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THE GRAECO-ROMAN BACKGROUND OF THE RENAISSANCE HERBAL

The solution to many of the vexing problems connected with the Renaissance herbal — botanical, methodological, iconographical etc. — turns on the question: How did the herbal contribute to the development of botany as science? This question has been asked repeatedly in the past century and many different answers have been advanced. A problem of this magnitude cannot be settled within the compass of the present paper, nor is it my intention to do so. Rather, I wish to call attention to some material which has been somewhat neglected in the various interpretations and assessments.

It has often been assumed, though seldom explicitly demonstrated, that there was a sharp break between the incunable and post-incunable herbals and secondly, that this break represented a major advance in the development of scientific botany. It has been claimed more than once that modern botany was the result of the writings of a small group of scholars who were near-contemporaries and who worked in close proximity. These men, Otto Brunfels (1483—1534), Hieronymus Bock (1498—1554), and Leonhard Fuchs (1501—1566), are generally known as the Scholar Naturalists. According to Sprengel and others, they deserve the honorific title, "Fathers of Botany." [1] Within a single generation, so runs the argument, they reformed botany single-handedly. By turning their backs upon the errors of Greaco-Roman botany, the uncritical attitude of the medieval commentator, and the crudities of the *Herbarius Latinus* and *Hortus Sanitatis*, modern botany was born.

It cannot be doubted that there are striking differences between the anonymous incunable herbals and those writings of the Scholar Naturalists which, beginning with Brunfels' *Herbarum vivae eicones*

[1] Kurt Sprengel, *Geschichte der Botanik*, I, Alterburg—Leipzig, Brockhaus 1817, pp. 258ff.

(Strassburg 1530), have been regarded as landmarks in the annals of science. Despite these differences, there is an equally large body of facts, presuppositions, and methods shared by the Scholar Naturalists with their predecessors. Indeed, the very distinction between an incunable and a post-incunable herbal was established, not by historians of botany, but by bibliographers and historians of typography. The distinction, in short, is extra-botanical and does not refer to the content of these two classes of Renaissance herbal literature.

There is, however, a more compelling reason for calling into question the sharp break postulated by nineteenth century historians.[2] Compared with the lavishly-illustrated folios of the Scholar Naturalists, the incunable herbals with their stylized plants and stereotyped designs seem to belong to a remotely distant epoch. But when one begins to analyze the sources of Renaissance herbals and to dissect in detail the various strata, it soon becomes apparent that their common debt to Graeco-Roman botany transcends their differences. In the following pages, I shall draw attention to a few examples of the influence of Graeco-Roman botany upon the botanical writings of the Scholar Naturalists. It almost goes without saying, that the incunable herbals are no less exempt from this influence. But the classical influences on the incunable herbals is well-established,[3] whereas the determination of those same influences in the writings of the Fathers of Botany is less well known.

As their name implies, the Scholar Naturalists were scholars as well as naturalists. Although that may seem like an empty tautology, it is a point often overlooked by those historians who, while praising the woodcuts for their high artistic and scientific merit, have failed to observe that the accompanying text shows little evidence of originality. The Scholar Naturalists were the products of late Renaissance education and, accordingly, absorbed the ideals of the humanists. This meant, among other things, a high regard for the classics. With the increased availability of printed editions of Pliny, Dioscorides, and Theophrastus, they could leave lexicographical wranglings to others, and push ahead to more important problems.[4]

Up to the end of the sixteenth century, therapeutics and *materia medica* were dominated by ancient medical practices. The physician's armamentarium remained substantially at the level of Dioscorides, though it was supplemented by Near Eastern drugs advocated by Arabic medical writers and brought into European commerce in increasing

[2] Cf. K. F. W. Jessen, *Botanik der Gegenwart und Vorzeit*, Leipzig, Brockhaus 1864, p. 176.

[3] Julius Schuster, *Secreta Salernitana und Gart Gesundheit*, Mittelalterliche Handschriften (Festschrift f. Degering). Leipzig, Hiersemann 1926, pp. 203—237.

