

## Alain Touwaide

### The Countryside into Cities

According to the Latin encyclopedist Pliny (23/4–79 A.D.), first-century Roman citizens brought *the countryside into cities*:<sup>1</sup>

... Nowadays indeed under the name of gardens people possess the luxury of regular farms and country houses actually within the city . . .

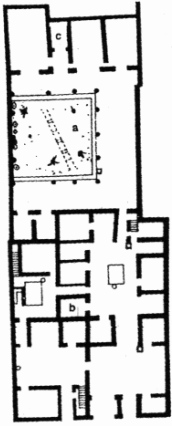
In other words, Pliny's contemporaries built houses with gardens that contained a variety of utilitary and decorative plants in a way that allowed them to enjoy many, if not all of the advantages of the countryside without having to leave the capital, its active and delightful life, its political contacts, and its sources of revenues.

Gardens with probably a lavish and colorful vegetation dramatically contrast with Cato's simple backyard. A bellicose and indefatigable adversary of Carthage who punctuated all his discourses at Rome's senate with the formule *Carthago delenda est* (*Carthage must be destroyed*), and a virulent partisan of old Roman traditions, Cato (234–149 B.C.) strongly defended and illustrated the cultivation of the only cabbage in Roman gardens in his *Manual of agriculture*.<sup>2</sup> According to him, indeed, it was not only an excellent nutrient and an all-healing medicine, but also a source of aesthetic pleasure!

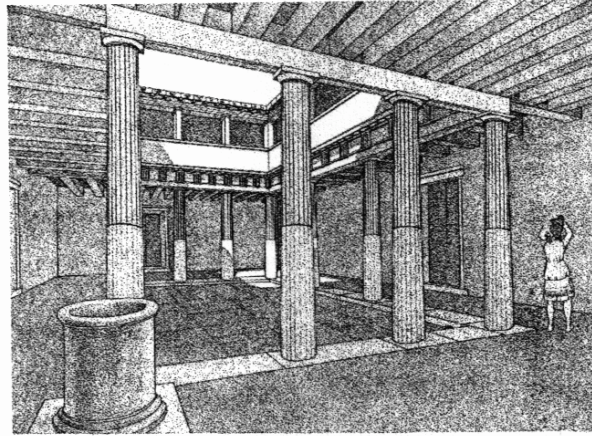
The transformation or, probably better, the revolution of Roman gardens from Cato to Pliny has been traditionally attributed to the seduction and influence exerted by Greek culture on Rome, as Pliny himself already did:<sup>3</sup> In a moralistic way not rare in his work,<sup>4</sup> the Latin encyclopedist attributes the responsibility of such transformation to an emblematic figure: Epicurus (341–270 B.C.), the best representative of hedonistic philosophy. This practice was first introduced at Athens by that connoisseur of luxurious ease, Epicurus; down to his day the custom has not existed of having country dwellings in town. Whatever Pliny's motivation might have been, it is true that Greek civilization deeply influenced Rome, particularly after the battle of Pydna (168 B.C.), to which we shall return. Horace (65–27 B.C.) perfectly expressed the fact in his well-known and somewhat paradoxal verses:<sup>5</sup>

... Captured Greece captured her savage victor and brought the arts into the agricultural Latium . . .<sup>6</sup>

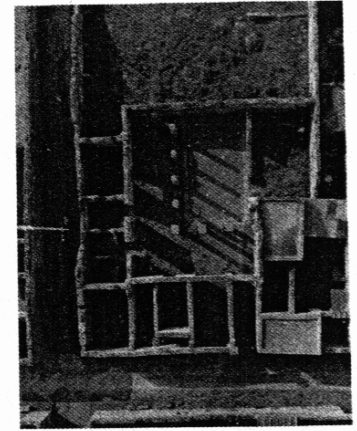
Archeology of Roman houses confirms such a Greek influence on Roman gardens. At Pompeii, for example, the traditional structure was transformed from a simple building with a small garden at the back (Fig. 1), to a larger construction that included a central court with a colonnade, that is, the peristyle of Greek houses (Figs. 2 and 3).<sup>7</sup> Roman gardens were embellished with sculptures in the Greek style.<sup>8</sup> Characteristically, the adoption of the Greek peristyle-structure went along with an



1. The structure of a traditional Roman house (from Maureen Carroll, *Earthy Paradises: Ancient Gardens in History and Archaeology*. London: British Museum, 2003).



2. A reconstruction of a Greek house in Delos, with its peristyle (from M. Carroll-Spillecke, ed., *Der Garten von der Antike bis zum Mittelalter* [Kulturgeschichte der antiken Welt 57]. Mainz: Philipp von Zabern, 1992).



3. The structure of a Pompeian house with a peristyle-garden (from Maureen Carroll, *Earthy Paradises: Ancient Gardens in History and Archaeology*. London: British Museum, 2003).

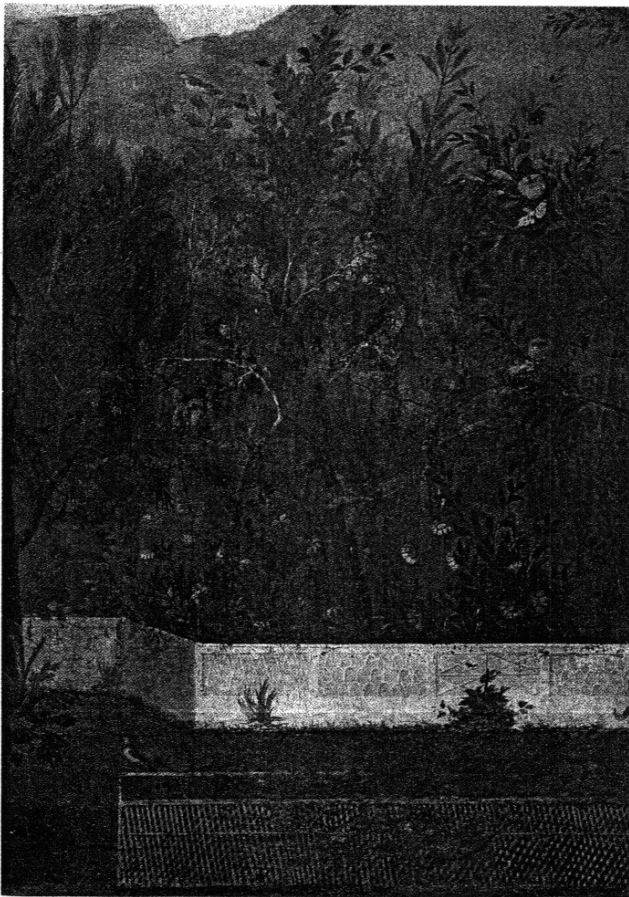
adaptation/transformation: the peristyle was no longer a court under the open sky, and a source of light and air; it became a garden. This is interpreted as a Roman innovation that would have introduced the *country in town*.<sup>9</sup>

Such a history has been summarized and explained by the creator of Roman garden archeology, Wilhelmina Jashemski:<sup>10</sup>

