware of the power of sun rays and used it when, for example, he suggested placing a bladder vessel in the sun for the creation of green dye, a procedure that is discussed in Chapter 5. I did not use the help of any other kind of heating source, such as an oven, as suggested in the previously mentioned excerpt from Dodoens since there is no such reference in *Isagoges* or Aldrovandi's text. Placing specimens in an oven, in contrast to creating a warm and dry environment with sun rays, is a step that can cause drastic changes, and therefore, it is unlikely that the two scholars have simply omitted or forgotten to make a relevant note in their texts. Furthermore, too high a temperature can lead to the plants becoming very brittle.[33]

The specimens were left to dry for fifteen days, as Aldrovandi advised, occasionally checking their condition by slightly lifting the sheets, inspecting mainly for insects. Additional weight was added on top of the pile after a few days according to Van de Spiegel's suggestion that 'the weight should be gradually increased'.[34] Van de Spiegel also advised collectors to 'change the paper sheet until they come out completely dry'.[35] Aldrovandi has also suggested the frequent change of paper sheets, and thus, I also changed the sheets every two days, a procedure which is also in accordance with modern-day practitioners.

When completely dried, the specimens were mounted in a commercially available notebook. Ideally, rag paper sheets should have been used according to modern-day standards.[36] Even though rag paper sheets have a composition that is closer to that of early modern paper, I used an inferior substitute because my focus was on the process and the knowledge derived from the making rather than on the creation of a herbarium that would be characterised by high historical accuracy or fit the standards of a modern-day herbarium collection. In the same vein, I also used a commercially

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[32] For the critical drying temperature according to modern-day practices, see Fish, *Preparing*, 31.
[33] Fish, *Preparing*, 31.
[34] 'paulatim aggrauandum pondus', see Van de Spiegel, *Isagoges*, 80.
[35] 'chartamq; mutetis donec prorsus sicca euaserit', Van de Spiegel, *Isagoges*, 80.
[36] For the use of rag paper sheets for mounting in modern-day herbaria, see Bridson and Forman, *Herbarium*, 30-2. For notes on paper's weight, see Gordon P. DeWolf, "Notes on Making an Herbarium," *Arnoldia* 28, no. 8/9 (1968): 82-4. The University of Iowa Herbarium uses '100%, all-new cotton fiber with a neutral pH of 7.0-8.0 and buffered to resist external acid contamination' paper sheets, see "Iowa's Fragile Flora."

available adhesive rather than a glue made from bull's ears boiled with aloe, a piece of steel and powdered cloves, as Van de Spiegel suggests.[37] I preferred a water-based adhesive (methylcellulose), also used in modern-day herbaria, because it is easily reversible and allows for corrections if needed.[38] The glue was applied directly on the reverse side of the dried plants through the nozzle applicator, taking care not to apply too much and to avoid direct contact lest it would destroy the specimens by picking up fragments.

In general, as briefly noted above, some assumptions and changes in relation to the early modern procedure were made in order to proceed with our experiments in a reasonably timely manner. These include the use of modern-day secateurs, plastic bags, corrugated cardboard, modern-day wrapping and mounting paper sheets, and commercially available adhesive. Some conditions were also different. For example, the climate in twenty-first-century Edinburgh is utterly different from that in sixteenth-century Italy.[39] In addition, the placement of the prepared specimens under a pile and not within books, the application of an assumed weight onto the pile, and the exploitation of sun rays were variables that were informed in a different way compared to their early modern counterparts. Although my goal was not to compensate for all these variables, I undertook an additional experiment after the completion of my herbarium in order to test the results that different variants can have.

Because of the inconsistency concerning suitable paper for drying the plants between Van de Spiegel and Aldrovandi's text, I experimented with two types of paper to test if this would influence the result. Firstly, I gathered two flowers and two leaves from the same plant belonging to the genus *Cyclamen* (cultivated in a pot) and two inflorescences (meaning the complete flower head of a plant, also from the same plant found in the wild) of *Antirrhinum majus*, commonly known as common snapdragon. I then placed the first pair to dry within three layers of commercially available wrapping paper sheets (highly absorbent, and thus, closely related to Aldrovandi's suggestion) and the second one within handmade paper sheets made from 100% cotton from Fabriano (having therefore, a composition that follows Van de Spiegel's suggestion of white paper).[40] In this instance, I did not use the layer of corrugated cardboard, but I added an extra layer of sheets (three instead of two) to approximate the early modern procedure even more. Because of their relatively small

[37] For Van de Spiegel's reference of glue, see Van de Spiegel, *Isagoges*, 80-1.
[38] For the types of adhesives used in modern-day herbaria, see Bridson and Forman, *Herbarium*, 38-40; Fish, *Preparing*, 38.
[39] For some information concerning the climate of Northern Italy at that time, see Guido Alfani, "Climate, population and famine in Northern Italy: General Tendencies and Malthusian Crisis, ca. 1450-1800," *Annales de Démographie Historique* 120, no. 2 (2010): 23-53.
[40] White paper was used for writing and printing purposes, see Albro, *Fariano*, 66.

volume due to the absence of corrugated cardboard, it was possible to place the prepared sheets within books, as Van de Spiegel suggested. Then, I followed a similar procedure to the one described above (applying weight gradually, changing sheets, and letting the specimens dry for fifteen days).

Although at the beginning of the process, the colours of plants seemed to react differently to each kind of paper, in the end, the result was the same (fig. 3.5). Indeed, this observation cannot be generalised as every variable has its own effect (larger or smaller) on the result. However, it can suggest that Van de Spiegel's guidance concerning paper sheets for drying could have been simply a matter of choice. Even though Van de Spiegel's wording does not sound like a mere matter of preference, it could have well derived from a prejudice against the paper of lower quality. Van de Spiegel was the first to dedicate a whole section about this technique in his treatise; this fact suggests that he considered plant desiccation as a very delicate process, worthy of mention, in which only the best quality materials should be used.

Embodied knowledge and skills involved in plant desiccation

The above description of the different steps manifests the pivotal role of the body and experience in this multi-layered procedure. From the stage of collecting to the actual drying of specimens, early modern bodies were active in transforming the original appearance of plants into dried specimens. My attempt to create a herbarium revealed new ways of looking at these collections, bringing to the fore the embodied experience built when one engages in the procedure corporeally. Having as a reference point Cibo's historical specimens, these observations concerning my own experience and to which extent they can be projected onto the early modern practice will be presented below.

When all specimens had been dried, and before their actual affixation onto the notebook, I placed them on the A4 sheets of the notebook and aligned them the right way up to see if they fit, carefully removing any soil or dirt that was left. Although I had trimmed some of the specimens at the beginning of the procedure, some did not fit the page. The size of specimens is, therefore, an issue that early modern practitioners must have also had to deal with. Whether portions cut off a plant or complete specimens, their size can exceed the limits of a sheet. To cope with this problem, practitioners can either trim or place the specimen in a way that will fit the page. This latter can be achieved by folding or placing the specimen diagonally onto the sheet, depending on how much space is needed. Throughout his collection, there are numerous examples (discussed below) where Cibo applied both techniques, namely bending and diagonal placement, in order to accommodate

them on the folios. I, thus, tried to apply both his techniques only to find out that folding is impossible at this stage of the procedure since it would damage the dried specimens.

Therefore, the above process brought to the fore an additional step concerning the preparation of bent specimens that is not discussed in the early modern sources about the practice. Specifically, early modern practitioners must have arranged oversized plants in a certain way before putting them under pressure to dry. In other words, the highly bent historical specimens observed in Cibo's herbaria and other collections of the period must have been bent before their placement under weight to dry. This practice is also applied in modern-day herbaria, with practitioners carefully preparing the specimens by bending the stem, sometimes holding it into place with the help of paper slit-slips while in the press.[41] There are numerous examples in both *Erbario A* and *Erbario B* where specimens are bent in order to fit the page. Among them, there is an instance where, although the plant's stem is folded, its bending was not actually needed since the folio could have accommodated the size of the plant (fig. 3.6). This 'miscalculation' provides further evidence in favour of a preparation considering the plants' size at the beginning of the procedure. Their placement within books to dry, as suggested by Van de Spiegel, would have been a valuable guide to calculate their size for early modern practitioners, in addition to the experience built throughout the engagement with the procedure.

Since it was impossible for me to bend my already-dried plants without damaging them, I placed the over-large specimens diagonally, and when necessary, I also trimmed some parts. I tried both diagonal positions, namely attaching the stem at the bottom left and right corners of the sheet. From the beginning, it became clear enough that the positioning of the stem at the bottom right corner of the sheet was not suitable since it is used for turning the pages, rendering the specimen more susceptible to damage. In fact, after a few months, the bottom of the stem cracked, and, in the end, it was detached. Cibo also used this position. For example, in *Erbario A* (fig. 3.7), he placed a leaf and an inflorescence of *Helleborus foetidus* (stinking hellebore) diagonally, both of which have now lost their bottom part, originally attached at the lower right corner. In general, extreme edges of the mounting sheet should be avoided, as modern-day instructions advise.[42] The fact that Cibo did not always consider maintaining an imaginary border around the sheets suggests a certain awkwardness at having to mount specimens on sheets and gather folios for the creation of a bound collection.

[41] Bridson and Forman, *Herbarium*, 218.
[42] Bridson and Forman, *Herbarium*, 66.

These mistakes should be viewed in the context of the sixteenth-century understanding of these procedures. In Cibo's time, this was a newly introduced technique, and thus, there were not many references and extensive guidelines that would provide a solid base for the creation of herbaria. This interpretation can also explain the existence of a few specimens in *Erbario A* and one in *Erbario B* (fig. 3.8) on the verso of folios, another practice that makes specimens susceptible to damage. Although most of them have been placed on the recto of folios, affixed mainly at the centre, their affixation at unsuitable places on the sheets indicates a certain degree of inexperience and experimentation with different arrangements – this uncertainty and inexperience was echoed in my process of learning through practice.

In contrast to the difficulties in arranging the specimens onto sheets observed in *Erbario A* and *Erbario B*, the treatment of the plants themselves is highly sophisticated. My attempt to dry two poppy specimens with petals of different colours affirms the refined techniques that the early modern practitioner applied to his collected plants. Specifically, among the specimens I gathered, there were two examples of poppies, one with red and the other with orange petals. It is because *Erbario A* includes an example of *Papaver rhoeas* (corn poppy) that I selected this plant, in addition to its abundance in the area at that time of the year in Edinburgh. Having *Erbario's A* poppy with its two flowers and one bud (fig. 3.9) as a reference, I started the procedure with the specimen with the red flowers. First, I placed it on the worktable without any interference in its shape and followed the abovementioned steps. However, the result was very different to its historical counterpart. Specifically, its flower was pressed in such a way that it did not resemble Cibo's original large flower to the left of the sheet (fig. 3.10). Their main difference was in the shape of the two flowers, for Cibo's specimen had the frontal petals cut and moved aside from the flower, exposing its inner structure. Any attempt to separate these frontal petals from my dried specimen would possibly destroy it because, when dried, the plants become very brittle, and their shape cannot be altered drastically without any damage (as in the case of bending discussed above).

Thus, in my second attempt with the orange poppy, I tried to achieve an appearance similar to the historical specimen. In order to achieve this, a small incision was created in the frontal petals of the orange poppy with a sharp blade. Then, they were slightly shifted from their original position to the left to reveal the flower's inner structure. Finally, the specimen was put under books to dry, following the final steps of the procedure described above.

When comparing the two specimens (fig. 3.11), it becomes evident that Cibo's preparation is much more precise: the petals have carefully been put aside without any sign of damage, while wrinkling has been limited to the minimum. The result indicates an experienced hand that achieved

the dissection with one precise incision. My specimen, with its extensive wrinkling and loss of the original round outline of the petals, demonstrates the virtuosity that early modern practitioners must have had when preparing their dried plants. Therefore, in addition to the extra care given to oversized specimens discussed above, the preparation stage must have included this kind of dissection when practitioners wanted to reveal the inner structure of plants.

It was this first attempt and the visual differences between my dried red poppy and Cibo's specimen that prompted my close observation of the early modern specimen, which in turn revealed Cibo's intervention in the plant's appearance. This first effort also proved that it is highly improbable that the front half petals in Cibo's specimen were removed by accident or that this happened over time since the front and back petals of my red poppy specimen now form a solid unit, which is very difficult to separate. Indeed, the observation that Cibo has removed the frontal petals of flowers in order to reveal their inner structure has already been made in the literature by Penzig concerning at least two specimens, as already noted in Chapter 2 (fig. 2.14 and fig. 2.15).[43] However, as the example of the poppy suggests, this seems to be true for some other specimens that are not mentioned in Penzig's publication. It was the process of making the herbarium specimen that offered an alternative understanding of the historical dried plants through comparison and close inspection, revealing more instances where Cibo intervened in the original appearance of plants and, at the same time, hopefully provoking an ongoing discussion concerning the existence of similar techniques in this and other early modern herbaria.[44]

While Cibo focused on making the inner structure of the poppy visible, his specimen lacked its basal leaves and root system. Basal parts of plants are not always present in Cibo's collection, and this observation raises questions about the practicalities and criteria concerning the inclusion – or not – of certain parts. Although the exclusion of basal parts seems legitimate in cases such as large plants and shrubs (because of their size and volume), there are some other instances where this does not seem readily explainable. Despite the fact that many folded specimens in *Erbario A* and *Erbario B* concern complete specimens that maintain all their parts, there are instances where the same technique could have been applied successfully to other specimens as well. Nature offers a variety of sizes, and early modern practitioners would have access to both large and small specimens that would fit the herbarium's sheets. For example, in *Erbario B* (fig. 3.12), another poppy flower is included, but this time, together with some detached leaves and an entire, small specimen that was bent to fit in the same sheet. Therefore, there must have been specific criteria followed by early

[43] For the specific specimens, see Penzig, *Contribuzioni*, 13-4.
[44] Apart from the poppy specimen, there are at least two specimens of lilies where the front petals have been removed, see Rome, Biblioteca Angelica, Ms 2346, f. 179r and Rome, Biblioteca Angelica, Ms 2347, f. 12r.

modern practitioners when deciding to include or exclude basal parts of plants. In order to have a better understanding of the practicalities involved in the inclusion of roots in a herbarium collection, I experimented with two poppy specimens and an example of a lawn weed.

It is a common truth that the bigger the plant, the bigger its roots will be; thus, it is more difficult for the specimen to be uprooted. In June 2018, I uprooted two small-sized poppies and a lawn weed.[45] I started by digging (not pulling because this would likely damage the roots) using a sharp blade and following a circular, straight-down motion to prevent cutting the roots (fig. 3.13). Subsequently, I lifted the plants together with the soil from the ground, and then I removed the soil by shaking. Although I dug a deep hole around the specimens, and even though they were small, a tiny bit was missing from the root tip of their primary root in all three cases. The loss from the root tip in all three specimens indicates my inexperience in correctly calculating the length of the roots and highlights once more the embodied skills that the procedure requires for someone to perform this task successfully. Then, the poppy specimens were placed on top of an A4 paper, where they fit perfectly even without bending (fig. 3.14), exemplifying my previous note about variety in the size of plants, whereas the lawn weed was also dried and affixed together with the rest specimens that had already been mounted (fig. 3.15).

The preparation of the lawn weed specimen and its affixation on my herbarium hints at why it is impractical to include all suitable for mounting roots of every plant. Even though my lawn weed specimen was small, its roots remained bulky, creating an unevenness to the notebook and augmenting its volume significantly. It is because of the woody nature of its roots that they cannot be flattened as much as its soft and flexible upper part. Early modern collectors must have noticed this bulkiness that characterises many roots. Mattioli refers to the different kinds of roots in his treatise, tracing their difference in the form, number, colour, odour, and flavour.[46] Even with the exclusion of many basal parts, *Erbario A* is a voluminous bound collection that is difficult to handle, something that would have deteriorated if Cibo had affixed complete dried specimens in every possible instance. Therefore, it is possible that in order to avoid the formation of voluminous bound collections that would be difficult to handle, roots are included only when judged essential.

According to what criteria, then, was a specific plant part judged as important for its inclusion or exclusion in early modern herbaria? As already seen, Cibo affixed an inflorescence of *Papaver rhoeas* (corn poppy) without its basal part in *Erbario A* and another one together with some detached leaves and an entire specimen in *Erbario B*. Regarding *Papaver rhoeas* in other collections,

[45] The specimens were collected from The Meadows, Edinburgh.
[46] Mattioli, *I Discorsi*, 10-1.

Aldrovandi followed a similar strategy by focusing on the upper part of the plant, including only one complete specimen in a total of eight dried *Papaver rhoeas* specimens (for example, fig. 3.16).[47] The focus of these two naturalists on the upper part of the plant comes as no surprise when considering Mattioli's text about poppies, where roots are barely mentioned.[48] Mattioli's treatise and other natural history texts can give an idea about the parts of the plants that were considered of primary importance and, therefore, can be a helpful tool concerning the interpretation of early modern herbaria and the inclusion or exclusion of specific plant parts (and in this case roots). The juxtaposition of further examples of Cibo's specimens with Mattioli's text provides more evidence in favour of this argument. Specifically, the affixation of the dried specimens belonging to the *Asparagus*, *Gentiana*, and *Verbascum* genera with their basal parts can be viewed in light of the roots' practical use explained in Mattioli's text.[49] Thus, the focus of early modern treatises on specific plant parts could give a hint on what to expect to be included – or not – in a herbarium.

Indeed, the previously mentioned practicalities, together with some issues of availability should also be taken into consideration. For example, a specimen could have been sent to a collector with or without its roots. In a letter to Scipione, it is demonstrated that roots were also enclosed in letters; there, Cibo not only does he manifest his deep knowledge of roots, but also points to the bulkiness of roots as a characteristic that hinders their desiccation: 'but the one [plant] that kills worms makes them juicy and fat, so that they cannot dry out so quickly; in this regard, the figures in your book will be able to teach you'.[50]

Apart from the issue of which parts to include when mounting, a practitioner also needs to decide which side of the plant will be on display. In *Erbario A* and *Erbario B*, there are many cases where both sides of plant parts are displayed, a feature that is already discussed in Chapter 2 in the analysis of the similarities between his illustrations and dried specimens. I, therefore, presented both sides of the marguerite flowers (fig. 3.17) and the tongue fern leaves (fig. 3.18) in my herbarium without coming up against any unexpected problems during mounting. However, this would not have been possible without duplicates of the same specimens, indicating once more that practitioners must carefully consider which parts of the plant would be visible from the beginning and plan their collection and preparation accordingly.

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[47] For the *Papaver rhoeas* specimens in Aldrovandi's collection, see "Papaver rhoeas," L'Erbario di Ulisse Aldrovandi, accessed September 16, 2023, http://137.204.21.141/aldrovandi/Explore.
[48] Mattioli, *I Discorsi*, 1111-7.
[49] For Mattioli's text on the relevant plants, see Mattioli, *I Discorsi*, 504-5, 683, 1205.
[50] 'ma quella che amazza i vermi le fa succhiose, et grassette, che non si ponno seccar cusì presto, per tal rispetto le figure del libro vostro ve le potrà insegnare', reproduced in Celani, "Sopra," 222.

Last but not least, when collecting plant specimens, the practitioner familiarises him or herself with the flora of the area in a much more profound way. When I uprooted the specimens myself, I had to remove the nearby weeds first to facilitate the process. Therefore, I also came in direct contact with other plants, which could have yielded interesting observations about some of their characteristics (for example, how lengthy their roots are and other similar attributes). It is also easier for someone who is actively collecting to notice the relationship developed between different plants. For example, the parasitic relationship of *Cannabis sativa* and *Phelipaea ramosa*, visualised in *Erbario B* (fig. 3.19), would have been grasped immediately by a careful collector. The fact that Cibo arranged his dried plants in such a way to make this relationship clear by placing the three flowering specimens of *Phelipaea ramosa* springing up the roots of the *Cannabis sativa* specimen suggests that early modern practitioners not only were informed about this kind of relationship but that they also considered it an important piece of information concerning the two plants.

Considering the above, it can be concluded that Cibo had a specific idea of how he wanted to present the dried plants in his collection from the beginning. Either as complete specimens or portions of plants, he must have handled them with great care and attention concerning all stages of the procedure, from planning and collecting to their preparation and actual affixation onto the sheets. The clumsiness in the last step discussed above should be viewed in light of the newness of this technique in the sixteenth century (in contrast to the rest of the procedure that had a longer history). My involvement in the procedure of uprooting and drying plants revealed steps that have to be taken before the actual placement of plants to dry, highlighted the skills required for achieving high-quality results, and suggested a way of interpreting the contents of such collections that involves both practicalities and focal points of attention concerning plant parts as these are captured in early modern writings like Mattioli's treatise. In general, the formation of a herbarium allowed Cibo and his early modern peers to gain firsthand knowledge of all these plants, while their collections are living proof of their skills built through their engagement in the procedure.

What about colour?

> He showed me his Hortus Hyemalis; leaves laid up in a book of several plants kept dry, which preserve colour, however, and look very finely, better than any Herball. [51]

[51] "Diary entries from November 1665," The Diary of Samuel Pepys, accessed September 16, 2023, https://www.pepysdiary.com/diary/1665/11/.

This excerpt from the diary of Samuel Pepys highlights the issue of colour preservation in collections of dried plants. Even when dried, the plants he saw preserved their hue, Pepys wrote, suggesting that colour did not fade despite the process of desiccation. At the beginning of this chapter, I mentioned that Dodoens' praise of the *Amaranthus purpureus* due to its potency in preserving its colour and beauty, especially if dried in an oven. Nevertheless, when desiccated, plants dehydrate and lose their juices, and this is something that generally affects their colour. However, to what extent colour is affected by this procedure and how early modern practitioners perceived this transformation are issues that deserve more scholarly attention.

Reflecting on my own specimens and how they changed over the years, it is the cornflower that retained colour at its best. Five years later, its petals still demonstrate their original brightness and vividness (fig. 3.20). As for the rest of the specimens, some kept their original hue more or less, while some changed completely. For example, my dried specimens belonging to the genus *Cyclamen* have maintained the original purple in their petals (fig. 3.21), whereas the petals of the dried orchids have turned brown, not retaining their original pale pink (fig. 3.22). Contrary to their flowers, their leaves became yellowish, while in other specimens, leaves preserve their original green hue, such as the leaves of the specimen belonging to the genus *Fuchsia* (fig. 3.23).

This colour variation observed in plants and the different degrees of colour preservation among the dried specimens is something that surely did not go unnoticed by early modern practitioners. Perhaps the most well-known example of an intervention into a herbarium specimen is the already-mentioned *Campanula rapunculus* specimen in Platter's herbarium, where the original flowers – except for one – have been replaced with flowers of a specimen belonging to the *Delphinium* genus, which preserve their blue colour until today. The reason behind this replacement was most probably the latter's potency to preserve its blue colour. Indeed, different plants retain colour at different levels. In her reconstruction of the previously mentioned recipe of 'Keeping dry flowers in the same state all year' with sand and vinegar, Caitlyn Sellar noted this difference in the degree of colour preservation.[52] Some plants were more amenable to the procedure than others that did not retain their original colour, something that, as Sellar argues, would not have gone unnoticed by the author of the manuscript, who would probably select certain plants over others on this basis.[53] Although in a different context, in both cases, the ability of early modern practitioners to exploit their knowledge of plants is manifested, as well as their consideration of colour as one of the main characteristics of a plant's appearance.

[52] Sellar, "Keeping."
[53] Sellar, "Keeping."

As far as Cibo's collection is concerned, the only case where there seems to have been a stylisation related to colour is the specimen of *Leontopodium alpinum*, commonly called edelweiss, where the yellow seems a little bit out of place compared to a living specimen (fig. 3.24). This comparison with the living plants is illuminating in relation to the preservation – or not – of their colours, revealing both extensive changes and cases where the original colour has been retained. When comparing Cibo's collection with living plants, I came across some examples that largely retain the colour of their petals. These are the specimens of *Aquilegia vulgaris* (fig. 3.25 and to a lesser degree in fig. 3.26), *Carthamus tinctorius* (fig. 3.27), *Delphinium ajacis* (fig. 3.28), *Althaea rosea* (fig. 3.29), *Malva sylvestris* (fig. 3.30 and fig. 3.31), *Ipomoea hederacea* (fig. 3.32) and the already-mentioned specimens of *Anagallis arvensis* (fig. 2.30) and *Colchicum autumnale* (fig. 2.26), which, although not as vivid as the living ones, they still preserve their original hues to a great extent. As for the leaves, in some cases, they do keep their original colour, while in others, they present an altered appearance. For example, the leaves of *Populus alba* maintain their characteristic white colour until nowadays (fig. 3.33).

Being interested in the colour of plants, Cibo sometimes makes relative notes next to his specimens. For example, in the case of snapdragons, he adds the following adjectives: 'purpurea' (purple), 'alba' (white), 'lutea' (yellow), 'coerulea' (blue), all denoting colour.[54] The Index of *Erbario B* includes further references to the colours of flowers. For example, along with the common adjectives, such as 'vulgò', it also reads 'rutila' (golden), 'rubra' (red), 'nigra' (black), 'sublutea' (off yellow) and 'subpurp.' (off purple). Although it was not uncommon to name plants according to their colour (for example, in Mattioli's treatise, there are a few plants called with the restrictive adjective 'bianca'), the fact that Cibo took a note of their colour next to them (and added the relative adjective in the name of the plant in the Index of *Erbario B*) suggests that the specific plants have either already lost their colour or that he knew that their colour change was imminent.

My own dried specimens of common snapdragon can provide some clues on this issue. As mentioned above, I gathered and dried three inflorescences of this plant. The first specimen was dried in 2018 and mounted with the rest of the herbarium specimens, while the other two were collected in 2019 (when I tested the effect of different qualities of drying paper) and left inside books. The first specimen preserves some of its original pale pink and yellow colour until nowadays, but even from 2018, its petals had become brownish right after its desiccation (fig. 3.34). The fact that its petals darkened in such a short time testifies to a relatively quick change of colour, justifying, thus, Cibo's notes concerning colour. The colour of petals was considered an important element of

[54] Rome, Biblioteca Angelica, Ms 2345, f. 63r-64r.

plants, and early modern practitioners would have wanted to record this information in written form if they knew that dried specimens would lose their colour in the near future. As for the other two specimens of my collection, they preserve their original purple and yellow colours to a greater extent (fig. 3.4). This difference between the pink-yellow and the purple-yellow specimens indicates that even plants belonging to the same species can preserve colour to a varying degree after their desiccation, something that can also be related to their original colour (pink and purple in this instance).

Apart from the plant specimens themselves, the technique followed is also something that should be taken into consideration. Modern-day sources testify to the various results that different procedures can have. For example, when writing about techniques of drying flowers, Al Pertuit, a horticulture specialist, acknowledges that some plants are more amenable to specific processes. For example, he notes that 'baby's breath, cattail, statice, celosia, dock, goldenrod, heather and pussy willow' preserve well when air-dried, whereas 'roses and peonies shrink somewhat'.[55] He also refers to some other procedures of drying plants, including pressing, a method that has excellent results for 'violets, pansies, larkspur and ferns'.[56]

The early modern sources cited above testify to a variety of methods of drying plants (apart from pressing, there was desiccation of plants with the aid of heat, air, sand and vinegar). Concerning colour, some of these methods can be argued to have more drastic effects on plants than others. For example, a drastic change of colour was observed in Sellar's reconstruction of the 'Keeping dry flowers in the same state all year' recipe, with the specimens being affected after only twenty minutes of submersion and with the petals of the delphinium and larkspur specimens being translucent after one week.[57] As for pressing, my pink-yellow specimen of common snapdragon changed relatively quickly into brown after its desiccation; however, its change cannot be paralleled with that of delphinium and larkspur specimens described by Sellar in terms of scale and time. Therefore, the process of drying specimens following early modern instructions helps us understand how quickly these specimens lose their hue.

Taking into consideration the above, it can be argued that plants and techniques influence the colour that a dried specimen will present. Some plants and some techniques can prove to be better than others, and this is something that the practitioners of the past must have perceived. For example, Aldrovandi praises the technique of pressing in the already cited excerpt as a method that

[55] "Drying Flowers," Clemson Cooperative Extension, accessed September 16, 2023, http://www.clemson.edu/extension/hgic/plants/landscape/flowers/hgic1151.html.
[56] "Drying Flowers."
[57] Sellar, "Keeping."

can preserve the natural colour of plants, and although this reference can be interpreted as a vague praise of the technique he follows, it can also be interpreted as a true expression of belief in the method and its results. Nevertheless, this does not mean that colour would not change over time after desiccation, as observed in my specimens. Early modern collectors, thus, would keep experimenting with the preparation of dried specimens, inventing original methods to preserve specimens and treating them with substances to preserve their brilliance.[58] As for Cibo, his notes about colour belong to this context of 'compensation' for the loss of the specimens' original colour. These measures taken by early modern collectors feed into the issue of communicating information about plants in a world without photography.

Final thoughts

The attempt to collect and prepare specimens myself shed new light on Cibo's process, highlighting some steps in the preparation of specimens that were most probably taken by early modern practitioners but are not explicitly written in the sources. It also indicated that the inclusion of entire specimens is not always possible and that early modern practitioners must have carefully selected the plant parts that were included in their collections according to some criteria. The procedure also prompted a careful examination of the early modern specimens that revealed interesting examples of intervention and stylisation of mounted plants and highlighted the practitioner's skill and clumsiness in different parts of the procedure. As for the process of uprooting itself, it can give valuable information to practitioners concerning the various sizes and shapes of roots, as well as the plant's surroundings. Either mounted or simply placed among pages, plants, although dried and dead, are still made from organic matter. This means that they are prone to change, with the alteration of their colour being the most prominent change, a condition that when caused a problem for the early modern practitioners, they intervened by replacing flowers (Platter) or taking notes next to them (Cibo).

In general, my attempt to create herbarium specimens revealed how the body participates in all stages of the procedure, suggesting an interpretation of historical herbarium specimens as manifestations of active early modern bodies that have their own skills and ideas behind the creation of a herbarium collection. Their objective must have been to create an adequate

[58] For an innovative method of keeping plants, see Magionami, "L'Hortus," 33; For the application of a transparent substance above the specimens, see Chiara Nepi, "L'erbario Coltellini della sezione botanica del Museo di storia naturale," in *Gli erbari aretini da Andrea Cesalpino ai giorni nostri Museo di storia naturale*, eds. Chiara Nepi and Enrico Gusmeroli (Florence: Firenze University Press, 2008), 23.

representation of the living plants that would both meet their needs and shape the standards of this newly developed practice for the next generation of collectors. Especially due to the scarcity of early modern written sources concerning this technique, the procedure revealed many hidden aspects related to the process that could not have been grasped by merely examining the historical collections.

Chapter 4: The role of plant-based colourants in depicting nature; the materiality of Cibo's plant illustrations

In light of what has been called the material-embodied turn over the last two decades, the literature on material culture has become increasingly prominent and theoretically sophisticated.[1] In this chapter, I dive into the materiality of Cibo's plant illustrations with a focus on the colourants that he prepared himself from plant juices. My research builds on major reconstruction work by groups such as the 'Burgundian Black' and the 'Making and Knowing Project'. As in the case of early modern metalworkers, who used living animals to create their casts, so did Cibo when he extracted the plants' juices to create images of plants on paper.[2] In both cases, the natural archetype is used in the creation of its copy, having implications on how the resulting image is perceived and understood by creator and viewer. Therefore, some questions arise from this observation concerning the materiality and interpretation of these works, which this chapter explores, introducing Cibo's oeuvre into the ongoing discussion of modern-day scholarship on early modern materials and processes.

Although the use of colourants extracted from plants has not gone unnoticed in the literature, there are not, to my knowledge, any studies focused on their use in early modern natural history illustrations of plants. As for those studies that explore the materials used by Cibo, although they offer an in-depth investigation of his cultural and artistic context, they are not focused on the use of plants for the making of colours. Despite Hermens' in-depth investigation of Cibo's palette, to which this chapter is highly indebted, she only briefly mentions the importance of organic colourants in Cibo's work without further exploring the use of plants and their possible meaning.[3] In this chapter, by focusing my attention on Cibo's creation of colourants from plant juices, the aim is to ascertain if there is a specific meaning behind this choice and to explore the connection between the colour of a plant and the concoction with which this colour is rendered. An overview of Cibo's surviving texts will follow, providing the basis for the investigation of his colouring practice.

[1] For example, see Hilary Davidson, "The Embodied Turn: Making and Remaking Dress as an Academic Practice," *Fashion Theory: The Journal of Dress, Body and Culture* 23, no. 3 (2019): 329-31. For a discussion on some methodological problems inherent in this field, see Leora Auslander et al., "AHR Conversation: Historians and the Study of Material Culture," *The American Historical Review* 114, no. 5 (2009): 1355-1404.
[2] For an insight into the procedure followed by a metalworker, see Smith, "Artisanal Knowledge," 25.
[3] Erma Hermens, "Memories of Beautiful Colours. The Mariani treatise and the practice of miniature painting, landscape drawing and botanical illustration at the Pesaro court in early seventeenth-century Italy," (PhD diss., Leiden University, 2001), 262-4.

Cibo's technical writings

Indeed, writings on colours can be traced back to ancient times. For example, the encyclopedic work of Pliny includes some relevant chapters. He dedicates at least twenty-one chapters on colourants in his Book XXXV, also taking care to note when a concoction was artificial, like, for example, when describing a black colouring substance called 'Atramentum'.[4] Colour and its properties were investigated by a mixture of people with a wide range of specialities throughout the early modern period, such as artists, naturalists, and apothecaries.[5] Thus, during Cibo's lifetime, there was already a pre-existing tradition of writings on colours that he could have used. Nevertheless, my research suggests that his recipes do not seem to directly draw from another source, as they seem to be based on his direct experience with the materials. There are some instances where he references other writers, but a one-to-one relationship with another text has not yet been found.

Hermens is the first scholar to work extensively on Cibo's technical treatises. Her PhD thesis includes a thorough study of three manuscripts associated with him.[6] The first two manuscripts that Hermens studied are the Leiden, Universiteitsbibliotheek, Ms VGG 5q (subsequently referred to as the Leiden manuscript) and the New Haven, Yale University, Beinecke Rare Book and Manuscript Library, MS 372 (subsequently referred to as the Yale manuscript). The third manuscript she examined is the Vatican City, Biblioteca Apostolica Vaticana, Urb.lat.1280, the text of which is titled *Ricordi per belli colori* (subsequently referred to as the *Ricordi* manuscript).[7] As already noted, Hermens attributed most of the Leiden and Yale recipes to the miniaturist Mariani (except for those parts refering to plants, which she attributed to Cibo) and the *Ricordi* manuscript exclusively to Cibo.[8] Given the extensive similarities between the texts of the Leiden and Yale manuscripts, Hermens argued that they were copies of the same treatise titled *Trattato della miniatura*, while she also suggested that the *Ricordi* manuscript has been reworked and expanded to form the *Trattato della miniatura* text.[9] Thus, even though she attributed *Trattato della miniatura* to Mariani for the

[4] Pliny the Elder, *The Natural History of Pliny. Vol. 6.*, trans. John Bostock and Henry T. Riley (London: H. G. Bohn, 1857), 240-2.
[5] For example, Samuel Quiccheberg, who was a physician, wrote about colours and pigments in his *Inscriptiones vel Tituli Theatri Amplissimi*, see Doris Oltrogge, "Writing on Pigments in Natural History and Art Technology in Sixteenth-Century Germany and Switzerland," *Early science and medicine* 20, no. 4/6 (2015): 335-6.
[6] Hermens, "Memories".
[7] Vatican City, Biblioteca Apostolica Vaticana, Urb.lat.1280. This manuscript can be found online, see "Urb.lat.1280," Biblioteca Apostolica Vaticana, accessed September 16, 2023, https://digi.vatlib.it/view/MSS_Urb.lat.1280.
[8] Hermens, "A Seventeenth-Century Italian Treatise," 53-4.
[9] Hermens, "Memories," 5, 54.

most part, she acknowledged a certain degree of Cibo's participation in the writing of the Leiden and Yale manuscripts.

More recent scholarship has disagreed with Hermens, arguing that Cibo, not Mariani, was the author of *Trattato della miniatura*, which was copied and preserved in the Leiden and Yale manuscripts.[10] This attribution was supported by the recent addition to the corpus of Cibo's writings of the Verona, Biblioteca Capitolare, MS CCCCXXX-3 manuscript (subsequently referred to as the Verona manuscript).[11] The Verona manuscript shares the same contents as the Leiden and Yale texts, as it also reproduces the *Trattato della miniatura* text. However, it seems to originate from a different manuscript tradition, and thus, it enriches our knowledge related to the earliest version of the treatise.[12] Its title excludes the name of Mariani that the other two manuscripts have (*Della Miniatura, del Signor Valerio Mariani da Pesaro, Miniatore del serenissimo Signor Duca d' Urbino, del Signore Capitano Giorgio Maynwaringe, inglese, l'anno del Signore 1620, in Padova* is the title of the Leiden manuscript, and *Della miniatura del Signore Valerio Mariani da Pesaro, miniatore del Duca d'Urbino con aggiunta d'altre cose per l'istessa professione havuta dal Signor D. Antonello Bertozzi scrittore e miniatore in Padoa, per me Francesco Manlio Romano, l'anno MDCXX* is the title of the Yale manuscript).[13] In addition to this exclusion, Bonizzoni and Mariani point to further evidence, suggesting that the familiarity of the author with publications in natural history is one the most convincing arguments in support of the attribution to Cibo.[14] Nevertheless, Tomasi's recent publication embraces Hermens' interpretation of the treatise as a reworking of Cibo's recipes, but without further explanation.[15] In either case, Cibo's involvement in the project is unanimously agreed, and, therefore, when I will refer to the Leiden and Yale texts, I take the ideas expressed there to be in agreement with Cibo's views.

Apart from the above treatise, the chapter also draws on recipes taken from the Cremona, Biblioteca Governativa, MS 156 (subsequently referred to as the *Modo di colorire* manuscript). Mascherpa was the first to transcribe the *Modo di colorire* manuscript, characterising it as a text found at the intersection of two different genres: a recipe book and a diary.[16] Indeed, apart from the

[10] Sandro Baroni, "Gherardo Cibo (1512-1600) trattatista di tecniche per le arti. Stato della ricerca e avanzamenti," *Studi di Memofonte* 30 (2023): 96; Baroni, "La trattatistica," 245-63; Bonizzoni and Mariani, "Il Trattato," 303-7.
[11] For an overview of Cibo's writings of technical nature, see Baroni, "La trattatistica," 247; Micaela Mander, Paola Travaglio, and Sandro Baroni, "Il problema della riproducibilità del colore in Gherardo Cibo," (paper presented at the XII Conferenza del Colore, Torino, September 8-9, 2016), 398-400.
[12] Bonizzoni and Mariani, "Il Trattato," 306.
[13] Bonizzoni and Mariani, "Il Trattato," 304-5.
[14] Bonizzoni and Mariani, "Il Trattato," 304.
[15] Tomasi, "Plants,"37.
[16] Mascherpa, "Modo," 265-92.

glimpses into Cibo's everyday life found in these excerpts that resemble a diary, this small manuscript (consisting of 43 folios) includes many detailed notes focusing on the process of making colourants, especially in its final section. Cibo's writings on colour also include the Florence, Biblioteca Nazionale Centrale di Firenze, Conv. Sopp. A. VII. 1140 (subsequently referred to as the *Colorire ad acquarella* manuscript) and the Bergamo, Biblioteca Angelo Mai, ms. MMB 528 (subsequently referred to as the *Arcani di pittura* manuscript).[17] Finally, in the following parts of the chapter, I have also included notes concerning the making of colourants by Cibo found scattered throughout his oeuvre.

The role of colours in plant illustrations and in Cibo's practice

> However, art, envious of master nature, has also found a way to make a similar colour so beautiful that it does not give way to the natural but competes with it in every comparison.[18]

This excerpt comes from the beginning of the Leiden manuscript, from the initial chapter concerned with ultramarine. Its content echoes the general discussion about the relationship between art and nature, presented in the Introduction of the thesis. In the same vein, early modern theoretical discussions also turned around the topic of whether botanical images were fallacious – or not – and the usefulness of colour. Being the subject of an occasionally fiery discussion among early modern naturalists, the utility of images was a topic that concerned the community of naturalists of the time. Some promoted and included images in their publications as a valuable tool for acquiring knowledge (there are many examples of the increased importance of visual representation in the construction and dissemination of knowledge, at least until the years of the *Accademia dei Lincei*), while others not (for example, Cesalpino did not include images in his publications).[19]

Sachiko Kusukawa refers to one such debate between Fuchs and Sebastianus Montuus.[20] The former favoured the use of images and included illustrations in his natural history publications.[21] On the contrary, the latter published texts where Fuchs' way of identifying plants was criticised. His critique also touched upon the usefulness of images, arguing that they are fallacious since they are based on accidental features and not on the essence of plants. For him, there was no fixed

[17] For an overview of Cibo's writings on colour, see Baroni, "Gherardo Cibo," 97-103; Tomasi, "Plants," 37-8.
[18] 'Mà l'arte invidiosa della maestra natura, essa ancora hà ritrovato la maniera di fare un semile colore, e talmente bello, che non sol cede al naturale, ma concorre con quello ad ogni paragone', see Ms VGG 5q, f. 6r.
[19] For this debate concerning the use of images, see Bellorini, *The World*, 111-7.
[20] Sachiko Kusukawa, "Leonhart Fuchs on the Importance of Pictures," *Journal of the History of Ideas* 58, no. 3 (1997): 418-21.
[21] Kusukawa, "Leonhart," 404.

relationship between a plant's external appearance and its essence, the substance of the plant, in other words. Thus, according to Montuus, an accidental feature, such as the shape of leaves, cannot be equal to the substance of the plant as they are external elements that can be found across many different plant species and are susceptible to change.[22]

The colouration of images was also part of this discussion since colour is an important feature that defines the appearance of a plant, while it is also liable to change and variability. Both Fuchs and Montuus referred to the famous excerpt by Pliny the Elder that reads: 'not only is a picture misleading when the colours are so many, particularly as the aim is to copy Nature' but interpreting it differently.[23] The former argues that Pliny refers to the inability of images that have abundant colours to imitate nature, whereas the latter supports that Pliny disregards images altogether for representing features that are susceptible to change.[24] Many other authors from various backgrounds touched upon this issue of how art can faithfully represent nature and the role of colour. According to the preface of *Herbarius zu Teutsch […]* (1485), it is an honourable task to compile a book that includes the nature of herbs 'together with their true colours and form'.[25] This idea of 'true colours' also appears in Edward Norgate's introduction, where Norgate refers to Sir Theodore Turquet de Mayerne's desire to learn about the use of *propriis Coloribus*.[26] It continues to appear in later times, for example, in the Johann David Köhler's *Programma De Inventoribus Incisurarum Gallice Les Hachures Dictarum* (1736).[27]

In her article 'Painted Gems. The Color Worlds of Portrait Miniature Painting in Sixteenth- and Seventeenth-Century Britain', Karin Leonhard untangles the meaning of *colores propii* in the early-seventeenth colour theory.[28] She identifies a distinction between true colours that correspond to natural bodies and apparent colours that can change their appearance in relation to external factors such as the viewer's position.[29] Colourants extracted from plants and minerals, fall under the first category, for they are directly related to a natural body.[30] Leonhard also brings into the

[22] For Montuus' argumentation, see Kusukawa, "Leonhart," 418-21.
[23] Kusukawa, "Leonhart," 419-20. Pliny also commented on the degradation of images by copying, especially in terms of colouring, see Agnes, *Herbals*, 188.
[24] Kusukawa, "Leonhart," 419-20.
[25] Arber, *Herbals*, 24.
[26] For Norgate's text, see Edward Norgate, *Miniatura, Or, The Art of Limning*, eds. Jeffrey M. Muller and Jim Murrell (New Haven: Yale University Press, 1997). For the reference to 'propriis Coloribus', see Norgate, *Miniatura*, 58.
[27] Johann David Köhler, *Programma De Inventoribus Incisurarum Gallice Les Hachures Dictarum* (Gottingae: Ioh. Frid. Hageri, 1736), n.p.
[28] Karin Leonhard, "Painted Gems. The Color Worlds of Portrait Miniature Painting in Sixteenth- and Seventeenth-Century Britain," *Early Science and Medicine* 20, no. 4/6 (2015): 428-57.
[29] Leonhard, "Painted Gems," 432.
[30] Leonhard, "Painted Gems," 432.

discussion Nicholas Hilliard's treatise and its excerpt concerning the relationship between stones and colours used in miniatures; these colours, according to Hilliard, give 'the true lustur to pearle and precious stone' and thus 'it seemeth to be the thinge it sefe, euen the worke of god and not of man'.[31]

Taking into consideration all the above, the following question arises: What did Cibo think of the colouration of plant images and the materials he used? In his writings, he often used the world *naturale* when discussing colourants and their effects. For example, in the following recipe from the *Modo di colorire* manuscript, the word natural appears twice in the text. The recipe concerns the colouration of the plant *Ruta graveolens*, commonly known as rue, and it reads:

> To depict the reverse part of the rue, I took fine *verdetto* from Flanders, a little yellow lake, enough to make it yellowish, a little bit of indigo, and a little bit of white lead with a bit of ochre, and the smallest amount of black, because it enlivens the green; then, I mixed them together and made them well-diluted, and when they were applied on paper, it turned out to be very natural, and beautiful. In a different way, without putting black in the said mixture, but by increasing the amount of ochre a little and of indigo a little bit, it makes a nice reverse part of the rue; the first mixture is bluer, while the second one is a bit greener, but it is good and natural.[32]

The excerpt includes a variety of colourants. *Verdetto* from Flanders is the first one mentioned in the recipe. Although this term can also be found in other texts, there is an ambiguity concerning its meaning. The scholar Angela Cerasuolo cites two sixteenth-century individuals, namely the artist Gian Paolo Lomazzo and the writer Raffaello Borghini, explaining the different uses of the term; the former identifies it as a yellow lake, while the latter as a 'material from mines, to be found in the Magna [German] mountains'.[33] Unfortunately, the Leiden manuscript has a recipe that refers to this colourant but without giving details of its composition. In the same recipe, one can

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[31] The translated excerpt is reproduced in Leonhard, "Painted Gems," 436. For Hilliard's text, see Nicholas Hilliard, "The Arte of Limning," in A treatise concerning the arte of limning by Nicholas Hilliard together with a more compendious discourse concerning ye art of limning by Edward Norgate, eds. R. K. R. Thornton and T. G. S. Cain (Ashington: Mid Northumberland Arts Group in Association with Carcanet New Press, 1981), 62.

[32] 'Per fingere il roverso della ruta, ho preso verdetto fino di fiandra, un poco di giallo santo, che tanto faria giallolino, un poco d'endico, et un poco di biacca con un pochino d'ocria, et un poco poco di negro, per causa, che lieva la vivacità del verde, et miscedati poi insieme, et ben stemperati, et dato sule carte, m'è riuscito assai naturale, et bello. Ancora senza mettere del negro in detta mestica, mà accrescervi un poco più d'ocria, et un poco più di d'endico fa bel roverso di ruta, ma la prima mestica hà più dell'azzurro, che questa seconda hà un poco più del ver de, mà fà bene et naturale', reproduced in Mascherpa, "Modo," 277, 15v.

[33] Angela Cerasuolo, *Literature and Artistic Practice in Sixteenth-Century Italy*, trans. Helen Glanville (Leiden: Brill, 2017), 177-8.

read that the author firmly believes that the '*verdetto* is the real Armenian stone, as Dioscorides writes'.[34] Without knowing its exact composition, it is not easy to define its nature.

Contrary to this uncertainty, the next substance the recipe mentions undoubtedly derives from plants. I translated *giallo santo* with the rather generic term of yellow lake because the nomenclature of yellow lakes does not necessarily reveal their content.[35] However, its plant origin cannot be questioned since the Leiden manuscript names the flower of *ginestrella* (dyer's broom) or *panicella* (Hermens translate this as the weld plant) as its main ingredient.[36] *Giallo santo* is a term that often appears in other texts, and although it involves different types of plants, it is consistently identified as a plant-based colourant.[37] The recipe continues with other substances, while it also describes two alternative mixtures, both of which lead to a natural result according to Cibo's judgment.

In both cases, the word natural is referring to the mixtures used for the depiction of a plant, stressing the naturalness of the result, and creating in this way a link between Cibo's creations and the living specimens through the colourants. This is not the only recipe where he alludes to such a relationship. In the recipe for the depiction of a plum species, one can read the phrase 'how I made it take its natural colour' indicating Cibo's endeavour to create a direct link between his depicted specimen and its living counterpart.[38] In total, the world natural appears fourteen times in his *Modo di colorire* manuscript, of which five references are related to the mixtures of colourants used for the depiction of plants and four to the actual colours of a living plant. Thus, although the world natural takes a different meaning throughout the text, it is, nevertheless, used in the context of plant description in the majority of cases (describing either their painted or actual colour).

Cibo was not the only who was concerned with the creation of a naturalistic palette for his works. In the BnF Ms. Fr. 640 manuscript there is an excerpt that reads: 'And thus, by judgment & discretion, put the color on the natural flower or leaf to see whether it comes close'.[39] Throughout the same manuscript there are thirty-seven uses of the term 'le naturel', meaning the natural, as

[34] 'il verdetto sia la vera Pietra Armenia che cosi scrive Dioscoride', see Ms VGG 5q, f. 8r.
[35] Jo Kirby, "Glossary," in *Trade in Artists' Materials: Markets and Commerce in Europe to 1700*, eds. Jo Kirby, Susie Nash and Joanna Cannon (London: Archetype Publications, 2010), 452.
[36] 'fiore della ginestrella', 'herba panicella', see Ms VGG 5q, f. 16r-16v.
[37] For some recipes for *giallo santo*, see Cindy Kok, "Colors for Green Leaves and Painting on Metal," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, eds. Pamela H. Smith et al. (New York: Making and Knowing Project, 2020), n.p.
[38] 'e comè gl'hò fatto pigliare il suo color naturale', reproduced in Mascherpa, "Modo," 281, 24v.
[39] Folio 158v, see "BnF Ms. Fr. 640."

well as many uses of the noun 'nature' and phrases like 'naturellement'.[40] Although the author does not use these words to refer to colourants like Cibo, he, nevertheless, uses them in the context of his effort to imitate natural materials, creating sometimes an explicit link between his representation and the natural object, which becomes the sole guide for the creation of his work (as in the case of the cited excerpt above).

Therefore, the preoccupation of both creators with imitating nature and achieving a naturalistic effect in their works is manifested in the frequent appearance of these terms that link the natural with the made thing. In the case of Cibo, this link is achieved mainly through colourants, as he most frequently uses the word natural to describe them, something that suggests the existence of a conceptual link between colours and the idea of natural in Cibo's thinking. Considering the theoretical discussion on the nature of images and their validity that occurred at that time, Cibo most probably favoured the exploitation and use of images, as his oeuvre suggests. He also seems to consider colourants as a means that gives a natural look to his illustrations, and thus, an important element in achieving the much-desired naturalistic effect.

Cibo's use of plant-based colourants

After establishing the importance of colours in Cibo's practice, the focus will now be on the colourants themselves. As described in the above recipe for rue, Cibo used a mixture of colourants, including plant-based substances. Were these plant-based substances related to this effect of naturalness? Were they an essential part of Cibo's creative process and an important aspect of communicating knowledge about natural specimens? Despite that the meaning of materials in art is clearly defined on very few occasions, they play an important role in the final result and the perception of an artwork.[41]

The use of plant substances was a widespread practice from antiquity; for example, in an ancient Roman document called the Leyden Papyrus, there is a reference to flowers as the main ingredient of tempera paint.[42] Fifteenth-century manuscripts also include numerous references to

[40] Isabella Lores-Chavez, "Imitating Raw Nature," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, eds. Pamela H. Smith et al. (New York: Making and Knowing Project, 2020), n.p.
[41] Ann-Sophie Lehmann, "How materials make meaning," in *Meaning in Materials, 1400-1800*, eds. Ann-Sophie Lehmann, Frits Scholten, and H. Perry Chapman (Leiden: Brill, 2013), 7.
[42] 'Mixing the flower of cnecus [crocus?], white gum, and the white of an egg in a shell, mingle it with the bile of tortoise (yellow), just as you do for colours, then use. But calf's bile acts on the surface very sharply': the translated excerpt is reproduced in Christiana J. Herringham, "The Pedigree of the 'Trattato'," in *The Book of the Art of Cennino Cennini: A contemporaty practical treatise of quattrocento painting translated from the*

the extraction of plant substances for making colourants, as well as for other purposes, such as the removal of writing from parchment with the use of lemon or orange juice.[43] Can Cibo's practice bring something new to the interpretation of these plant-based materials widely used at that time?

