

## The Sources of Eucharius Rösslin's 'Rosegarden for Pregnant Women and Midwives' (1513)

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Few medical authors can unambiguously claim to have written one of the most important works in their field: most important not simply in one language but in half a dozen, and not simply for a few years but for over a century and a half. Yet that distinction has long been given to the work of a largely obscure early sixteenth-century apothecary-turned-physician from Freiburg, Worms, and Frankfurt, one Eucharius Rösslin (c.1470–c.1526).<sup>1</sup> His *Der Swangern Frauwen und Hebammen Rosegarten* (Rosegarden for Pregnant Women and Midwives), first published in Strasbourg and Hagenau in 1513, went through at least sixteen editions in its original form, was revised into three different German versions (each of which went through multiple printings), and was translated into Czech, Danish, Dutch, English, French, Italian, Latin, and Spanish, with almost all of these translations then going through their own multiple editions.<sup>2</sup> The *Rosegarten*

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<sup>1</sup> On the general influence of Rösslin's work, the major studies are E Ingerslev, 'Rösslin's *Rosegarten*: its relation to the past (the Muscio manuscripts and Soranos), particularly with regard to podalic version', (in two parts), *Journal of Obstetrics and Gynaecology of the British Empire*, Jan. 1909, 15 (1): 1–25; and Feb. 1909, 15 (2): 73–92; G Klein, 'Zur Bio- und Bibliographie Rösslins und seines *Rosengartens*', *Sudhoffs Archiv*, 1910, 3: 304–34; Gundolf Keil, 'Rößlin, Eucharius, d[er] Ä[lte]r[er] (Rhodion)', in Kurt Ruh (ed.), *Die deutsche Literatur des Mittelalters: Verfasserlexikon*, rev. ed., Berlin, De Gruyter, 1971–, (hereafter VL), Bd. 8, coll. 244–8; and Gundolf Keil, 'Nachwort', in Helmut H Hess (ed.), 'Gynaecia Mustionis': the midwives' catechism of Mustio (englisch und lateinisch) & Eucharius Rösslin's

'*Rosegarten*', vol. 2, Frankfurt am Main, Haag und Herchen, 1998, pp. 263–78. This latter essay offers a useful summary of the traditional line of thinking on Rösslin, modified by Keil's newer interpretation that the Hamburg manuscript (see below) shows the *Rosegarten*'s place in a tradition of medical work characteristic of apothecaries.

<sup>2</sup> Klein, op. cit., note 1 above, provides the most extensive survey of the multiple editions and translations of the *Rosegarten*. His data can now be supplemented for extant copies of the German editions in German libraries by *Verzeichnis der im deutschen Sprachbereich erschienenen Drucke des 16. Jahrhunderts* (VD 16), <http://www.vd16.de/>, accessed 23 July 2008. There is no need to repeat all that information here, other than to provide some updated information on the various translations. First, regarding the Danish translation which was first described by Ingerslev, op. cit., note 1 above, a description of Copenhagen, Det Kongelige Bibliotek, Gl. kgl. S. 3487 8°, can be found in C Borchling, *Mittelniederdeutsche Handschriften in Skandinavien*, Copenhagen, 1900, pp. 58–60, available online at <http://www.kb.dk/permalink/2006/manus/717/>, accessed 31 July 2007 (my thanks to Iolanda Ventura for this information). Regarding the 1519 Czech edition, neither Ingerslev nor Klein provided a precise citation; the reference department at the National Library of the Czech Republic informs me (12 Nov. 2007) that this is Eucharius Roeslin, *Zprawa a naučenie zienam tiehotnym: a Babam pupkorzeznyim Netoliko prospiešsna alc[!] take potrebna*, Tlacženo

is the only work known to have been produced by Rösslin. His son, Eucharius Rösslin Jr, further capitalized on the work by producing in 1526 a German compilation of “marriage texts” which he called *Ehstandts Artzney*; this included his father’s *Rosegarten* as well as extracts from the *Enneas muliebris* (Nine-Part Treatise on Women) by Ludovico Bonaccioli (d. c.1540), a herbal by Johannes Cuba (Johann Wonnecke von Caub, d. 1503/4), and Bartholomeus Metlinger’s (born after 1440) tract on paediatrics. Eucharius Jr. also produced a Latin translation of the *Rosegarten* in 1532. That Rösslin’s work was only the third obstetrical text addressed directly to an audience of midwives in a thousand years also places it in an important position in the history of the professionalization of midwifery.<sup>3</sup> While it remains to be determined how frequently midwives themselves read the text, it is clear that both physicians and laypersons used the *Rosegarten* and later adaptations as the basis for medical training and as a reference for information on generation.<sup>4</sup>

