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Paracelsus, his *Herbarius*, and the relevance of medicinal herbs in his medical thought

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Abstract:

This article aims at reassessing the significance of Paracelsus' *Herbarius*, a work deemed a loose collection of field notes and juvenilia by Karl Sudhoff, Paracelsus' most famous editor and scholar. By comparing it to *Von den natürlichen Dingen*, another treatise that overlaps extensively with the *Herbarius* (four of the six *Gewechse* discussed in the *Herbarius* are also dealt with in *Von den natürlichen Dingen*), this research suggests that both texts, although unfinished, must be read as well-crafted treatises rather than mere drafts. It also examines two hypotheses concerning the relationship between the two treatises: the *Herbarius* will alternatively be read as a simplified version of *Von den natürlichen Dingen*, written concomitantly in order to be understandable by the "common man" (*gemeine Mann*); and as its preliminary version, further elaborated upon by Paracelsus several years after he wrote the *Herbarius*. By tracing the early reception of the *Herbarius*, we attempt more broadly to understand its relationship to the several writings that were deemed by the followers of Paracelsus to be part of a supposedly larger Paracelsian herbal centered on the doctrine of signatures: to them, the *Herbarius* was undoubtedly a mere excerpt of Paracelsus' *Herbarius spiritualis sidereus*, a concept investigated in the present paper.

Keywords:

Paracelsus – Paracelsians – *Herbarius* – *Von den natürlichen Dingen* – Medical botany – Doctrine of signatures – Herbal healing

1. Introduction

Theophrastus Bombast von Hohenheim (1493/94-1541), better known as Paracelsus, is more famous for his incorporation of remedies of mineral origin into the *materia medica* of his time than for his writings about medicinal herbs. His innovative use of minerals has often been celebrated as a salutary shift away from medieval physicians' heavy reliance on the

herbal lore and, as such, as a decisive step towards the birth of modern medicine and its mostly chemical pharmacopoeia¹. Paracelsus is never listed among the authors who contributed to the profound transformations undergone by the field of botany in the age of the so-called “Great Herbals” – namely Otto Brunfels (1488-1534), Hieronymus Bock (1498-1554) and Leonhart Fuchs (1501-1566), – despite the fact that his *Herbarius* was written at around the same time and in the same language as theirs, with the same intent of developing a local medicine based on German *Gewechse*. Worse, in her seminal book about herbals, Agnes Arber called him a “quack” whose conceptions “cannot be said to have furthered the science to any appreciable extent”². This, added to the opinion of Karl Sudhoff (1853-1938), one of Paracelsus’ main editors, who called the *Herbarius* a random compilation of “elaborations” about the vegetal world which had “remained completely fragmentary” (*völlig fragmentarisch gebliebenen Ausarbeitungen*), led to the long-term exclusion of Paracelsus from the field of the history of botany³. The *Herbarius* was supposedly a draft of a treatise started by Paracelsus in his youth and quickly abandoned as his interest for more complex remedies grew⁴. Under these circumstances, the *Herbarius* would stand for a curiosity, that is, a treatise both marginal within Paracelsus’ works and peripheral to the history of medical botany as a whole.

¹ Pagel, 1982: 149.

² Arber, 1912: 205.

³ Sudhoff, II, vii. Some articles focused on specific plants in Paracelsus’ writings however exist (Reeds, 2012; Bussler, 2016), as well as an English translation of the *Herbarius* (Moran, 1993). Specific aspects of Paracelsus’ thought about plants have also been investigated (Goldammer, 1969; Daems and Vogler, 1986; Müller, 2005). General discussions about herbal healing in Paracelsus can be found in the 1979 Symposium of the Paracelsus-Gesellschaft (*Heilen mit Heilpflanzen*, 1979), in Daems, 1993; Nowotny, 1998 and in Fellmeth, 2013. Aschner’s dated work perhaps provides the richest textual analysis (Aschner, 1930). This is similarly true of Schmaltz’s book, which shares with Aschner’s article the outdated goal of discovering remedies in Paracelsus’ treatises, although Schmaltz’s inquiry is inevitably flawed by the historical context (Schmaltz 1941). The aspect of Paracelsus’ thought about plants which drew the most attention among contemporary scholarship is the doctrine of signatures (Quecke, 1955; Betschart, 1977; Bianchi, 1987; Müller-Jahncke, 1984; Böhme, 1989; Bono, 1995; see also the critical introduction by Kühlmann and Telle to Croll, 1996). For more general works on the idea of signatures, which include discussions of Paracelsus’ conceptions, see Foucault, 1966 (to be used most cautiously); Ohly, 1999; Bennett, 2007; Agamben, 2008 (same remark); Hirai and Kikuchihara, 2014. See also Demonet, 2012, for some heavy criticisms of Foucault’s and Agamben’s works.

⁴ S2: vii-viii.

Such a picture contrasts sharply with the keen interest expressed by the first Paracelsians for their master's works about herbs in general, and for his *Herbarius* in particular. It was clear for most of them that the *Herbarius* was part of a much larger herbal not found or printed yet, which they spent years trying to recover while they strived to unearth all the works left behind by Paracelsus, convinced as they were that the full treatise would bring groundbreaking perspectives on herbal healing. As it happens, Paracelsus himself spent a fair amount of time during the mature years of his career, from the Basel episode, a turning point in his life (1527-1528), to the late *Kärntner Schriften* (1538), thinking about the way the invisible, spiritual and occult properties of plants could be known.

This article aims at reassessing the significance of Paracelsus' *Herbarius* and herbal healing more generally, both to Paracelsus himself and to those who came after him. I will first trace the posthumous reception of the treatise at a time where the prevailing opinion was that the majority of the work of Paracelsus still had to be discovered. I will then consider the interpretation of the text by Karl Sudhoff and confront it with my own analysis, which leads me to see the *Herbarius* as a carefully planned and well-crafted treatise, although most of its chapters might have been lost. I will eventually detail the purpose and intended audience of the treatise, in order to situate it within the other tracts on plants left by Paracelsus and, more generally, the broad mosaic of his medical writings.

2. *Defining the outlines of the Herbarius*

The *Herbarius* as we know it is extremely short. It contains a foreword and only six chapters, whereas other herbals of the time often ranged to dozens, if not hundreds of sections. The six chapters deal with seven simples: the *Schwarzen* and *Weißten Nießwurtz* (or black and white hellebores, discussed in one single chapter), the *Persicaria*, the *Angelica*, *Saltz* (salt), *Corallen* (coral) and the magnet. Michael Toxites (1514-1581) was the first to

publish, in 1570, this version of the *Herbarius*⁵, quite identical to that published by Huser based on the autograph manuscript of Paracelsus in 1590. Yet, from the first mention of the *Herbarius* in 1564⁶ to its publication by Johannes Huser (ca. 1545-1600/1601) in 1590 in the collective edition of Paracelsus' writings⁷, the quest for the "full *Herbarius*" sometimes came close to an obsession amongst Paracelsians, as they unanimously believed that many more chapters of the treatise had yet to be uncovered: a tireless hunt indeed, of which Leonhard Thurneisser (1531-1596), who pretended to have found a fuller version than the one known by his contemporaries, was the central protagonist. This history needs first to be addressed, as it deeply influenced the early modern reception of the *Herbarius*. In particular, the relative frustration resulting from the *Herbarius*' brevity led the first commentators of the treatise to identify other Paracelsian works as fragments of the greater herbal they were expecting to find. Before coming to the analysis of the treatise per se, it is therefore necessary to clearly differentiate between the treatise as we know it, and the various texts which were believed to pertain to Paracelsus' greater herbal. All of this will set the scene for a new assessment of Sudhoff's interpretation that the extreme brevity of the *Herbarius* indicated it was a mere draft, swiftly abandoned by Paracelsus.

2.1. *Printing history of the Herbarius*

Like most treatises written by Paracelsus, the *Herbarius* was never published during the author's lifetime. The earliest mention of the treatise appeared in the first edition of *Von den hinfallenden Siechtagen* in 1564, a treatise in which Paracelsus mentioned his *Herbarius* twice⁸. The anonymous editor added in the margin, next to these mentions: "*Herbarius*

⁵ Paracelsus, 1570b: 270–369.

⁶ See fn. 8.

⁷ H7: 61–108.

⁸ "Es seind mehr *simplicia* die auß der Chiromancey genommen werden [...] Als jr mich in meim *Herbario* bedeutlicher verstehen werdet / Darumb so laß ich auß / und in *Herbario* und dergleichen von den *Arcanis* natürlichen künsten / wil ich an selbigen orten die ding mit lengerem verstandt erklären und außlegen [...]" (Paracelsus, 1564: sig. k2r^o). On this treatise, see Sudhoff, 1894: 101–104.

Paracelsi”⁹. Readers of this work could therefore expect to find an herbal among the still unpublished writings of Paracelsus. Indeed, in May 1566, the Paracelsian editor Marcus Ambrosius announced his intention to soon publish the “*Herbarius Theophrasti, de virtutibus herbarum, radicum, seminum, &c. Alemaniae, Patriae & et imperij*”. His use of this title of the treatise, almost identical to the one which was to appear in the Huser edition, made clear that more precise information was available by that time¹⁰. But no trace of an edition of the *Herbarius* by Ambrosius exists. In 1567, the *Herbarius* was mentioned again by Jacques Gohory (1520-1576) in a list of thirty treatises of Paracelsus which had come to his knowledge (*operum quae ad nostram notitiam peruenerunt*), this time without its full title¹¹.

It is only in 1568, with the edition of the chapter on the *Schwarzen* and *Weißten Nießwurtz* by Adam von Bodenstein (1528-1577), that part of the *Herbarius* became accessible to the public for the first time¹². Segments of the chapters on coral and *Persicaria* were published later in 1568 by an anonymous editor¹³, and the chapter on magnet was edited in 1570 by Johann Albrecht (*ca.* 1540 - after 1570)¹⁴. The same year, Toxites’ edition of the full *Herbarius* was released under the title *Beschreibung Etlicher Kreuter auß dem Herbario Theophrasti Paracelsi, Bombast / beyder Artzney Doctoris*¹⁵. Aside from three reprints of Toxites’ edition¹⁶, the only other edition of the full treatise was Huser’s one, *Herbarius Theophrasti, De Virtutibus Herbarum, Radicum, Seminum, &c. Alemaniae, Patriae & Imperij* (1590), corrected (Huser specified) with the help of the autograph manuscript¹⁷ – today lost or destroyed, like all the other Paracelsian autographs.

⁹ Paracelsus, 1564: sig. k2r^o.

¹⁰ CP 2: 554. See Paracelsus, 1566: sig. A ij v^o.

¹¹ Gohory, 1567: 85–86 (quoted in Sudhoff, 1894: 140).

¹² Paracelsus, 1568a (quoted in Sudhoff, 1894: 149).

¹³ Paracelsus, 1568b (quoted in Sudhoff, 1894: 160). Our chronology of the successive editions of independent chapters of the *Herbarius* has been established based on the list provided by Sudhoff, 1894: 197–198.

¹⁴ Paracelsus, 1570a. See Sudhoff, 1894: 213.

¹⁵ See fn. 5.

¹⁶ In 1582, 1588 and 1597. See Sudhoff, 1894: respectively 334–335; 365; 423.

¹⁷ H7: 61–108, and sig. A2v^o: “zum fleissigsten auß Theophrasti eigenen Handtschriften corrigiret.”

Let it be noted that two manuscripts containing the *Herbarius* are still known to exist. One of them dates back to the years 1580-1590 and only includes excerpts of the chapters on salt, magnet, coral and *Angelica*¹⁸. The other, Sudhoff claimed, was potentially an autograph of the *Herbarius*, its title being exactly the same as that of Huser's edition. This manuscript, bound with an incunabulum, was long kept at the monastery of Herzogenburg (Austria)¹⁹. Sudhoff tried to have it transferred to Düsseldorf's library for, he recounted, "more than a generation". But he regrettably never made the journey to check for himself until the volume was sold to an antiquarian bookseller, together with the manuscript²⁰. He could only rely on the secondhand information he obtained from his colleague Karl Aberle (1818-1892), who guessed (based on the date of 1542 on the cover) that the manuscript might have been written before Paracelsus' death in 1541²¹. This volume has not resurfaced yet, but given the fact that it contained the *Cælum philosophorum*, a notorious (and mediocre) Paracelsian apocryphal, apparently written in the same hand as the *Herbarius* (such was at least Aberle's opinion), the date of 1542 must be considered with caution²².

2.2. *An incomplete treatise?*

The first editor to publish a chapter of the *Herbarius*, Bodenstein was also the first to claim that what he published was not the "full *Herbarius*", but part of a broader herbal written

¹⁸ Broszinski, 2011: 55 for the dating (54 for the description of the manuscript). Sudhoff, 1899: 710, dated it around 1600. Kassel, Landes- und Murhardsche Bibliothek, Ms. 4° chem. 17, fol. 139r°-159r°, entitled: "*Aqua Persionis. Ex Herb. Theophrasti.*"

¹⁹ Sudhoff, 1899: 133. Stift Herzogenburg, ms. 363 (not 307 as written by Sudhoff), bound with an incunabulum, allegedly Montagnana's *De urinarum judiciis*, actually Johannes de Ketham (ed.), *Fasciculus medicinae* (Venice, Johannes und Gregorius de Gregoriis, 1500). See also Kristeller, 1983: 17 (notice borrowed by Kristeller from an older typed list of Herzogensburg's manuscript).

²⁰ S2: x-xiii.

²¹ Sudhoff, 1899: 133-136, here 136. Sudhoff was obviously suspicious about the alleged date of 1542. One can of course imagine all sorts of things, e.g. that the manuscript was inserted there after the binding of the printed work. However, Sudhoff had a rather high opinion of the value of the manuscript, based on the excerpts provided by Aberle.

²² Didier Kahn and Julian Paulus tried in vain to locate the printed volume. A single sheet of the *Cælum philosophorum* has been preserved in fac simile (Archiv der Universität Wien, Autographensammlung, 151.252). Julian Paulus found and shared it.

by Paracelsus and not found yet²³. However, what he considered to be the full *Herbarius* was not the treatise we nowadays regard as the actual and only *Herbarius* of Paracelsus, published two years later by Toxites. Bodenstein was rather of the opinion that the real *Herbarius* must have been a much more considerable work²⁴. Such was also the case of Toxites, who relentlessly lamented the fact that most of the treatise remained hidden, even after he published the six chapters in 1570²⁵. The title he gave to the treatise, *Beschreibung Etlicher Kreuter auß dem Herbario Theophrasti Paracelsi, Bombast*, made it obvious: to him, these chapters were only an extract of Paracelsus' full *Herbarius*. Toxites never changed his mind on this topic until his death (1581)²⁶, and his opinion seems to have been unanimously shared by the Paracelsians of his time. In 1574, Georg Forbergerger (*ca.* 1543-1604) gently asked the owner of the treatise, whoever he might be, to disclose it²⁷. In 1584, Lucas Bathodius (d. after 1597) more crudely called on the “jealous dog” who kept the *Herbarius* hidden to release it²⁸. To all of them, a treatise describing the virtues of only seven simples could clearly not be Paracelsus' entire herbal.

The brevity of the *Herbarius* was not the only reason why the early commentators and editors of Paracelsus were convinced that a longer treatise existed. A rumor, probably launched by Leonhard Thurneisser in the beginning of the 1570s, contributed to strengthen this belief. Thurneisser, who was for long regarded as a quack by scholars and has more

²³ “[...] laß dich nicht betrüben das der gantz *Herbarius* noch zur zeit nicht herfür wil [...]” (CP 2: 245; see Paracelsus, 1568a: sig. A ij r^o).

²⁴ See below, p. 9.

²⁵ Toxites wrote, in the foreword to the 1570 edition: “Der herbarius ligt auch noch verborgen / Gott geb / das er ein mahl gantz an tag komme. [...] Dann Theophrastus hat seine schrifften nit lenger wöllen verborgen haben / dann biß auff bestimpte zeit / die ist jetzt vorhanden [...]” (Paracelsus, 1570b: sig. [*vij] v^o). After that, he complained in 1574, in the foreword to Paracelsus' *Testamentum*, that Paracelsus had written a major book on herbs that had not been found yet (CP 2: 303); and repeated it in 1576, in his foreword to [Bartholomäus Carrichter's] *Horn des heyls* (CP 2: 393–400).

²⁶ See part 2.3 of the present article for more details.

²⁷ CP 3: 353.

²⁸ “Aller krafft [...] kann erkennet werden [...] sonderlich im Herbario Paracelsi (welcher zu wünschen / das er einmahl auß des neidigen Hunds Händen käme unnd ohne allen zuzatz unnd verführische weithleufftigkeyt getruckt würde” (Paracelsus, 1584: sig. A r^o-v^o). See CP 3: 770 for more details.

recently been acknowledged as a prominent alchemist and entrepreneur of his time²⁹, was however not beyond suspicion when it came to the edition of Paracelsian treatises. At the end of 1569, when the Latin translation of the *Archidoxis* had been published as of July of the same year, he published an alchemical poem called *Archidoxa* which had nothing to do with Paracelsus' treatise³⁰. Although the genuine *Archidoxis* was already widely known, Thurneisser innocently explained his choice for the title *Archidoxa* by resorting to its Greek etymology, without any reference to Paracelsus³¹. Later, in 1583, he pretended to have at his disposal the *Carboantes*, a treatise attributed to Paracelsus, hitherto unseen and which perhaps actually never existed³².

In much the same way, Thurneisser published in 1578 the first volume of what was supposed to become a ten-volume encyclopaedia on plants, the *Historia unnd Beschreibung [...] Aller fremden unnd heimischen Erdgewechssen*³³. The nine remaining volumes were abandoned due to his chaotic life. But Thurneisser astutely gave to the first volume the alternative titles of *Neüwes Paracelsisches Herbarium / oder Kreutterbuch*, or even *Herbarius*³⁴. This exacerbated the confusion regarding the status of this *Historia unnd Beschreibung*, suggesting that Thurneisser's book was, in fact, the full *Herbarius* of Paracelsus. Soon enough, he started receiving a series of more or less infuriated letters urging him to disclose the full treatise.

²⁹ CP 2: 436–439; Kahn, 2014.

³⁰ Thurneisser, 1569.

³¹ Mentioned in Sudhoff, 1894: 303–304: “[...] dieweyl aber in disem gantzen buch aller Welt hendel / tuen und lossen / und hilische Elementische metallische und irdische sampt den menschlichen und naturlichen sachen / auch aller künsten Fundament nam und grund dorin gemelt anzeigt auch mancherley schöner konstucklein und den aller edlesten *Misterio Lapis Philosophorum*, dorin gleret werden / und vorhin auf dise weyss kein buch nie außgangen weder in truck noch schrifft komen / hab ich diß buch mit dem griechischen namen *Archidoxa* genempt” (Thurneisser, 1569: sig. B vi r^o). I thank Didier Kahn for pointing out and sending me this passage.

³² As pointed out by Sudhoff, 1894: 338–340. I again thank Didier Kahn for indicating me this other example of Thurneisser's fraudulent practices about *Paracelsica*.

³³ Thurneisser, 1578.

³⁴ As pointed out in CP 2: 452. See Thurneisser, 1578: sig.)(ij r^o for the first alternative title; sig.)(iij v^o for the second.

