Seeds of Knowledge
Early Modern Illustrated Herbals

OCTOBER 6, 2023 TO JANUARY 14, 2024

LARGE PRINT LABELS

The Morgan Library & Museum

Basilius Besler (1561–1629)
Johann Leypold (act. 1607–19), engraver
***Hortus Eystettensis* (Garden of Eichstätt)**
Altdorf: Konrad Bauer, 1613
Cat. PG-B003

In 1596 Joachim Camerarius was commissioned by Prince-Bishop Johann Konrad von Gemmingen (1561–1612) to oversee the construction of an extensive garden around his castle in Eichstätt. Camerarius died two years later, however, and the work was completed by Besler, a local apothecary. This lavish volume, a record of that garden, was at the time the tallest European printed book ever published. With its large format, many of the 367 plates presented plants at full scale. And the new medium of copperplate engraving enabled vastly more lifelike renderings than had been possible with woodcut. The book contains a wide variety of plants from Europe, Africa, Asia, and the Americas, including the newly fashionable tulip bulbs imported from the Ottoman Empire.

Pedanius Dioscorides (ca. 40–90)
***De materia medica* (On medical material)**
Constantinople, 875–925
The Morgan Library & Museum, purchased by J. P. Morgan Jr., 1920; MS M.652, fols. 75v–76r

For more than 1,600 years, Dioscorides was the uncontested Western authority in the fields of pharmacology and botany. *De materia medica* provides the name and geographical distribution of plants, sometimes detailing which parts should be used, and briefly describes collecting, preserving, preparing, and dosing their extracts. Many of the books in this exhibition cite Dioscorides or are updated commentaries on this work. One of the oldest copies of *De materia medica* to survive, this manuscript was perhaps commissioned by the Byzantine emperor Leo VI (reigned 886–912). The Arabic and Ottoman names of the plants (here, those of broad/fava bean and poison hemlock) were added in the fifteenth or sixteenth century when the manuscript was still in Constantinople.

Hieronymus Harder (ca. 1523–1607)
***Herbarium vivum* (Living herbal)**
Southern Germany (Ulm?), ca. 1594
Cat. PG-B002

Harder, who was active around Ulm, Germany, between 1562 and 1607, is known to have produced twelve such plant-specimen books (eleven of which are known to survive today). His collections of dried and pressed plants were meant to be used alongside printed herbals, enabling the material study of botany for those without access to a large, living garden. The collection begins with early bloomers, such as snowdrops, and ends with the late-flowering autumn crocus. In addition to native wild and garden plants, he included newly imported plants, such as tobacco, peppers, and tomatoes, all of which had spread rapidly through Europe thanks to the exchange of seeds among botanists.

Pliny the Elder (23/24–79)
Benedetto Bordone (1450–1530), illustrator
***Historia naturalis* (Natural history)**
Venice: printed by Melchior Sessa for Alessandro Benedetto, 1513
Cat. PG-K003

The Roman naturalist Pliny, a contemporary of Dioscorides, transformed Western herbal knowledge through his *Historia naturalis*, considered to be the first Western encyclopedia. Its thirty-seven books cover all aspects of the natural history of the ancient world (mathematics, geography, astronomy, and zoology). Sixteen are devoted to subjects related to botany, with five specifically addressing the use of plants for curative purposes. While individual plants are not illustrated, this 1513 edition begins each chapter with an image related to the content therein, such as apothecaries preparing medicines from herbs.

Odo of Meung [pseud. Macer Floridus] (eleventh century)
***De viribus herbarum carmen* (Poem on the powers of herbs)**
Geneva: (Jean Belot?), ca. 1495
Geneva: (Jean Belot?), 1496–98
Cat. PG-K009–K010

This little book, frequently given the eponymous title *Macer floridus*, catalogues medicinal, nutritional, and aromatic herbs, describing their main properties and healing uses. To facilitate reading, the wide margins include printed keywords of the names of illnesses, ailments, and diseases for which the plants are recommended. The verse text and schematic illustrations aid memorization. This illustrated herbal was issued in Geneva in six editions within twenty years, which speaks to the popularity of the text, then nearly four hundred years old; the first two editions are on display here.