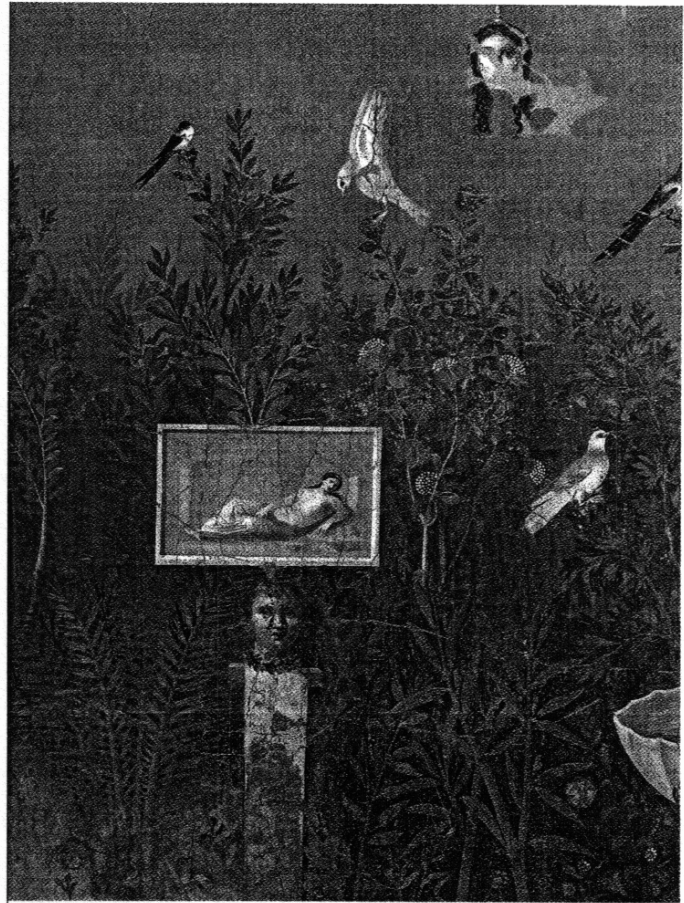
... Only at Pompeii can domestic architecture be traced for a period of almost four hundred years. Pompeii preserves examples of the early Italic house with the garden at the rear, houses that date back to the late fourth or early third century B.C. They remind us that the *hortus* is old; it formed a significant part of the primitive *heredium* ("hereditary estate"). The *hortus* was primarily a kitchen garden, but I suspect that even so the ancient gardener tucked in a few flowers amid the herbs and vegetables . . . Next at Pompeii come the elegant houses built by the Samnites during the second century B.C. . . . the Hellenistic peristyle was added to the Italic house . . . a living, breathing garden, instead of the paved courtyard found in Hellenistic houses . . . A love of beauty and gardens was a basic part of their lives [i.e. of Romans]; the desire for a bit of green, a few herbs, and flowers appears to have been an integral part of their character. The garden was intimately related to so many aspects of Roman life . . .

This explanation, of a romantic nature based on a supposed Roman character, can be complemented by economic history. In Pliny's time, indeed, Rome was at its zenith. During the first century B.C. it extended its domination to the entire Mediterranean basin. In 31 B.C. Octavius (63 B.C.–14 A.D.) defeated the float of Antony (ca. 83–30 B.C.) off the coast of Actium, and put in this way an end to almost fifty years of civil war. Then, in 27 B.C., he transformed the old Republic into an Empire, inaugurating a long period of peace and prosperity. He received the title of *Augustus*, under which he is better known. Roman ships sailed the Mediterranean without other risks than intemperies, and delivered to Rome goods of all kinds from all circum-Mediterranean regions, their hinterland, and even well beyond. Plants were included in this profusion of luxury that supposedly contributed to Rome's decadence, if it did not provoke it. This is all the more true because, in Nero's time (b. 15; emp. 54–68 A.D.), imperial politics aimed at creating an economic circuit by encouraging the circulation of wealth and provoking a demand for goods. Gardens, be they public or private, were part of this new economy.<sup>11</sup>





4. The garden fresco from the so-called Casa di Livia in Rome — (40–ca. 20 B.C.) (from Salvatore Settis. *Le pareti ingannevoli: La villa di Livia e la pittura di giardino*. Milan: Electa, 2002).



5. A garden fresco from Pompeii, Casa del Bracciale d'Oro (from Annamaria Ciarallo. *Il giardino pompeiano: Le piante, l'orto, I segreti della cucina*. Naples: Electa, 2002).

### Visualization and Perception of Gardens

If archeological findings confirm a transformation of Roman houses and gardens, and, in the best excavated ones, make it possible to know the plant species and their arrangement, they do not tell much on the appearance of such gardens or on the principle(s) that guided the selection and arrangements of their plants.<sup>12</sup> Some frescos of the late republican and early empire period with garden representations have been preserved, however, in Rome, Pompeii, and Oplontis.

In Rome, such frescos decorated the so-called *Casa di Livia*, that is, the *House of Livia* (58 B.C.–29 A.D.), the wife of August (63 B.C.–14 A.D.). This residence, which was also known in ancient sources as *ad gallinas albas* (*the villa of the white hens*) because of a mythological tale, was the empress' summer residence, and not her house on the Palatine.<sup>13</sup> It was located on the heights of the *via Flaminia* at the outskirts of Rome, close to present Prima Porta. These frescos, preserved since 1951 in Rome, at the Museo Nazionale Romano, Palazzo Massimo alle Terme,<sup>14</sup> have been differently dated. Ranuccio Bianchi Bandinelli suggests that they might be posterior to Livia's death<sup>15</sup> and date back to the first century A.D.<sup>16</sup> Recent publications have proposed earlier



periods: 20–10 B.C.,<sup>17</sup> 30–20 B.C.,<sup>18</sup> and, more recently, 40–circa 20 B.C.<sup>19</sup> Whatever their period, these frescos decorated a large (5.90 x 11.70 m.) *triclinium* (dining room) that was underground so as to keep fresh during the summer's heat. Its walls were painted with a representation of a garden so as to suggest that such a subterranean room was an open space in a garden with a lavish vegetation (Figure 4).<sup>20</sup>

Similar frescos (although not so well preserved) can be found in Rome, between present via Merulana and via Leopardi, in the so-called *Auditorium of Maecenas*. The building was located in the gardens of Maecenas (d. 8 B.C.), mostly known as a patron of letters and the arts under August, and has been considered without proof as an auditorium.<sup>21</sup> Its frescos are stylistically so close to those of the *Casa di Livia* that they have been considered to be by the same hand and dated to the first half of the first century, even though the construction of the building was estimated to be of the years 40–35 B.C.<sup>22</sup>

At Pompeii, frescos with garden representations adorned some houses such as the so-called *Casa del Bracciale d'oro*, the *Casa del Frutteto*, and the *Casa dei cubiculi floreali*, which, like the entire city, were all buried under the *pietra pomice*, the ashes and all the material from the eruption of the Vesuvius in 79 A.D. (Figure 5).<sup>23</sup>

Close to Pompeii, the villa of Oplontis, supposedly of Poppaea Sabina, Nero's second wife, contains a similar decoration.<sup>24</sup>

The most representative from our viewpoint is probably the *Casa del Bracciale d'oro* (Pompeii, Reg. VI, 17 [Ins. Occid.], 42 = Inv. 40690–40693), which was unpublished until recently.<sup>25</sup> This kind of fresco, which is structured in the same way as those of the *Casa di Livia*, is dated to the first half of the first century A.D.