Back in July 1571, the owner of the supposedly full *Herbarius* still seemed unknown when Toxites sent a letter to August von Sachsen (1526-1586) in which he explained that numerous Paracelsian books were still kept hidden by some people, including the *Herbarius*, although he did not name any potential owner³⁵. However, we learn in a 1573 letter sent by Alexander Thurneisser to his brother Leonhard that Adam von Bodenstein had tried to contact Leonhard for two years in order to ask if he was indeed the one who detained the full *Herbarius*, as the rumor already began to spread³⁶. Bodenstein had eventually written to Alexander in the hope of reaching out to his brother³⁷. Numerous letters to Thurneisser followed: from Johannes Montanus (1531-1604) in 1574³⁸, Christophorus Pannonius (1515-1590) the same year³⁹, Toxites himself, twice, in 1576⁴⁰, and Johannes Franke (1545-1617) in 1578⁴¹. Montanus and Pannonius seemed to be unaware of Thurneisser's project of publishing his own work about plants. Montanus severely asked him to release the *Herbarius*, whereas Pannonius genuinely inquired regarding the state of advancement of his edition of the treatise. However, in 1576 Toxites believed that Thurneisser not only planned on editing Paracelsus' herbal, but also on publishing his own herbal based on Paracelsus' work. He exhorted Thurneisser to draw a clear line between Paracelsus' work and his own comments and additions, in order to fairly restore Paracelsus' treatise⁴². This call was later echoed by Bathodius, when he wished for the treatise to be taken out of the hands of Thurneisser (the aforementioned "jealous dog") in order to be printed again, this time without Thurneisser's

³⁵ CP 2: 234–235. Toxites vaguely refers to "*De collectionibus herbarum*". Kühlmann and Telle underlined that this title, which refers to no known Paracelsian treatise, cannot be taken as a reference to the *Herbarius*. But it is certainly a reference to what Toxites imagined as being Paracelsus' real herbal, of which the *Herbarius* might have been only one part.

³⁶ See below, fn. 47, for some clues on its origins.

³⁷ Mentioned, but not quoted in CP 2: 446. "Doctor Adams von Bodensteins [wol] mecht ein mol byn dir syn / der ursag das ein Buch von dir war uß gangen / darinnen er mercken dätt / das du einen Theophrastiten *Herbarium* hettest [...]" (Thurneisser, 1584 part II: xxxi).

³⁸ CP 3: 385.

³⁹ CP 3: 563.

⁴⁰ CP 2: Nr. 64 and 65, 436–462.

⁴¹ CP 3: 479.

⁴² CP 2: 452.

“additions and deceptive digressions” (*ohne allen zuzatz unnd verführische weithleufftigkeit*)⁴³.

Thurneisser seems to have answered none of the letters he received. To the contrary, he fueled the doubts not only through the title he gave to his treatise, but by starting the foreword of the *Historia* arguing that he had written this “new Paracelsian *Herbarius* [...] partly based on the writings of the aforementioned author, partly based on his own experience”⁴⁴. The section “nach Paracelsischer weis” that he provided in each of the 37 chapters of his herbal could only reinforce the suspicions of his contemporaries.

Did Thurneisser really have access to a longer version of the *Herbarius* than the one we know today? Actually, an “Auszug der Beschreibung etlicher Kreutter aus dem Herbario Theophrasti Paracelsi Bombasti” is listed in his testament⁴⁵ – and given its title, it sounds like a mere excerpt of Toxites’ 1570 edition. His *Historia*, clearly not an edition of the “full” *Herbarius* of Paracelsus, is probably neither a partial edition, nor even an edition mixed with Thurneisser’s own remarks. For the *Angelica* and *Nießwurtz* (viz., the only two plants contained both in Paracelsus’ and Thurneisser’s *Herbarius*), no interpolations, or even quotations of Paracelsus’ treatise can be found. Thurneisser concerns himself with astrological considerations which are much less present in the *Herbarius*, and he partakes in etymological debates regarding the Hebrew, French, English, etc. names of each herb, which are fully absent from Paracelsus’ treatise and were even dismissed by the latter as irrelevant with regards to the study of herbs⁴⁶. It is much more likely (although not certain) that Thurneisser made up the whole rumor concerning the *Herbarius* for financial reasons, as a marketing ploy aimed at selling a treatise which had not much to do with Paracelsus’

⁴³ See above, fn. 28. Significantly, Bathodius wrote this in the foreword to the *De natura rerum*, a treatise in which the doctrine of signatures, one of the most salient features of Paracelsus’ thought about herbs, is theorized at length. See section 2.4. below for more details.

⁴⁴ “Newenn Paracelsischen Herbarium oder Kreutterbuch / zum theil auß ernanntes Authoris hinderlaßnen schrifften / zum theil aber auß meiner selbstaigen erfahrung versamlet.” (Thurneisser, 1578: sig. ij r^o).

⁴⁵ CP 2: 446.

⁴⁶ This aspect of Paracelsus’ thought will be developed in another article.

writings⁴⁷. This marketing ploy (if deliberate) probably enabled his *Historia* to gain more attention than it would have otherwise.

Be it as it may, the Paracelsians did not abandon their hopes of seeing the remaining chapters of the *Herbarius* come out some day. This remained true even after Huser published in 1590 the same ensemble composed of a foreword and six chapters as Toxites, along with several unpublished fragments Paracelsus had written about herbs, including another foreword to a *Herbarius*, the “Prologus in librum de herbis”, dedicated “to all the doctors of the world”, in which Paracelsus sharply criticized such botanical authorities as Dioscorides and Macer⁴⁸. In the first quarter of the 17th century, Karl Widemann (1555-1637) still referred to the *Herbarius* as one of the “unausgegangenen Bücher Theophrasti”⁴⁹.

2.3. *Paracelsus’ Herbarius spiritualis sidereus*

Aside from the brevity of the *Herbarius* and Thurneisser’s subterfuge, a third reason might explain the vigor with which some of the Paracelsians kept looking for the *Herbarius*: namely, the emphasis Paracelsus himself had laid on the importance of the study of herbs and their healing properties, especially insisting on the necessity of discovering the signature of plants. The absence of any explicit consideration regarding the doctrine of signatures in the *Herbarius*⁵⁰ led the Paracelsians to single out two treatises containing discussions of the

⁴⁷ It is difficult to know with any certainty whether the rumor was launched voluntarily or not. For instance, Alexander Thurneisser contacted Theodor Zwinger (1533-1588) in 1576 to borrow his copy of *Stirpium historiae*, a book about plants written by Rembert Dodonaeus (1517-1585), which his brother needed to write his *Herbarius* (see CP 2: 759). Zwinger was among the ones who told Johannes Franke about Thurneisser’s project of writing a *Herbarius*, perhaps as early as 1570/1571 (see CP 3: 482). This led Franke to send a letter to Thurneisser in 1578 (see above, p. 9). Perhaps the rumor originated under similar circumstances at the beginning of the 1570s, due to Thurneisser’s borrowing of books from other Paracelsians. But his personality allows us to cast some doubts on the subject.

⁴⁸ Paracelsus, *Fragmenta aliquot de re herbaria* (H7: 406–429). Huser indicates: “zuvor nie in Truck außgegangen” (H7: sig. a7) iij r^o). See also Sudhoff, 1894: 398. The “Prologus in librum de herbis” (H7: 406–411) is alternatively entitled “prolog[us] ad medicos Orbis” (H7: 411). Huser was also the first to publish, in the same volume, Paracelsus’ commentary on the famous botanical poem of pseudo-Macer (*Scholia & Observationes quaedam perutiles in Macri poemata de virtutibus herbarum, etc.*, H7: 237–277), as well as some unpublished fragments he added to the *Scholia in libros de Gradibus & Compositionibus* (H7: 373–389).

⁴⁹ See CP 2: 246. Widemann’s mention is found in a manuscript written between 1620 and 1625; see Paulus, 1994: 335.

⁵⁰ See section 4.2 of this article for more details.

signatures (contrary to the *Herbarius*) as potential fragments of this greater Paracelsian herbal: *Von den natürlichen Dingen* and book nine of *De natura rerum*: “*De signatura rerum naturalium*”.

First of all, let it be noted that although Paracelsus bears the reputation of a doctor mainly interested by mineral remedies, herbal drugs were an integral part of his medicine. Otto Nowotny counted no less than 400 different plant names in the works of the Swiss doctor (all the while acknowledging that it could only constitute an estimate given Paracelsus’ use of different names to refer to the same plants)⁵¹. As early as 1527, Paracelsus is said by Andreas Jociscus (d. 1569) to have undertaken botanical excursions with his Basel students⁵². The great number of plants mentioned in works such as the *Archidoxis* (ca. 1525/1526)⁵³, the *Große Wundartzney* (1536), the *Buch von den Tartarischen Kranckheiten* (1538) and the perhaps genuine book 9 of *De natura rerum* was deemed by Nowotny to be at odds with the brevity of the *Herbarius*⁵⁴. We should add to this list the *De gradibus* (1526-28)⁵⁵, the *Labyrinthus medicorum errantium* (1538) or the *consilium* Paracelsus wrote for the abbot of Pfäfers (1535), in which the Swiss doctor prescribed only herbs, and not a single mineral drug⁵⁶. As the Paracelsians unearthed the treatises of their master, they might, like Nowotny, have been struck by the discrepancy between the small number of plants mentioned in the *Herbarius* and the numerous herbal remedies they encountered elsewhere in his works.

There was, more strikingly, a sentence in the *Labyrinthus medicorum errantium* which raised the stakes of discovering the full *Herbarius* even further, viz., Paracelsus’ assertion that “each doctor should build his own *Herbarium spiritualem sidereum*”⁵⁷. The *Labyrinthus*, completed three years before Paracelsus’ death, is often taken as a condensed version of

⁵¹ Nowotny, 1998: 28–29.

⁵² “Egressus cum suis discipulis Theophrastus, vt herbas colligerent [...]” Jociscus, 1569: sig. A viij v^o.

⁵³ Kahn, 2018: 186–187, fn. 12.

⁵⁴ Nowotny, 1998: 28.

⁵⁵ See fn. 48 for the text, Benzenhöfer, 2005: 174–176 and S4: vi for the dating.

⁵⁶ S9: 661–665. See also Daems and Volger, 1986.

⁵⁷ “Auff das volgt nun dz ein jetlicher Artzt sein *Herbarium spiritualem sydereum* haben soll [...]” (H2: 233).

Paracelsus' whole doctrine, in which he looks back to all the points he developed during his career. First published in 1553, it was reprinted many times after that, and stands out as one of the most widely read Paracelsian treatises⁵⁸. There, in book 10, Paracelsus explained at length the nature of this spiritual herbal, intended to take into account both the visible, corporal, elementary form of plants (i.e. the Aristotelian idea of form, adjusted to Paracelsus' own conceptions) and their invisible, spiritual, sidereal form, that is, their "signature"⁵⁹. According to Paracelsus, the spiritual properties of natural objects had been totally ignored by the Galenists⁶⁰. He proposed nothing less than to replace the traditional, Aristotelian-Galenic doctrine (in which the properties of plants were known both from their elementary qualities, e.g. hot, cold, wet, dry, and their specific form) with his own dichotomous system, in which the invisible form, or signature – a concept he claimed to have rediscovered after centuries of oblivion⁶¹, – played a central role.

Yet, almost no trace of the idea of signatures was to be found in the *Herbarius* when it was published in 1570⁶². The Paracelsians were therefore faced with a major contradiction. Accepting that this version of the *Herbarius* was the "full *Herbarius*" would not only have meant admitting an herbal unusually short in size as the only work on herbs left behind by Paracelsus. It would also have entailed that, although Paracelsus had advised all doctors to build a *Herbarius* based on the signatures of plants – an idea supposed to revolutionize the whole botany of his time – the Swiss master never wrote one himself.

⁵⁸ Sudhoff, 1894: 45–47.

⁵⁹ "So wissent nuhn weiter / jhr sehend das alle *Corpora Formas* haben / in denen sie stehend: Also haben auch formas alle jhr Artzney so in jhnen sind. Die ein ist *visibilis*, die ander *inuisibilis*: Das ist / die eine Corporalisch / Elementisch / die ander Spiritalisch / Syderisch." (H2: 233.) The core of Paracelsus' doctrine of signatures is theorized in book 10, "das Zehendt Capitel / Von dem Buch / wie die Artzney kompt von der Prima materia, in Vltimam materiam" (H2: 232-236).

⁶⁰ "Dieweil nun die hülf der krancken dermassen ein *Spiritus* ist / vnd ligt verborgen vor dem Elementischen Leib / vnd allein dem Syderischen offenbar: Jetzt volgt nun / dz *Magica* zu lehren hat / vnd nit der Auicenna, noch Galenus" (H2: 229-230).

⁶¹ "Dieselbig Signatur ist gar auß dem brauch kommen / vnd jhr gar vergessen worden / auß dem dann groß Irrsal folget." (*Von den natürlichen Dingen*, H7: 131).

⁶² The concept of signatures underlies much of the discussions going on in the *Herbarius*, but it is never properly mentioned there: Paracelsus even decided to hide it (see below, pp. 30–31).

This major contradiction might have served as the source of the close association, if not indeed the conflation, of the *Herbarius* with another treatise of Paracelsus: *Von den natürlichen Dingen*. A work in ten chapters published by Toxites for the first time in 1570 in the same collection as the *Herbarius*, the treatise *Von den natürlichen Dingen* is the only Paracelsian writing which took the form of an herbal and explicitly mentioned the idea of signatures, applying it to practical cases⁶³. Because the early editors of Paracelsus expected to find an herbal dealing with signatures among the works of Paracelsus, *Von den natürlichen Dingen* was often mistakenly described by early commentators as a part of the *Herbarius*. Its printing history could have been a source of further confusion. Independent chapters from *Von den natürlichen Dingen* began to be published from 1564 onwards, shortly before the *Herbarius*. After this, chapters of both treatises were often published in the same compilations⁶⁴, and, adding to the confusion, four chapters out of the ten found in *Von den natürlichen Dingen*⁶⁵ also appeared in the *Herbarius*, yet written in a completely different style: those about the *Nießwurtz*, the *Persicaria*, salt, and the magnet⁶⁶. Consequently, before both treatises were printed in their entirety in 1570, segments were frequently extracted from a chapter of either treatise and interpolated in order to fill the blanks in the corresponding chapter of its twin⁶⁷.

The Paracelsian who contributed most to this intertwining between the *Herbarius* and *Von den natürlichen Dingen* was Toxites, who saw both treatises as fragments of the greater

⁶³ Book 9 of *De natura rerum* contains several practical examples of the signatures of plants, but it is clearly not an herbal and could therefore not be confused with the *Herbarius*. See section 2.4 for more details; and section 4.2 for references to the signatures in *Von den natürlichen Dingen*.

⁶⁴ All references to the editions of independent chapters before 1570 can be found in Sudhoff, 1894: 196–198. The three chapters of the *Herbarius* published before 1570 were all published either with interpolations of *Von den natürlichen Dingen*, or along with independent chapters of it (see Sudhoff, 1894: 149–150 and 159–160).

⁶⁵ The ten chapters are on *Terpentin*, the *Schwartzter und Weisser Nießwurtz*, the *Wasserblut* (or *Persicaria*), *Saltz*, *Sankt Johannis Kraut* (or *Perforata*), the *Magnet*, the *Schwefel*, *Vitriol*, *Arsenicum* and *Tartarus*. See H7: 109–221. The last chapter on *Tartarus* was either lost or never written: only the title remains (see H7: 221).

⁶⁶ Whereas Paracelsus deals with “*Persicaria*” in the *Herbarius*, he calls the same plant “*Wasserblut*” in *Von den natürlichen Dingen*. Compared with other herbals of the time, the properties and description of the plant allow us to recognize that both the *Herbarius* and *Von den natürlichen Dingen* deal with the *Polygonum Persicaria*. See Brunfels, 1532: sig. CLXVI–CLXVIII; Bock, 1546: xxxiiij–xxxv; Fuchs, 1563: sig. Dd ij v^o–iiij r^o.

⁶⁷ See for instance the chapter on the *Nießwurtz* published by Bodenstein in 1568 (Paracelsus, 1568a).

Paracelsian herbal he expected to find. In his preface to the 1576 edition of the *Kreütterbuch* of Bartholomäus Carrichter (1510-1567), he explained: “Paracelsus has written for the most honorable State of Carinthia, based on *signatura rerum*, a *Herbarius* which has up to this point never been seen, as the few herbs printed now make clear: the two *Nießwurtz*, *Sankt Johannis Kraut*, the *Persicaria*, the *Angelica*, etc.”⁶⁸ The chapter on *Sankt Johannis Kraut* is, however, not to be found in the *Herbarius*, but in *Von den natürlichen Dingen*. This cannot be read as a simple mistake by Toxites. In the edition of 1570, the chapters of the *Herbarius* were numbered as the twelfth, thirteenth, etc. up to seventeenth chapters, as if they were integral parts of *Von den natürlichen Dingen*⁶⁹. In 1574, Toxites still maintained that Paracelsus had written an important book about herbs and other natural things (*andern natürlichen dingen*) which had, up to this point, never been seen⁷⁰.

From the beginning, Toxites saw *Von den natürlichen Dingen* as part of Paracelsus’ greater herbal because its chapters better fitted his expectation of an herbal dealing with the signature of things than those of the *Herbarius*. In addition, Toxites thought that both the *Herbarius* and *Von den natürlichen Dingen* were part of the Carinthian writings, a group of works composed by Paracelsus in 1538, shortly before his death⁷¹. No *Herbarius* can of course be found among the Carinthian writings. Nevertheless, it was in the *Labyrinthus*, one of the Carinthian writings, that the most thorough theorization of the concept of “signature” could be found, as well as Paracelsus’ call for physicians to write their own *herbarius*

⁶⁸ “[Paracelsus] hat an die hochlöbliche Landtschafft in Kärnten auß obgemelter signatura rerum [ein] Herbarium gemacht / dergleichen vormals keins gesehen worden / (wie dann klerlich auß den wenigen Kreuttern / so darauf getruckt seind / als beide Nießwurtz / S[anct] Johans kraut / Persicaria, Englisch distel etc. zuouernemen ist).” (CP 2: 394). The *Kreütterbuch* edited by Toxites was published under a pseudonym, “Philomusus anonymus”. It is attributed to Carrichter since 1606 (CP 2: 336 and 393).

⁶⁹ *Von den natürlichen Dingen* contains only nine chapters (the tenth chapter, which consists only of a title in the Huser edition, was left aside by Toxites). But Toxites added two short treatises on honey and turpentine to this ensemble (Paracelsus, 1570: sig. P vi r^o–S vi v^o). This explains why the numbering of the *Herbarius* starts at twelve. Yet, not all the treatises of the volume edited by Toxites are numbered in a row: *De mineralibus*, which starts right after the *Herbarius*, has its own, autonomous numbering.

⁷⁰ “So er [Theophrastus] doch von kreuttern ein sonder groß Buch / auch von denselbigen vnd allen andern natürlichen dingen so herrlich geschriben / dergleichen nie an tag kummen / welches er Signaturam rerum genent hat / wie man sie natürlich mög erkennen.” (CP 2: 303).

⁷¹ Aside from the 1576 foreword just quoted above (fn. 68), Toxites also connected Paracelsus’ *Herbarius* to the *Kärntner Schriften* in one of his letters to Thurneisser (CP 2: 397).

spiritualis sidereus. Toxites could thus reasonably expect Paracelsus to have composed his great spiritual herbal about the signatures of plants along with the *Labyrinthus*, as part of the Carinthian writings.