[4] Bernhard Milt, "Schweizerische Theophrastforschung und Schweizerische Theophrasteditionen im 16. Jahrhundert und ihre Bedeutung," *Gesnerus*, 3, 1946, pp. 72—93.

amounts through the Italian ports.[5] It was thus a matter of considerable importance for the Scholar Naturalist, who in almost all cases was also a physician, to determine the identity of those samples mentioned by the classical authors. For the purpose of identification, it was required to determine whether the plant occurred in Western and Central Europe, if so, to correlate its vernacular or local name with the name or names employed by the ancients. If it can be said that botany was born at this time, surely the midwives were medical pragmatism and classical erudition.

A generation earlier, Italian humanists such as Barbaro, Collenuccio, and Leoniceno had called to the attention of an unsuspecting audience the errors, but not the nonsense, in Pliny's *Historia Naturalis*. The errors were gramatical and the target was careless Latin syntax of which Pliny afforded numerous examples. But these men, much like the commentators on Dioscorides—Marcello Vergilio, Lusitanus, and Ruellius—were more more adept at philological exegesis than botany.[6] It is at precisely this juncture that the Scholar Naturalists exhibit their greatest claim to being the fathers of botany. They were not content to rely on books alone. Rather, by combining their talents, by bringing Nature indoors, so to speak, they turned to the task of identifying the plants of the ancients in a new spirit.

This union of talents soon bore a rich harvest. Brunfels' *Herbarum* and the somewhat altered German translation, the *Contrafayt Kreüterbuch* will provide a frame of reference for examining a few instances of Graeco-Roman influence. Following Part II of the *Herbarum* is a section of nearly two hundred pages entitled *De Vera Herbarum cognitione Appendix*. Included in the *Appendix* are twelve tracts of varying length, representing the major intellectual interest of early sixteenth century botany—the identification of the plants of antiquity. Bock and Fuchs first appear as authors in the *Appendix*. And like Brunfels himself, they demonstrate their classical training fully as much as they do their knowledge of plants.

A case in point is Brunfels' account of the violet.[7] He begins, in a section entitled *Von den Nammen*, by paraphrasing Pliny's statement that next to the rose and lily, the violet was not highly esteemed by the Greeks and Romans.[8]. The second section *Geschlecht und Art* is an adaptation of Dioscorides' description of the several different colors

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[5] For an attempt to establish a *terminus ante quem* for the introduction of Near Eastern drugs into Italy, cf. Jerry Stannard, "Benedictus Crispus, An Eighth Century Medical Poet," *Journ. Hist. Med.*, 21, 1966, pp. 24—46.

[6] Jerry Stannard, "Dioscorides and Renaissance Materia Medica," *Analecta Medico-Historica*, 1, 1966, pp. 1—21.

[7] *Contrafayt Kreüterbuch*, Strassburg bey Hans Scjotten 1532, fols. XCV—C.

[8] Cf. Pliny, *Historia Naturalis*, XXI, 14, 27.

found among violets.[9] Passing on, each section in turn contains stray bits of information derived, not from the plants, but from the texts of ancient authors. Nor does Brunfels confine himself to the Greeks and Romans, for, in the section on the medicinal properties, he turns to Mesue and the Arabic writers.[10] There is little in these pages that cannot be found in the corresponding chapters of the incunable herbals; even vernacular synonyms appeared in the *editio princeps*, the *Herbarius* printed by Schöffer at Mainz in 1484. One may well wonder, at this point, just how radical was Brunfels' *Herbarum.*

But attention to classical nomenclature did not in all cases prevent an empirical study of the plants themselves. Writing of the *inguinalem Dioscordis*, Bock in the aforementioned *Appendix*, states "quod ego sciam, nusquam vidi, licet flosculos, et plantas, quorum capitula et folia per orbem incisuris divisa similibus stellae viderim."[11] Yet, by approaching botany from the standpoint of rectifying Dioscorides' errors and omissions, Bock remained within the intellectual confines imposed by an earlier period.[12]