The visual effect suggested by such frescos is echoed in the literary description of a garden in the pastoral romance *Daphnis and Chloe* by Longus, a Greek author of unknown epoch, maybe the second century A.D.(4.1–3):<sup>26</sup>

... the garden he trimmed with great care and diligence, that all might be pleasant, fresh, and fair. And that garden indeed was a most beautiful and goodly thing, . . . Trees it had of all kinds, the apple, the pear, the myrtle, the pomegranate, the fig, and the olive; and to these on the one side there grew a rare and taller sort of vines, that bended over and reclined their ripening bunches of grapes among the apples and pomegranates . . . To these were not wanting the cypress, the laurel, the platan, and the pine. And towards them, instead of the vine, the ivy leaned . . . Within were kept, as in a garrison, trees of lower growth that bore fruit. Without stood the barren trees, enfolding all, much like a fort or some strong wall that had been built by the hand of art . . . The roses, hyacinths, and lilies were set and planted by the hand, the violet, the daffodil, and pimpernel the earth gave up of her own good will. In the summer there was shade, in the spring the beauty and fragrancy of flowers, in the autumn the pleasantness of the fruits . . .

On the basis of building remains, such frescos as previously mentioned, and Longus's passage, it seems that the selection of plants and their arrangement in early empire gardens was rather simple and conventional: at the forefront, small colored flowers constituted a sort of low garland; distinguishable fruit trees occupied the center of the compositions, with colored spots representing their fruits; the back was constituted of higher trees that created an indistinct green wall as a fence. If this pictorial structure corresponded to reality, the principle for plant selection and ordering was mainly their size (with three types: low, middle, and higher) and their color (with the colored spots of flowers, those of the fruits, and then just green).

Be that as it may, the interpretation of such gardens has varied. Ranucio Bianchi Badinelli compared these gardens to the parks of Iranian origin known in Rome through their Greek version, the so-called *paradeisos*,<sup>27</sup> whereas Wilhelmina Jashemski

attributed the creation of gardens in Pompeian private houses to the typically Roman genius.<sup>28</sup> Salvatore Settis has renewed the analysis, by introducing a chain from the imaginary to the actual garden and, beyond, to oriental *paradeisos* artificially recreated in a private house, which made it possible for wealthy urban Romans to transfer the countryside in the cities.<sup>29</sup>

In the context of an analysis of the possible impact of cultural changes on horticultural practices, I wish to go beyond such an interpretation. As a historian of ancient botany, I would like to introduce into the debate an element not necessarily taken into consideration so far: plant cataloguing and classification. I shall argue that early imperial Roman private gardens, sometimes described as *botanical catalogues*, result in fact from an accurate selection and arrangement of plants that reflect—and rely on—a determined botanical system. It is my purpose here to highlight the very existence of this system, which has not been noticed yet by historians of botany, to detail its contents, and to explain its function, as well as to investigate its origins and application in Roman private gardens of the period under consideration. In so doing, I shall also suggest that such a botanical system closely corresponded to the new geopolitical and cultural situation of the Mediterranean world resulting from the Roman conquest, with the awareness of, and opening to new—that is, different—realities among the population under Roman rule, and the ordering of the single elements of this vast ensemble in an all-encompassing synthesis, which was all together the Roman political world, the structure of society, the literary genre of the encyclopedia, and the garden.

### **Background: Theophrastus and the Alexandrian School**

The history of scientific plant catalogue and classification starts with Theophrastus (372–370 to 288–286 B.C.), a student of Aristotle (384–322 B.C.) and his successor at the direction of his school, the Lyceum.<sup>30</sup> Theophrastus analyzed the plant world in his *Enquiry into plants*.<sup>31</sup> The title of the work is significant: in Greek *peri futōn istorias*, exactly rendered into Latin by *Historia plantarum*. It does not refer to *history* in the current meaning of the word, but to a *research*, an *enquiry*.<sup>32</sup> Such *research* reflects Aristotle's scientific method, particularly in biology, which proceeded in two major steps: first, a collection of currently available data and their analysis—this is the *historia*—and second, on the basis of such material, the construction of an interpretative system.<sup>33</sup> The collection of data in Theophrastus's *Historia plantarum* was large, all the more because it included material brought from Africa, Persia, India, and Arabia by the scientists who accompanied the troops of Alexander the Great (356–323 B.C.) in his military expedition to Egypt and India.<sup>34</sup> In describing such material, Theophrastus not only created—or, most probably, codified—the Greek botanical lexicon, but also followed the method of description of his teacher Aristotle in his works of natural history, with two complementary descriptors:<sup>35</sup> similarities and differences.<sup>36</sup> Similarities made it possible to regroup individuals with common features (whatever their nature, animals in Aristotle, plants in Theophrastus), and to constitute coherent groups, and differences made it possible to distinguish individuals within such groups. Such grouping principles gradually led Theophrastus to the highest division of the *regnum vegetale* (or *Plant Kingdom*), with four ultimate categories:<sup>37</sup> trees, shrubs, under-shrubs, and herbs. If we had to stop here, there would be quite a gap from Theophrastus to Rome, both chronologically and conceptually. This would induce one to think that plant arrangement in Roman gardens—whatever its nature—was an original Roman creation. Such a view would not be correct, however, because it would not take into consideration a piece that has been forgotten in previous research and needs to be introduced here: Alexandrian science and its further developments in the Hellenistic and early Roman worlds.



The School of Alexandria was founded by the first Greek king of Egypt, Ptolemy I (b. 367/6 B.C.; king of Egypt 304–283/2). No explicit element on the botanical research done in the school has survived. Only later works relying on Alexandrian research such as those by Dioscorides and Pliny have been preserved. However, they allow a hypothetical reconstruction of earlier Alexandrian activity.<sup>38</sup>

Dioscorides, who is considered without any good reason to have been a military physician in the Roman army under the emperors Claudius (born in 10 B.C., emp. 41–54 A.D.) or Nero (born 15 A.D.; emp. 54–68 A.D.), has supposedly achieved his work sometime around the completion of *Naturalis historia*, dated to 77 A.D.<sup>39</sup> His treatise is entitled *Περὶ ὕλης ἰατρικῆς* (*peri ulês iatrikês*), which is exactly translated by *De materia medica*, that is, *On the natural substances used to prepare medicines*.<sup>40</sup> Although such substances were of plant, animal or mineral origin, their great majority were plants (almost 70 percent); hence, the frequent—and wrong—affirmation according to which *De materia medica* is an herbal. Each substance is dealt with in a monographic chapter that mainly includes its description, the therapeutic properties of its part(s) to be used as therapeutic agent(s), and the medical conditions for the treatment of which such substance(s) could be used.