2.4. *The Herbarius and signatura rerum theory*

Another treatise, or rather, one chapter of another treatise came to be closely associated with the *Herbarius*, as a consequence of this quest for Paracelsus' greater herbal: the “*De signatura rerum naturalium*”, last chapter of the problematic, at least partly spurious *De natura rerum*⁷². Toxites was the first to popularize the idea that Paracelsus had written a great herbal called *Signatura rerum*, an idea which had major consequences on the reception of Paracelsus' ideas about herbs. Indeed, as early as 1571, Toxites listed a treatise called *De signatura rerum* among the missing Paracelsian writings⁷³. In 1574, he added that *De signatura rerum* was the title of Paracelsus' major, yet still not found herbal⁷⁴, using the expression again in 1576 to characterize Paracelsus' *Herbarius*⁷⁵.

As for the treatise *De natura rerum*, its earliest known version is a manuscript dated from the summer of 1571, entitled *DE NATURA RERUM, Das ist, Von Naturlichen dingen Siben Bucher*⁷⁶. The text was printed by Bodenstein from a different source in 1572 under the title *Metamorphosis*, perhaps to avoid any confusion with the actual *Von den natürlichen Dingen*⁷⁷. The chapter “*De signatura rerum naturalium*”, however, appeared for the first time in Bathodius' 1584 edition⁷⁸. *De natura rerum*, with its nine chapters dealing with a wide range of topics pertaining to the realm of alchemy and natural magic, today appears as a compilation of fragments originating from at least three different authors, most of them

⁷² Gantenbein, 2020a.

⁷³ CP 2: 247.

⁷⁴ CP 2: 303.

⁷⁵ See above, fn. 70.

⁷⁶ Gantenbein 2020a: 7.

⁷⁷ See Hirai, 2020: 492.

⁷⁸ Gantenbein 2020a: 7.

spurious⁷⁹. However, Urs Leo Gantenbein has brought strong arguments suggesting that this ninth chapter, dealing with the concept of signatures, might be one of the few genuine of the treatise⁸⁰.

The death of Toxites in 1581, three years before the publication of the chapter “*De signatura rerum naturalium*”, probably spared him a great disappointment. Even though this ninth chapter could well be seen as a treatise on its own, especially due to its length (34 pages), that was simply merged with other spurious fragments⁸¹, it is clearly not an herbal. Despite the many examples of signatures found in herbs that this writing contains, it remains mostly a theoretical work, which possesses neither the structure, nor the regularity of an herbal, that is, a writing in which the properties of herbs are systematically listed and expounded, each herb possessing its own chapter⁸² – as was the case in the *Herbarius*.

However, the insistence with which Toxites used the expression “*signatura rerum*” is worth noticing. If Paracelsus frequently wrote about *Signatur*, *Signatum* or *Zeichen* to refer to the signatures of natural things, the expression “*signatura rerum*” is never found among Paracelsus’ writings, outside of the ninth chapter of *De natura rerum*, where this designation appears only two times (in the title of the chapter and in the first line). In itself, the use of this terminology by the author of the chapter cannot be taken as an argument standing for, or against authenticity. After all, Paracelsus is widely known for his constant linguistic variations and coining of new terms. In any case, Toxites’ conviction that there was a Paracelsian treatise called *Signatura rerum*, which, to him, could only be Paracelsus’ great herbal, played a decisive role in making an expression otherwise marginal in the works of the Swiss master the hallmark of Paracelsus’ botanical thought. “*Signatura rerum*” became the title of most treatises which started to flood Europe after the publication of *De natura rerum*,

⁷⁹ As argued by Gantenbein 2020a, who sees some of the chapters of *De natura rerum* as full standing treatises.

⁸⁰ Gantenbein 2020a: 25 sqq.

⁸¹ As argued by Gantenbein 2020a.

⁸² Stannard, 1999.

such as Oswald Croll's *De signaturis internis rerum* (1609)⁸³. Suffice it to say, would the chapter eventually prove inauthentic, Toxites' role in inspiring its author the expression “*signatura rerum*” would have to be taken into account.

At any rate, chapter nine of *De natura rerum* played an important role in making the doctrine of signatures an iconic aspect of Paracelsus' thought about herbs, perhaps at the expense of botanical notions developed elsewhere by the Swiss doctor. Oswald Croll, in his *De signaturis internis rerum*, called Paracelsus the “father of secrets” for having discovered the hidden signatures of things⁸⁴. This notion influenced major thinkers such as Johannes Kepler (1571-1630) and Gottfried Wilhelm Leibniz (1646-1716)⁸⁵, and became an important cause of dissent in the quarrel against Paracelsianism: Guy de Brosse (1546-1641), the famous founder of the Jardin royal des Plantes, mocked the Paracelsians for letting themselves be fooled by this idea like the people who believe they see forms in the clouds; contrary to the Galenists who did not believe in it⁸⁶. For the many Paracelsians who believed that the *Herbarius* was far too short to be considered Paracelsus' *Herbarius spiritualis sidereus*, writing a treatise based on “*signatura rerum*” thus became synonymous with writing a Paracelsian herbal⁸⁷.

3. *The significance of the Herbarius – An assessment of Sudhoff's arguments*

In the 1570s and 1580s, there seems to have been a consensus concerning the fact that the version printed by Toxites in 1570 was not the “full *Herbarius*” of Paracelsus. Huser was

⁸³ Croll, 1996. For examples of these titles, see Croll, 1996: 15; CP 2: 310; Hirai and Kikuchihara, 2014.

⁸⁴ “Paracelsus secretorum pater pro suo inter alia praeclara in Republicam medicam promerita, Verum Medicum & scientia & usu medicinae innotescere & cupientem, ad dignoscendas Signaturas & Hieroglyphica grammata sedulo hortatur in suis scriptis [...]” (Oswaldus Crollius, 1609: 84).

⁸⁵ Hirai and Kikuchihara, 2014.

⁸⁶ “C'est comme des nuées que l'on fait ressembler à tout ce que la fantaisie se represente [...]” (La Brosse, 1628: sig. T iij r^o–v^o.)

⁸⁷ For an example of an herbal centered on the signatures claiming Paracelsus as its primary authority, see Popp, 1625 (sig. A ij v^o for the reference to Paracelsus). The first third of Croll's work (Croll, 1996: 94–116) focuses exclusively on plants, although the treatise lists successively the parts of the human body and, for each body part, the relevant medicinal herb. This does not make it less of an herbal, but it is worth noting that Croll abandoned the standard structure of most herbals (each plant having its own chapter) to create a new classification centered on the concept of signatures: e.g. the chapter on eyes lists all the plants looking like an eye (Croll, 1996: 95), etc.

more factual in 1590, in his authoritative edition based on the autograph manuscript. He mentioned at the end of the *Herbarius* that clearly, Paracelsus had never finished writing both the *Herbarius* and *Von den natürlichen Dingen*⁸⁸. On the other hand, he wondered when commenting on *Von den natürlichen Dingen* whether the fact that the autograph ended with the title “De Tartaro” immediately followed by a blank page (instead of the corresponding chapter) was a sign that Paracelsus had stopped writing the treatise, or if this chapter, and maybe others too, had been lost⁸⁹.

A decisive shift occurred in 1930 with Karl Sudhoff’s radically new interpretation of the brevity of the two treatises, which he saw as a sign that both were mere drafts, or field notes, loosely taken by Paracelsus years after years during his youth, as he was travelling in the Upper Rhine region in the middle of the 1520s. This interpretation played a crucial role in minimizing the significance of Paracelsus’ writings about herbs as a whole. By showing the consistency of the *Herbarius* as a treatise rather than a collection of loose notes, and then by considering its broader role among Paracelsus’ medical works, we hope to throw light on the necessity of reassessing the relevance of Paracelsus’ herbal writings.

3.1. *The Herbarius, loose draft of field notes or carefully organized treatise?*

Sudhoff was categorical when he wrote that the *Herbarius* was

full of ever new “*Additiones Theophrasti*”, of additions and complements, that maybe only appeared as such based on the color of the ink and the inflection of the writing, and therefore received by Huser the appellation of “*Additiones*” only because they were obviously added to precedent notes throughout weeks, months and years.⁹⁰

⁸⁸ “Lectori. Weiter hatt Theophrastus in diesen Chartis nicht geschrieben. Was aber jetzundt folget (unter der Tittel / das Erste Buch von den Natürlichen dingen) ist ein anders / unnd vom Autore in ein besonders Volumen zusammen geschrieben und verfasset / welches auch ohne zweiffel nicht gar absolviert worden.” (H7: 108).

⁸⁹ “Lectori. Ob der Author in diesem Buch nichts weiter geschrieben / oder ob dises vom Tartaro, und anders / darvon verloren sey / kan man nicht wissen. Es ist dieses zehenden Capitels Tittel im *Autographo* am end deß Blatts geschrieben / und folgen ettliche Bletter reins Papiers hernach. Der guthertzige Leser wirdt hiermit für gutt nehmen.” (H7: 210).

⁹⁰ The *Herbarius* is “voll [von] lauter neuen und immer wieder neuen „*Additiones Theophrasti*“, von Nachtragungen und Zusätzen, die sich als solche vielleicht nur in Tinte und Stimmung der Schrift kundgaben und deshalb nur die Husersche Kennzeichnung als „*Additiones*“ erhielten, weil sie offenbar im Laufe der

The different chapters of the *Herbarius*, each dedicated to a particular plant, are indeed organized as a succession of very short sections entitled “*Additiones*”. To Sudhoff, these titles were absent from the autograph, and later added by Huser to put some order in the loose collection of field notes he had before his eyes. Based on this unusual organization, Sudhoff contended that both the *Herbarius* and *Von den natürlichen Dingen* were mere drafts, or fragments, which never became real treatises⁹¹. His opinion on the matter seems to have partly been influenced by his own preconceptions, according to which Paracelsus, an innovative physician par excellence, could only have displayed a juvenile interest for these basic remedies, switching to more complex medicines as he matured⁹² – a dubious assumption if one considers the dominant role played by plants and “elementary remedies” (in Sudhoff’s words) in the last years of his career, for instance in the late *Labyrinthus medicorum errantium*⁹³.

3.2. *The internal consistency of the Herbarius*

Although no autograph manuscript of the *Herbarius* remains to assess Sudhoff’s claim, several significant arguments entirely invalidate his thesis. To begin with, Huser was not the first to name parts of the text “*Additiones*”. These headings are already found at

Wochen, Monate und Jahre als Ergänzungen früherer Notierung hinzukamen. Es mag sich dabei ebenso sehr um neue Beobachtungen oder neue Gedanken als auch nicht selten um wieder aufgetauchte Erinnerungen an Erlebnisse und Erfahrungen bis in die Wanderzeit hinein handeln.” (S2: vii–viii).

⁹¹ “Wie diese völlig fragmentarisch gebliebenen Ausarbeitungen zustande kamen, zeigt namentlich die erstgenannte Zusammenschreibung, eine unvollendete Sammlung verschiedener einheimischer, weitverbreiteter Naturdinge aus Pflanzen- und Steinreich.” (S2: vii).

⁹² “[...] [Es] sich hier ebenso sehr um Konzepte wie um Kollektaneen handelt, zu deren vollem Abschluß Hohenheim weder in diesen oberrheinischen Schaffensjahren noch überhaupt jemals gekommen ist, wie er sich denn mit diesen primären Heilmitteldingen später überhaupt nicht mehr abgegeben hat. [...]” (S2: viii).

⁹³ One could go further and argue that the virtues at work in the vegetal world and, especially, trees, are the cornerstone of the whole argument Paracelsus builds in the *Labyrinthus*. After stating in book 2 that trees have their own, indecipherable language (H2: 201), Paracelsus describes in book 6 how humans can learn the properties from natural things by providing examples which are all taken from the vegetal world (the *birnbaum*, *scammonea*, etc., see H2: 216–217). Although Paracelsus makes clear, when he eventually exposes his new doctrine of signatures in book 10, that such a doctrine also applies to metals and stones (H2: 234), the demonstration starts once again by taking the example of a tree (H2: 232) before providing four examples, all taken from the vegetal world (*salvia*, *lavendula*, *maiorana*, *eufragia*, see H2: 234). All this will be detailed in another article.

exactly the same places in Toxites' edition⁹⁴. Furthermore, there are variations in the headings: sometimes we read "*Additio in die andern Kranckheiten*", or "*Additiones Theophrasti secundæ*", etc., and these variations are identical in Toxites' and Huser's edition. We do not know which manuscript Toxites' edition was based upon, but Huser specified that he "most carefully corrected" the text "against Paracelsus' autograph manuscript"⁹⁵: this most probably means that his text was based on Toxites' edition and proofread based on Paracelsus' autograph. As we can see, these textual pieces of evidence do not fit well with the hypothesis of a text made up of an addition of dozens of passages supposedly written in different inks and handwriting. It rather seems that both Toxites and Huser used a very clear manuscript as a basis for their edition.

Moreover, Paracelsus happens to define precisely what he means by "*Additiones*". He does it, however, not in the *Herbarius*, but in *Von den natürlichen Dingen*. There, he criticizes his contemporaries, the "*Neoterici*", for adding too many substances to their preparations, when it is better to add the least components possible to make an efficient remedy. It is sometimes necessary, he admits, to correct the action of an herb by using another substance: this supplementary substance is called an "*additio*", or a "*correctio*", two terms which could be translated by the word "additive"⁹⁶. Each chapter of the *Herbarius* actually follows a very clear structure, based on this division into successive "*Additiones*". Paracelsus starts by describing the possible uses of the remedy without any additive, the main diseases it heals, and how. He then comes to the less important diseases cured by the simple. He eventually proposes different "*additiones*", most of the time to increase the degree of efficiency of a remedy, to avoid its secondary effects, or to treat a more specific illness than the one

⁹⁴ There is only one exception to this rule (see below, p. 23).

⁹⁵ "Alles zum fleissigsten auß Theophrasti eigenen handschriften corrigiret" (H7: sig. α7) ij v°.)

⁹⁶ "So sind die *Neoterici* allein in dem gelegen / wenn sie lange Receipt machen / das sey Addiert : das dann ein jrung ist. Wann nach der kürzti zu reden / ist das allein die Addition / dz zu einer andern Artzney gehört / wo dieselbig nit weiter mag / vnd das sein vollbracht hatt : vnd doch aber noch etwas vbriges blieben / das dasselbige auch genommen werde durch ein andere Artzney / dieselbig heißt als dann *Additio*, oder *Correctio*." (H7: 128).

originally cured by the plant or mineral⁹⁷. When he adds a new potential use of the remedy without changing the additive, a heading “weitter” keeps the section short.

There are only two exceptions to this rule, but they are not enough to contradict it. The chapter on the magnet starts immediately, in the Huser edition, with an “*Additio*”, but this title is absent from the version edited by Toxites⁹⁸. Given Huser’s well-known accuracy as an editor of Paracelsus, one can guess that this mention was mistakenly added by Paracelsus and not printed by Toxites because of the incongruity of the presence of this “*Additio*” here. The “*Additio*” is indeed not followed by the enumeration of potential additives, but by introductory remarks concerning the possible uses of the magnet.

The other exception is the chapter on coral. After describing the different types of corals and exposing the illness they can cure, Paracelsus interpolates several sections whose content deviates from the order followed in the majority of the treatise, instead of exposing the different properties of coral and then possible additives just as he did in other chapters. At first sight, these sections look like digressions in which Paracelsus mainly explains that corals heal naturally and not based on a form of demonic action, and in which he writes little about their healing properties. As a result, the chapter on corals was taken by Sudhoff as the most blatant example that the *Herbarius* is a loose draft, and not a treatise⁹⁹.

However, the historical context of the writing of the *Herbarius* provides a clear explanation for the presence of this excursus. Paracelsus indeed anticipates the potential accusations of the numerous people who, he believes, will think that the properties he

⁹⁷ To give only one example, the *Schwartzzer Nießwurtz*, taken alone, enables to expel the excess of fluids within the body (*expulsio superfluitatis*) caused by dropsy (*Wassersucht*). But, to achieve a complete cure, one needs not only expelling the fluids, but also preventing their further reappearance. This can only be done by adding some *Tinctur von Marte* to the preparation, a substance presented in the section “*Additiones Theophrasti Secundae*”: “So es nuhn außgeleert ist mit der *Elleboro*, wie gmeldt / nach jnnhalt der Ordnung / als dann so gang an die Cur. Nuhn ist das nicht die Cur / außleeren / Es ist *Expulsio Superfluitatis*: Die Cur ist / das nichts mehr wechst. Dieselbige Cur ist also / das du eingedenck seyest der Tinctur von Marte, die allein thuts [...]” (H7: 72–73).

⁹⁸ See H7: 100 and Paracelsus, 1570: sig. Aa iij v^o.

⁹⁹ S2: viii.

discloses are unnatural or superstitious¹⁰⁰. His concerns can be better understood if one considers the explosive content of the chapter, in which Paracelsus presents the working of two kinds of corals: the red one, which has benevolent effects, and the brown one, which produces strictly opposite effects¹⁰¹. The red coral can repel the storms, lightning, hail, birds, and bad spirits that devastate the crops, etc. The brown coral, however, can make people extremely sad, contrary to the red which prevents suicidal thoughts. But Paracelsus does not give any details concerning the other opposite effects the brown coral can be expected to produce – that is, summoning storms and the hail or birds that devastate crops, etc.¹⁰² Many of these potentially harmful virtues of the brown coral correspond to the malevolent powers attributed to the witches at the time¹⁰³.

In such a context, one can better understand why Paracelsus added three preliminary sections at the beginning of the chapter, to make clear that all the properties of coral treated of are not based on forms of diabolic action. These three sections can warrant an interpretation diametrically opposed to that provided by Sudhoff. Instead of seeing them as evidence that the treatise is a random succession of observations loosely taken on the field, one can read them as evidence that the chapters of the *Herbarius*, or at least the chapter on corals, were carefully thought out in advance by Paracelsus, who wrote them as a coherent whole, anticipating the potential accusations he might face.

Worth noticing is also the fact that in this particular case, the word “*Additio*” seems to have been used by Paracelsus in its usual Latin sense of “addition”. The titles of the sections dealing with the natural working of corals (“*Additiones causarum. Theophrasti*”, “*Additio naturalis. Theophrasti*”) might explain why Sudhoff missed the sense taken by the term “*additio*” in the rest of the treatise. Even if the chapter on corals is the one in which the order

¹⁰⁰ “Dann es möchten velleicht viel meinen / es wer das [nit] natürlich / vnd werend Superstitiosisch.” (H7: 95).

¹⁰¹ “Nun die *Coralli Rutilantes* seind frölich vnd lieblich: gleich so vnfrölich vnd vnfreundtlich seind die Braunen / all mal das widerspil.” (H7: 93).

¹⁰² H7: 90–100.

¹⁰³ See, for instance: Levack, 2013.

followed by Paracelsus is the less obvious, it is nonetheless organized following the same order as in the remaining parts of the treatise, save for the parenthesis anticipating potential accusations of witchcraft: after this parenthesis (95–97), Paracelsus enumerates the medical uses of coral alone (97–99), and he ends up by exposing possible additives (99–100).

Furthermore, the internal organization chosen by Paracelsus, with a succession of small and strictly defined sections, was not uncommon among herbals, collections of recipes, books of *secreta* or *experimenta* of the time. These works often functioned on a cumulative basis, the successive copyists or editors of each treatise adding their own ideas to initial versions of the text. They were thus most of the time written intentionally as a succession of small and independent sections, to ease future transformations. The famous *Circa instans* attributed to Mattheus Platearius (d. 1161), for instance, initially listed the virtues of 273 simples, when vernacular adaptations of the text sometimes ranged to over 500 chapters in the 15th century¹⁰⁴. The clear-cut organization of the *Herbarius* can thus be interpreted as a technique meant both to facilitate the later addition of new “*Additiones*”, and to achieve a greater clarity for the people who would implement the recipes while reading the treatise.