One of the most frequently heard criticisms of the level of botanical knowledge displayed in the incunable herbal, concerns the role of *materia medica*. It has been argued that because of the medical orientation, plants were arranged, not in accordance with systematic criteria, but by the use of pharmacological criteria. One would expect from such a criticism, that the Scholar Naturalists had renounced their dependence upon *materia medica* and would concentrate upon morphological descriptions. Fuchs, true to his medical and classical training, approached plants from the standpoint of ancient medicine. The title of his tract in the *Appendix* is revealing: *Annotationes aliquot herbarum et simplicium, a medicis hactenus non recte intellectorum.* The thirty-one chapters devoted to an equal number of drugs of vegetable origin follow a rather rigid pattern. A passage from a classical text is selected, paraphrased, and then criticized. Then further passages are adduced, either to support Fuchs' criticism or to demonstrate that even among the ancients there was disagreement on matters of interpretation. His discussion of rheubarbarum is typical.[13] Although we are in doubt regarding the true nature of this simple, he begins, all the ancient physicians described it, sometimes as ῥά at other times as *rhacoma*,

[9] Cf. Dioscorides, *De Materia Medica*, ed. Wellmann, IV, 121.

[10] That the Arabic medical botanists knew more about the violet than Brunfels allowed is proven by Ernst Bergdolt, "Beitrage zur Geschichte der Botanik im Orient. I," *Ber. d. Deutschen Botanischen Gesell.*, 50, 1932, pp. 321—336.

[11] Bock, *De Vera Herbarum...*, p. 273. For the identity of the plant in question, cf. E. S. Burgess, "History of Pre-Clusian Botany in its Relation to Aster," *Memoirs of the Torrey Botanical Club*, 10, 1902, pp. 342—343.

[12] Louis Masson, "Le Livre des Plantes de Tragus," *Aesculape* 24, 1934, pp. 301—310.

[13] Fuchs, *De Vera Herbarum...*, p. 246.

rheon, etc. Then Dioscorides' description of the root is cited: it is dark on the outside, like that of the greater centaury, yet smaller than it and redder, without odor, porous, and rather light. [14] Fuchs continues by calling attention to the discrepancies between Dioscorides' report and those of Pliny, Mesue, Avicenna, etc. He mentions, moreover, the conflicting claims concerning the medicinal properties of rheubarbarum. Finally in desperation he concludes that our rheubarbarum, and by this he means the dried product available in the shops of the apothecaries, is totally different from the rheubarbarum of antiquity.

We may well admire Fuchs' attempt to solve a difficult problem and we must grant that he was correct in his conclusion. He cannot be blamed for failing to determine the source of the rheubarbarum of commerce, though l'Ecluse, using similar methods, made a good guess some thirty years later. [15] The fact is, that whatever Fuchs was doing, and some may not wish to call it botany, it was nothing new and not the sort of activity which, by itself, would further the progress of botany as a science. The source of rheubarbarum, for the benefit of those who do not like to be left in suspense, was finally discovered, but not until the latter half of the nineteenth century and by methods, is scarcely needs to be said, that were quite different from those employed by the Scholar Naturalists. [16]

If space permitted, it could be shown in much greater detail, how the Scholar Naturalists were indebted to their Greek and Roman predecessors. This should not be taken to mean a rejection of their greatness. But history bids us to be impartial. No one today would deny the classical heritage and its deeply-felt influences in the contributions of Vesalius or Copernicus. There is, *mutatis mutandis*, no further reason for ignoring the Graeco-Roman background of the so-called Fathers of Botany. That they made the contributions they did, in spite of the restraining links of antiquity, is a truer measure of their greatness than the ahistorical judgement that by their writings, the *catena aurea* was severed and modern botany born.

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[14] Dioscorides, III, 2, Wellm.

[15] Carolus Clusius, *Aromatum, et Simplicium aliquot medicamentorum apud Indos nascentium historia*, Antwerp, Plantin 1567, p. 165.

[16] Henri Baillon, "Sur l'organisation des Rheum et sur la Rhubarbe officinale," *Assoc. Franç. pour l'Avancement des Sciences. Comptes-Rendus de la 1re Session (Bordeaux 1872)*, Paris 1873, pp. 514—529.