a dokonano w Boleslawi mładem nad Gizerau, u Mikuláše Klaudiána, 1519. On the editions of the French translation, see now Valérie Worth-Stylianou, *Les Traités d’obstétrique en langue française au seuil de la modernité. Bibliographie critique des ‘Divers Travaux’ d’Euchaire Rösslin (1536) à l’Apologie de Louyse Bourgeois sage-femme’ (1627)*, Geneva, Droz, 2006, pp. 89–117, who identifies two different translations: an anonymous one published in Paris by Jean Foucher in 1536 and reprinted in 1539; and a second translation by Paul Bienassis, first published by Foucher in Paris in 1563 and reprinted seven times thereafter in Paris, Lyons, and Rouen. On the Dutch tradition, see Neeltje de Jong, “‘Den Roseghaert vanden Bevruchten Vrouwen’: Een onderzoek naar de Middel nederlandse *Roseghaert* gedrukt in 1528 waarin een vertaling van *Der Rosengarten* (Eucharius Rösslin, 1513) is uitgebreid met toevoegingen van een Antwerpse bewerker”, MA thesis, Universiteit Utrecht, 2006. As for the Spanish translation, Klein claims this was published in Zaragoza in 1538 even though he admitted that the one exemplar he had to hand was missing its title-page and date. I can find no evidence of a Spanish translation prior to Francisco Nuñez de Oria (*fl.* 1560–c.1586), *Libro intitulado del parto humano, en el qual se contienen remedios muy utiles y usuales para el parto dificultoso de las mugeres, con otros muchos secretos a ello pertenecientes*, Alcalá, Juan Gracián, 1580. True, in his 1545 English translation, *The byrth of mankynde*, Thomas Raynalde says that Rösslin’s text “hath been long sith thought to speke dutche, frenche, spanissh, and diuers other langages”, London, T Raynalde, 1545, f. C viii recto. But it seems to me possible that this reference to a Spanish translation might reflect a mistaken understanding of Damian Carbone’s *Libro del arte de las comadres o madrinas, y del regimiento de las preñadas y paridas y de los niños*, [Majorca City, Hernando de Cansoles,] 1541, which is an original composition, not a translation of Rösslin. Regarding the much studied publishing history of the

English translation (first published in 1540, with a revised version in 1545), see now Thomas Raynalde, *et al.*, *The birth of mankind (1540–1654)*, ed. Elaine Hobby, Aldershot, Ashgate, 2009. Finally, although Klein believed that no Italian translation of the work was ever made, I have identified the following: Eucharius Rösslin, *Libro nel qual si tratta del parto delhuomo e de tutte quelle cose, che cerca esso parto accadeno, e delle infermita che po[ss]o no accadere a i fanciulli, con tutti i suoi rimedii posti particolarmente*, Venice, Giovanni Andrea Vavassore, 1538.

<sup>3</sup> The last of a series of ancient and late ancient works addressed to midwives (among others) was the *Gynaecia* of Muscio, probably a North African of the fifth or sixth century, who translated major parts of Soranus’s Greek *Gynaikaia* into Latin; see Valentin Rose (ed.), *Sorani Gynaeciorum vetus translatio latina*, Leipzig, Teubner, 1882. Although some medieval texts were addressed to women generically, Michele Savonarola (c.1385–c.1466) was the next to address midwives specifically; Luigi Belloni (ed.), *Il trattato ginecologico-pediatrico in volgare ‘Ad mulieres ferrarienses de regimine pregnantium et noviter natorum usque ad septennium’*, Milan, Società Italiana di ostetricia e ginecologia, 1952. The *Frauenbüchlein*, Augsburg, c.1495, often erroneously attributed to Ortolof von Bayerland, was addressed to pregnant women, not midwives.