Sudhoff’s hypothesis is thus almost entirely erroneous, except for the fact that Paracelsus actually planned to add indications regarding the use of each plant later. The Swiss doctor indeed concludes the foreword of the *Herbarius* with the following words: “In this sense, reader, I will proceed. Look at it, whether you like it now in the first version (*in der Ersten arbeit*). When I get more, you will also have more”¹⁰⁵. It is therefore true that the *Herbarius* was intended as a first version of a longer work to come. But it was neither a fragmentary draft, nor a compilation of field notes: rather a carefully organized treatise, each

¹⁰⁴ See Lieutaghi, 1990 for a critical edition of the French version of the treatise (*Le livre des simples medecines*), based on a 15th century manuscript of the text. These transformations were so intense that it might even be questionable to call the *Livre des simples medecines* a translation of the *Circa instans* attributed to Platearius (see Opsomer, 1980).

¹⁰⁵ “Also will ich Leser fürfahr / vnd besichs / wie es dir gefalt jetzt in der Ersten arbeit : kompt mir mehr / dir wirdt auch mehr werden.” (H7: 64).

chapter possessing a clear structure, probably designed to facilitate the addition of further observations. However, even if each of the chapters of the *Herbarius* is consistent and must be read as a completed section of the work, the *Herbarius* remains, like *Von den natürlichen Dingen*, too short to be considered a full treatise. It is most likely that the majority of both works was either lost or never written by Paracelsus (as Toxites and Huser believed). The possibility of a loss of most chapters of both works should be considered carefully indeed: in *Von den natürlichen Dingen*, Paracelsus often refers to chapters supposed to be part of the treatise, of which we possess no trace¹⁰⁶.

3.3. *The Herbarius, a medieval herbal*

Sudhoff brought forth a last, minor argument to support his claim: to him, the lack of separation between remedies of mineral and vegetal origin within both treatises was a supplementary proof that they were a mere compilation of notes, taken on the field by Paracelsus to record the various elements of the natural world he observed around him while wandering about¹⁰⁷. The presence of the magnet, of salt and, to a lesser degree, of corals, could indeed be seen as incoherent in a treatise supposed to deal with herbs. This question is not a problem of categories: Paracelsus clearly saw salt and the magnet as minerals. More ambiguously, in the *Paragranum*, he likened the virtues of coral to those of marble, which might be a sign that he saw coral as a mineral too¹⁰⁸.

The point raised by Sudhoff can be answered easily, however, by considering the long-term history of the genre of herbals. From the 12th to the 16th century, botany did not exist as a discipline separated from medicine in Europe: plants were studied only for the sake

¹⁰⁶ “Solchs nehmen wider wachsen / hab ich von den zweyen Wurtzen *Benedicta Caryophyllata* vnd *Acoro* geschrieben / in demselbigen Capitel werden jhrs finden / hie nit noht wider zu melden.” (H7: 126–127).

¹⁰⁷ “Zunächst werden in dem sogenannten “Herbarius” und der Sammlung “Von den natürlichen Dingen” Heilstoffe aus beiden Naturreichen geboten, die in zwei getrennten Sammelbänden von Hohenheim rein äußerlich verteilt aufgezeichnet waren, ohne schärfere stoffliche Scheidung.” (S2: vii).

¹⁰⁸ See respectively H7: 83, 101 and 57–58.

of healing, as part of the medical curriculum¹⁰⁹. It was much more frequent to find medical books focused on simple medicines, as opposed to compound medicines, than to find books dealing solely with plants. “Simples medicines” were drugs which, according to medieval definitions, were either used as nature produced them, or prepared without anything else added – be they of mineral, vegetal or animal origin¹¹⁰. The study of plants was therefore not separated from that of remedies originating from other realms of the natural world.

The modern canonization of authors such as the “Founding fathers” of botany (Brunfels, Bock and Fuchs), who were interested in the exhaustive description of plants, has given us a distorted image of how most medieval herbals looked¹¹¹. Coral, magnet and salt were invariably found in the most widely diffused herbals of the medieval and early modern period, such as the *Livre des simples medecines* attributed to Platearius, or the *Herbarius zu Teutsch* of Johann Wonnecke von Kaub (1430–1503/04) – a treatise now better known under the title *Gart der Gesundheit*¹¹². These works could indeed be more accurately described as books of simples than as herbals. Accordingly, at the time Paracelsus was writing, that is, before the pivotal shifts affecting botany and the genre of the herbal from the 1530s onwards, the presence of remedies originating from the three realms of the natural world in works known under the title “*Herbarius*” was the norm, not the exception¹¹³.

We can be even more precise about the point raised by Sudhoff: contrary to the “founding fathers” of botany, Paracelsus did not mean to write an herbal about the German

¹⁰⁹ Reeds, 1991.

¹¹⁰ See Platearius, 2019: 178.

¹¹¹ Stannard, 1999.

¹¹² See Lieutaghi, 1990: 247–251 (“Sel”); 242 (“Ayment”); 248 (“Coral, corail”); or Von Kaub, 1485: sig. Q iv r^o–v^o (“Sal commune”); sig. B v r^o (Lapis magnes”); sig. p viij v^o (“Corallus corallen”). Von Kaub’s *Herbarius zu Teutsch* should not be confused with the 1484 *Herbarius latinus*, and the 1491 *Hortus sanitatis*. Each of these herbals, subsequently published in 1484, 1485 and 1491 in Mainz, could be described as an enriched version of the former. All of them contained remedies originating from the three realms. This complex common history is summarized with remarkable clarity in Gerulaitis, 2003: 141–142.

¹¹³ The same could be said of the term “Kreutterbuch”. For an example around the same period, see Rösslin’s 1533 herbal: Rhodion, 1533.

flora, but about German “Gewechse”¹¹⁴. In Paracelsus’ writings, this term is used to name all growing things¹¹⁵: humans, who grow out of an invisible seed; metals and stones, which grow out of a metallic tree to be found beneath the earth; plants, which grow out of the earth; stars and comets, which grow out of the firmament, etc.¹¹⁶ Like the category of “simples”, Paracelsus’ encompassing category of *Gewechse* entails no sharp separation between the mineral, animal and vegetal world. It cannot be stated, thus, that the title of the *Herbarius* is inconsistent with its content.

4. *A treatise written for “the common man”*

As we have seen, Toxites tended to amalgamate the *Herbarius* and *Von den natürlichen Dingen*. There are, nevertheless, good reasons to regard these two treatises as separate writings, each with its own singularities. A peculiarity of the *Herbarius* is that it was written in a resolutely simple style, as attested by the concluding lines of the chapter on *persicaria*: “While I treat the natural things in simplicity here, as meant for the common man, I will not instruct him higher, but let him remain in simplicity”¹¹⁷. Claiming to write a treatise about simples for simple people seems, at first sight, quite commonplace. Such a trope can be found in countless books of simples and herbals produced in various cultural and historical contexts¹¹⁸. In this particular case, however, Paracelsus’ statement can be assessed by comparing the *Herbarius* to *Von den natürlichen Dingen*, as four of the six chapters of the *Herbarius* deal with simples that are also discussed in individual chapters of *Von den*

¹¹⁴ “Daß aber ein solche zeit nit an Tag kommen ist / oder fürgenommen / hat than *Italia*, die ist ein Mutter der Vnwissenheit vnd Vnerfahrenheit / haben die Teutschen dahin bracht / daß sie auff jhr eigen Gewechs nichts gehalten haben : allein alles *ex Italia* zunehmen / oder vber Meer her.” (H7: 61).

¹¹⁵ From the verb *wachsen*, “to grow”.

¹¹⁶ Examples of Paracelsus’ broad understanding of the term “Gewechs” can be found in numerous texts, for instance in the *Labyrinthus* (H2:205). This aspect of Paracelsus’ thought will be discussed in another paper.

¹¹⁷ “Dieweil ich aber hie die *Naturalia* Tractier / nach der Einfalt / für den gemeinen Mann / will ich jhn nit höher anführen / sondern in Einfalt bleiben lassen.” (H7: 80).

¹¹⁸ See Cooper, 2007; and, for an example, see the end of the title of Bock’s herbal, “[...] vorab dem gemeinen einfaltigen man” (Bock, 1546).

*natürlichen Dingen*¹¹⁹. Major differences between them strongly support the thesis that *Von den natürlichen Dingen* is a more theoretically elaborated work than the *Herbarius*, a treatise written in a resolutely plain style. After reflecting upon the specific historical juncture of the early 16th century, which witnessed a surge in the number of treatises dedicated to the “common man”, we shall provide two interpretations to account for the divergences between the *Herbarius* and *Von den natürlichen Dingen*. *Von den natürlichen Dingen* can either be seen as a treatise posterior to the *Herbarius*, partly written based on the latter and, therefore, more theoretical as it incorporates the new concepts devised by Paracelsus between the two redactions; or the two treatises might have been written concomitantly, the *Herbarius* being a simplified version of *Von den natürlichen Dingen*.

4.1. *The “common man”, medicine and the advent of the “printing revolution”*

Paracelsus’ appeal to the “common man” in the *Herbarius* is worth pondering in and of itself. Far from being a mere topos, it must be read in the context of the surge of books dedicated to “common men” in the German territories from the turn of the 16th century onwards¹²⁰, a phenomenon closely related to the advent of the “printing revolution”¹²¹. The spread of the printing press indeed contributed to render treatises which had been, up to the end of the 15th century, mostly read by “noblemen and civil servants, priests and nuns, merchants and city fathers”¹²², available to a new readership that included some of those among the townsmen and big farmers (*Großbauer*) who could afford a book and read it¹²³. True, this new, lay readership of common men could partly have been, in the first place, an

¹¹⁹ See above, fn. 64 and 65.

¹²⁰ Eamon, 1994, 93–268, esp. 93–133. Eamon makes clear that the term “*gemeine man*” did not refer to the lower classes, but to the “urban *Burgertum* (citizens, excluding patricians) and to nonnoble landowners and householders (*Allgemeindennutzer*) in the countryside. The essential condition of being *gemein* was having legal rights in a municipality or village corporation (*Gemeinde*). The term common man thus excluded those at the top as well as those at the bottom of the social and economic scale: urban patricians and rural nobility on the one hand; on the other hand, the urban poor, landless peasants, Jews and Gypsies” (100–101). See also Schenda, 1988.

¹²¹ I use quotation marks when writing about the “printing revolution” because this historiographical category has been thoroughly called into question over the last few years: see especially Chartier, 2015.

¹²² Schenda, 1988: 10.

¹²³ Schenda, 1988: 19–20.

“imagined audience”¹²⁴, as the slow increase in literacy rates was not always in keeping with the desires expressed by some authors to break away from the elitism of their elders. Yet, as the century wore on, more and more books – some of them written by Paracelsus – were to be found in postmortem inventories of laymen who did not have access to literacy before¹²⁵.

More specifically, the 1530s were years of violent polemics between those who refused to disclose the secrets of medicine to the common people, or did so only reluctantly¹²⁶, and the proponents of a medicine that would be accessible to the masses – a polemic that widely intersected with the question of whether the vernacular language should be used rather than Latin¹²⁷. The first half of the 16th century witnessed the blossoming of practical treatises, books of recipes and books of secrets in German-speaking territories, for the most part written in the vernacular, seeking to disseminate a practical knowledge first and foremost, and aimed at a wide audience of “common men”, as exemplified by the *Kunstbüchlein*, printed a dozen times between 1531 and 1533 and more than fifty times in the following centuries¹²⁸.

Paracelsus fully partook in the debates of his time. As a champion of the use of German against the Latin of university doctors, he clearly sided with the advocates of an opening of medicine beyond the elitist circles of Latin-speaking doctors and physicians¹²⁹. For all these reasons, his expressed intent to write a treatise accessible to the “common man” should be considered all the more seriously.

4.2. *The Herbarius, a less theoretical treatise than Von den natürlichen Dingen*

Let us now question to what extent the fact that it was written for the “common man”

¹²⁴ Eamon, 1994: 95.

¹²⁵ Eamon, 1994: 123–125.

¹²⁶ See, e.g., Weeks, 1997: 56; Eamon, 1994: 102 for examples of contemporaries of Paracelsus who held to this position.

¹²⁷ See Kuhn, 1996.

¹²⁸ Eamon, 1994: 113. On the *Kunstabücher* see Gantenbein, 2000: 14–17, who describes this genre as “the first textbooks of technical alchemy” (Gantenbein, 2000: 17).

¹²⁹ See Kuhn, 1996; see more specifically Weeks, 1997, 12–13 for a discussion of Paracelsus’ use of German in the broader context of the Reformation.

provides a relevant key for understanding the *Herbarius*, by comparing it to *Von den natürlichen Dingen*.

The first major difference is the absence of any explicit discussion of the doctrine of signatures in the *Herbarius*, contrary to *Von den natürlichen Dingen*. In the latter, the *Persicaria* (called “Wasserblut”) serves to illustrate the doctrine of signatures. The blood-like red dots on the leaves of the plant are depicted as a sign of its capacity to heal open wounds, and thus as its signature (“*Signatum*”)¹³⁰. In contrast, in the *Herbarius*, at a point where Paracelsus has still not mentioned the signature of the *Persicaria*, he stops right before disclosing what he characterizes as an ultimate marvel of the plant, adding that this secret cannot be disclosed here in order to keep the treatise simple and to avoid its falling into the hands of the *Humoristen* (doctors of humors):

But above all, there is something else with regard to *Persicaria* which surpasses everything reported up to now. While I treat the natural things in simplicity here, as meant for the common man, I will not instruct him higher, but let him remain in simplicity. Marvelous are, however, the magnalia of God. Who can altogether fathom them? The doctors of humors have hidden the real secrets and have brought their own filth into the world. Thus they have made sophistry from *sophia* and have crushed the pearls of nature, as they obviously still do today. [...] Thus people lie sick for years who would recover by means of this plant, if the sophistry of the humor doctors would disappear and the secret be revealed. But the pearl is not befitting such humor-doctor-sows¹³¹.

It is obvious that it is indeed this aspect that Paracelsus would hide: not only is the absence of the idea of signature the main difference between the two chapters; but the link between the blood-like drops, recalling Christ’s stigmata, and the ability of the plant to heal wounds was

¹³⁰ “[D]arumb hatts die Natur verzeichnet / vnd befilcht allein / das jhr die Zeichen lehren kennen. Dann jhr möchten sprechen / wer kan in das Kraut sehen / was in jhm ist? Nein / allein sich sein Zeichen an / so sichst duß alles / was in jhm ist. [...] Im Wasserblutt seindt Rott Bluttdropffen: Das ist nuhn *Signatum*, das es ein besondere Arth vnnd Natur in jhm hatt vber andere Kreutter.” (H7: 132).

¹³¹ Translation Moran 1993: 113, slightly modified. “Aber vber das alles / so ist noch Eins mit der *Persicaria*, das die vorbemelten ding all vbertrifft. Dieweil ich aber hie die *Naturalia* Tractier / nach der Einfalt / für den gemeinen Mann / will ich jhn nit höher anführen / sondern in Einfalt bleiben lassen. Wunderbarlich seind aber die *Magnalia* Gottes / wer kan sie gar ergründen? Die Humoristen haben die rechten *Secreta* verborgen / vnd jhren Vnflat in die Welt bracht : vnnd also auß *Sophia* ein Sophisterey gemacht / vnd das Perlin der Natur zerknitscht / wie sie dann noch thun zu meinen zeiten augenscheinlich [...] Durch jhr Sophisterey vrsachen sie / das vom Perlin muß geschwigen werden: dann so sie offenbar nichts sollen / was wurden sie dann heimlich thun ? Wie ligt so mancher kranck / lange Jahr / der durch das Kraut auffkeme / so der Humoristen Sophisterey verschwünde / das geöffnet möchte werden: dann das Perlin gehört je für solche Humoristen Sew nit.” (H7: 80).

often described as a great marvel of nature in herbals of the time. Brunfels even described this correspondence as the most astonishing miracle he had ever witnessed among herbs¹³². Thus, whereas Paracelsus develops, possibly for the first time at such length, one major aspect of his ideas about herbs in *Von den natürlichen Dingen* – namely, the doctrine of signatures, – this theoretical point is not exposed in the *Herbarius*.

This important variation is not enough to prove the difference in the degree of abstraction sought in both treatises. There are, however, further arguments to support this thesis. In *Von den natürlichen Dingen*, Paracelsus proceeds in an inductive fashion, using each particular *Gewechs* as a way to illustrate one particular aspect of his broader thought about the natural world – as exemplified in the case of *Persicaria*, used as a basis to elaborate on the doctrine of signatures. He concludes most of his points by stating that the characteristics he described are not only valid for the *Gewechs* in question, but for many other plants too, or for all natural objects. For instance, he writes, concerning the attractive power of the *Persicaria*, that “such [a power] is not only to be understood for this herb alone, but for many more of this kind that I will not mention here, but in their own chapters”¹³³. This dimension is wholly absent from the *Herbarius*, in which Paracelsus only seeks to achieve practical ends, without drawing any general, theoretical conclusion.

When Paracelsus needs to develop a more abstract aspect of the use of a plant in the *Herbarius*, he does so in a quite simple language, using metaphors and images. For instance, when writing about the ways corals can be distilled, he explains it by using several analogies: the pure essence contained in the coral, which needs to be extracted from its material and perishable body since it is the part in which all the virtues are concentrated, is likened to the

¹³² “Dißes kraus [hat] ein pfersich blatt / welches in der mit gefleckt ist / als ob ein bluts tropff daruff getröpfelt wer. Ein mächtig groß wunder zeychen / welches mich meer verwundert / dann alle andere mirackel der kreütter.” (Brunfels, 1532: CLXVIII).

¹³³ “Vnd nicht allein dz solchs von dem Krautt allein zuverstehen sey / sondern von vielen dergleichen mehr / die ich hie nicht allein dz / sondern in seinen *Capitulis*.” (H7: 135). Or, concerning the signatures: “Auß den dreyen *Signatis*, werden jetzt die Tugend erfahren / was im Krautt ist. Vnd nicht allein in dem / sondern in allen.” (H7: 133).

soul in the body, or to a pearl within a shell¹³⁴. This kind of images is of course typical of Paracelsus' thought: for instance, he often used that of the soul contained within the body to illustrate his concept of *arcana*¹³⁵. But the tone he adopts when doing so elsewhere is much less didactic, the metaphors are often just mentioned incidentally; whereas in this passage of the *Herbarius*, they are elaborated upon at length to render the philosophy underlying the process of distillation more concrete. In *Von den natürlichen Dingen*, by contrast, the idea of distillation is taken for granted and never explained to the readers, whom Paracelsus expects to be familiar with this important alchemical technique¹³⁶.

We have seen that the *Herbarius* contains no mention of the idea of signatures. It must be said, however, that when we read both the *Herbarius* and *Von den natürlichen Dingen*, it becomes obvious that the idea of signature, or at least of a correspondence between the body of the patient and the remedy, underlies much of the discussions going on in the *Herbarius*, even though it is never theorized properly. Simple metaphors enable Paracelsus to convey some of the main lines of the doctrine of signatures: for instance, the coral has, like the patient, a belly and a back, a right and a left side, and its branches are all the blood vessels of the human body¹³⁷. It must be worn in the right sense, so as to mimic the body of its bearer, if one wants it to function properly¹³⁸. Owing to these similarities between the body of the plant

¹³⁴ “Nun ist aller Philosophen brauch von anfang gewesen / daß das gutt vom bösen soll geschieden werden / das rein vom vnreinen: dz ist / das alle ding sollendt sterben / allein die Seel soll bleiben. Diweil nun die Seel bleiben soll / vnd das ander / das der Leib ist / faulen: vnnd allein / es sey dann / das ein Sahn faule / sonst bringt er kein Frucht. Was ist nuhn faulen / als allein der Leib faulet / das Gutt / das Wesen / die Seel / faulet nit / das soll man vom Faulen nemmen. So nun das genommen ist / so ist do zugegen das Perlin in demselbigen allein für sich selbst / in dem alle Tugendt seind. Also verstanden nun / daß mit den Krallen dergleichen ist: Nemlich so jhr das Perlin außgezogen wirdt / so bleibt ein grosse Residentz do: dann das Perlin ist alle mal ein kleines gegen dem / so nichts soll Darauff sollendt jhr wissen / daß dz Perlin von den Krallen / dermassen sein Tugendt gibt / das es stillet aller Frawen vnbequeme Fließ / ohn nachtheil des gantzen Leibs.” (H7: 99).