Cibo's making of colourants from the juices of plants is a skill that is often mentioned in the literature related to the naturalist.[44] Celani was the first scholar to consider a reference from Tasti's *De situ et origine Rocchae Contratae* (1636) concerning this particular skill of Cibo. Tasti writes that Cibo painted 'mountains, valleys, trees and flowers…diluting colours from herbs, shrubs, flowers and seeds'.[45] Many excerpts can be cited as evidence of Cibo's expertise in creating plant-based colourants. The following part of this section will consider a selection of these, arguing that plant substances in particular had a prominent role in Cibo's practice.

In the Leiden manuscript, there are frequent references to plant substances as the main ingredient of recipes. Buckthorn fruits, iris flowers, violets, dyer's broom, saffron, and turmeric are cited among others.[46] In addition to the previous plants, Cibo mentions lilies for the making of green lake and aloe for yellow, as well as some other plants for creating a variety of colourants in his *Modo di colorire* manuscript.[47] Most of the plants he mentions were widely used in the arts of the period. For example, the dried stigmas of saffron crocus, were used both for colouring and culinary purposes; in his treatise *Il Libro dell'Arte* (1821), Cennini dedicates Chapter 49 on the yellow called saffron, which was made from the spice.[48] Buckthorn species were also used as colourants, which could produce both green and yellow depending on the maturity of its fruits, as indicated in the Leiden manuscript.[49] References to aloe, violets, irises, lilies, dyer's broom and turmeric as

Italian, with notes on mediaeval art methods, ed. Christiana J. Herringham (London: G. Allen & Unwin, 1922), xxiii.

[43] Arie Wallert, "Libro Secondo de Diversi Colori e Sise da Mettere a Oro: A Fifteenth-Century Technical Treatise on Manuscript Illumination," in *Historical Painting Techniques, Materials, and Studio Practice: Preprints of a Symposium Held at the University of Leiden, the Netherlands, 26-29 June, 1995*, eds. Arie Wallert, Erma Hermens, and Marja Peek (Marina Del Rey, CA: Getty Conservation Institute, 1995), 38-47.

[44] Celani, "Sopra"; Tomasi, "Gherardo Cibo: visions"; Hermens, "A Seventeenth-Century Italian Treatise".

[45] 'montibus, vallibus, arboribus, floribus…dilutos colores ex herbis, fruticibus, floribus seminibusque', reproduced in Celani, "Sopra," 190.

[46] For buckthorn fruits ('frutti del spino cervino'), see Ms VGG 5q, f. 18r; For immature buckthorn fruits ('spino cervino, cioè de suoi frutti non maturi'), see Ms VGG 5q, f. 20v; For iris flowers ('fiori dell'Irios'), see Ms VGG 5q, f. 18v; For violets ('fiori dale viole selvestre et ancora dell'ordinarie de giardini'), see Ms VGG 5q, f. 18v; For dyer's broom ('fiore della ginestrella'), see Ms VGG 5q, f. 16r; For saffron ('zaffarano'), see Ms VGG 5q, f. 21r; For turmeric ('curcuma'), see Ms VGG 5q, f. 21r.

[47] The excerpt about lilies is reproduced in Mascherpa, "Modo," 284, 29r; The excerpt about aloe is reproduced in Mascherpa, "Modo," 288, 36v.

[48] Cennini, *Cennino Cennini's Il Libro Dell'arte*, 75-6.

[49] A thorough consideration of buckthorn species and their use as colourants will follow in Chapter 5.

colourants are found in other texts as well, indicating their widespread use in the early modern period.

In the same vein, the reference to turnsole as an organic blue colourant in early modern literature is not unusual.[50] However, in the Leiden manuscript's recipe for turnsole, it is mentioned that the colour makers are trying to keep secret the identity of the plant used:

> The turnsole that comes from England and France to Italy is undoubtedly made from flowers and herbs; the artisans who make it keep it very secret. But I decided that I had to know how to do it, and I tried with many flowers. Finally, I found that the flower of wild pea has almost the same effect but also the herb called dragon's blood, which is a species of *rumici* because it makes a red colour when crushed and immediately turns into purple like turnsole, and in these regions, there is a great deal of this herb in the countryside, and therefore, it should be sold at a low price.[51]

This excerpt indicates Cibo's experimentation with a selection of plants in an effort to find the best solution for making turnsole. In the *Modo di colorire* manuscript, there is another recipe for turnsole titled 'Turnsole find by chance to make blue colour' testifying once again his continuous search of plants that could act as colourants.[52] In this recipe, there is no reference to wild peas or the species of *rumici*, which is probably a plant that belongs to the *Polygonaceae* family, but to some 'small flowers that have a purple and a reddish colour, which are found in large quantities among the grains here in the March of Ancona'.[53]

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[50] Thomas Primeau, "The Materials and Technology of Renaissance and Baroque Hand-Colored Prints," in *Painted Prints; The Revelation of Color in Northern Renaissance and Baroque Engravings, Etchings, and Woodcuts*, ed. Susan Dackerman (Baltimore: Baltimore Museum of Art, 2002), 61.

[51] 'Il Tornasole che viene d'Inghilterra e di Francia in Italia non v'è dubbio alcuno che si faccia di fiori ò herbe, liquali li artefici che lo fanno lo tengono molto occulto, mà Jo desideroso di saperlo fare hò provato con molti fiori, finalmente hò ritrova to che il fiore del Pesello salvatico fà quasi l'istesso effetto, mà assai riesce un herba nominata sangue di Drago che è spetie di rumici, perche pesta fà il colore rosso, e subito vien paonazzo come il tornasole et in questi regni ve n'è assai per le campagne di tal herba, e così bisogna che sia al vil prezzo che si vende.', see Ms VGG 5q, f. 22r-22v. According to Florio's 1611 Italian/Engish dictionary, *Rumici* is translated as 'the hearbe Sorell or Soure-docke', both of which belong to the family Polygonaceae, see John Florio, "Rumice," in *Queen Anna's New World of Words, Or, Dictionarie of the Italian and English Tongues* (Melch. Bradwood, for Edw. Blount and William Barret, 1611; online ed., n.d.), http://www.pbm.com/~lindahl/florio/471.html; For a different meaning of dragon's blood in the early modern era, see Robin Reich, "Dragon's Blood," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, eds. Pamela H. Smith et al. (New York: Making and Knowing Project, 2020), n.p.

[52] 'Tornasole ritrovato à sorte da me per far colore azzurro', reproduced in Mascherpa, "Modo," 275, 13r.

[53] 'fiori picciolini, che hanno del pavonazzo, e del rossetto, che in gran copia si ritrovono tra i grani qui nella Marca Anconitana', reproduced in Mascherpa, "Modo," 275, 13r. Later in the same manuscript there is a recipe of turnsole, where the plant is called 'batti suocera, e fior de lisi in Toscana, et in Francia tornasole', reproduced in Mascherpa, "Modo," 287, 34v-35r.

Both recipes show an experimentation in relation to plants that could act as colourants. They also testify to a familiarity with and knowledge of the plants in question, since the location where they grow is noted (apart from the case of wild peas). Thus, although the use of plants as colourants was not something new, Cibo went a step further and experimented with different plants to reach the desired results, noting at the same time some details of natural historical interest, such as the plants' habitat.

In the British Library manuscript/b, Cibo depicted the plant *Helianthemum nummularium*, known as common rock-rose, which he called 'Fior del sole' (fig. 4.1). Below the illustration there is a note of the individual steps taken for its completion that reads:

> The flowers were shaded with ink, lightly, as too much would have turned them too black. Then, I coloured with lead-tin-yellow and tinted with saffron according to need. Then, the centre was coloured with potters' yellow and saffron. And its body was drawn with English brown. Then, I retouched the shadows of the flowers with white lead and black earth according to need.[54]

In regards to the flower of the plant, which is the most visually striking element in terms of colour both in nature and the illustration, the colourants that Cibo used are *giallolino fino*, *zaffarano*, and *giallo de Vasari*. A recipe for *giallolino* is written in the Leiden manuscript, and it is persuasively interpreted as lead-tin-yellow.[55] In her PhD thesis, Hermens examined the same illustration of common rock-rose using Raman spectroscopy, identifying lead-tin-yellow in the area of the petals.[56] As for *giallo de' Vasari*, the same scholar conducted a well-informed reconstruction of its recipe, translating it as Potters' yellow and identifying it as an inorganic, yellow pigment (probably the lead-antimony yellow).[57] The qualifying noun 'potter' most probably refers to the pottery industry, as it is also the case of, for example, potters' clay. There is also a reference to 'their furnace' in the Leiden manuscript, providing further evidence in favour of this translation.[58] Both *giallolino fino* and *giallo de Vasari* are combined with saffron for the needs of colouration, as noted in the recipe. Saffron crocus is a plant which was widely used by artists at that time; as mentioned above, Cennini

[54] 'i fiori ombreggiati con inchiostro, legiermente, che tanto saria stato altri negri, Poi colorito de giallolino fino, a tinto con zaffarano il bisogno: Poi quel di mezzo colorito con giallo de Vasari, et zaffarano: Et i soi filamenti poi tirati de bruno d'Inghilterra: Poi ritoccare le ombri dei fiori con biacca. et terra negra secondo il bisogno', see Add MS 22333, f. 34r.
[55] Hermens, "Memories," 135-6.
[56] Hermens, "Memories," 263.
[57] Hermens, "Memories," 136-9.
[58] 'fornace loro', see Ms VGG 5q, f. 15v.

dedicates a whole chapter on this substance.[59] Therefore, Cibo's working method for the common rock-rose flower comes down to a combination of inorganic and organic colourants.

A similar technique is applied by Cibo in his red poppy illustration (fig. 4.2). For the flower's colouration, the use of vermilion and red lead has been proved in the Raman analysis conducted by Hermens, while a red lake was also observed through microscopic examination.[60] Hermens also noticed that the same ingredients appear in the recipe of the *Ricordi* manuscript, titled 'To counterfeit a flower of a red poppy that is of bright colour'.[61] There, Cibo suggests a mixture of vermilion, red lead and white lead, noting that: 'then, when dried, add above a light lake that will be well-tempered so as to avoid forming body'.[62] An almost identical method is written in the recipe for the colouration of *papavero erratico* flowers in the *Modo di colorire* manuscript, where there are also two other recipes for the flowers of *papavero hortolano* and *papavero salvatico*.[63] As in the previous illustration of the common rock-rose, Cibo combines inorganic with organic substances and, more specifically, with a plant-derived colourant to reach the final result.

Although Cibo does not identify the nature of the red lake that should be used in the depiction of poppies, it is tempting to speculate that it derived from the juice of poppies. In Maria Bazzi's list of vegetable colourants, there is a reference found in an early modern manuscript to a poppy red extracted from dried poppy petals placed in spirit (although it is characterised as being very fragile and unsuitable to use).[64] Poppies are also referred to as the main ingredient in one of the Strasbourg manuscript's recipes dedicated to the making of a violet anthocyanin colourant.[65] In this recipe, the procedure of making violet pieces of cloth saturated with the juice of poppies is described in detail.[66] According to other recipes in the same manuscript, these clothlets, after being wrapped in paper, they were kept between the pages of books or in a wooden box; thus, an interesting parallel can be drawn between the procedure described in the Strasbourg manuscript of extracting colour from plants, which was captured on clothlets and stored in books, and how Cibo

[59] Cennini, *Cennino Cennini's Il Libro Dell'arte*, 75-6.
[60] Hermens, "Memories," 263.
[61] Hermens, "Memories," 262-3; 'A contrafare un fiore di papavero rosso silvestre che sia di color chiaro', see Urb.lat.1280, f. 13r.
[62] 'poi che serà secco velerai di sopra con lacca chiara che sia ben stemperata acciò tingha senza far corpo', see Urb.lat.1280, f. 13r.
[63] 'Se vorrai fingere un fiore di papavero erratico, che sia di color chiaro, piglia minio fino con un pochino di biacca, e di tal mestica ne colorirai il fiore, quale poiché sarà secco velarai sottilmente con la mia lacca rossa', reproduced in Mascherpa, "Modo," 287, 33v; The excerpt concerning the flowers of *papavero hortolano* is reproduced in Mascherpa, "Modo," 285, 30v-31r; The excerpt concerning the flowers of *papavero salvatico* is reproduced in Mascherpa, "Modo," 285, 31r.
[64] Maria Bazzi, *The artist's methods and materials*, trans. Francesca Priuli (London: J. Murray, 1965), 50.
[65] Sylvie Neven, *The Strasbourg Manuscript: A Medieval Tradition of Artists' Recipe Collections (1400-1570)* (London: Archetype Publications, 2016), 98-9.
[66] Neven, *The Strasbourg Manuscript*, 98-9.

worked with the botanical specimens and their portrayal on paper, as discussed in the previous chapters.[67] The hypothesis that Cibo used the juice of poppies to depict poppies brings to mind the idea of *pars pro toto*, where a portion of an object (poppy's juice) is taken to represent its entirety (poppy's presence), a concept that will be discussed in more detail below. Indeed, without a technical analysis of the image, the exact composition of the colourants used cannot be determined. Even if a technical analysis was carried out, there is not a non-invasive method of examination that could pin down the exact origin of organic colourants, and it is mainly through the stereomicroscope that they could be discerned. Therefore, the components of the red lake used in Cibo's depiction of poppies cannot be identified with certainty at this point.

Apart from the technique of layering inorganic with organic materials to reach the desired result, as presented above, Cibo, sometimes, also advocated the use of exclusively plant-based substances for his plant illustrations. For example, he wrote above the study of a plant, now preserved in a private collection: 'Coloured in the shadows with the green of lilies from Marcellino; then, drawn lightly in the bright parts and throughout with my green from violets'.[68] Apart from this note commenting on the method he used for the colouration of a plant, there is also a recipe in the Leiden manuscript where the use of exclusively plant substances is advised:

> If you want to make a yellow flower, put yellow waters of buckthorn and then shade it with yellow lake, and for the darker places, mix a little ink with the yellow lake.[69]

In this recipe, the use of two plant-based colourants and an ink is suggested for the depiction of yellow flowers. Although the kind of ink used in the recipe is not specified, it was probably of a plant origin. Apart from iron gall, used extensively at that time, Cibo also gives instructions on how to make coloured inks (for example, he mentions yellow, purple and blue ink in his *Modo di colorire* manuscript).[70] Inks were, in general, made from soluble dyes with a binder (usually gum arabic), which also appears in Cibo's recipes; for example, the recipe for the yellow ink includes fruits of buckthorn, rose water, water of gum arabic, and saffron for a more intense

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[67] Neven, *The Strasbourg Manuscript*, 174. My thanks to Dr Marjolijn Bol, Associate Professor in the Department of History and Art History at the Utrecht University, for drawing my attention to the practice of storing clothlets in books.

[68] 'colorita nelle ombre con il verde de gigli del M[arc]ellino: poi tirato ne i chiari da per tutto con il mio verde de viole leggiermente', see Mangani and Tomasi, "Catalogo," 199, no. 329.

[69] 'Volendo fare un fior giallo, acqua gialla di spino cervino e poi ombreggiare con giallo santo et ne luoghi più scuri si meschia con giallo santo un poco d'inchiostro', see Ms VGG 5q, f. 54r.

[70] 'A fare inchiostro giallo Fioravante', reproduced in Mascherpa, "Modo," 291, 41r; 'A far inchiostro pavonazzo Fioravante', reproduced in Mascherpa, "Modo," 292, 43v; 'A far inchiostro turchino Fioravante', reproduced in Mascherpa, "Modo," 292, 43v.

colour.[71] Juxtaposing the above recipe in the Leiden manuscript (which is dedicated to the depiction of yellow flowers) with the image of a yellow chamomile in the British Library manuscript/a (fig. 4.3), we can assume that Cibo could have this yellow ink in mind when referring to the depiction of the darker parts of the plant (the central flower of the yellow chamomile is shaded with a yellow ink). Either an iron gall ink or the yellow ink described above, Cibo's instructions for illustrating yellow flowers include only plant-based colourants (yellow waters of buckthorn and yellow lake).

The technical examination of some images in the British Library manuscript/a and the British Library manuscript/b led by Katherine Brown and Hermens, suggested the extensive use of organic colourants.[72] Nevertheless, Cibo's frequent use of plant substances in his images of plants, as suggested by his writings and illustrations, does not match the colour palette he used for the creation of one of his landscapes, namely his *View of a fortified island with mooring galleons and galleys* (fig. 4.4). According to a recent, multi-analytical study of this drawing, only one among the many colourants detected through non-destructive methods was identified as originating from a plant source, namely the colour called orcein, which is extracted from plants belonging to the lichen species.[73] However, this can relate to the different subject matter depicted and could suggest a different treatment of landscapes and plant illustrations by Cibo, but more technical examinations should be conducted in order to reach a solid conclusion.

Cibo was not alone in the use of plant-based colourants for the creation of plant illustrations. The technical analysis of John White's depiction of a species belonging to the genus *Sabatia* (fig. 4.5), suggests the exclusive use of organic colourants for the rendering of the green and pink parts of the plant. The fading of the green in the plant's foliage and the absence of results from both XRF and Raman examination point towards the exclusive use of a plant-based green, most probably made from buckthorn fruits, as it was the most common plant to be used in the making of green at that time.[74] More technical analyses should be conducted in order to arrive at more solid conclusions, but this initial evidence coming from two different backgrounds suggests an established use of plant-based colourants in early modern plant illustrations.

To my knowledge, there are a few instructions in early modern Italian texts dedicated exclusively to giving instructions on how to depict a plant. A contemporary of Cibo, the already-

[71] 'frutti di spin cervino', 'acqua rosa', 'acqua di gomma', 'zaffarano', reproduced in Mascherpa, "Modo," 291, 41r.
[72] Hermens, "Memories," 262-4.
[73] M. Zuena et al., "Diving into colours: A multi-analytical approach to a 16th century drawing by Gherardo Cibo," *Vibrational Spectroscopy* 127 (2023): 4.
[74] Janet Ambers, Duncan Hook and Antony Simpson, "John White's Watercolours: Analysis of the Pigments," in *European Visions: American Voices*, ed. Kim Sloan, (London: British Museum, 2009), 69.

mentioned Lomazzo, examines the subject of colouring plant illustrations in his treatise. Interestingly enough, some parts of his *Trattato dell'arte della pittura […]* (1584) are in correspondence with Cibo's *Arcani di pittura*, as it has convincingly been argued by Baroni.[75] Furthermore, a recipe-book that includes recipes written by the artist Jacopo Ligozzi (c.1547–1627), has a few instructions dedicated to the depiction of flowers.[76] Ligozzi followed a specific procedure concerning his plant illustrations, which involved the application of gouache, a medium that has remained popular in this type of illustration until today.[77] Moreover, he seems to have used watercolours almost exclusively for his botanical illustrations, connecting in this way the depiction of the natural world with certain materials.[78] Indeed, there are some other references found in early modern texts concerning the depiction of flowers. For example, in the Strasbourg manuscript, there is a recipe titled 'A purple colour for depicting garments, initials and flowers'.[79] However, it most probably refers to flowers as part of the decoration of manuscripts rather than to plant representations related to natural history.[80]

The limited number of technical analyses that are focused on early modern natural history illustration, as well as the scarcity of early modern instructions on how to depict plants in the context of natural history, render Cibo's notes and work an important source of information concerning the relative early modern production. Indeed, plant-based colourants existed in the palette of miniaturists long before Cibo. However, the fact that he experimented with different plants in order to find out the ingredients of turnsole, the frequent references and use of plant-based colourants for depicting plants, as well as the reference by Tasti that commemorates him as an expert in making colours from plants, point towards an emphasis given by Cibo on the plant-based substances he used. This is in accordance with his interest and knowledge of plants, which rendered him the most appropriate person to transform them into plant illustrations.

Taking this hypothesis a step further, this transformation of plants into plant depictions could have had a *pars pro toto* effect. This is an idea already explored in the literature by Egmond, who wrote that Cibo made his own colourants and used parts of the plants themselves 'as a

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[75] Baroni, "Gherardo Cibo," 103-4.
[76] Florence, Biblioteca Nazionale Centrale di Firenze, Ms XIX, 8. My thanks to Dr Sheila Barker, Executive Director in the Studio Incamminati, School for Contemporary Realist Art, for drawing my attention to this recipe book.
[77] For Ligozzi's procedure, see Tomasi, "The Flowering," 40; For the popularity of gouache in this genre, see Tomasi, "The Flowering," 26.
[78] For Ligozzi's use of watercolours, see Thomas Howard McGrath, "Disegno, Colore and the Disegno Colorito: The Use and Significance of Color in Italian Renaissance Drawings. Vol. I," (PhD diss., Harvard University, 1994), 93-4.
[79] Neven, *The Strasbourg Manuscript*, 108-9.
[80] Neven, *The Strasbourg Manuscript*, 185.

particularly appropriate pars pro toto'.[81] If this is the case, then Cibo's colourants act as surrogates for the depicted natural objects. Indeed, a one-to-one correspondence (omnipresence) of juices-colourants with depictions of the same plant is impossible, simply because not every plant juice could act as a colouring agent. Nevertheless, the extensive use of organic substances in the illustrations of plants suggested in his writings points towards a conscious choice been made by Cibo that could be related to the natural origins of colourants and this idea of *pars pro toto*, possibly also alluding to the images' authority and importance as carriers of the essence of plants and facilitators of knowledge. The same has been argued to be true for early modern collections of various types of objects by Valentina Pugliano, who shows that fragments were frequently standing in for the whole object or for something else at that time – horns proving the existence of unicorns and plants being imagined from plucked parts, these are some examples reflecting early modern responses to this sort of stimuli.[82]

Images as carriers of the essence of plants; interpreting some textual evidence

If the inclusion of plant substances in Cibo's recipes can be interpreted as an attempt to grasp the essence of nature, then his plant illustrations, including juices of plants and other natural materials (for example, minerals), could have been viewed by early modern individuals as a combination of external appearance/particularities with essential attributes through the incorporation of natural substances. This idea of creating a bridge between external and essential attributes would vouch for the images' credibility and counteract the arguments against their use in the process of knowledge construction and dissemination.

The proposition that Cibo used natural substances to intermingle the external appearance and the essence of a plant in his images is in accordance with beliefs about nature circulated during the early modern period in a pan-European context. In her article 'Artisanal Knowledge and the Representation of Nature in Sixteenth-Century Germany', Smith discusses these pan-European networks of knowledge exchange by exploring the example of Paracelsus and Dürer's common points of reference.[83] More specifically, in her article, she argues in favour of a shared epistemology between Paracelsus and Dürer that concerns certain knowledge, while she also cites a telling excerpt on this topic, taken from Dürer's books on human proportion:

[81] Egmond, *Eye*, 113.
[82] Valentina Pugliano, "Fake Specimens in the Renaissance," in *The Matter of Mimesis: Studies of Mimesis and Materials in Nature, Art and Science*, eds. Marjolijn Bol and E. C. Spary (Leiden: Brill, 2023), 395.
[83] Smith, "Artisanal Knowledge," 22-5.

> But life in nature manifests the truth of these things. Therefore observe it diligently, go by it and do not depart from nature arbitrarily, imagining to find the better by thyself, for thou wouldst be misled. For, verily, 'art' is embedded in nature; he who can extract it has it. If thou acquirest it, it will save thee from much error in thy work.[84]

The concept of bodily engagement with nature and its important role in the construction of certain knowledge, according to both Paracelsus and Dürer, is another issue that Smith tackles in the same article.[85]

While it is true that both of them belong to a different context than this one of Cibo, namely to an earlier generation and a different geographic area, recent historiography (with Smith's article being one example) has started to consider this kind of borders (cultural, geographical, linguistic, to name a few), as permeable spaces instead of strict boundaries. Indeed, Paracelsus and Dürer both travelled to Italy, while their works were known to an audience outside their immediate spatio-temporal context. Furthermore, Dürer's work should have been known by Cibo, since there is a favourable comment on the way that Dürer portrayed trees in the Leiden manuscript.[86]

Cibo's activities echo these ideas of extraction and bodily engagement, with the recurrent use of the verb *cavare* (which means to extract) to continuously remind the readers of the active participation of the body in the making of colourants. Specifically, the verb *cavare* appears frequently in these passages where Cibo refers to the procedure of preparing colours from plants. For example, he wrote in the Leiden manuscript: 'Yellow waters without body are made of various kinds, similar to green and red ones; and these are extracted from fruits, roots and flowers'.[87] This bodily extraction of the plant substances is in correspondence with early modern ideas about the inclusion of knowledge in nature and the role of humans in extracting this knowledge, revealing nature's secrets and the utility of God's creation of the natural world.

Apart from the verb *cavare*, Cibo often used the word *provato* (which means tried/proven), suggesting that he tried the recipes himself with successful results. For example, in his *Modo di colorire* manuscript, under the recipe 'Beautiful colour to counterfeit the fruits of *fuscina salvatica*,

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[84] Reproduced and translated in Erwin Panofsky, *The Life and Art of Albrecht Dürer* (Princeton: Princeton University Press, 2006), 279.
[85] Smith, "Artisanal Knowledge," 24.
[86] 'Al contrario con ogni industria e giudizio Alberto Duro et il G. Ghirardi fecero gli arbori pigliando una maniera mezzana contornando i loro arbori con li suoi rami gratiosamente disposti e non come li sudetti mà con garbo mirabile conforme à quello che ci rapresenta la natura, di maniera che non vi si vede un minimo tratto di penna che sia fatto à caso, mà ogni cosa fà l'effetto suo con meraviglia', see Ms VGG 5q, f. 28v.
[87] 'L'Acque gialle senza corpo se ne fanno di più sorte cosi come delle Verdi, e rosse, e questi si cavano da' frutti radice e fiori', see Ms VGG 5q, f. 20v.

called *nocella* in Rocca', he wrote *provato da me* and *provatissimo*, expressions that were extremely common and often appear in the culture of books of secrets and artisanal recipe books.[88] A similar phrase, including the alternative name used for the plant in Rocca Contrada, can also be found in the *Ricordi* manuscript.[89] Hermens also noted the similarity of this phrase in the *Ricordi* manuscript to the annotation found above the image of the same plant in the British Library manuscript/a (fig. 4.6).[90] Although it is not necessary that Cibo was referring to the specific illustration when he wrote the note in the *Ricordi* manuscript, the existence of this image alludes to the practical nature of his writings. Therefore, this occurrence provides evidence that expressions such as *provato*, were not mere proclamations but had literal meaning. This emphasis on the first-person experience not only plays a role in witnessing the outcome of the recipe but it could also be interpreted as a means of presenting himself as an expert on the transformation of matter for the creation of colours. Thus, the manipulation of substances – including natural ones – and their transformation into colourants can be viewed as a part of Cibo's exploration and experimentation on the behaviour of matter and forces of nature.

Despite manipulating various materials, Cibo's treatment of natural substances was an essential part of his activity, as indicated by his frequent use of plant-derived colourants. Not only is he remembered for this specific trait, but the application of natural substances is often suggested within his texts and proved by his preserved works on paper. This application of colourants originating from plants was a significant part of his effort to engage with nature bodily, to grasp the essence of the natural world, and to render himself a connoisseur of the transformative forces of nature. His attempt to engage bodily with nature in a way similar to his herborising activities, as well as to make his images a visual 'facsimile' of nature, could, thus, be viewed as an instrument for constructing and disseminating knowledge.

Colouration of printed illustrations

Colour printing techniques were known since the fifteenth century, and printing houses such as that of Erhard Ratdolt became famous for their innovations in this field.[91] However, coloured

[88] 'Colore bello per contrafare li frutti di fuscina salvatica, chiamata nocella alla Rocca', reproduced in Mascherpa, "Modo," 283, 27v.
[89] 'per contrafare il frutto della fusaina, altriment[e] nocella che cosi si chiama nel paese della Rocca c.da', see Urb.lat.1280, 14v.
[90] Hermens, "A Seventeenth-Century Italian Treatise," 52.
[91] For Ratdolt's innovation in printing diagrams, see Benjamin Wardhaugh, "Erhard Ratdolt: Printing the Elements," in *Encounters with Euclid*, ed. Benjamin Wardhaugh (Princeton: Princeton University Press, 2021), 70.

prints' quality was rather limited at that time.[92] Therefore, hand colouring was most frequently employed, often completed in the printers' workshop.[93] Arber brings Christophe Plantin of Antwerp as an example of a publisher who employed women to colour by hand the illustrations of the books that he published.[94] Even when the printed illustrations were not coloured, they were created in such a way as to facilitate later colouring. For example, *De historia stirpium* illustrations demonstrate thin lines with slight shading, probably to facilitate their future colouration.[95] Another piece of evidence that *De historia stirpium* came off the press with a coloured copy in mind is the illustration of maize accompanied by Fuchs' note concerning the four colours on the cob (fig. 4.7).[96]

There are some uncertainties related to the dating and authorship of the colouration of print images in herbals, for they could have been coloured by any subsequent owner, reader, or collector at a later date. Such ambiguities are not present in the already-mentioned copy of Mattioli's *Commentary on Dioscorides* (Rome, Biblioteca Universitaria Alessandrina, Rari 278) belonging to Francesco Maria II Della Rovere (subsequently called the Alessandrina book), the illustrations of which were coloured by Cibo.[97] On the front cover of this copy, there is a glued note that testifies to Cibo's colouration of the book (fig. 4.8).[98] Apart from adding watercolours to the existing images made by Liberale for Mattioli, Cibo also embellished the copy with elaborate landscapes following his usual practice, as already noted (for example, fig. 4.9). The terminus post quem for this project is 1568 (the date of the edition's publication), when Cibo had already settled in Rocca Contrada. Cibo also participated in a similar project for the Cardinal of Urbino, Giulio Feltrio della Rovere. Unfortunately, this copy has not been preserved or found, while the information about it comes from three references in his now lost diary and some other references in the *Modo di colorire* manuscript. For example, an expert from this text reads: 'In the book of Cardinal d'Urbino, I first coloured the flowers of hollyhocks (?)'.[99] Given the fact that the price of coloured copies was

[92] Tomasi, "Plants," 36.
[93] Kusukawa, "Patron's review," 199; Arber, *Herbals*, 215.
[94] Arber, *Herbals*, 215.
[95] Arber, *Herbals*, 212-5.
[96] Kusukawa, "Patron's review," 192.
[97] Rome, Biblioteca Universitaria Alessandrina, Rari 278. The Alessandrina book can be found online, see "I discorsi […]," Internet Culturale, accessed September 16, 2023, https://www.internetculturale.it/jmms/iccuviewer/iccu.jsp?id=oai%3Awww.internetculturale.sbn.it%2FTeca%3A20%3ANT0000%3AN%3ARMLE007083&mode=all&teca=MagTeca+-+ICCU&fulltext=1. For the facsimile of the Duke's copy, see Pietro Andrea Mattioli, *I Discorsi [...]* (1568; facs. Sansepolcro: Aboca Edizioni, 2017).
[98] Rari 278, frontispiece.
[99] 'Li fiori di malvoni nel libro del Cardinal d'Urbino gl'hò prima coloriti', reproduced in Mascherpa, "Modo," 286, 33r. For some information about this project, see Tomasi, "Fare," 27.

approximately three to five times higher than the price of uncoloured works, it seems reasonable that these two projects were commissioned by such prestigious figures.[100]

In the *Modo di colorire* manuscript, Cibo also wrote:

> Colouring an aloe. In the book of the Cardinal of Urbino, I coloured the green of aloe without green water but with a little yellow lake, for the aloe is of a somewhat pale or bluish colour.[101]

The recipe continues by describing all the steps taken to complete the procedure, while Cibo also advocates using ingredients derived from different parts of the plant to create different chromatic effects. As already mentioned, the Leiden manuscript reveals the plant origin of the *giallo santo* (yellow lake).[102] Once again, Cibo used flowers in his colour palette even when he coloured printed illustrations by hand. Cibo was not alone in the application of plant-derived colourants for the colouration of prints. Sap green, a colour that will be discussed in more details in Chapter 5, was listed among the materials used in print colouring according to documents dated in 1582, which concerned Antoon van Leest, a printmaker active in Antwerp.[103]

Even though the cardinal's copy is now considered lost, an illustration of *Aloe vera*, coloured by Cibo, has been preserved in the Alessandrina book (fig. 4.10). When looking closely at the image, one can observe the variety of the shades of green. A lighter green can be detected at the edge of the leaves and a darker hue in the shaded parts, echoing the previously mentioned recipe where Cibo advocates using different combinations of materials to depict different parts of the plant. The root has also been coloured by Cibo, presenting a darker hue of brown in the shaded parts of the plant.

The tonal variations throughout the Francesco Maria II Della Rovere's copy show an interest in reproducing the various hues that a living specimen has in nature. This effort in recreating the variety of colours found in the natural specimens is not attested only in Cibo's work. Aldrovandi, one of the most important patrons of natural history images in the early modern era, disapproved of

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[100] For the price of printed copies, Kusukawa, "Patron's review," 199-202.
[101] 'Colorire una pianta d'aloè. Nel libro del Signor Cardinal d'Urbino hò colorito d'aloè di verde de senz'acqua verde, mà con un pochino di giallo santo per essere l'aloè d'un colore chiaretto, ò azuregno', reproduced in Mascherpa, "Modo," 277, 16v.
[102] Ms VGG 5q, f. 16r-16v.
[103] Primeau, "The Materials," 56.

those who coloured the images of Mattioli with one kind of green, as he explains in one of his manuscripts.[104] In the same manuscript, Aldrovandi also wrote:

> Although plants are generally and for the most part of a green colour, nonetheless there is an infinite variety among those greens, some being dark green leaning to black, others light [green] leaning to light blue, others to crimson, others to yellow, others to dark *berretino* [grey], others to the colour *tanedo* [ochre].[105]

As it was first noticed by Giuseppe Olmi, for Aldrovandi, colour is an indispensable instrument of knowledge and a criterion of classification.[106] Thus, the attention to the reproduction of various hues by Cibo in the natural history images is not surprising. It should also be noted that this insistence on the need to reproduce colours correctly is probably more than a mere interest in a faithful reproduction of colours and stems from a firm belief that colour could manifest the accurate impression of a specimen.

Apart from the colouration of the printed image of *Aloe vera*, Cibo also made his own illustration of the plant (fig. 4.11). Compared with the printed version cited previously, one can easily detect the absence of hatching in the leaves of the manuscript version. As a result, the transition from the lighter parts of the leaves to the darker ones is more subtle and gentle. Nevertheless, Cibo did pay the same attention to depicting various hues of green as he did in the printed version. However, he used brighter greens in the manuscript illustration, resulting in a brighter overall appearance of the plant. Perhaps the most striking difference between the two images is the absence and presence of a background.

Is the different treatment of the background an element that influenced the colouration of the specimens? In the depicted scenery, the weather is good, while the pink colour of the sky suggests sunset time. The vegetation in the landscape, including some pots that presumably are meant to show that *Aloe vera* is a cultivated plant, has been depicted with the same hues of green as the enlarged plant at the front. For example, the potted aloe plants on the right-hand side of the composition (fig. 4.12) have been portrayed with a similar combination of greens that characterises the leaves of the enlarged specimen in the front. Although simplified, the colours used for the small potted plants suggest a similar combination of a blueish and a yellowish-green, with a small quantity

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[104] Valentina Pugliano, "Ulisse Aldrovandi's Color Sensibility: Natural History, Language and the Lay Color Practices of Renaissance *Virtuosi*," in *Early Modern Color Worlds*, eds. Tawrin Baker et al. (Minneapolis: Graywolf Press, 2016), 95.
[105] Reproduced and translated in Pugliano, "Ulisse," 95-6.
[106] Giuseppe Olmi, "Osservazione della natura e raffigurazione in Ulisse Aldrovandi (1522-1605)," *Annali dell'Istituto storico italo-germanico in Trento* 3 (1977): 116-7.

of brown manifested only in the leaves of the plant at the far left of the balcony. Apart from the practicalities that are undoubtedly part of Cibo's works, the application of the same, or similar, colourants that resulted in similar green shades between the enlarged and the potted *Aloe vera* plants cannot be a coincidence. Especially when considering the different range of green colours used in the printed image of the Alessandrina book, it can be assumed that Cibo treated the depicted specimen at the front as part of the landscape, depicting its leaves brighter in line with the landscape's atmosphere.

The above examples illustrate that the colouration of printed illustrations by Cibo was also a part of this idea of creating links between the living specimens and their depictions through colour. An excerpt of the will of the diplomati Henry Wotton, quoted by Arber is revealing. It refers to a 'Dioscorides with the Plants naturally coloured, and the Text translated by Matthiolo'.[107] Similar references exist in the Italian early modern context as well. Vasari writes in a letter to Baccio Rontini: '[I have prepared for] your copy of Dioscorides some ten sheets with various plants by my hand, portrayed and coloured from nature, like the others that I have already executed for you'.[108] The emphasis here, as in the example of Wotton's will, is the illustrations' direct link with nature achieved through both the form and the colour.

Some final remarks

Cibo's consideration of the effects of light on how we see things (and, thus, how they are depicted) in the above example of the *Aloe vera* illustration is a concept that could originate from Leonardo's activities. Indeed, Leonardo had extensively explored how light in nature changes the way we see things before Cibo's own time.[109] Some scholars have also discussed the similarities between Cibo's works and writings in Leonardo's oeuvre.[110] Baroni, who was the first scholar to meticulously study the relationship between these two individuals, also reveals a possible way in which Cibo could have had access to Leonardo's texts via the Della Rovere library.[111] Thus, Cibo's awareness and use of a method which seems to take into consideration the light effects on the depicted specimen and the creation of a particular atmosphere where this specimen is placed, is very probable to have been inspired by Leonardo. Aldrovandi, who, as already discussed, was

[107] Arber, *Herbals*, 95-6.
[108] Translated in Tomasi, "The Flowering," 35.
[109] Julia Anne DeLancey, "Aspects of Colour Modelling in Florence from 1480 – 1530," (PhD diss., University of St. Andrews, 1997), 15-25.
[110] Baroni, "La trattatistica," 258-9; Mander, Travaglio, and Baroni, "Il problema," 963-71.
[111] Baroni, "La trattatistica," 259; Baroni, "Gherardo Cibo," 109.

concerned with the correct rendering of a specimen's hue on paper, was also aware that colours change in relation to light, indicating once more the shared ideas and concerns by early modern naturalists.[112]

Leonardo owned many drawings described as 'many flowers portrayed from nature' according to a list of the drawings in his possession.[113] He was also engaged with illustrating plants himself, and some of his botanical studies have been preserved until nowadays.[114] One of the extant sheets, namely the *Sprigs of oak and dyer's greenweed*, displays a fold separating the two botanical drawings, where some stitch holes seem to appear (fig. 4.13). Thus, the folio was probably part of a book of drawings, suggesting the existence of a sketchbook dedicated to plant studies made by Leonardo.[115] As already noted in the literature, Leonardo's combination of personal notes with sketches and drawings (also displayed in his *Studies of two sedges*, fig. 4.14) is a characteristic that often appears in Cibo's work as well.[116] When examining Leonardo's preserved botanical studies about colour, one can detect the application of a red-on-red technique in many preserved works. For example, in the previously mentioned *Sprigs of oak and dyer's greenweed*, Leonardo used red chalk on orange-red tinted paper and white chalk to highlight some parts of the plants. Many of his botanical studies display this technique, which creates a tonal subtlety in the drawing. Apart from the tinted paper, Leonardo also used a variety of hatching techniques. In the same drawing by Leonardo, the background of the plants has been hatched with a variety in the direction and density of lines. Apart from the general dynamic effect that it gives, the application of different hatching techniques also contributes to the tonal subtlety of the work.

Cibo also used tinted papers throughout his oeuvre (most commonly blue based on his preserved works), and also wrote recipes on how to make tinted paper. For example, in the Leiden manuscript, one can read:

> One can tint sheets of paper in different colours, and when there is no blue paper, the white paper can be tinged with indigo; grey can be done with umber, bistre and walnut water, yellow with water of buckthorn and so on with other colours that are infinite…and this is a way already used by many ancient painters, who also mixed various colours.[117]

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[112] Olmi, "Osservazione," 117.
[113] Martin Clayton, *Leonardo Da Vinci: A Life in Drawing* (London: Royal Collection Trust, 2018), 141.
[114] Clayton, *Leonardo*, 141-9.
[115] Clayton, *Leonardo*, 141.
[116] Baroni, "La trattatistica," 258.
[117] 'Si possono tingere le carte di diversi colori, quando non vi sia carta azurra, si tinge la bianca con endico, si fà berettina con la terra d'ombra, con la fuligine e acqua di noce, gialla con acqua di spino cervino e così con

Furthermore, Cibo did not use chalk in any of his preserved works, but preferred the medium of ink instead. His corpus of drawings, as it will be discussed in Chapter 6, mainly includes landscape drawings. Nevertheless, there are some individual studies of plants as well. One of the folios in Jesi, Biblioteca Planettiana, Album B, depicts various plants together with a study of a seashell and turtles (fig. 4.15).[118] His application of colour is very different from Leonardo's previously mentioned studies. Not only did Cibo apply colour to depict the specimens, but he also used a mixture of blue and ochre colourants for the rendering of the background of the turtle without any hatching (contrary to what Leonardo did in the previously mentioned drawing).

These groups of Cibo's work that the chapter discusses, namely, printed images, manuscript illustrations and drawings, include the agent of colour. Cibo experiments with colourants and tries to understand their nature (many of which were of plant-based origin as already discussed) as a way to achieve the best visual results. In general, he participated in the broader culture of making images targeted mainly at an audience with natural history interests. Being part of this network, it is not surprising that his ideas about colour can also be traced in the works of other individuals, as already discussed in the case of Aldrovandi. The references to colours linked to natural history objects, also point to the relationship between the field of colour theory and natural history. Aldrovandi wrote, for example, 'Subalbidus, whitish like the root of Acorus,' while Cibo wrote for a 'green similar to olive branches' and a 'green similar to that of Marrubio leaves' in his *Modo di colorire* text.[119] Throughout Cibo's writings, there are frequent references to colours linked to natural objects, for example, the colour of ripe/unripe strawberries.[120] Apart from these examples, there are also some other recipes that link colours to flowers in the broader European context. For example, Merrifield records a recipe for making the colour of red roses and another one for making the colours of flowers recorded in a manuscript associated with Jean Le Bègue (1368–1457).[121] Considering the widespread use of plants in the recipes for the making of colours, this conceptual link epitomises Cibo's actual practice, and possibly that of other individuals in the early modern period. Although the use of natural colourants in natural history images needs further consideration, Cibo's example helps to illuminate this topic.

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altri colori che sono infiniti…e questo è modo già usato da molti pittori vecchi li quali vi mischiavano ancora varij colori', see Ms VGG 5q, f. 30v-31r.

[118] Jesi, Biblioteca Planettiana, Album B, f. 13r.

[119] For Aldrovandi, see Pugliano, "Ulisse," 101; Cibo's recipes are reproduced in Mascherpa, "Modo," 276, c. 14v-15r.

[120] Baroni, "Gherardo Cibo," 107.

[121] The 'A faire couleur de roses vermeilles' recipe is reproduced and translated in Merrifield, *Original Treatises*, 310-1. The 'A faire couleur de fleurs' recipe is reproduced and translated in Merrifield, *Original Treatises*, 312.

Chapter 5: Using performative tools to explore Cibo's colour knowledge

Making colours following sixteenth-century recipes

Many recipes from Cibo's various writings have been cited so far in order to explore the materiality of his illustrations. The textual analysis of these written sources in the previous chapter gives an insight into Cibo's working methods and materials. However, as suggested in the literature, reading and making are inextricably linked, especially in the case of recipes.[1] Although not necessarily meant for use, recipes involve practical knowledge, which is better understood through action.[2] Being eager to delve into the world of materials used by Cibo, I reconstructed two of his plant-based recipes, complementing, thus, the previous textual and historical analysis of his writings. I will use the rather generic terms colours/colourants to describe the concoctions, although Cibo mainly used a water-based technique and gum arabic as a binder.[3]

Both textual and performative means of analysis in the thesis are focused on plant-based colourants, which are not easily detectable by non-destructive methods.[4] Especially since more 'ready-to-use' colours became available as the sixteenth century proceeded, Cibo's choice to create his own colours must have been a choice that carried significance.[5] Indeed, Cibo could have frequented apothecaries or Italian fairs, like the ones at Recanati or Ancona, both in the Marche region, to purchase some materials.[6] However, his expertise in natural substances was probably one of the reasons why he created his own colourants from the juices of plants. Therefore, the reconstruction of his recipes could give insight into how these plant saps behave throughout the

[1] Taape, Smith, and Uchacz, "Schooling," 332-3.
[2] The nature of technical writings and their interpretation as records of actual historical practice, or not, is an issue already discussed in Pamela H. Smith, "Historians in the Laboratory: Reconstruction of Renaissance Art and Technology in the Making and Knowing Project," *Art History* 39, no. 2 (2016): 213-5. For a discussion on impractical recipes, see Spike Bucklow, "Impossible recipes," in *Sources and Serendipity: Testimonies of Artists' Practice*, eds. Erma Hermens and Joyce H. Townsend (London: Archetype Publications, 2009), 18-22.
[3] Baroni, "Gherardo Cibo," 107.
[4] 'Identification is more difficult in other cases, such as weld, saffron, brazilwood, sap green', see Maurizio Aceto et al., "Non invasive analysis of miniature paintings: Proposal for an analytical protocol," *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 91 (2012): 359.
[5] For the availability of 'ready-to-use' pigments, see Louisa C. Matthew, "The Pigment Trade in Europe during the Sixteenth Century," in *Colors Between Two Worlds: the Florentine Codex of Bernardino de Sahagún*, ed. Louis A. Waldman (Florence: Kunsthistorisches Institut in Florenz; Max-Planck-Institut, 2011), 311-2.
[6] For the fairs at Recanati and Ancona, see Matthew, "The Pigment Trade," 311.

procedure and thus, to better understand the tacit knowledge acquired through manipulating ingredients and making colours.

The specific focus of the chapter on green relates to the significance of this colour in the depictions of nature.[7] Green is a colour that is widely encountered in the natural world and seems to be omnipresent in Cibo's works. From the point of view of the colour itself, a variety of green hues and green colourants have been used throughout history. For example, Cristoforo Sorte mentions in his *Osservazioni Nella Pittura* (1580) that he used three kinds of green, 'two of them of waters and the other of sap'.[8] Unfortunately, the author does not explain the difference between them; thus, the intricacies of the terminology remain elusive in this case. Interestingly, Cibo also used the term waters (*acque*) in some recipes, including one for green, on which the chapter is focused, probably alluding to the colour's consistency and watery appearance or its final treatment with plain water.

Aque verdi, as he names the colour, was translated to green waters throughout the chapter and not to, for example, green watercolours, since Cibo did not dry and mix its powder with a binder in the final stage of its application.[9] The literal translation is also useful in emphasising the various contexts and intricacies of early modern names, as well as the variety of recipes. It is often the case that even within the same manuscript, there are different recipes for making green using buckthorn fruits. For example, in the Paduan manuscript, Merrifield recors three recipes titled 'Pasta verde come si facia', 'A fare un bel verde' and 'A far pasta verde bellissima', where buckthorn fruits are used, translating the *pasta verde* term as sap green.[10] Norgate's text also records some sap green recipes and the list could go on.[11] These recipes are similar to Cibo's green waters in their use of buckthorn fruits as the main ingredient, and, thus, some parallels can be drawn between them.

[7] For the significance of green colour in the fifteenth-century Florence, see Rebekah Compton, "The Green Places of Fra Filippo Lippi and Sandro Botticelli," in *Green Worlds in Early Modern Italy; Art and the Verdant Earth*, eds. Karen Hope Goodchild, April Oettinger, and Leopoldine Prosperetti (Amsterdam: Amsterdam University Press, 2019), 31-48.
[8] 'due di acque e l'altro di succo', see Cristoforo Sorte, *Osservazioni Nella Pittura*, 55.
[9] Although sap green, which is also made from buckthorn fruits, did not need a binder, for its thickened juice was sticky by nature, the addition of gum was considered as an improvement, see Daniel V. Thompson, *The Materials and Techniques of Medieval Painting* (New York: Dover Publications, 1956), 170.
[10] Merrifield, *Original Treatises*, 662-5, 682-3, 708-11.
[11] Norgate, *Miniatura*, 59, 62, 118.

However, sap green has also been used as a term to describe colourants produced from the juices of other plants, notably from iris, a reminder that each term has its own history and connotations.[12]

This chapter draws on the growing literature applying hands-on approaches to historical research, presented in the Introduction, and, at the same time, it also includes a new focus on plant-based, green colourants. It aims at testing the hypothesis of whether plant-based colourants were present 'in minute quantities', as noted in the study of Giovannino de' Grassi's model book or used more extensively in natural history illustration.[13] In general, my reconstructions aim at further exploring Cibo's material world and processes. In this regard, they were fruitful because they instigated a thorough consideration of the materials used, leading to a better understanding of Cibo's recipes than the textual and historical analysis of the previous chapter offered. Inevitably, there were some compromises in relation to the tools and materials used, but these were carefully thought of and recorded for evaluation purposes.

Reconstructions of the *Acque Verdi* recipes

Cibo's recipe for green waters reads:

> Green waters, which all painters use often, are extracted from the fruits of buckthorn, and this is done in this way. The said fruits are picked in October when they are well-matured; they are crushed a bit and lightly until the said fruits burst. Then, they are placed in a cloth, and the juice is strained through this; then, put back the skins that remained in the cloth inside. Then, it is placed in a bladder vessel in the sun, and you try it each day to see if you like the colour because it continually becomes stronger. And when it is a good green, place it in a little earthenware pot with rock alum and as much sour white wine to cover it three fingers high. Then, boil it until the wine has evaporated, then strain it, and place it again in the bladder in the sun until it is hard, and you use it when needed. This one, when you want

[12] For the use of sap green as a term to describe pigments produced from iris, see Nicholas Eastaugh et al., *Pigment Compendium: A Dictionary and Optical Microscopy of Historical Pigments* (Amsterdam; Boston; London: Butterworth-Heinemann, 2008), 339.

[13] For the results of the specific study concerning Giovannino de' Grassi's model book, see Letizia Montalbano, Michela Piccolo, and Maria Grazia Vaccari, "Painting on parchment besides miniatures: scientific analyses and a study of the artistic techniques of Giovannino de' Grassi's model book," *Studies in Conservation* 43, no. 1 (1998): 58.

> to use it, you put it in a little dish, adding plain water little by little. And it has great success, but it is not preserved very much with the water.[14]

To reconstruct this recipe, buckthorn fruits (*Rhamnus cathartica*) were kindly provided by Cambridge University Botanic Garden on the 4th of November 2021. First of all, the hulls were removed and discarded, while the berries (four grams) were placed in an unbleached cotton cloth (fig. 5.1). Then, the berries were squeezed. Their juice was filtered through the cloth and poured into a shot glass (fig. 5.2). The skins that remained on the cloth were also added to the juice. The shot glass was then sealed with cling film in an attempt to imitate the bladder's enclosed space. It was then placed in the sun for two days (fig. 5.3). After two days, the juice was treated with one spoon (four grams) of potassium aluminum sulphate powder (fig. 5.4) and an equal amount of white wine (for this reconstruction, commercially-made white wine was used, namely the Trebbiano Pinot Grigio Rubicone, fig. 5.5). The concoction was then poured into an aluminium coffee pot and boiled on the stove until the wine was evaporated (fig. 5.6). After this process, the concoction was returned to the glass, sealed with cling film, and placed in the sun. When the concoction was dried, it was stored in a cabinet. On the 20th of November, water was poured into the shot glass, and with the help of a cotton swab, the colour was applied on paper (fig. 5.7). After one and a half days, I noticed some signs of mould on the surface of the colour, which was greatly expanded after a few days (fig. 5.8).