<sup>4</sup> Georg Burckhard, *Die deutschen Hebammenordnungen von ihren ersten Anfängen bis auf die Neuzeit*, Leipzig, W Engelmann, 1912, pp. 109 and 124, edits undated documents from Nuremberg and Heilbronn, respectively, that refer to midwives using “professional books” (“ihrem nothwendigen Unterricht gehörigen Bücher” and “ihrer profession Bücher”). Burckhard suggested that they came from the late fifteenth century, before the *Rosegarten* was published. However, Sibylla Flügge, *Hebammen und heilkundige Frauen: Recht und Rechtswirklichkeit im 15. und 16. Jahrhundert*, 2nd ed., Frankfurt am Main,

Despite the unquestioned historical importance of this work, its textual sources have never been examined in any systematic way. In large part, this seems to have been due to scholars' sense that the text was *sui generis*, an "out of the blue" creation that suddenly revived the long-lost obstetrical practices of the ancients. The one source that scholars have always acknowledged for the *Rosegarten* is the late antique work of Muscio, the *Gynaecia* (Gynaecology, itself a Latin translation of Soranus's second-century Greek *Gynaikeia*), from which Rösslin derived the foetus-in-utero figures that are still the most recognizable feature of the work. Yet, as I will show, while it is clear that Rösslin must have consulted at least one independently circulating fragment of Muscio's text that included the foetus-in-utero images, the *Rosegarten* owes nothing at all to the full text of the Latin *Gynaecia*.

In 1994, a philologist, Britta-Juliane Kruse, published an initial analysis of a German manuscript now in Hamburg, dated 1494 and so predating by nearly twenty years the initial publication of the *Rosegarten*. She argued that it presents an Ur-version of Rösslin's printed text. It lacks a number of features found in the printed work: the *imprimatur* of Emperor Maximilian; the dedication to Katharina, Duchess of Brunswick-Lüneburg; the rhymed prologue with its viciously critical account of the errors of contemporary midwives; and a closing glossary.<sup>5</sup> It also has no illustrations. In nearly every other respect, however, it is the predecessor text of the *Rosegarten*, which Kruse could now prove had not been created for publication in print. Kruse announced plans to publish this Ur-version (which bears the manuscript title *Von Kranckheiten, Siechtagen und zu val der Swangern und geberenden frowen und ihrer neugebornen Kinderen* [On the Sicknesses, Illnesses, and Accidents of Pregnant and Labouring Women and Their Newborn Children]), a project that is still much anticipated.

Important as Kruse's analysis was, however, it only pushed back to a manuscript phase the question of the text's origins. Rösslin would have been in his early twenties at the time the Hamburg manuscript was written, and it is by no means clear that he had anything to do with its production. Indeed, it has long been questioned how he could have assembled such a detailed text on a topic on which, as far as we can tell, he had

Stroemfeld, 2000, p. 501, argues that the Nuremberg ordinance dates from the eighteenth century. The Heilbronn ordinance was destroyed in 1944 and cannot not be restudied; my thanks to the Stadtarchivrätin at Heilbronn for this information (personal communication, 8 July 1998). The earliest dated ordinances which mention midwifery books are the 1549 ordinance of Württemberg (which explicitly mentions the *Rosegarten*) and the 1557 one of Freiburg which simply mentions "a printed midwife book"; see Flüge, pp. 364 and 375, who thinks it unlikely that most midwives could have afforded these books. Two adaptations of the *Rosegarten* incorporated the local midwifery ordinances drafted by their physician authors; see Adam Lonitzer (1528–1586, city physician of Frankfurt-am-Main) (ed.), *Hebammenbüchlin: Von der Menschen Empfengnus und Geburt, und der schwangern Frawen allerhand zuffelligen Gebrechen . . .*,

Frankfurt, Christian Egenolff, 1562, with five reprints through 1594; and Joannes Hiltprandus, *Ordnung und Nutzliche Vnderweysung fuer die Hebammen vnd Schwangeren Frawen*, Passau, M Henninger, 1595. Pernille Arenfeldt (History, American University of Sharjah) has discovered that the Electress Anna of Saxony (1532–1585) had in her personal possession a copy of Lonitzer's book and may have used it and other books on midwifery in the electoral library in her systematic efforts to improve Saxon midwifery (personal communication, 12 July 2008).