¹³⁵ “Und dass Gott dieselbigen krefft und Tugendt in die Natur gossen hat / wie die Seel in Menschen / und das die krefft der Seel nicht ungleich sindt [...]” (*De vera influentia rerum*, H10: 138).

¹³⁶ On the significance of distillation in Paracelsus' works, see Gantenbein, 2011 and Kahn, 2016a.

¹³⁷ “Die Corallisch Form an jhr selbst gestalt / ist am Stammen zu erkennen / der Bauch vnd der Rücken / an jhr selbst wol bezeichnet. Auß dem folgt nun / das die recht vnnd die linck Seitten am ersten zuerkennen sind / vnd also soll sie auch getragen vnd gebraucht werden. [...] Dann sie formiren den gantzen Mann: vnd offtmals nit allein / das der Leib der Form gefunden werde / sondern die gantz *Hauptsumma* des Leibs / mit sampt den Neruen / Adern [...]” (H7: 97).

¹³⁸ “Vnd je mehr von Aesten / je besser / vnd den Rücken hindersich / vnd den Bauch für sich gehenckt / damit

and the body of the patient, doctors can either attract or repel the diseases within the patient's body¹³⁹. All these methods are deemed efficacious by Paracelsus because an intellectual framework centered on the concept of signatures leads him to believe that plants' organs mimic the organs of humans, and that plants therefore act specifically on the location corresponding to their signature within human bodies – even if he never mentions these points explicitly in the *Herbarius*.

Even the terminology used in the *Herbarius* differs greatly from the one employed in *Von den natürlichen Dingen*. Paracelsus is well known for his use of neologisms. *Von den natürlichen Dingen* is full of notions pertaining to Paracelsus' peculiar language, such as his famous “*Vulcanus*” (sometimes the “*Olympischen*”, sometimes the “*Firmamentischen*” one) or the “*Ysopus*”, or “*Ysopaica*” (a word supposed to designate the ancient art of separating the pure from the impure)¹⁴⁰. None of these expressions appear in the *Herbarius*. Worth noting is also the absence of the theory of the *tria prima* in the *Herbarius*, whereas it plays a significant role in *Von den natürlichen Dingen*¹⁴¹.

Latin terms, which are quite common in *Von den natürlichen Dingen*, are for the most part absent from the *Herbarius*. The few Latin words found in the *Herbarius* are mostly names of particular substances or plants, of diseases, or qualities of plants, or they are simple Latin terms such as the *centrum* or *locus nati* of the disease. In fact, given the omnipresence of Latin in the medical terminology of the time, not using these basic Latin terms would probably have made the *Herbarius* more difficult to understand¹⁴². By contrast, in *Von den*

dz er sich vergleich mit den Körper deß / der jhn treget.” (H7: 97).

¹³⁹ Concerning the magnet, which possesses a belly and a back too, Paracelsus writes: “Mit dem Bauch zu vnderist gezogen / vnnd mit dem Rücken zu oberst gelegt / vnnd zu dem vndersten getrieben. Auch nicht allein an Einen orth / sondern zu vnderist an alle Aest deß Menschen / die Bäuch auff 4. weg gelegt [...]” (H7: 105).

¹⁴⁰ See, respectively, H7: 115, 117 and 168 for the different kinds of *Vulcanus*; 165 for the “*Ysopus*”. For a definition of the *Vulcanus* in Paracelsus' writings, see Weeks, 2008: 310.

¹⁴¹ As was already noticed by Weeks, 2008: 18. See, for instance, “Der Mensch ist gesetzt in drey Stück / als in *Sulphur*, in *Mercurium* vnd in *Saltz*” (H7: 141); “In denen sind dreyerley Nutrimenten / für den *Sulphur* sein *Sulphur*, für den *Mercurium* sein *Mercurius*, für das *Saltz* sein *Saltz*” (H7: 142); *Vrsach* / in dreyen stücken stehet ein jedliches *Corpus* der Metallen / im *Sulphure*, *Sale*, vnd *Mercurio* (H7: 165).

¹⁴² Kuhn, 1996. The terms “*confortativas*” or “*calefactivas*” (H7: 72), for instance, refer to the basic properties of

natürlichen Dingen, Latin terms often refer to more abstract realities, such as alchemical concepts, or words belonging to the realm of astral magic (for instance found in Al-Kindi)¹⁴³. Another example is the term “*cura magnetica* or *magnetina*”, by which Paracelsus designates the effects of all the *Gewechse* endowed with an attractive power similar to that of the magnet¹⁴⁴. In the *Herbarius*, such *Gewechse* are merely said to operate like the magnet, without it giving rise to any specific term¹⁴⁵.

The tone of the *Herbarius* is also quite different, as Paracelsus adopts a more sensationalistic vocabulary, using countless terms belonging to the register of the wonders of nature (*secreta, mysteria, magnalia*) and emphasizing the wondrous character of every property he is about to disclose.

Finally, Paracelsus quotes many more authorities in *Von den natürlichen Dingen* than he does in the *Herbarius*, whether to agree or contradict them on precise points of their doctrines. He mentions in the former treatise Galen, Avicenna, Elias, Apollo, Machaon, Hippocrates and Polydoros¹⁴⁶. Aristotle’s name is mentioned twice: Paracelsus calls him the “ignorant philosopher” because he denied the possibility of the transformation of species, although the fact is attested by the transmutation of metals¹⁴⁷. Paracelsus admittedly quotes a verse of Ovid in the *Herbarius*, but without specifying the name of the author (he calls him “ein Poet”)¹⁴⁸.

plants, known to all doctors in Latin: here, the use of German words for these notions, instead of making the text easier to understand, would have had the opposite effect.

¹⁴³ Ya’qūb ibn Ishāq Abū Yūsuf al-Kindī, 2003. For some examples of such terms, see H7: 133 (“*Influentia Carnalis*”, “*Attractiuum Influentiale*”), 137 (“*Concordantz vnd Coniunction*”).

¹⁴⁴ “Das ist nuhn *Cura Magnetica* oder *Magnetina*.” (H7: 135).

¹⁴⁵ See also the striking differences in the description of the possible uses of *Persicaria* in the *Herbarius* and *Von den natürlichen Dingen* (H7: 75–76 and 133–135).

¹⁴⁶ The followers of Avicenna and Galen are accused of letting people die because they refuse to learn the art of distillation (H7: 191). Aristotle is opposed to Elias in the context of discussions of the transmutation of metals (H7: 198). Apollo, Machaon, Hippocrates and Polydoros are mentioned in the context of discussions of the *quinta essentia* (H7: 173). Let it be noted that Apollo, Machaon and Hippocrates were positively regarded by Paracelsus, who saw them as the founder of a worthwhile, authentic medicine (see e.g. the *Septem Defensiones*, H2: 158).

¹⁴⁷ H7: 198. Moses is also named in the *Herbarius*, but Paracelsus only uses an episode of his life to describe metaphorically the unfolding of the *Wassersucht* within the patient’s body (H7: 67).

¹⁴⁸ “Darumb sagt ein Poet: *Nescit nodosam Medicus curare Podagram*.” (H7: 72). The reference is to Ovid,

4.3. *The Herbarius, simplified version or early draft of Von den natürlichen Dingen?*

Two diverging assumptions can be made based on these observations.

The first is that Paracelsus wrote simultaneously the *Herbarius* and *Von den natürlichen Dingen*, conceiving the former treatise as a simplified version of the latter, intended to reach a broader public and showcase his new medical art to the widest audience possible, at a time when his ideas were far from being commonly accepted and when composing a successful herbal could have been for him a source of fame and money¹⁴⁹. The second is that Paracelsus wrote *Von den natürlichen Dingen* after the *Herbarius*, at a time when his theories had more fully blossomed.

The strongest argument to support the first thesis lies in the fact that Paracelsus seems to deliberately conceal the doctrine of signatures in the *Herbarius*, insisting on his desire to write a treatise that appeals to the common man (*gemeine Mann*) while possibly having this doctrine in mind at the same time¹⁵⁰.

On the other hand, the second hypothesis, namely that *Von den natürlichen Dingen* is a later treatise in which Paracelsus built on the preliminary investigations he had made in the *Herbarius*, also seems plausible. The lack of any substantial discussion of the doctrine of signatures in the *Herbarius* and Paracelsus' extended use of analogies instead could be explained by the fact that although he had noticed the correspondence between the blood-like drops on the *persicaria* and its ability to heal wounds (a marvel he chose not to disclose to the doctors of humors), he had not yet developed the concept of signatures by the time he was writing the *Herbarius*. The smaller number of Paracelsian neologisms in the treatise could similarly be the result of it being written at an earlier stage of Paracelsus' career. Aside from Paracelsus' simple will to impress his audience while he dictated his treatises in taverns and

2005: 62. Paracelsus might not have known the origin of this sentence, which he also quotes in *Das Buch von den Tartarischen krankheiten*, referring to it as "ein Sprichwort im Latein" (H2: 329).

¹⁴⁹ Weeks, 1997: 55.

¹⁵⁰ See above, pp. 30-31.

inns¹⁵¹, there are many sound reasons for his ceaseless invention of neologisms (such as the need to find new terms to break away from the Latin terminology of his time¹⁵² or the need to name diseases, plants and phenomena that were unknown to the ancients¹⁵³) which make it possible to assume that the more his medical theories blossomed, the more the Swiss doctor invented neologisms. As a result, the *Herbarius* would be less theoretical simply because it was written earlier than *Von den natürlichen Dingen*.

The two hypotheses are not mutually exclusive. We can for instance imagine that Paracelsus wrote the *Herbarius* early in his career, targeting an audience of “common men” and therefore writing it in a deliberately plain style. The project of writing an herbal might then have been started anew later, this time under the title of *Von den natürlichen Dingen*. At this point, Paracelsus would no longer have deemed it important to appeal to the “common man”; and he would have used some of the elements that were formerly used in the *Herbarius*, upgrading them to include some of his new theoretical findings, all the while complexifying the language and arguments of the treatise so as to adjust to his new audience.

Neither hypothesis can be privileged solely based on a critical analysis of the texts. Only by dating the *Herbarius* and by comparing it to contemporary Paracelsian treatises can the plausibility of either option be more accurately investigated. Whichever hypothesis proves true, we can already assert that the fact that the *Herbarius* was aimed at a relatively well-defined audience of “common men” rules out other possibilities concerning the identity of the intended addressees of the treatise. It could for instance hardly be reconciled with the prospect of seeing the *Herbarius* as one of the textbooks Paracelsus wrote for his students while a teacher at Basel, as is for instance the case of *De gradibus*¹⁵⁴. This observation is in line with the absence of any substantial discussion of the humoral tradition in the *Herbarius*, which

¹⁵¹ Weeks, 2008: 34.

¹⁵² Kuhn, 1996.

¹⁵³ Braun, 1981.

¹⁵⁴ See p. 12.

contrasts with the approach Paracelsus adopted in *De gradibus*, the commentary on Macer (1527)¹⁵⁵ or the German commentary on Hippocrates (1527-1528)¹⁵⁶, so many treatises that testify of the Swiss doctor's ability to master the language of humoral medicine when he wished to do so¹⁵⁷: trained physicians, academic doctors and university students were most probably not the audience targeted by the *Herbarius*.

5. *Dating the Herbarius*

The *Herbarius* has been alternately dated by editors and specialists of Paracelsus 1) from the first years of his career as a doctor, that is, from the middle of the 1520s¹⁵⁸; 2) around the Basel period (1527–1528)¹⁵⁹, a turning point in Paracelsus' life; or 3) as a post-Basel treatise¹⁶⁰, perhaps even written around the same time period as the *Kärntner Schriften*¹⁶¹. In this last part, we attempt to demonstrate that while the hypothesis of a dating of the *Herbarius* prior to Paracelsus' stay at Basel can be easily excluded, assessing whether the treatise was written during or after it (and if so, how long after) proves much more problematic. Pursuing, for the sake of comparison, our parallel discussion of *Von den natürlichen Dingen*, we will proceed in four steps. First, we will provide a quick chronology of the transformations of Paracelsus' theorizations of herbal healing in seven of his works on the matter, in order to ease our subsequent discussions. Then, we will examine two hypotheses in turn: first, that the *Herbarius* was written during the Basel years whereas *Von den natürlichen Dingen* was composed several years after, second, that both treatises were written after Basel. Leaving both possibilities open, we will eventually discuss how they relate to the two hypotheses of the simultaneous or successive writing of the two treatises exposed in the previous part.

¹⁵⁵ S3: xlix. See also fn. 48.

¹⁵⁶ S4: xxxii.

¹⁵⁷ See below, p. 39, but this will be discussed more in-depth in another article.

¹⁵⁸ S2: vii–viii; Daems, 1988: 16, sees the *Herbarius* as a treatise written around 1525–1526; Moran, 1993: 101, does not question Sudhoff's dating; see also Nowotny, 1998: 28.

¹⁵⁹ Benzenhöfer, 2005: 75.

¹⁶⁰ Weeks, 2008: 122, fn. f.

¹⁶¹ This seemed to be the opinion of Michael Toxites (CP 2: 390).

5.1. *A quick chronology of Paracelsus' tracts on herbs:*

Let us start by providing a quick chronology detailing how herbal virtues are theorized in seven Paracelsian treatises containing key discussions on the matter¹⁶², then assessing the relative position of the *Herbarius* and *Von den natürlichen Dingen* vis-à-vis these writings.

The healing properties of herbs are the main topic of the already mentioned *Scholia & Obseruationes* [...] in *Macri poemata* and *De gradibus*, two treatises written shortly before and during Paracelsus' stay at Basel (1526-1528)¹⁶³. There (and contrary to what he does in his more mature works), Paracelsus still closely engages with the humoral tradition, although his aim is already to transform it at its core: to give only one example, he reduces the number of complexions from four to two, explaining that everything dry is hot and everything moist is cold – a major adjustment indeed¹⁶⁴. This is not to say that Paracelsian concepts are wholly absent from both treatises: they correspond, for the most part, to the typology of the different kinds of essences at work within natural objects that Paracelsus had earlier built in the *Archidoxis*. The virtues of plants are called *quintae essentiae*, *arcana*, *magisterii*, specific forces, elixirs and “*extrinsecis*”¹⁶⁵. The explanation is based partly on the humoral system, and partly on the virtues exposed in the *Archidoxis*.

Later on, *De vera influentia rerum* (part of the so-called *Philosophia magna*, tentatively dated by Sudhoff ca. 1529–1532) specifically discusses the origins of the occult properties, or *arcana*, that herbs were endowed with by God¹⁶⁶. In this work the *arcana* appear as the new and single rationale for explaining the virtues of plants, as a result of what

¹⁶² For obvious reasons of space, their content can only be very briefly outlined here. A close reading will be attempted in another article.

¹⁶³ See respectively fn. 155 and 55.

¹⁶⁴ “Antequam de Gradibus tractare incipiam, obseruandæ sunt Complexiones naturæ, quarum duæ sunt, alia calida & alia frigida. Porrò, quælibet harum ingenitam quandam Diathesin habet in se: Nam omne Calidum est siccum, & omne Frigidum humidum: neque enim calor neque frigus sola esse possunt. Itaque hæ duæ naturæ, calidum & siccum, vnum sunt, similiter frigidum & humidum.” (H7: 1).

¹⁶⁵ See H6: 1–99. This will be discussed in another article.

¹⁶⁶ H9: 131–161. See S14: xi for the dating. On the problem of the so-called *Philosophia magna*, see NPE1: 70–72.

appears as a drastic simplification of the earlier typology¹⁶⁷. A similar cosmological scheme predominates in *De potentia et potentiae gratia Dei* (1533), a theological treatise in which Paracelsus develops one of its most refined descriptions of the invisible *arcana* circulating within what he describes as an invisible tree underlying the whole universe, to which all plants and *Gewechse* are connected, and out of which they draw their power¹⁶⁸.

The *arcana* remain a central feature of later works such as the *Ander Erklärung der Gantzen Astronomie* (before 1537)¹⁶⁹, the *Astronomia magna* (1537-1538)¹⁷⁰ or the *Labyrinthus medicorum errantium* (1538)¹⁷¹. However, the doctrine of signatures plays in these works a new, major role, since the signatures have become the main technique to discover the inner *arcana* of plants¹⁷² and, in fact, of all *Gewechse*¹⁷³ whereas earlier treatises

¹⁶⁷ “[S]o ist die Frag / Wie kompt die Tugendt in das Kraut? So ist der bescheid / nicht auß dem Planeten / nicht auß den Zwölff Zeichen / nit auß den andern Sternen / sondern auß GOTT / der hatts dahin geben. [...] Nun ist die Natur wol erzeugt / allein darumb / das jhr in jhr erkennen mögen vnd sollen / das jhre Tugendt / das ist / jhre *Arcana* auß Gott da sindt / vnd daß die Influentz auß Gott geht [...]” (H9: 136–140). Weeks, 2008: 26–27, noticed that the typology elaborated in the *Archidoxis* was not maintained for long in the rest of Paracelsus’ writings.

¹⁶⁸ See NPE1: 713–724 for the text; 377 and 717 for the dating (indicated in the text itself).

¹⁶⁹ This treatise has not been dated yet with any certainty but, as an unfinished text closely related to the *Astronomia Magna*, it was probably written before 1537 (Kahn, 2016b, 73 and 109, here 73: “Another *Erklärung der gantzen Astronomie* was dated 1535/1536 by Sudhoff, based on the mention “Geben zu München” at the end of its preface. Yet this dating has been rejected by Benzenhöfer [Benzenhöfer, *Paracelsus*, ed. 2002, 102] as deprived of any firm basis, for we cannot date with certainty Paracelsus’ stay in Munich.”)

¹⁷⁰ See Daniel, 2003 for the dating.

¹⁷¹ “Nun aber zu erforschen / was in Kreuttern ist / darzu gehört *Philosophia Adepta*, dieselbig weiß alle verborgene ding / alle Heimlichkeit / alle *Arcana* der Natur / was in einem jeglichen Kraut / Sahmen / Wurtzen / etc. befunden ist. ” (H10: 173) “Dann do wirt das *lignum Magicum* auch angezündt / das sind die *Arcana Herbarum* werden brennen / wie das Holtz / vnnd zeigen sein krafft / warzu dasselbig gut ist” (H2: 231)

¹⁷² “Alle ding eröffnen sich in seinen Proprieteten / Qualiteten / Form / Gestalt / etc. was in jhm ist / Kreutter / Sahmen / Stein / Wurtzen / etc. Das ist / sie werden all durch jhr *Signatum* erkennt / vnnd durch das *Signatum* haben alle gelerte Leuth gefunden / was in den Kreuttern gesein ist / Steinen / Sahmen” (*Ander Erklärung der Gantzen Astronomie*, H10: 471). “Dann also haben die *Signatores* viel *Medicamina*, *Remedia*, vnd andere *Vires* in *Natürlichen dingen* gefunden: vnd wer nicht auß der Signatur die Krafft der Kräutter schreibet / der weiß nicht was er schreibt.” (*Astronomia Magna*, H10: 153). In the *Labyrinthus medicorum errantium*, Paracelsus explains in the chapter devoted to signatures that “da werden gesehen die kreffft vnnd Tugend: Als wenn man einen Menschen Anatomiert / in dem alle Glider gefunden werden / vnnd gar zursotten / vnd noch mehr gefunden. Solche *Anatomia* der Künsten findung / zeigt erstmal an das *Signatum*” (H2: 230), later adding that “die kunst *Signata* bey dem auch soll bekannt sein” (H10: 236).