Before studying the plant classification in *De materia medica*, I must briefly deal with their inventory and description. Inventory aimed to be exhaustive. Dioscorides explicitly mentioned his intention to be so in the preface of the work<sup>41</sup> and sometimes in the course of *De materia medica*, he included substances that were not used medicinally, but were correlated in one way or another to other substances. He did so because, he says, he did not want to be exposed to the possible objection to have forgotten some substance, even if not particularly useful.<sup>42</sup> As for the description of plants, it proceeded by comparisons and differences according to the Aristotelian method. In *De materia medica*, however, this method was slightly modified. Comparisons dealt very often with only one element of the plants (the leaf), and referred to a limited number of plants: ivy, olive tree, garden rocket, and rue, which have typical shapes:<sup>43</sup>

ivy: polygonal

olive tree: oblong and entire

garden rocket: oblong and cut

rue: small

Recurrent references to the leaves of these plants seem to point to a system for plant classification in which the leaf was the major element, and plants were classified in major groups according to their leaf form. In other words: a classification proceeding by major morphological types defined on the basis of only one part of plants. This thus suggests that Theophrastus's analytical and classificatory method was not only systematically applied to all plants, but also—if not above all—transformed so as to become a simple and productive system for plant description and classification.

In Pliny's *Naturalis historia*, Books 12 to 19 deal with botany, and Books 20 to 27 with medicinal plants. Plant descriptions not only provide data similar or identical to those of *De materia medica* by Dioscorides, but also proceed according to the same system as *De materia medica*, that is, by comparisons and differences. Dioscorides is not quoted in Pliny's encyclopedia, neither in the list of sources in the beginning of the entire work and of each book, nor in the text of any single book. The similarities between *De materia medica* and *Naturalis Historia* do not result from the fact that the latter reproduced data from the former, but from the fact that both reproduced information from the same source(s). Such a source(s), currently lost or not yet brought to light, was certainly Greek, and most probably originated in the eastern Mediterranean. Because it prolonged and expanded

Theophrastus's method and applied it, among others, to the plants brought from the East by the scientists who accompanied Alexander's troops, it originated most probably in the context of the School of Alexandria. Such work(s) resulted in all probability from the research activity of the first generation of scholars in the School, particularly because the institution declined during the third century B.C. and was reactivated only later, during the Roman period (first century B.C./A.D.). If so, the time between these Alexandrian scholars, on the one hand, and Dioscorides and Pliny, on the other, corresponded to three centuries, and probably to more than only one work by one author. In short, there were probably several works from the Alexandrian scholars to our two scientists.

### **Plant Classification and Classificatory Models of Life in the Greek World**

For the classification of plants, let's return to *De materia medica*. According to a classical interpretation, the work is divided into five books, each of which deals with a specific topic. A count of their lines reveals, however, that they all are approximately of the same length: almost twenty-five hundred lines each. This fact suggests that *De materia medica* was not necessarily composed by its author in five books defined as thematic entities, but rather that it was cut into five units, the length of which was determined by the maximum length of the medium of the book in Dioscorides' epoch, the papyrus roll.<sup>44</sup> If so, *De materia medica* constituted a sequence of almost one thousand chapters without any divisions. It surely could not have been used by a practitioner in the daily exercise of therapy.

This is not the case, however. Chapters in *De materia medica* are classified according to a system organized in two levels that allowed easily finding the required information. On the first level, plants and other materia medica are gathered in coherent groups according to such changing parameters as their structure, their supposed therapeutic property (or properties), or their smell and taste. On the second level, these very groups are organized according to a scale of properties, which requires some explanation. The first group contains the plants used for the preparation of perfumes, starting with the iris. The last group contains the matters used for the treatment of dermatological pathologies, mainly minerals. These two groups are in opposition from all points of view: perfumed plants are warm, while minerals are cold; as such they are light and heavy respectively; and, to quote just a few, perfumed and warm plants treat the excess of humidity in the body, whereas minerals, as cold, were efficacious against excessive warmth. The very first and very last groups are thus opposed by all their elements, and create a bipolar axis within *De materia medica*. To these supposed objective properties of such groups were superimposed subjective values, linked with the perception of the qualities of the two groups. Warm and perfumed matters were seen as positive, whereas cold and heavy minerals were negatively connoted in ancient Greek culture. Also, the very first and very last matters of the whole work are totally opposed in their colors: the iris presents all the colors of the rainbow as Dioscorides himself states—and we need not to forget that in ancient Greece the word *iris* designed both the plant *Iris* spp. and the rainbow, for the flower contains all the colors of the rainbow—and the last matter is *the black substance with which we write*, as Dioscorides says, that is, soot.<sup>45</sup> Yet in the chromatic system of ancient Greece, colors were not defined by their nature, but by their perception, their luminosity. In this context, black was not a color, but the absence of any color. As such, it was opposed to the rainbow, which contained all possible colors. In other words: from the iris to soot, there is a shift from all the colors to the total absence of colors, from all the positive qualities to their absence, from one thing to its opposite.



On this basis, we can return to the other groups of matters dealt with in *De materia medica*, that is, all the groups included between the first and last, between iris and soot. If we bear in mind that these two matters and the groups they open and conclude are opposed by the subjective values they are credited with, we discover that all the groups in between are ordered according to the degree of their supposed positive or negative value, that is, the degree of their warmth or cold property or any other property that takes place between these two fundamental ones. Such a classification relying on the intensity of positive or negative qualities constitutes a scale, with a gradual reduction of positive qualities (warm, perfumed, colored, etc.) and a parallel increase of negative qualities (cold, unscented, and black, etc.)—in other words, a *scala mundi* or *naturae*.<sup>46</sup>

An important point in such classification is that it implicitly contains a theory on evolution, which is sometimes explicitly mentioned in *De materia medica*. The shift from positively connoted substances to their opposite seems to refer, indeed, to a theory of evolution dominated by entropy, that is, by the loss of characteristics, rather than by the acquisition of new ones. Such an interpretation is confirmed by some passages where Dioscorides mentions that wild plant species result from the degeneration of other ones, which are normally qualified not with the adjective “domesticated” (since it refers to a process of acquisition of properties), but *képaios*, which means “of” or “from the garden,” or, in other words, from the human environment.<sup>47</sup> We shall return to this theory, because it will give us a key on the origin of Dioscorides’s system.

On this basis, we can return to Roman gardens. The selection and arrangement of plants in the Roman and Pompeian frescos seem to reflect the classification of plants that we have identified in *De materia medica*. At the forefront, we have small, perfumed and colored plants; then, fruit trees, with their production clearly in evidence; and at the very end taller trees, which are not a pictorial convention to close the space of the picture, but the trees in general, exactly as in Dioscorides’s *De materia medica*.

Similarly, the garden described by Longus might result from the same ordering principle. Somebody entering the garden saw first the low perfumed flowering plants with a great variety of colors, such as roses, hyacinths, lilies, violet, daffodils, and pimpernel. And they grow almost spontaneously. Then came fruit trees, which were higher than the flowering plants, but smaller than the trees coming next: apple, pear, myrtle, pomegranate, fig and olive. Intertwined in their branches were, on one side, the grape, and, on the other, ivy. Then there were taller trees, which made a wall closing the garden: cypress, laurel, plane tree, and pine (Figure 6). We thus have an organization in three concentric circles with not only a different and gradual increase in the height of plants, but also a selection of plants with a gradual reduction of positive qualities, with first all the perfumes and colors, second sweet fruits, and third no specific property. Such a selection and organization of plants closely corresponds to that of *De materia medica*’s first section, where we have, successively, the plants used in the production of perfumes, the fruit trees, and the trees in general.