<sup>5</sup> Britta-Juliane Kruse, 'Neufundeiner handschriftlichen Vorstufe von Eucharius Rößlins Hebammenlehrbuch *Der schwangeren Frauen und Hebammen Rosengarten* und des *Frauenbüchleins Ps.-Ortolfs*', *Sudhoffs Archiv*, 1994, **78**: 220–36. The manuscript in question is Hamburg, Staats- und Universitätsbibliothek, cod. med. 801, an. 1494 (hereafter Hamburg, cod. med. 801), pp. 9–130.

no particular expertise. So where did *Von Kranckheiten, Siechtagen und zu val der Swangern und geberenden frowen und ihrer neugebornen Kinderen* come from? The present study is meant to contribute to a new understanding of the genesis of the *Rosegarten* and its antecedent German text by demonstrating that the bulk of the text was not a novel composition by Eucharius Rösslin himself, or even another German physician or apothecary, but a translation of a pre-existing Latin text (composed between 1440 and 1446) from the other side of the Alps by the Paduan and Ferrarese physician Michele Savonarola (c.1385–1466). Savonarola was himself drawing heavily on the obstetrical chapters of the early fourteenth-century Neapolitan physician, Francesco da Piedemonte (d. 1320), but the nature of the correspondences between the German texts and Savonarola's is close enough to prove that the latter was the direct source, not the Neapolitan da Piedemonte.<sup>6</sup> This discovery also helps us better understand the relation of Rösslin's 1513 *Rosegarten* to the one similar printed German text that preceded it, the anonymous *Frauenbüchlein* (Women's Manual) that was first published in Augsburg c.1495. Finally, it suggests the importance of interrogating more systematically what was really "new" in the age of print; as this example shows, Rösslin's *Rosegarten* was as important in disseminating late medieval northern Italian obstetrical practices to the rest of Europe as in capturing local empirical practices in sixteenth-century Germany.

### Rösslin's Predecessors

My focus here is on establishing the origins of the obstetrical material, but it should be noted that scholars have for some time acknowledged that the *Rosegarten* incorporated, as its final three chapters on caring for the child, an originally independent German paediatric text attributed to Bartholomeus Metlinger, the *Kinderbüchlein* (Children's Book). The latter was first published in 1473 in Augsburg, where Metlinger was city physician from at least 1470 to 1488.<sup>7</sup> Since the *Kinderbüchlein* material is also found as part of the Hamburg manuscript, we cannot credit Rösslin with the decision to incorporate it into the *Rosegarten*. I follow Keil and Kruse in ignoring the question of the sources of this paediatric text or what its incorporation into the Hamburg manuscript might signify; I consider that the task of whoever eventually edits the Hamburg manuscript. However, as I point out below, the incorporation of Metlinger's paediatric text also raises important questions about the genesis of the obstetrical material.

<sup>6</sup> Francesco da Piedemonte was court physician to Robert the Wise (1309–1343) in the kingdom of Naples and taught at the University of Naples c.1302 until his death. His obstetrical chapters can be found in Franciscus de Pedemontium, *Supplementum in secundum librum secretorum remediorum Ioannis Mesuae, quae vocant De appropriatis*, in *Supplementum in secundum librum Compendii secretorum medicinae Ioannis Mesues medici celeberrimi tum Petria Apponi Patavini, tum Francisci de Pedemontium medicorum illustrium*, Venice, Iunta, 1589, f. 101r. Savonarola's debt to Francesco da Piedemonte was first noted by

Ingerslev, op. cit., note 1 above, pp. 77, 79. Ingerslev also noted some parallels between Rösslin's work and Savonarola's (pp. 86, 88, and 90), but never went so far as to say that Savonarola was Rösslin's source. Eduard Caspar Jakob von Siebold, *Versuch einer Geschichte der Geburtshilfe*, 2nd ed., 3 vols, Tübingen, Franz Pietzsch, 1901–4, vol. 2, p. 4, noted in passing Rösslin's debt to Savonarola, but he also listed Aëtius of Amida and Bernard de Gordon, thus muddying the waters again.

<sup>7</sup> See Gundolf Keil and Friedrich Lenhardt, 'Metlinger, Bartholomeus', in *VL*, vol. 6, coll. 460–7.