Regarding the historical accuracy of the above reconstruction, some compromises were made. First of all, there are many species belonging to the genus *Rhamnus* that have colouring effects. Dominique Cardon describes three buckthorn species used for their colouring abilities in his book on natural dyes.[15] Cibo names the plant (*spino cervino*), but he does not elaborate in a way that would help us in its identification. To complicate matters further, Mattioli wrote in his treatise: 'It seems to me, however, that Ruellio makes a big mistake thinking that the Rhamno is the one we call Spino merlo in the vernacular, while others call it Spino ceruino in Lombardy, and Spin Guercio in Friuli…: that the painters and the miniaturists use it to make a beautiful green. And yet we wanted to

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[14] 'L'acque verdi che communemente usano tutti i pittori, si cavano dalli frutti del spino cervino et in tal modo si fà. si piglia d'Ottobre li frutti sudetti quando sono ben maturi, si pestano alquanto et legiermente tanto quanto crepassero detti frutti, poi si pongono in una pezza et se le fà uscire il succo, il quale di nuovo si rimette dentro le sue scorze che rimasero nella pezza, poi posto in una vessicha al sole provando sempre ogni di se il colore piace, perche va sempre crescendo, et come è in stato che è ben verde si pone in un pignattirio con alume di rocca e tanto vino bianco garbo che soprastia tre dita, poi si fà bollire alla consumatione del vino, poi si cola et rimette nella vessica al sole finche sia dura, e si serva à bisogni, la quale volendosi oprare se ne pone al scudellino un poco con un poco d'acqua commune che riesce benissimo mà non si mantiene molto con l'acqua', see Ms VGG 5q, f. 18r.

[15] Dominique Cardon, *Natural Dyes: Sources, Tradition, Technology and Science* (London: Archetype Publications, 2007), 94-100.

call this plant spino da tingere and spina infectoria'.[16] Modern scholarship has not reached an agreement yet concerning the identification of *spino cervino*. Penzig identifying it as the *Rhamnus cathartica* or the *Rhamnus infectorius* species.[17] Nicholas Eastaugh associates the terms *giallo di Spincervino* and *giallo santo*, as well as sap green with the *Rhamnus cathartica* species.[18] Other species of *Rhamnus* have also been considered.[19] Common buckthorn (*Rhamnus cathartica*) has been selected for this reconstruction because it is a plant found in chalky slopes and woods all over Europe, places that Cibo must have explored very well during his plant-collecting activities.[20] 'Spincervino' has also been identified as the common buckthorn species by Merrifield.[21]

Further compromises were made in relation to the materials and tools used in the reconstruction. Among them is the use of a shot glass instead of a bladder vessel. Cibo calls the vessel used in the procedure *vessica*, which is translated into 'any kind of bladder or blister' in Florio's 1611 Italian/Engish dictionary.[22] Although the kind of bladder is not specified, it was most probably a pig's bladder. Pigs' bladders were often used for the storage of oil pigments, however, they must have been used extensively as a storage tool for sap green, since there are many terms related to this colourant that convey its storage into bladders.[23] To counteract the inability to obtain and handle this tool, the glass was sealed with cling film to imitate the enclosed space of a bladder. Furthermore, the use of a thermostatically controlled heat source, tools made by modern manufacturers (e.g., the aluminium pot) and commercially available materials (e.g., the white wine) should also be noted. The use of potassium aluminum sulfate powder from a modern-day supplier should also be mentioned. The use of potassium aluminum sulfate is in accordance with S. M.

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[16] 'Parmi però, che di gran longa erri qui il Ruellio, pensandosi, che il Rhamno sia quello, che uolgarmente chiamiamo noi Spino merlo, et altri in Lombardia Spino ceruino, et in Friuli Spin Guercio…: il quale adoperano i dipintori, et i miniatori, per fare un bellissimo uerde. Et però habbiamo uoluto chiamar noi questa pianta spino da tingere, et spina infectoria', see Mattioli, *I Discorsi*, 176. Also, the name 'spino cervuino' appears in the section about *Rhamnus solutiuus*, see Dodoens, *A niewe herball,* 696-7.

[17] Albert Julius Otto Penzig, *Flora popolare italiana. Raccolta dei nomi dialettali delle principali piante indigene e coltivate in Italia. Vol. 2* (Genoa: Tipo-litografia del R. Istituto sordomuti, 1924), 532.

[18] Eastaugh et al., *Pigment Compendium*, 329.

[19] For a quick overview of the related *Rhamnus* species, see Eastaugh et al., *Pigment Compendium*, 328. Thompson refers to some experiments in the Courtauld Institute proving that different *Rhamnus* species yield different results in terms of the quality of colour, see Thompson, *The Materials*, 169-70.

[20] For the common buckthorn's habitat, see Cardon, *Natural Dyes*, 97.

[21] Merrifield, *Original Treatises*, ccxviii-ccxix.

[22] John Florio, "Vessica," in *Queen Anna's New World of Words, Or, Dictionarie of the Italian and English Tongues* (Melch. Bradwood, for Edw. Blount and William Barret, 1611; online ed., n.d.), http://www.pbm.com/~lindahl/florio/612.html.

[23] Eastaugh et al., *Pigment Compendium*, 339; Thompson, *The Materials*, 171; R. D. Harley, *Artists' Pigments C.1600–1 1835: A Study in English Documentary Sources* (London: Butterworth Scientific, 1982), 87.

Alexander's glossary where 'roche alum' is interpreted as 'a pure form of alum prepared from alunite'.[24]

In addition, there was only one trial of the recipe because of the limited amount of buckthorn fruits available (the reconstruction took place in November when the said fruits were out of season). The limited amount of buckthorn fruits used (4 grams) may also impact the accuracy of the procedure since Cibo presumably would have used more fruits to create a sufficient quantity of colour. Furthermore, the tap water used in the final step also differs from the plain water that Cibo would use since the impurities found in water differ from place to place and from the sixteenth to the twenty-first century.[25] Last but not least, the application of the reconstructed colour to machine-made paper (instead of handmade) is another compromise that was made. Indeed, these compromises determine the nature of the results and conclusions that can be drawn, and although the effort to counteract the lack of availability of some materials (as in the case of the bladder), the final product cannot be characterised as a historically accurate colour in a narrow sense.

However, when examining the final result, the nature of the colour does not seem to have changed completely, despite the compromises being made. Most significantly, the comparison between the reconstructed colour with a colour patch in Cibo's *Ricordi* manuscript (fig. 5.9) indicates that they share at least some similar visual effects. Despite being more blueish (because of the addition of indigo), the edges of the colour patch found in the *Ricordi* manuscript have a great visual similarity to the reconstructed colour. Indeed, the text next to the colour patch reveals that green waters have been used for its creation: 'A patch of colour to counterfeit a young tree: the patch of colour was made with green waters, indigo and white lead, and it is good if you want to make the tree yellowish like they are at the beginning of spring'.[26]

The visual similarity between the reconstructed and the historical colour patch (albeit more blueish) and the existence of many other preserved recipes using the juice of buckthorn fruits, prove that Cibo's recipes had a practical value. For example, Hermens mentions some such recipes being recorded in various instances.[27] The small notebook, mentioned above, which includes recipes by Ligozzi, now found at the Biblioteca Nazionale Centrale di Firenze, also references a colour from

[24] Merrifield, *Original Treatises*, xxviii.
[25] Distilled water was used in the next reconstructions to limit the potential impurities of tap water.
[26] 'Macchia per controfar arboro novello: La machia fatta con acqua verde endico et biaccha, e buona volendo fare l'arboro gialligno come sono nell principio della primavera', see Urb.lat.1280, 3v.
[27] Specifically, she refers to the Strasburg manuscript, the Pseudo-Savonarolo manuscript, the Paduan manuscript, and the writings of Hilliard and Norgate, see Hermens, "Memories," 126.

spincerbino.[28] One of these recipes also includes specific instructions on how to extract the colour from its fruit. It is titled 'To extract the colour of buckthorn' and reads: 'Take the buckthorn, smash it in a mortar, and then put it in a small earthenware pot with alum, and make it boil'.[29] Cibo's warning that the colour cannot be preserved in water for a long time and the rapid appearance of mould in the reconstructed concoction also strengthens the argument of the actual application of the recipe and indicates that my reconstructed colour has, indeed, some shared values with its historical counterparts.

Cibo gave an alternative recipe for the creation of green waters in the same text, something that is not unusual in the genre of early modern recipes, where the recording of more than one option for the same topic is an often-occurring phenomenon. This version reads:

> They also make in a different way another beautiful green waters, by picking the said fruits of buckthorn at the end of the month of October when they are well-matured. Give them a slight squeeze. Then, they are thrown into a glazed pot with a little well-crushed rock alum and mixed all together. Then, take lime water and pour it above the fruits, either covering them or a little bit more. And leave them until the said fruits rise, as grapes do in the wine casks when boiling. What has risen is strained through a cloth without pressing. It is saved in a liquid form as above. Then, you squeeze what has remained in the cloth and save it separately because it is more beautiful, more saturated and better. When dried, you use it as above.[30]

For the reconstruction of the second recipe, seven grams of buckthorn fruits were placed in a glass together with four grams of rock alum (fig. 5.10). The concoction was placed in a glass, as it was judged to be the closest substitute to the glazed pot that Cibo mentions. Then, the ingredients were mixed, and forty-five grams of lime water were poured into the glass (lime water is a saturated solution of calcium hydroxide and was prepared by adding calcium hydroxide powder in water until it could not be further dissolved). Buckthorn fruits were then gently squeezed to release their juices.

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[28] According to Serena Tarantino, 'spincerbino' is mentioned in 14 recipes, see Serena Tarantino, "Contributo alla storia della miniatura cinque-seicentesca: il manoscritto XIX, 8 della Biblioteca Nazionale di Firenze e il problema dei colori vegetali," (PhD diss., University of Pisa, 2013), 128.

[29] 'Si piglia spincerbino, s'acciaccha, poi si mette in un pentolino con ranno, allume e si fà bollire', see Ms XIX, 8, 5r.

[30] 'Si fanno ancora in altra maniera diverse acque verdi belle, pigliando li sudetti frutti di spino cervino all' ultimo del mese d'ottobre che siano ben maturi, poi se le dà una maccatura leggiermente, poi si pongono in una pignatta vetriata con un poco d'alume di rocca ben pisto, mischiando il tutto bene insieme, poi si piglia acqua calcinata e s'infonde sopra ove sono li frutti al paro loro ó poco più, e si lascia finche i detti frutti si elevano, come fanno le vinaccie nelle tine quando si fà bollire qualche cosa alzata si cola per pezza senza premere e si salvarà in liquore come di sopra, si premerà poi quello che rimase nella pezza e si salvera da se perche è più bello più colorito et meglio, e secco s'usarà come di sopra', see Ms VGG 5q, f. 18r-18v.

After one week, and since the fruits did not rise 'as grapes do in the wine casks when boiling', the concoction was strained. What remained in the cloth was squeezed and kept separately as instructed by Cibo, resulting in a red wine-looking colour (fig. 5.11). After application on paper with a cotton swab, the colour turned green (fig. 5.12), like the previous one.

In both reconstructions, Cibo does not give specific guidance related to quantities but rather some limited indications, like, for example, that lime water should cover the fruits or a little more. However, there are some recipes including buckthorn fruits as their main ingredient that do provide specific guidance on quantities. For example, Merrifield records a recipe in the Paduan manuscript according to which 'roche alum has been dissolved in the proportion of 1 ounce of alum to 6 of the berries'.[31] As already mentioned, there are many other recipes for the making of green from buckthorn fruits, which seem to be variations of a general procedure that involves extracting the juice of buckthorn fruits through a cloth and adding alum. Nevertheless, as in the case of the Paduan manuscript, there is no recipe that involves the same ingredients and procedures as those described by Cibo, and thus, they cannot be used as reference points for the quantities in our reconstruction.

Furthermore, the small number of available buckthorn fruits did not allow experimentation with various quantities, and this is also a possible reason why the buckthorn fruits did not rise as expected in the second reconstruction. The Bolognese manuscript in Merrifield's work probably refers to a similar procedure. The excerpt reads: 'et metili al sole et lassali stare tanto che leve suso li grappi', and although Merrifield translates it as 'then place them in the sun, and let them remain until the juice rises above the berries', it seems more likely that the berries elevate themselves as in Cibo's recipe.[32]

Failure is a concept that significantly concerns 'hands-on' historians nowadays, but it used to concern practitioners of the past as well. It has a long history, and there are many occasions where author-practitioners or later recipe readers noted that a recipe did not have the expected results.[33] Therefore, although the fruits of buckthorn fruits did not lift themselves as expected, probably because of the limited amount of buckthorn fruits, failure should be embraced as part of the making process and something from which a lot can be learned. For example, the questions

[31] Reproduced and translated in Merrifield, *Original Treatises*, 662-4.
[32] Reproduced and translated in Merrifield, *Original Treatises*, 420-1.
[33] Sven Dupré, "Doing it Wrong: The Translation of Artisanal Knowledge and the Codification of Error," in *The Structures of Practical Knowledge*, ed. Matteo Valleriani (Berlin: Springer, 2017), 167-188; Kathryn Kremnitzer and Pamela H. Smith, "Imitation Rubies and Failure in Ms. Fr. 640," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, eds. Pamela H. Smith et al. (New York: Making and Knowing Project, 2020), n.p.; "Failure as Research Method," Renaissance Goo, accessed September 16, 2023, https://blogs.ed.ac.uk/renaissance_goo/2022/01/18/goo-discussion-18th-feb-failure-as-research-method/.

regarding quantities and the number of buckthorn fruits that Cibo used became more prominent when considering why the berries did not act as expected. Even if the specific step in our reconstruction can be characterised as a failure, the resulting colour demonstrated the same reaction when it came in contact with the paper as the previous one, a reaction that will be the focus of the next part of the chapter.

Green waters and the relevance of paper support

Juice extracted from buckthorn species is a colourant with which practitioners must have experimented a lot in order to explore its colouring effects and standardise the final product derived from it. This is because its fruits can be used in the preparation of both yellow and green (depending on their maturity or immaturity), as Cibo's respective recipes testify.[34] During the previous reconstructions, it was noted how different the colour seemed before and after application on paper, instigating questions related to the pH of the colour and its reaction with the paper/support. The concoction appeared as having a deep red wine hue throughout and at the end of the procedure. However, it turned from a red wine colour to green after its application on paper, indicating a chemical reaction between the concoction and the paper's surface.

To further investigate this reaction, a small amount of sodium bicarbonate was added to the first reconstructed colour.[35] Sodium bicarbonate is a basic salt, and has the ability to increase the pH of a solution. The addition of sodium bicarbonate resulted in an instant change of its colour to green (fig. 5.13), strengthening the hypothesis that the colour has pH-changing properties, being reddish in acidic environments and green in alkaline. In the 'Organic Dye Extracts to Pigments Foundations for the Colors of Europe' film, the natural dye expert, Michel Garcia, explores many organic materials, including buckthorn fruits.[36] In the beginning, he makes a concoction of buckthorn juice mixed with

[34] For Cibo's yellow waters from the immature fruits of buckthorn, see Ms VGG 5q, f. 20v-21r. Interestingly, in Dodoens' text, there is a similar use of immature and mature buckthorn fruits (immature for the making of yellow and mature for the making of green, which is called 'Sappe greene' in English), see Dodoens, *A niewe herball*, 697.

[35] My thanks to James Richards, Postdoctoral Research Associate in the School of Physics and Astronomy at the University of Edinburgh, for sharing his knowledge and suggesting this test.

[36] Michel Garcia et al., *Organic Dye Extracts to Pigments Foundations for the Colors of Europe: Featuring Michel Garcia / Slow Fiber Studios Presents; a Yoshiko I. Wada Film; Film & Editing by Andrew Galli*, trans. Edith Chueng (Berkeley, California: Slow Fiber Studios, 2014). For more reconstructions of green using buckthorn fruits, see "Sap Green (Part 2)," Medieval Whimsies, accessed September 16, 2023, http://medieval-whimsies.blogspot.com/search/label/Buckthorn; Also, "Arts & Sciences Research Paper #9: Making green paint medievally with spring irises and fall buckthorn berries," East Kingdom Gazette, accessed September 16, 2023, https://eastkingdomgazette.org/2016/05/02/arts-sciences-research-paper-9-making-green-paint-medievally-with-spring-irises-and-fall-buckthorn-berries/.

potassium aluminum sulphate powder. Later in the film, he adds sodium carbonate, noting a change in its colour. Interestingly, Garcia also makes another concoction by boiling reeds from the genus *Sorghum* with potassium aluminum sulphate powder. After filtering it, he adds sodium carbonate, which again changes the concoction's red wine colour.[37] The same alteration of colour from red to green also appears in the reconstruction of enamel paints, which is recorded in Merrifield's book.[38] Thus, new questions related to the preparation of paper and its influence on the colouring effects emerged. Did the paper influence the final result, and if so, what does this tell us about early modern colour knowledge? Indeed, Cibo could have access to both parchment and paper, but the chapter's focus on the latter is in accordance with the predominant use of paper as a support for his works.

The early modern papermaking world can be glimpsed from guild archives, notary registers, and some rather sparse references in other primary sources.[39] To my knowledge, there are no fifteenth or sixteenth-century accounts focused on the technical methods of papermaking. There are only some references within treatises investigating other topics, as, for example, in Francesco Mario Grapaldo's *De partibus aedium […]*, which was first published in 1494, where information about the paper of the period is revealed in the section 'Charta apud nos'.[40] This is something that should be viewed in light of the possible consideration of papermaking as a trade secret, as noted in the scholarly literature.[41] Indeed, the mid-fifteenth-century ordinances of the guild of papermakers in Fabriano, which limited the teaching of papermaking secrets to certain people, seem to validate this interpretation.[42] Other factors, such as limitations regarding time, need, and ability, could also act as a deterrent against the habit of documenting the procedure in writing.[43] In the seventeenth century, Giovanni Domenico Peri's *I frutti d'albaro* (1651) was published, whose text includes a chapter on papermaking, rendering it the earliest known detailed account of this procedure.[44] However, it was

[37] Garcia also notes that all reeds give a kind of green colour, see Garcia et al., *Organic Dye Extracts*.
[38] However, this is attributed to the oxidation of the metallic colouring matters, see Merrifield, *Original Treatises*, lv.
[39] For example, there are notary registers recording relevant transactions, which date from 1363 to 1563, and the papermaker's guild statutes of Fabriano from 1424 and 1566 and of Bologna from 1389, see Sylvia Rodgers Albro, *Fabriano: City of Medieval and Renaissance Papermaking* (Delaware; Washington: Oak Knoll Press; Library of Congress, 2016), 56-7.
[40] Francesco Mario Grapaldo, *De partibus aedium […]* (Parma: Ottaviano Saladi and Francesco Ugoleto, 1516), 115v.
[41] Timothy Barrett, "Early European Papermaking Methods 1400–1800," *The Paper Conservator* 13, no. 1 (1989): 7; Albro, *Fabriano*, 57.
[42] For the ordinances issued in the mid-fifteenth century by the Guild of papermakers in Fabriano, see Albro, *Fabriano*, 111.
[43] Barrett, "Early," 7; Albro, *Fabriano*, 57.
[44] Conor Fahy, "Paper Making in Seventeenth-Century Genoa: The Account of Giovanni Domenico Peri (1651)," *Studies in Bibliography* 56 (2003): 243-59.

in the mid-eighteenth century when detailed descriptions of the manufacturing process of paper became more frequent.[45]

Even if there were many detailed accounts of papermaking in sixteenth-century Italy, many factors could alter the nature of the result. Raw materials, environmental conditions, and processing are some of them. These could have been very diverse from one paper mill to another, having different effects on the final product. For example, rags of linen and hemp were most commonly used. The microscopic analyses led by Thomas Collings and Derek Milne testified to the use of both hemp and flax fibres in European fifteenth to nineteenth-century paper sheets.[46] Apart from the variety of materials, their quality could also differ. For example, at least four categories of rags with varying qualities were described in the fourteenth-century registers in Fabriano's local archives.[47] Another example is water, the composition of which could also be different from place to place. For example, the spring water coming from the limestone hills of Fabriano was loaded with calcium, which reportedly gave a white colour to the paper sheets, also making them durable and chemically stable.[48] Therefore, the choice of materials and their quality directly affect the nature of the final product.

Apart from selecting raw materials, processing is another important step in papermaking. This involved cutting, retting, washing, and beating the rags.[49] When pulp was prepared, the necessary actions were taken for the sheet formation, while sizing and finishing were the final steps of the procedure.[50] Sizing is the treatment of dried paper sheets with substances that give desired qualities to the paper, such as strength. It is a procedure that could have been varied in accordance with the intended purpose of the paper sheets. For example, the paper used in printing was not heavily sized.[51]

Finally, illustrators could have added a preparatory layer on paper before the actual application of colours. The early modern primary sources concerning this kind of treatment by the illustrators are also sparse. The scholar Maartje Stols-Witlox cites only two relative sixteenth-century sources, the one referring to sizing and the other to the application of a ground layer.[52] Specifically,

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[45] Jérôme Lalande's treatise is one such example, see Jérôme Lalande, *The Art of Papermaking*, trans. Richard MacIntyre Atkinson (Kilmurry, Ireland: Ashling Press, 1976).
[46] Barrett, "Early," 9.
[47] Albro, *Fabriano*, 59-60.
[48] Albro, *Fabriano*, 38, 66.
[49] Barrett, "Early," 9-20.
[50] Barrett, "Early," 20-4.
[51] Albro, *Fabriano*, 71.
[52] Maartje Stols-Witlox, *A Perfect Ground: Preparatory Layers for Oil Paintings, 1550-1900* (London: Archetype Publications, 2017), 64; Maartje Stols-Witlox, "Historical Recipes for Preparatory Layers for Oil Paintings in

she notes the application of a single layer of oil paint as a first ground layer in the *Reglas para pintár* (c.1575–1600) and the use of oil as a sizing layer in a recipe found at the BnF Ms. Fr 640 manuscript.[53] In addition to these two recipes, De Mayerne wrote some instructions related to the preparation of paper sheets that were given to him by Norgate.[54] More specifically, he suggests using fish glue to prepare the paper so that the colours can be easily applied.[55] Some modern-day investigations have also revealed the application of white lead as a preparation layer under all the miniatures of *Liber Evangeliorum*, a late twelfth-century manuscript.[56] Therefore, one can grasp the variety of materials used throughout the centuries and in different regions for the preparation of paper before the actual application of colours.

All the factors mentioned above should be taken into consideration when investigating the pH of early modern paper. Cibo stayed in Rocca Contrada for most of his life, and thus, he could have had easy access to paper produced in the nearby town of Fabriano. Fabriano's paper occupied a privileged position in Europe even from the fourteenth century.[57] According to sixteenth-century contracts, large quantities of Fabriano paper sheets were kept at the port of Ancona, from where they were exported to other areas as well.[58] In addition, papermakers from Fabriano also relocated to many other different sites, building new paper mills.[59] Thus, the region of Marche had its own paper production already well-established by 1540 when Cibo moved there.

Cibo's works are mostly on paper, characterised by a creamy white colour. Indeed, some appear to be more brownish than others, which can be due to ageing, sizing, different histories and conservation, and their original condition. There are also some preserved blue and greyish sheets, some of which are very thin, whereas others are very thick, like paperboards.[60] Blue and brown papers were not uncommon at that time, although they were usually considered of lower quality.[61] Some paper mills produced their own blue papers by adding indigo to the sizing in order to counteract the yellowish effect that sizing treatments could have.[62] Despite this general trend of

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Manuals, Manuscripts and Handbooks in North West Europe, 1550–1900: analysis and reconstructions," (PhD diss., University of Amsterdam, 2014), Appendix 9: Paper preparation recipes 1550-1900.

[53] Stols-Witlox, *A Perfect Ground,* 64; Stols-Witlox, "Historical Recipes," Appendix 9: Paper preparation recipes 1550-1900.

[54] Norgate, *Miniatura*, 257, extract 54.

[55] 'Pour prepare le papier a fin qu'il ne boive & que les couleurs s'estendent facilement dessus. Prenés Colle de poisson', reproduced in Norgate, *Edward Norgate*, 257, extract 54.

[56] Aceto et al., "Non invasive analysis," 358.

[57] Albro, *Fabriano*, 36-7.

[58] Albro, *Fabriano*, 97.

[59] Albro, *Fabriano*, 111.

[60] The British Library manuscript/b includes both of them. For example, see Add MS 22333, f. 3r and Add MS 22333, 64r.

[61] Albro, *Fabriano*, 66, 75.

[62] Albro, *Fabriano*, 73.

considering coloured paper as being subordinate to white, Cibo seems to explore the possibilities that tinted papers can offer. Although he names an instance where white paper is judged to be better than blue ('All these are better to be made on white paper rather than on blue'), he also gives a recipe on how to tint paper sheets with a variety of colours, already cited in Chapter 4.[63]

To better explore the quality and origins of paper sheets used by Cibo, British Library manuscript/a and British Library manuscript/b were examined with the help of a specialised lighting device. As a criterion for the quality of the paper sheets, I followed Timothy Barrett and his team's suggestion, where poor quality is 'evidenced by stray foreign fibers, straw, bits of debris, lumps, clumps, and signs of quick or unskilled sheet forming or couching'.[64] Indeed, small holes, vatman's tears (from mistakes in the process of dipping and laying the sheets), and dark spots can be found in some of Cibo's examined sheets. However, most of them are characterised by evenness and uniformity in their thickness and texture and in the patterns formed by the chain and laid lines, and thus, can be interpreted as being of good quality.

The investigation with the lighting device also revealed the existence of watermarks. When studying early modern paper made in the region of Marche, it is difficult to identify the exact place of its production since Marchian papermakers used similar watermarks around the same period.[65] Even paper mills outside the region of Marche used resembling watermarks, as in the case of Foligno's and Fabriano's paper mills.[66] The laws regarding the forgery of watermarks point to this kind of activity at least to some extent, making the matching of paper mills with watermarks even more difficult.[67]

In the British Library manuscript/b, the majority of the watermarks present a six-pointed star watermark enclosed in an encircled lozenge. Some sheets have such a strong impression of the watermark that it is discernible even in the digitised version of the manuscript (for example, fig. 5.14). In the Corpus Chartarum Fabriano, ten similar watermarks can be found dated from the mid-sixteenth to early seventeenth century.[68] Although I could not find a watermark with the exact same characteristics, their composition is very similar (for example, fig. 5.15). The existence of multiple variants within a few decades reinforces the hypothesis of a Fabriano origin, even if there is no

[63] 'Tutto questo si fa in carta biancha che è meglio che nell azurra', see Urb.lat.1280, f. 23v.
[64] Timothy Barrett, "Specimen Selection: Paper Through Time: Non-Destructive Analysis of 14th through 19th-Century Papers," University of Iowa Libraries, accessed September 16, 2023, http://paper.lib.uiowa.edu/specimen.php.
[65] Albro, *Fabriano*, 110.
[66] Albro, *Fabriano*, 113.
[67] For the legal penalties against forgers, see Albro, *Fabriano*, 57.
[68] "Il catalogo," Corpus Chartarum Fabriano, accessed September 16, 2023, https://ccf.fondazionefedrigoni.it/it/il-catalogo.

specific information concerning the name of the papermaker or the paper mill where these watermarks were used. Its position (attached to a chain line that runs through its centre and framed by attendant chain lines that have a shorter distance than the others) and the creamy white colour of the paper are also in accordance with the general paper production in Fabriano at that time.[69] Furthermore, the watermarks of folio v-r and folio i-r consist of two words, namely 'SORDINI FABRIANO', a watermark that has been recorded in some other manuscripts as well (for example, fig. 5.16).[70] The lack of any preserved sixteenth-century record that proves the Sordini family's presence in Fabriano (the earliest record is from 1749) could suggest that these two sheets are later additions to the manuscript. Nevertheless, they also testify a strong connection to Fabriano's paper production even after Cibo's lifetime.

Although the use of Fabriano's paper by Cibo is inconclusive, it is possible that he used it as a support for his illustrations, at least in some instances. Two analyses of Fabriano paper sheets made between the fifteenth and eighteenth centuries indicate the presence of a high concentration of calcium, something that is attributed to the addition of lime during the procedure and the use of water that is rich in calcium (as already noted in the discussion of raw materials for the making of paper, the spring water coming from the limestone hills of Fabriano was loaded with calcium).[71] Although not specifically focused on Fabriano's paper, William James Barrow first, and then Barrett, also examined early modern paper samples, noting a drop in cold extract pH values of the examined paper samples.[72] Barret associated this observation with a decline in concentrations of gelatin and Ca compounds and not with an augmentation of the use of alum in the process.[73] Regarding the pH of paper made between 1500 and 1600, despite the decline in the pH, the examined paper samples are at least less acidic than the reconstructed colours. The pH of the two reconstructed colours was measured with pH indicator papers, revealing a pH4 for the first concoction and a pH4-5 for the second. In the Barrow plot (fig. 5.17), no plot point corresponds with a pH lower than 5.5. Therefore, early modern illustrators must have experienced the same colour change when green waters were applied to paper.[74] The pH measurements of the surface in selected Zonghi's samples taken with pH

[69] Albro, *Fabriano*, 147-51.
[70] My thanks to Claudia Crocetti (Museo della Carta e della Filigrana di Fabriano) and Giovanni Luzi (Fondazione Fedrigoni Fabriano) for helping me with the identification of the first word.
[71] Albro, *Fabriano*, 38, 66. For more information about the treatment with lime, see Fahy, "Paper," 251-2.
[72] Timothy Barrett, "Surface pH," *The Paper Conservator* 13, no. 1 (1989): 39.
[73] Timothy Barrett, "Chronological Plots," Paper Through Time: Non-Destructive Analysis of 14th through 19th-Century Papers, accessed September 16, 2023, http://paper.lib.uiowa.edu/chron.php#.
[74] More reconstructions are needed in order to determine the exact pH needed in order for the colour change to be clearly discernible.

indicator strips strengthen this hypothesis by demonstrating pH 6-7 for a paper sample made in 1488, pH5 for a sample made in 1527, and pH6 for a sample made in 1586.[75]

Final reflections on the reconstruction of Cibo's recipes

'Then, it is placed in a bladder vessel in the sun, and you try it each day to see if you like the colour because it continually becomes stronger', Cibo wrote in the first recipe for green waters, as already cited.[76] Apart from the deep dive into the early modern materials and processes, reconstructions help us better understand these instances when tacit knowledge is involved. Green waters cannot be judged by just looking at the concoction, but it should be tested on paper ('provando') so that the practitioner can decide if he likes the colour or not. Indeed, other reactions can also influence the result (for example, Cibo seems to refer to a photo-oxidisation process in the above-mentioned excerpt), but it is the contact with its support that transforms the colour and gives its final look.

The decline in the pH of paper as the sixteenth century progressed can also explain some complaints regarding the visual effects of green made from buckthorn fruits. Hilliard includes sap green among the bad-smelling and bad-tasting colours and suggests his readers avoid using it.[77] Apart from its characterisation as an ill-smelling and ill-tasting colour, it is possible that the growing acidity of early modern papers in Europe could have influenced the way that practitioners experienced green from buckthorn species. Indeed, more reconstructions testing the reaction of colour with acidic and alkaline supports are necessary to draw any firm conclusions regarding this, and, therefore, only speculations can be made at this stage.

Last but not least, the reconstruction indicated how inextricably linked the materials involved in the procedure of making illustrations are. Green waters is hardly the only colourant that has pH-changing properties. For example, turnsole is a more well-known example discussed in the literature. Practitioners must have been aware of this relationship between materials and support and probably must have taken this into consideration when making their colours. Cibo was a part of

[75] Albro, *Fabriano*, 154. Canon Aurelio Zonghi is the historian who discovered, organised and studied the collection of early record books related to paper in the Fabriano city archives. Together with his brother, they collected a large number of blank, handmade paper sheets with watermarks taken from dated documents in Fabriano and the surrounding area.

[76] 'poi posto in una vessicha al sole provando sempre ogni di se il colore piace, perche va sempre crescendo', see Ms VGG 5q, f. 18r. (As already noted, sap green is a term that was used to refer to green made from buckthorn fruits.)

[77] 'all ill smelling coullers all ill tasting as Orpament, verdigres, verditer, Pinck, Sapgrene, Litmonsy, or any vnsweet couleurs ar naught for Limning', see Hilliard, "The Arte," 88.

this colour-knowledge world, and although there are not any indications that he treated green waters differently when using different supports, he was aware of this interaction of materials, as suggested above, for example, when he considers that white paper should be used instead of blue. It was, therefore, a world where practitioners were highly knowledgeable people who knew their materials and the effects they had.

Chapter 6: Early modern landscapes as a tool for knowing the natural world

'Paése': terminology and Cibo's body of landscape works

From philosophy to geography, architecture and other academic fields, the variety of texts written by scholars with different disciplinary backgrounds concerning landscape is suggestive of the manifold nature of the term.[1] As for art history, there is an array of subdivisions that all together form the literature of landscape art; world-landscapes, storm landscapes, pastoral scenes and landscape frescoes in villas are some examples of these sub-groups.[2]

Moving the focus away from Cibo's collection activities and experiments, the last two chapters explore his landscape compositions and his exploration of nature and surroundings. The investigation of Cibo's experience and rendering of landscape is central to my main argument that naturalism in Cibo's oeuvre emerges through his embodied experience of nature, which left an indelible mark on his work. Apart from his collecting activities and making of colourants, studied in the previous chapters, Cibo's exploration of his surroundings was another integral part of his embodied experience of nature, closely linked to his practice. In the specific chapter, by studying his landscape compositions, I also focus on an understudied aspect of the early modern world, namely the articulation and use of such works within the community of naturalists during the sixteenth century. Therefore, the chapter also sheds light on the relationship between natural history and artistic production, as well as the role of early modern landscape art in knowledge acquisition. Through the investigation of Cibo's works, a more specialised consideration of the use and interpretation of landscapes will be sought.

Cibo lived in a period when landscape art, established as an autonomous genre in the Low Countries in the mid-sixteenth century, was widely circulated in the Italian peninsula. For example, Federico II Gonzaga, Duke of Mantua, a contemporary of Cibo, bought over one hundred Flemish

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[1] In Tullio Pagano's study there is an outline of these different approaches, see Tullio Pagano, "Reclaiming landscape," *Annali d'Italianistica*, 29 (2011): 401-16.

[2] Indicatively, for world-landscapes, see Nils Büttner, *Landscape Painting: A History*, trans. Russell Stockman (New York; London: Abbeville Press Publishers, 2006), 100-21. For storm landscapes, see Susan Russell, "The Verdant as Violence: The Storm Landscapes of Herman van Swanevelt and Gaspard Dughet," in *Green Worlds in Early Modern Italy; Art and the Verdant Earth*, eds. Karen Hope Goodchild, April Oettinger, and Leopoldine Prosperetti (Amsterdam: Amsterdam University Press, 2019), 217-40. For pastoral scenes, see David Rosand, "Pastoral Topoi: On the Construction of Meaning in Landscape," *Studies in the History of Art* 36, (1992): 160-77. For landscape frescoes, see Arnold Alexander Witte, *The artful hermitage: the Palazzetto Farnese as a counter-reformation diaeta* (Rome: "L'Erma" di Bretschneider, 2008).

paintings for his collection.[3] It is, thus, unsurprising that modern literature includes many studies related to the reception of landscape art in the Italian peninsula as well as studies of individual artists belonging to this tradition.[4] Even before Cibo's lifetime, there were some Italian individuals who praised this kind of artistic production, like, for example, the fifteenth-century humanist Bartolomeo Facio, who was among the first scholars to speak highly of the Northern masters.[5] Nevertheless, not all Italian individuals held this genre in high esteem, and landscape art was often dismissed. For example, Vasari mentions that 'there isn't a cobbler's house without its German landscapes', while Michelangelo considers it as an art suitable for women, monks and nuns.[6]

This connection of landscape production to Northern Europe is manifested in the writings of the period. For example, Paolo Pino states that 'The Northerners show a special gift for painting landscapes'.[7] Cibo himself was an owner of such works, as will be discussed later in the chapter. Although the influence of Northern artists in the rise and development of landscape art in general, and the artistic production of Cibo specifically, are always agreed in the literature, one should keep in mind that Cibo spent most of his life in Rocca Contrada. He belonged, thus, to the Italian context of artistic production, together with artists such as Leonardo, Piero di Cosimo, Giovanni Bellini, Giorgione, and Annibale Carracci.[8] At this point, it should be noted that during Cibo's lifetime, the art of the Italian Dosso Dossi was linked to the successful rendering of landscapes, a reputation based on Paolo Giovio and Vasari's writings.[9] The latter states that Dosso was supposed to make landscapes better than any other in Lombardy ('di far meglio i paesi').[10]

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[3] For the art collection of Federico II Gonzaga and the specific purchase, see Guido Rebecchini, "Exchanges of works of art at the court of Federico II Gonzaga with an appendix on Flemish art," *Renaissance Studies* 16, no. 3 (2002): 381-91.

[4] For example, see Paula Nuttall, *From Flanders to Florence: the impact of Netherlandish painting, 1400-1500* (New Haven: Yale University Press, 2004); Bernard Aikema and Beverly Louise Brown, *Renaissance Venice and the North: crosscurrents in the time of Bellini, Dürer, and Titian* (New York: Rizzoli, 2000); Caterina Limentani Virdis, *La pittura fiamminga nel Veneto e nell'Emilia* (Verona: Banca popolare di Verona, 1997); Leopoldine Prosperetti, *Landscape and philosophy in the art of Jan Brueghel the Elder (1568-1625)* (Farnham: Ashgate, 2009); Walter S. Gibson, *Mirror of the Earth: the world landscape in sixteenth-century Flemish painting* (Princeton: Princeton University Press, 1989).

[5] Ernst Hans Gombrich, *Norm and Form: Studies in the Art of the Renaissance* (London: Phaidon Press, 1971), 110.

[6] Tomasi, "Plants," 22.

[7] Gombrich, *Norm*, 116.

[8] According to A. Richard Turner, these were the artists who paved the way for the establishment of landscape art, see A. Richard Turner, *The vision of landscape in Renaissance Italy* (Princeton: Princeton University Press, 1974).

[9] Robert Colby, "Dosso's early artistic reputation and the origins of landscape painting," *Papers of the British School at Rome* 76, (2008): 201.

[10] 'Ebbe in Lombardia nome il Dosso di far meglio i paesi che alcun altro che di quella practica operasse', see Giorgio Vasari, *Le vite de' più eccellenti pittori, scultori e architettori, nelle redazioni del 1550 e 1568. Vol. IV*, ed. Rosanna Bettarini, commentary Paola Barocchi (Florence: Sansoni, 1966), 420.

In Florio's 1611 Italian/Engish dictionary, the word 'paése' is translated into 'the countrie', and also 'a countrie, a land, a region, a province'.[11] Thus, Vasari's phrase 'di far meglio i paesi' concerning the art of Dosso corresponds better to the phrase 'make a land/region'. In general, Vasari seems to understand *paesi* as both individual details of the natural world and distant natural spaces.[12] Specifically, when he uses the plural term *paesi* to describe a single painting in his writings, he treats it as an umbrella term encompassing many different compositional elements ranging from greenery to trees, natural light, weather effects and buildings.[13] According to the written sources preserved until today, Marcantonio Michiel was the first to use the word *paese* consistently in the 1520s and 1530s to describe artworks including landscape elements, while for once he used the word *paesetto* for Giorgione's *Tempesta*.[14]

As for the English term landscape, it is related to *landschap*, a term that appears in a 1485 contract of an art commission in Antwerp.[15] The word was already in use in Middle High German before this contract, but not with the meaning of a view of nature; it has been argued that the original meaning of the word *landschaft* or *lantschaft* was a geographic area defined by political boundaries and it is only from the end of the fifteenth century that it was used to describe art projects.[16] James E. Snyder has drawn attention to a commission for an altarpiece in 1490, in Haarlem, which refers to the use of landscapes as the necessary background for the religious subjects.[17] Some other early examples of this usage of the word come from a contract of 1518 in Basel and an excerpt from Dürer's diary of his journey to the Netherlands in 1520 to 1521, where he refers to Joachim Patinir as a good landscape painter.[18] Therefore, although both uses are related to artworks with similar content, there should be an awareness of the different origins and history of the terms. In this chapter, the translation of *paesi* into landscape will be followed so as to avoid any

[11] John Florio, "Paése," in *Queen Anna's New World of Words, Or, Dictionarie of the Italian and English Tongues* (Melch. Bradwood, for Edw. Blount and William Barret, 1611; online ed., n.d.), http://www.pbm.com/~lindahl/florio/365.html.
[12] Karen Goodchild, April Oettinger and Leopoldine Prosperetti, "Introduction: A Fresh Vision of the Natural World in Renaissance Italy," in *Green Worlds in Early Modern Italy: Art and the Verdant Earth*, eds. Leopoldine Prosperetti, April Oettinger, and Karen Hope Goodchild (Netherlands: Amsterdam University Press, 2019), 22.
[13] Goodchild, Oettinger and Prosperetti, "Introduction," 22. Also, Karen Hope Goodchild, "A Hand More Practiced and Sure': The History of Landscape Painting in Giorgio Vasari's 'Lives of the Artists'," *Artibus et Historiae* 32, no. 64 (2011): 25-40.
[14] Colby, "Dosso's," 209-10.
[15] Boudewijn Bakker, *Landscape and religion from Van Eyck to Rembrandt*, trans. Diane Webb (Farnham: Ashgate, 2012), 11.
[16] Charles Talbot, "Topography as Landscape in Early Printed Books," in *The Early Illustrated Book: Essays in Honor of Lessing J. Rosenwald*, ed. Sandra Hindman (Washington: Library of Congress, 1982), 107-9.
[17] The translated excerpt is reproduced in James E. Snyder, "The Early Haarlem School of Painting: I. Ouwater and the Master of the Tiburtine Sibyl," *The Art Bulletin* 42, no. 1 (1960): 45, footnote 32.
[18] Talbot, "Topography," 109.

confusion from the accumulation of terms. However, the different histories of the Italian and English-German terms should be kept in mind.

As for Cibo, unsurprisingly, he used the Italian term *paese* in his writings. For example, he wrote in his now lost diary: 'The cavalier Gironimo Ardoino came here to Rocca Contrada...and asked me to lend him my large book of landscapes in pen and ink, which I lent him, first having removed many drawings on loose sheets of paper that were inside'.[19] Cibo also used the terms *paesetto* and *paesi* alternatively. One of his notes in Jesi, Biblioteca Planettiana, Album A, reads:

> M. Ulisse Severino da Cingoli: here inside is a landscape on large paper by the hand of the Flemish painter, who serves our most Serene Duke of Urbino, which was sent to me by Sir Cavalier Ardoino, in April 1591, I believe. And he is called Master Giovanne.
>
> There are here two drawings by Master Giovanne the Fleming, of landscapes on two sheets of coloured paper. Herein is a very beautiful print of M. Antonio Abondio [?].
>
> ☿ [Wednesday], 6th of June, 1593. I have put in here two [drawings] of St Francis, together with the pricked through copy of the one that is on the right, and these two [drawings] were made by me, in order not to spoil those of the painter of Forli with the making of holes.
>
> Book of September or later, 1589.[20]

Not only do the above notes testify to Cibo's interest in landscapes, but also to the circulation of these works within his circle. In the above note, Gironimo Ardoino asks Cibo to lend him his large book of landscapes, while in the latter, Cibo refers that Ardoino has sent him a drawing made by a Flemish painter, Giovanne, who worked for the Duke of Urbino. To my knowledge, Hermens was the first scholar who identified Ardoino as the architect working at the Della Rovere court called Girolamo Arduini di Pesaro.[21] Indeed, Arduini was a member of a noble family from Pesaro, and consequently, the title cavalier in Cibo's note seems appropriate.[22] His link with the Della Rovere family also fits with the possession of a landscape made by the Flemish painter Giovanne,

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[19] 'Venne qui alla Roccha Contrata il cavaliere M. Gironimo Ardoino...et mi chiese in prestito il mio libro grande de' paesi a penna, che gli lo prestai, con levarli prima molte carte spezzate de' disegni che gli erano dentro', see Mangani and Tomasi, "Dal diario," 310.

[20] In the left corner: 'M Ulisse Severino da cingoli: qui dentro sta un paesetto in carta reale di mano del pittor fiamengo, che serve il nostro Duca Serenissimo Di Urbino che mi mando il Sr Cavalier Ardoino, Di Aprile mi pare. 1591. E chiamase M Giovanne'. Below: 'Ci sta qui dui disegni di Mro giovanne fiamengo de paesi in due carte tente. M Antonio abundio di bellissima stampa sta qui'. In the upper right corner: '☿ 6 di g[iugno] 1593 qui ho messo dui S franceschi con il spolvero di uno che sta alla destra et li dui fatti da me per non guastar con il pertugiare quelli de mano del pittor da forli'; Along the right edge: 'Libro de 7re o di piu 1589', Jesi, Biblioteca Comunale Planettiana, Album A.

[21] Hermens, "A Seventeenth-Century Italian Treatise," 53-4.

[22] For biographical information about Girolamo Arduini, see Tribellini, "Album," 314-5.

who worked at the same court, as well as with the relationship to Cibo, whom his mother was a Della Rovere, as already noted in Chapter 1.

As for the Flemish painter, he most probably was Giovanni Scheper, a painter who worked both as an artist and a merchant of Flemish art in Marche and Umbria.[23] Cibo also had in his possession a work by Michiel Gast depicting a view outside the *Porta St Giovanni* in Rome.[24] In his notes, there are references to other works by northern artists that he had in his collection, namely a landscape with a 'cliff by Master Michiel Gast', and 'a mountain', 'a mill' and 'a mountain dotted with some camels' by a certain Master Benedetto, 'a Flemish landscape painter', who has not yet been identified.[25]

The fact that Cibo included all these works in his collection indicates that he was, if not an avid collector, at least an individual with a great interest in Flemish landscapes. As already noted in Chapter 1, Cibo visited Flanders around 1540. Thus, his interaction with this tradition included a direct experience of this culture in its place of origin, and not only through Flemish artists working in Italy like Scheper. The incorporation of Flemish motifs in his works, such as shipwrecks, castles in flames, and rainbows, provides perhaps the most convincing evidence for his familiarity with this artistic tradition, a familiarity that must have been the fruit of a careful study of many more works than just the ones mentioned above.[26]

In the above citation from Album A, the name of a certain M. Ulisse Severino da Cingoli appears, a citation that was the main reason why Bolten suggested this person as the creator of the group of landscape works that he assembled.[27] However, as already noted, on the occasion of an exhibition in San Severino in Marche, the attribution of this body of work to Cibo was initiated and never questioned again ever since. Indeed, there is strong evidence in favour of the attribution to Cibo, such as the similar handwriting and notes, the use of astrological symbols for the days of the week, and the frequent references to specific names and places that unite his corpus.[28] A visual comparison between the landscapes incorporated in the British Library manuscript/a and the works investigated by Bolten provides further evidence in favour of the attribution to Cibo, as there are many similarities on many levels. For example, when comparing his *Mountainous landscape* with the

[23] Tribellini, "Album," 333; Francesca Bottacin, "Giovanni Scheper, pittore e mercante d'arte fiammingo tra l'Umbria e le Marche: un documento inedito," in *Le due muse. Scritti d'arte, collezionismo e letteratura in onore di Ranieri Varese*, eds. Francesca Cappelletti et al. (Ancona: Il Lavoro Editoriale, 2012), 67-75. Tomasi in her recent publication refers to the same painter as Jan Schepers, see Tomasi, "Plants," 33.
[24] Tomasi, "Plants," 34. Nesselrath, "Catalogo," 90-1, no. 11.
[25] Notes translated by Tomasi, see Tomasi, "Plants," 34.
[26] For the specific motifs, see Tomasi, "Gherardo Cibo: visions," 215; Bolten, "Messer Ulisse," 139-40.
[27] Bolten, "Messer Ulisse," 123-47, 184-204.
[28] For a summary of the evidence in favour of this attribution, see Tomasi, "Gherardo Cibo: visions," 210-1.

background of the illustration showing a sowbread in the British Library manuscript/a (fig. 6.1), one can detect many similarities in their setting. Both depict a mountain topped by buildings. At the mountain's base, there is a plain with short vegetation and some trees, whereas, in the distance, the sea is surrounded by mountains. The two landscape compositions manifest a similar rendering of buildings, plants, mountains, and even small details, such as the figures embedded in the scenery.

As already noted, in Cibo's most recent catalogue published by Mangani and Tomasi, the entries of Cibo's independent landscape drawings (including studies of individual elements, like, for example, rocks), amount to three hundred and sixty-six works in both private and public collections.[29] This catalogue is an essential tool for our study, and although the sheer number of entries could raise scepticism about the criteria of the attribution, with only ten works characterised as uncertain and only five dismissed, Cibo's corpus of works does not seem to be exceptional in terms of its size. Taking into consideration that Niccolò Gabburri (1676-1742) amassed five hundred and seven sheets mounted on three hundred ninety-one folios of drawings mainly by Fra Bartolommeo, the catalogue of Cibo does not seem to be of an exceptional size since other artists have a similar or even a more extensive artistic output.[30]

Within his oeuvre, Cibo depicted various natural and artificial features that form part of a landscape. He also portrayed various kinds of landscapes, such as mountainous, hilly, rocky, woody, and aquatic, reflecting the list of landscape scenery by the already-mentioned Lomazzo.[31] Apart from the subjects, his creations also vary in their approach, ranging from quick studies of trees and simple views of towns to detailed representations of scenery. Cibo created these compositions on sheets of paper, nowadays preserved as either loose sheets or gathered in albums, on pages of printed herbals and sheets including his botanical illustrations. All these different types of representations refer back to Cibo's manifold expression of the idea of the landscape, which will be investigated later in this chapter, as well as in the following chapter. However, before proceeding to the next section, the relationship between these different types of landscape compositions by Cibo should be touched upon.

When examining Cibo's oeuvre, it is noticeable that there are quite a few common themes throughout his body of work. Taking as an example the landscape composition now preserved in the Uffizi (fig. 6.2), the ruins, the flock of birds, the rock formations by the sea, the cave, the boats, and

[29] The number refers to compositions found in loose sheets and albums (the illustrations within manuscripts and printed herbals are not included), see Mangani and Tomasi, "Catalogo," 131-204, no. 1-366.
[30] For Niccolò Gabburri's catalogue of Fra Bartolommeo's drawings, see Chris Fischer, *Fra Bartolommeo: Master Draughtsman of the High Renaissance; A Selection from the Rotterdam Albums and Landscape Drawings from Various Collections*, (Rotterdam: Museum Boymans-van Beuningen: 1990), 18-9.
[31] Tomasi, "Plants," 26.

the sketchy human figures are some of these recurring motifs throughout Cibo's oeuvre. However, despite the similarities that result from the use of the same motifs and, sometimes, similar techniques, all landscapes are distinct from each other. To my knowledge, only some compositions in the *Historiarum libri duo […]*, a manuscript compiled from 1596 to 1601 by Pietro Ridolfi, Bishop of Senigallia, are almost identical to compositions found elsewhere in his oeuvre, an occurrence that will be discussed in more detail below.

Thus, Cibo's freestanding landscape drawings, either as individual landscape elements or complete compositions, do not seem to depend on the landscapes incorporated as backgrounds in his botanical illustrations or printed herbals, and vice versa. Otherwise, there would be more examples where Cibo would replicate his compositions. Therefore, it could be argued that these drawings have a purpose per se, as Cibo annotates and treats them independently, as he does with his botanical illustrations. For example, the existence of a painted frame in his *Landscape with House and Trees* suggests that it is treated in a way similar to his botanical illustrations found in the British Library manuscript/a (fig. 6.3) that have also been framed. Black borders also appear in some other landscape compositions of the same period, like, for example, in the *Imaginary Landscape* by the monogrammist AM, which was possibly used as a decoration for a piece of furniture (fig. 6.4).[32] Therefore, Cibo's 'large book of landscapes in pen and ink' that Arduini borrowed, as the above note informs us, would likely have been made up of such independent compositions, providing a certain autonomy to the landscape production of Cibo, a collection that, like his botanical illustrations, could be studied separately and in its own right.

Through the investigation of the concepts of space and time encapsulated in Cibo's works, my aim is to explore how Cibo tried to gain knowledge and understanding of the natural world and how his example fits in and illuminates the general tendencies and practices of the period. In other words, did Cibo use his compositions as a tool of knowledge of nature, driven by his need to observe and record his findings? Being more focused on the landscape tradition of the Low Countries and the regions of Lombardy, Rome and Florence, the scholarship lacks a systematic investigation of the landscape production in other regions of the Italian peninsula and how this production interacted with the general trends at that time.[33] Overall, the chapter explores an aspect of landscape

[32] Egbert Haverkamp-Begemann et al., *Fifteenth- to eighteenth-century European drawings: Central Europe, the Netherlands, France, England. Vol. VII* (New York; Princeton: Metropolitan Museum of Art; Princeton University Press, 1999), 102.

