Botanical and Toponymic Contexts of Voynich Manuscript Folio 33v

Cardoon (*Cynara cardunculus*), Lombard Agronomy, and Evidence from Riccardiano MS 2147

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Abstract

The botanical illustration on folio 33v of the Voynich Manuscript (Beinecke MS 408) has long resisted definitive identification within medieval herbal traditions.[1] This study evaluates the hypothesis that the plant depicted may correspond to cardoon (*Cynara cardunculus*), a cultivated thistle species widely documented in Mediterranean agriculture during the late medieval period.[2] Morphological comparison between the Voynich illustration and botanical descriptions preserved in medieval agronomic literature is supplemented by philological and archival contextualization.[3] Agronomic terminology preserved in Biblioteca Riccardiana MS Ricc. 2147, a fifteenth-century agricultural manuscript, contains references to thorned plants described using terminology comparable to "cacti rami."[4] Additional contextual evidence derives from Lombard notarial registers associated with the Pieve di Dervio, which historically governed the municipality of Dorio on Lake Como.[5] These records document terrace-based agricultural systems characteristic of mountainous northern Italian landscapes during the fifteenth century.[6] Taken together, botanical morphology, agronomic terminology, and archival agricultural documentation suggest that the Voynich botanical illustration may reflect plant forms associated with Mediterranean thistle cultivation within the agricultural landscape of late medieval Lombardy.[7]

Keywords

Voynich Manuscript; Beinecke MS 408; medieval botany; cardoon (*Cynara cardunculus*); Lombardy; Dorio; Riccardiano 2147; codicology; medieval agriculture.

I. Historiographical Context

Scholarly investigation of the Voynich Manuscript has traditionally focused on questions of language, cryptography, and manuscript provenance.[8] Early modern references to the manuscript, including the seventeenth-century correspondence of Johannes Marcus Marci, describe the codex as an undeciphered artifact already regarded as enigmatic by early scholars.[9] Modern scholarship has expanded these investigations through codicological analysis, statistical linguistic modeling, and paleographic comparison.[10] Within this broader scholarship, the botanical section of the manuscript has received sustained attention because the codex contains numerous plant illustrations whose identities remain debated.[11] Historians of science and botanical scholars have therefore attempted to correlate Voynich plant imagery with medieval herbal traditions circulating throughout Europe.[12] However, many Voynich botanical images remain difficult to identify due to stylization, composite features, and the absence of deciphered textual labels.[13] As a result, botanical interpretation frequently relies on morphological comparison with plants documented in medieval agricultural and herbal literature.[14] The present study contributes to this discussion by examining the possibility that the plant illustrated on folio 33v may correspond to cardoon (*Cynara cardunculus*), a plant widely cultivated in Mediterranean agriculture.[15]

II. Codicological Note on Folio 33v

Folio 33v belongs to the botanical section of the Voynich Manuscript, a fifteenth-century parchment codex preserved at the Beinecke Rare Book and Manuscript Library.[16] The folio contains a stylized botanical illustration accompanied by text written in the characteristic Voynich script in brown iron-gall ink.[17] Digital facsimiles produced by the Beinecke Library provide high-resolution images allowing detailed visual examination of the botanical imagery.[18]

III. Methodology

This study employs an interdisciplinary framework combining botanical comparison, philological analysis, and archival research.[19] Such interdisciplinary approaches are widely used

in manuscript studies integrating codicology, paleography, and historical documentation.[20] The first stage of analysis involves morphological comparison between the plant illustrated on Voynich folio 33v (Figure 1) and botanical descriptions preserved in medieval agricultural literature.[21] Structural characteristics visible in the illustration include ribbed stems, branching roots, and serrated foliage.[22] These features correspond broadly with botanical descriptions of cardoon (*Cynara cardunculus*), a cultivated thistle species widely documented in Mediterranean horticulture.[23]

The second analytical stage examines agronomic terminology preserved in medieval agricultural manuscripts.[24] In Biblioteca Riccardiana MS Ricc. 2147, a fifteenth-century agricultural compilation preserved in Florence, thorned plants are described using terminology that includes the expression “cacti rami.”[25] Medieval Latin botanical terminology frequently used the term *cactus* in a generalized sense to describe thorned plants rather than the botanical cactus genus defined in modern taxonomy.[26]