In any case, the origins of the remaining three-quarters of the *Kranckheiten / Rosegarten*, including all the obstetrical and gynaecological sections, are still unaccounted for. It seems likely, on my analysis, that the German author was drawing on his own experience as a medical practitioner (or simply on some other, as yet unidentified text) for some of the groups of recipes now found in the text. For example, many of the aids for delivery in Chapter 5 of both manuscript and print versions of the German text have only a slight correspondence with Savonarola's (far more detailed) Latin work.<sup>8</sup> Additionally, there is novel material on surgical repair of the pelvic floor that I have thus far documented (at least in its present form) no where else. Be that as it may, the bulk of the interpretive material—on the structure of the amniotic sac, on the causes of obstetrical complications, and on regimens to avert complications or therapies to rectify them—comes from a single Latin source: the gynaecological and obstetrical chapters of Michele Savonarola's *Practica* (sometimes called the *Practica major*, Greater Text of Practical Medicine), a work composed in Padua and Ferrara between 1440 and 1446.

Before addressing the connection to Savonarola, however, let me first explain why the late antique author Muscio should be excluded, or at least minimized, as Rösslin's source. There is no denying the obvious iconographic debt of Rösslin's foetal images to those in Muscio's *Gynaecia*. Moreover, scholars have always been right to note that Muscio's and Rösslin's texts share a distinction in being among the few premodern representatives of obstetric texts. Although there was an extraordinary amount of material on women's conditions circulating in medieval western Europe, there was virtually nothing focusing solely on assistance in childbirth.<sup>9</sup> Not even the famous twelfth-century *Trotula* ensemble from Salerno offered much information on how normal birth was to be handled, nor was there anything on how to address malpresentations beyond the perfunctory advice to have the midwife reach inside with an oiled hand and "put it in its correct position".<sup>10</sup>

<sup>8</sup> Compare [Joannes] Michael Savonarola, *Practica de egritudinibus a capite vsque ad pedes*, Venice, Andreas de Bonetis, 1486 (cited here from the copy in Boston, Countway Library of Medicine, Rare Books f Ballard 787), Tractatus VI, cap. xxi, rubr. 32, *De difficultate partus*, esp. ff. 244rb–245vb, with Eucharius Rösslin, *Der Swangern Frauen und hebammen Rosegarten*, facsimile reproduction of the 1513 Strasbourg edition, ed. Huldrych M Koelbing, Zürich, Verlag Bibliophile Drucke von J Stocker, 1976, ff. Fi recto to Fij verso. I have confirmed these readings against the 1513 Hagenau edition [VD16 R 2849], available online at the Munich, Staatsbibliothek website, <http://mdz10.bib-bvb.de/~db/bsb00004811/images/>, accessed 23 July 2008. All translations here are my own, as is the punctuation of the German. Two modern English translations of the *Rosegarten* are now available: Eucharius Rösslin, *When midwifery became the male physician's province: the sixteenth century handbook 'The rose garden for pregnant women and midwives,' newly Englished*, trans. Wendy Arons, Jefferson, NC,

McFarland, 1994; and 'Eucharius Rösslin's *Rosegarten*: first translation into modern English, January 1, 1995', trans. Sibylle Plassmann, in *Gynaecia Mustionis*, op. cit., note 1 above, pp. 93–166. The introductory material to both these translations should be used with caution.

<sup>9</sup> See the Appendix to Monica H Green, *Women's healthcare in the medieval west: texts and contexts*, Aldershot, Ashgate, 2000, for a comprehensive list of texts.

<sup>10</sup> Monica H Green (ed. and trans.), *The 'Trotula': a medieval compendium of women's medicine*, Philadelphia, University of Pennsylvania Press, 2001, ¶ 93. Because the hardcover and paperback (2002) versions of this edition have different pagination, I cite the text by paragraph numbers. In the *Women's conditions* section of the *Trotula* ensemble, for example, it was simply asserted: "When the time of birth arrives, let the woman prepare herself as is customary, and likewise the midwife should do the same with great care" (*The 'Trotula'*, ed. Green 2001, ¶116).

Muscio's late antique *Gynaecia* (thought to have been composed in fifth- or sixth-century North Africa) was always the main exception to this generalization.<sup>11</sup> It included extensive sections on the management of both normal and abnormal childbirth, and it viewed midwives as the chief providers of women's gynaecological as well as obstetrical care. By the time medicine experienced a major revival in the eleventh century, Muscio's intended audience of literate midwives had long since disappeared. From the twelfth century on, the practice of gynaecology and obstetrics effectively bifurcated: theoretical gynaecology became more and more the province of learned male physicians, while childbirth management remained in the hands of women. Chapters on gynaecological diseases along with some minimal information on handling difficult birth could be found in most general medical texts (all written by male writers) and there is ample evidence that male physicians (and later, surgeons) treated women for gynaecological and even some obstetrical conditions. Procedures for managing normal childbirth, on the other hand, were part of oral lore rather than written texts.<sup>12</sup>