[33] There are many studies that explore the landscape production of the aforementioned regions, for example, see Bakker, *Landscape*; However, to my knowledge, only the study of Rinaldi explores the landscape production in the region of Marche through the work of Cibo, see Rinaldi, "Nel laboratorio," 107-30.

compositions that can expand our understanding of the meaning and role of these works in the early modern world.

Cibo's representations of 'real' and 'imaginary' places

It is often suggested in the literature on Cibo that his landscapes represent real places.[34] Within this category, we can identify some that are painted from life, having the purpose of capturing his experience of an existing place. For example, at the top of a drawing, now found in a private collection (fig. 6.5), Cibo wrote: 'St Francis of Montalboddo drawn from my chamber on ♃ [Thursday], the 9th of March, 1564', an inscription that bears witness to Cibo's effort to draw from life a specific place experienced daily.[35] This view from his chamber was reproduced in a sketchy manner, which is in accord with his claim of completing the work in one day. Being basically a sketch, the composition lacks some of the visual effects used elsewhere by Cibo that create the illusion of an accurate reproduction of reality on paper, such as the addition of colour. Thus, the work cannot claim itself to be a convincing reproduction of the place, and this is possibly one of the reasons why Cibo added notes to make the identification of the place more accessible and to emphasise his own physical presence. In general, Cibo often annotates the depicted places, which are mainly in the region of Marche, while he does not make a note about the depiction of a place outside the Italian peninsula. Thus, the area of Marche, the region where he lived most of his life, must have played an important role in the formation of his oeuvre, being a visual stimulus for his creations.[36]

Apart from his notes, the previously mentioned *Historiarum Libri* manuscript is an important primary source that can be used for the identification of some of the depicted places.[37] This manuscript, illustrated in part by Cibo, includes illustrations of churches and monasteries within Ridolfi's diocese, of which some are almost identical to churches found in Cibo's body of work.[38] The view of the Church of St Mary of Portone at Senigallia (fig. 6.6) is one of these cases. According to Cibo's note, the drawing was created in 1571, while the manuscript was compiled later, from 1596 to 1601.[39] Thus, the drawing must have served as a model for the manuscript's illustration as the

[34] Bolten, "Messer Ulisse," 127; Tomasi, "Gherardo Cibo: visions," 212.
[35] 'santo francesco di montalboddo ricavato dalla mia camera di ♃ li 9 di marzo 1564', see Mangani and Tomasi, "Catalogo," 198, no. 320.
[36] The landscape of Marche and how it possibly influenced Cibo's landscape production will be explored in Chapter 7.
[37] Senigallia, Biblioteca Comunale Antonelliana, Inv. 190. For some information, Mangani and Tomasi, "Manoscritti," 236.
[38] Mangani and Tomasi, "Manoscritti," 236.
[39] Mangani and Tomasi, "Manoscritti," 236.

following similarities indicate: an almost identical representation of the building from the same viewpoint, the same kind of vegetation in front of the building, and a similar rendering of the bridge and the houses in the middle ground, and the sea in the background. However, there are some differences, with the elimination of the foreground in the illustration of the manuscript being the most visible of them. In addition, the drawing has more trees than its pair, for example, at the rear of the bell tower, as well as a note, according to which three days were needed for its completion. Compared to the sketch of St Francis mentioned above, which was completed in one day, this is a more detailed composition and, thus, has a more persuasive visual effect on the beholder regarding its correspondence with the actual place. Furthermore, the fact that it was later used as a model for an illustration of a manuscript of historic nature indicates that the composition was supposed to resemble the existing church and its surroundings so as to be easily recognisable to the readers. However, the use of some recurring motifs, for example, the tree stump on the right, the women washing clothes in the river, and the figures crossing bridges, motifs that were eliminated from the manuscript illustration, could raise thoughts on the nature of the connection between images and the actual places that Cibo saw. Thus, it is important to investigate in more depth under which circumstances were his landscapes created.

Drawing in the open air was not an unusual practice at that time.[40] During his excursions, Cibo not only collected specimens and searched plants to paint 'ad vivum', as the already-mentioned letter by Bacci revealed, but he also drew some of his landscapes. For example, he writes on one of his sheets:

> Houses glimpsed from the window of Britio, at Alvacino, with a bit of the church. On ♀ [Friday], the 23rd of June 1570: And on ♃ [Thursday], 22nd of the said month, Messer Ipolito, Gasparre and myself arrived at Alvacino.[41]

On the right edge of the same sheet, he also notes: 'the mountain of St Sylvester, also known as Monte Severino' (fig. 6.7).[42] The fact that Cibo combined his botanical excursions with the creation of landscape drawings indicates that he probably regarded them as contiguous activities in a similar way that he combined his collection of plants with their depiction on paper. Furthermore, a common

[40] Bolten, "Messer Ulisse," 133.

[41] 'case ricavate dalla finestra di britio. all'alvacino con un poco della chiesa. di ♀ li 23 di giugno 1570. E ♃ li 22 detto m[esser] ipolito, gasparre, et io venimo all'aluacino', reproduced in Mangani and Tomasi, "Catalogo," 136, no. 23. Bolten proposed Gritio instead of Britio, and suggested that Cibo was referring to the scholar Pietro Grizio, see Bolten, "Messer Ulisse," 139, no. 39. Tomasi suggested that britio or brizio is the surname of a Cibo's acquaintance.

[42] 'puro regedano monte fano. di s[an]to silvestro alias monte [severino]', reproduced in Mangani and Tomasi, "Catalogo," 136, no. 23.

practice among the naturalists of the time, the naming of the place and companions was particularly useful as proof that their information was reliable.[43] An example of companions mentioned as testimonies for natural history observations is the discussion in Mattioli's 1558 edition, where he claims that Giorgio Liberale, the painter who drew the plant, Petrus Spezzalancia, the person who dug up the specimen, and Franciscus Melchioris, the physician who travelled together with Mattioli, can be used as testimonies in response to Gessner's disagreement over the identity of the plant called 'aconitum pardalianches'.[44]

Thus, a part of Cibo's production was created in response to this context of botanical expeditions. Cibo's intent in this context was clearly to record the places he visited, sometimes in a sketchy manner and sometimes in more detail, as it can be deduced from the examples discussed in this chapter. Indeed, the works that were completed in situ cannot be either detailed compositions because of the time limitations or carefully coloured since it was difficult to reproduce colour in the open air at that time.[45] Therefore, his elaborate compositions with an existing place as a point of reference should be interpreted as multistage products of an initial observation by Cibo, elaborated by subsequent observations in situ or by the use of memory or, perhaps in some cases where recording was not the aim, imagination. The correspondence, thus, of the images with the reality that Cibo saw is not a univocal concept but includes a variety of manifestations of the actual place within the image. This idea is exemplified in the previously mentioned view of the Church of St Mary of Portone at Senigallia, where Cibo had depicted a real landscape incorporating some recurring iconographical motifs that did not necessarily belong to the original scenery.

In addition to Cibo's renderings of 'real' landscapes, there are some other works that do not have an identifiable place as a point of reference. The idea that Cibo's oeuvre includes 'imaginary' landscapes was first explored by Bolten, who, thus, titled some of the works 'fantastic landscapes' in his provisional catalogue.[46] The subsequent two catalogues of Cibo's body of work also include drawings being titled as imaginary.[47] Cibo's works are not the only examples of compositions being characterised as fantastical. For example, Hans Bol is an example of an artist whose work is often

[43] Sachiko Kusukawa, "*Ad vivum* Images and Knowledge of Nature in Early Modern Europe," in *Ad vivum?: visual materials and the vocabulary of life-likeness in Europe before 1800,* eds. Thomas Balfe, Joanna Woodall, and Claus Zittel (Leiden: Brill, 2019), 111.
[44] Sachiko Kusukawa, *Picturing the book of nature: image, text, and argument in sixteenth-century human anatomy and medical botany* (Chicago; London: University of Chicago Press, 2012), 169.
[45] The pigments became portable at a later period, see Richard Mulholland, "The Mechanism and Materials of Painting Colour 'Ad Vivum' in the Eighteenth Century," in *Ad Vivum?: Visual Materials and the Vocabulary of Life-likeness in Europe before 1800*, eds. Thomas Balfe, Joanna Woodall, and Claus Zittel (Leiden: Brill, 2019), 346-7.
[46] Bolten, "Messer Ulisse," 137-46.
[47] Nesselrath, "Catalogo," 77-143; Mangani and Tomasi, "Catalogo," 132-204.

explored within this context.[48] Associated mainly with the sixteenth-century Low Countries, the group of imaginary landscapes includes compositions with bizarre outcroppings of cliffs and natural bridges and curiosities that seem to spring out from the artist's imagination.[49]

As discussed above, Cibo had in his possession works of artists from the Low Countries, and his close relationship with this tradition resulted in the creation of some compositions based primarily on these models. For example, in the background of the illustration dedicated to the plant *Corydalis cava* (fig. 6.8), Cibo depicted a castle in flames. Because of the popularity of the depictions of burning landscapes at that time (for example, the previously mentioned collection of Federico II Gonzaga included twenty Flemish burning landscapes), it seems more probable that Cibo reworked a well-known motif rather than depicted an actual event of a fire that he observed in nature.[50]

Nevertheless, Cibo embedded the castle in flames in a more peaceful scenery than the abrupt cliffs and steep natural bridges of many Flemish landscapes. Although he depicted a natural bridge and a huge rock formation next to the burning castle, he smoothed their edges and intermingled them with the mountain range on the right and the rest of the composition, resulting in the portrayal of a less threatening natural world. The illustration, thus, reflects a calm nature, a scenery that resembles the area of Marche. The scholar Stefano Rinaldi convincingly argues that, although Flemish models inspired Cibo, he combined them with familiar motifs found in the Marchian landscape, and thus, even when depicting 'geological fantasies', he also encompassed elements reminiscent of Marche.[51] This is not the only case where topographic features find their way into 'imaginary landscapes'. For example, it has been argued that some of the depicted details in the *Landscapes with Mythological and Biblical Scenes* series by Hieronymus and Matthys Cock, belong to the local scenery of the area where the two brothers lived and worked.[52]

The fragile line between reality and imagination involved in the creation of a landscape representation makes their interpretation as primarily real or fantastical a laborious undertaking. Regarding Cibo's works, the Mangani and Tomasi catalogue labels only thirteen out of three hundred and sixty-six entries as imaginary.[53] In her recent publication, Tomasi differentiates Cibo's imaginary

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[48] Haverkamp-Begemann et al., *Fifteenth- to eighteenth-century European drawings*, 137.
[49] Haverkamp-Begemann et al., *Fifteenth- to eighteenth-century European drawings*, 97.
[50] For Federico II Gonzaga's purchase of twenty burning landscapes, see Büttner, *Landscape*, 101. For burning houses as a recurrent theme in the Flemish art of the period, see Tomasi, "Plants," 53.
[51] Rinaldi, "Nel laboratorio," 107-30, 341.
[52] Alexandra Kirkman Onuf, "Local Terrains: The Small Landscape Prints and the Depiction of the Countryside in Early Modem Antwerp," (PhD diss., Columbia University, 2006), 45.
[53] In the catalogue published by Mangani and Tomasi, thirteen compositions are characterised as imaginary, specifically no. 51, no. 67, no. 80, no. 82, no. 133, no. 182, no. 220, no. 247, no. 254, no. 279, no. 301, no. 303, no. 359, see Mangani and Tomasi, "Catalogo," 140, 144, 149, 165, 171, 177, 184, 188, 194, 196, 203.

landscape compositions for their full-bodied tempera technique, frontal depiction from a distance and use of Flemish atmospheric motifs such as unusual rock formations, islets, jagged outcroppings, and the steep natural arches and caves.[54] Nevertheless, the same characteristics can also be observed in some other compositions that were not included in the group of imaginary landscapes (for example, fig. 6.9). Furthermore, his various drawings and sketches of rocks and caves, the location of which sometimes Cibo noted (for example, fig. 6.10), indicate his interest in studying the form of unusual geological features and testify to his customary practice of illustrating his findings. The direct graphic style of many of his landscapes and the frequent notes about the places and his companions, point towards a practice of direct observation and study of the natural world intermingled with a more freely creative approach. This is not to suggest that Cibo did not use his imagination in the process of making his landscapes but to emphasise his urge to underline the instances where his compositions were made after his personal encounter with the depicted place.

Cibo was also attentive in noting instances where he copied from the work of another artist. More specifically, he wrote in one of his landscapes: 'Bridge. Drawn from a landscape print of Fra Sebastiano on ☽ [Monday] 9 of March 1579' (fig. 6.11).[55] The print to which Cibo probably refers to is a work by Hieronymus Cock.[56] The note indicates that his idea of the landscape was not limited to its natural aspect but also included artificial constructions. There are also a few other works of Cibo that are copies of compositions made by other artists, for example, his *Mountainous landscape with a town on the bank of a river and a natural arch in the foreground*, which is again copied from Cock (fig. 6.12).[57] Cibo must have also been inspired by the well-known artist Paul Bril, as suggested by the similarities observed in one of his drawings, now preserved in the Uffizi.[58] Cibo's works could well have been influenced by the art of Peter Breugel the Elder, which was very much appreciated in Italy at that time, especially since both artists were in Rome in 1553.[59] Giulio Clovio was also in Rome at that time, the art of whom was argued to be an additional source of inspiration for Cibo in the scholarship.[60]

Thus, it is evident that, apart from recording his observations, Cibo was interested in artistic landscapes. This method of combining his personal observations with compositions made by other individuals, threads through his activities as a whole. Returning to the idea of the interaction

[54] Tomasi, "Plants," 31-2.
[55] 'Ponte. R[icavato] da un paese in stampa del p[ad]re fra sebastiano de ☽ 9 di Marzo 1579', see Mangani and Tomasi, "Catalogo," 191, no. 262.
[56] Mangani and Tomasi, "Catalogo," 191, no. 262.
[57] Bolten, "Messer Ulisse," 129.
[58] Mangani and Tomasi, "Catalogo," 144, no. 76.
[59] For their presence in Rome, see Tomasi, "Gherardo Cibo: visions," 209. Also, Mangani, "L' Arcadia," 64-5.
[60] Tomasi, "Gherardo Cibo: visions," 209. Also, Tomasi, "Plants," 34-5. Also, Mangani, "L' Arcadia," 64-5.

between his plant-related activities and his production of landscape compositions, Cibo seems to tap both nature and tradition in his desire for knowledge. The creation of landscapes, both through his direct experience and through the study of landscapes made by others, is an approach similar to this one related to his botanical observations, where both texts of other authors (tradition) and his own experiences (nature) can be found in his notes. Having explored the sources that played a significant part in his landscape production, the next section will explore how Cibo organised his compositions and what this organisation can reveal about his approach to nature.

Cibo's treatment of pictorial space

When examining his landscapes, it is evident that Cibo often applied similar techniques to create the effect of realistic-looking compositions. First of all, the application of aerial perspective is apparent in many of his drawings, as the intensity of colour constantly becomes weaker towards the background. For example, in his *Lake landscape with a big tree on the left and mountains in the distance* (fig. 6.13), now preserved in Fitzwilliam Museum, the intensity of colour fades away towards the horizon. This effect is underscored by the use of different media, namely ink in the foreground and primarily watercolour in the background. Cibo's use of aerial perspective cannot be characterised as innovative since this technique had already been theorised by Italian individuals such as Leonardo and used with great success by the previous generation of Northern artists.[61]

Focusing on the large tree on the left of the same drawing, there are some visual elements that are illuminating in terms of Cibo's working method. First of all, the effect of light is something that Cibo must have carefully considered, as different areas of its foliage reflect a varying intensity of light. Thus, the foliage found on the left and in the centre of the upper part of the tree is suggested with only a few curling strokes. These lines are not densely applied, leaving the paper almost blank. In contrast, there are some other parts of the tree, for example, the branches on the right, where Cibo drew the lines close to each other to suggest its shady parts. Light and shadow are applied consistently throughout Cibo's drawing, testifying that he conceived the pictorial space as having one main source of light in a fixed position. Using a consistent light source throughout the composition was a well-established tool that artists used to model realistic-looking landscapes at that time.[62] Furthermore, it could be argued that the contrast of darker and lighter parts of a tree, as well as the cloudlike tops suggested by swirling lines, is an already existing characteristic in the

[61] Carol M. Richardson, "Constructing space in Renaissance painting," in *Making Renaissance art*, ed. Kim W. Woods (New Haven: Yale University Press, 2007), 88.
[62] Richardson, "Constructing," 64.

Northern landscape art, testified, for example, by the works of Cibo's contemporary, Hanns Lautensack (for example, fig. 6.14).[63]

As for the contours and shape of the foliage in Cibo's drawing, these are not strictly delineated. When looking at Cibo's traces of his pen closely, we cannot detect a definite shape but a vague contour characterised by an outward movement that gives an organic appearance to the tree. A study of a tree within Cibo's graphic work (fig. 6.15), probably done from life, exemplifies these features. As in the previously discussed tree of the landscape drawing, in this study, Cibo does not create a mere representation of the subject matter but tries to capture its movement. The quick, deft marks of his pen endow the sketch with energy and vigour. The tree is represented in a way that shows both movement and potential, what happens or will/can happen to it. This effect is achieved by the combination of parallel hatching with swirling lines that evoke the movement of the wind. Furthermore, Cibo did not use tonality and shading, but he created sharp contrasts between areas of light and dark values, an element that adds to its dynamic energy. The fast movement of his pen suggests neither different textures nor a strictly defined contour, imitating the actual appearance of a tree when it is windy, and its exact shape and texture cannot be observed.

The above example indicates that Cibo embodied his observations not only into quick sketches but also into his elaborate landscape compositions. The prominent position of the tree in *Lake Landscape with a Big Tree on the Left and Mountains in Distance* emphasises the importance of these observations that, apart from the effect of verisimilitude, add a sense of animation to the drawing. The formation of trees that capture the forces of wind and light is an illustrative example of the connection between actual and pictorial space that Cibo achieved in his landscape compositions. Furthermore, in the modelling of space, Cibo did not seem to be interested in the tool of single-point perspective, even when primarily depicting buildings, not because he was 'at a loss as to the use of perspective', as Bolten suggested, but probably because he was more focused on the above-mentioned aspects of the construction of a landscape.[64] As for the use of scale and the proportional – or not – relationships between the depicted objects, these are essential elements in Cibo's compositional scheme that will be discussed later in the chapter.

Overall, Cibo did not limit himself to a mere representation of scenery, but he included observations about the forces of nature and their manifestations in the landscape, which must have been the fruit of a deep inquiry into the natural world. This exploration of nature is inextricably involved with the making of landscapes, as indicated by his notes, the similarities between his

[63] Haverkamp-Begemann et al., *Fifteenth- to eighteenth-century European drawings*, 93-8.
[64] Bolten, "Messer Ulisse," 130.

botanical and landscape illustrations, and the recurrent inclusion of nature's workings in the pictorial space. Throughout his work, water flows through mountains, trees are blown by the wind, and birds fly together. To put it differently, the procedure of knowing all these various mechanisms of earth seems to be intertwined with Cibo's making, an interpretation that could explain the sheer number of relative sketches and drawings that were even squeezed onto the back of a letter and most probably remained in Cibo's possession until the end of his life.[65] This idea brings us back to the concept of naturalism, as expressed by Smith and noted in the Introduction. Cibo did not engage in a sterile copying of nature, but he was actively engaged in a process of knowing through making and recreating the natural effects he observed in his works.

Conceptual and material elements indicating time

Apart from notes that refer to the place of the execution of an image, Cibo also wrote their timeframe in several instances. The earliest preserved drawing by Cibo is the sketch of a horse head after Leonardo, where, as already seen, he added a later note revealing that he was fourteen to fifteen years old when he drew this image in the year 1526 or 1527.[66] This is the earliest date inscribed on his preserved works, while the latest is 1597 in the British Library manuscript/a, as already noted. However, most of his preserved drawings have dates from 1560 to 1580. By dating his works, Cibo put his compositions into a specific spatiotemporal context.

Most of Cibo's drawings have a single date inscribed on the sheet. For example, one of his notes reads: 'in May, on ☽ [Monday], the 27th of 60' (fig. 6.16).[67] Apart from the date of execution of a work, sometimes the inscribed date can also refer to the day that Cibo received a specimen (e.g., 'piece of fungus found in a pear tree, edible, which Sr. Priore of St Medardus gave me on ☉ [Sunday], the 11th of August, 1577').[68] Apart from single days, there are cases when Cibo's notes refer to multiple days (e.g. 'done on the 15th, 16th, 17th of November, 1571').[69] In some other cases, two different periods are mentioned (e.g., 'Mill of Cardo. Drawn out from the mountain above the flat path, on ☽ [Monday], 26th of September, 1569. And here on ♃ [Thursday], the 19th of January,

[65] Celani, "Sopra," 19.
[66] Nesselrath, "Catalogo," 81-3, no. 5; Mangani and Tomasi, "Catalogo," 158, no. 111.
[67] 'de maggio ☽, alli 27 del 60', reproduced in Mangani and Tomasi, "Catalogo," 166, no. 135.
[68] 'pezzo di fongo trovato sopra di un arboro di pero bono da mangiare che mi dono il Sr Priore di Sto Medardo di ☉11 d. Agosto 1577', reproduced in Mangani and Tomasi, "Catalogo," 152, no. 91.
[69] 'fat[to] li 15. 16. 17. di 9re 1571', reproduced in Mangani and Tomasi, "Catalogo," 177, no. 223.

1570').[70] His notes, thus, testify that time was a concept that concerned Cibo in relation to his landscapes since he frequently records all this information.

Cibo was not alone in the practice of dating his works. Dürer, for example, often includes the year of the execution of his works.[71] At this point, it should be noted that Cibo's dates include quite often a distinctive element, namely the use of astronomical symbols instead of numbers corresponding to the seven days of the week, such as the symbol ☽ for Monday, as seen above. These symbols were often used in astrological botany, a tradition that correlated plants and stars.[72] For example, Cibo's symbols can be seen together with some others in the astrological diagram for the plant 'Cervaria faemina' in Leonhard Thurneysser's *Historia sive descriptio plantarum […]* (fig. 6.17). In a different context, these symbols also exist in the previously mentioned BnF Ms. Fr. 640 manuscript, but, to my knowledge, they were not used in the context of landscape art.[73]

Apart from the inscriptions, is time a concept also registered within Cibo's landscape compositions? Besides his notes that allude to his desire to link the works with specific dates, his landscapes include elements indicative of a timeframe. First of all, there are suggestions for specific seasons throughout his work. Dark clouds in the sky and trees with bare branches are the main iconographical elements that suggest winter, as illustrated in the background of the *Scilla bifolia* and *Galanthus nivalis* image (fig. 6.18). The fact that *Galanthus nivalis*, commonly called common snowdrop, blooms from February until March is in accordance with the wintery setting.

Apart from seasons, sometimes, there are a few instances where there are indications of a certain time of the day. In the drawing *Rocky island with a natural cove and the setting sun on the left* (fig. 6.19), Cibo depicted a rising sun on the left. It is in the same position (at the far left) where Cibo drew another sunrise, this time in a landscape adorning his image of the plant *Ficaria verna*, commonly known as lesser celandine (fig. 6.20). The same motif of a rising sun on the left can also be found in the background that Cibo drew in the already-mentioned Alessandrina book (fig. 6.21). Although the depiction of the sun suggests a certain time of the day, it should also be noted that sunrise and sunset were frequently used as compositional elements in the landscapes of the period, and, therefore, could have had other connotations as well. This does not negate that Cibo possibly

[70] 'Molino del Cardo R[icavato] dal monte sopra la via piana di ☽ 26 7re 1569. E qui di ♃ 19 di gennaro 1570', reproduced in Mangani and Tomasi, "Catalogo," 179, no. 232.
[71] Haverkamp-Begemann et al., *Fifteenth- to eighteenth-century European drawings*, 29-51; Christiane Andersson and Larry Silver, "Dürer's Drawings," in *The Essential Dürer*, eds. Larry Silver and Jeffrey Chipps Smith (Philadelphia: University of Pennsylvania Press, 2010), 16-7.
[72] For astrological botany, see Arber, *Herbals*, 247-63. Also, Mangani, "L' Arcadia," 99, footnote 43.
[73] For example, folio 8v, see "BnF Ms. Fr. 640."

wanted to evoke the specific time of the day, when the sky changes colour and takes on various hues, but it is a reminder that the intentions of an artist could be far more complex and intricate.

Apart from the depiction of elements that indicate time, time is a concept that concerns Cibo in a different sense than discussed above. The already-mentioned technical examination of Cibo's *View of a fortified island with mooring galleons and galleys* brought to light the use of certain organic substances as a surface treatment.[74] Using his knowledge of the materials used in illustrating, Cibo attempts in this instance (and most probably in other cases as well) to play for time and create the conditions for the best preservation of his works. Either in the conceptual or material realm of Cibo's compositions, time is a notion that is clearly present in his work.

Space, time, motion and religion

Judging from the works that have been preserved, Cibo had limited interest in depicting sacred subjects, for there are only a few compositions by his hand that have a religious theme. For example, in the British Library manuscript/b, there is a *Vision of St Augustine* (fig. 6.22); in this composition the Saint, who is depicted with four different ecclesiastical habits, meets the infant Child. Despite the limited number of sacred subjects in Cibo's oeuvre, the question of spirituality within his corpus remains. It is a question that concerns all his compositions, even those that do not have a sacred theme, since Cibo was nurtured in a religious environment and was close to religious circles. This section of the thesis will address the concept of spirituality by asking questions regarding the signs of human time and the divine sphere within Cibo's compositions. Did he correlate the investigation of nature with the revelation of God, as theologians like St Augustine did before him? Indeed, the concept of moral readings and contemplation about the didactic purpose of nature and, by extension, the landscape compositions of the period have already been explored in the scholarship.[75] However, to what extent can this interpretation be applied to Cibo's landscapes?

Time was a notion discussed among Christian theologians as early as the Late Antiquity. For example, St Augustine deals with the notion of time mainly in his *Confessions Book XI*, where he explored its nature in relation to God and humans.[76] The writings of St Augustine initiated a discussion among scholars as to whether St Augustine correlated time and motion or regarded them

[74] Zuena et al., "Diving into colours," 5.
[75] For example, see Wolfgang Harms, "On Natural History and Emblematics in the 16th Century," in *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century; an International Symposium*, ed. Allan Ellenius (Uppsala: Uppsala University, 1985), 75; Bakker, *Landscape*.
[76] William Alexander Hernandez, "St. Augustine on Time," *International Journal of Humanities and Social Science* 6, no. 6 (2016): 37-40.

as unrelated phenomena.[77] This issue is of high pertinence to the perception and interpretation of Cibo's landscapes, for he depicts a bustling world full of life and motion.

As already discussed, in Cibo's works, elements of nature are visualised together with their natural forces, while animals and humans are depicted in motion. For example, in his landscape oeuvre, shepherds are watching their herds and playing musical instruments, women washing clothes, people fishing in marinas and engaging in everyday activities. Indeed, this kind of iconography was not unusual in the art of the period. On the contrary, as Tomasi has already pointed out, they are highly reminiscent in style of the Flemish books of Hours.[78] Although not extensively, figures are also depicted in the sixteenth-century *Codex Kentmanus* (Weimar, Herzogin Anna Amalia Bibliothek, Fol 323), a book that includes illustrations from the physician Johannes Kentmann (1518-1574).[79] Kentmann relied on different people for information concerning natural history subjects, and also depicted some of them, a practice not very common at that time.[80] For example, he portrays two women carrying baskets full of fruits and flowers (fig. 6.23). Furthermore, depictions of humans engaging in daily tasks can also be found in the emblem books of the period; for example, in the twentieth emblem of the book *Icones, id est verae imagines virorum doctrina simul et pietate illustrium* (fig. 6.24) by Théodore de Bèze, a man is using a tool while two other men are working the land or a patch.[81] Apart from books, a similar imagery can also be found in decorative programmes of buildings such as the Vatican Palace. More specifically, the frescoes commissioned in around 1580 for the Tower of the Winds include similar scenes of action, such as the people rowing a boat in the middle of the river in the *View of Rome from the Janiculum hill* (fig. 6.25).[82]

The scholarship has already noted the relationship between this kind of iconography and the ancient idyllic landscape. Nicola Courtright refers to the similarity between motifs found in the frescoes of the Tower of the Winds and elements mentioned by Pliny as typical of the ancient idyllic landscape; for example, the motif of a man in a carriage found in the *View of Rome from the Viminal*

[77] Hernandez, "St. Augustine on Time," 38.
[78] Tomasi, "Plants," 47.
[79] Sachiko Kusukawa, "Image, Text and Observatio: The Codex Kentmanus," *Early science and medicine* 14, no. 4 (2009): 445-75. The *Codex Kentmanus* can be found online, see "Plantarvm […]," Digitale Sammlungen der Herzogin Anna Amalia Bibliothek, accessed September 16, 2023, https://haab-digital.klassik-stiftung.de/viewer/image/942369343/2/.
[80] Kusukawa, "Image," 462.
[81] Leif Holm Monssen, "Emblems in Jesuit Educational Practice: The Case of Santo Stefano Rotondo in Rome," in *Imitation, Representation and Printing in the Italian Renaissance*, eds. Roy Eriksen and Magne Malmanger (Pisa; Rome: Fabrizio Serra, 2009), 318-9.
[82] Nicola Courtright, "Imitation, Innovation, and Renovation in the Counter-Reformation," in *Antiquity and its Interpreters*, eds. Alina Payne, Ann Kuttner, and Rebekah Smick (Cambridge: Cambridge University Press, 2012), 126-42

hill (fig. 6.26) has been identified by Pliny as characteristic of the ancient idyllic scenery.[83] Especially the depiction of shepherds and pastoral themes in these works have been interpreted as evocations of the imaginary space of Arcadia.[84] Cibo's work, where such pastoral scenes are often included, has also been considered part of this context.[85] However, at that time, the ideal setting of Arcadia not only evoked the Golden Age of Classical antiquity but also had Christian connotations, as a relationship of continuity was developed between these two traditions.[86]

Mangani's research explores in depth this aspect of Cibo's oeuvre. He proposes an interpretation of the beauty of Cibo's landscapes as an act of celebrating divine providence and Cibo's depictions of ordinary people and activities as an expression of his Evangelical ideology cultivated by his participation in Evangelical circles.[87] His aunt, the already-mentioned Caterina Cibo, to whom Cibo was close, was a follower of Juan de Valdés, a Spanish thinker who was related to the culture of Protestantism.[88] The nature, meaning, and even the existence of Evangelism as a movement is not unanimously agreed upon, but it is generally interpreted as being a movement characterised by a spirit for Christian reform.[89] Mangani analyses the possible encounters of Cibo with thinkers of Evangelism and concludes that his works are infused with an analogous religious spirituality evoking a Christianised version of Arcadia.[90] The fact that Cibo owned a copy of Sannazaro's *Arcadia*, as already noted in Chapter 1, strengthens Mangani's interpretation who, together with Tomasi, also correlated Cibo's landscapes inhabited by fishermen, shepherds, hermits and everyday people with Sannazzaro's *Eclogae Piscatoriae*.[91] In addition, the previously mentioned recipe given to Cibo by a Capuchin friar suggests a context of interaction with members of this Order and the creation of certain bonds. Cibo also bequeathed a sum of money to the Capuchin Church of St Peter in Rocca Contrada providing further evidence for his relation to the Order of Friars Minor Capuchin.[92]

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[83] Courtright, "Imitation," 135.
[84] Rosand, "Pastoral Topoi," 161.
[85] Tomasi, "Gherardo Cibo: visions," 212, 215.
[86] Courtright, "Imitation," 136-7; Mangani, "L' Arcadia," 56.
[87] Mangani, "L' Arcadia," 82, 93-4.
[88] Mangani, "L' Arcadia," 75. Juan de Valdés was also linked to Evangelism, see Elisabeth G. Gleason, "On the Nature of Sixteenth-Century Italian Evangelism: Scholarship, 1953- 1978," *The Sixteenth Century Journal* 9, no. 3 (1978): 7-8.
[89] Gleason, "On the Nature," 3-26.
[90] Mangani, "L' Arcadia," 94.
[91] For Cibo's ownership of *Arcadia*, see Tomasi, "Gherardo Cibo: visions," 208. Also, Mangani, "L' Arcadia," 84. For the correlation to Sannazzaro's *Eclogae Piscatoriae*, see Tomasi, "Gherardo Cibo: visions," 215. Also, Mangani, "L' Arcadia," 82.
[92] The scholar Mangani was the first to point out the relationship of Cibo with this Order, see Mangani, "L' Arcadia," 84.

Cibo's work is not the only one to be examined under the scope of religion. The interpretation of natural imagery in artworks as a means to bring humans closer to God is often noted in scholarship. For example, April Oettinger explores how Lorenzo Lotto embedded spirituality in his St Jerome's landscape scenery through the depiction of anthropomorphic trees.[93] The role of nature in amplifying devotional spirituality has been studied in many different instances; however, what are the implications concerning the interpretation of space and time within these compositions? If depicted nature is to be seen as a book that guides viewers to spiritual illumination, can it still evoke a specific spatiotemporal context?

Regarding Cibo's landscapes, it has been suggested that when evoking the ideal Arcadian world, they trespass the borders of time and history and are placed in a universe where everything is calm and serene.[94] Nevertheless, even within this timeless ideal setting, elements from Rocca Contrada are still visible. In his landscapes, people approaching or walking away from fortified towns, wearing clothes of the period and engaging in everyday, rural activities, fitted to the environment of Rocca Contrada and the nearby area. For example, Cibo lived close to the Adriatic Sea, so his seascapes can be viewed under the scope of his familiarity with the area. His depictions, thus, of boats, islets and activities related to the sea, like, for example, fishing, could be based on his actual experience of coastal areas. Apart from the fortification, the buildings that Cibo depicts in his compositions can be paralleled to the buildings he was experiencing in his everyday life: churches, hermitages, farm buildings with dovecotes and wells, and groups of modest buildings could be part of the landscape of Marche at his time.

Similar to the way that elements from the real world creep into his imaginary compositions, even at times when Cibo gave an Arcadian character to his landscapes or depicted supernatural-religious events, there are references to features of the Marchian landscape, like, for example, its flora and fauna. Butterflies, flocks of birds, a bird of prey, a hare, an ibex, a squirrel, sheep, dogs and a snake, animals that Cibo would have been familiar with, inhabit his landscapes. He even involves them in certain narratives in his compositions, such as when a man tries to kill a snake (fig. 6.27).[95] Plants and animals are not depicted together for the first time by Cibo. For example, *Tractatus de virtutibus herbarum* (1499) shows a bird drinking water in the illustration dedicated to yellow iris (fig. 6.28). A later example from a different tradition is that of Giambattista della Porta's *Phytognomonica […]* (1588), where animals are illustrated together with plant specimens (for

[93] April Oettinger, "Anthropomorphic Trees and Animated Nature in Lorenzo Lotto's 1509 St. Jerome," in *Green Worlds in Early Modern Italy; Art and the Verdant Earth*, eds. Karen Hope Goodchild, April Oettinger, and Leopoldine Prosperetti (Amsterdam: Amsterdam University Press, 2019), 49-68.
[94] Tomasi, "Plants," 46. Mangani, "L'Arcadia," 339.
[95] Add MS 22332, f. 47r; Tomasi, "Gherardo Cibo: un percorso," 28.

example, fig. 6.29).[96] Nevertheless, Cibo's scene departs from this kind of depiction by embedding action (the figure in the previous example is about to hit the snake with a branch) and a fleeting effect in the atmosphere (the colour of clouds indicates that the sun is about to set and it will soon become dark), suggesting that his narratives could well have been actual events seen or happened to him. As noted in the occasion of the very first illustration presented in the Introduction, the often-recurring figure within the images of British Library manuscript/a could reasonably assume the role of a self-portrait echoing, thus, Cibo's activities and life events.[97] His landscapes, therefore, can be argued to be inextricably linked with his own experiences, evoking more the world that Cibo was experiencing than a timeless setting trespassing the boundaries of time.

Landscape backgrounds and natural history illustrations; the imprint of space and time

Delving into the matter of real/imaginary and timeless/time-specific compositions further, my investigation will now focus on a rare occasion in the British Library manuscript/a, where Cibo depicted an angel within his image of European wild ginger (fig. 2.18), an illustration that was also discussed in Chapter 2, when comparing Cibo's depicted plants with the dried specimens preserved in the Biblioteca Angelica. In wild ginger's illustration, Cibo painted a pastoral scene where three shepherds with their flock witness the appearance of an angel in the sky. It was Tomasi, the first scholar who drew attention to the fact that this scene is highly reminiscent of the *Nativity* painted in 1511 by the Italian artist Pietro Paolo Agabiti for the Church of St Mary del Ponte del Piano at Sassoferrato, a church very close to Rocca Contrada.[98] Agabiti's composition with the two shepherds, one of whom seemingly holding a cane while the other playing music with a flute (fig. 6.30), is also reminiscent of some other compositions by Cibo, found in both his plant illustrations and landscapes, where shepherds engage in the same activities (for example, fig. 6.31 and fig. 6.32).

Since, as briefly noted in Chapter 2, the common trend in early modern herbals was the simple depiction of plants without any other addition on the page, Cibo probably drew inspiration from different sorts of illustrations in addition to his contemporary botanical imagery. One such source could well have been the illustrations within emblem books. Wolfgang Harms convincingly suggests the close relationship between treatises on natural history and emblem books in the sixteenth century, providing many examples where the boundaries between these two genres were

[96] Arber, *Herbals*, 251-2.
[97] Tomasi, "Gherardo Cibo: visions," 202.
[98] Tomasi, "Gherardo Cibo: un percorso," 36, 38.

fluid.[99] The first emblem book with exclusively Christian content, Georgette de Montenay's *Emblemes ou devises chrestiennes,* first appeared in 1567, followed by the publication of the Italian book *Emblemata Sacra […]* in 1589, engraved by Antonio Tempesta, dates that coincide on Cibo's active years.[100] As can be observed in the images belonging to this tradition (for example, fig. 6.33), the divine presence is depicted in the middle of the sky, similar to Cibo's illustration of wild ginger. People's engagement with everyday activities in elaborate backgrounds is a further common characteristic between Cibo's images and those found in emblem books, as already mentioned. These two different kinds of images also demonstrate a common compositional formula based on a layering technique, which results in compositions where the main motifs are placed in the foreground, right at the picture plane, leading to rapid shifts of scale between foreground and background. Taking into consideration the fact that subjects taken from nature, such as stones, plants, and animals, were often used as main motifs in emblem books, the use of this kind of illustrations as a possible source of inspiration by Cibo should be considered. For example, in one of Tempesta's compositions for the *Emblemata Sacra […]* book (fig. 6.34), a palm tree is depicted in the front, right at the picture plane, surrounded by a more distant landscape.

Apart from emblem books, Cibo could have well been inspired by the medieval tradition of herbals, where both mythic figures, such as centaurs, and figures from the Christian tradition, were drawn next to plants. For example, the Virgin and Child are depicted together with a demon in the image of what the author of the book called 'Herbe Ste Marie', which is found in the medieval herbal Florence, Biblioteca Nazionale Centrale di Firenze, Pal. 586 (fig. 6.35).[101] Although Cibo treated his composition differently, the existence of an angel in the illustration of wild ginger probably draws on this rich tradition.

In her recent publication, Oettinger brings attention to the similarities between Cibo's illustrations in the British manuscript/a and the devotional landscapes created in the Northern European context.[102] To illustrate her points, Oettinger compares Cibo's plant images with Dürer's *The Virgin crowned by two angels above a landscape*, drawn in c.1515 (fig. 6.36), since they both present their main subject admist the composition, as if floating in the air.[103] Indeed, this shared

[99] Harms, "On Natural History," 67-83.
[100] Monssen, "Emblems," 305, 317. The *Emblemes ou devises chrestiennes* can be found online, see "Emblemes ou devises chrestiennes," Glasgow University Emblem Website, accessed September 16, 2023, https://www.emblems.arts.gla.ac.uk/french/facsimile.php?id=sm771_indxf.
[101] For more information about this herbal, see Collins, *Medieval Herbals*, 265-8.
[102] April Oettinger, "Ekphrasis and the Romance of Botany in the Age of Pietro Andrea Mattioli," in *Ekphrastic Image-making in Early Modern Europe, 1500–1700*, eds. Arthur J. DiFuria and Walter Melion (Leiden: Brill, 2022), 758.
[103] Oettinger, "Ekphrasis," 758.

characteristic of main compositional elements being depicted in the heavenly sphere (commonly found in Northern European devotional landscapes), creates links and suggests that devotional landcapes of this sort could have possibly acted as a source of inspiration for Cibo.

Either inspired by the *Nativity* in the Church of St Mary at Sassoferrato – as Tomasi suggested – or by the tradition of medieval herbals, emblem books and devotional landscapes (or a combination of all of them), the presence of the angel in the illustration of wild ginger is quite exceptional within Cibo's oeuvre. In contrast, the presence of shepherds in the background does not come as a surprise. Having shady mountains as a natural habitat, it is not unexpected that the plant is portrayed in this type of mountainous region, where shepherds used to keep their flocks. The presence of the shepherds can, thus, be seen as the connecting point between the depiction of wild ginger and the angel. Shepherds kept their flocks in the mountains and were probably acquainted with the plant, while they were also the ones who were informed about the birth of Christ by an angel in the Nativity episode. In general, the fact that this is the only instance where Cibo depicted an angel in his botanical work could perhaps allude to a personal episode where the specific plant has been connected to the religious emotion of Cibo.

Contrary to the appearance of an angel in the landscape, which is exceptional, in most of the cases, Cibo's depicted backgrounds convey botanical information about the portrayed plant, such as its natural habitat or the time of the year it blooms.[104] For example, the background of the image of *Aloe vera* (fig. 4.11), an illustration already discussed in Chapter 4, is a house, on the terrace of which there are flowerpots filled with the same plant, suggesting in this way the plant's home cultivation. Cibo has also depicted the figure of a woman taking care of the potted plants and actively engaging in their cultivation, without which they would probably not survive. Interestingly, in his discussion of the plant, Mattioli says that women grow *Aloe vera* at home. This is not to suggest that every figurative scene or background setting is necessarily connected to a specific meaning concerning the depicted plant. Tomasi notes, for example, that there are a few instances where the plant is not situated in a landscape that conveys its natural habitat.[105] However, when adding backgrounds, Cibo must have had a specific concept in mind, which in many instances concerns some of the characteristics of the plant.

A note by Cibo testifies to his intention of making known the plants' habitat through the inclusion of landscapes in his images:

[104] Tomasi, "Gherardo Cibo: visions," 205.
[105] Tomasi, "Plants,"46, 53.

> I painted this booklet of all the plants that exist, all drawn from nature with much effort, drawing here landscapes of the kind that these plants like and in which they grow naturally, as in rocky, mountainous, wooded, aquatic and marine places.[106]

This booklet, unfortunately not preserved in its entirety, was given by Cibo as a gift to the nobleman Claudio Mannelli in 1597.[107] Mannelli's family was one of the most illustrious families in Rocca Contrada, and a reference from a manuscript concerning this family, shows that he had in his possession some other works by Cibo.[108] The already-mentioned Ceccarelli, also testifies that the inclusion of landscapes in Cibo's images are related to the habitat where the depicted plants grow. He writes: 'and he portrays adding colours and views of the places where they [plants] grow, so well that there is no difference between the real ones and his reduced versions but from the breath of vegetative soul'.[109]

This idea of incorporating landscapes that give information about some characteristics of the plant in question pre-dates Cibo's creations. For instance, London, British Library, Egerton MS 747 (c.1280–1350), a treatise on medicinal plants, apart from plain images of plants and animals, also includes a few landscapes.[110] In this manuscript, there is a scene depicting the extraction of orpiment within a sketchy landscape scattered with occasional stylised grass and recognisable oak trees (fig. 6.37), as well as some hunting scenes. Interestingly, in the same treatise, navelwort is depicted sprouting up from the roof of a building in accordance with its natural habitat (fig. 6.38). The building, which is almost the same as the portrayed navelwort in height, is clearly not in scale.[111]

Examples of natural history images incorporating the plant's habitat can also be found in printed books. The *Ortus sanitatis […]*, published at the end of the fifteenth century, is a treatise very rich in images where one can find some landscape settings enlivened with architectural structures,

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[106] 'Questo libretto io l'ho dipinto de tutte le piante che si sono, et tutte ricavate di naturale con molta fatica mia, havendoci disegnato i paesi della sorte, che tal piante amano, et che vi nascono naturalmente: come lochi sassosi, montuosi, selvosi, acquatici et maritimi', reproduced in Rinaldi, "Nel laboratorio," 113.
[107] For some information concerning this manuscript, see Mangani and Tomasi, "Manoscritti," 227.
[108] Tribellini, "Album," 326-7.
[109] 'et dipinge con colori e colla prospettiva delli luoghi, dove elle nascono così bene, che fra le vere e le sue così ridotte non ci è differenza se non nell'anima vegetativa', reproduced in Tomasi, "Arte," 43; Tribellini, "Album," 317.
[110] London, British Library, Egerton MS 747. This manuscript can be found online, see "Egerton MS 747," British Library, accessed September 16, 2023, https://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Egerton_MS_747. For more information about Egerton MS 747, see Collins, *Medieval Herbals*, 241-65. For some other examples of medieval herbals with figurative scenes, see Collins, *Medieval Herbals*, 148-220, 239-83.
[111] Arber discusses the case of a houseleek plant that may be represented growing on the roof of a building introduced to give information about the plant's habitat (the plant being depicted about three times the size of the house), see Arber, *Herbals*, 193.

ships, fishes, crabs, and mythical creatures.[112] Among these images, a tree is depicted growing out of the sea while a fish swims next to it (fig. 6.39). This image acts as a visual parallel to the text, according to which amber is the fruit or gum of a tree growing by the sea or the product of a fish or the sea foam. The already-mentioned *Herbario novo* by Durante and the *Commentary on Dioscorides* by Mattioli (to a lesser extent), also draw on both formulas of depicting plants, namely their placement against a plain background and their incorporation within landscapes (for example, fig. 6.40 and fig. 6.41 respectively). Furthermore, *Herbario novo* includes some enlarged insets of plant parts, (for example fig. 6.42), resulting in the co-existence of distinct scales-layers within the same composition, a formula that is also applied in some of the illustrations commissioned by the aristocrat Pietro Antonio Michiel in c.1553–1565 (for example, fig. 6.43).[113]

Cibo also used this play of distinct layers-scales, but in a different way. Either in his printed or hand-painted natural history images, when landscapes are embedded, the most striking characteristic is scale. Indeed, scale, in all artworks, is a significant element of the compositional scheme. In his landscape compositions, Cibo organises, in most of the cases, the pictorial space in a convincing way in terms of scale, even if, sometimes, figures have been depicted to be smaller when compared to the surrounding scenery. Nevertheless, when portraying landscapes and botanical specimens in the same image, he creates an extraordinary effect through a layering technique. Specifically, as already seen, he depicted the specimen to which the page was dedicated, on a much larger scale, in the front than the surrounding landscape and figurative scenes in the background. These rapid shifts of scale, I argue, were applied strategically, leading towards a specific reading experience.

Cibo quite often includes the same plant specimen both at the level of the picture plane and in the landscape background, and thus, there are two different versions of the same plant within the composition. For example, in the illustration of a specimen that can be identified as a hemlock water-dropwort and a hog's fennel (fig. 6.44), the plant is depicted both in the foreground on a large scale and in the background as part of the landscape. The viewer's eye is therefore guided back and forth from the enlarged plant to its smaller version within the landscape, evoking the relationship between the whole and the individual. Interestingly, the middle ground in the art of the period was also called 'mezzo tempo' suggesting a connection between the notions of pictorial space and time.[114] It is as if Cibo has zoomed into one detail of the scenery, the specific plant, and represented

[112] *Ortus Sanitatis […]* (Mainz: Jacob Meydenbach, 1491). This book can be found online, see "Ortus sanitatis," Wellcome Library, accessed September 16, 2023, https://wellcomecollection.org/works/zuph7pum/items.
[113] For some information on Michiel's work, see Egmond, *Eye,* 1011-5.
[114] Frances Gage, "Exercise for mind and body: Giulio Mancini, Collecting, and the Beholding of Landscape Painting in the Seventeenth Century," *Renaissance Quarterly* 61, no. 4 (2008): 1170.

it in painstaking detail in the foreground, probably having as an aim to demonstrate both its particular elements (in the representation at the front) and its dimensions within an actual landscape (in the background). To my knowledge, only the slightly later publication of *Hortus Floridus* by Crispijn van de Passe includes this kind of dual representation of plants based on the same idea of juxtaposing the same plant in different scales (for example, fig. 6.45).

Focusing on the enlarged version of hemlock water-dropwort or hog's fennel in the foreground of Cibo's illustration, there can be detected a different approach from that of Weiditz, who, for example, included illustrations of plants as seen at a specific time, with the depiction of a wilted plant exemplifying his approach (as already discussed in Chapter 2, fig. 2.35).[115] Throughout Cibo's work, no specimens are illustrated at this declining stage in their lives, while some have also been stylised. As discussed in the Chapter 3, Cibo truncates some specimens, gives them decorative shapes, and combines different colour varieties in one example to facilitate their botanical examination. The possibility that he was inspired by the dried specimens mounted in his herbarium fits well with the suggestion that he intended to reproduce a close-up look of the plant that would be useful in the examination of its details and the preservation of its memory. However, time is not excluded entirely from the enlarged depiction of the plants in the front, as Cibo often depicted buds and flowers within his herbal.

Seasonality is, thus, not eliminated, but the final result is a more general appearance of the plant without some particularities that a specific specimen might have, such as a wilted part. This practice is in accordance with the approach in Fuchs' herbal, a practice that was probably employed to facilitate the study and identification of the plants.[116] Kentmann had a similar approach in his *Codex Kentmanus* for the most part, with only some scarce examples of plants presenting accidental blemishes.[117] Therefore, it can be argued that although these enlarged versions by Cibo present characteristics belonging to specific seasons and therefore entail a sense of time (being specimens corresponding to actual species that exist in the natural world), it seems that this inclusion was one of the conventions of botanical illustration to present specific stages in the life of a plant for study purposes.

As for Cibo's landscapes, these seem to evoke time on different terms. In the above-mentioned illustration of hemlock water-dropwort or hog's fennel, the botanist has just uprooted a plant specimen and holds it above the ground. In contrast to its enlarged version, its details cannot

[115] Kusukawa, The role of images, 42.
[116] Kusukawa, Role of images, 42
[117] Kusukawa, "Image," 464.

be seen. Nevertheless, this representation adds information about the actual appearance of the plant within the natural environment and links it to a broader context, the cosmos. Furthermore, as already mentioned on the occasion of the depiction of the snowdrop, the landscape background often evoked the time of the year that the depicted plant was blooming and, therefore, evokes a more specific temporal context to the viewer than a mere representation of the specimen. The two approaches to nature, namely the careful examination of specimens and their everyday physical appearance as part of universal order, are combined in the specific herbal and exemplify how Cibo attempted to gain knowledge of the natural world.