¹⁷³ “Wir Menschen auff Erden erfahren alles das / so in Bergen ligt / durch die aussern Zeichen vnnd Gleichnuß : Auch dergleichen alle Eigenschaft in den Kräuttern / vnnd alles das in den Steinen ist: Das alles kommt durch sein *Signatum Signum*” (*Ander Erklärung der Gantzen Astronomie*, H10: 426). This passage is reproduced almost identically in the *Astronomia Magna*: “Wir Menschen auff Erden erfahren alles das / so in Bergen ligt / durch die eussern Zeichen vnd Gleichnuß / auch dergleichen alle Eigenschaft in Kräuttern / vnd alles das / das in den Steinen ist: [...] alles kompt durch sein *Signatum Signum*” (H10: 154). In the *Labyrinthus medicorum errantium*, Paracelsus asserts when discussing the doctrine of signatures that “alle glider des Menschen haben

contained only vague references to the *Zeichen* of plants, often used as an equivalent to the term “form” (*Form, Gestalt*) and deemed by Paracelsus to be indicative of their therapeutic uses (in much the same way that the miraculous healing performed by the apostles demonstrate that they are apostles)¹⁷⁴.

Two major shifts can thus be observed in Paracelsus’ herbal writings: first, the transition from a theoretical system centered on the terminology elaborated in the *Archidoxis* to a monist system centered on the notion of *arcana*, second, the growing importance ascribed to the signatures of plants. The first shift seems to have started as early as 1527: the term “*arcana*” is indeed almost absent from the first five books of *De gradibus*, which were, according to Sudhoff, written in 1526¹⁷⁵ (that is, before Paracelsus’ arrival to Basel), and in which Paracelsus relies extensively on the typology of the *Archidoxis*¹⁷⁶. In contrast, in books VI and VII of the treatise (both written in 1527), the notion of “*arcana*” appears twenty-three times¹⁷⁷ and has become the main concept to account for the healing power of herbs¹⁷⁸. The second shift is more difficult to date, but it seems posterior to 1533, since the doctrine of signatures is still absent from *De potentia et potentiae gratia Dei* (1533), whereas it has become central in the *Ander Erklärung der Gantzen Astronomey*.

In the two following parts, we will wonder how the *Herbarius* and *Von den*

jhre form dermassen in den wachsenden dingen / auch in Gesteinen / auch in Metallen / vnd *Mineralibus*, etc.” (H2: 234).

¹⁷⁴ “So nun dem Menschen der Gwalt dermassen geben ist / von wannen kompt dann der Gewalt in Steinen vnnd in Kreuttern? Auch auß GOTT. Die vrsach / das der / so es den Aposteln / als Aposteln gegeben hatt / der hatts auch geben den Steinen als Steinen / vnd sind beyde auß Einem GOTT / vnd auß keinen Sternen. Dann was ists / das die Artzney einen Gesundt machet? Es ist nichts als allein ein gegebne Gnad auß GOTT. Was ists das die Apostel einen Gesundt machen? Allein ein Zeichen / das sie deß Apostel seind / der Himmel vnd Erden beschaffen hatt. [...] Hierauff solt jhr fernner wissen / daß wir in allen dingen die Natur sollen verstehn / dz die Gehäuß / Herbergen sind der Tugenden: Vnd das die vnterscheidnen Form / Zeichen sindt / ein jedtliche zu suchen: Vnd das GOTT dieselbigen Krefft vnd Tugendt in die Natur gossen hatt” (H9: 138).

¹⁷⁵ S4: vi.

¹⁷⁶ See below, p. 43.

¹⁷⁷ Most of my counts in this section were done using the THEO database (<https://www.paracelsus-project.org/>), developed by Urs Leo Gantenbein.

¹⁷⁸ “Vnum idemque Arcanum sæpenumero in plus minus trecentas distribui Herbas, quæ singula, si in vnum omnia conferas, tum demum perfectum atque adeo integrum Arcanum adest: Quandoquidem, omne perfectum medicamen Arcanum est.” (H7: 51). *De gradibus* is centrally discussed here rather than the commentary on Macer because the practical nature of the latter treatise makes it difficult to decipher any change at work in Paracelsus’ doctrine.

natürlichen Dingen fit within this chronology. It should nonetheless be mentioned that Paracelsus' writings cannot be easily ordered into clear-cut chronologies. Paracelsus often referred in his late works to treatises or notions that used to be seen by previous scholarship as outdated at this point of his life, and conversely, he sometimes did not use in late writings notions he had already developed elsewhere, simply because he was arguing from another point of view¹⁷⁹. Only by investigating multiple aspects of his ideas about herbal healing can the frequent coexistence of different systems of thought in his mind be truly acknowledged, and a secure dating be attempted.

5.2. First hypothesis: the *Herbarius*, a treatise written in or immediately after Basel (1527-1529)

Let us turn to our first hypothesis: namely that the *Herbarius* was written during the Basel period or immediately after (1527-1529) whereas *Von den natürlichen Dingen* would have been written after Basel or, even, after 1529 (for reasons that will be soon apparent). In order to substantiate this view, we will begin by showing that the *Herbarius* and *Von den natürlichen Dingen* were both written at least in 1527. Then, we will interpret the lesser intensity of the attacks against university doctors in the *Herbarius* as compared to *Von den natürlichen Dingen* as a sign that the *Herbarius* was written before the end of the Basel period (i.e. at the latest in 1528) whereas *Von den natürlichen Dingen* dates from after this pivotal episode. We will eventually argue that the importance of the topic of German medicine in the *Herbarius*, and its striking absence in *Von den natürlichen Dingen*, make it possible to extend the dating of the *Herbarius* to 1529 (the treatise having thus to be regarded as dating from 1527-1529), while it allows for a dating of *Von den natürlichen Dingen* after 1529.

A first set of arguments leads us to see, with almost absolute certainty, the *Herbarius*

¹⁷⁹ For instance, the *Archidoxis* (supposedly completed in 1525/26) is still quoted in the plague treatises (written in 1529–1530 and 1534, see Gunnoe, 2019). The Yliaster, a notion believed to have been abandoned in Paracelsus' cosmology after the *Philosophia de generationibus & fructibus quatuor elementorum* (ca. 1527) still appears in *Von dem Bad Pfeffers* (1535). I thank Didier Kahn for pointing me out both points.

and *Von den natürlichen Dingen* as treatises dating at least from the Basel era (i.e. at least from 1527). If we consider the transition in Paracelsus' theorizations of herbal healing that was mentioned in part 5.1. (viz. from the typology of the *Archidoxis* to the *arcana*), it is indeed obvious that both treatises are contemporary or posterior to this shift started in 1527. Contrary to what is the case in *De gradibus*, the typology of the *Archidoxis* is mostly absent from both the *Herbarius* and *Von den natürlichen Dingen*: for instance, the idea of quintessence does not appear in the *Herbarius* and is applied to plants only twice in *Von den natürlichen Dingen*, whereas it is used thirty-six times in *De gradibus*¹⁸⁰; and the same goes for the other kinds of essences introduced in the *Archidoxis*¹⁸¹. On the other hand, the word “*arcana*” has become the main term to refer to the virtues of plants both in *Von den natürlichen Dingen* (in which it appears twenty times)¹⁸² and in the *Herbarius*. Though the word appears only three times in the latter treatise (probably due to its simplified writing style), it nonetheless plays a central role: in the prologue, Paracelsus, who “completely admits that the simples are not powerful enough [based on] their qualities alone [but must be used based on] their *arcana* [too]”¹⁸³, asserts his will to disclose the virtues of plants based on both their qualities and *arcana*¹⁸⁴. The predominance of the concept of *arcana* over the typology of the *Archidoxis* thus appears as a strong sign that both treatises date at least from 1527.

Let us now consider a second set of arguments supporting a dating of the *Herbarius* before the end of the Basel period (at the latest in 1528), and, in contrast, a dating of *Von den natürlichen Dingen* after 1528: namely the fact that Paracelsus uses a far more aggressive

¹⁸⁰ While it could be objected that the concept of quintessence can still be found in the 1535 *Von dem Bad Pfeffers* (see H7: 328, 333 or 342), Didier Kahn has recently suggested that albeit finalized at a late date, this treatise might have been started earlier, as much of its content echoes the cosmological elements found in the 1527 *De gradibus* (Kahn, forthcoming).

¹⁸¹ For instance, the word “elixir” appears four times in the *Gradibus* as compared to one time in the *Herbarius* and zero time in *Von den natürlichen Dingen*; the “magisterium” appears three times in *De gradibus* as compared to one time in the *Herbarius* and zero time in *Von den natürlichen Dingen*.

¹⁸² “[...] vnnd derselbige Will Gottes ist das *Arcanum*, das in den natürlichen dingen ist [...] Vnd so viel *Arcana*, so viel auch Willn Gottes.” (H7: 153).

¹⁸³ “Ich kan wol erkennen / daß die *Simplicia* allein in den Qualitatib. nit mögen genugsam sein / aber in *Arcanis*” (H7: 64).

¹⁸⁴ H7: 64.

language when he writes about academic doctors in *Von den natürlichen Dingen* than in the *Herbarius*. Here I make use of Andrew Weeks' argument, recently reinforced by Urs Leo Gantenbein, that it is only the clash with academic doctors at Basel that turned the "self-confident, almost arrogant professor [...] who rejects everything old and only wants to accept his own ideas"¹⁸⁵ Paracelsus still was when he arrived in the Swiss city into a "cynical, scolding and embittered outlaw"¹⁸⁶ after 1528. Based on this argument, we can subtly try to differentiate between the attacks against university teachers already to be found in the Basel writings¹⁸⁷, in which Paracelsus adopts a polemical tone typical of an age of radical Reformation¹⁸⁸, and the infuriated lines written by the spiteful writer Paracelsus became after Basel.

In the *Herbarius*, Paracelsus holds those whom he calls the "doctors of humor" responsible for the fact that "people [lie] sick for years" who could easily have recovered, if only they had not "hidden the real secrets" of medicine, "brought their filth into the world", "made sophistry from *sophia*" and "crushed the pearls of nature"¹⁸⁹. In *Von den natürlichen Dingen*, he refers to the same doctors as a bunch of "bunglers" (*Sudler*)¹⁹⁰ or even "murderers"¹⁹¹, who "fool the people all over the world"¹⁹². The more serious accusation that the humoralists are "murderers", which became a real topos in Paracelsus' post-Basel writings

¹⁸⁵ Gantenbein, 2020b: here 44, see more broadly 16–18, 29–32. See also Weeks, 1997: 39–40, 118–119 and Weeks, 2016: 102–103, 107–108.

¹⁸⁶ Gantenbein, 2020b: 44.

¹⁸⁷ For instance, in the Basel Lecture Manifesto, dated from the 5th June 1527: "Sed vt nostrum Institutum clarius Studiosis innotescat, non piget exempli loco subiicere, nos in complexionum ac humorum ratione Veteres nequaquam imitari, qui sane omnes aegritudines illis falso acceptas ferunt: Vnde nullis aut certe paucissimis Doctorum hodie, morbos, causas, ac decretorios dies exacte nouisse, contingit" (H7: sig. A v r^o.)

¹⁸⁸ Weeks, 1997.

¹⁸⁹ See fn. 131.

¹⁹⁰ H7: 189 and 192.

¹⁹¹ "Ich achts für ein Plag von Gott / vnnd für ein grosse Plag / das Gott die Welt mit solchen Artzten versorgt vnd begabt hatt / die do wissendlich Mörder seindt / ohn alle Inredt bekennen müssen / vnnd das die Hohenschulen die *Doctores* machen / vnnd bey jhr eigener Conscientz bekennen müssen / das sie nicht Stösser in ein Apotecken geben / vnnd betriegen also das Volck inn der gantzen Welt / vonn wegen eines kleinen Geldts / vnd sie selbst wissendt bey jhren eignen Gewissen / das sie selbst nichts sollendt / vnnd nichts gutts machen können. Ob das nicht ein grosse Mörderey sey / von wegen deß heillosen Geldts dermassen ein solche *Speluncam* machen in diser Welt?" (H7: 139–140).

¹⁹² See fn. 191.

whereas it never appeared before¹⁹³, is absent from the *Herbarius*¹⁹⁴, whereas it occurs four times in *Von den natürlichen Dingen*¹⁹⁵. This could be an indication that the *Herbarius* was written in Basel or before (i.e. at the latest in 1528), whereas *Von den natürlichen Dingen* was written after.

A last series of arguments will now lead us to slightly displace the temporal boundary between the two treatises and argue that the *Herbarius* could have been written as late as 1529, whereas *Von den natürlichen Dingen* should be regarded as posterior to 1529: namely, the pervasiveness of the topic of German medicine in the *Herbarius*, and its complete absence in *Von den natürlichen Dingen*.

The prologue of the *Herbarius* is centered on the idea that “each land grows its own diseases, its own remedies and its own physicians”¹⁹⁶. Paracelsus criticizes the remedies that come “to the German lands from far off lands at a great cost, effort and work, and with great care”¹⁹⁷ from Italia, France, Greece, or the lands he refers to as *Arabia, Chaldea, Persia*¹⁹⁸, then asserting the need to replace them by plants (or, rather, *Gewechse*) that every reader can find in his own garden¹⁹⁹. The importance of developing a genuinely German medicine expressed in the *Herbarius* constitutes valuable information to the extent that all the other works in which such an idea appears were written between 1527 and 1529 (except one, for reasons exposed below).

For instance, we find in the 1527 letter to the Zurich town physician Christoph Cluser (ca. 1490-1552), cited here from an early translation that contains archaic spellings, the following lines:

¹⁹³ A sudden surge of such accusations of murder can be found in the 1529 *Vom Ursprung und Herkommen der Franzosen sampt Heilung Acht Bücher* (see especially HC: 223c–225b).

¹⁹⁴ The most violent passage of the treatise was quoted in fn. 131: Paracelsus indeed goes as far as calling the humoralists “sows”.

¹⁹⁵ H7: 139 and 169.

¹⁹⁶ “Einem jeglichen Landt wechst sein Kranckheit selbst / sein Artzney selbst / sein Artzt selbst” (H7: 62).

¹⁹⁷ “[...] die Artzney so in Teutscher Nation / so von ferren Landen kommen / mit grossem kosten / mühe / vnnd arbeit / vnd mit viel sorgfeltigkeit” (H7: 61).

¹⁹⁸ H7: 61.

¹⁹⁹ “[...] vnd ein bessers ist im Garten vor jhrem Hauß” (H7: 62).

“My Medicinal drivings and forcings are born in me out of my Country Soil: As Avicen was the Arabians Physician, Galen the Pergamensians, and Marsilius the best of the Italian Physicians, even so the most fruitful Germany her self hath chosen me to be its necessary Physician [...] From this observe, that thou compares Hypocrates to Me, Me to Averois, and Rhasis together with Us three, Each according to his own cuntry [...] nor art thou ignorant that every Country contains in it self the Matrixes of its own Element, and exhibits to its own self that which is necessary [...]”²⁰⁰

The criticism of foreign authorities and drugs also permeates the various treatises Paracelsus dedicated to syphilis (the “French disease”)²⁰¹ in his famous, yet understudied polemic concerning the use of guaiac wood, between 1528 and 1530. This proximity of topics does not come as a surprise if we consider that during this controversy, Paracelsus was in fact arguing in favor of a local *Gewechs* (mercury)²⁰² against one brought from the “New World” to Germany by the Augsburg Fuggers²⁰³. *Von den Blatern, Lähme, Beulen, Löcheren vnnnd Zittrachten der Frantzosen*²⁰⁴ (1528) contains a denunciation of medical ingredients coming from “beyond the sea”²⁰⁵ not overly different from the similar rejection found in the *Herbarius*²⁰⁶. We find, more strikingly, a sentence in the 1529 *Von der Französichen Krankheit drei Bücher*²⁰⁷ which reproduces almost verbatim the prologue of the *Herbarius* (“where the diseases are, there, too, are the remedies; where the diseases and remedies are,

²⁰⁰ Paracelsus, 1660: 94–95. I deleted “compare” and “viz.” to remain more faithful to the Latin original: “Innata mihi mea est violentia medica ex patrio solo: Sicut enim Arabum medicus erat Auicenna, Pergamensium Galenus, Itolorum vero Marsilius Medicorum optimus fuit : ita etiam ipsa me Germania foelicissima in suum Medicum necessarium delegit [...] Ex quo quidem obserua, vt ad me Hippocratem conferas, me vero ad Auerroen, Rasim autem cum nobis tribus compara simul, quemlibet nempe iuxta suam patriam [...] Neque enim clam te est, vnamquamque patriam sui Elementi in se continere Matrices, sibique ipsi id, quod est necessarium, exhibere.” (H7: sig. A v v^o). For a discussion of Paracelsus’ self-fashioning as the German Avicenna, see Gantenbein, 2020b: 29–32.

²⁰¹ As underlined by Andrew Weeks, the term “syphilis” is only used to follow common uses: we cannot presume that what we identify today as “syphilis” is what Paracelsus meant when he wrote about the “Franzosen” (Weeks, 2008: 6).

²⁰² That Paracelsus saw mercury as a *Gewechs* is attested in the *Drey Bücher von der Frantzosen*, in which he writes that “So nuhn in diesen Kranckheiten so treflich auffsehen not ist / so ligt dz Best in den Mercurialischen Gewächsen / vnd nicht im Avicenna” (see HC: 177a). As was already mentioned in fn. 116, an explanation of Paracelsus’ broad understanding of the term “Gewechs” (a category which includes plants, stones, metals, comets and, even, humans) will be attempted elsewhere.

²⁰³ As pointed out by Weeks, 1997: 46, the Fuggers’ family in fact benefited from the trade of mercury even more than it benefited from the trade of guaiac wood.

²⁰⁴ The treatise belongs to the few Paracelsian works printed in his lifetime: see S6: 301.

²⁰⁵ “Andre sagtend / die Salben sollen nichts / ich brauch Stuck darzu / kommend vber Meer / fandens im Sewstall vnd auff der Gassen” (HC: 252b).

²⁰⁶ “[...] haben die Teutschen dahin bracht / daß sie auff jhr eigen Gewechs nichts gehalten haben: allein alles *ex Italia* zunehmen / oder vber Meer her.” (H7: 61).

²⁰⁷ Same remark than in fn. 204, see S7: 67.

there, too, are the doctors”²⁰⁸), and in which the criticism aimed at Chaldean, Arabic, etc. medicine is strongly reminiscent of similar lines found both in the letter to Clauser and the *Herbarius*²⁰⁹.

The only treatise dealing with German medicine that does not date from the years 1527-1529 is the 1536 *Große Wundarzney*²¹⁰. However, despite its late publication, the *Große Wundarzney* itself might well have been started by Paracelsus much earlier, perhaps as early as the Basel period²¹¹.