Master of Claude de France (act. ca. 1508–1520s)
Germander Speedwell* (Veronica chamaedrys) *with a Ladybug
Daffodil* (Narcissus pseudonarcissus) *with a Beetle
Chicory* (Chichorium intybus) *with a Dragonfly
France, Loire River Valley (Tours?), ca. 1515–20
The Morgan Library & Museum, purchased on the Fellows Fund with the special assistance of Mrs. Donald M. Oenslager, 1984; MS M.1051.1–3

These three leaves were painted by an anonymous artist who worked for Queen Claude of France (reigned 1514–24). The naturalistic portrayal of flowers, often with insects, was popular in the border decorations of luxury devotional manuscripts in early sixteenth-century France. Though highly detailed, the images here are likely sample illustrations—examples of what the artist could do—rather than leaves from a fully realized manuscript. The realism possible in paint (for wealthy clients) was only just starting to be achieved in woodcut prints for mass distribution, as evidenced by the next books in the exhibition.

Konrad von Megenberg (1309–1374)
***Buch der Natur* (Book of nature)**
Augsburg: Johann Bämler, August 19, 1478
Cat. PG-K028.1

The *Buch der Natur* is generally regarded as the first German natural history encyclopedia. It was compiled from ancient, medieval, and Islamic sources that were adapted to conform to the Christian view of Creation. The text is divided into twelve parts, including chapters focused on anatomy, astronomy, animals, and other natural elements, with two sections devoted to trees and medicinal herbs. The individual plants are not illustrated, but each chapter is preceded by a full-page woodcut related to its topic. Critically, it was important to the author that his descriptions of the natural world be accessible to lay readership rather than just the Latin-educated elite.

***Herbarius latinus* (Latin herbal)**
Mainz: Peter Schöffer, 1484
Cat. PG-K031

Popular and influential, the *Herbarius* provided readers with basic herbal remedies. The text is clearly laid out, with each large illustration identified with the plant's name in Latin and German. These simple illustrations are visual mnemonics, icons or symbols guiding the reader to information, in Latin only, on a plant with which they already are familiar. Almost all the medicinal herbs (or *simplicia*) described are plants native to central Europe that readers could find in gardens, woods, and meadows. This book was of assistance to apothecaries, physicians, monasteries, and households wishing to lay out herb gardens or stock medicine chests.

***Herbarius Patavie* (Herbal of Passau)**
Passau: Johann Petri, 1485
Cat. PG-K033.2

Copyright, as we now know it, did not exist in the fifteenth century, and printers were free to copy others' work. The first Mainz *Herbarius* (to the left) was a commercial success, and other publishers in Germany, Belgium, France, and Italy issued their own editions. Johann Petri in Passau quickly reproduced the *Herbarius*, copying the illustrations but changing some of the German plant names to those more commonly used around Passau. Salvia, shown here, is incorrectly identified as hemp-agrimony (*Eupatorium cannabinum*) in this edition. A later reader noted the plant's colors in the margin: "green and yellow and blue and iron-colored."

CLOCKWISE, FROM TOP LEFT:

Johann Wonnecke von Kaub, *Gart der Gesundheit* (Mainz: Peter Schöffer, March 28, 1485), leaf [a]1v.

Johann Wonnecke von Kaub, *Gart der Gesundheit* (Ulm: Konrad Dinckmut, March 31, 1487), leaf a1v.

***Hortus sanitatis* (Mainz: Jakob Meydenbach, June 23, 1491), leaf A1v.**

Johann Wonnecke von Kaub, *Gart der Gesundheit* (Augsburg: Johann Schönsperger, June 5, 1486), leaf a1v.

All images from the Peter Goop Collection. Photos: Naomi Wenger.