A similar play between different scales also appears in some of Giovanna Garzoni's images, where specific objects appear to be created on a larger scale compared to the other elements of the composition.[118] For example, in her *Ranunculus with two almonds and a hymenopteran* (fig. 6.46), it is unclear if the insect is depicted on the same scale as the other elements of the composition. An intriguing interpretation was given by Sheila Barker about Garzoni's use of different approaches to the conventions of botanical illustration. She argues that Garzoni depicted the principal botanical specimens according to the general trends of botanical illustration at that time, whereas she disregarded these conventions in the rest of the composition.[119] For example, the plant belonging to the genus *Ranunculus* is depicted frontally, without any shading, a depiction that was in accordance with the prevalent conventions of natural history illustration of the period.[120] At the same time, the rest of the elements of the composition are portrayed in such a way that they seem alive and real, even casting shadows upon the surface of the page, as the real specimens would do if they were placed there.[121] Barker convincingly argues that in such instances, Garzoni intended to bring together the practice of studying botanical illustrations with that of looking at actual botanical specimens, based on the art of Jacques Le Moyne de Morgues (1533–1588) and Joris Hoefnagel (1542–1601), who already have employed this technique.[122]

Although Cibo's approach to botanical illustration was not identical to that of Garzoni, he also broke away from some of the conventions of botanical illustration of his era. By inserting landscapes into his illustrations, he disregarded the general trend that wanted the specimens to be placed against a plain background, as already noted in Chapter 2. Even if Cibo was not alone in

[118] Sheila Barker, "The Universe of Giovanna Garzoni. Art, Mobility, and the Global Turn in the Geographical Imaginary," in *The Immensity of the Universe in the Art of Giovanna Garzoni*, ed. Sheila Barker (Florence: Le Gallerie degli Uffizi, 2020), 19-20.
[119] Barker, "The Universe," 19.
[120] Barker, "The Universe," 19.
[121] Barker, "The Universe," 19.
[122] Barker, "The Universe," 19.

depicting plants within landscape settings, with the examples discussed above being some examples of natural history works that inclue landscapes, his work stands out in terms of elaboration. Furthermore, Cibo might also have influenced Garzoni, for they both experimented with the concept of scale in botanical illustration. In the case of Cibo, this experimentation was possibly related to his method of exploring nature; his botanical excursions probably inspired him to record information about the various habitats of the plants and then insert this kind of information into his botanical illustrations. Thus, the final result includes not only various information about the physiology of the plant but also information about its actual appearance in nature. This is reminiscent of the claim of the physician Janus Cornarius (1500 – 1558), a contemporary of Cibo, that knowledge about a plant cannot be gained through an image without the actual encounter of the plant in nature.[123] Taking into consideration Cornarius' approach, it is possible that Cibo intended to bring together the experience of studying a plant from a close-up look with the experience of seeing a natural specimen in its actual environment, an idea that ties in well with his activities related to his collection of dried plants, as discussed in Chapter 2 and 3. Cibo's ideas could have inspired other individuals, such as Liberale, who also created landscapes accompanying some of his drawings, indicating, thus, a continuation of his ideas.[124]

Some closing remarks about Cibo's landscape production

In a letter sent to his brother Scipione, Cibo refers to a specific 'small landscape that is in the book of herbs and…in which the image of white hellebore was painted'.[125] The reference is noteworthy because it testifies to the importance of the landscape compositions for Cibo, as he remembers their exact position within the book. It bears witness to Cibo's careful examination and study of landscapes, akin to his botanical illustrations. Mattioli also made specific reference to Cibo's landscape compositions. In his letter to Scipione, Mattioli not only praised Cibo's depictions of plants, but he also noted that 'there is a gracefulness given by the ornamentation of these small, pleasant landscapes, which cannot be distinguished from the natural ones'.[126] In her study of the relationship of early modern natural science and ideas of landscape, Oettinger focuses on Mattioli's

[123] Kusukawa, "Leonhart," 423.
[124] For the suggestion that Liberale was possibly inspired by Cibo, see Duilio Contin, "Giorgio Liberale da Udine, illustrator scientifico," in *I discorsi di P.A. Mattioli: l'esemplare dipinto da Gherardo Cibo: eccellenza di arte e scienza del Cinquecento*, eds. Duilio Contin and Lucia Tongiorgi Tomasi (Sansepolcro: Aboca Edizioni, 2017), 42-3.
[125] 'paesino che sta nel libro de herbe…sta depinto nella figura dell'Elleboro bianco', reproduced in Celani, "Sopra," 222.
[126] 'che vi si discerne una leggiadria che dá loro l'ornamento di quei paesetti ameni, che non si discerne nelle naturali', reproduced in Celani, "Sopra," 217.

poem published in 1539, and examines early modern landscape *ekphrasis* and its role in the production of botanical knowledge.[127] Thus, the purpose of Cibo's landscapes seems to be more important than Oliver Tostmann's suggestion that Cibo 'may well have regarded his activities as a landscape draftsman as little more than a pleasurable distraction'.[128]

At that time, most of the landscape drawings were not ends in themselves, but have other purposes; for example, some of them would eventually form the setting of a painting.[129] However, there are no known oil paintings by Cibo, and there is only one reference to a 'figurina' of St Catherine that he coloured.[130] He also did not publish anything during his lifetime, as already noted, and, thus, his drawings are unlikely to have been used in the field of book art.[131] As for fresco painting, Bolten was the first to convincingly argue that Cibo's drawings do not include any of the conventions of wall painting, for example, arched tops and indications of architectural structures such as doorways and windows.[132] The subsequent additions to his oeuvre confirm Bolten's argument, and thus, Cibo's graphic work cannot be viewed as preparation for fresco compositions.

When examining Cibo's landscapes, it is evident that there is a relationship between the iconography and his interest in investigating nature. Rocky landscapes, lush vegetation, and valleys with rivers are the main recurring themes explored within his work. In addition, there are quite a few landscape compositions where Cibo has included carefully studied rock formations or trees in the foreground. There are also many individual studies by the hand of Cibo, most of which are studies of rocks and vegetation. As already mentioned in Chapter 2, among the three hundred and sixty-six entries of the Mangani and Tomasi catalogue in total, sixty-eight are studies of rocks, and sixty are studies of flora ranging from trees to flowers.[133] Given that Cibo was a collector of both rocks and plants, as discussed before, it is most probable that he used drawing as a means of carefully investigating what he saw during his walks in the countryside.[134] In general, his oeuvre includes a unique body of landscapes that, when included in his botanical illustrations, suggest a new way of illustrating and studying nature. This innovative idea of combining landscapes with botanical

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[127] Oettinger, "Ekphrasis," 741-63.
[128] Oliver Tostmann, "Gherardo Cibo," in *The McCrindle gift: A distinguished collection of drawings and watercolors*, eds. Margaret Morgan Grasselli and Arthur K. Wheelock (Washington: National Gallery of Art, 2012), 32.
[129] Curtis O. Baer, *Landscape drawings* (New York: H. N. Abrams, 1973), 13-8.
[130] For the 'figurina' of St. Catherine, see Celani, "Sopra," 223.
[131] For one interesting interpretation of why Cibo did not publish anything, see Mangani, "L' Arcadia," 81.
[132] Bolten, "Messer Ulisse," 131-2.
[133] Mangani and Tomasi, "Catalogo," 131-204.
[134] In his diary, there are references concerning the collection of plant specimens during his excursions, while he also takes notes of the locations where specific stone specimens can be found. For Cibo's excerpts of his diary, see Mangani and Tomasi, "Dal diario," 309-10. For Cibo's notes about the stones, see Celani, "Sopra," 197.

illustration inspired other artists, as already mentioned, and is an element that would continue to be present even in the eighteenth century, specifically in the publication of *Flora Graeca* […], where elaborate views of landscapes are shown as well as plants arranged around an oval (for example, fig. 6.47).

The copy of Mattioli's *Commentary on Dioscorides* belonging to the personal library of the Duke Francesco Maria II Della Rovere and coloured by Cibo (already discussed in Chapter 4 in relation to its colouration), provides perhaps the most convincing proof of Cibo's attentiveness in the creation of his landscapes – here, as elsewhere, they serve a higher purpose than simply having an ornamental function. In the illustration dedicated to honey (fig. 6.48), Cibo corrected Liberale's composition and created his own landscape version. Specifically, Cibo erased the town delineated in Liberale's print, changed the mountain range and expanded the landscape significantly towards the horizon. He also drew his own perspective of a town and added a lush vegetation, as he was accustomed to. This is the only example where Cibo intervened in the initial landscape composition by Liberale, a fact that raises many questions concerning the motive behind this change, suggesting that the illustration was of specific importance to either him or, most probably, to his patron. The text concerns honey, informing the reader among other things that the honey from Athens and Sicily from the mountain Hibla et Himmetto are the best. Cibo could, thus, have tried to render more faithfully one of the places to which the text is referred or to create a more accurate representation of a specific place that would be familiar to his patron. Although the true motivation behind this intervention can only be speculated at this point, it indicates that Cibo's approach to landscape was not inconsiderate but well-informed and well-thought-out.

In conclusion, the handling of time and space within the compositions and the general treatment of the compositions point towards an interpretation of his landscape drawings as independent works that were used to advance Cibo's understanding of the natural world. There is an evident emphasis on the local landscape, as well as on the study of plants and rock formations, not only as individual elements of the natural world but also as parts of the whole cosmos. This does not mean that an aesthetic interpretation cannot be applied to his landscapes, but his intention to gain and transfer knowledge through his landscape representations seems to be prevalent without being absolute.

The coincidental development of landscape art into an autonomous genre during the early modern period opens up a discussion on whether natural science contributed to the landscape's independence as a genre with the examination of plants' natural habitat during excursions and its depiction in botanical drawings and prints. Although not extensively, the role of book illustrations

and woodcuts has been explored in establishing landscape art's claim to a place of its own in art; however, the research has been limited to the iconography of travel books and history chronicles depicting the natural world, with Charles Talbot's publication of 1982 to remain the main study on the topic.[135] Although Cibo's inclusion of landscapes in his botanical imagery is extraordinary in all the ways discussed above, the link between landscape and plants is demonstrated throughout the chapter and could, therefore, support the claim that botanical imagery and the activities of natural scientists of the early modern era led to landscape claiming a place of its own in art.

[135] Talbot, "Topography," 105-16.

Chapter 7: Bodily engagement with the landscape of Arcevia

Walking as a research method

Walking is the subject of a growing body of literature, with *Wanderlust: A History of Walking* by Rebecca Solnit and *On Foot: A History of Walking* by Joseph Amato standing out as two recent publications that give an overview of this subject in many different historical periods.[1] Although, at first, it appears to be an unconscious act that remains unchanged throughout time and space, studies of walking have proved that there are various walking behaviours with different associated meanings depending on the temporal and spatial contexts.[2] Filippo de Vivo discusses an illustrative example related to the early modern period in his study concerning the patricians of Venice and the special meaning of their walks embodying specific social and political statements.[3] The complexity of the subject is also illustrated by the many sixteenth-century Italian terms used to describe different modes and, quite possibly, meanings of walking, such as the verbs *passeggiare*, *scalpitare*, and *camminare*.[4]

As walking is an activity interwoven with its specific contexts, the chapter will focus on the conditions that Cibo experienced throughout his life, specifically during his years in Rocca Contrada. How did he walk through this sixteenth-century town and its surrounding area, and how did he experience the landscape and the natural world around him? In order to approach these questions, I visited Arcevia in the spring and summer of 2022 to experience walking and exploring the town and its natural surroundings. As noted in the Introduction, walking as a research method has only recently received scholarly attention. Walking was the standard means that early modern people used to explore the countryside and the natural world. Thus, along with the town of Arcevia, I also walked in the surrounding area beyond the defensive walls and into the wild. Inevitably, modern pedestrians have diverse experiences and surroundings compared to the early modern walkers of Rocca Contrada and its countryside. However, this chapter asks if this methodology might offer insights into human movement in relation to the townscape and landscape familiar to Cibo. The

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[1] Rebecca Solnit, *Wanderlust: A History of Walking* (London; Verso, 2002); Joseph Anthony Amato, *On Foot: A History of Walking* (New York: New York University Press, 2004).
[2] Filippo de Vivo, "Walking in Sixteenth-Century Venice: Mobilizing the Early Modern City," *I Tatti studies* 19, no. 1 (2016): 115-41; Tim Ingold and Jo Lee Vergunst, eds., *Ways of Walking: Ethnography and Practice on Foot* (Aldershot: Ashgate Publishing, 2008).
[3] De Vivo, "Walking,"130-4; Peter Burke, *Venice and Amsterdam: A Study of Seventeenth-Century Elites* (London: Temple Smith, 1974), 63.
[4] For a list of terms related to walking compiled during the early modern period, see Francesco Alunno, *Della fabrica del mondo […]* (Venice: Paolo Ugolino, 1600), 196-202.

chapter draws on the growing body of literature focused on the interaction of space and people interpreting social spaces as 'central to the formation, expression, and modification of individual and group identities'.[5]

Experiencing Arcevia and the nearby area in the twenty-first century.

I visited Arcevia on 5-6 May and 3-4 July 2022, equipped with a lightweight backpack, comfortable clothes, a hat, and a good pair of walking shoes. Arcevia is a relatively small town found in Marche, a region of central-eastern Italy. Built on an offshoot of the pre-Apennine mountain chain along the Umbrian side of Marche, it has an elevation of 535 meters and a predominantly hilly territory. When approaching the town, one can discern its defensive wall. The four gates that are situated throughout the defensive wall, namely the fifteenth-century *Porta of St Peter* called *Porta del Forno* in the sixteenth century (fig. 7.1), the fifteenth-century *Porta of St Lucy* called *Porta dell' Ospitale* in the sixteenth century (fig. 7.2), the sixteenth-century *Porta of St Augustine* (fig. 7.3), and the nineteenth-century *Porta del Sasso* (fig. 7.4), each mark an entrance to the town with their imposing, mostly stone-built construction. Daniel Jütte's study about the impact of gates and defensive walls on the daily life of early modern people highlights the significance and the different early modern practices related to entering a city.[6] Although the conditions and procedures accompanying this practice do not apply to a modern-day visitor, the fact that Arcevia preserves these architectural structures enforces a pre-determined route that is the same as the one taken by early modern visitors.

The map of Rocca Contrada by Cibo (fig. 7.5), previously attributed to Ercole Ramazzani, gives us a precise idea of the town's appearance in the sixteenth century.[7] The preservation of the medieval layout is apparent when juxtaposing Cibo's map of Rocca Contrada with a contemporary map of Arcevia (fig. 7.6). The most prominent buildings overlook *Strada principale* in Cibo's drawing, nowadays called *Corso Mazzini*, a central road connecting the western and eastern ends of the town. At the centre of Arcevia's life is the *Piazza Garibaldi*, called *Piazza ò Mercatale col pozzo* (Square or marketplace with well) at Cibo's time, which can be approached via the above-mentioned *Corso*

[5] Richard C. Trexler, "Introduction," in *Persons in Groups: Social Behavior as Identity Formation in Medieval and Renaissance Europe*, *Papers of the Sixteenth Annual Conference of the Center for Medieval and Early Renaissance Studies*, ed. Richard C. Trexler (Binghamton: Medieval & Renaissance Texts & Studies, 1985), 4.

[6] Daniel Jütte, "Entering a City: On a Lost Early Modern Practice," *Urban History* 41, no. 2 (2014): 204-27.

[7] For the drawing's re-attribution to Cibo, see Tomasi, "Plants," 15. For more information about the map, see Mangani, "L' Arcadia," 93; Nesselrath, "Catalogo," 77-8, no. 1.

Mazzini. Cibo and all inhabitants of Rocca Contrada must have been familiar with this central area of the town.

Although the roads are now sealed and have pavements to facilitate walking, moving through the town is a visceral reminder of the steepness of the gradient in this hill town – this, along with many stepped passages, made walking relatively arduous (fig. 7.7). Rain would have deteriorated matters further, making roads slippery and probably muddy. The narrowness of the streets is another characteristic of the town's medieval history. Even in the central *Corso Mazzini,* pedestrians are limited to narrow pavements (fig. 7.8), and just as cars do now, horses and carts or carriages would have limited the space for walking.

During my second visit to Arcevia, the heat of July played an important role in shaping my walks. Not only did the weather affect my pace, but it also determined the course of my walk in many cases. As heat accentuated the feeling of fatigue caused by the steepness of the ground, I often resorted to the interiors of stone-built historical buildings that offered a cool place to rest. While exploring the interior of these buildings, I searched for sixteenth-century objects that would form a part of Cibo's visual world. For example, the glazed ceramic altarpiece by Giovanni della Robbia (fig. 7.9), dated between 1510 and 1513, which was carried out for the hermitage of St Jerome near Rocca Contrada, can nowadays be found inside the Collegiate Church of St Medardus. Simultaneously, I also explored the architectural structures of the buildings, many of which incorporate parts built in the sixteenth century or before and would, thus, be familiar to Cibo. For example, the St Francis complex demonstrates multiple layers of its long history, including its fifteenth-century cloister (fig. 7.10). Given the status of Cibo, he would most probably have access to even the most important buildings that now form part of the tourist attractions.

Apart from the town's architectural elements, nature participates dynamically in forming Arcevia's townscape. Trees, shrubs and smaller plants are prominent characteristics of contemporary Arcevia and can be found cultivated inside pots (fig. 7.11) and yards or growing spontaneously out of roofs (fig. 7.12) and the roadside. These are certainly attractive to the eye of pedestrians, and their pleasant smell attracts both insects and humans. The noise coming from these insects also stimulates aural senses, together with the birds, usually passing by the town flying in flocks (fig. 7.13). Sixteenth-century Rocca Contrada did not lack dedicated spaces for plant cultivation. According to Cibo's map, there used to be a green space next to the defensive walls, as well as many gardens adjacent to buildings.

A stunning landscape surrounds Arcevia; from the half part of the town that faces the coastline, one can experience a bird's eye view of the surrounding area. Cibo's map records such a

spot next to the defensive walls named 'Belveder ò la veduta'. There, one can enjoy a panoramic view of the area below the town, which is part of the upper valley of the Misa River (fig. 7.14). The landscape that Arcevia overlooks nowadays includes both cultivated fields and spontaneous vegetation with a variety of colours and geometric patterns lining the hills. From the other half facing the Apennines, a mountainous landscape extends to the horizon. From this side of the town and through the *Porta of St Augustine*, I walked away from Arcevia and went into the countryside. I followed a pathway next to the Church of St Augustine, which, although on the sixteenth-century map, seems to be enclosed in some secondary town walls, these have not been preserved. In front of the façade of the church, there were two old signs indicating the existence of two different paths (fig. 7.15), from which I took the *Sentiero del Ponte del Goro* since the other one seemed to be abandoned.

The landscape explored in this one-hour walk outside the defensive walls of Arcevia was woody for the most part (fig. 7.16), with some openings that allowed a view of the nearby mountains. On the bottom of these mountains, one can see a distant lake; directly above, the Church of St Mary of Grace juts out from the dense vegetation of the mountain (fig. 7.17). Along the walk, there were many kinds of plants, from mosses to trees, while most of the angiosperms were bearing flowers, especially during my first visit in May (fig. 7.18). In July, although most of the flowers that were blooming in May had either disappeared or dried (for example, fig. 7.19), there were still some flowers to be found (fig. 7.20), adding colour to the landscape.

Seasonality, therefore, certainly affects what one can find and see in a landscape. As shown above, in relation to my second visit to Arcevia and the heat of July, the weather, sun, clouds, rain, snow, and wind, beyond the landscape itself, affects how people experience it. Similar to its important role in shaping one's walk inside a town, weather can affect walking in the countryside in multiple ways. Snow and rain can make the walking surfaces slippery and, therefore, more challenging to walk on; the heat of the summer or the cold of the winter can cause a feeling of discomfort to the body; extreme weather conditions can be dangerous for pedestrians. For example, it has been argued that Rembrandt and his pupils preferred to stay in their homes rather than walk and draw in the open air during the cold and rainy months, hence the scarcity of winter landscape compositions in their oeuvre.[8] Cibo must have experienced, if not snowy, at least cold and rainy weather while living in Rocca Contrada. The absence of snowy landscapes and the scarcity of rain in his compositions might suggest that Cibo's drawing expeditions took place in the spring and summer

[8] Erik Schimtz, ""The Landscape Rembrandt Knew," in *Landscapes of Rembrandt: His Favourite Walks*, eds. Boudewijn Bakker et al., (Bussum: Thoth, 1998), 68.

– not entirely surprising given that plants are more abundant during these seasons. The preserved excerpts from Cibo's diary further support this hypothesis since they reveal that his expeditions took place in all months apart from November and the cold, winter months.[9]

Before going outside the town walls of Arcevia, safety was something that I always kept in mind. Walking together with someone else in the countryside provides more safety than walking alone, as it would probably do in the sixteenth century. Roads were and still are full of dangers, and pedestrians are vulnerable to thieves, animal attacks, snake bites and many more. The times when I walked alone into the nearby countryside, I was more alerted to noises, while I also carried a branch with me to move brushes away and, thus, be able to see where I was about to step in. The walking stick was an important tool for pedestrians even from the years of the Roman Empire when its use varied from supporting walking to helping in the defence against men and animals to becoming a tent pole, a fishing rod, and a measuring tool, in addition to its symbolic-social connotations.[10] In his compositions, Cibo often used the motif of the long stick, that takes on various roles, such as a working tool, a cane, a fishing pole, an oar, and a spear. Companions, therefore, and tools like the improvised walking stick shaped how I experienced the nearby countryside of Arcevia, helping me avoid potential dangers.

Apart from the *Sentiero del Ponte del Goro* path, I also walked to the nearby area found in the other half of Arcevia facing the coastline. There, I found the Church of St Mary of Renali (fig. 7.21), where I was able to attend the Sunday service and observe its sixteenth-century frescoes. However, the road connecting Arcevia to the church and nearby area was a motorway and, thus, unsuitable for pedestrians. Nevertheless, after asking for advice from locals, I followed a path for pedestrians next to the church, and explored this area more, including a nearby park called *Le Conce*. It is from this walk that I was able to see Arcevia's layout more clearly (fig. 7.22) in the sense that I could distance myself from the town and, thus, have a broader perspective. Although I spent more than an hour on every walk outside the town walls of Arcevia, I did not cover long distances, and this was because of the steepness of the ground, the winding roads, the frequent breaks, the need to record the landscapes through photographs, and the unfamiliarity with the area among other factors that determined my pace and my stride throughout my walking experience.

Cibo's walks

[9] Reproduced excerpts in Mangani and Tomasi, "Dal diario," 309-10.
[10] Amato, *On Foot*, 284-5.

At the turn of the fifteenth and sixteenth centuries, although it had lost its political and strategic importance together with a part of its defensive walls (Cibo possibly depicts a part of them in his *Southern landscape*, fig. 7.23), Rocca Contrada's cultural and artistic life was vibrant mainly due to Marco I Vigerio, who frequently spent time there.[11] It was he who commissioned the construction of new buildings and who was also responsible for artistic commissions such as the polyptych in the Collegiate Church of St Medardus by Luca Signorelli.[12] His successors also demonstrated an interest in the arts, while at the same time, the commune also made artistic commissions.[13] Apart from its cultural life, Rocca Contrada was the base of ceramic, shoemaking and tanning industries that lent certain prosperity to the town.[14] In one instance, Cibo made a note concerning a tanning workshop whose owner Cibo probably knew. 'source of the little valley that goes to the tannery of Carletto, on ♀ [Friday] same date', Cibo noted in this drawing, suggesting that he was familiar with this flourishing industry and that this tannery acted as a landmark of the area for him.[15]

Beyond his notes, the drawings themselves give a glimpse into the early modern Rocca Contrada and the nearby area. For example, he drew a view of the town (fig. 7.24), while in another instance, he depicted the St Francis complex (his burial place as noted in Chapter 1). This complex (as well as numerous other buildings such as the St Agatha convent, where Cibo's sister stayed) can be approached via *Strada principale,* and although I was not able to verify that Cibo lived on this street, he must have walked this central road several times. Apart from the central road, Cibo must have known, if not all, then most of the streets and architectural structures of the town since he spent most of his life there and since the town's territory is small. In the drawing of a small church next to a town, which has been identified either as Rocca Contrada or Rosora di Serra S. Quirico, we can see a glimpse of two figures moving towards the defensive walls (fig. 7.25), while one of them also seems to hold a walking stick.[16]

Although Cibo does not typically depict human figures in much detail, he usually portrays them in the action of walking, moving on streets, crossing bridges, approaching town walls, sometimes also carrying things on their heads, or climbing stairs in order to enter a building (for example, fig. 7.26). Although, as noted in Chapter 6, these figures moving through land-and-

[11] Nesselrath, "Rocca Contrada," 60.
[12] Nesselrath, "Rocca Contrada," 60-1.
[13] Nesselrath, "Rocca Contrada," 69.
[14] Nesselrath, "Rocca Contrada," 70.
[15] 'fonte per la valletta che va alle concie di Carletto ♀ idem', reproduced in Mangani and Tomasi, "Catalogo," 136, no. 25.
[16] For the identification of the church, see Mangani and Tomasi, "Catalogo," 139, no. 37.

townscapes are a familiar sight in northern European landscape art, for the most part, Cibo's depicted figures were engaged in actions that I also performed during my walks in Arcevia, such as the passing through the gates, climbing stairs, the entrance to buildings to either attend the Sunday service, or explore their interior, or even simply to rest and avoid the extreme heat of the summer. In one instance, Cibo resorted to the interior of a church to draw a wooded landscape, as the following note reveals: 'On the ♃ [Thursday] ij of July 1577 inside the Church of the Holy Water', indicating that he drew the scenery from within the church.[17] Indeed, there could be multiple reasons why Cibo decided to draw the landscape from the interior of the church. However, the experience of walking in modern-day Arcevia during the summer can bring different interpretations to the table: the walking stick can be indicative of a customary habit of people living in a hard-to-walk terrain apart from the other meanings attributed to it, and a church could be a place that one can find shelter from the weather. Indeed, although the twenty-first reality of Arcevia is different from that of sixteenth-century Rocca Contrada, some connections with the depicted walking figures or Cibo himself can be drawn based on similarities in the conditions of walking through its physical space.

Written accounts from the end of the sixteenth to the beginning of the seventeenth century, praise Rocca Contada's natural beauties and the mild climate that one can experience there.[18] For example, Severino Severini's *De Laudibus Rocchae Contratae* refers to both of these characteristics in his text.[19] He specifically mentions the valley below Rocca Contrada, characterised by 'the beauty of its landscape, the fertility of the fields, the abundance of cereals and fruits, for the many excellent wines and finally for the large quantity of all the things necessary for the prosperity of humanity'.[20] The view from Arcevia's 'Belveder' spot into the valley below can confirm Severini's account since, from there, one can experience a panoramic view of the valley, which, still today, has cultivated fields with a variety of crops judging from their different colours. Severini's account, where the beauty of Rocca Contrada's landscape is linked to the valley below, as well as the early modern appellation of the specific spot that overlooks the valley ('Belveder'), indicate how views were valued in the early modern period. It would be highly improbable that Cibo would not have known this spot and seen this panoramic view from above. In one of his drawings, he even suggests the act

[17] 'De ♃ ij di luglio 1577dentro dell'chiesa dell'acqua santa', reproduced in Mangani and Tomasi, "Catalogo," 133, no. 16.
[18] Nesselrath, "Rocca Contrada," 59.
[19] Severino Severini, "De Laudibus Rocchae Contratae," in *Studi Arceviesi n.6*, (Arcevia: Centro Studi Arceviesi, 2009), 17-25.
[20] 'per la bellezza del paesaggio, per la fertilità dei campi, per l'abbondanza dei cereal e della frutta, per la gran copia di ottimi vini e infine per la gran quantità di tutte le cose necessarie alla prosperità della vita umana', see Severini, "De Laudibus," 17.

of looking at a panoramic view by placing some sketchy human figures at the edge of a cliff (fig. 7.27).

A panoramic landscape observed from an elevated position is a recurring theme in Cibo's drawings. For example, the drawing now housed at the Pinacoteca Civica in Ascoli Piceno (fig. 7.28) portrays a valley surrounded by a mountain range on the bottom half of the page. The shape and height of the mountains bear a similarity to the Apennines, while the valley appears similar to the one below Rocca Contrada with its scattered trees, buildings and cultivable areas. Indeed, Cibo also created compositions that do not correspond to any existing place, while he also copied works by Northern European artists, as already seen. Nevertheless, this idea of panoramic views is a recurring theme throughout his oeuvre, and thus, the 'Belveder' spot could have helped him develop the relative skills in recreating those, especially since Cibo did have the habit of recording existing places through his drawings. Based on my experience of the town, the 'Belveder' spot is a place where one can see a very inspiring landscape that was most definitely known to Cibo and has surely informed his practice.

'And on ♃ [Thursday] the 22nd of the same month, Mr Ipolito, Gasparre and I came to Albacina'.[21] This is not the only time Cibo refers to companions' names in his ventures, as already noted in Chapter 1. The benefits of having someone to walk with into the countryside is something that I immediately grasped during my walks outside the defensive walls of Arcevia. Although you can determine the pace of your walk and the breaks for rest depending on your needs, a companion provides a feeling of safety and can be essential in times of emergency. Cibo's depicted figures also walk in pairs, and only in rare cases does he portray them alone. Sometimes, donkeys are also depicted as companions offering their help in carrying things, something that would be extremely helpful when walking long distances.

The experience of walking into the nearby area of Arcevia allowed me to gain an insight into a natural landscape full of plants, rock formations and other natural features that Cibo also experienced. It was noticeable how much of a plant hunter's eyes are directed downwards – my experience suggests it is necessary to pay close attention to the ground whilst walking when looking for plants. When depicting naturalists in the field, Cibo also presented them in a downward-facing position. For example, in the British Library manuscript/a, he portrays a pair of naturalists, the one completely bending towards the ground and the other grasping a plant specimen, most probably trying to uproot it (fig. 7.29). They both wear long-sleeved shirts, trousers, and a hat, while the latter

[21] 'E ♃ li 22 detto m[esser] ipolito, gasparre, et io venimo all'aluacino', reproduced in Mangani and Tomasi, "Catalogo," 136, no. 23.

also carries a sort of backpack, an appearance that bears a striking resemblance to my own clothes and accessories when venturing into the countryside. Our modern-day walk thus suggests that sixteenth-century explorers of nature also seem to be prepared for their ventures into the countryside, while they also should have been in good physical condition to endure the time-consuming activity of observation, recording and collecting the natural world.

'And in order to avoid mistakes, it is best to imitate nature and be in the countryside during spring, summer, and autumn, because in each of these seasons, it looks different'.[22] This invitation to visit the countryside as part of the 'dissegnar paesi' recipe in the *Trattato della miniatura* perhaps comes as no surprise since Cibo was involved in both activities for most of his life. Walking adds another dimension to the relationship between these two activities. The frequently mentioned letter from Bacci testifies Cibo's walking from a young age into the countryside in search of plants, which he would subsequently draw, while the notes from his now lost diary testify to Cibo's systematic ventures into the wild from 1557 to 1584. As I learned from my walks, all the bodily experiences that Cibo accumulated throughout these years of venturing into the countryside did not leave his body unchanged. He must have learned to cope better with varying types of terrain, to find a rhythm best suited for his drawing and collecting activities, and to be well-prepared for emergencies. Through the repeated action of walking and all the other sensory experiences involved, for example, listening to natural sounds, he acquired a nuanced knowledge of the natural world that left a trace in his works and notes, something that our walks tried to explore. Therefore, walking becomes a tool for acquiring knowledge at historians' disposal, an idea not far from its sixteenth-century meaning in Marcantonio Sabellico's description of Venice, where walking is a means of knowing.[23]

[22] 'E per non errare, non è senz'ottima cosa imitare il naturale e ritrovarsi in campagna alla primavera, di estate et all'autunno, perchè in queste stagioni si mostrano differentemente', reproduced in Hermens, "A Seventeenth-Century Italian Treatise," 50.
[23] De Vivo, "Walking," 119.

Conclusion

This thesis delves into the activities of Cibo laying the groundwork for a multifaceted exploration of Cibo's contributions to and interactions with early modern practices. When studying his works, one can easily grasp the interplay between art, science, and nature that characterises this period in general. A keystone to understand Cibo's work, his combination of meticulous observation with his creative expression and skills results in the transformation of natural materials into products; through his hands, living plants are transformed into dried specimens, juices extracted from plants become colourants, and places explored in real life are re-imagined into landscape compositions.

As has been suggested in numerous instances throughout the thesis, Cibo stands out for his acute observation of nature recorded on his numerous illustrations, imbued with so many details that reflect his deep understanding of the plant world. Going beyond aesthetic considerations, his plant illustrations are focused on the communication and dissemination of botanical information. His attention to the minutiae of plant morphology from the plant's texture to the vibrancy of their colours, the addition of detailed background settings often conveying the natural habitats of the depicted plants, and the use of plant juices to create a *pars pro toto* effect, indicate his commitment to observation and veracity of his creations.

Alongside his observations, Cibo also used his skills and creativity in his representations of the natural world. Through examples like the angelic presence in the illustration of wild ginger or the dynamic placement of southern bugle's roots on the page of *Erbario B*, one can grasp the multiple layers of his work imbued in his personal choices. As discussed in relation to his landscapes, Cibo also used some techniques such as the subtle gradations of colour, the application of shadows and light, and the deft marks of his pen to transform his subjects into dynamic entities encapsulating the forces of nature. This fusion of accurate representation and creativity makes Cibo's work of seminal importance.

Cibo's legacy, thus, is not just about the veracity of his plant illustrations, but highlights the broader dialogue between art and science. His activities as a 'scientist' were closely connected with his activities as an 'artist', hence, the many common points of reference between his 'artistic' and 'scientific' output, discussed throughout the thesis. In the contemporary era, his work serves as a

constant reminder that art and science can still collaborate and enhance each other through approaches that leave room for both observation and imagination.

My attempts to reconstruct historical herbarium specimens and colours, and to re-enact Cibo's walks in Rocca Contrada and the surrounding area provided further insights into Cibo's working methods. These hands-on approaches offered a unique opportunity to dive into Cibo's world and approach his practices not only through the lens of visual and textual analysis, but also through bodily engagement, which revealed facets of his work that might otherwise have been overlooked. Traditional methods of exploring the past often revolve around textual and visual sources. While these are undeniably valuable, they tend to focus more on the intellectual meaning behind early modern processes and products. Hands-on approaches thrust scholars into a completely different interaction with history, where senses and body are the main tools of exploring and understanding the past.

My own attempts to recreate and re-enact processes from the early modern period revealed nuances that can only be fully appreciated when one bodily engages with the procedures. The challenges with which people of the past grappled and the choices they made, as well as some modern-day assumptions imposed by our conventional historical practices, also came to light. Furthermore, I was able to identify gaps in our current understanding, areas where primary sources might be silent or ambiguous, creating opportunities for further research. Hands-on approaches, thus, are not about copying past practices, but about opening a dialogue on how there can be a better understanding of the past through senses and bodily experience.

For example, my research on and reconstruction of herbarium specimens brought to light some aspects of Cibo's work that were previously unexplored. First of all, the comparison between the dried specimens in the Biblioteca Angelica and his plant illustrations revealed shared characteristics that suggest the common authorship of these two projects. Apart from the authorship, their closeness suggests that the veracity of Cibo's plant illustrations is not only a product of his observation of living plants but also of his involvement in the desiccation and preservation of plant specimens, which could then serve as models for his illustrations.

Through my bodily engagement in the process of creating herbarium specimens, I gained insights into the rich tapestry of knowledge, skills, and sensory engagements that early modern practitioners must have had. When venturing into the wild, they were not just seeking any plant; they were on a quest for specific specimens that would meet their precise requirements. Each venture into the field required knowledge of morphology, habitat, blooming seasons, and potential uses of plants. The thrill of discovery is recorded in many instances by Cibo, who in many occasions

writes about his encounters with a specific plant species. When collecting, one should be gentle and follow a careful procedure so as to not damage the specimen. The act of uprooting offers a wealth of information regarding the plant's morphology (especially its roots), natural habitat and the relationships developed with its surrounding flora.

Once collected, the specimens don't keep their vitality for long. This is a challenge that early modern practitioners must have also faced. Even when dried, specimens undergo gradual changes, especially changes in their colour. The historical approach to this problem was innovative, with replacements of petals or additions of notes about colour when judged necessary. My own specimens also underwent this change. However, my experimentation with different kinds of papers showed that the paper used in the procedure (at least the two different types used) did not affect the colour preservation. When comparing my dried specimens of pink-yellow and purple-yellow common snapdragons, one can easily grasp the difference in their colour preservation, with the latter's petals preserving their colour to a much greater degree, suggesting, perhaps, that their original colours have different peculiarities.

This brings us back to the knowledge that early modern practitioners must have possessed about each specimen's unique properties. Although I followed Aldrovandi's advice of letting the specimens dry for fifteen days, some plants, being more humid, likely have needed longer drying times, while other more delicate plants required shorter times. The weight applied on top, which should be adequate enough to extract the moisture but without damaging the specimen, is another variant that could have been negotiated on a case-by-case basis by early modern practitioners. Although I stuck to the early modern instructions concerning time and weight, the variation in techniques and materials that were available at that time should also be kept in mind, especially since Cibo refers to the bulkiness as a characteristic that hinders desiccation in his letter to his brother. Early modern practitioners, thus, were probably adjusting and perfecting the technique based on their feel of specimens and their bodily experience in general.

Although not always the case, the dried specimens were often affixed on sheets, forming part of a herbarium collection. The affixation of my dried specimens revealed some challenges as well as some necessary steps taken by early modern practitioners, which are not discussed in the primary sources or contemporary research on the topic. In particular, early modern practitioners must have planned ahead the affixation of specimens onto a herbarium by taking into consideration the number of specimens needed, the plant parts to be included, and the interventions required before the actual pressing of specimens so as to have the intended appearance after desiccation. The particularities concerning the size and number of specimens, as well as the criteria of selection

of plant parts came into light only after my personal involvement with the process. In addition, my own reconstructions revealed Cibo's mastery of handling specimens and revealing their inner structure with precise incisions, as well as his lack of experience in some other parts of the procedure concerning the mounting on sheets, a more recently introduced technique compared to their collection and preservation.

Ultimately, my hands-on approach to early modern herbaria underscored the role of planning, expertise and skills that went into creating these collections. *Erbario A* and *Erbario B* were not simply repositories of dried plants, but carefully curated spaces where each specimen can tell a story and each page can speak of the practitioner's choices and vision. My own engagement offered a more comprehensive understanding of the nuances of the procedure and speaks to the early modern practitioners' skills perfected through bodily engagement with materials and processes.

Cibo's engagement with colours, whether in printed images or his own compositions, forms a significant aspect of his work. His expertise in the creation of plant-based colourants reflects his deep interest in the natural history studies, two fields that were not that far apart in the early modern mind, since colourants often included natural substances derived from plants, animals, minerals and other substances originated in nature. Thus, Cibo's exploration of colours is interwoven with his study and interest in natural history, and this was the case for other early modern individuals as well, like for example, Aldrovandi.

Cibo was an active member of a network of early modern intellectuals, each having their own ideas about the utility of images and their colouration. Through the study of his work and notes, it is evident that Cibo believed in the usefulness of images and the colouration of plant illustrations, ideas that were shared with other intellectuals as well. Cibo's experimentation with plant-based colourants suggests an effort to achieve the best possible visual effects for his representations and resonates well with this belief that plant images could help in the dissemination of knowledge about nature. Taking this hypothesis a step further, Cibo's use of plant-based colourants to record the appearance of plants could be aimed at having a *pars pro toto* function, where a portion of an object is taken to represent its entirety. Although this is an inconclusive hypothesis, my research underlined the emphasis on plant-based colourants in Cibo's practice, opening a dialogue on whether was this is something that can relate to the general trends concerning the production of natural history images at that time.

Cibo's mastery in the creation and handling of colourants is manifested throughout his oeuvre; his writings, the numerous colour tests and the outstanding colouration of his illustrations demonstrate the meticulousness with which Cibo treated colours. Through my reconstruction of two

of his recipes, I was able to delve more into his material world and understand better the possibilities, challenges, and skills required to achieve the desired results. The most unexpected finding of these reconstructions was the colour change of the concoction based on buckthorn fruits from a red wine-looking to a green colour due to a chemical reaction with the paper's chemical contents. This occurrence clearly demonstrated the interaction between colourants and supports, how the appearance of a colour can change when applied on different sorts of paper, and that paper sheets are not a passive support, as they have often been perceived. The complexities surrounding the creation and handling of colourants highlighted the intricate knowledge early modern people must have possessed regarding the materials they used and their properties. The differences and variations in the pH of paper affecting the appearance of the concoction coming from the juice of buckthorn fruits, might also explain why there were some complaints expressed in the primary sources in regards to this colourant.

Cibo's legacy concerns the materiality of his compositions. My own study of his notes, colour tests and illustrations, together with the reconstructions of colours, offer insights into his meticulous efforts to understand his materials and master the knowledge of their properties, so as to be able to manipulate them better and reach the desired results. Through his work, we are reminded of the deep knowledge that early modern artists should have possessed regarding their materials and tools, and how these interacted with each other, a knowledge that came from continuous experimentation and relentless curiosity.

Cibo's landscapes equally played an important role in his exploration of the natural world. Beyond their interpretation as simple decorative elements, they can be understood as reflections of Cibo's deeper connection to his surroundings. The reference within his writings, where he recalls a particular landscape that he made and then gifted, as well as the compliments on his landscape compositions, notably from the famous naturalist Mattioli, suggest their importance not only for Cibo but for the members of his network as well. His intervention to Liberale's landscape composition in the Alessandrina copy of Mattioli's treatise hints at Cibo's deeper motivations than just aiming at an aesthetic appreciation of his works.

Furthermore, the lack of any preserved painting by him suggests that his numerous landscape drawings did not have the role of mere preparations for an artistic project. Given the precision and recurrence of subjects such as rocks, it is evident that these were not random studies, but subjects of specific interest to Cibo, something that ties back to his general interest in natural history and collection of naturalia. His drawings could, thus, be interpreted as part of his attempt to understand and capture the underlying forces of nature.

The rise of landscape art as an independent genre at that time, calls attention to the recurring theme of the relationship between art and science; it also generates questions related to the influence that the practice of Cibo (and other naturalists) to observe and interact with the plant habitats possibly exerted on the landscape's development as an independent art form. Cibo's integration of landscapes in his plant illustrations is innovative and contributes to the dissemination of knowledge concerning the depicted plants, often accurately recording their natural habitat or portraying how their living counterparts appear into the wild. Contrary to the common trends of his time, Cibo, by integrating landscapes into his plant illustrations, provides a rich contextual framework for his portrayed plants. In the foreground, the specimen is depicted with intricate detail, revealing its anatomy and features. In the background, when a landscape is shown, a broader ecological and sometimes socio-cultural context is evoked. Together, they create illustrations with multi-layered narratives and meanings.

The co-existence of enlarged plants with their smaller versions depicted in the background shows viewers how they appear in the real world, making it, thus, easier to be identified. However, Cibo's insistence on adding landscapes can also be an underlying statement about the interconnectedness of life and its environment. By placing plants within landscapes, he depicts them as parts of the cosmos, emphasising the symbiotic relationship between flora and its surroundings. A product of their environment, plants are shaped by factors like soil quality, sunlight, moisture levels, and interaction with other organisms. By embedding his portrayed plants within landscapes, Cibo tacitly points to this ecological web. Therefore, viewers can have a deeper understanding of the plant, allowing botanists and enthusiasts alike to grasp the get a holistic view of a plant than just its anatomy.

The landscapes in Cibo's plant illustrations (and in some of his drawings) also hint at human interactions with the environment. Fields, trails, and portrayed figures tell stories that draw on ordinary experiences and things familiar to the early modern people of Rocca Contrada. These subtle cues point towards ethnobotany, offering insights into how local communities might have utilised and interacted with certain plants. Personal stories also find their way in Cibo's landscape compositions, with depicted narratives such as the killing of a snake to probably originate in real life events. These elements made Cibo's plant illustrations more appealing not just to naturalists but to non-experts as well, allowing a broader audience to appreciate and engage with them.

Cibo's innovative amalgamation of landscapes with botanical images paved the way for future artists, like Garzoni, to depart from the usual way of depicting plant specimens and explore different directions on the portrayal of plants. By combining landscapes and plant images, Cibo

emphasised the critical role of context in understanding nature. Today, as we grapple with pressing environmental challenges, Cibo's approach to nature is a reminder of the delicate balance between organisms and their habitats, urging us to view nature as a harmonious whole.

My experience of walking in the streets and countryside of Arcevia brought many nuances of Cibo's own practices into the fore. Through my walks, the effect that various factors can have in how someone experiences landscape became evident. Weather, companionship, preparation and emergencies are some of these factors that can tremendously change the course of a walk. Landscape itself can impose challenges on the exploration of an area. For example, Arcevia's hilly terrain trains pedestrians to cope better with this type of land, and find a suitable rhythm to explore the town and its surroundings according to their needs. Early modern habitats of Rocca Contrada also experienced the same hilly terrain. As for Cibo, his many ventures into the countryside from a young age and his numerous expeditions in other areas as well surely did not leave his body unchanged, but moulded it into an experienced body that is trained to cope better with the various types of land and the related difficulties. Apart from the natural elements of a landscape, manmade constructions are also important for pedestrians, imposing a specific route, taking the role of a shelter or simply being points of reference, conditions that are applicable to both early modern and modern-day explorers.

My walks into Arcevia and its surrounding area also contribute to the study of Cibo's landscapes from a new perspective. Rocca Contrada's scenery, with its 'Belveder' spot, is unlikely to left Cibo unimpressed. It is probable, thus, that his landscape compositions, often including open vistas, were inspired from this outstanding view of the valley with the fields below Rocca Contrada. His ventures into the wild should have also impacted the way he perceived and portrayed landscapes. The opportunity to experience Arcevia and its surroundings myself, revealed aspects of Cibo's own sensory world, like, for example, the hearing of some natural sounds, that surely left a trace in his works.

Based on the similarities in the conditions of walking through twenty-first Arcevia and sixteenth-century Rocca Contrada, it was possible to make new observations about connections with Cibo's portrayed figures. In his drawings, figures are frequently depicted carrying a walking stick, a motif that is known to have symbolic meaning. However, the re-enactment of Cibo's walks suggested that this could well have been used as an aiding tool to navigate hard-to-walk terrains. Furthermore, Cibo depicts the often-recurring figure of a naturalist wearing long-sleeved shirts, trousers, a hat, carrying a backpack, sometimes alone, sometimes in pairs, often looking downwards

in search of plants and always engaging with the depicted natural world, conditions that are all relatable to my own walking experience.

The broader narrative of the thesis, as reflected in the chapters, unravels Cibo's lifelong exploration of nature and endeavour to encapsulate his views of the natural world in his works. Deeply rooted in observation but also based on his creative skills, Cibo's oeuvre straddles the boundaries of art and science, offering insights into the ways naturalists of the period tried to explore nature and making important contributions to both fields of natural science and art. Exploring Cibo's techniques and working methods invites a more profound appreciation of the early modern era's interplay between nature, art, and science, and how these were integrated into the creation of Cibo's diverse but harmonious oeuvre. A rare example of an individual who was competent in both natural history and drawing, his work still remains relevant today.

Offering a deep-dive into Cibo's methods and significance, my research also uncovered some potential avenues for future research. First of all, the comparison of dried specimens with plant illustrations brought their interconnectedness into the fore, something that can also be relatable to other early modern collections as well. If that proves to be the case, then, the hypothesis that dried specimens were reference points for early modern plant illustrations will be established on a more solid base. In regards to Cibo's colour palette, although there are theoretical studies of the colours he used, there is a very limited number of technical analyses of specific illustrations. If more technical analyses are conducted, then a better idea of the colourants he used will be gained. This could further support or dismiss the hypothesis of a connection between the plant-based colourants and the subject matter (namely the depicted plants), and the relevance of their use in the early modern production of natural history images. It is only in recent scholarship where the relationship of early modern natural science and ideas of landscape are examined with the publication of Oettinger making a ground-breaking contribution into this issue. My examination of Cibo's landscapes as tools for studying nature, touched upon this strong connection between practices belonging to the field of early modern natural history and landscape art.

In regards to the parts of the thesis that follow performative methodologies, the reconstructions of herbaria specimens and colours gave a fresh perspective on the study of Cibo's works. However, as also discussed in the respective chapters, there were many limitations on my research with the most important being time. Testing more variables in the future will help in understanding even better these practices and reveal more insights into the technical aspects of these collections. As for my re-enactment of Cibo's walks, the application of walking as a methodological tool for the exploration of past sensory worlds is a method not yet established in the

field of art history, but one that can offer exciting possibilities. Therefore, this is an area that future research could further explore, a tool of study that has the potential to enrich the narrative of early modern history.

In the realm of understanding historical figures like Cibo, interdisciplinary study proves to be very illuminating. The intersection of art, botany, history, and even chemistry in Cibo's work underscores the interconnectedness of different fields of knowledge. By adopting an interdisciplinary approach, one gains a more holistic and nuanced understanding of such figures, appreciating the depth and breadth of their contributions beyond conventional disciplinary boundaries. Cibo's legacy, encapsulated through his works, is a prime example of how blending diverse disciplines can lead to a more comprehensive and profound appreciation of historical contributions. It highlights the patterns and connections that might otherwise remain obscured, fostering a deeper engagement with the past and a richer understanding of human knowledge and creativity.

In conclusion, this thesis has illuminated the remarkable contributions of Cibo to the world of early modern natural history and art, revealing his unique ability to blend meticulous scientific observation with creative artistry. Through a comprehensive analysis of his work and a hands-on approach in recreating some of his techniques, unprecedented insights into his methodologies, his interpretation of landscapes and plant illustrations, and his innovative use of colour have been brought into the fore. Cibo's legacy, as showcased in this study, transcends the boundaries of traditional plant illustration, offering a nuanced perspective on the interplay between natural science and artistic expression in the early modern era. Thus, Gherardo Cibo emerges not merely as an artist and a naturalist, but as a pivotal figure who left an indelible mark on the history of both art and science and whose work can also serve as a foundational reference for future research in the intersection of these two fields.

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Illustrations

The illustrations cannot be reproduced.

Fig. 0. 1 Gherardo Cibo, *page from Add MS 22332 showing Cruciata laevipes (crossword)*, folio 131r, 16th century C.E., British Library, London.

Fig. 1. 1 Gherardo Cibo, *Horse head after Leonardo*, 1526–1527 C.E., pen and ink, Biblioteca Civica “Passionei”, Fossombrone (inv. no. Disegni vol. 4, c. 56).

Fig. 1. 2 Gherardo Cibo, *Horse head*, 16th century C.E., pen and ink, Biblioteca Civica "Passionei", Fossombrone (inv. no. Disegni vol. 4, c. 56a).

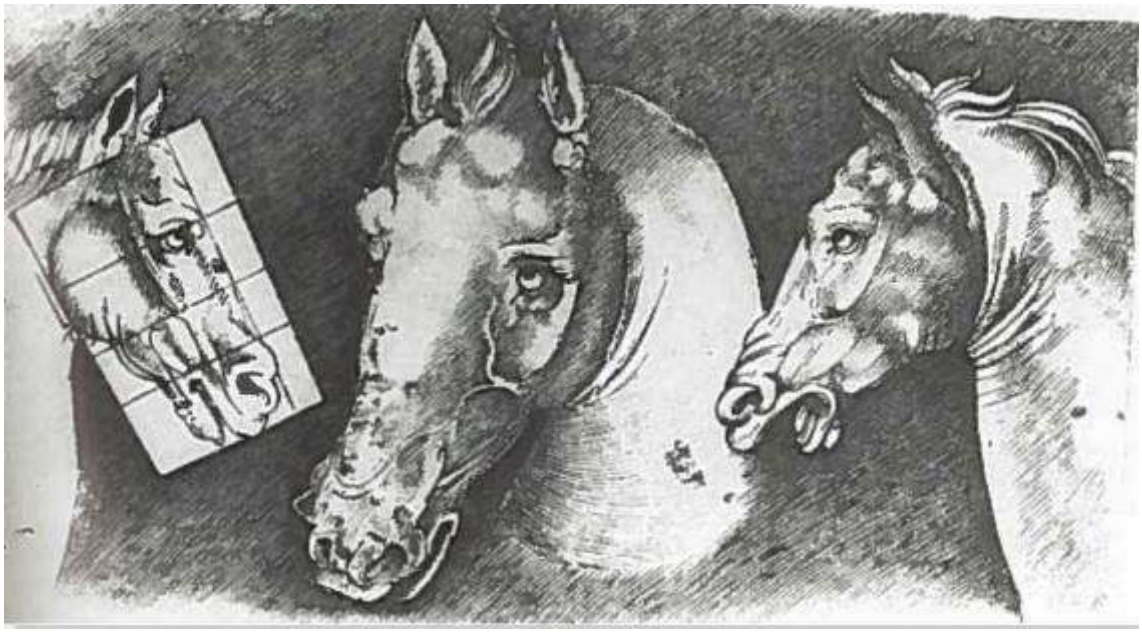


Fig. 1. 3 After Giovanni Antonio da Brescia, *Three horse heads after Leonardo da Vinci*, 16th century C.E., engraving, The Metropolitan Museum of Art, New York [inv. no. 47.79.1(2)].

Fig. 1. 4 Gherardo Cibo, *page from Add MS 22332 showing Iris germanica (bearded iris)*, folio 148r, 16th century C.E., British Library, London.

Fig. 1. 5 Gherardo Cibo, *detail of page from TT.8.11 showing Iris germanica (bearded iris)*, page 5, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 1. 6 Gherardo Cibo, *page from SS.15.15 showing 'Sanicula'*, page 490, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 1. 7 Gherardo Cibo, *detail of page from SS.15.16 showing 'Mosco marino'*, page 717, 16th century C.E., Biblioteca Angelica, Rome.