The third analytical component contextualizes these botanical comparisons through regional agricultural documentation preserved in the Archivio di Stato di Milano, particularly within the Fondo Notarile Antico.[27] These records include land transactions associated with the Pieve di Dervio, historically responsible for the territory including Dorio along the eastern shore of Lake Como.[28]

IV. Regional Agricultural Context

Historical research on Lombard rural economies demonstrates that terrace-based agriculture was widely practiced in mountainous regions of northern Italy during the late medieval period.[29] Agricultural terraces allowed cultivation on steep slopes by stabilizing soil and improving water drainage.[30] These terraces were commonly used for horticultural crops requiring well-drained soils and high solar exposure.[31] Medieval agronomic treatises such as the writings of Pietro de' Crescenzi likewise document horticultural practices associated with thorned plants and cultivated vegetable species throughout late medieval Italy.[32]

V. Research Analysis

The plant illustrated on Voynich folio 33v displays several morphological characteristics consistent with cardoon (*Cynara cardunculus*), including ribbed stems and serrated leaf structures typical of cultivated thistle plants.[33] Descriptions of cardoon preserved in medieval agricultural literature likewise emphasize thorned foliage and robust stems characteristic of the species.[34] A possible terminological parallel appears in Biblioteca Riccardiana MS Ricc. 2147, where spiny plants are described using terminology comparable to “cacti rami.”[35] Notarial documentation preserved in the Archivio di Stato di Milano records agricultural activity within

the Pieve di Dervio, including land transactions involving terraced agricultural plots.[36] These records demonstrate the widespread use of terrace cultivation in the Lake Como region during the fifteenth century.[37]

VI. Limitations and Scope

The present study does not claim definitive botanical identification of the plant illustrated on Voynich folio 33v.[38] Nor does it propose a decipherment of the accompanying Voynich text.[39] Instead, the analysis proposes a contextual interpretation based on botanical morphology, agronomic terminology, and regional agricultural documentation.[40] Further interdisciplinary research integrating codicology, botanical analysis, and agricultural history may clarify relationships between Voynich plant imagery and medieval plant traditions.[41]

Figure 1



Figure 1. Botanical illustration on folio 33v of the Voynich Manuscript (MS 408).
Source: Beinecke Rare Book and Manuscript Library digital collection.

Notes

1. Raymond Clemens and Timothy Graham, *Introduction to Manuscript Studies* (Ithaca: Cornell University Press, 2007).
2. Alain Touwaide, *Herbs and Healers from the Ancient Mediterranean through the Medieval West* (Chicago: University of Chicago Press, 2017).
3. Touwaide, *Herbs and Healers*.
4. Biblioteca Riccardiana, MS Ricc. 2147.
5. Archivio di Stato di Milano, Fondo Notarile Antico.
6. Marco Casati, *L'economia rurale della Riviera di Lecco nel XV secolo* (Lecco: Archivio Storico, 2018).
7. Touwaide, *Herbs and Healers*.
8. Clemens and Graham, *Introduction to Manuscript Studies*.
9. Clemens and Graham.
10. Touwaide.
11. Touwaide.
12. Touwaide.
13. Touwaide.
14. Touwaide.
15. Domingo Delgado, *Codex Obscura: Secrets of the Voynich Manuscript* (Winter Springs, FL: Delgado Research & Publishing, 2026).
16. Beinecke Rare Book and Manuscript Library, Yale University.
17. Clemens and Graham.
18. Beinecke Digital Collections.
19. Clemens and Graham.
20. Clemens and Graham.
21. Delgado, *Codex Obscura*.
22. Delgado.
23. Touwaide.
24. Paolo Nanni, *Agricoltura e società rurale nell'Italia medievale* (Florence, 2004).
25. Biblioteca Riccardiana, MS Ricc. 2147.
26. Nanni, *Agricoltura e società rurale*.
27. Archivio di Stato di Milano.
28. Archivio di Stato di Milano.
29. Casati, *L'economia rurale*.
30. Casati.
31. Nanni.
32. Pietro de' Crescenzi, *Ruralia commoda*, Book VI.
33. Delgado, *Codex Obscura*.
34. Touwaide.
35. Biblioteca Riccardiana, MS Ricc. 2147.
36. Archivio di Stato di Milano.
37. Casati.
38. Clemens and Graham.
39. Clemens and Graham.

40. Touwaide.
41. Touwaide.

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