Johann Wonnecke von Kaub (act. 1484–1503)
Erhard Reuwich (act. 1483–1486), illustrator
***Gart der Gesundheit* (Garden of health)**
Mainz: Peter Schöffer, March 28, 1485
Cat. PG-K048

The small Latin *Herbarius*, also printed by Schöffer, was a precursor to this larger work. The first German-language herbal, the *Gart* is also often identified as the first "true" European printed herbal because of its comprehensive approach (382 plants are illustrated, compared to the 150 in the *Herbarius*). Although he drew from older works, including Dioscorides, Odo of Meung, and Megenberg, the author included a great deal of practical, firsthand experience. The text provides the synonyms, characteristics, uses, and effects of each plant, and tells the reader where to look for them and when to pick them. Reuwich's illustrations remain stylized, yet the large format allowed for more detail, as with the columbine (*left*) depicted from bud to full flower.

Johann Wonnecke von Kaub (act. 1484–1503)
***Gart der Gesundheit* (Garden of health)**
Augsburg: Johann Schönsperger, June 5, 1486
Cat. PG-K049

The German-language herbal was a hit. Printers began churning out editions, and one or more new versions came out nearly every year until 1500. The year after Schöffer's first edition, presses in Augsburg and Strasbourg issued dueling editions, both with smaller illustrations and a two-column format for the text. These changes helped to reduce the book by about two hundred pages, thus making it more affordable to a larger German readership. Illustrated on the left are two varieties of beet greens and on the right, basil.

***Hortus sanitatis* (Garden of health)**
Mainz: Jakob Meydenbach, June 23, 1491
Cat. PG-K053

Although this Latin herbal shares its title with the *Gart der Gesundheit*, it is not a translation but rather a work newly compiled by the printer, Meydenbach. The *Hortus* is largely derived from the fourteenth-century *Pandectarum medicinae* by Matthaeus Silvaticus of Salerno, which itself was based on Dioscorides, with each entry given clear descriptions followed by medical uses (*operationes*). Aside from discussing 530 plants, the text includes sections on animals, birds, fish, and minerals and gems—all natural materials thought to benefit the human body. The 1,066 illustrations are stylized but attempt the representation of textures. Shown here are smyrnium, sugarcane, and the tree in the Garden of Eden (actually a type of banana).

***Hortus sanitatis* (Garden of health)**
Strasbourg: Johann Prüss, before October 21, 1497
Cat. PG-K054.1

The *Herbarius*, *Gart*, and *Hortus* were all first printed in Mainz, but the printer failed to capitalize on their commercial success. Operating in other cities, mainly Augsburg and Strasbourg, presses that specialized in vernacular and practical literature published all subsequent editions and reprints. In Strasbourg, the *Hortus* was taken up by Prüss, who found an eager-enough market that he printed three editions between 1497 and 1500. Both the Mainz and Strasbourg *Hortus* include a useful index of diseases and ailments with references to the medicinal preparations in the text. Shown here are camphor, hosta, and garden spurge.

***Le grant herbier en francoys* (The large herbal in French)**
Paris: printed by François Regnault for Jacques Nyverd, 1521
Cat. PG-K041

The French *Herbier* emerged from a different textual tradition than the *Herbarius*, *Gart*, and *Hortus* editions published in Germany. It draws more heavily upon older Latin, Jewish, and Islamic sources, disregarding some of the local, practical herb lore added to the German books. The *Herbier*, however, relied on the German editions of the *Gart der Gesundheit* for its 308 illustrations, thus uniting two disparate traditions. The text includes, for the first time in any printed herbal, a long table of remedies arranged according to the bodily location of the ailment (from head to foot) and an alphabetical index of plant names.

Hieronymus Brunschwig (ca. 1450–1512)
***Das Buch der rechten Kunst Distilieren* (Book on the proper art of distillation)**
Strasbourg: Johann Grüninger, May 8, 1500
Cat. PG-K061

Brunschwig, a Strasbourg surgeon, describes distillation ovens, equipment, and methods; he instructs the reader in the practice of distillation and details the therapeutic applications of waters distilled from vegetable and animal substances. The distillation techniques used to extract plant essences were an important step on the road to modern pharmacology. The printer Grüninger produced new illustrations for the section on distillation methods but economically reused the plant woodcuts from his earlier edition of the *Gart der Gesundheit*.