In physicians' general medical textbooks, some advice for obstetrical complications could usually be found. Failure of the foetus to exit (especially when it was already dead), retention of the afterbirth, excessive bleeding—all were uniformly treated with medicinal remedies or, at most, recommendations for baths or external massages or other applications to the belly, rather than with anything involving manual intervention. For their part, Latin surgical writers avoided incorporating obstetrical instructions into their texts until 1363, when Guy de Chauliac included extraction of the dead foetus and Caesarean section (to remove a living foetus from its dead mother, primarily with the goal of baptizing it) among the surgeon's tasks.<sup>13</sup> The one exception prior to Guy in offering detailed instructions for difficult birth was the obstetrical section in the Latin translation of the *Chirurgia* of the Spanish Arab physician al-Zahrawī (d. c.1013, known in Latin as Albucasis). The obvious relevance of Muscio's foetus-in-utero images to Albucasis' text was recognized in the late thirteenth century in northern Italy when the Muscian images were extracted from their original context and appended to the *Chirurgia*.<sup>14</sup> Thus, there was acknowledgement well before Guy's text that obstetrical information was useful for the male surgeon or physician. Even male clerics involved in supervising midwives were

<sup>11</sup> Two other late antique texts were Latin translations or adaptations of Soranus's *Gynaikeia*: the *Gynaecia* of Theodorus Priscianus and that of Caelius Aurelianus, both of which date from the late fourth or early fifth century. Theodorus's text was a very spare summary with little obstetric content, while Caelius's, though apparently originally a full and faithful translation, survived into the High Middle Ages in only one fragmentary copy.

<sup>12</sup> See Monica H Green, *Making women's medicine masculine: the rise of male authority in pre-modern gynaecology*, Oxford University Press, 2008.

<sup>13</sup> Guy de Chauliac, *Inventarium sive chirurgia magna*, ed. Michael R McVaugh, with Margaret S Ogden, 2 vols, Leiden and New York, E J Brill, 1997, vol. 1, pp. 388–9. Guy sees the surgeon as giving instruction to the midwife.

<sup>14</sup> There are five extant manuscripts where Albucasis's surgical text (in Latin translation) and the Muscian images are linked: Budapest, University Library (Egyetemi Könyvtár), MS lat. 15, s. xiii ex., with sixteen of the figures plus their accompanying text; London, Sotheby's, Western Manuscripts and Miniatures: Sale LN 7736, Auction: Tuesday, 2 December 1997, London, Sotheby's, 1997, 4<sup>o</sup>, 152 p., co., ill. N<sup>o</sup> 98 (current whereabouts unknown), c.1300 (Italy), with seven figures; Munich, Bayerische Staatsbibliothek, Clm 161, s. xiii/xiv (Italy), with sixteen figures plus text; Oxford, Bodleian Library, MS Laud misc. 724, s. xv in. (England), with sixteen figures, here found with Albucasis and other surgical writings, including the surgical books of Celsus's *De medicina*; and Venice, Biblioteca Nazionale Marciana, MS lat. Z 320 (1937), s. xiv (Italy), with six figures.

interested in Muscio's text. The thirteenth-century Dominican preacher in Liège, Thomas of Cantimpré, for example, included an excerpt from an abbreviated version of Muscio (*sans images*) in his encyclopaedia for other clerics, *Liber de natura rerum* (On the Nature of Things), while one of the more famous copies of the foetal images, the Wellcome Apocalypse manuscript, was made c.1420 for a German cleric.<sup>15</sup>

The full text of Muscio's *Gynaecia* was no longer copied after the thirteenth century. By that point, it had been superseded either by the new *Trotula* treatises emanating from the southern Italian centre of Salerno, or by the chapters on women's diseases found in the major Arabic encyclopaedias that had been translated into Latin in the eleventh and twelfth centuries. These newer works were more compatible with the Galenism that dominated medicine overall. Even two abbreviated versions of Muscio made probably in the eleventh century in southern Italy had only brief periods of circulation.<sup>16</sup> Rather, as we saw with Albucasis's *Chirurgia*, only the foetal images from Muscio's *Gynaecia* continued to attract attention. These often circulated with the accompanying text that explained what the images meant (see Figure 1 below): that is, what the midwife should do if the foetus presented feet-first or hands-first, etc. Besides the five manuscripts where the foetal images were attached to Albucasis's *Chirurgia*, there are eighteen other extant manuscripts that present the images independently of Muscio's full text. In at least two cases, moreover, the images were embedded into newly composed gynaecological and obstetrical texts.<sup>17</sup> In all, there is no part of western Europe save Spain where the Muscian images are not documented in the fourteenth and fifteenth centuries.