Paracelsus’ advocacy of German medicine, although by no means original (since it recalled both the ancients’ doctrine “*non omnis fert omnia tellus*” and the apology of German medicine found in the works of other German humanists of his time²¹²), stands out as one specific moment in his career as a doctor, of which the writing of an herbal purported to reclaim German *Gewechse* would probably have constituted a high point. So far, we have underlined that this moment corresponded to the years 1527-1529: it would not be improper to refer to these years as the Basel years and their immediate aftermath. Writing about the

²⁰⁸ “[...] wo die krankheiten sind / da sind auch die Artzneyen / vnnd wo die krankheit vnd die Artzney ist / da ist auch der Artzt.” (HC: 171a).

²⁰⁹ “Dann Gott hat die Artzney allzeit gleich außgetheilt / vnd dieselbig den Heiden eben als frü vnd als vil mit getheilt als andern / vnd kein vorbehalten der Artzney nie gehabt. Auch keinerley Nationen sonderlich vor die andern versprochen / sondern eben als wol betracht die Deutsche spraach / als die Hebraische / die Polnische / als die Caldeische / was aber ein jegliche für sich selbs berümpft zu haben / vnd ein andere des entsetzt / geschicht auß Vbermuth. [...] dann Gott hat kein Spraach für die andern begabt [...]” (HC: 170c).

²¹⁰ “Vnd wiewol aber das ist / daß ich nicht die Stück nim so die Griechen / Arabischen / Caldeischen / Egyptischen / gebraucht / vnd genommen habend: Sondern nim auch die Stück / die einem jegklichen im Garten wachsen: Ists nicht gleich das jenig / so ist es aber dem jenigen gleich. So magstu auch wol verstehen / daß du Honig vnd Butter nemmen magst / das ist / wann Honig steht / so magst wol so vil Butter nemmen / wo Butter steht / so vil Honig / vnd werden also / wie hernach folgt.” (HC: 25a).

²¹¹ I thank Didier Kahn for bringing to my attention that in the *Große Wundarzney*, Paracelsus identifies alchemy, philosophy, astronomy and *physica* as the four pillars of medicine (HC, 59b). The fact that this group reproduces the quadripartition found in the *Kommentare* on Hippocrates, written during Paracelsus’ stay at Basel (see the appendix to H5: 4 for the reference and fn. 156 for the dating), instead of the slightly different group found in 1530 in the *Paragranum* (the four pillars being, in this emblematic treatise, alchemy, philosophy, astronomy and “*virtus*”) could be interpreted as a sign that the *Große Wundarzney* was based on both older and later drafts (or written early and completed or printed at a late date). For an extensive discussion of the four pillars of the *Paragranum*, see Weeks, 2008, especially 10–14. Weeks already noticed the “anticipatory reference” to the pillars in the *Deutsche Kommentare...* (Weeks, 2008: 8). As noticed by Kahn, the definition of *adech*, a notion typical of the Basel writings, is surprisingly found only in the *Große Wundarzney*, which strengthens the thesis of an early start of this surgical work.

²¹² See Hasse, 2016 for a discussion of the nationalism of German humanists, which includes a discussion of the herbals of the “Founding fathers” of botany (157 sqq); and see Weeks, 1997: 40–41 for a mention of Paracelsus’ nationalism in the *Herbarius*.

1529 *Vom Ursprung und Herkommen der Franzosen sampt Heilung Acht Bücher*, Sudhoff indeed speculated that the treatise was already in Paracelsus' "thinker's head (*Denkerkopf*)"²¹³ in 1527-1528, while still in Basel. We could read other treatises dealing with German medicine by hypothesizing that, after he clashed with academic doctors and their Greek and Arab *auctoritates* in the Swiss city, Paracelsus used the plea for a truly German medicine to defend his own (incidentally German) theories. The treatises he completed in 1529 would then have been part of the same, gut reaction to Basel, before he moved on to other topics. We find significantly no criticism of foreign medicine in *Von den natürlichen Dingen*, where Paracelsus mentions, once, a "transmarine or Indian balm"²¹⁴ without any derogatory comment, only adding that (German) turpentine equals its virtues²¹⁵.

To sum up, we argued in this part that both the *Herbarius* and *Von den natürlichen Dingen* should be regarded, with almost certainty, as dating from at least 1527. We then pointed to arguments supporting the idea that the *Herbarius* was written at the latest in 1528, before extending our temporal boundaries to include 1529 – conversely arguing that *Von den natürlichen Dingen* dated from after 1528 or 1529. Even if a doubt remains as to where to draw the line (1528 or 1529), what really matters is that, under this hypothesis, the *Herbarius* should be regarded as a treatise from the Basel period and its immediate aftermath, whereas *Von den natürlichen Dingen* should be regarded as a post-Basel treatise.

5.3. Second hypothesis: the *Herbarius*, a post-Basel treatise (after 1528)

But this is only one of the two options examined in this article. If we believe, as was just suggested, that the *Herbarius* dates from 1527-1529, it most probably means that the treatise was started in Basel and, perhaps, completed in 1529. How to reconcile, however,

²¹³ S7: 11.

²¹⁴ "[...] vnd in der Balsamischen Arth gleich dem Transmarinischen oder Indianischen" (H7: 112).

²¹⁵ "So sollen jhr auch wissen / das in sonderheit von dem Terpentin mehr / dann von andern / zu schreiben ist: vrsach / er ist ein gerechter warhafftiger Balsam / vnd in allweg ein Balsam anzunehmen / vnd in der Balsamischen Arth gleich dem Transmarinischen oder Indianischen." (H7: 112).

such a dating with the *Herbarius*' decisive shift away from the ideas on herbs found in the other Basel treatises, viz. the commentary on Macer and the *De gradibus*? What we want to argue now is that equally strong arguments support a dating of the *Herbarius* as post-Basel, that is, a treatise perhaps written after Basel, when Paracelsus' interests, language and topics had shifted away from what they were during his stay in the Swiss city and immediately after²¹⁶. Two arguments shall be considered. First, we will interpret the singularity of the *Herbarius* and *Von den natürlichen Dingen* compared to other tracts on herbs written in Basel as evidence that both treatises were written after the Basel period. Then, we will suggest that the development stage of the doctrine of signatures in *Von den natürlichen Dingen* could hint at a dating of the treatise years after Basel, leading us to consider the implications of such a late dating for the *Herbarius*.

Once again, we shall use as a point of departure Weeks' and Gantenbein's argument according to which Paracelsus' ambition of an all-encompassing reform of medicine, natural philosophy, theology and society was really sparked by the Basel episode (the rejection of his writings on syphilis and his *Spital-Buch* by the city council of Nuremberg in 1530 later adding to his resentment)²¹⁷. We have already mentioned in part 5.1. that in *De gradibus* and in the commentary on Macer Paracelsus still closely engaged with the humoral tradition, although he tried to transform it at its core²¹⁸. The same cannot be said of the *Herbarius* and *Von den natürlichen Dingen*, two treatises in which Paracelsus' recommendations on how to use plants to heal are strikingly at odds with those found in herbals written by followers of the Galenic-Hippocratic tradition. Is it not a sign that both treatises were written after Basel, when

²¹⁶ Andrew Weeks suggested such a post-Basel dating for the *Herbarius*, arguing that the interest Paracelsus displayed in the treatise for several diseases corresponded to his post-Basel preoccupations (Weeks, 2008: 122 fn. f). However, the THEO database reveals that substantial discussions of these diseases are already found in many treatises written before or during Paracelsus' stay at Basel: see examples in the *Liber Paraphorum* (H3: 410), *Das Siebende Buch in der Artzney de Morbis Amentium* (H4: 45 and 59), *De Urinarum et Pulsuum Iudicii Libellus* (H5: 104), *Liber de renovatione et restauratione* (H6: 105), *Liber de longa vita* (H6: 119), *Liber de Gradibus* (H7: 388).

²¹⁷ Weeks, 2008: 5–7.

²¹⁸ See above, p. 39.

Paracelsus' reform of medicine was already well under way?

We find repeatedly in the *Herbarius* and *Von den natürlichen Dingen* the strange idea that plants have the power to draw diseases out of the body²¹⁹, or, conversely, that the human body has the power to attract the subtle *arcanum* that lies in the plant²²⁰. In both cases, this power is likened to the capacity of magnets to attract iron²²¹. Such an idea stands apart from conceptions found in the herbals of von Kaub, Brunfels, Bock or Fuchs, in which healing is almost always based on a physical contact between the plant and the patient. True to the academic medicine of the time which tended, due to the influence of Aristotelian physics, to dismiss (or empty of its content) the idea of action at a distance²²², these authors recommend to boil plants, to turn them into powder, balm, poultice, plaster, etc., and then to ingest, drink or rub them onto the patient's body. Not to say that the idea that plants can act at a distance existed nowhere outside of Paracelsus' works: it was widespread within popular culture (sometimes giving rise to healing rituals somewhat similar to the forms of action at a distance found in Paracelsus)²²³, and discussed in some erudite works on natural magic (e.g. through the issue of the sympathies and antipathies existing between plants and humans)²²⁴. But overall, this remained a marginal practice within academic medicine.

Perhaps it comes as no surprise that the strange idea of using plants as magnets is absent from the Basel treatises, even when *persicaria* (the paradigmatic example of a plant possessing such magnetic properties) is discussed²²⁵. It only seems to appear in the *Herbarius* and *Von den natürlichen Dingen*: could we not infer from that that both treatises were written

²¹⁹ H7: 74–75; 134.

²²⁰ “Der Mensch ist der Magnet / vnnd hatt in jhm Magnetische anziehung gegen den Zungen / so der Magnet vermehlet ist. Nuhn ist das Wasserblutt ein Zung gegen dem Magneten / der der Mensch ist. Auß dem folgt nuhn / das der Mensch an sich zeucht das im Krautt ist / zu seinem nutz / wie der Magnet vom Eisen [...]” (H7: 134–135).

²²¹ See fn. 220.

²²² Weill-Parot, 2013; Copenhaver, 2015.

²²³ See Brévar, 2008.

²²⁴ Stannard, 1999. See also Lefèvre d'Étaples, 2018, for an example of such views in a Renaissance learned treatise completed prior to the times of Paracelsus.

²²⁵ It is absent, for instance, from both *De gradibus* and the commentary on Macer, even where *persicaria* is discussed in the latter treatise (H7: 258).

at a time in Paracelsus' career when his medical ideas diverged widely from that of orthodox humoralists, that is, after 1528?

Then comes the question of how long after Basel Paracelsus wrote *Von den natürlichen Dingen* and the *Herbarius* (provided that it was indeed written after Basel). A more theoretical treatise, *Von den natürlichen Dingen* offers better grounds for attempting a more precise dating, the problem being, then, that not all our conclusions about this treatise necessarily apply to the *Herbarius*. Nevertheless, we shall attempt a more precise dating by examining the development stage of the doctrine of signatures in *Von den natürlichen Dingen*.

Even though attempting to write the history of these transformations should rather give rise to a full-fledged article, let us mention here, at a general level, that the concept of “signatures” arises in the works of Paracelsus as a progressive distortion of the meaning ascribed to the term “sign” (*Zeichen*). What is only meant, in the beginning, at drawing a parallel between the external manifestations of diseases (referred to as *Zeichen*) which indicate their inner nature, and the external forms of plants (*Form, Gestalt* and sometimes *Zeichen*) which indicate their inner properties, soon resulted in the invention of an autonomous term patterned after the Latin form *signum*; later giving rise to a wide array of terms (*signator, signatum, signatura rerum...*)

As mentioned above, the version of signatures found in treatises from the early post-Basel years such as *De vera influentia rerum* or *De potentia et potentiae gratia Dei* still corresponds to the primitive form of the doctrine, and the form “*signatum*” is never found in these treatises. It is only in later works such as the *Ander Erklärung der gantzen Astronomie*, the *Astronomia Magna* and the *Labyrinthus medicorum errantium* that this word is systematically applied to natural objects. Yet, in *Von den natürlichen Dingen*, the term “*signatum*” is used each time the signatures of *Gewechse* are discussed²²⁶. We find repeatedly

²²⁶ See fn. 130.

in the treatise both the motto that nothing can be known without the signatures, and the assertion that signatures are to be discovered not only in plants, but in all natural things²²⁷: these elements were characteristically found in the aforementioned later works²²⁸.

Considering the question of the signatures alone, *Von den natürlichen Dingen* proves much closer to these late treatises than to treatises from the early 1530s such as *De vera influenza rerum* or *De potentia et potentiae gratia Dei*. Thus, a dating after 1533 (i.e. after *De potentia et potentiae gratia Dei*) should not be fully discarded. As for the *Herbarius*, nothing of this sort can be asserted because Paracelsus clearly chose not to discuss the signatures in the treatise. It is only by considering the different elements now at our disposal that the plausibility of a writing of the *Herbarius* after 1533 (if we see it as the simplified twin of *Von den natürlichen Dingen*) can be assessed.

5.4. Some final hypotheses concerning the dating of, and mutual relationship between the *Herbarius* and *Von den natürlichen Dingen*

We are thus brought back to discussing the two hypotheses enunciated in part 4.3, now combining them to what we have learned so far about the dating of the treatises. As it is, claiming to conclusively date the *Herbarius* and *Von den natürlichen Dingen* would be unreasonable. As is often the case with Paracelsus, we are left with a set of contradictory elements and, although it is pretty much certain that the *Herbarius* was written at least in 1527²²⁹ and *Von den natürlichen Dingen* at least in 1528-1529²³⁰, there is still doubt about the *latest* possible dating. Although we asserted that both treatises could very well have been written after Basel²³¹, determining how long after proved much more difficult. The development stage of the doctrine of signatures in *Von den natürlichen Dingen* opened the

²²⁷ “Der von den natürlichen dingen schreiben will / der muß schreiben auß dem *Signato*, vnd dasselbig auß dem *Signo* erkennen” (H7: 163).

²²⁸ See above, pp. 40–41.

²²⁹ See above, p. 43.

²³⁰ See above, pp. 44–48.

²³¹ See above, pp. 49–51.

possibility of a dating after 1533²³², yet we were left wondering to what extent such a late dating could plausibly apply to the *Herbarius*. Considering that both the nature of the criticism directed at the doctors of humors and the importance of the topic of German medicine in the *Herbarius* suggest a dating close to 1527-1529²³³, it would not make sense to admit a dating too long after these dates.

Although being able to draw a neat dot on a chronological timeline would prove more self-satisfactory, we therefore propose to imagine the dating of the *Herbarius* and *Von den natürlichen Dingen* using the metaphor of vectors instead. The possible dating of the *Herbarius* could be conceived of as a time span ranging from 1527 to 1529, perhaps a bit after, with a vector pointing to 1527–1529; whereas the interval for *Von den natürlichen Dingen* would range from 1528 to 1534 or later, with a vector pointing to 1534 or later. Considering again the question of whether the *Herbarius* and *Von den natürlichen Dingen* were written successively or concomitantly, the door is left open both for a simultaneous redaction of the two treatises between, say, 1528–1529 (or shortly after); and for a separate, successive writing, if we consider that the *Herbarius* was written closer to 1527 and *Von den natürlichen Dingen* closer to 1534 or later.

6. Conclusion

The history of the early reception of the *Herbarius* is first and foremost that of a growing frustration. The Paracelsians were driven by the hope, dashed by the publication of the actual *Herbarius*, of discovering an herbal centered on the signatures of plants – a work they could legitimately expect to find among the treatises left behind by Paracelsus, since they had read in his *Labyrinthus medicorum errantium* that such a spiritual herbal was a must-have for any serious physician.

²³² See above, pp. 51–52.

²³³ See above, pp. 44–48.

The absence of any discussion of the signatures in the actual *Herbarius* led authors such as Toxites to fall back, in the first place, on *Von den natürlichen Dingen*, the only Paracelsian work which looked like an herbal and where the doctrine of signatures played a substantial role. Even though there is clear evidence that the *Herbarius* and *Von den natürlichen Dingen* are distinct works, not scattered fragments of the same herbal, the *Herbarius* cannot be studied without considering *Von den natürlichen Dingen*.

In any case, these two treatises cannot, by any means, be considered juvenilia from the mid-1520s, as contended by Sudhoff. Neither can they be regarded as loose drafts, or compilations of field notes (Sudhoff's idea again): their strong internal coherence and, in the case of the *Herbarius*, its clearly identified intended readership of "common men" bear witness to the fact that they are both well thought-out treatises, although the *Herbarius* is clearly far too short to be considered a complete herbal.

Two main lines of interpretation were examined in order to elucidate the nature of their relationship. The *Herbarius* was first envisioned as a work written simultaneously with *Von den natürlichen Dingen*, devised as a simplified version of the latter treatise: whereas the latter clearly theorized the doctrine of signatures, the former, while resting on it as well, left it entirely implicit. Then we discussed the possibility that *Von den natürlichen Dingen* had sprouted, as it were, from the *Herbarius*, as it corresponded to a more complete and complex version of this initial herbal.

This question could not be conclusively answered, and both options remain open upon the completion of our inquiry. We nonetheless came to a more precise understanding of the dating of both works. Whereas *Von den natürlichen Dingen* can undoubtedly be called a mature work, perhaps even a late one (as it was at least started in 1528 and might even have been written after 1534), the *Herbarius* cannot unambiguously be called a mature treatise, as it dates either from the Basel period or shortly after.

After the publication in 1584 of chapter nine of *De natura rerum*, which demonstrated that Paracelsus had not written any herbal called *Signatura rerum* – as first believed by Toxites, – many Paracelsians made their own the task of writing the “spiritual herbal” (the *Herbarius spiritualis sidereus*) that the Swiss master had called forth in his *Labyrinthus*. Despite (or because of) its incompleteness, the *Herbarius* elicited an ever-growing interest for Paracelsus’ herbal writings as a whole. Assessing the significance of the *Herbarius* and *Von den natürlichen Dingen* is, thus, only the first step towards a broader reexamination of the relevance of herbs in the work of Paracelsus, an importance which remains, up to this point, highly underestimated.

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Abbreviations:

CP: Kühlmann, Telle, 2001–2013, vol. 1–3.

H: Paracelsus, ed. Huser, 1589–1591, vol. I–X.

HC: Paracelsus, ed. Huser, 1605, vol. I.

NPE: Paracelsus, ed. Gantenbein, 2008– (Neue Paracelsus-Edition).

S: Paracelsus, ed. Sudhoff, 1922–1933, vol. I–XIV.

Bibliography:

Agamben, Giorgio. *Signatura rerum: sul metodo* (Torino: Bollati Boringhieri, 2008).

Arber, Agnes R. *Herbals, Their Origin and Evolution: A Chapter in the History of Botany, 1470-1670* (Cambridge: Cambridge University Press, 1912).