Otto Brunfels (1488–1534)
Hans Weiditz the Younger (ca. 1495–1536), illustrator
***Herbarum vivae eicones* (Living images of herbs)**
Strasbourg: Johann Schott, 1531
Cat. PG-K063

The importance of this herbal is announced in its title: this is the first European herbal with highly naturalistic illustrations, including even images of roots, copied directly from life. Weiditz, who studied under Albrecht Dürer, produced the woodcuts, and the text praises the illustrations for their artistic mastery. The almost exaggerated naturalism was a complete novelty and revolutionized herbal illustration. Equally as remarkable, Brunfels's text almost exclusively addresses local plants, including forty that had not previously been described—such as the water lilies shown here—rather than strictly relying on ancient authorities who knew nothing of German flora.

Leonhart Fuchs (1501–1566)
Albrecht Meyer (act. 1542), illustrator
Heinrich Füllmaurer (act. 1542), woodblock illustrator
Veit Rudolph Speckle (d. 1550), blockcutter
***New Kreüterbůch* (New herbal)**
Basel: Michael Isengrin, 1543
Cat. PG-K071

Fuchs's herbal, first published in Latin in 1542, is regarded as a milestone in European natural history, especially botany. Deeply indebted to the woodcuts of Hans Weiditz, the 511 illustrations were so important to the work that, for the first time in any European printed book, portraits of the artists were included: Füllmaurer transferred Meyer's illustrations to woodblocks, which were then cut into relief by Speckle so they could be printed with the typographic text. Fuchs was particularly proud of the meticulous correspondence between the text and images. As shown here with the peanut illustration, the plant "portraits" are outlines without shading, a style that was thought to be a more scientific or objective mode of representation.

Self-portraits by Albrecht Meyer, Heinrich Füllmaurer, and Veit Rudolph Speckle, in *New Kreüterbůch* (Basel: Michael Isengrin, 1543), p. 897.

Pedanius Dioscorides (ca. 40–90)
Jean Ruel (1474–1537), translator
Joachim Camerarius the Younger (1534–1598), annotator
***De medica materia libri sex* ("On medical material" in six books)**
Lyon: Jean Frellon, 1547
Cat. PG-K079

Ruel was a French botanist, the primary physician to King François I (1494–1547), and a professor at the Sorbonne. His translation of Dioscorides, first published in 1516, became required reading for every natural history scholar. Camerarius bought this copy when he was eighteen years old. His marginal notations on nearly every page reveal how intently he studied Ruel's text. This annotated copy laid the foundations for Camerarius's later work: his editions of Mattioli, his *Hortus medicus*, and the *Hortus Eystettensis* (all on view in this exhibition).

Joachim Camerarius the Younger (1534–1598)
Jost Amman (1539–1591), illustrator
***Hortus medicus et philosophicus* (Medical and philosophical garden)**
Frankfurt am Main: printed by Johann Feyerabend for Sigmund Feyerabend, Heinrich Dack, and Peter Fischer, 1588
Cat. PG-K091

By 1564 Camerarius was a successful physician in Nuremberg who tended to princes, bishops, and wealthy merchants. He laid out a spacious and scientifically organized private *hortus medicus* (medical garden) outside the city. He bought many plants from Nuremberg merchants, most of whom got their supplies in Antwerp, the European center for plants from the East and West Indies. *Hortus medicus et philosophicus* is a catalogue of his garden containing an alphabetical list of about one thousand plants (including lemon balm and nasturtium, shown here) suitable for cultivation in a German garden—complete with names, synonyms, places of origin, flowering period, and tips for planting.

Pietro Andrea Mattioli (1501–1577)
Giorgio Liberale (b. 1527), illustrator
Wolfgang Meyerpeck (ca. 1505–1578), blockcutter
***Commentarii in sex libros Pedacii Dioscoridis Anazarbei de medica materia* (Commentary on the six books of Dioscorides's "On medical material")**
Venice: Vincenzo Valgrisi, 1565
Cat. PG-K076

Perhaps second only to Dioscorides, Mattioli is one of the most significant figures in early European botany. His aim was to provide physicians, apothecaries, and other practicing herbalists with accurately transmitted ancient knowledge in clear and accessible language, mixed with his opinions and practical experiences (and those of his large network of correspondents). The 1,012 large-format images mark the high point of botanical woodcut illustration in the sixteenth century, uniting technical and artistic virtuosity with morphological accuracy. In the herbal's dense prints of leaves, flowers, and fruits, nuanced hatching not only provides naturalistic shading but also suggests different surface qualities.