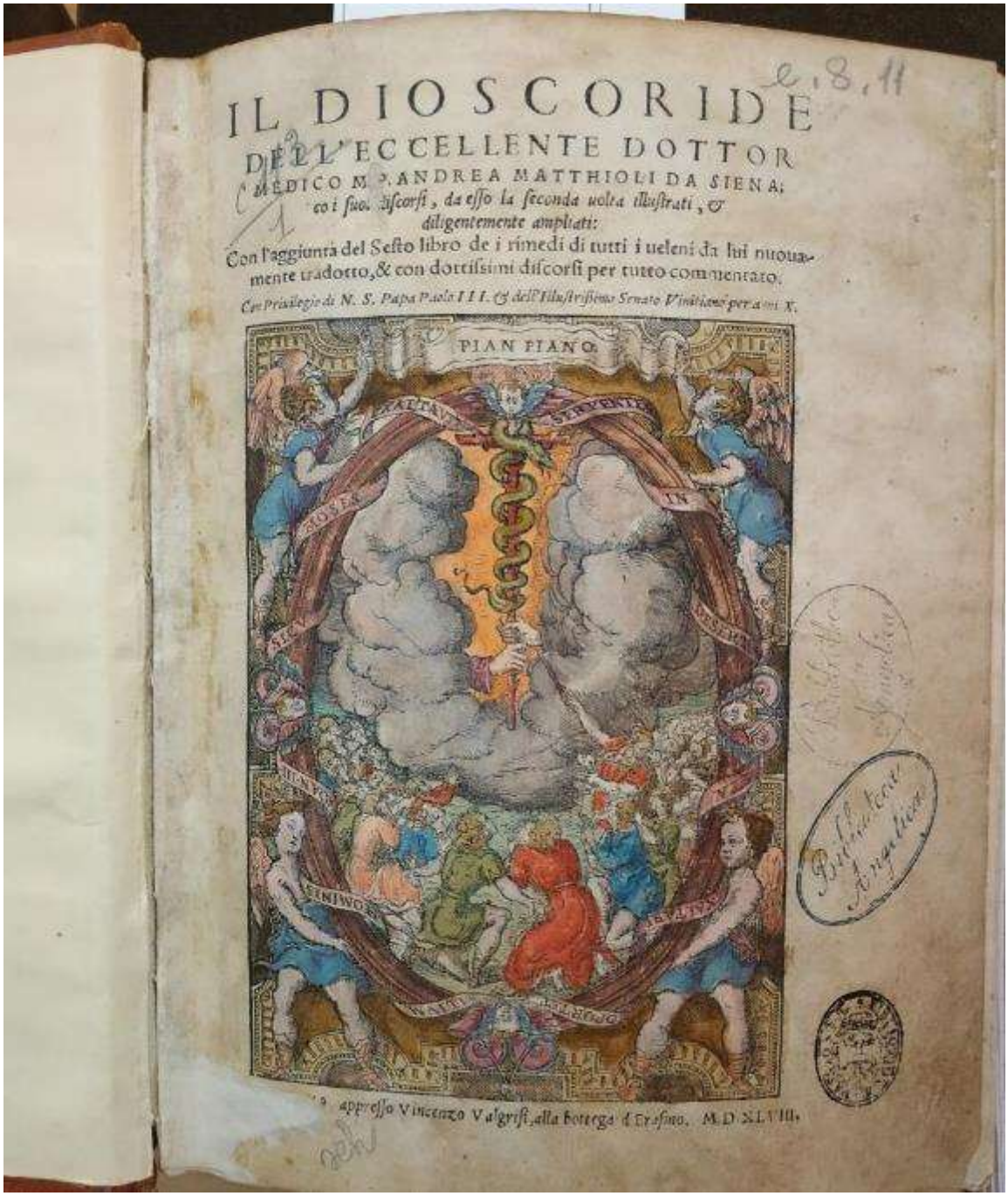
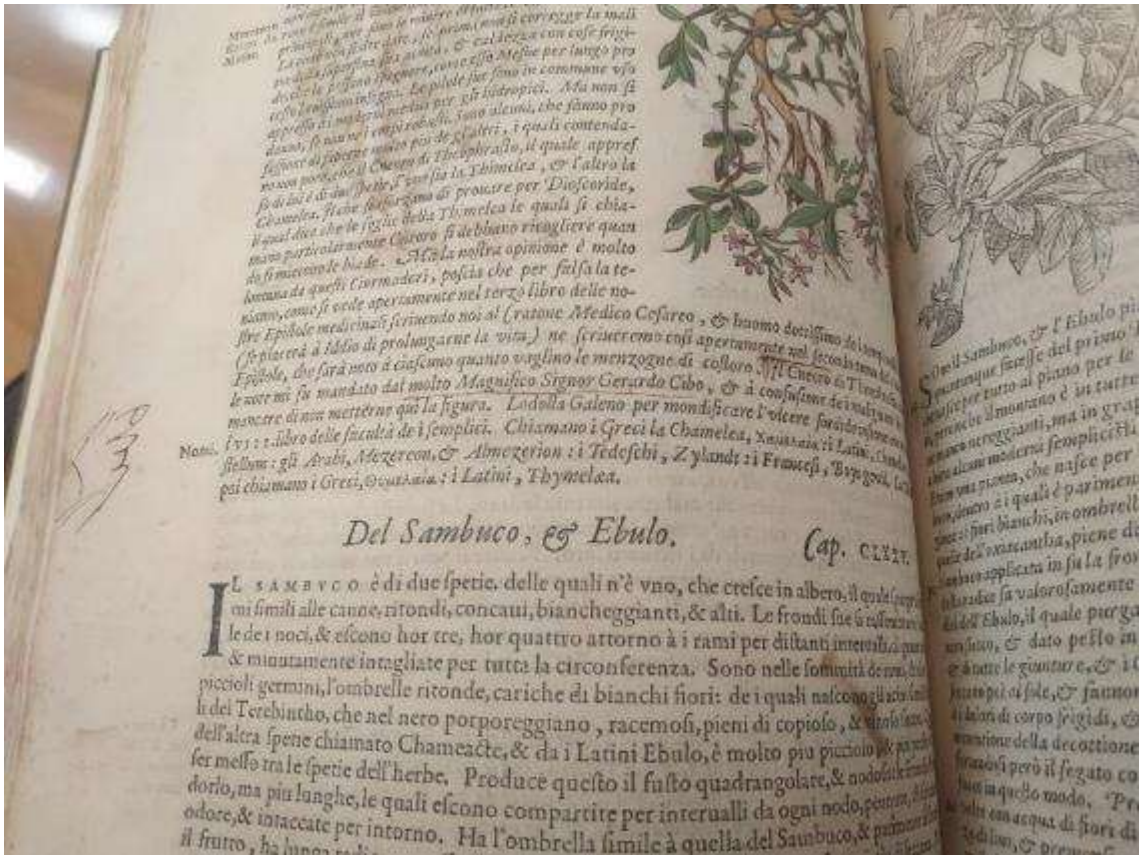


Fig. 1. 8 Gherardo Cibo, *page from TT.8.11*, frontispiece, 16th century C.E., Biblioteca Angelica, Rome.



Del Sambuco, & Ebulo. Cap. CLXXX.

Fig. 1. 9 Gherardo Cibo, *detail of page from SS.15.16*, page 788, 16th century C.E., Biblioteca Angelica, Rome.

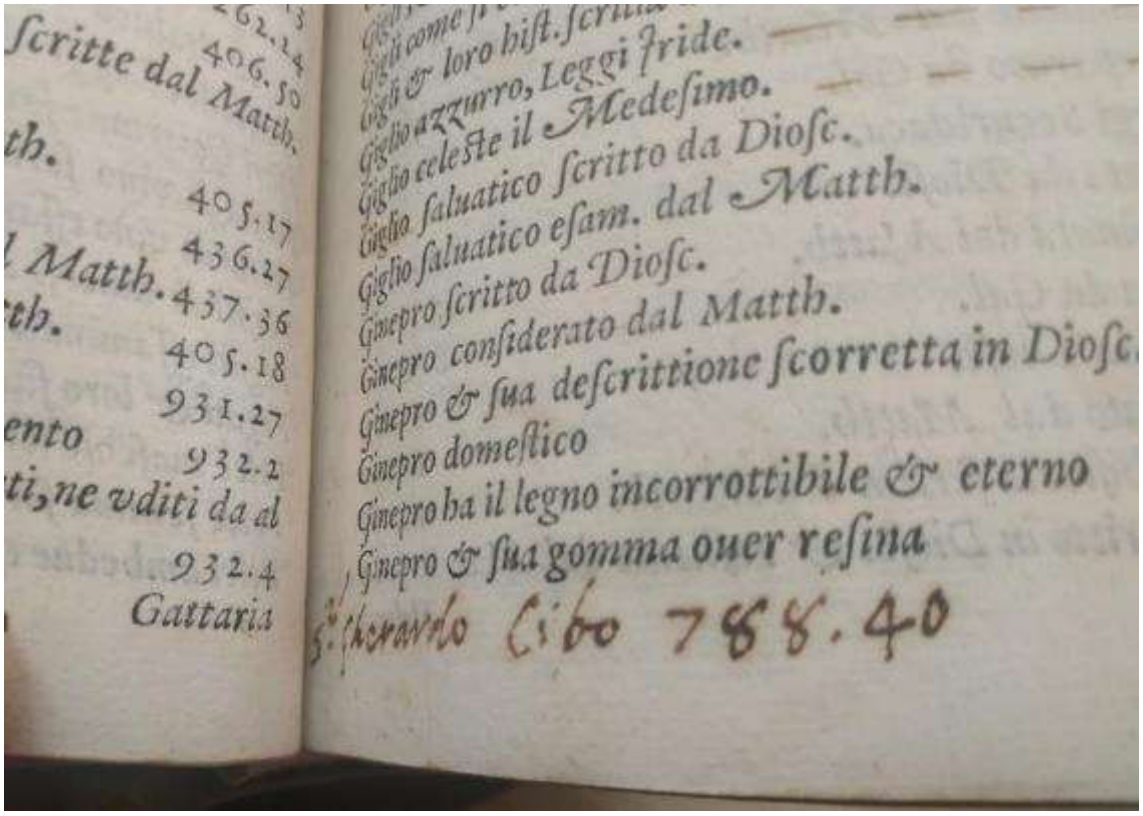


Fig. 1. 10 Gherardo Cibo, *detail of page from SS.15.16*, table of contents, 16th century C.E., Biblioteca Angelica, Rome.

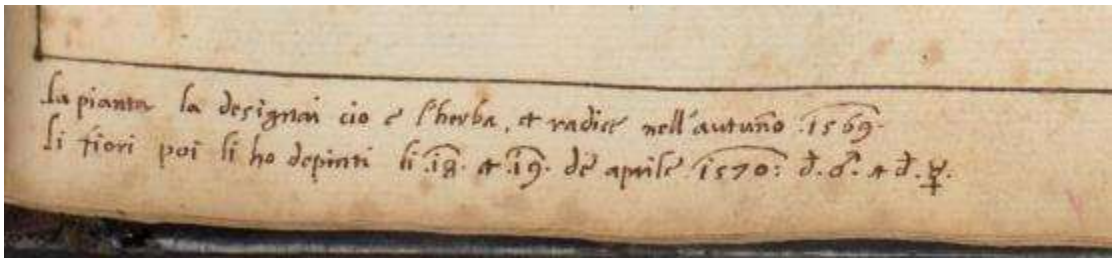


Fig. 2. 1 Gherardo Cibo, *detail of page from Add MS 22333,* folio 36r, 16th century C.E., British Library, London.

Fig. 2. 2 Gherardo Cibo, *page from Add MS 22332 showing Origanum vulgare (oregano),* folio 130r, 16th century C.E., British Library, London.

Fig. 2. 3 Gherardo Cibo, *page from Add MS 22332 showing Euphorbia paralias (sea spurge),* folio 155r, 16th century C.E., British Library, London.

Fig. 2. 4 *Page from Erbario B showing Euphorbia paralias (sea spurge),* vol. 4, folio 146r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 5 Gherardo Cibo, *page from Add MS 22332 showing Saponaria officinalis (soapwort),* folio 164r, 16th century C.E., British Library, London.

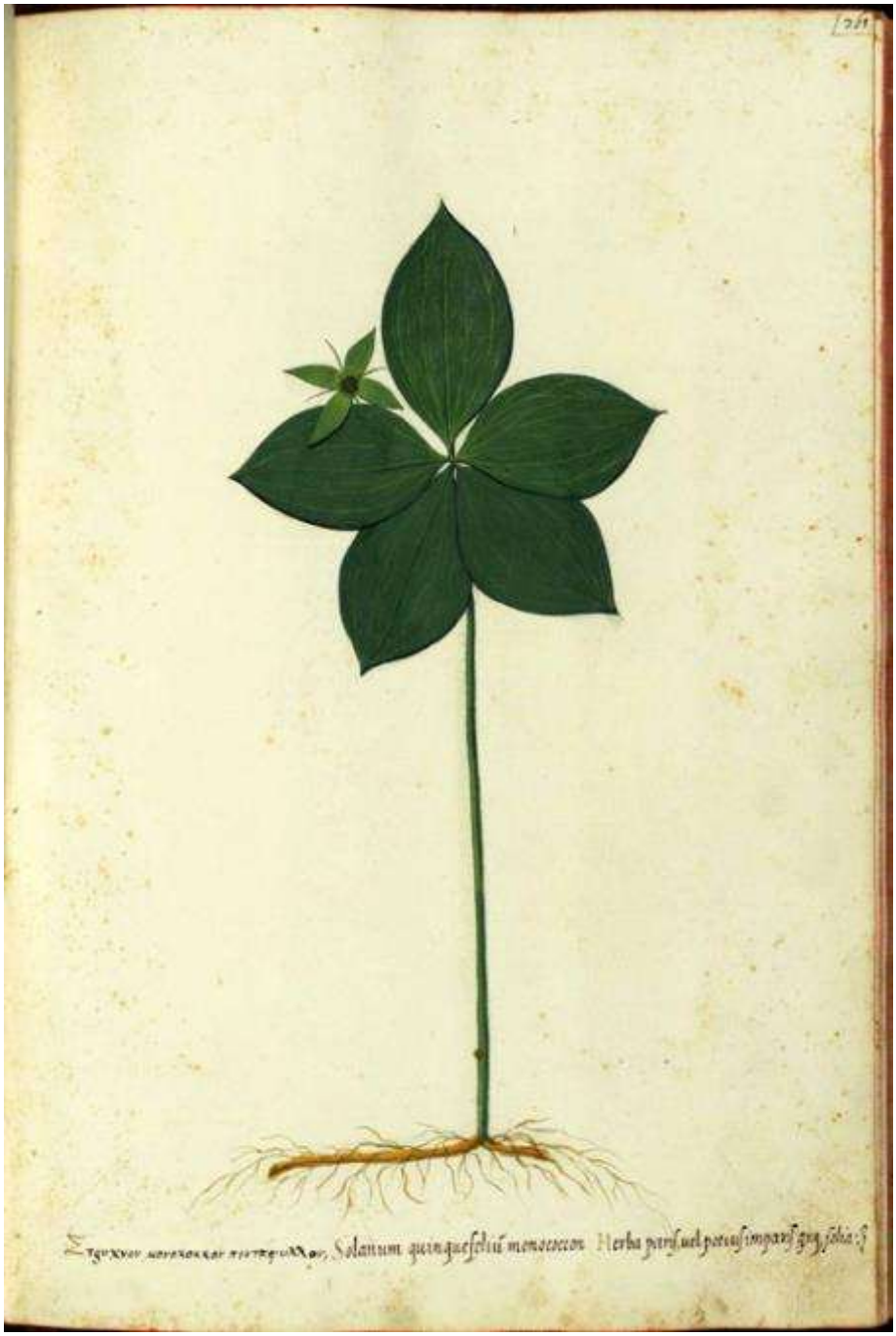


Fig. 2. 6 *Page from Tavole acquerellate showing Paris quadrifolia (true lover's knot),* folio 265r, 16th century C.E., Biblioteca Universitaria di Bologna, Bologna.

Fig. 2. 7 Gherardo Cibo, *page from SS.15.16 showing a plant belonging to the genus Dryopteris*, page 803, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 8 *Page from Erbario A showing Gossypium herbaceum (Levant cotton),* folio 176r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 9 *Page from Erbario A showing Saccharum officinarum (sugarcane),* folio 287r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 10 *Page from Erbario A showing Zea mays (maize),* folio 180r, 16th century C.E., Biblioteca Angelica, Rome.

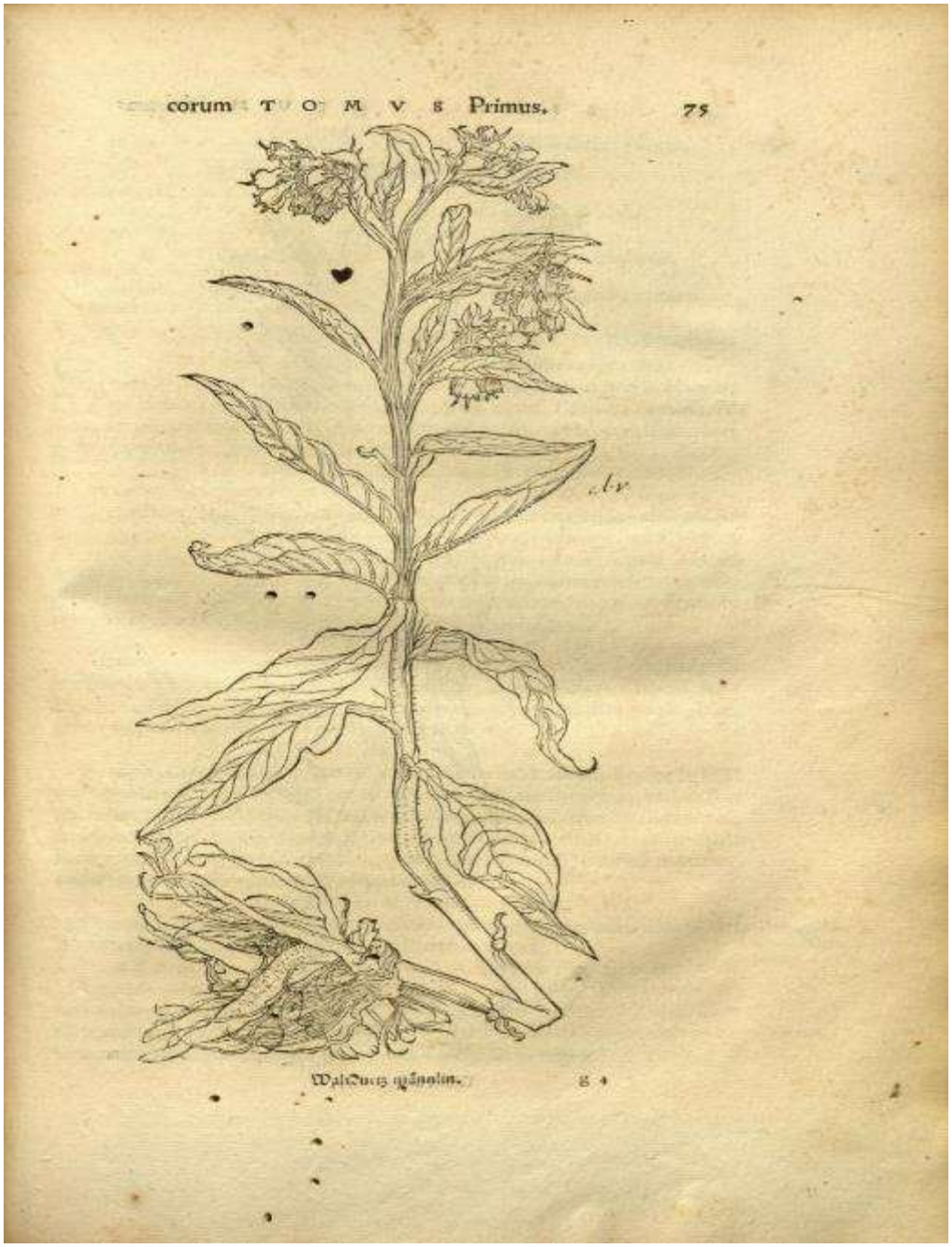


Fig. 2. 11 Hans Weiditz, *page from Herbarum vivae eicones […] showing Symphytum officinale (common comfrey),* Tomus Primus, page 75, 1532 C.E., digitised copy from the Missouri Botanical Garden, St. Louis.

Fig. 2. 12 *Detail of page from Erbario A showing Arabis turrita*, folio 70r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 13 *Detail of page from Erbario A showing Cynodon dactylon (Bermuda grass),* folio 203r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 14 *Detail of page from Erbario A showing Gentiana acaulis (stemless gentian)*, folio 17r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 15 *Detail of page from Erbario A showing Campanula medium (Canterbury bells),* folio 31r, 16th century C.E., Biblioteca Angelica, Rome.

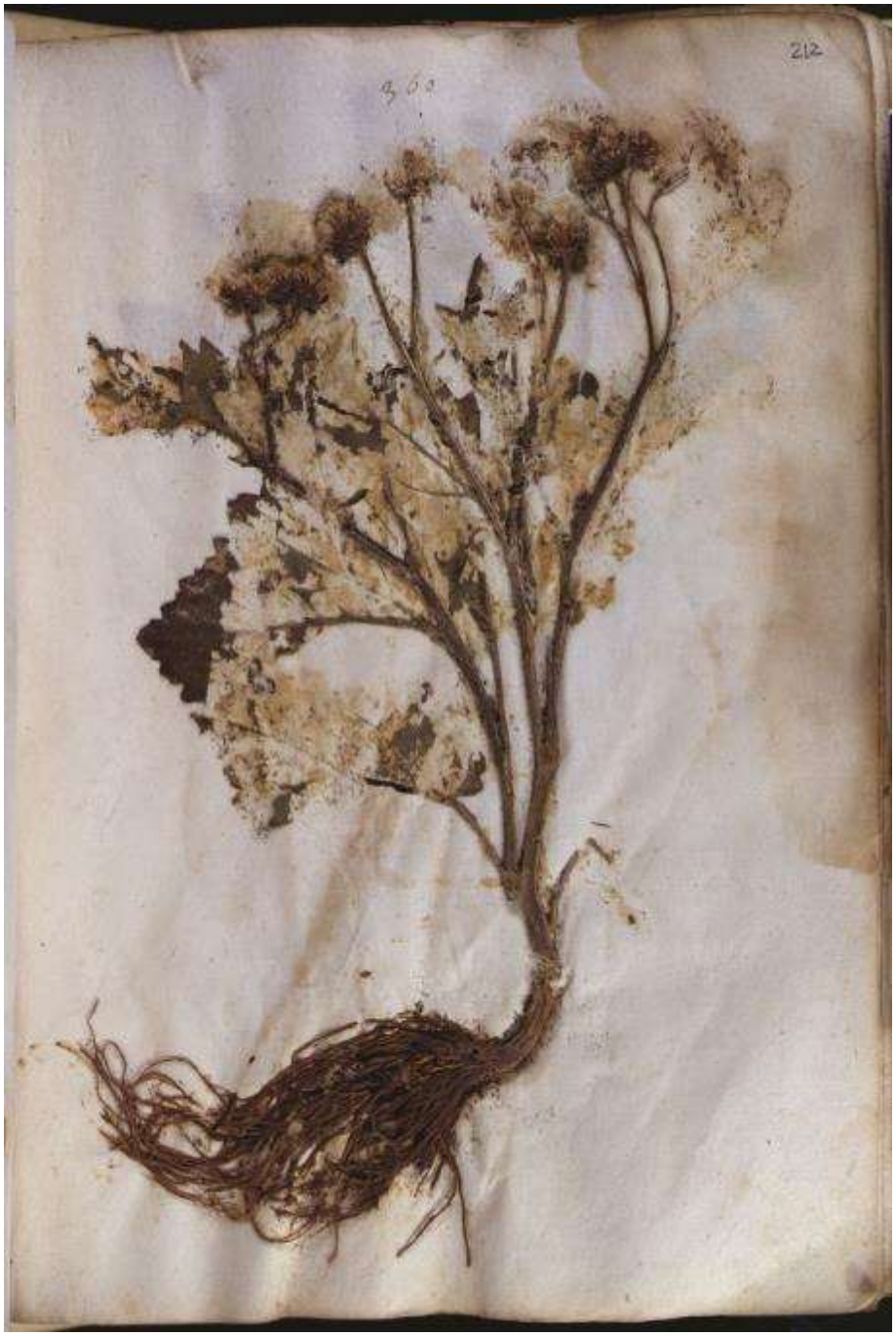


Fig. 2. 16 *Page from Erbario A showing Senecio alpinus*, folio 212r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 17 *Page from Felix Platter's herbarium showing Campanula rapunculus (rampion bellflower),* vol. 3, folio 91r, 1552–1614 C.E., Burgerbibliothek Bern, Bern.

Fig. 2. 18 Gherardo Cibo, *page from Add MS 22332 showing Asarum europaeum (European wild ginger),* folio 92r, 16th century C.E., British Library, London.

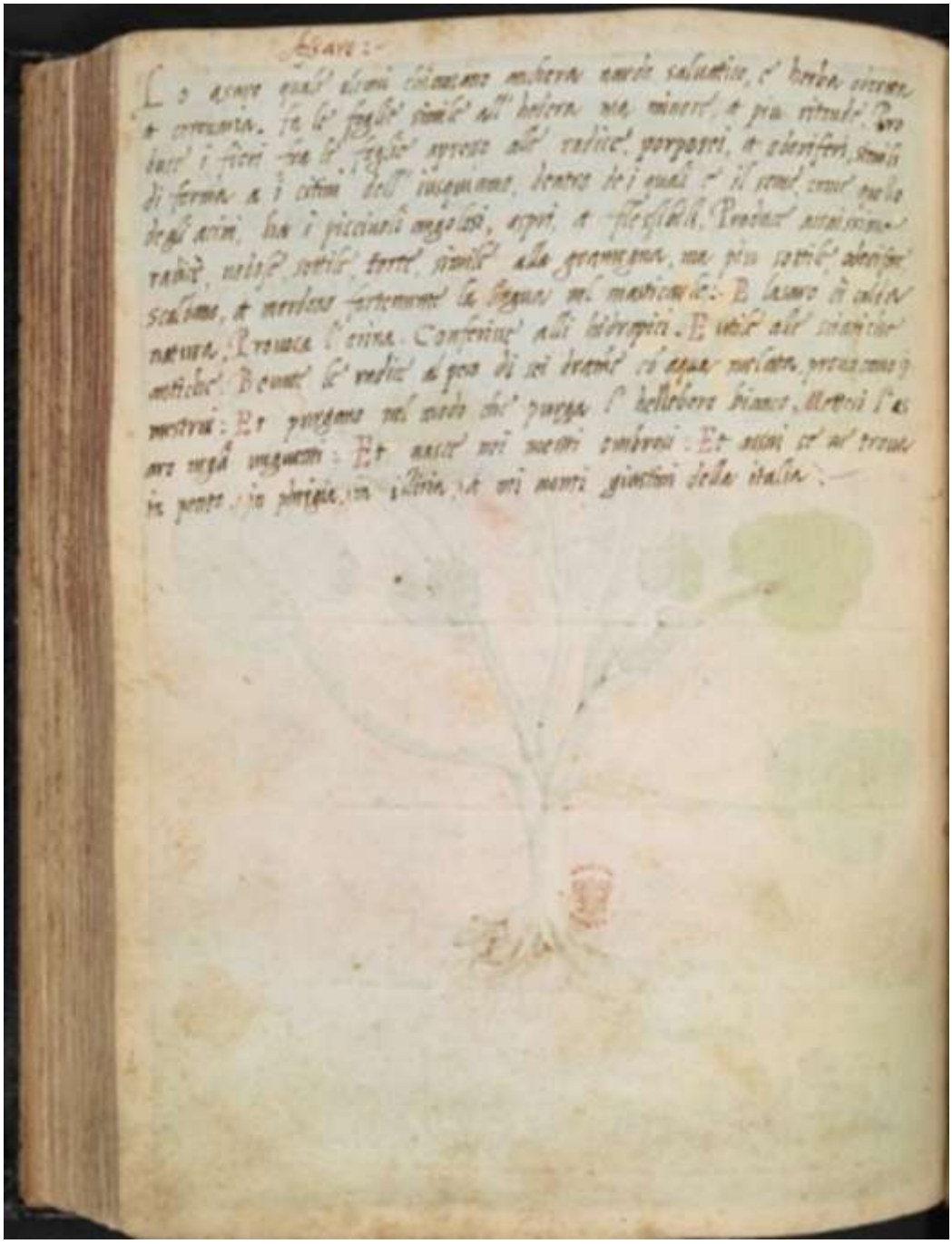


Fig. 2. 19 Gherardo Cibo, *page from Add MS 22332 discussing about Asarum europaeum (European wild ginger),* folio 91v, 16th century C.E., British Library, London.

Fig. 2. 20 *Page from Erbario A showing Asarum europaeum (European wild ginger) and Phalaris canariensis (canary grass),* folio 158r, 16th century C.E., Biblioteca Angelica, Rome.

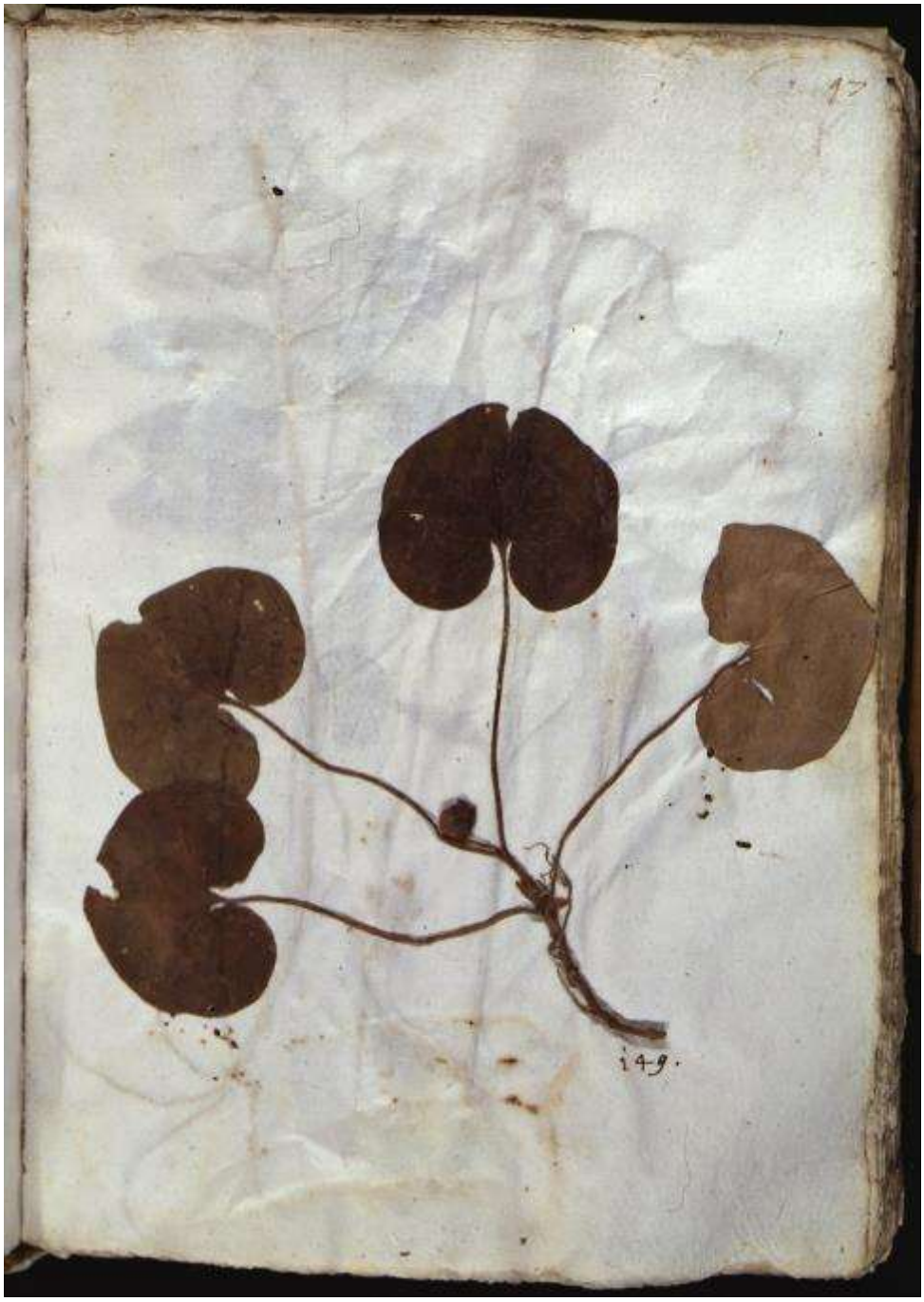


Fig. 2. 21 *Page from Erbario B showing Asarum europaeum (European wild ginger),* vol. 1, folio 97r, 16th century C.E., Biblioteca Angelica, Rome.

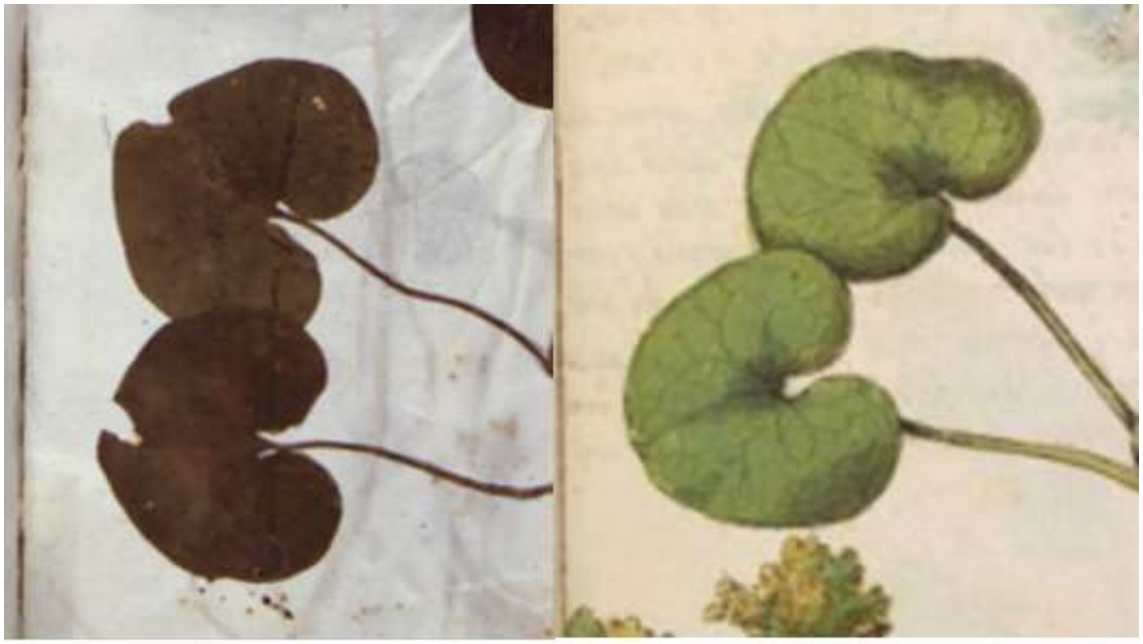


Fig. 2. 22

On the left: *Detail of page from Erbario B*, vol. 1, folio 97r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *detail of page from Add MS 22332*, folio 92r, 16th century C.E., British Library, London.

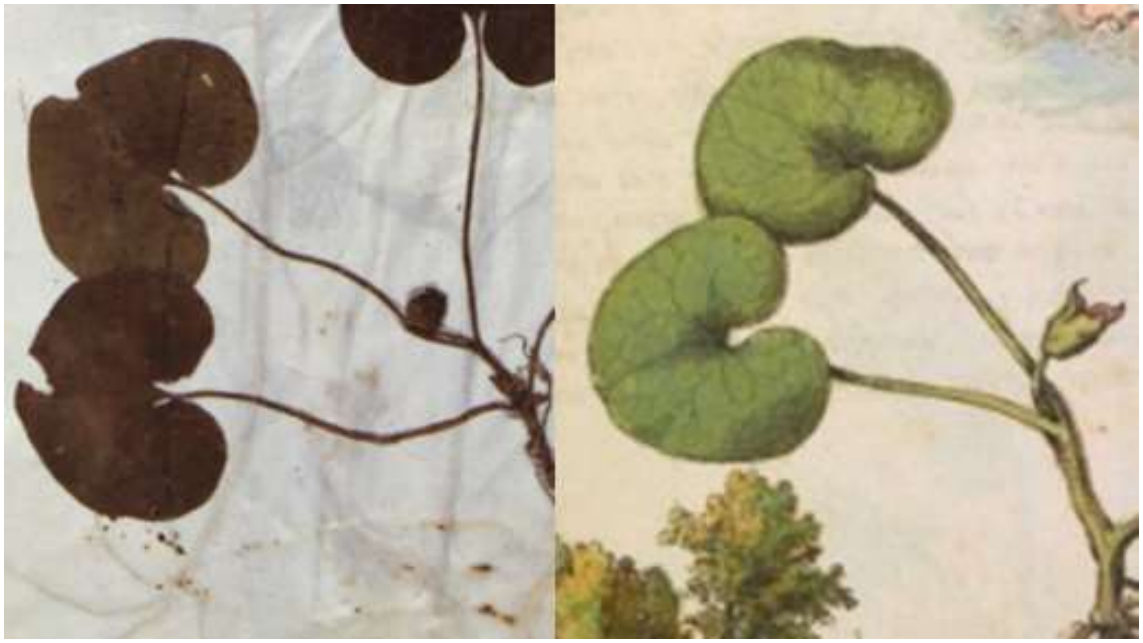


Fig. 2. 23

On the left: *Detail of page from Erbario B*, vol. 1, folio 97r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *detail of page from Add MS 22332*, folio 92r, 16th century C.E., British Library, London.

Fig. 2. 24

On the left: *Detail of page from Erbario B*, vol. 1, folio 97r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *detail of page from Add MS 22332*, folio 92r, 16th century C.E., British Library, London.

Fig. 2. 25

On the left: *Page from Erbario B showing Crocus sativus (saffron crocus)*, vol. 2, folio 19r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *page from Add MS 22333 showing Crocus sativus (saffron crocus)*, folio 39r, 16th century C.E., British Library, London.

Fig. 2. 26

On the left: *Page from Erbario B showing Colchicum autumnale (meadow saffron)*, vol. 1, folio 229r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *page from Add MS 22332 showing Colchicum autumnale (meadow saffron)*, folio 22r, 16th century C.E., British Library, London.

Fig. 2. 27

On the left: *Page from Erbario B showing Pilosella officinarum (mouse-ear hawkweed) and Picea abies (European spruce)*, vol. 3, folio 198r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *page from Add MS 22332 showing Pilosella officinarum (mouse-ear hawkweed)*, folio 138r, 16th century C.E., British Library, London.

Fig. 2. 28 *Page from Erbario B showing Ajuga iva (southern bugle),* vol. 1, folio 196r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 2. 29 Gherardo Cibo, *page from Add MS 22332 showing Phyllitis sagittata (tongue fern),* folio 143r, 16th century C.E., British Library, London.

Fig. 2. 30

On the left: *Page from Erbario B showing Anagallis arvensis (scarlet pimpernel),* vol. 1, folio 47r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *page from Add MS 22332 showing Anagallis arvensis (scarlet pimpernel)*, folio 74r, 16th century C.E., British Library, London.

Fig. 2. 31

On the left: *Detail of page from Erbario A showing a plant belonging to the genus Fragaria*, folio 19r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *detail of page from Add MS 22332 showing Fragaria vesca (wild strawberry)*, folio 82r, 16th century C.E., British Library, London.

Fig. 2. 32

On the left: *page from Erbario B showing 'Saxifrag.'*, vol. 4, folio 80r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *page from Add MS 22332 showing 'Sassifragia'*, folio 101r, 16th century C.E., British Library, London.

Fig. 2. 33

On the left: *Page from Erbario B showing a plant belonging to the genus Lunaria (honesty)*, vol. 3, folio 34r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *detail of page from Add MS 22332 showing Lunaria rediviva (perennial honesty)*, folio 124r, 16th century C.E., British Library, London.

Fig. 2. 34 *Page from Libri Picturati showing Lunaria annua (annual honesty)*, vol. A25, folio 8r, c.1560s C.E., Jagiellońska Biblioteka Cyfrowa, Kraków.

Fig. 2. 35 Hans Weiditz, *Page from Herbarum vivae eicones showing Arctium lappa (greater burdock),* Tomus Secundus, page 61, 1532 C.E., digitised copy from the Missouri Botanical Garden, St. Louis.

Fig. 2. 36

On the left: *Page from Erbario B showing two plants belonging to the genus Lithospermum*, vol. 3, folio 21r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: Gherardo Cibo, *page from Add MS 22332 showing Lithospermum officinale (common gromwell)*, folio 62r, 16th century C.E., British Library, London.

Fig. 2. 37 Gherardo Cibo, *detail of page from Add MS 22332 showing Helianthemum nummularium (common rock-rose),* folio 55r, 16th century C.E., British Library, London.

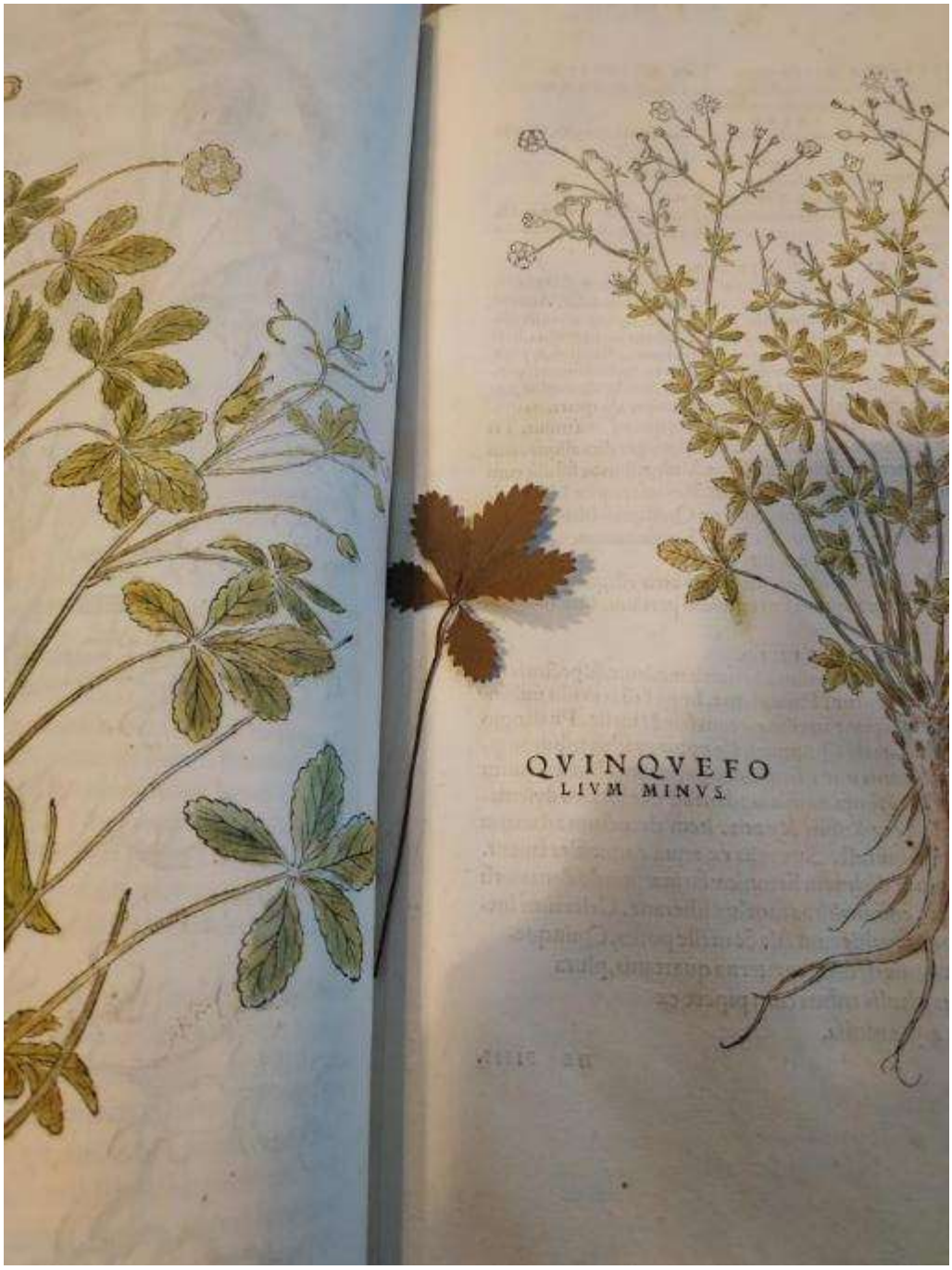


Fig. 3. 1 *Detail of page from De historia stirpium commentarii insignes showing Potentilla reptans (creeping cinquefoil)*, page 624-5, 1542 C.E., Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, Rome.

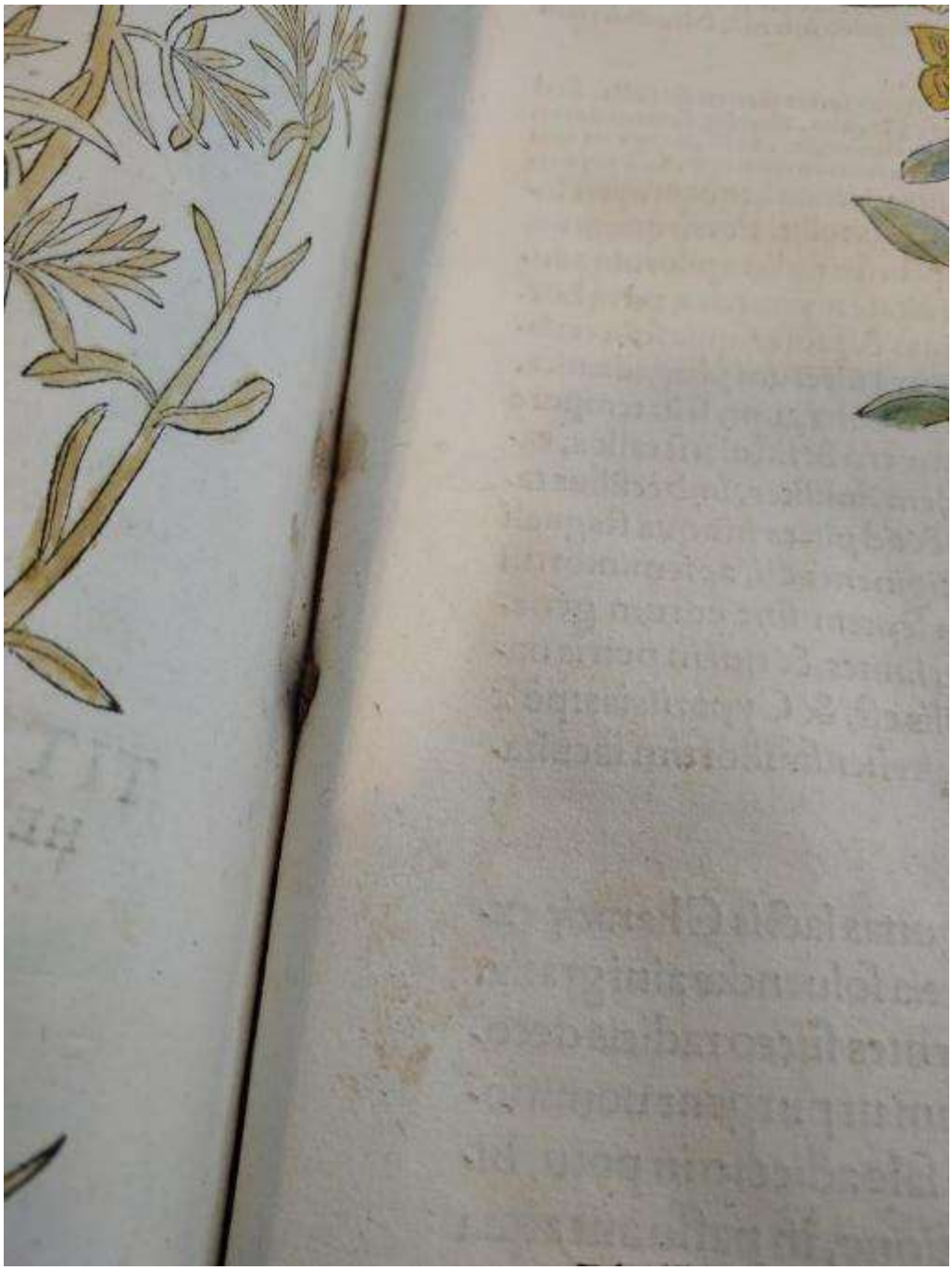


Fig. 3. 2 *Detail of page from De historia stirpium commentarii insignes showing plant remains*, 1542 C.E., Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, Rome.

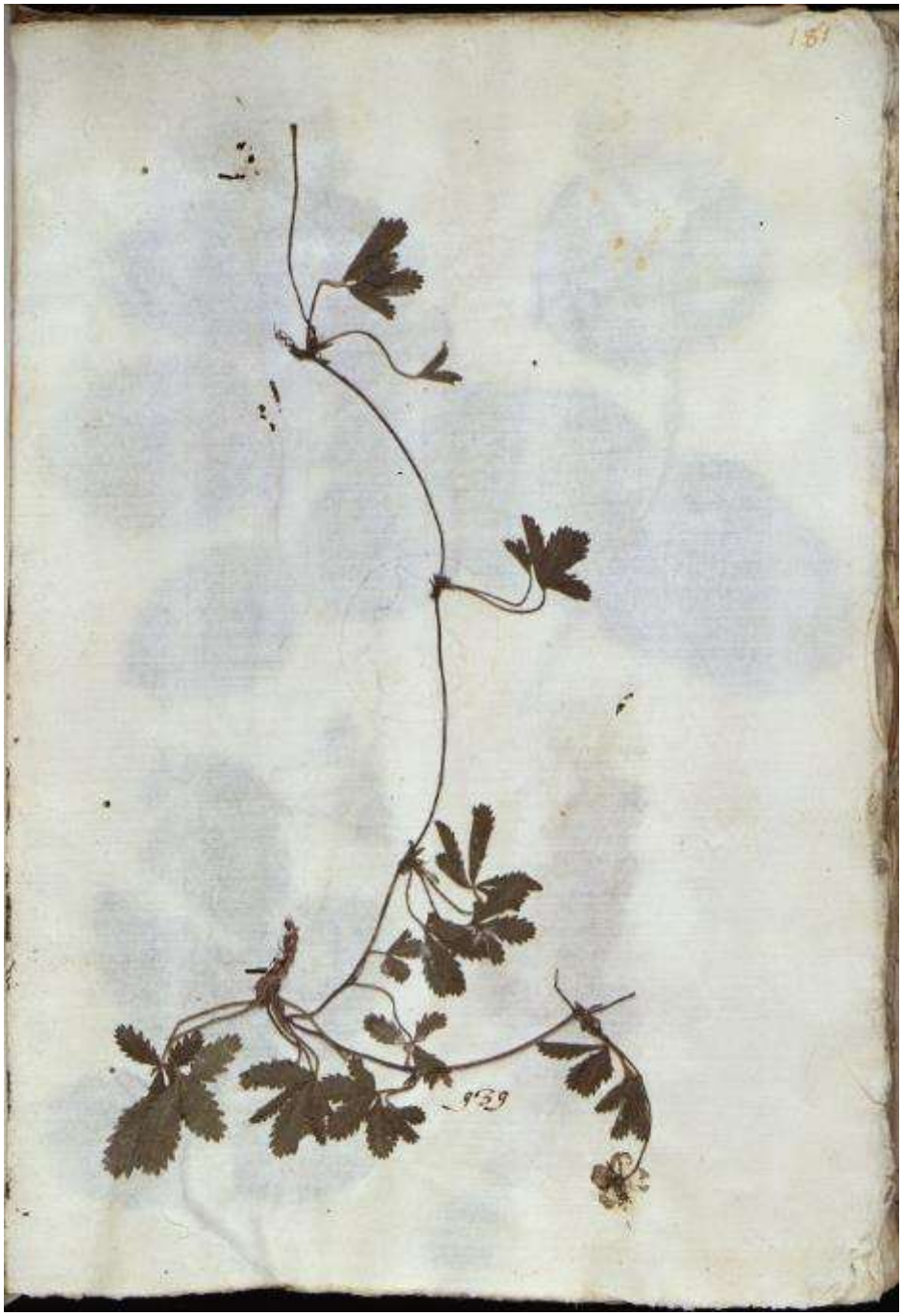


Fig. 3. 3 *Page from Erbario B showing Potentilla reptans (creeping cinquefoil)*, vol. 3, folio 181r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 4 *Page from Erbario A showing Chamaerops humilis (Mediterranean fan palm),* folio 289r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 5 *Two sets of dried specimens from the same plants*, June 2019, prepared by the author, Edinburgh.