This parallelism suggests that a theory similar, if not identical, to that one I have detected in Dioscorides’s treatise might have underpinned the design of the early empire private Roman gardens preserved and excavated so far in Rome and Pompeii.

If so, it would be interesting to identify the origin of such theory. Yet the evolution process we have highlighted—by entropy and not by acquisition of new qualities—does not appear in Pliny’s *Natural History*. Here, evolution proceeds by progress. According to Pliny, indeed, the first age of humankind was of a rather wild nature: men got their subsistence from trees, without cultivating any land. Human curiosity pushed them to gradually discover the world, to use its resources and, by Pliny’s time, to live in a luxurious way, in total contradiction with the austere model Cato mentioned earlier.<sup>48</sup>



Dioscorides's decline model, instead, resembles the story of the *Five Ages of Humankind* as told by the seventh-century Greek poet Hesiod in *Works and Days*.<sup>49</sup> According to this tale, the history of humankind is divided into five successive generations, each of which diminished in degree of positive qualities, and corresponded accordingly to a metal: the first generation, of gold, was of "mortal men . . . [who] lived like gods without sorrow . . ."; the second generation, of silver, "was less noble by far . . . they lived only a little"; the third, of bronze, "was terrible and strong . . . they loved war and deeds of violence; they ate no bread . . . they were destroyed by their own hands . . ."; finally, after an intermediary generation, there was the fifth, of iron, which was that of Hesiod and remains the current one on Earth.

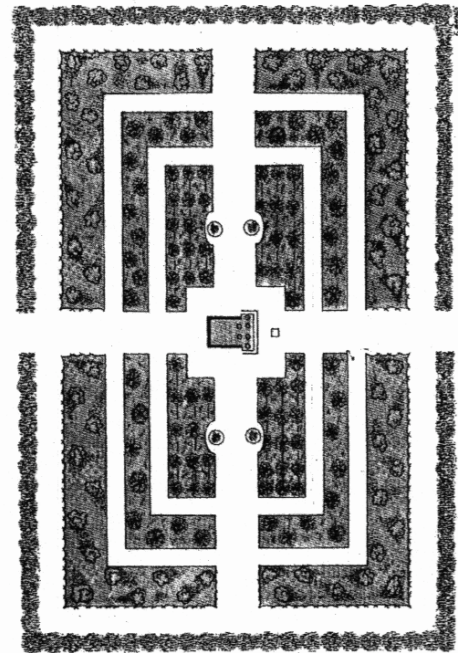
The concept underlying this history of humankind corresponds pretty well to the structure I have identified in *De materia medica*. The distance between Hesiod and his age (seventh century B.C.) and Dioscorides (most probably first century A.D.) is not an objection: the thinking system reflected by Hesiod remained alive until a late epoch as the case of the first century B.C. poet Lucretius (ca. 94–55 B.C.) shows. In his work *On the nature of things*, he describes the history of humankind in very similar terms.<sup>50</sup> This was a theme of ancient philosophical literature, probably dating back, in the case of Lucretius, to his model, the Greek Epicurus (341–270 B.C.). Such a theme was also exploited during the same period by Virgil (70–19 B.C.) in his famous fourth *Eclogue*, where he announced the birth of a child who will herald the return of the Golden Age.<sup>51</sup> This sort of prophecy has been interpreted as a premonition of the birth of Christ. More probably it is a homage to Augustus. In this same homage, Virgil was wishing Augustus to have a descendant who would continue the golden age of domestic peace begun by his father.

Although probably created in the context of Greek culture rather than in the Roman one, this model, with its variant of the return of the golden age, was largely diffused in the first century B.C./A.D., and thus could have contributed to Roman gardens, all the more because, at that time, they underwent a transformation.

### Science and Politics

In a period of restoration of the ideals of ancient Roman morals and discipline, the adoption of a Greek model of decline could be surprising. At first glance, it seems indeed that a model of progress would have been more appropriate. A closer analysis reveals, however, that the plant classification system we have identified in *De materia medica*, which relies on an exhaustive inventory of the elements of the world and classifies them, that is, assigns its right place to each of them, corresponds to a conception of the ongoing history of that time.

The Greek historian Polybius (ca. 200–118 B.C.) provides us with significant insights on that point. A native Greek, he was involved in the political life of his country until the forces of Perseus (born 212/3; king 179–168 B.C.), the king of Macedonia,



6. A reconstitution of the garden described by Longus (from Salvatore Settis. *Le pareti ingannevoli. La villa di Livia e la pittura di giardino*. Milan: Electa, 2002).

were defeated by the Roman troops at Pydna in 168. Polybius was then deported to Italy for further investigation with a thousand other Greek notables, and detained there for ten years without trial. On the basis of his experience in Rome, he started writing the history of the rise of the Roman world for, he mentioned:<sup>52</sup>

. . . the Romans have subjected to their rule not portions, but nearly the whole of the world . . . since [then] history has been an organic whole and the affairs of Italy and Libya have been interlinked with those of Greece and Asia, all leading up to one end . . . Special histories . . . contribute very little to the knowledge of the whole . . . It is only indeed by study of the interconnexion of all the particulars, their resemblances and differences, that we are enabled at least to make a general survey . . .

What Polybius described in this way was not only the contemporary ongoing historical process of unification of the Mediterranean world under the Roman rule and the project of his *Histories* aimed at reflecting the state of things at that time, but also a program for a possible encyclopedic project that would exhaustively describe the contemporary world, with all its elements and their inter-relationships. A similar project underpins Dioscorides' *De materia medica* and, to a lesser extent, Pliny's *Naturalis Historia*, in which, however, no structure ordering the single elements is present.

It thus seems that such an encyclopedia as *De materia medica* not only resulted from a mere scientific project but also reflected the geopolitical state of the world, and the self-consciousness of a culture shared by all the world known at that time. As a result, it aimed at exhaustively inventorying all relevant botanical data, and organizing them at the same time in a structure where each one was assigned a place in function of its nature and its contribution to the whole. Such a theoretical system, which was not created by Dioscorides but came almost certainly from earlier sources, was also applied to horticulture and contributed to shaping the Roman gardens by guiding both the selection and the arrangement of plants.

### **Gardens, Science, and Politics**

Private Roman gardens of the first century B.C./A.D. were very different from the piece of land cultivated by the austere Cato. Although certainly influenced by Greek culture as already suggested in previous literature, such gardens of a new kind were not just the countryside introduced to the city that Pliny criticized. They probably also included a more theoretical component for they relied on a selection and arrangement of plants based on a scientific theory, which in turn reflected the order of the world of that time. As a consequence, Roman gardens of the first century B.C./A.D. were a miniature image of the action of Rome, which included all inhabitants of the universe, and assigned to each group a well-determined place in its geographical space, in its social organization, and in its economic system. From Cato to such gardens, there had been a shift from the individual and his particular needs, mainly alimentation and medicinal plants, to the collectivity, defined not only as a sum of elements but also as an organizing principle.