- Aschner, Bernhard. "Die Pflanzenheilkunde bei Paracelsus". In *Acta Paracelsica, Heft 1–5*, ed. Karl Sudhoff (München: Verlag des Paracelsus-Gesellschaft, 1930), 89–107.
- Bennett, Bradley C. "Doctrine of Signatures: An Explanation of Medicinal Plant Discovery or Dissemination of Knowledge?" *Economic Botany* 61 (2007), 246–255.
- Betschart, Ildefons. "Die Signaturenlehre des Paracelsus." *Nova Acta Paracelsica N.F.* 31 (1977), 164–179.
- Benzenhöfer, Udo. *Studien zum Frühwerk des Paracelsus im Bereich Medizin und Naturkunde* (Münster: Klemm & Oelschläger, 2005).
- Bianchi, Luigi M. *Signatura rerum: segni, magia e conoscenza, da Paracelso a Leibniz* (Roma: Edizioni dell'Ateneo, 1987).
- Bock, Hieronymus. *Kreüter Buch. Darinn Unterscheidt / Namen unnd Würckung der Kreütter / Stauden / Hecken und Beümen / sampt iren Früchten / so inn Teütschen Landen wachsen / auch der selbigen eigentlicher unnd wolgegründter gebrauch in der Artzney / fleissig dargeben / Leibs gesundtheit zu fürdern unnd zu behalten sehr nutzlich und tröstlich / Vorab dem gemeinen einfaltigen Man* (Strasbourg: Wendel Rihel, 1546).
- Böhme, Gernot. "Sprechende Natur: Die Signaturenlehre bei Paracelsus und Jacob Böhme." In *Für eine ökologische Naturästhetik* (Frankfurt am Main: Suhrkamp, 1989), 121–138.
- Bono, James J. "Reading God's Signatures in the Book of Nature: Paracelsian Medicine and Occult Natural Philosophy (Reuchlin, Paracelsus, Croll)." In *The Word Of God & The Languages Of Man* (Madison: University of Wisconsin Press, 1995), 123–166.
- Brévart, Francis B. "Between Medicine, Magic, and Religion: Wonder Drugs in German Medico-Pharmaceutical Treatises of the Thirteenth to the Sixteenth Centuries." *Speculum* 83 (2008): 1–57.
- Braun, Lucien. *Paracelse, nature et philosophie* (Strasbourg: Association des publications près les Universités de Strasbourg, 1981).
- Brunfels, Otto. *Contrafayt Kreüterbuch Nach rechter vollkommener art / unnd Beschreibungen der Alten / besstberümpften ärztz / vormals in Teütscher sprach / der maßßen nye gesehen / noch im Truck außgangen. Sampt einer gemeynen Inleytung der Kreüter urhab / erkantnüß / brauch / lob / und herrlichkeit*, vol. 1 (Strasbourg: Hans Schott, 1532).
- Broszinski, Hartmut. *Manuscripta chemica in quarto* (Wiesbaden: Harrassowitz Verlag, 2011).
- Bussler, Elke. "Welche Pflanze verstand Paracelsus unter Leseolus?" *Nova Acta Paracelsica N.F.* 27 (2016), 83–90.
- Carrichter: see Philomusus.
- Chartier, Roger. *La main de l'auteur et l'esprit de l'imprimeur*. (Paris : Gallimard, 2015).
- Cooper, Alix. *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe* (Cambridge: Cambridge University Press, 2007).
- Copenhaver, Brian P. *Magic in Western Culture: from Antiquity to the Enlightenment* (New York: Cambridge University Press, 2015).
- Croll, Oswald. *Oswaldus Crollius: De signaturis internis rerum. Die lateinische Editio princeps (1609) und die deutsche Erstübersetzung (1623)*, eds. Wilhelm Kühlmann and Joachim Telle (Stuttgart: Franz Steiner Verlag, 1996).
- Daems, Willem and Werner Vogler. *Das medizinische Consilium des Paracelsus für Abt Johann*

- Jakob Russinger von Pfäfers 1535. Neu-Edition und Kommentar* (Einsiedeln: Schweizerische Paracelsus-Gesellschaft, 1986).
- Daems, Willem. “Die Idee der Heilpflanze bei Paracelsus.” In *Denn der Himmel ist der Mensch, und der Mensch ist der Himmel...* (Dornach: Philosophisch–Anthroposophischer Verlag am Goetheanum, 1993), 13–27.
- Daniel, Dane T. *Paracelsus’ Astronomia Magna (1537/38): Bible-Based Science and the Religious Roots of the Scientific Revolution*, Dissertation (Department of History and Philosophy of Science, Indiana University, 2003).
- Demonet, Marie-Luce. “Les sophismes des signatures, de Foucault à Agamben”. *Foucault et la Renaissance*, Olivier Guerrier and Laurent Gerbier (Toulouse: Université Toulouse II-le Mirail, 2012, halshs-01305915).
- Eamon, William. *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton: Princeton University Press, 1994).
- Fellmeth, Ulrich. “Die Arzneimittellkunde des Paracelsus und die Heilpflanzen.” *Nova Acta Paracelsica N. F.* 26 (2013), 117–136.
- Foucault, Michel. “La prose du monde.” In *Les Mots et les choses: une archéologie des sciences humaines* (Paris: Gallimard, 1966), 32–59.
- Fuchs, Leonhart. *New Kreüterbuch / in welchem nit allein die gantz histori / das ist / namen / gestalt / statt und zeit der wachung / natur / krafft und würckung / des meysten theyls der Kreüter so in Teütschen unnd andern Landen wachsen / mit dem besten vleiß beschriben / sonder auch aller derselben wurtzel / stengel / bletter / blumen / samen / frücht / und in summa die gantze gestalt / also artlich und kunstlich abgebildet und contrafayt ist / das deßgleichen vormals nie gesehen / noch an tag kommen* (Basel: Michael Isingrin, 1543).
- Gantenbein, Urs Leo. “Die Beziehungen zwischen Alchemie und Hüttenwesen im frühen 16. Jahrhundert, insbesondere bei Paracelsus und Georgius Agricola.” In *Mitteilungen der Fachgruppe Geschichte der Chemie der Gesellschaft Deutscher Chemiker* 15 (2000), 11–31.
- Gantenbein, Urs Leo. “Paracelsus und die Quellen seiner medizinischen Alchemie.” In *Religion und Gesundheit. Der heilkundliche Diskurs im 16. Jahrhundert*, ed. Albrecht Classen (Berlin: De Gruyter, 2011), 113–163.
- Gantenbein, Urs Leo. “Real or Fake? New Light on the Paracelsian De natura rerum.” *Ambix* 67, n° 1 (2020a): 4–29.
- Gantenbein, Urs Leo. “The Virgin Mary and the Universal Reformation of Paracelsus.” *Daphnis* 48, n° 1-2 (2020b): 4–37.
- Gerulaitis, Leonardas V. “Medications Recommended in Incunabula.” *Fifteenth Century Studies* 28 (2003), 138–147.
- Gohory, Jacques (Leo Suavius). *Theophrasti Paracelsi Philosophiae et Medicinae, Utriusque Universae Compendium* (Paris: Philippe Gaultier, 1567).
- Goldammer, Kurt. “Pflanze und pflanzliches Wachstum als Symbolkomplex bei Paracelsus.” In *Die ganze Welt ein Apotheken. Festschrift für Otto Zekert. Salzburger Beiträge zur Paracelsusforschung*, 8, Wien 1969 (Wien: Verband der Wissenschaftlichen Gesellschaften Österreichs, 1969).
- Gunnoe, Charles D., Jr. “Paracelsus, the Plague, and *De Pestilitate*.” *Early Science and Medicine* 24 (2019), 504–526.

- Hasse, Dag Nikolaus. *Success and Suppression* (Harvard: Harvard University Press, 2016).
- Heilen mit Heilpflanzen: Symposium der Schweizerischen Paracelsus-Gesellschaft, Einsiedeln, 13. Okt. 1979 unter dem Patronat von Bundespräsident Hans Hürlimann; Referate* (Salzburg, 1979).
- Hirai, Hiro. “Into the Forger’s Library: The Genesis of De Natura Rerum in Publication History.” *Early Science and Medicine* 24 (2020), 485–503.
- Kahn, Didier. “The Significance of Transmutation in Early Modern Alchemy: The Case of Thurneysser’s Half-Gold Nail.” In *Fake!? Hoaxes, Counterfeits and Deception in Early Modern Science*, eds. Marco Beretta, and Maria Conforti (Sagamore Beach: Science History Publications, 2014), 35–68.
- Kahn, Didier. *Le fixe et le volatil. Chimie et alchimie, de Paracelse à Lavoisier*. Paris: CNRS Éditions, 2016a.
- Kahn, Didier. “Paracelsus’ Ideas on the Heavens, Stars and Comets”. In *Unifying Heaven and Earth: Essays in the History of Early Modern Cosmology*, ed. Miguel Á. Granada, Patrick J. Boner and Dario Tessicini (Barcelona: Edicions de la Universitat de Barcelona, 2016b), 59–116.
- Kahn, Didier. “Quintessence and the Prolongation of Life in the Works of Paracelsus.” In *Longevity and Immortality. Europe - Islam - Asia*, ed. Agostino Paravicini Bagliani (Firenze: SISMEL – Edizioni del Galluzzo, 2018), 183–226.
- Kahn, Didier. “La Création *ex nihilo* et la notion d’*increatedum* chez Paracelse” (forthcoming).
- Kaub, Johannes Wonnecke von. ... *Und nennen diß Buch zu latin Ortus sanitatis: uff teutsch ein Gart der Gesuntheit* (Mainz: Peter Schöffler, 1485).
- Kikuchihara, Yohei, and Hirai, Hiro. “Signatura Rerum Theory.” In *Encyclopedia of Renaissance Philosophy*, ed. Marco Sgarbi (Cham: Springer International Publishing, 2014), 1–4.
- Kindi, Ya’qūb ibn Ishāq Abū Yūsuf al-. *De radiis: théorie des arts magiques*, ed. Didier Ottaviani (Paris: Allia, 2003).
- Kühlmann, Wilhelm, and Joachim Telle, eds. *Corpus Paracelsisticum. Dokumente frühneuzeitlicher Naturphilosophie in Deutschland. Der Frühparacelsismus*, 3 vols. (Tübingen: Niemeyer, 2001, 2004 and Berlin: de Gruyter, 2013).
- Kuhn, Michael. *De nomine et vocabulo: Der Begriff der medizinischen Fachsprache und die Krankheitsnamen bei Paracelsus* (Heidelberg: Universitätsverlag Carl Winter, 1996).
- Kristeller, Paul Oskar. *Iter italicum. Accedunt alia itinera. A Finding List of Uncatalogued or Incompletely Catalogued Humanistic Manuscripts of the Renaissance in Italian and Other Libraries. Vol. III (Alia itinera I): Australia to Germany* (London; Leiden: The Warburg Institute; E.J. Brill, 1983).
- La Brosse, Guy de. *De la Nature, vertu, et utilité des plantes, divisé en cinq livres* (Paris: Rollin Baragnes, 1628).
- Lefèvre d’Étaples, Jacques. *La Magie naturelle / De Magia naturali*, ed. Jean-Marc Mandosio (Paris: Les Belles Lettres, 2018).
- Levack, Brian P., ed. *The Oxford Handbook of Witchcraft in Early Modern Europe and Colonial America* (Oxford: Oxford University Press, 2013).
- Moran, Bruce T. “The ‘Herbarius’ of Paracelsus.” *Pharmacy in History* 35/3 (1993), 99–127.

- Müller, Irmgard. “*In Errores Macri*. Paracelsus als Kritiker und Kommentator der mittelalterlichen Pflanzenheilkunde.” In *Paracelsus und die Wundarznei: Grenzbereiche der Paracelsusforschung und Interpretation: 53. Paracelsustag 2004* (Wien: Österreichischer Kunst- und Kulturverlag, 2005), 22–30.
- Müller-Jahncke, Wolf-Dieter. “Ordnung durch Signatur: Analogiedenken und Arzneischatz im 16. und 17. Jahrhundert.” *Deutsche Apotheker Zeitung* 124 (1984), 2184–2189.
- Nowotny, Otto. “Paracelsus, seine Pflanzenkenntnisse und die Botanik seiner Zeit.” *Salzburger Beiträge zur Paracelsusforschung* 31 (1998), 28–43.
- Ohly, Friedrich. *Zur Signaturenlehre der Frühen Neuzeit. Bemerkungen zur mittelalterlichen Vorgeschichte und Eigenart einer epochalen Denkform in Wissenschaft, Literatur und Kunst* (Stuttgart; Leipzig: S. Hirzel Verlag, 1999).
- Opsomer, Carmélia, ed. *Livre des simples médecines: Codex Bruxellensis IV 1024*, 2 vols. (Antwerp: De Schutter, 1980).
- Ovid. *Epistulae Ex Ponto, Book I*, ed. Jan Felix Gaertner (Oxford: Oxford University Press, 2005).
- Pagel, Walter. *Paracelsus: An Introduction to Philosophical Medicine in the Era of the Renaissance* (Basel; New York: Karger Medical and Scientific Publishers, 1982).
- Paracelsus (Theophrastus Bombast von Hohenheim). *Philosophiae ad Athenienses* (Köln: Arnold Birckmann, 1564).
- Paracelsus. *Ex libro de nymphis, sylvanis, pygmaeis, salamandris & gigantibus*, ed. Marcus Ambrosius (Neiße: Johannes Cruciger, 1566).
- Paracelsus. *Herren Doctors Theophrasti Paracelsi Declaration, zuobereyten Hellebori, inn sein Arcanum*, ed. Adam von Bodenstein (Basel: Samuel Apiarius, 1568a).
- Paracelsus. *Aphorismorum Aliquot Hippocratis genuinis sensus & vera interpretatio* (Augsburg: Matthäus Francke, 1568b).
- Paracelsus. *Philippi Theophrasti von Hohenhaim, Etliche Tractetlein zur Archidoxa gehörig*, ed. Johann Albrecht (München: Adam Berg, 1570a).
- Paracelsus. *Ettliche Tractatus Des Hoherfarnen vnnd berümbtesten Philippi Theophrasti Paracelsi, der waren Philosophi vnd Artzney Doctoris: I. Von Natürlichen Dingen. II. Beschreibung etlicher Kreütter. III. Von Metallen. IIII. Von Mineralen. V. Von Edlen Gesteinen*, ed. Michael Toxites (Strasbourg: Christian Müller, 1570b).
- Paracelsus. *De natura rerum, IX Bücher*, ed. Lucas Bathodius (Strasbourg: Bernhard Jobin, 1584).
- Paracelsus. *Bücher vnd Schrifften*, ed. Johann Huser, 10 vols. (Basel: Conrad Waldkirch, 1589–1591).
- Paracelsus. *Chirurgische Bücher und Schrifften*, ed. Johann Huser (Strasbourg: Lazarus Zetzner, 1605).
- Paracelsus. *Paracelsus, his Archidoxis comprised in ten books*, trans. J. H. [John Harding ?], (London: W.S., Thomas Brewster, 1660).
- Paracelsus. *Sämtliche Werke. 1. Abteilung, Medizinische, naturwissenschaftliche und philosophische Schriften*, ed. Karl Sudhoff, 14 vols. (München; Berlin: Barth und Oldenbourg, 1922–1933).
- Paracelsus. *Neue Paracelsus-Edition*, ed. Urs Leo Gantenbein, vol 1 (Berlin; New York: Walter de Gruyter, 2008).

Paracelsus: see also Weeks.

Philomusus Anonymus [Bartholomäus Carrichter]. *Horn des heyls menschlicher blödigkeit. Oder / Kreütterbuch Darinn die Kreütter des Teutschen lands / auß dem Liecht der Natur / nach rechter art der himmelischen einflussungen beschriben*, ed. Michael Toxites (Strasbourg: Christian Müller, 1576).

Platearius, Matthaeus. *Le Livre des simples médecines: d'après le manuscrit français 12322 de la Bibliothèque nationale de Paris*, ed. Pierre Lieutaghi, François Avril, and Ghislaine Malandin (Paris: Éditions Ozalid and Textes cardinaux: Bibliothèque Nationale, 1990).

Platearius, Matthaeus. "Why Compound Medicines Are Superior." In *Medieval Medicine: A Reader*, ed. Faith Wallis (Toronto: University of Toronto Press, 2019), 177–179.

Popp, Johann. *Kräuter-Buch / Darinnen die Kräuter des Teutschen Landes / auß dem Liecht der Natur / nach rechter art der Signaturen der himlischen Einflussung nicht allein beschrieben / auch darinnen angezeigt wird / unter welchen Planeten / unter welchem Zeichen Zodiaci, auch in welchem Gradu ein jedes Kraut stehe / sondern auch / wie man nicht allein auß den Signaturen erkennen kan / warzu ein jedes Kraut zu gebrauchen / und wie viel ein jedes Kraut Signaturen in sich habe* (Leipzig: Zacharias Schürer und Thomas Matthias Goetze, 1625).

Quecke, Kurt. "Die Signaturenlehre im Schrifttum des Paracelsus." *Beiträge zur Geschichte der Pharmazie und ihrer Nachbargebiete* 2 (1955), 41–52.

Reeds, Karen. "Saint John's Wort (*Hypericum Perforatum* L.) in the Age of Paracelsus and the Great herbals: Assessing the Historical Claims for a Traditional Remedy." In *Herbs and Healers from the Ancient Mediterranean through the Medieval West: Essays in Honor of John M. Riddle*, ed. Anne Van Arsdall, and Timothy Graham (Farnham: Ashgate, 2012), 265–306.

Rhodium, Eucharius [Eucharius Rösslin the Younger]. *Kreutterbuoch. Von allem Erdtgewaechs [...] Mit warer Abconterfeitung aller Kreuter* (Frankfurt am Main: Christian Egenolff, 1533).

Schenda, Rudolf. "Der 'gemeine Mann' und sein medikales Verhalten im 16. und 17. Jahrhundert." In *Pharmazie und der gemeine Mann : Hausarznei und Apotheke in deutschen Schriften der frühen Neuzeit. Ausstellung der Herzog August Bibliothek Wolfenbüttel in der Halle des Zeughauses vom 23. August 1982 bis März 1983*, ed. Joachim Telle (Wolfenbüttel: Herzog August Bibliothek, 1988 [1982]), 9–20.

Schmaltz, Dieter. *Pflanzliche Arzneimittel bei Theophrast von Hohenheim, genannt Paracelsus* (Stuttgart: Hippokrates-Verlag Marquart & Cie, 1941).

Stannard, Jerry. *Herbs and Herbalism in the Middle Ages and Renaissance* (Farnham: Ashgate Variorum, 1999).

Sudhoff, Karl. *Versuch einer Kritik der Echtheit der Paracelsischen Schriften. I. Theil. Die unter Hohenheims Namen erschienenen Druckschriften* (Berlin: Georg Reimer, 1894).

Sudhoff, Karl. *Versuch einer Kritik der Echtheit der Paracelsischen Schriften. II. Theil. Paracelsische Handschriften* (Berlin: Georg Reimer, 1899).

Thurneisser zum Thurn, Leonhard. *Archidoxa. Dorin der recht war Motus, Lauff und Gang / auch heymlikait / wirkung und krafft / der Planeten / Gstirns / und gantzen Firmaments, Mutierung, und ausziehung aller Suptiliteten, und das finfte Wesen / auss den Metallen / Mineralia, Kreyter / Wurtzen-Seften / Steinen [...] Reymenss (etc.)* (Münster: Johann Ossenbrügge, 1569).

Thurneisser zum Thurn, Leonhard. *Historia unnd Beschreibung influentischer / elementischer und natürlicher Wirckungen / Aller fremden unnd heimischen Erdgewechssen* (Berlin: Michael

Hentzsken, 1578).

Thurneisser zum Thurn, Leonhard. *Ein durch Nothgedrungen Außschreiben mein: Leonhardt Thurneyssers zum Thurn / der Herbrottischen Bultschandsverkeufferey / Falschs und Betrugs [...]* (Berlin, 1584).

Weeks, Andrew. *Paracelsus: Speculative Theory and the Crisis of the Early Reformation* (Albany: State University of New York Press, 1997).

Weeks, Andrew. *Paracelsus Theophrastus Bombastus von Hohenheim, 1493–1541: Essential Theoretical Writings* (Leiden; Boston: Brill, 2008).

Weeks, Andrew. “Paracelsus, Verkünder und Querulant.” *Nova Acta Paracelsica N.F.* 27 (2016), 91–124.

Weill-Parot, Nicolas. *Points aveugles de la nature : la rationalité scientifique médiévale face à l’occulte, l’attraction magnétique et l’horreur du vide, XIII^e-milieu du XV^e siècle* (Paris: Les Belles Lettres, 2013).