Fig. 3. 6 *Page from Erbario B showing Artemisia coerulescens and Sisymbrium sophia*, vol. 1, folio 4r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 7 *Page from Erbario A showing Helleborus foetidus (stinking hellebore)*, folio 15r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 8 *Page from Erbario B showing Withania somnifera (ashwagandha),* vol. 4, folio 91v, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 9 *Page from Erbario A showing Papaver rhoeas (corn poppy)*, folio 82r, 16th century C.E., Biblioteca Angelica, Rome.

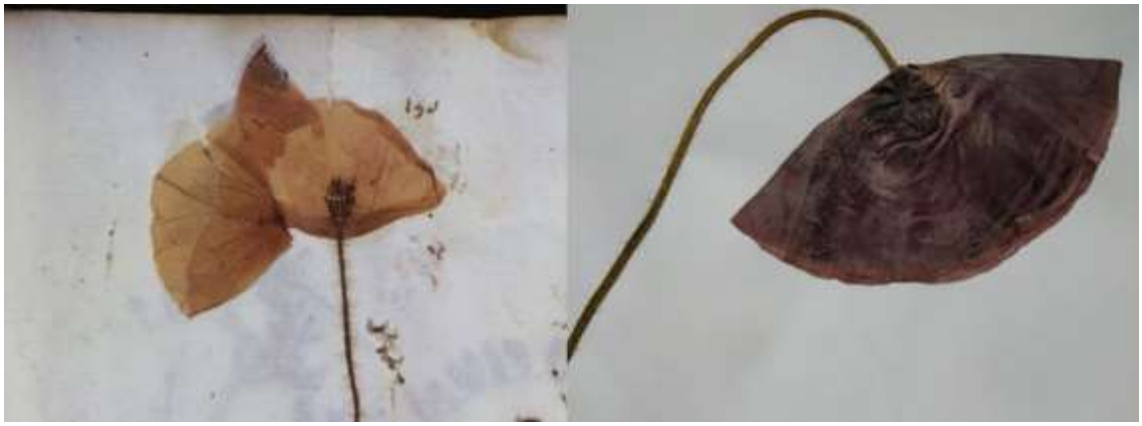


Fig. 3. 10

On the left: *Detail of page from Erbario A*, folio 82r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Dried specimen belonging to the genus Papaver,* May 2018, prepared by the author, Edinburgh.

Fig. 3. 11

On the left: *Detail of page from Erbario A*, folio 82r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Dried specimen belonging to the genus Papaver,* May 2018, prepared by the author, Edinburgh.

Fig. 3. 12 *Page from Erbario B showing Papaver rhoeas (corn poppy)*, vol. 3, folio 157r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 13 *A plant belonging to the genus Papaver before collection*, June 2018, Edinburgh.

Fig. 3. 14 *A plant belonging to the genus Papaver after collection*, June 2018, prepared by the author, Edinburgh.

Fig. 3. 15 *Dried specimen of a lawn weed*, June 2018, prepared by the author, Edinburgh.

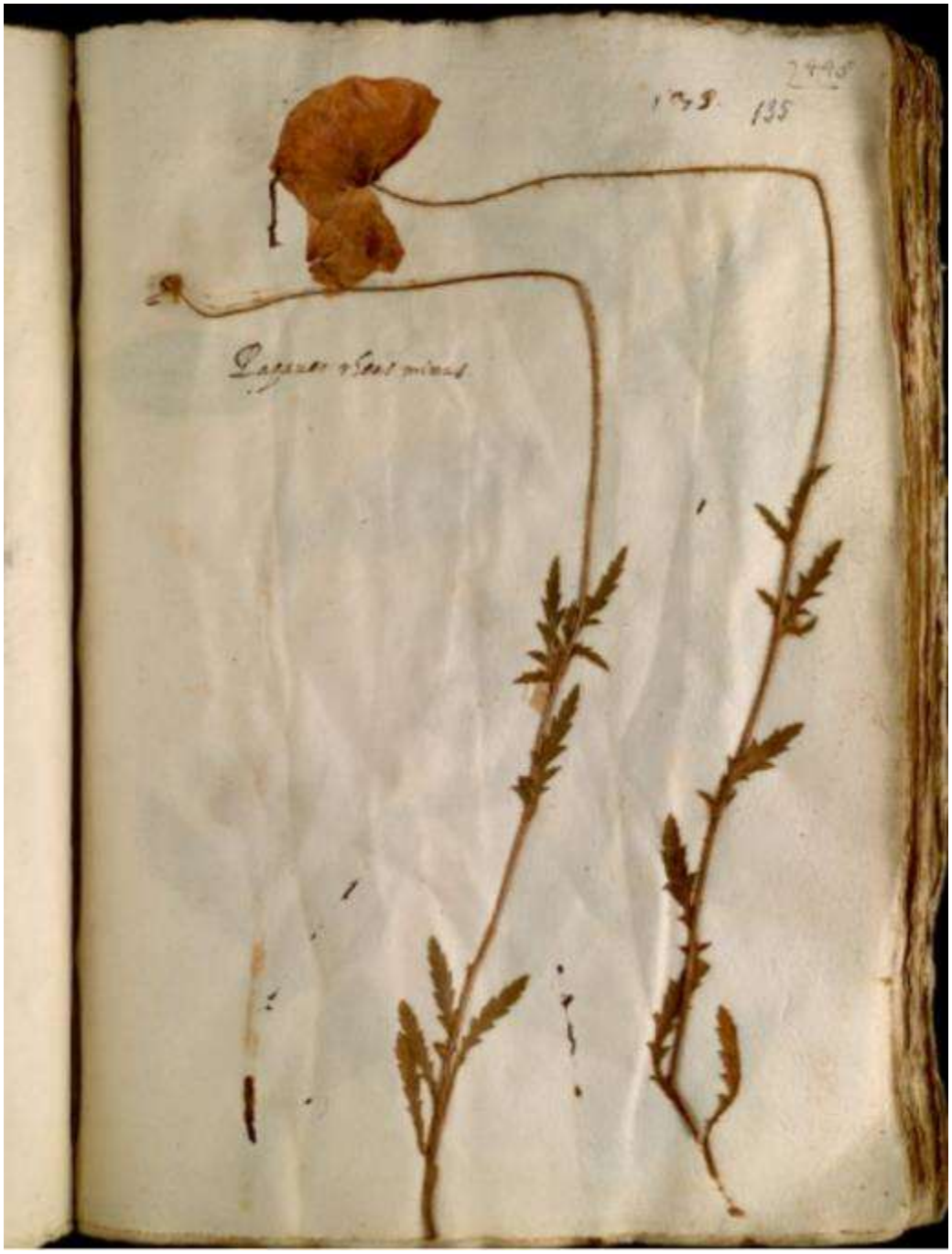


Fig. 3. 16 *Page from L'Erbario di Ulisse Aldrovandi showing Papaver rhoeas (corn poppy),* 16th century C.E., Biblioteca Universitaria di Bologna, Bologna.

Fig. 3. 17 *Dried specimens belonging to the Asteraceae (daisy) family*, May 2018, prepared by the author, Edinburgh.

Fig. 3. 18 *Dried specimens of Phyllitis sagittata (tongue fern)*, May 2018, prepared by the author, Edinburgh.

Fig. 3. 19 *Page from Erbario B showing Cannabis sativa and Phelipaea ramosa,* vol. 3, folio 134r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 20 *Dried specimen of Centaurea cyanus (cornflower)*, May 2018, prepared by the author, Edinburgh.

Fig. 3. 21 *Dried specimens belonging to the genus Cyclamen,* May 2018, prepared by the author, Edinburgh.

Fig. 3. 22 *Two dried and one fresh specimen belonging to the Orchidaceae family*, May 2018, prepared by the author, Edinburgh.

Fig. 3. 23 *Dried specimen belonging to the genus Fuchsia*, May 2018, prepared by the author, Edinburgh.

Fig. 3. 24

On the left: *Page from Erbario B showing Leontopodium alpinum (edelweiss)*, vol. 3, folio 3r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plant of Leontopodium alpinum (edelweiss)*, Wikimedia Commons.

Fig. 3. 25

On the left: *Page from Erbario B showing Aquilegia vulgaris (European columbine)*, vol. 1, folio 77r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plants of Aquilegia vulgaris (European columbine)*, Wikimedia Commons.

Fig. 3. 26 *Page from Erbario A showing Aquilegia vulgaris (European columbine), Lapsana communis (common nipplewort) and Jurinea mollis*, folio 58r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 27 On the left: *Page from Erbario B showing Carthamus tinctorius (safflower)*, vol. 1, folio 228r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plant of Carthamus tinctorius (safflower)*, Wikimedia Commons.

Fig. 3. 28

On the left: *Page from Erbario B showing Delphinium ajacis,* vol. 2, folio 45r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plant of Delphinium ajacis*, Wikimedia Commons.

Fig. 3. 29

On the left: *Page from Erbario B showing Althaea rosea (common hollyhock),* vol. 3, folio 50r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plant of Althaea rosea (common hollyhock)*, Wikimedia Commons.

Fig. 3. 30

On the left: *Page from Erbario B showing Malva sylvestris (common mallow),* vol. 3, folio 52r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plant of Malva sylvestris (common mallow)*, Wikimedia Commons.

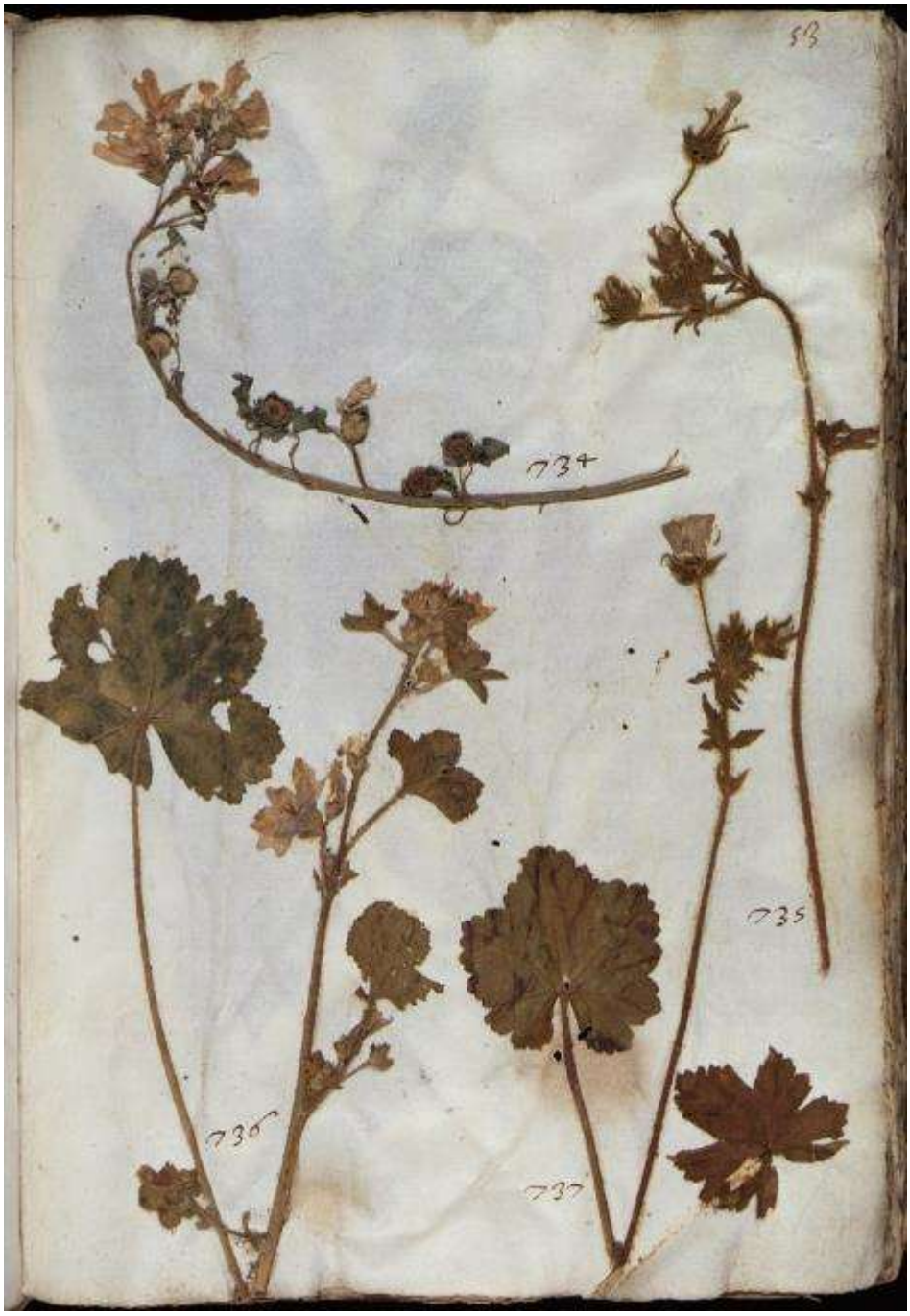


Fig. 3. 31 *Page from Erbario B showing Malva sylvestris (common mallow) and Althaea hirsute (hairy marshmallow),* vol. 3, folio 53r, 16th century C.E., Biblioteca Angelica, Rome.

Fig. 3. 32

On the left: *Page from Erbario B showing Ipomoea hederacea (ivy-leaved morning glory),* vol. 3, folio 105r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plants of Ipomoea hederacea (ivy-leaved morning glory)*, Wikimedia Commons.

Fig. 3. 33

On the left: *Page from Erbario B showing Populus alba (white poplar),* vol. 3, folio 219r, 16th century C.E., Biblioteca Angelica, Rome.

On the right: *Living plant of Populus alba (white poplar)*, Wikimedia Commons.

Fig. 3. 34 *Dried specimen of Antirrhinum majus (common snapdragon)*, May 2018, prepared by the author, Edinburgh.

Fig. 4. 1 Gherardo Cibo, *page from Add MS 22333 showing Helianthemum nummularium (common rock-rose)*, folio 34r, 16th century C.E., British Library, London.

Fig. 4. 2 Gherardo Cibo, *page from Add MS 22332 showing Papaver rhoeas (corn poppy),* folio 107r, 16th century C.E., British Library, London.

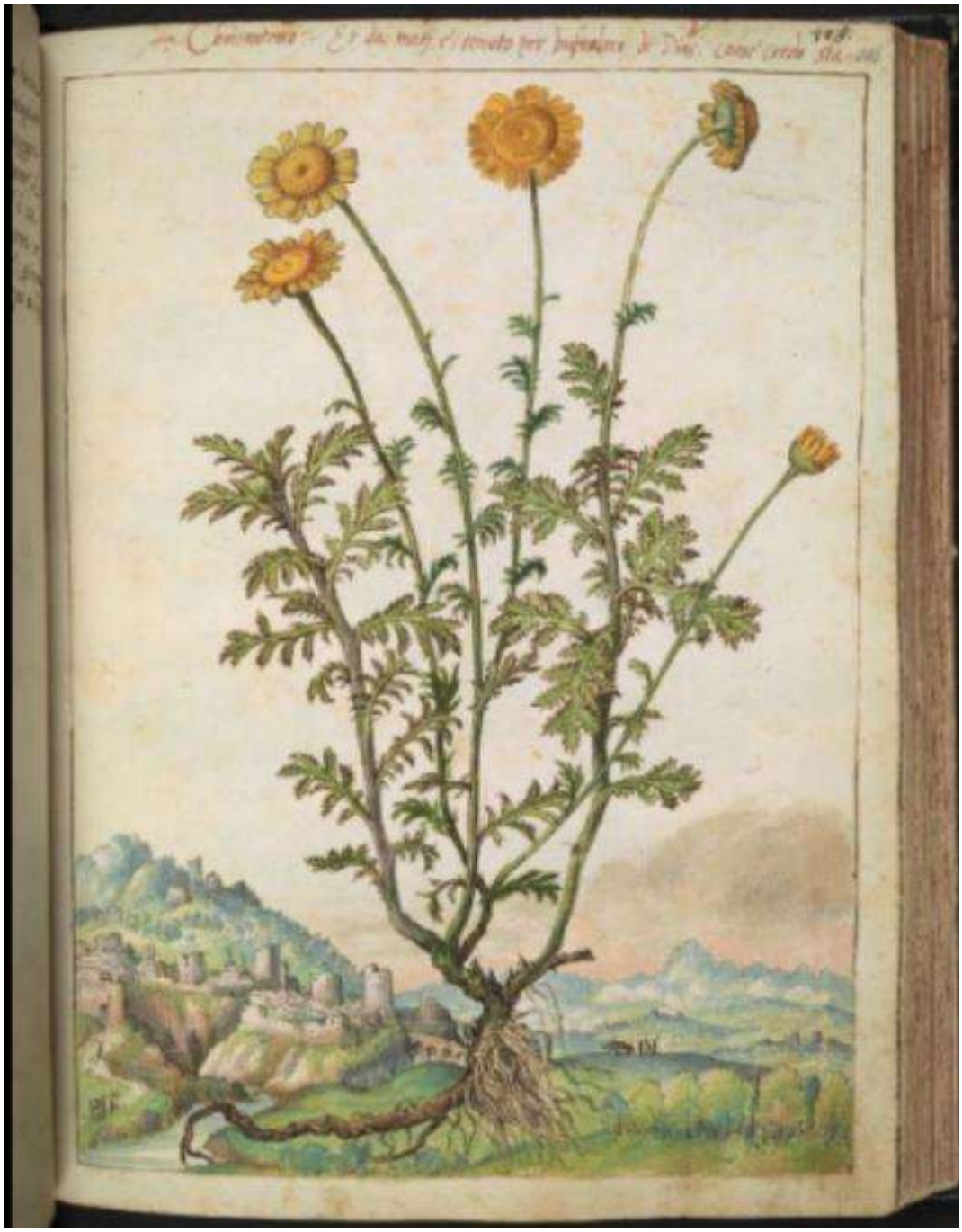


Fig. 4. 3 Gherardo Cibo, *page from Add MS 22332 showing Anthemis tinctoria (yellow chamomile)*, folio 106r, 16th century C.E., British Library, London.

Fig. 4. 4 Gherardo Cibo, *View of a fortified island with mooring galleons and galleys*, 16th century C.E., ink and watercolour, private collection.

Fig. 4. 5 John White, *Drawing showing a plant belonging to the genus Sabatia, 1585-93 C.E.,* watercolour over graphite, British Museum, London (inv. no. BM 1906, 0509.1.38).

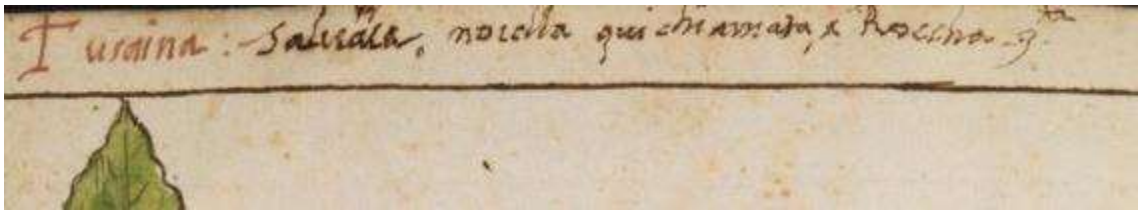


Fig. 4. 6 Gherardo Cibo, *detail of page from Add MS 22332*, folio 183v, 16th century C.E., British Library, London.

Fig. 4. 7 *Page from De historia stirpium commentarii insignes showing Zea mays (maize)*, page 825, 1542 C.E., digitised copy from the Hunt Institute for Botanical Documentation, Pittsburgh.

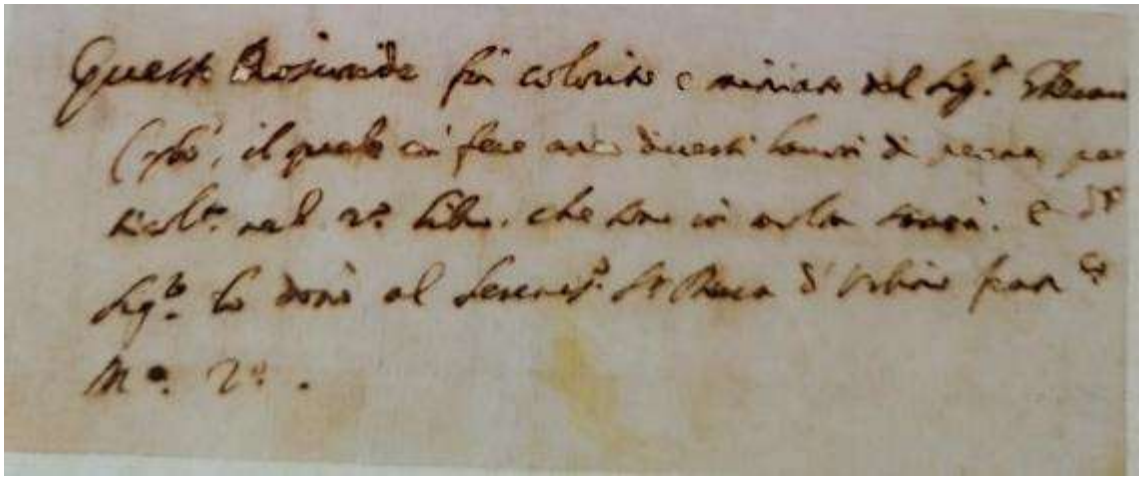


Fig. 4. 8 *Detail of front cover from Rari 278*, front cover, 16th century C.E., Biblioteca Universitaria Alessandrina, Rome.

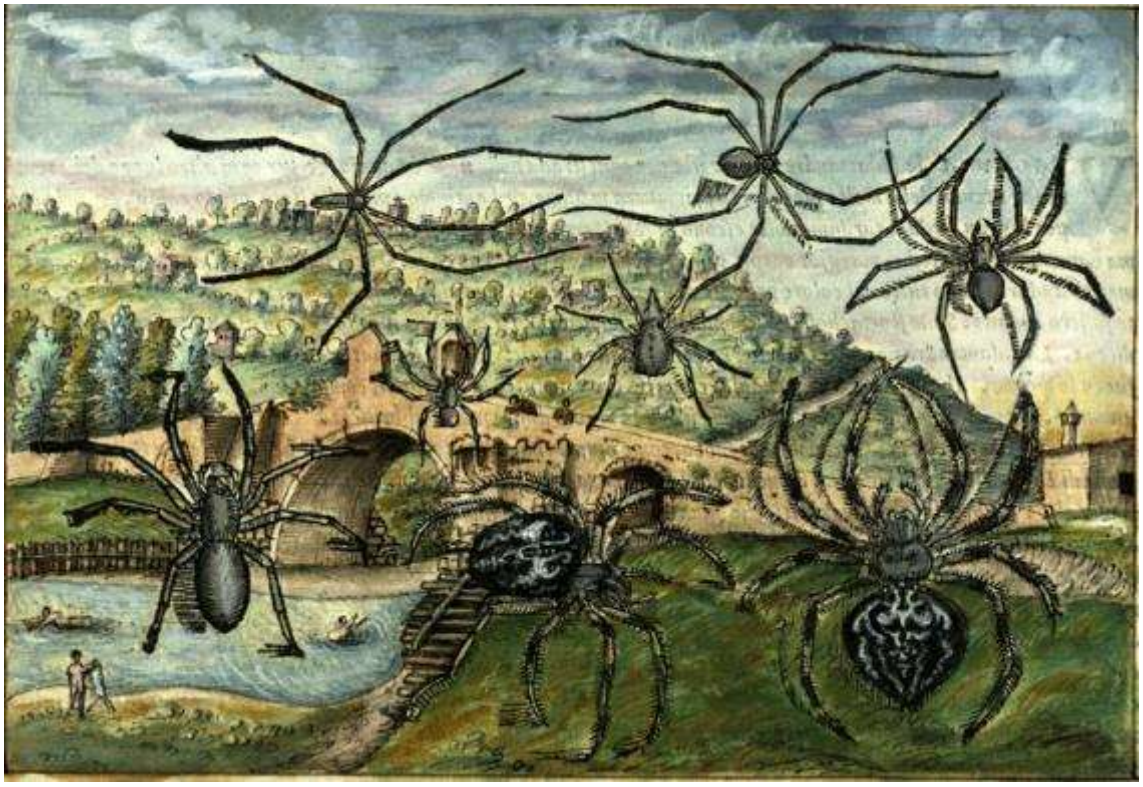


Fig. 4. 9 *Detail of page from Rari 278 showing a spider species*, page 720, 16th century C.E., Biblioteca Universitaria Alessandrina, Rome.

Fig. 4. 10 *Page from Rari 278 showing Aloe vera*, page 720, 16th century C.E., Biblioteca Universitaria Alessandrina, Rome.

Fig. 4. 11 Gherardo Cibo*, page from Add MS 22332 showing Aloe vera,* folio 144r, 16th century C.E., British Library, London.

Fig. 4. 12 Gherardo Cibo, *detail of page from Add MS 22332,* folio 144r, 16th century C.E., British Library, London.

Fig. 4. 13 Leonardo da Vinci, *Sprigs of oak and dyer's greenweed*, c.1506–1512, red and white chalk, Royal Collection Trust, London (inv. no. RCIN 912422).

Fig. 4. 14 Leonardo da Vinci, *Studies of two sedges,* c.1510–1515, pen and ink, Royal Collection Trust, London (inv. no. RCIN 912427).

Fig. 4. 15 Gherardo Cibo, *page from Album B showing various plants, a seashell, a turtle and colour tests*, folio 13r, 16th century C.E., Biblioteca Planettiana, Jesi.

Fig. 5. 1 *Buckthorn fruits*, November 2021, Cambridge.

Fig. 5. 2 *The juice is squeezed out and filtered through the cloth*, November 2021, performed by the author, Cambridge.

Fig. 5. 3 *The glass is sealed with cling film and placed in the sun*, November 2021, performed by the author, Cambridge.

Fig. 5. 4 *Addition of potassium sulphate powder (rock alum*), November 2021, performed by the author, Cambridge.

Fig. 5. 5 *Addition of white wine*, November 2021, performed by the author, Cambridge.

Fig. 5. 6 *Boiling the concoction*, November 2021, performed by the author, Cambridge.

Fig. 5. 7 *Application of the reconstructed colour on paper*, November 2021, performed by the author, Cambridge.

Fig. 5. 8 *Appearance of the concoction three days after the addition of water*, November 2021, Cambridge.

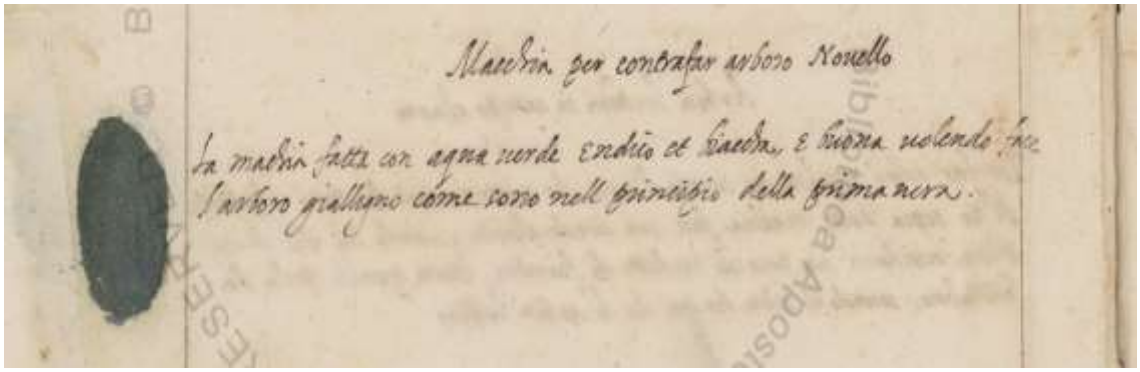


Fig. 5. 9 Gherardo Cibo, *detail of page from MS Urbinati Latini 1280 showing a colour test*, folio 3v, 16th century C.E., Biblioteca Apostolica Vaticana, Vatican City.

Fig. 5. 10 *Buckthorn fruits and rock alum powder put inside a glass*, November 2021, performed by the author, Cambridge.

Fig. 5. 11 *The appearance of the reconstructed colour*, November 2021, Cambridge.

Fig. 5. 12 *Application of the reconstructed colour on paper*, November 2021, performed by the author, Cambridge.

Fig. 5. 13 *Addition of sodium bicarbonate*, November 2021, performed by the author, Cambridge.

Fig. 5. 14 Gherardo Cibo, *detail of page from Add MS 22333 showing a watermark*, folio 62r, 16th century C.E., British Library, London.

Fig. 5. 15 *Record of a watermark showing a six-pointed star enclosed in an encircled lozenge*, digitised by the Corpus Chartarum Fabriano project (inv. no. Z01924).

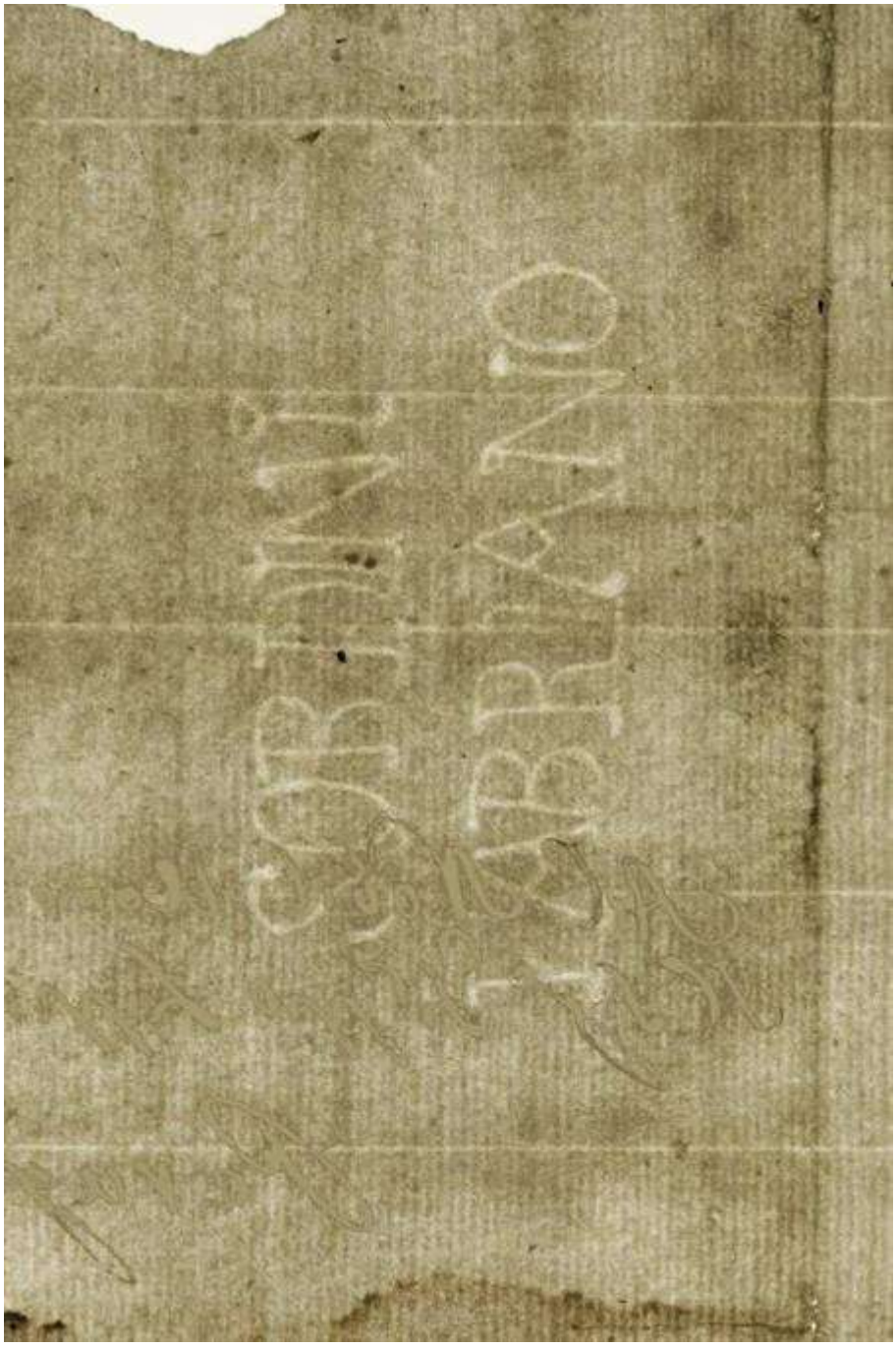


Fig. 5. 16 *Record of the 'SORDINI FABRIANO' watermark,* digitised by The Memory of Paper (inv. no. icpl.cci.XIII.047.a).

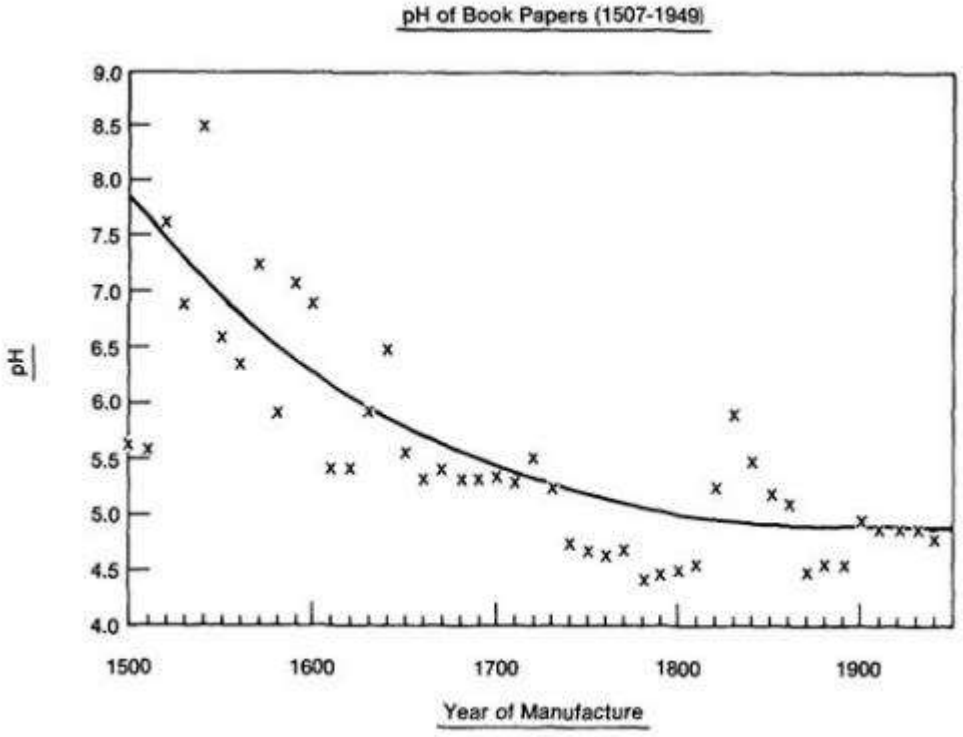


Fig. 5. 17 *pH of Book Papers (1507-1949)*, created by the Barrow team.

Fig. 6. 1

On the left: Gherardo Cibo, *Mountainous landscape*, 16th century C.E., pen and ink, Государственный Эрмитаж – State Hermitage Museum), Saint Petersburg (inv. no. 16655).

On the right: Gherardo Cibo, *detail of page from Add MS 22332*, folio 12r, 16th century C.E., British Library, London.

Fig. 6. 2 Gherardo Cibo, *Marine landscape with classical ruins*, 16th century C.E., ink, watercolour and tempera, Uffizi, Florence (inv. no. 20668 F).

Fig. 6. 3

On the left: Gherardo Cibo, *Landscape with house and trees*, 16th century C.E., ink and watercolour, Uffizi, Florence (inv. no. 20667 F).

On the right: Gherardo Cibo, *page from Add MS 22332 showing Physalis alkekengi (Japanese lantern)*, folio 4r, 16th century C.E., British Library, London.

Fig. 6. 4 Monogrammist AM, *Imaginary landscape,* c.1600 C.E., brush and ink and gray wash heightened with white gouache, Metropolitan Museum of Art, New York (inv. no. 1975.1.865).

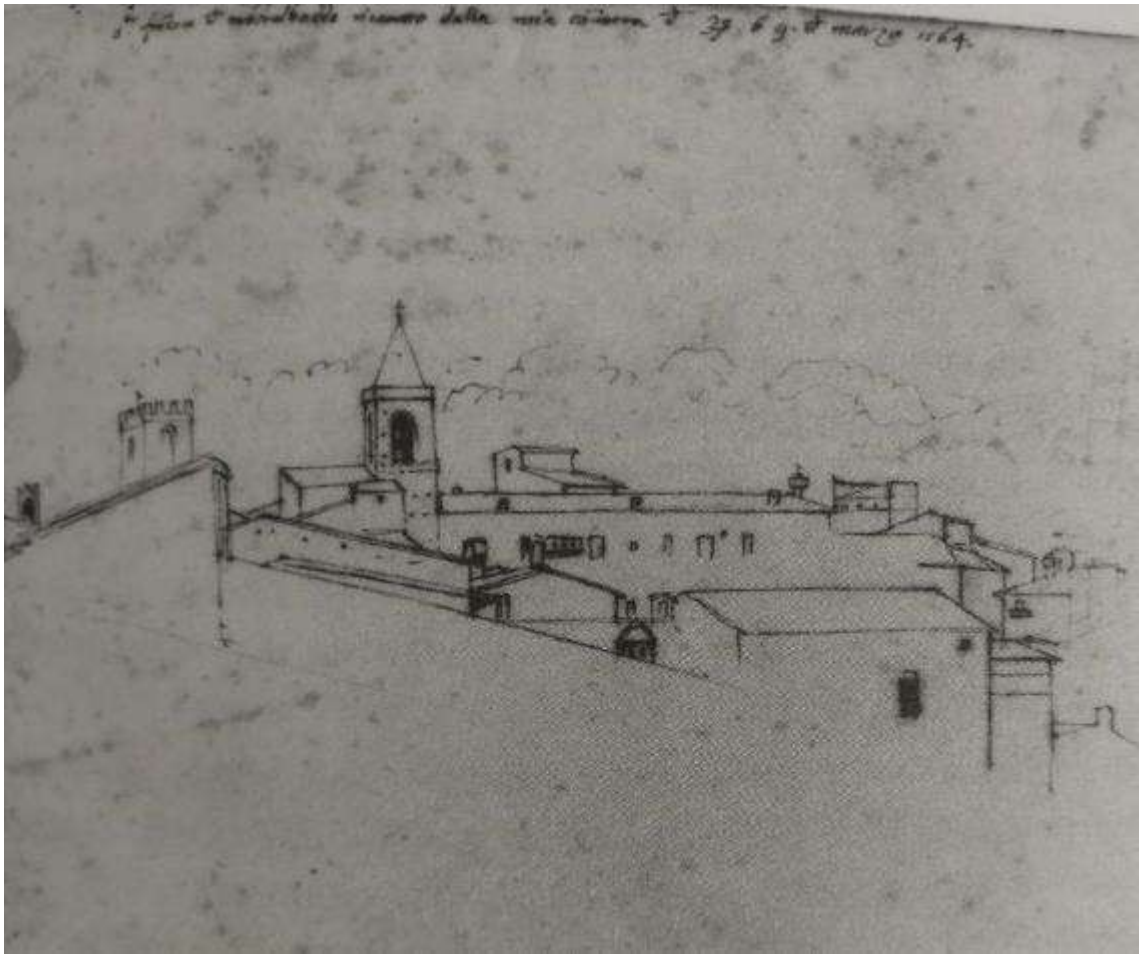


Fig. 6. 5 Gherardo Cibo, *Page from Libro 37 showing a view of Montalboddo*, folio 104v, 1564 C.E., private collection.

Fig. 6. 6 Gherardo Cibo, *View of St Mary of Portone at Senigallia*, 16th century C.E., pen and ink, Louvre, Paris (inv. no. 19.884).

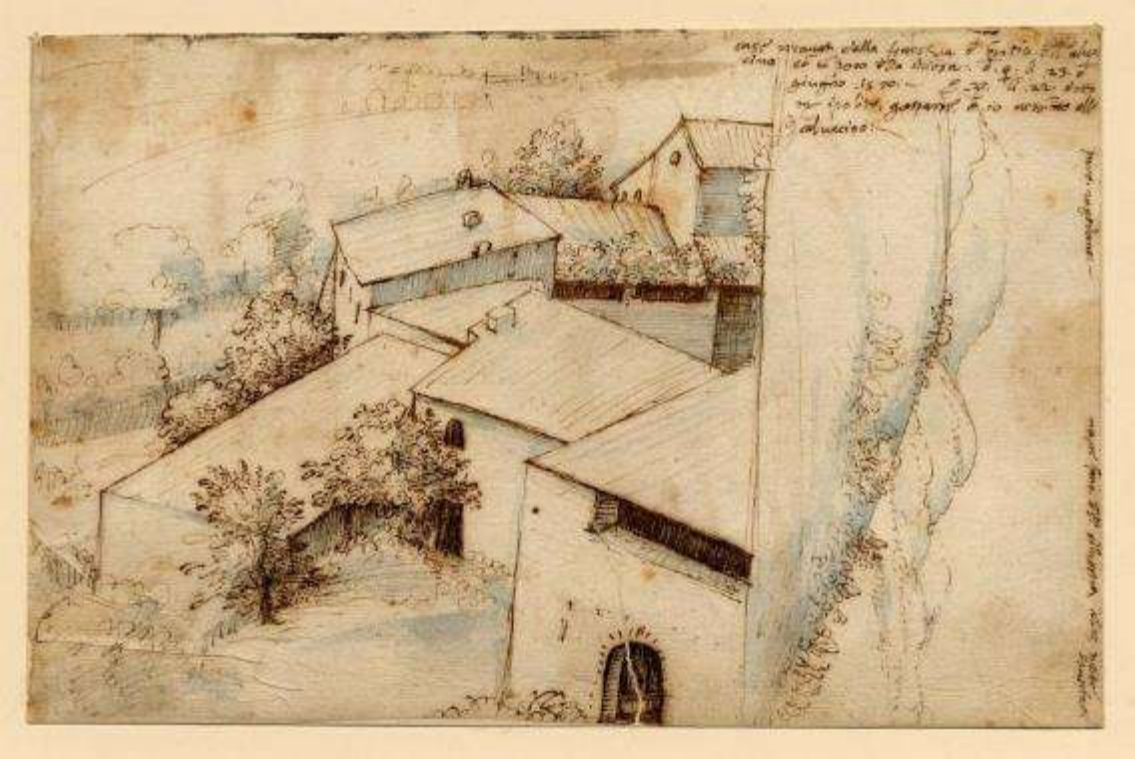


Fig. 6. 7 Gherardo Cibo*, A group of buildings; a hilly landscape*, 16th century C.E., ink and coloured wash, Szépművészeti Múzeum, Budapest (inv. no. 1919-503).

Fig. 6. 8 Gherardo Cibo, *page from Add MS 22332 showing Corydalis cava (hollowroot)*, folio 79r, 16th century C.E., British Library, London.

Fig. 6. 9 Gherardo Cibo, *Rocky landscape with a natural arch*, c.1575 C.E., ink and brown wash heightened with white gouache, National Gallery of Art, Washington (inv. no. 2007.111.58).

Fig. 6. 10 Gherardo Cibo, *A cave under a wooded slope*, 1572 C.E., ink and watercolour, Albertina, Vienna (inv. no. 32941).

Fig. 6. 11 Gherardo Cibo, *Two studies of hilly landscapes with buildings*, 16th century C.E., ink and watercolour, Klassik Stiftung Weimar, Weimar (inv. no. KK 4632).

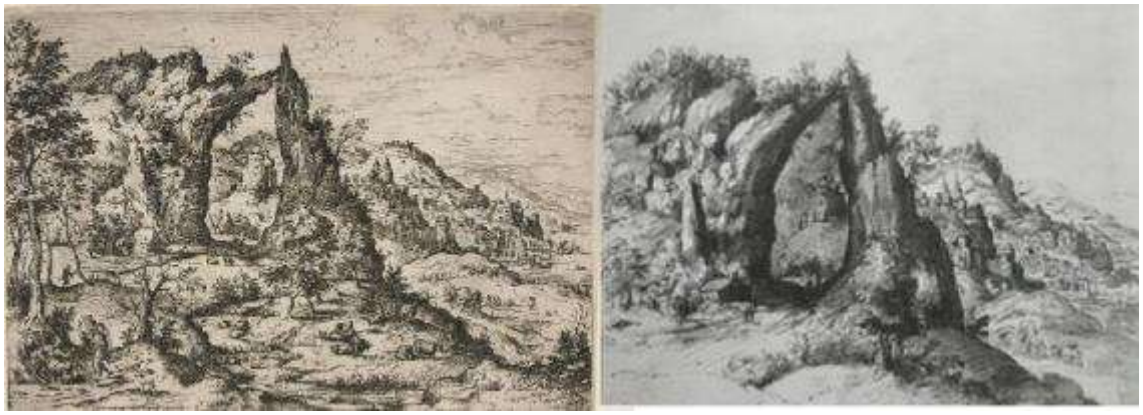


Fig. 6. 12

On the left: Hieronymus Cock, *Judah and Tamar*, c.1551–1558, etching, digitised copy from the Rijksmuseum, Amsterdam (inv. no. RP-P-OB-22.611).

On the right: Gherardo Cibo, *Mountainous landscape with a town on the bank of a river and a natural arch in the foreground*, 16th century C.E., ink and watercolour, Klassik Stiftung Weimar, Weimar (inv. no. KK 4634).

Fig. 6. 13 Gherardo Cibo, *Lake landscape with a big tree on the left and mountains in the distance*, 16th century C.E., ink and watercolour, Fitzwilliam Museum, Cambridge (inv. no. PD.177-1963).

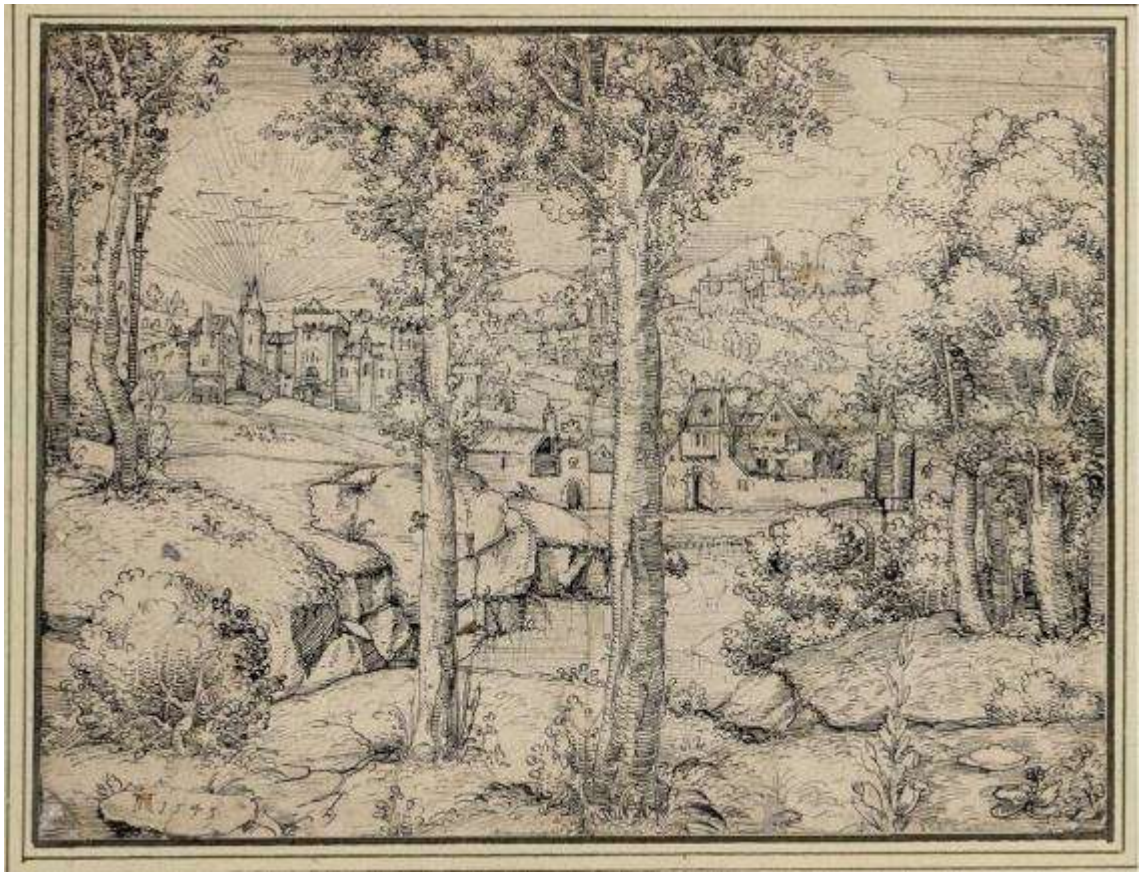


Fig. 6. 14 Hanns Lautensack, *Landscape*, 1543 C.E., pen and ink, Albertina, Vienna (inv. no. 3215).

Fig. 6. 15 Gherardo Cibo, *page within Album B showing a tree*, 16th century C.E., Biblioteca Planettiana, Jesi.

Fig. 6. 16 Gherardo Cibo, *page from Album B showing a landscape with two big trees*, folio 3r, 16th century C.E., Biblioteca Planettiana, Jesi.

Fig. 6. 17 Leonard Thurneysser, *detail of page from Historia sive descriptio plantarum […] showing astrological symbols*, page CXXII, 1587 C.E., digitised copy from the Biblioteca Digital del Real Jardín Botánico de Madrid, Madrid.

Fig. 6. 18 Gherardo Cibo, *page from Add MS 22332 showing Scilla bifolia (alpine squill) and Galanthus nivalis (common snowdrop)*, folio 35r, 16th century C.E., British Library, London.

Fig. 6. 19 Gherardo Cibo, *Rocky island with a natural cove and the setting sun on the left*, late 16th century C.E., ink and gray-brown wash heightened with white, Staatliche Kunstsammlungen Dresden, Dresden (inv. no. C 851).

Fig. 6. 20 Gherardo Cibo, *page from Add MS 22332 showing Ficaria verna (lesser celandine)*, folio 91r, 16th century C.E., British Library, London.