## NOTES

<sup>1</sup> *Natural History*, 19.50. See Pliny, *Natural History*, Books 17–19. With an English translation by H. Rackham (Loeb Classical Library, 371) (Cambridge, Mass. and London: Harvard University Press, 1950), 452–53:

... iam quidem hortorum nomine in ipsa urbe delicias agros villasque possident ...

See also the English translation (with notes of commentary) of Pliny's book 19 by John Henderson, *The Roman book of Gardening* (London and New York: Routledge, 2004), 67–101. The title that Henderson gave to this chapter is significant: *Nature's Miracles*.

<sup>2</sup> Marcus Porcius Cato, *On Agriculture*. With an English translation by William Davis Hooper revised by Harrison Boyd Ash (Loeb Classical Library, 283). (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1934), 140–51 (chapter 156).

<sup>3</sup> *Natural History*, 19.51. In the edition by Rackham, see 452–53:

... primus hoc instituit Athenis Epicurus otii magister; usque ad eum moris non fuerat in oppidis habitari rura.

<sup>4</sup> On this point, see, for example, Sandra Citroni Marchetti, *Plinio il Vecchio e la tradizione del moralismo romano* (Biblioteca di Materiali e discussioni per l'analisi dei testi classici, 9) (Pisa: Giardini, 1991).

<sup>5</sup> *Epistles*, 2.1.156–157:

... Graecia capta, ferum victorem cepit et artis

intulit agresti Latio ...

Latin text with English translation in *Horace, Satires, Epistles and Ars Poetica*. With an English translation by H. Rushton Fairclough (Loeb Classical Library, 194). (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1929), 408–409.

<sup>6</sup> On this question of garden hellenization, see for example Pierre Grimal, *Les Jardins Romains* (Paris: De Boccard, 1944), 63, and, more recently, Andrew Wallace-Hadrill. "Horti and hellenization." In Maddalena Cima and Eugenio La Rocca, eds. *Horti romani. Atti del Convegno Internazionale*, Roma 4–6 maggio 1995 (Bullettino della Commissione Archeologica Comunale di Roma, Supplementi 6) (Rome: L'Erma di Bretschneider, 1998), 1–12.

<sup>7</sup> On the introduction of this structure in Campanian architecture, see Wilhelmina Jashemski. "The Campanian peristyle garden." In Elisabeth B. Macdougall and Wilhelmina Jashemski, eds., *Ancient Roman Gardens* (Dumbarton Oaks Colloquium on the History of Landscape Architecture, 7) (Washington, D.C.: Dumbarton Oaks, 1981), 29–48.

<sup>8</sup> On this point, see Brunilde Sismondo Ridgway. "Greek antecedents of garden sculpture." In Macdougall and Jashemski, eds., 7–28.

<sup>9</sup> For this expression and a study of the relationship between country and town in Roman gardens, see Nicholas Purcell. "Town in country and country in town." In Elisabeth Blair Macdougall, ed. *Ancient Roman Villa Gardens* (Dumbarton Oaks Colloquium on the History of Landscape Architecture, 10). (Washington, D.C.: Dumbarton Oaks, 1987), 185–203.

<sup>10</sup> Wilhelmina Jashemski. "Introduction." In Macdougall and Jashemski, eds., 3–6 (see 3–4).

<sup>11</sup> For such a view, see Marisa Mastroberro. "Una visita di Nerone a Pompei: la *deversoriae tabernae* di Moregine." In Pier Giovanni Guzzo and Marisa Mastroberro, eds., *Pompei: Le stanze dipinte* (Milan: Electa, 2002), 34–87 (see particularly 73–74, the paragraph entitled *Il modello neroniano di politica economica*).

<sup>12</sup> The literature on Roman gardens is vast, from the classical work of Grimal with several reeditions) to the more recent archeological work and syntheses by Wilhelmina Jashemski (later).

For an inventory and description of gardens in Rome and the Roman world, see Wilhelmina Jashemski, ed., *Gardens in the Roman Empire*, forthcoming.

For an analysis of different components of Roman gardens, see the proceedings of the 1995 conference edited by Cima and La Rocca.

For Pompeii gardens, see Wilhelmina Jashemski. *The gardens of Pompeii, Herculaneum and the Villas destroyed by Vesuvius* (New Rochelle, N.Y.: Caratzas, 1979). For a synthesis on the "natural history" of Pompeii, see Wilhelmina Feemster Jashemski and Frederick G. Meyer, eds., *The natural history of Pompeii* (Cambridge: Cambridge University Press, 2002).

On the so-called "Sallust' gardens" in Rome, see: Emilia Talamo, "Gli horti di Sallustio a Porta Collina." In Cima and La Rocca, 113–69, and the recent monograph by Kim J. Hartswick, *The Gardens of Sallust: A Changing Landscape* (Austin: University of Texas Press, 2004).

See also (in chronological order) the volumes edited by Macdougall and Jashemski, and Macdougall; Mariette de Vos. "La casa, la villa, il giardino. Tipologia, decorazione, arredi." In Salvatore Setti, ed., *Civiltà dei Romani. Il rito e la vita privata* (Milan: Electa, 1992), 140–54; M. Carroll-Spillecke, ed., *Der Garten von der Antike bis zum Mittelalter* (Kulturgeschichte der antiken Welt, 57) (Mainz: Philipp von Zabern, 1992); Linda Farrar, *Ancient Roman gardens* (Stoud: Sutton Publishing, 1998); Annamaria Ciarallo, *Gardens of Pompeii* (Los Angeles: the J. Paul Getty Museum, 2001); Annamaria Ciarallo, *Il giardino pompeiano. Le piante, l'orto, I segreti della cucina* (Naples: Electa, 2002); Maureen Carroll, *Earthly Paradises. Ancient gardens in history and archaeology* (London: British Museum, 2003); Maureen Carroll-Spillecke, "Gardens." In *Brill's New Pauly. Encyclopedia of the Ancient World*. Vol. 5. (Leiden and Boston: Brill, 2004), cols. 692–97.

<sup>13</sup> On Livia's Palatine house, see Lawrence Richardson, *A new topographical dictionary of Ancient Rome* (Baltimore and London: Johns Hopkins University Press, 1992), 73–74, with bibliography.

<sup>14</sup> See the catalogue of the Museum: Adriano La Regina, ed., *Museo Nazionale Romano. Palazzo Massimo alle Terme* (Milan: Electa, 1998), 208–13.

<sup>15</sup> See, for example, Ranuccio Bianchi Bandinelli, *Rome: Le centre du pouvoir* (Paris: NRF-Gallimard, 1969), 126.

<sup>16</sup> See 403–404 in the *Iconographic documentation*.

<sup>17</sup> Marina Sapelli, *The National Roman Museum: Palazzo Massimo alle Terme*. (Milan: Electa, 1998) 50–53.

<sup>18</sup> See La Regina, ed., 213.

<sup>19</sup> Salvatore Settis. "Le pareti ingannevoli. Immaginazione e spazio nella pittura romana di giardino." *Fondamenti* 11, (1988) 3–39, which is a preliminary version of Salvatore Settis. *Le pareti ingannevoli. La villa di Livia e la pittura di giardino* (Milan: Electa, 2002).