Giorgio Liberale (b. 1527), illustrator
Wolfgang Meyerpeck (ca. 1505–1578), blockcutter
Caper spurge (*Euphorbia lathyris*) woodblock
Prague, ca. 1562
Cat. PG-K076

Giorgio Liberale (b. 1527), illustrator
Wolfgang Meyerpeck (ca. 1505–1578), blockcutter
Hazelwort (*Asarum eurpaeum*) woodblock
Prague, ca. 1562
The Morgan Library & Museum, purchased on the Harper Fund, 2001; PML 128764

Printed illustrations were a collaboration between at least two artists: one to draw the image and the other to carve the woodcut or engraving that would make the image reproducible. Liberale and Meyerpeck originally produced the illustrations for a 1562 Czech edition, which was printed in Prague, before sending the woodblocks to Venice. About one hundred of these woodblocks survive today, including those for caper spurge (page 1259) and hazelwort (page 36).

Pietro Andrea Mattioli (1501–1577)
Joachim Camerarius the Younger (1534–1598), editor
***Kreutterbuch* (Herbal)**
Frankfurt am Main: printed by Johann Feyerabend for Sigmund Feyerabend, Heinrich Dack, and Peter Fischer, 1586
Cat. PG-K078

Camerarius was a physician and botanist in Nuremberg. He revised and expanded a German translation of Mattioli's commentaries on Dioscorides by adding new plants and medicinal discoveries, as well as his own observations and personal experiences with cultivation. He criticized other editions for their "pretty" rather than realistic images and worked with about ten artists on new illustrations to meet his standards. The woodcuts attempt to achieve a certain scientific value, presenting enlarged details of specific plant parts—flowers, seeds, fruits, or leaves. On view is the section on the perennial anemone, with details of various varieties.

Jacopo Ligozzi (1547–1626)
***White Swallowwort* (Vincetoxicum officinale), ca. 1577–87**
Watercolor and opaque watercolor, over black chalk, on parchment
The Morgan Library & Museum, gift of Dr. Werner Muensterberger; 2010.184

Ligozzi was the court artist to Francesco I de' Medici, Grand Duke of Tuscany (1541–1587), and was tasked with recording all the plants in the Medici gardens in Florence and Pisa. The naturalistic drawing renders all elements of the plant—from root to flower—with leaves and blooms depicted from multiple angles. Ligozzi's work thus reflects the same concerns for scientific accuracy shown in the woodcuts for the Mattioli and Bock editions, which may have inspired the Medici project.

William Turner (d. 1568)
***A New Herball*, parts I and II**
London: Steven Mierdman and sold by John Gybken, 1551;
Cologne: Arnold Birckmann, 1562
Cat. PG-K082

Turner is considered the father of English botany. His *New Herball* came out in three parts (in 1551, 1562, and 1568) from printers in London and then Cologne, where Turner, a Protestant, had fled during the rule of Catholic Queen Mary Tudor (reigned 1553–58). *A New Herball* focuses on the medicinal virtues of each plant, consisting of a physical description, a detailed citation of the classical authorities, and a discussion of its healing and sometimes culinary properties. The book was the first English herbal not to be based on an earlier work, and Turner identified and recorded about three hundred native plants for the first time.

Hieronymus Bock (1498–1554)
David Kandel (1520–1592), illustrator
***Kreütterbuch* (Herbal)**
Strasbourg: Josias Rihel, 1577
Cat. PG-K084

While other northern European authors of herbals included select local plants alongside species known to the ancients, Bock concentrated solely on native flora. His vivid and often colloquial descriptions combine botanical knowledge with popular anecdotes. Kandel drew the herbal specimens under Bock's supervision but largely copied the images from the editions of Brunfels (illustrated by Weiditz) or Fuchs (by Meyer, Füllmaurer, and Speckle). When possible, Kandel added close-ups of the fruit or nuts produced by the plant. The volume on view is open to the section on hazelnut and bladdernut, with delicate hand-coloring to emphasize the naturalism.