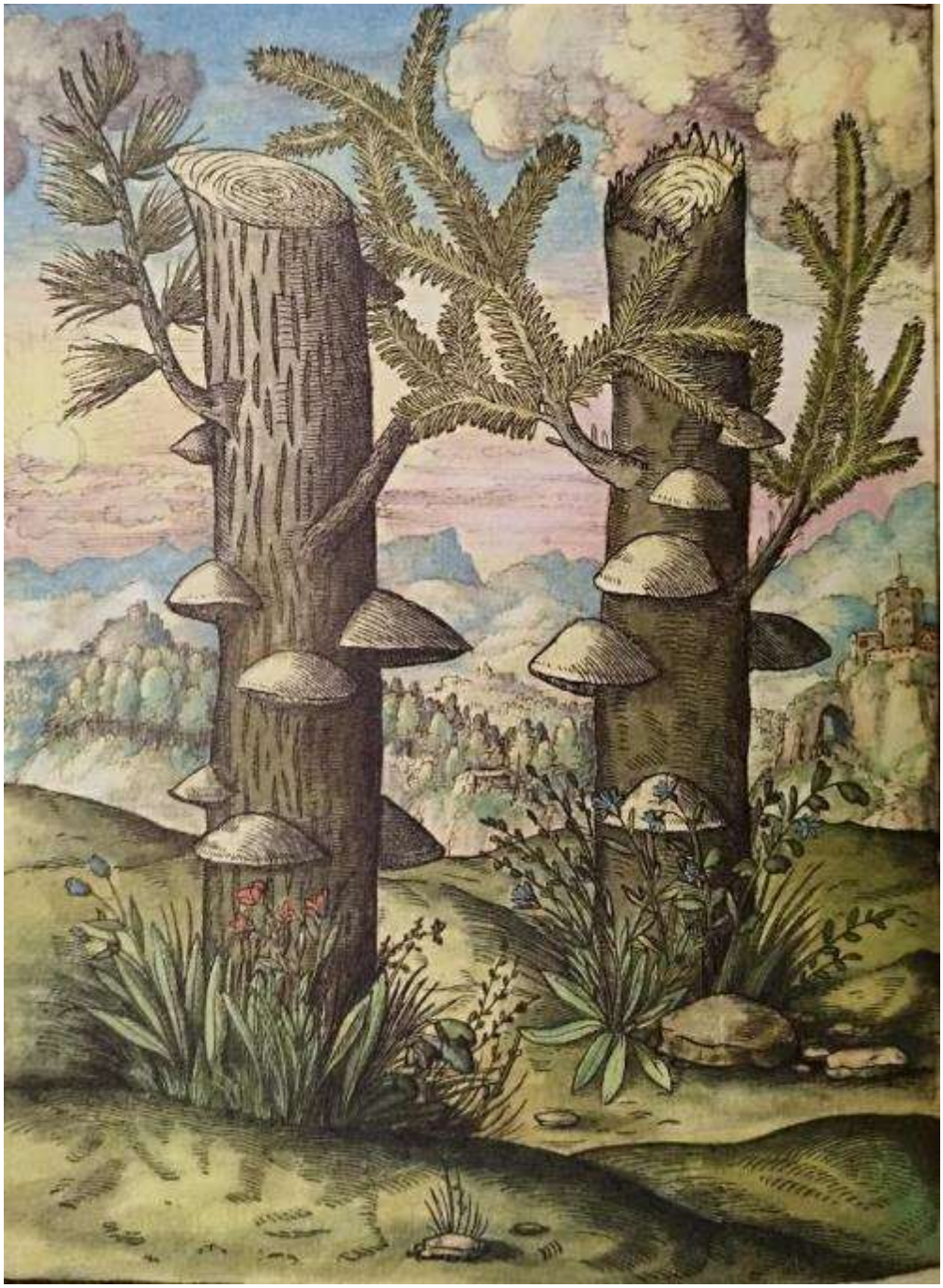


Fig. 6. 21 *Detail of page from Rari 278 showing Laricifomes officinalis (agarikon)*, page 674, 16th century C.E., Biblioteca Universitaria Alessandrina, Rome.

Fig. 6. 22 Gherardo Cibo, *page from Add MS 22333 showing the Vision of Saint Augustine*, folio 58r, 16th century C.E., British Library, London.

Fig. 6. 23 Johannes Kentmann*, two pages from Fol 323*, folio 57v-58r, 1549 C.E., Klassik Stiftung Weimar, Weimar.

Fig. 6. 24 Théodore de Bèze, *Emblema XX from Icones, id est verae imagines virorum doctrina simul et pietate illustrium*, page Nn1r, 1581 C.E., digitised copy from the Glasgow University Emblem Website, Glasgow.

Fig. 6. 25 Matthijs Bril, *View of Rome from the Janiculum hill*, c.1580 C.E., Tower of the Winds, Vatican Palace, Vatican.

Fig. 6. 26 Matthijs Bril, *View of Rome from the Viminal hill*, c.1580 C.E., Tower of the Winds, Vatican Palace, Vatican.

Fig. 6. 27 Gherardo Cibo, *page from Add MS 22332 showing Eryngium maritimum (sea holly) or Eryngium campestre (field eryngo)*, folio 47r, 16th century C.E., British Library, London.

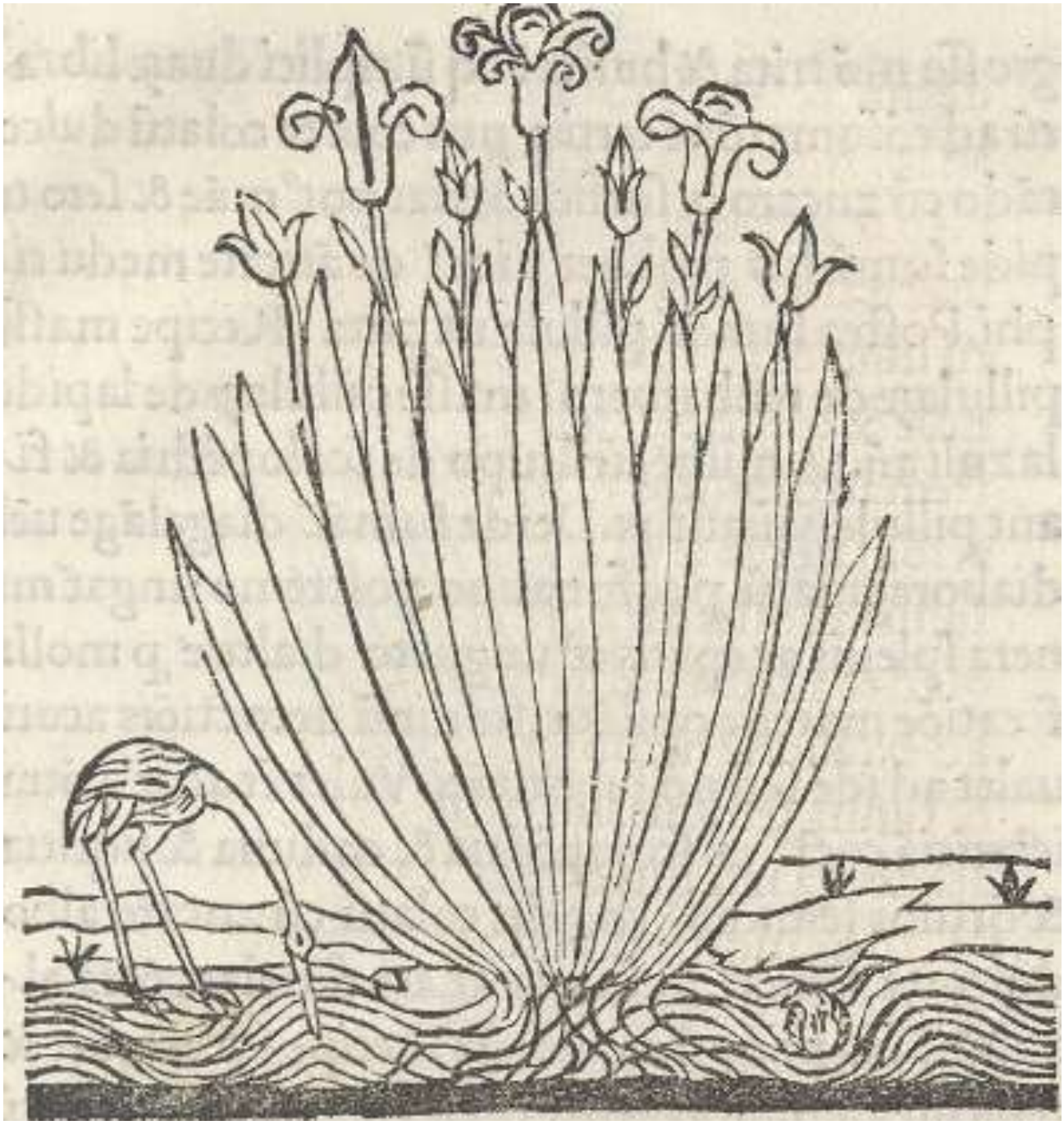


Fig. 6. 28 *Detail of page from Tractatus de virtutibus herbarum showing Iris pseudacorus (yellow iris)*, capitulum IIII, 1499 C.E., digitised copy from the Library of Congress, Washington.

Fig. 6. 29 *Detail of page from Phytognomonica […]*, lib. IIII, page 243, 1591 C.E., digitised copy from the Biblioteca de la Universidad Complutense de Madrid, Madrid.

Fig. 6. 30 Pietro Paolo Agabiti, *Detail of the Nativity*, 1511 C.E., Church of St Mary del Ponte del Piano, Sassoferrato.

Fig. 6. 31 Gherardo Cibo, *detail of page from Add MS 22332 showing Polygonum aviculare (common knotgrass)*, folio 111r, 16th century C.E., British Library, London.

Fig. 6. 32 Gherardo Cibo, *River landscape with trees and two shepherds with a flock*, 16th century C.E., ink and watercolour, Musées royaux des Beaux-Arts de Belgique, Brussels (inv. no. De Grez 1786).

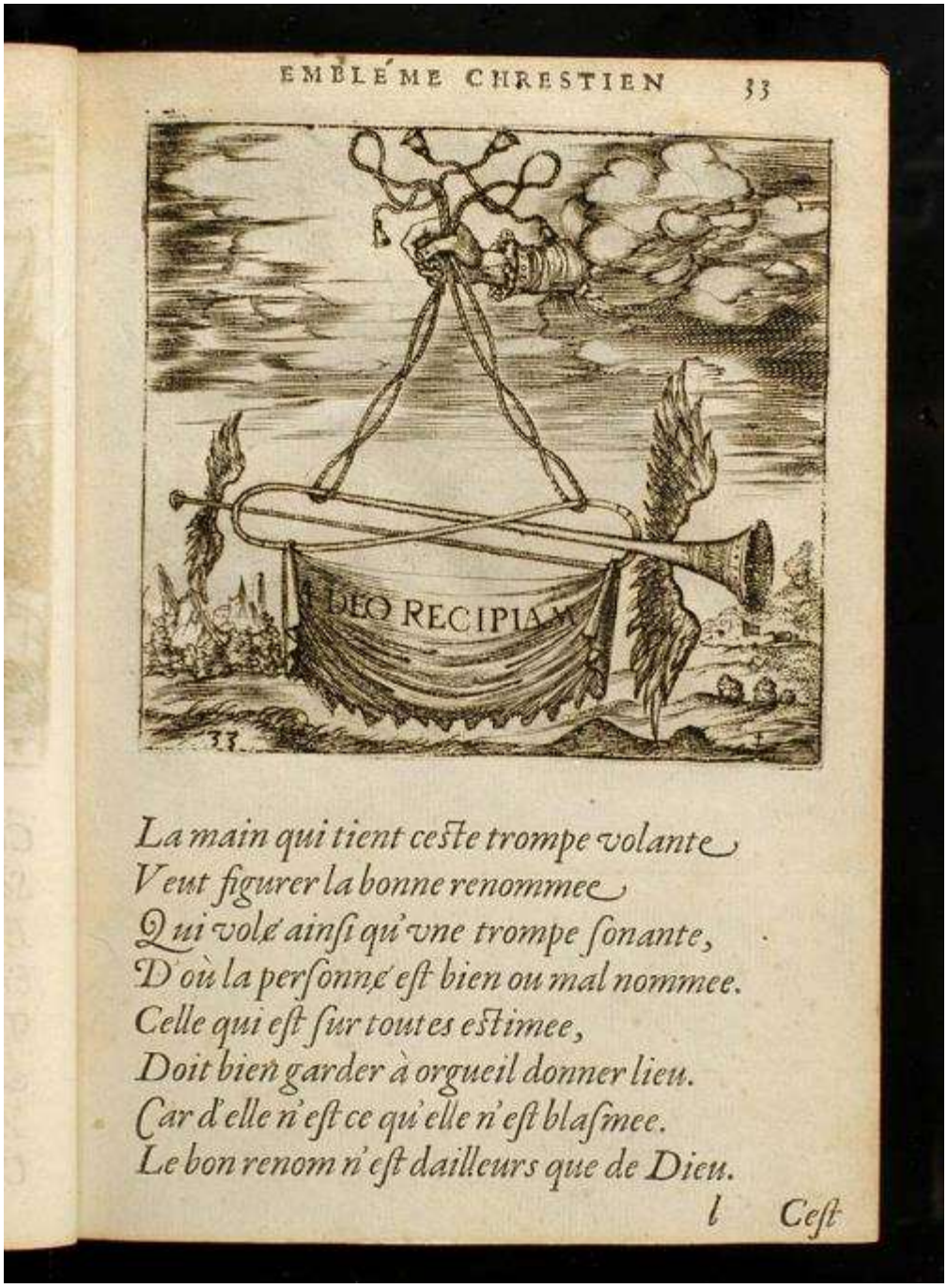


Fig. 6. 33 Georgette de Montenay, *page from Emblemes ou devises chrestiennes,* page 33, 1567 C.E., digitised copy from the Glasgow University Emblem Website, Glasgow.

Fig. 6. 34 Giulio Roscio, *page from Emblemata Sacra […],* table 9, 1589 C.E., digitised copy from the Bayerische Staatsbibliothek, Munich.

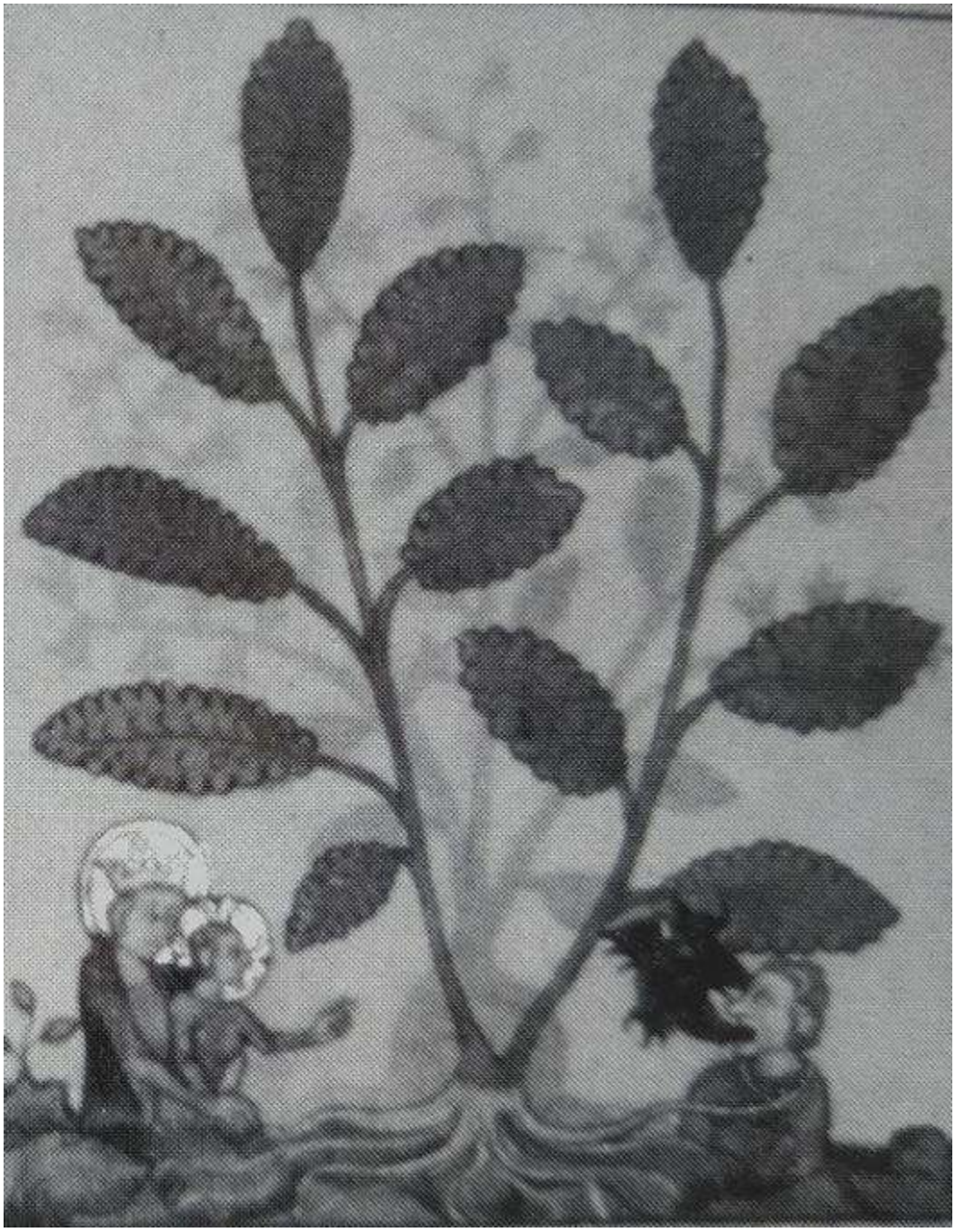


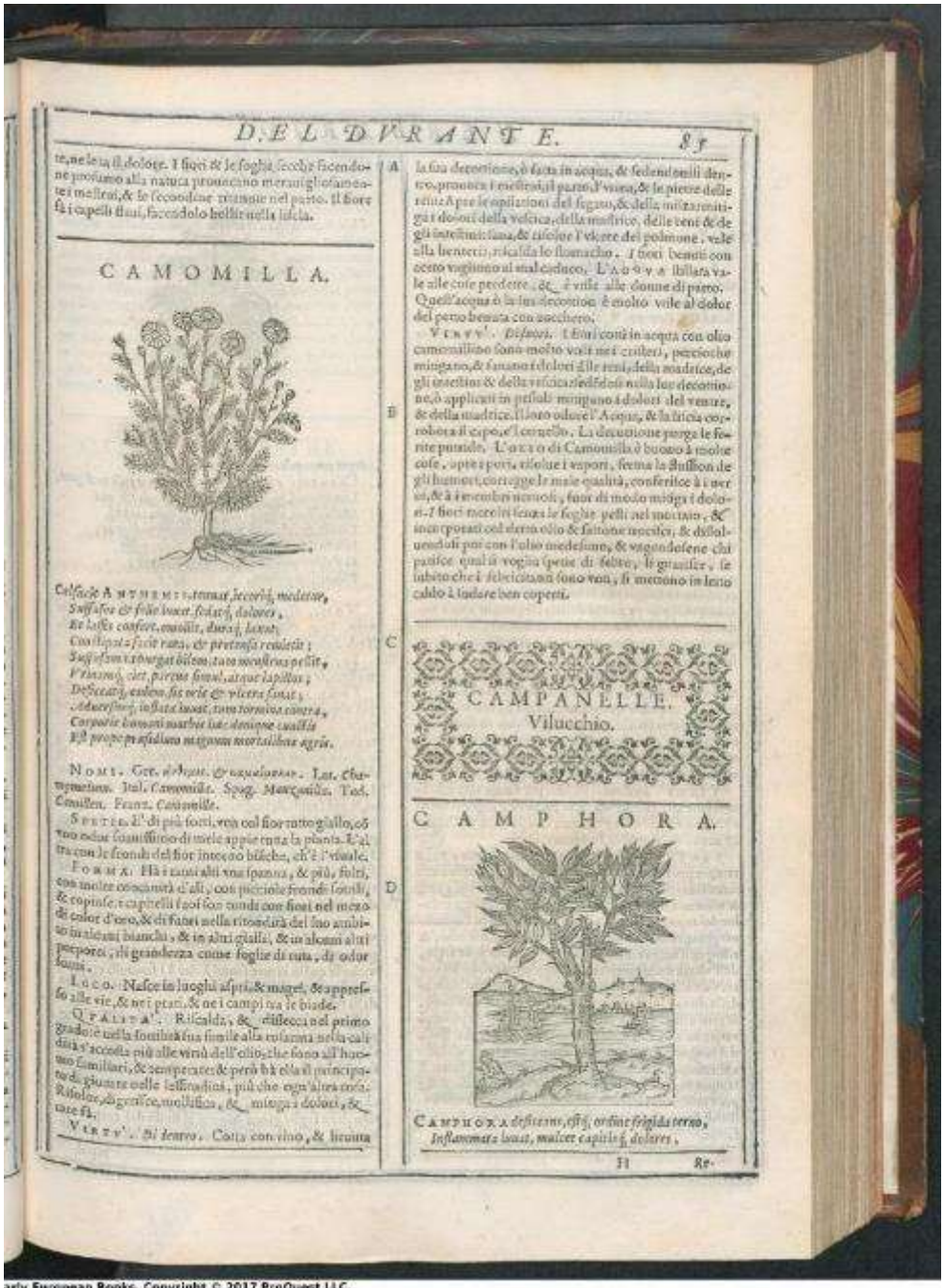
Fig. 6. 35 *Detail of page from Pal. 586 showing 'Herbe Ste Marie',* folio 32v, c.1370–1375, Biblioteca Nazionale Centrale di Firenze, Florence.

Fig. 6. 36 Albrecht Dürer, *The Virgin crowned by two angels above a landscape*, c.1515 C.E., woodcut, digitised copy from the National Gallery of Art, Washington (inv. no. 1943.3.3679).

Fig. 6. 37 *Detail of page from Egerton MS 747 showing the extraction of orpiment,* folio 9r, c.1280–1350 C.E., British Library, London.

Fig. 6. 38 *Detail of page from Egerton MS 747 showing Umbilicus rupestris (navelwort),* folio 29r, c.1280–1350 C.E., British Library, London.

Fig. 6. 39 *Page from Ortus sanitatis […] showing a fish and a tree*, capitulum XIX, 1491 C.E., digitised copy from the Wellcome Library, London.



D. E L. D V R A N T E. 85

te, ne le ia il dolore. I fiori & le foglie secche facendone profumo alla natura prouocano mestrui gli stemperano, & le secondine ritenute nel parto. Il fiore fa i capelli biondi, facendolo bollir nella lisciua.

CAMOMILLA.

Calfacit AMYRMIS, rumpit, secernit, mederatur,
Suffitus & fotus lenat sedatq; dolores,
Et lotus confert, emollit, durag; leuat.
Cum lapide facit ruta, & pretensa resolvit;
Suffitus, fotus gaudet balsamo, tactu mollitus pellit,
Frangit, ciet, pietate sanat, atque lapillos,
Desiccat, calcem sic vrit & vlcera sanat;
Adstringit, inflata leuat, tum tormina contra,
Corporis humani morbis hac denique cuncta
Vt propè pro stadium magnum mortalibus aegris.

NOMI. Gre. ἀνθεμὶς, & χαμαίμηλον. Lat. Chamomelum. Ital. Camomilla. Spag. Manzanilla. Ted. Camillen. Franz. Camomille.

SPETIE. E' di più sorti, vna col fior tutto giallo, & vna color di zafferano di mele appresso tutta la pianta. L'altra con le fronde del fior intorno bianche, ch'è l'vsuale.

FORMA. Hà i rami alti vna spanna, & più, sodi, con molte concauità d'ali, con picciole fronde sottili, & copinate, i capitelli de' fiori son tondi con fiori nel mezo di color d'oro, & di fuori nella circonferenza del suo ambito in alcuni bianchi, & in altri gialli, & in alcuni altri porporei, di grandezza come foglie di ruta, di odor soaue.

LOCO. Nasce in luoghi aspri, & magri, & appresso alle vie, & nei prati, & nei campi tra le biade.

QVALITA'. Riscalda, & dissecca nel primo grado, e nella sottigliezza simile alla ruta, ma nella calidità s'accosta più alle virtù dell'olio, che sono all'humano familiari, & temperate, & però hà ella il principato di giouare nelle infermità, più che ogn'altra cosa. Risolue, digerisce, mollifica, & mitiga i dolori, & cose sì.

VERTV'. Di fuori. Cotta con vino, & bevuta la sua decottione, ò fatta in acqua, & sedendoui dentro, promuoue i mestrui, il parto, l'vrina, & le pietre delle reni. Appresso le ostruttioni del fegato, & della milza, & mitiga i dolori della vescica, della matrice, delle reni, & degli intestini sana, & riscalda l'vscire del polmone, vale alla bentezza, riscalda lo stomacho. I fiori bevuti con acetto vaginano ai mal caduco. L'ACQVA stillata vale alle cose predette, &, è vtile alle donne di parto. Quell'acqua ò la sua decottion è molto vtile al dolor del petto bevuta con zucchero.

VERTV'. Di fuori. I fiori cotti in acqua con olio camomillino sono molto vtili nei cristeri, perciochè mitigano, & sanano i dolori delle reni, della matrice, de gli intestini & della vescica, fedendosi nella lor decottione, ò applicati in pessoli mitigano i dolori del ventre, & della matrice. L'horo odore l'Acqua, & la feccia corrobora il capo, e'l cerebro. La decottione purga le fetide putride. L'OLIO di Camomilla è buono à molte cose, aprei pori, risolue i vapori, ferma la fluttion de gli humori, corregge le male qualità, conferisce à i nervi, & à i membri nemoli, fuor di modo mitiga i dolori. I fiori secchi senza le foglie pesti nel mortaio, & incorporati col detto olio & sattone vnguento, & distillandoli per con l'olio medesimo, & vngendosene chi patisce qual si voglia spetie di febbre, le granfie, se subito che i felicitanti sono vsti, si mettono in letto caldo à sudare ben coperti.

CAMPANELLE.
Vilucchio.

CAMPHORA.

CAMPHORA deficcans, astringit, ordine frigida terno,
Inflammata leuat, mulcet capitis & dolores,

H Re-

Fig. 6. 40 *Page from Herbario Novo showing both ways of depicting plants,* page 85, 1585 C.E., digitised copy from the Wellcome Library, London.

Fig. 6. 41 *Detail of page from Mattioli's Commentary on Dioscorides showing 'Lente palustre'*, page 1173, 1568 C.E., digitised copy from the Getty Research Institute Research Library, Los Angeles.

Fig. 6. 42 *Page from Herbario Novo showing Querqus suber (cork oak),* page 442, 1585 C.E., digitised copy from the Wellcome Library, London.

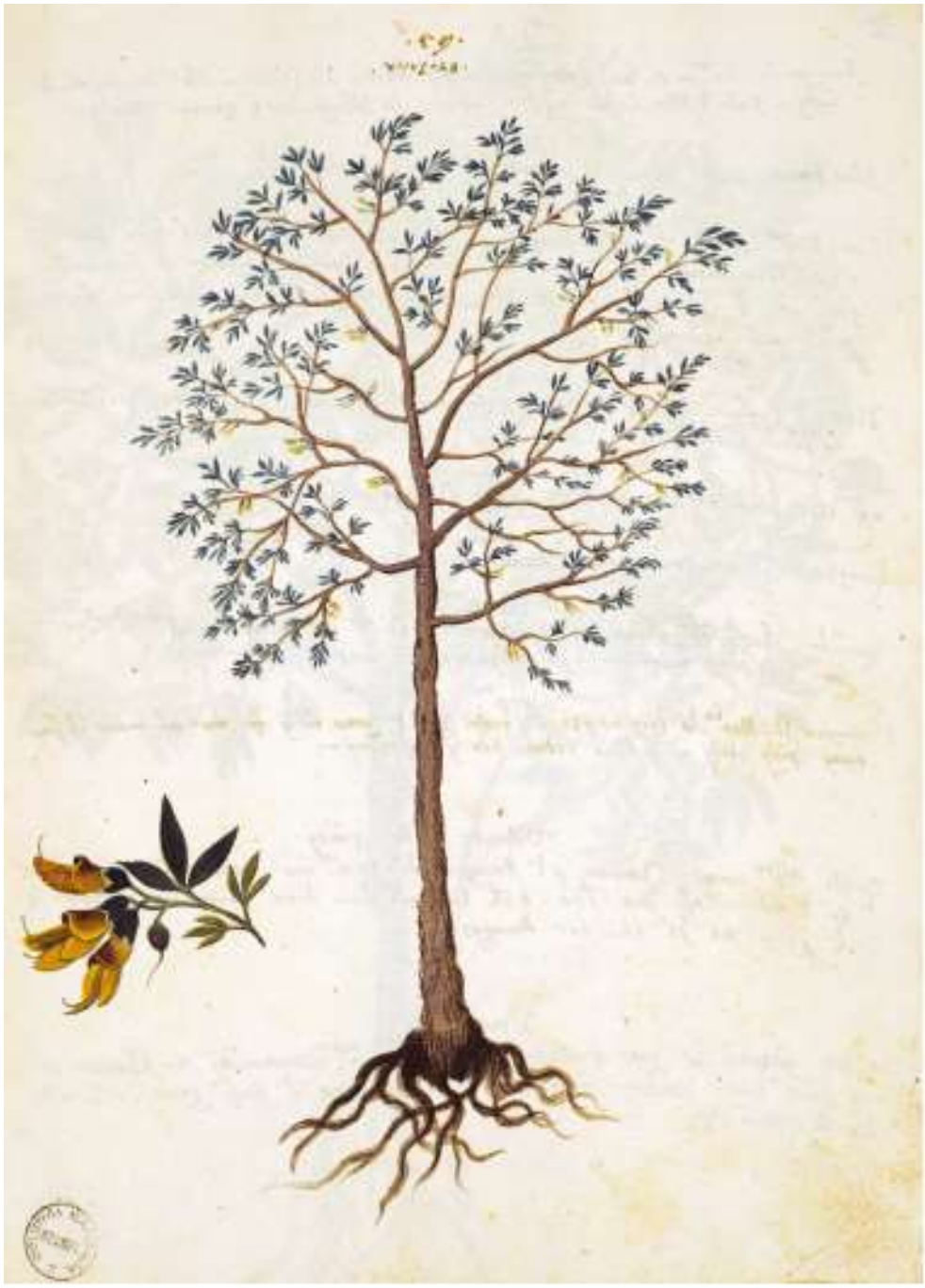


Fig. 6. 43 *Page from Pietro Antonio Michiel's work showing Anagyris foetida (stinking bean trefoil),* vol. 5, folio 59r, c.1553–1565 C.E., Biblioteca Nazionale di San Marco, Venice.

Fig. 6. 44 Gherardo Cibo, *page from Add MS 22332 showing Oenanthe crocata (hemlock water-dropwort) or Peucedanum cervaria (hog's fennel)*, folio 8r, 16th century C.E., British Library, London.

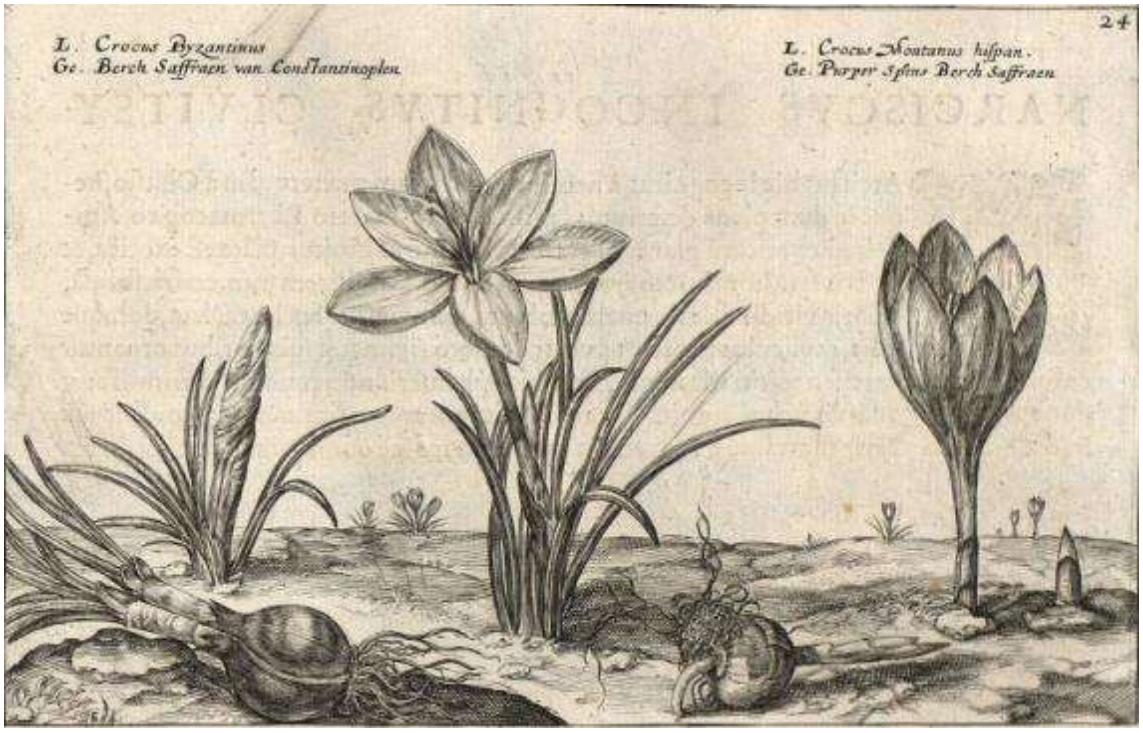


Fig. 6. 45 *Page from Autumnus horti floridi rariores autumni […] showing plants belonging to the genus Crocus,* table 24, 1616 C.E., digitised copy from the Biblioteca Digital del Real Jardín Botánico de Madrid, Madrid.

Fig. 6. 46 Giovanna Garzoni, *Ranunculus with two almonds and a hymenopteran*, 17th century C.E., tempera and black pencil, Uffizi, Florence (inv. no. 2149 O).

Fig. 6. 47 *Page from Flora Graeca […] showing a landscape,* vol.1, frontispiece, 1806 C.E., digitised copy from the Bodleian Library, Oxford.

Fig. 6. 48

On the left: *Page from Rari 278 showing honey producing bees*, page 409, 16th century C.E., Biblioteca Universitaria Alessandrina, Rome.

On the right: *Page from Mattioli's Commentary on Dioscorides showing honey producing bees,* page 409, 1568 C.E., digitised copy from the Getty Research Institute Research Library, Los Angeles.

Fig. 7. 1 *Porta of St Peter*, May 2022, Arcevia.

Fig. 7. 2 *Porta of St Lucy*, May 2022, Arcevia.

Fig. 7. 3 *Porta of St Augustine*, May 2022, Arcevia.

Fig. 7. 4 *Porta del Sasso*, May 2022, Arcevia.

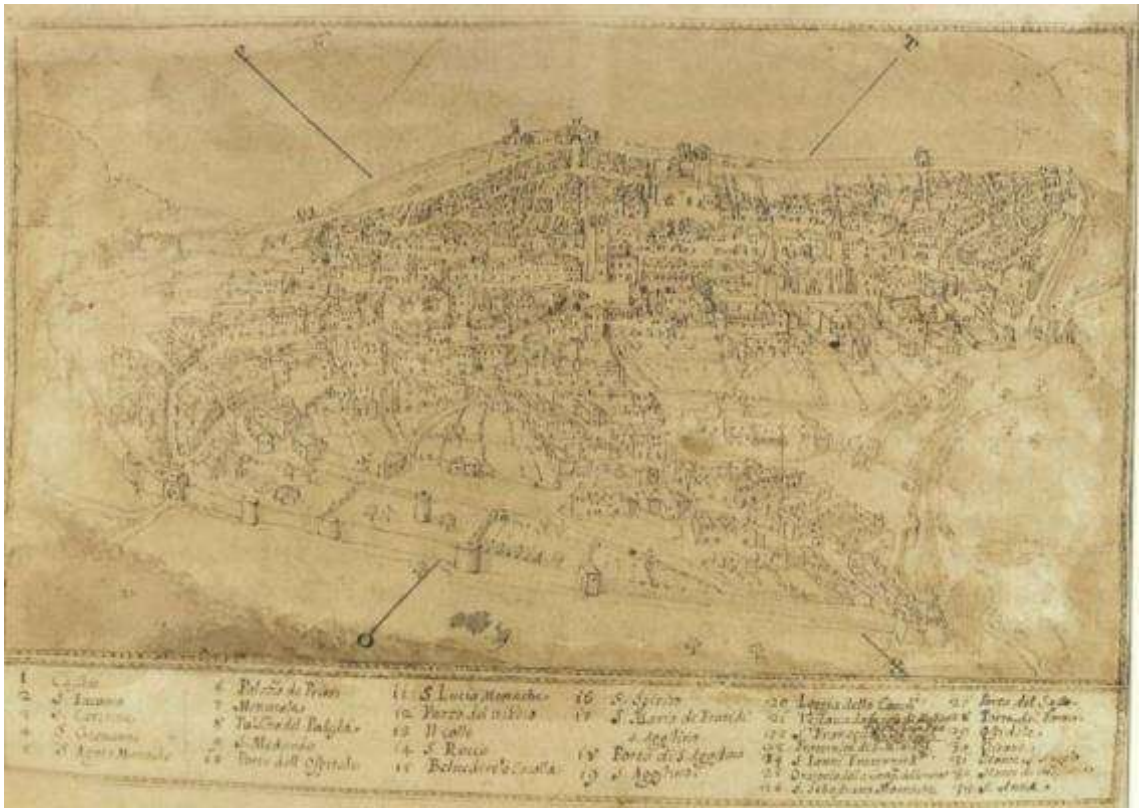


Fig. 7. 5 Gherardo Cibo, *Detail of page from Historiarum libri duo […] showing Rocca Contrada*, folio 77v, 1596–1601 C.E., Biblioteca Comunale Antonelliana, Senigallia.

Fig. 7. 6 *Tourist map of Arcevia*, May 2022, Arcevia.

Fig. 7. 7 *A step street*, May 2022, Arcevia.

Fig. 7. 8 *Corso Mazzini*, May 2022, Arcevia.

Fig. 7. 9 Giovanni della Robbia, *Altarpiece*, 1511 C.E., Collegiate Church of St Medardus, Arcevia.

Fig. 7. 10 *St Francis' cloister*, May 2022, Arcevia.

Fig. 7. 11 *A building with potted plants*, July 2022, Arcevia.

Fig. 7. 12 *A building with plants on its roof*, July 2022, Arcevia.

Fig. 7. 13 *A flock of birds*, July 2022, Arcevia.

Fig. 7. 14 *View from the Belveder spot*, May 2022, Arcevia.

Fig. 7. 15 *Church of St Augustine with two road signs*, May 2022, Arcevia.

Fig. 7. 16 *Arcevia's surroundings*, May 2022, Arcevia.

Fig. 7. 17 *View of the Church of St Mary of Grace*, May 2022, Arcevia.

Fig. 7. 18 *Flowers of plants belonging to the genus Cyclamen*, May 2022, Arcevia.

Fig. 7. 19 *Dried plants*, July 2022, Arcevia.

Fig. 7. 20 *Flowering plants*, July 2022, Arcevia.

Fig. 7. 21 *Church of St Mary of Renali*, July 2022, Arcevia.

Fig. 7. 22 *View of Arcevia*, July 2022, Arcevia.

Fig. 7. 23 Gherardo Cibo, *Southern landscape*, 16th century C.E., ink and watercolour, Albertina, Vienna (inv. no. 32938).

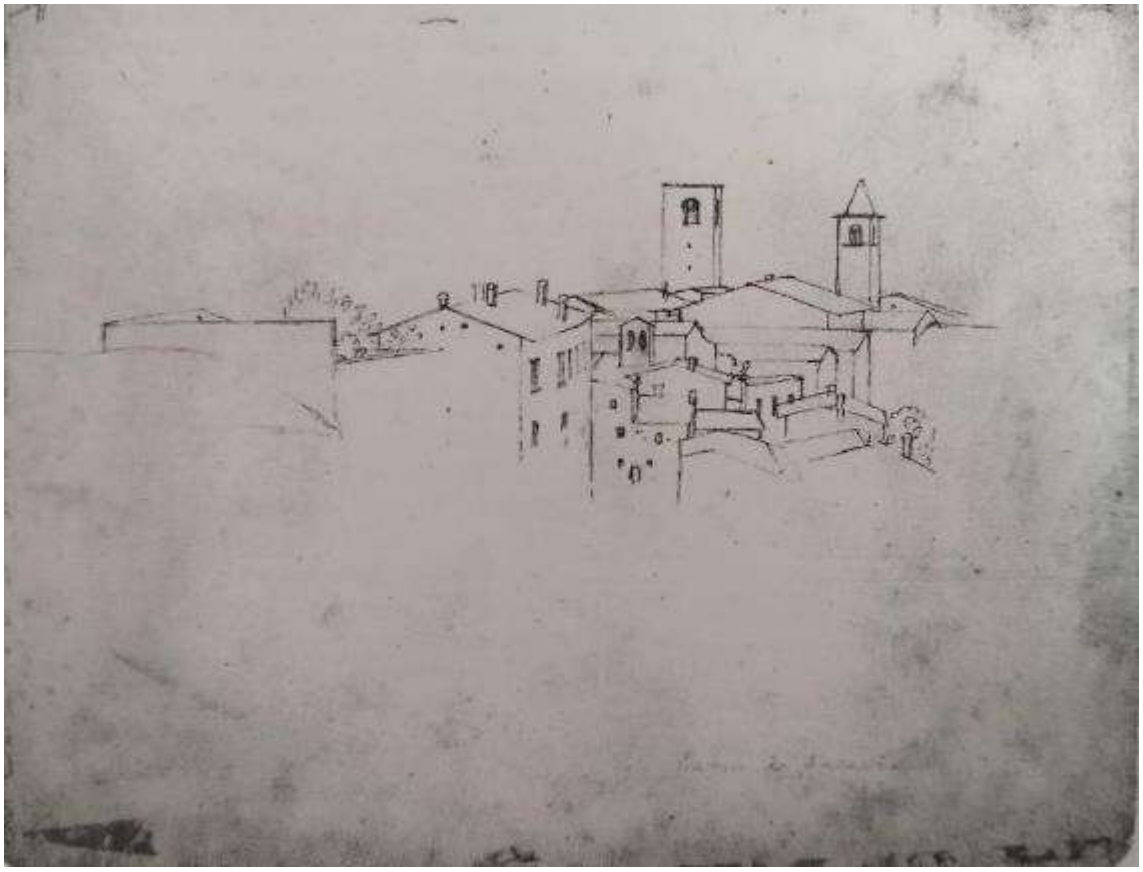


Fig. 7. 24 Gherardo Cibo, *View of Arcevia*, 16th century C.E., pen and ink, Staatsgalerie Stuttgart, Stuttgart (inv. no. C 1990/3975,a).

Fig. 7. 25 Gherardo Cibo, *View of a small church and city walls, a church and a gate*, c.1570 C.E., ink and watercolour, Szépművészeti Múzeum, Budapest (inv. no. 1927-2038).

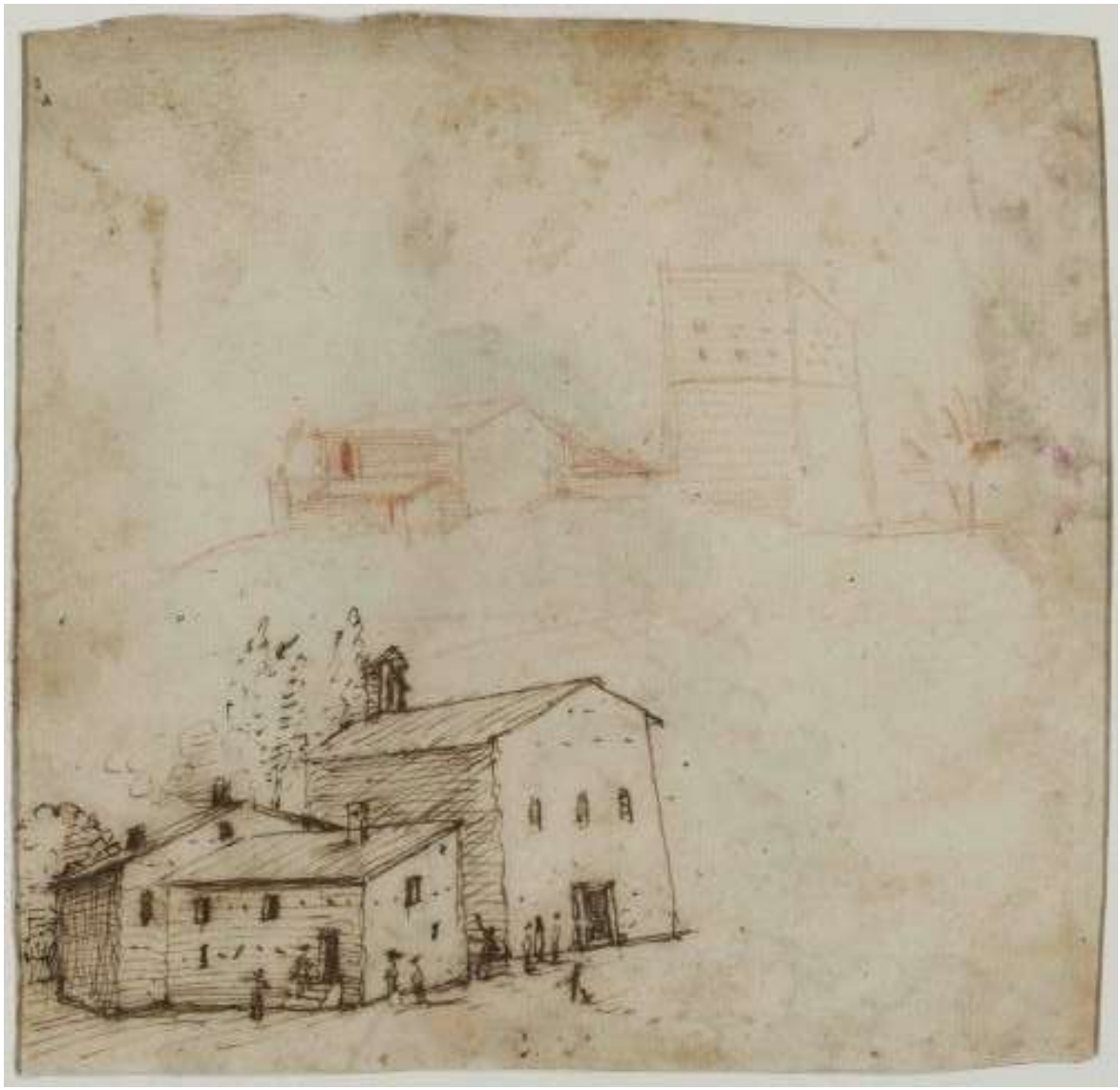


Fig. 7. 26 Gherardo Cibo, *View of the Church of St Sebastian at Senigallia; buildings and a tower*, c. 1570 C.E., ink and red chalk, Szépművészeti Múzeum, Budapest (inv. no. 1927-2033).

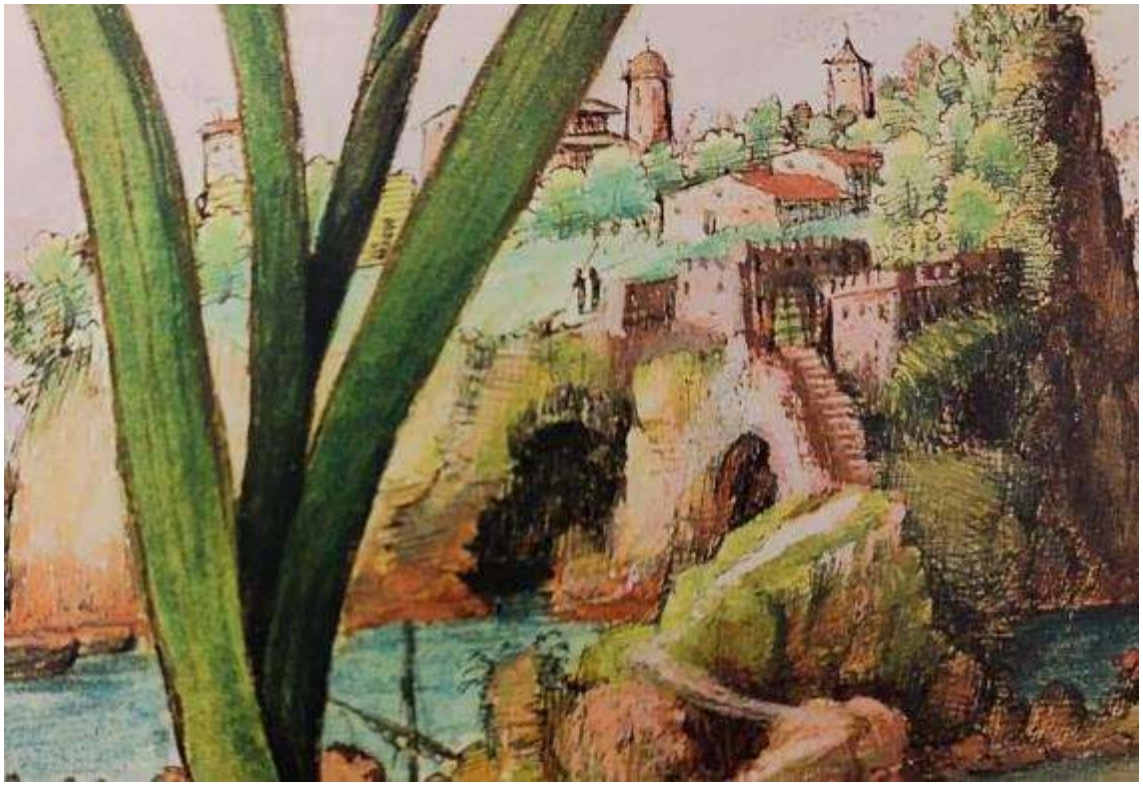


Fig. 7. 27 Gherardo Cibo, *detail of page from Add MS 22332 showing Gladiolus italicus (field gladiolus)*, folio 72r, 16th century C.E., British Library, London.

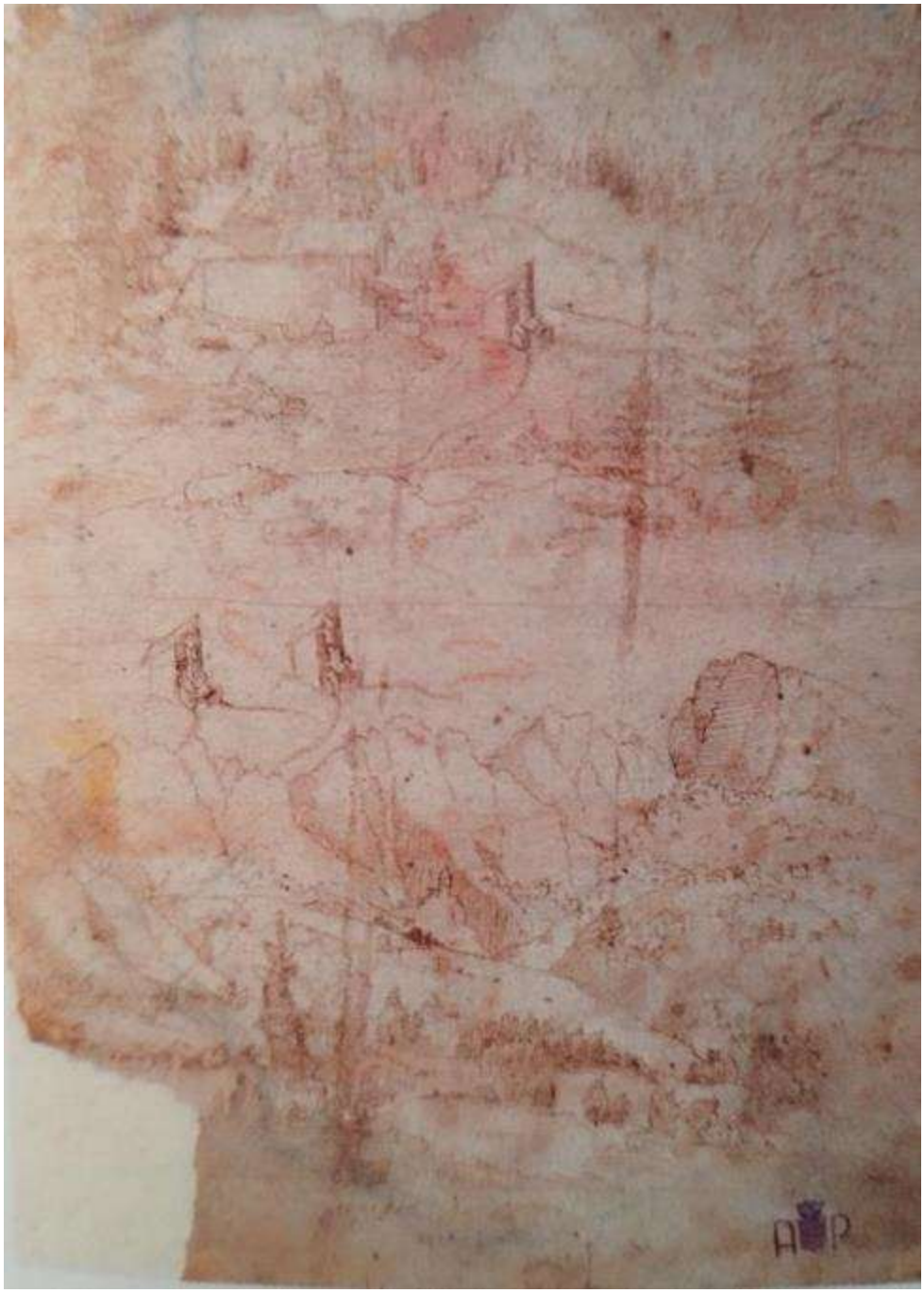


Fig. 7. 28. Gherardo Cibo, *A wooded landscape; view of an Apennine valley*, 16th century C.E., pen and ink, Pinacoteca Civica, Ascoli Piceno (inv. no. 305).

Fig. 7. 29 Gherardo Cibo, *page from Add MS 22332 showing two naturalists*, folio 6r, 16th century C.E., British Library, London.