<sup>20</sup> On these frescos, see the earlier bibliography, particularly the works by Settis 1988 and 2002. For an analysis, see also Ida Baldassarre, Angela Pontrandolfo, Agnes Rouveret and Monica Salvadori, *Pittura romana: Dall'ellenismo al tardo-antico* (Milan: Federico Motta, 2002), 151–54.

<sup>21</sup> On this construction, see Ernest Nash, *Pictorial Dictionary of Ancient Rome*. 2 vols. London: (Thames and Hudson, 1968), vol. 1, 160–62, and, more recently: Richardson, 44–45, both with bibliography. See also Baldassarre et al., 183–84.

<sup>22</sup> Bianchi Bandinelli, 126.

<sup>23</sup> On the garden frescos in Pompeii houses, see Angela Donati, ed. *Romana pictura. La pittura romana dalle origini all'età bizantina* (Milan: Electa, 1998), 130–32 and 275–76; Baldassarre et al., 192–98.

<sup>24</sup> For an excavation report, see Wihelmina F. Jashemski, "Recently excavated gardens and cultivated land of the Fillas at Boscoreale and Oplontis." In Macdougall, ed., 31–75.

<sup>25</sup> See *Riscoprire Pompei. Musei Capitolini, Palazzo dei Conservatori, 13 novembre 1993–12 febbraio 1994*. (Rome: L'Erma di Bretschneider, 1993), 325–35, with the identification of the plants represented in the fresco. See also Ciarallo 2002.

<sup>26</sup> 4.1–2 (*passim*). For the Greek text and an English translation, see Longus, Daphnis & Chloe. With the English translation of George Thornley revised and augmented by J. M. Edmonds (Loeb Classical Library, 69) (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1916), 188–93:

<sup>27</sup> See Bianchi Bandinelli, p. 125.

<sup>28</sup> See above. Such interpretation is repeated in *Riscoprire Pompei*, 329–31.

<sup>29</sup> Settis 2002, 39–41.

<sup>30</sup> On Theophrastus, see Suzanne Amigues, "Les traités botaniques de Théophraste." In Georg Wöhrle, ed., *Geschichte der Mathematik und der Naturwissenschaften in der Antike: 1 Biologie*. (Stuttgart: Franz Steiner, 1999), 124–54. See also the several studies in *Theophrastus of Eresus: On his Life and Work*. Edited by William W. Forthebaugh together with Pamela M. Huby and Anthony A. Long (Rutgers University Studies in Classical Humanities) (New Brunswick and Oxford: Transaction Books, 1985).

1. ... τὸν παράδεισον ἐθεράπευεν ὡς ὀφθεῖη καλός. 2. \*Ἦν δὲ ὁ παράδεισος πάγκαλόν τι χρῆμα καὶ κατὰ τοὺς βασιλικούς ... εἶχε δὲ πάντα δένδρα, μηλέας, μυρρίνας, ὄχνας καὶ ροιάς καὶ συκῶν καὶ ἐλαίας. ἐτέρωθι ἄμπελος ὑψηλὴ ἐπέκειτο ταῖς μηλέαις καὶ ταῖς ὄχναις περκαζουσα ... ἦσαν δὲ καὶ κυπάριττοι καὶ δάφναι καὶ πλάτανοι καὶ πίτυς · ταῦταις πάσαις ἀντὶ τῆς ἀμπέλου κιττός ἐπέκειτο ... ἔνδον ἦν τὰ καρποφόρα φυτὰ, καθάπερ φρουρούμενα, ἔξωθεν περιεστῆκει τὰ ἄκαρπα, καθάπερ θριγκόςχειροποίητος ... ῥοδωνιά καὶ ὑάκινθοι καὶ κρίνα χειρὸς ἔργα, ἰωνιάς καὶ ναρκίσσους καὶ ἀναγαλλίδας ἔφερον τῇ γῆ · σκιά τε ἦν θέρους καὶ ἥρος ἄνθη καὶ μετοπώρου ὀπώρα ...

<sup>31</sup> Greek text (with English translation): Theophrastus, *Enquiry into plants*. With an English translation by Arthur Hort. 2 vols. (Loeb Classical Library, 70 & 79). (London: William Heinemann; Cambridge, Mass.: Harvard University Press, 1916). A new edition of the Greek text (with French translation and original identifications of plants) is currently in preparation by Suzanne Amigues. Four volumes have been published so far (books I–VIII): *Theophraste. Recherche sur les plantes*. Texte établi et traduit par Suzanne Amigues. 4 vols. (Paris: Les Belles Lettres, 1988–2003).

<sup>32</sup> On the meaning of this term, see Amigues, vol. 1, p. XVI–XVIII.

<sup>33</sup> On Aristotle's method, see Michael Boylan, *Method and practice in Aristotle's biology*. (Lanham, Md. and London: University of America Press, 1983), and the essays in *Biologie, logique et métaphysique chez Aristote*. Daniel Devereux and Pierre Pellegrin, eds. (Paris: Editions du CNRS, 1990).

<sup>34</sup> On the botanical aspects of Alexander's expedition, see (in chronological order): V. Ball. "On the identification of the animals and plants of India which were known to early Greek authors" *Proceedings of the Royal Irish Academy. Polite literature and antiquities*. Ser. II, vol. II, no. 6 (January 1885), 302–46; Charles Joret, *La flore de l'Inde d'après les écrivains grecs*. (Paris: Librairie Emile Bouillon, 1901); Hugo Bretzl, *Botanische Forschungen des Alexanderzuges*. (Leipzig: Teubner, 1903); Paul Pedech, (Paris: Les Belles Lettres, 1984), and, more recently, Klaus Karttunen, *India and the Hellenistic World* (Studia Orientalia edited by the Finnish Oriental Society 83) (Helsinki: The Finnish Oriental Society, 1997).

<sup>35</sup> On Aristotle's method, see principally: Pierre Pellegrin, *La classification des animaux chez Aristote. Statut de la biologie et unité de l'aristotélisme*. (Paris: Les Belles Lettres, 1982).

<sup>36</sup> For Theophrastus's method, see principally: Georg Wöhrle, *Theophrasts Methode in seinen botanischen Schriften* (Studien zur antiken Philosophie 13).

(Amsterdam: B.R. Grüner, 1985); Luciana Repici, *Uomini capovolti. Le piante nel pensiero greco* (Biblioteca di cultura moderna 1152). (Rome and Bari: Laterza, 2000).

<sup>37</sup> On Theophrastus's system for plant classification, see Wöhrle 1985. See also Helen S. Lang, *The order of nature in Aristotle's physics* (Cambridge: Cambridge University Press, 1998).

<sup>38</sup> A study of Alexandrian research activity can be found in Lucio Russo, *La rivoluzione dimenticata. Il pensiero scientifico greco e la scienza moderna* (Milan: Feltrinelli, 1996). An anthology of scientific texts of the Hellenistic period has been published by Georgia L. Irby-Massie and Paul T. Keyser, *Greek science of the Hellenistic era* (London and New York: Routledge, 2002). For some specialistic studies, see (among others and in chronological order): Gabriele Giannantoni and Mario Vegetti, eds., *La scienza ellenistica. Atti delle tre giornate di studio tenutesi a Pavia dal 14 al 16 aprile 1982* (Elenchos 9) (Naples: Bibliopolis, 1984); Gilbert Argoud and Jean-Yves Guillaumin, eds., *Sciences exactes et sciences appliquées à Alexandrie (IIIe siècle av. J.-C.–Ier siècle ap. J.-C.)* (Centre Jean-Palme, Memoires, 16) (Saint-Etienne: Publications de l'Université de Saint-Etienne, 1994).

<sup>39</sup> On Dioscorides, see principally John Marion Riddle, *Dioscorides on pharmacy and medicine* (History of science series 3) (Austin: University of Texas Press, 1985).

<sup>40</sup> Critical edition of the Greek text: Pedanii Dioscuridi Anazarbei. *De materia medica libri quinque*. Edidit Max Wellmann. 3 vols. Berlin: Weidmann, 1906–



1914 (reprinted in 1958 and 2002. An English translation has been recently published by Lilly S. Beck, Pedanius Dioscorides of Anazarbus, *De materia medica* (Altertumswissenschaft Texte und Studien, 38) (Hildesheim, Zürich and New York: Olms-Weidmann). It makes obsolete the English translation published in 1934 (*The Greek herbal of Dioscorides illustrated by a Byzantine A.D. 512, Englished by John Goodyer A.D. 1655*. Edited and first printed A.D. 1933 by Robert Gunther. Oxford: Oxford University Press, 1934, with several reprints), as well as its revision by Tess A. Osbaldeston and Robert P. Wood under the title: *Dioscorides. De materia medica being an herbal with many other medicinal materials written in Greek in the first century of the common era*. Johannesburg: IBIDIS Press, 2000.

<sup>41</sup> See *praef.*, 1 (vol. 1, p. 1 in Wellmann's edition), where Dioscorides criticized his predecessors because they did not exhaustively treat the topic.

<sup>42</sup> See, for example, 5.10 (vol. 3, p. 19 in Wellmann's edition), where Dioscorides declares:

... it is not useless, we think, to describe the preparation of the most different wines, so that the work will be complete for those interested in medicine. I do so, not because they are often used or are indispensable, but not to give the impression to have omitted them at all ...

... οὐκ ἄχρηστον δὲ ὑπογράψαι νομιζομεν πρὸς τὸ πλήρη τὴν ἱστορίαν τοῖς φιλιατροῦσι γενέσθαι καὶ τὴν τῶν ποικιλωτέρων οἴνων σκευασίαν, οὐχ ὅτι πολλή ἐστιν ἢ ἀναγκαῖα ἡ χρῆσις αὐτῶν ἀλλ' ἵνα κατὰ μὴδὲν αὐτῶν ἐλλείπειν δοκῶμεν ...

<sup>43</sup> On this system, see Alain Touwaide, "La botanique entre science et culture au Ier siècle de notre ère..." In Wöhrle, ed., 219–252.

<sup>44</sup> See the pioneering remarks of Theodor Birt, *Das antike Buchwesen in seinem Verhältnisse zur Literatur, mit Beiträgen zur Textgeschichte des Theokrit, Catull, Propert, und anderer Autoren*. (Berlin: W. Hertz, 1882), 332, and, more recently, Touwaide in Wöhrle, ed., 248–249.

<sup>45</sup> Dioscorides, *De materia medica*, 1.1 and 5.162, respectively (vol. 1, 5–7, and vol. 3, 108 in the edition by Wellmann).

<sup>46</sup> On this notion, see the classical work by Arthur O. Lovejoy, *The great chain of being*. (Cambridge, Mass. and London: Harvard University Press, 1936).

For the medieval developments of such theory, see: E.P. Mahoney, "Metaphysical foundations of the hierarchy of being according to some late medieval and Renaissance philosophers." In P. Morewedge, ed., *Philosophies of existence. Ancient and medieval* (New York: Fordham University Press, 1982), 165–257; D. Buschinger and A. Crepin, eds., *Les quatre éléments et la culture médiévale. Actes du Colloque d'Amiens, 25–27 mars 1982* (Göttingen: Kümmerle Verlag, 1983).

<sup>47</sup> On this point, see Touwaide in Wöhrle, ed., 241–42, with examples.

<sup>48</sup> Among many passages, see *Naturalis Historia* 12.1, 16.1, 17.1. See also Citroni Marchetti, 55–75.

<sup>49</sup> *Work and days*, 110–69. See Hesiod, the *Homeric Hymns and Homerica*. With an English translation by Hugh G. Evelyn-White (Loeb Classical Library, 67) (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1914), 10–15.

<sup>50</sup> 4.910–1050. Latin text with an English translation: Lucretius, *De natura rerum*. With an English translation by W.H.D. Rouse. Revised with new text, introduction, notes and index by Martin Ferguson Smith (Loeb Classical Library, 181) (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1975), 346–59. For a more recent English translation, see: Lucretius: *On the nature of things. De natura rerum*. Edited and translated by Anthony M. Esolen. (Baltimore and London: Johns Hopkins University Press, 1995 (for vv. 4.910–1050, see 147–51). For a study of some themes in Lucretius's biological thinking: P.H. Schrijvers. *Lucrece et les sciences de la vie* (Mnemosyne, Supplementum 186) (Leiden, Boston, and Köln: Brill, 1999).

<sup>51</sup> *Virgil*. With an English translation by H. Rushton Fairclough. *I Eclogues, Georgics, Aeneid I-VI*. Revised edition (Loeb Classical Library, 63) (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1978), 28–33.

<sup>52</sup> *Polybius, Histories*, 1.2.7, 1.3.4, 1.4.10–11. Greek text in: *Polybius, The histories*. With an English translation by W.R. Paton (Loeb Classical Library, 128) (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1922), 6–13:

... Ῥωμαῖοι γε μὴν οὐ τινὰ μέρη, σχεδὸν δὲ πᾶσαν πεποιημένοι τὴν οἰκουμένην ὑπήκοον αὐτοῖς ... ἀπὸ δὲ τούτων τῶν καιρῶν οἷον εἰ σωματοειδῆ συμβαίνει γίνεσθαι τὴν ἱστορίαν, συμπλέκεσθαι τε τὰς Ἰταλικὰς καὶ Λιβυκὰς πράξεις ταῖς τε κατὰ τὴν Ἀσίαν καὶ ταῖς Ἑλληνικαῖς καὶ πρὸς ἓν γίνεσθαι τέλος τὴν ἀναφορὰν ἀπάντων ... διὸ παντελῶς βραχὺ τι νομιστέον συμβάλλεσθαι τὴν κατὰ μέρος ἱστορίαν πρὸς τὴν τῶν ὄλων ἐμπειρίαν ... ἐκ μέντοι γε τῆς ἀπάντων πρὸς ἄλληλα συμπλοκῆς καὶ παραθέσεως, ἔτι δ' ὁμοιότητος καὶ διαφορᾶς, μόνως ἂν τι ἐφίκοιτο καὶ δυνηθεῖη κατοπτέυσας ...