Southern Germany in particular witnessed something of a revival of Muscio in the fifteenth century. Prior to that point, only one copy of Muscio's complete *Gynaecia*

<sup>15</sup> On the medieval circulation of Muscio's text, see Ann Ellis Hanson and Monica H Green, 'Soranus of Ephesus: *Methodicorum princeps*', in Wolfgang Haase and Hildegard Temporini (eds.), *Aufstieg und Niedergang der römischen Welt*, Teilband II, Band 37.2, Berlin and New York, Walter de Gruyter, 1994, pp. 968–1075, a study that was not included in Keil's overview of Muscio scholarship ('Nachwort', op. cit., note 1 above). On Cantimpré, see Green, op. cit., note 12 above, pp. 147–9. On the Wellcome Apocalypse (London, Wellcome Library, MS 49 (5000), c.1420), see also Almuth Seeböhm, *Apokalypse, Ars moriendi, medizinische Traktate, Tugend- und Lasterlehren: die erbaulich-didaktische Sammelhandschrift*, London, Wellcome Institute for the History of Medicine, Ms. 49, Munich, H Lengenfelder, 1995. For a reproduction of a copy of the sequence of foetus-in-utero figures from an early fifteenth-century Venetian manuscript, together with a transcription of the accompanying text, see Pierre Pansier, 'Un manuel d'accouchements du XV<sup>e</sup> siècle', *Janus*, 1909, 14: 217–20 (plates precede).

<sup>16</sup> In about the eleventh century, two different abbreviations of his work were made: *De passionibus mulierum B* (On the illnesses of women, Version B) and the *Non omnes quidem* (the opening words of the text). These two texts are now extant in twelve and

eight copies, respectively. See Hanson and Green, op. cit., note 15 above.

<sup>17</sup> These are the *Pomum aureum* (The Golden Apple), a Latin treatise on fertility and childbirth composed c.1444 by Pierre Andrieu in Foix; and the *Sickness of women 2*, an anonymous Middle English text from the middle of the fifteenth century. Andrieu's work has not yet been published; it is found uniquely in Paris, Bibliothèque Nationale de France, MS lat. 6992, s. xv, ff. 79r–90v, and is described briefly in Green, op. cit., note 12 above, p. 261. The images are not found in this copy, but their intended presence was clearly signalled in the text. On the Middle English text, see Monica H Green and Linne R Mooney, 'The Sickness of women', in M Teresa Tavormina (ed.), *Sex, aging, and death in a medieval medical compendium: Trinity College Cambridge MS R.14.52, its texts, language, and scribe*, 2 vols, Tempe, AZ, Arizona Center for Medieval and Renaissance Studies, 2006, vol. 2, pp. 455–568. The images were also appended to, but not incorporated in, a chapter on difficult birth apparently extracted from a Hebrew medical compendium in the fourteenth century, to which the images were attached; Ron Barkai, 'A medieval Hebrew treatise on obstetrics', *Med. Hist.*, 1989, 33: 96–119, at pp. 115–19.

can be traced to German-speaking areas. This was a manuscript of unknown date that had been held from the early twelfth century by the Benedictine monastery of St Michael's, Bamberg (in northern Bavaria); it was still listed in the library's catalogue near the end of the fifteenth century.<sup>18</sup> Whether this copy (long since lost) played any role in the fifteenth-century "revival" of Muscio is unclear. Likewise, it can not yet be proved that an Italian copy of the *Gynaecia* (again, with the full foetus-in-utero sequence) brought by the reforming cleric Johannes Spenlin to Heidelberg around 1450 (where it was to become part of the Palatine library of Elector Frederick I) was particularly influential.<sup>19</sup> Yet we do know of (1) at least three copies of the foetal illustrations series circulating in southern Germany in the fifteenth century;<sup>20</sup> (2) the presence of an adaptation of Muscio's obstetrics (text only) entitled *Secreta secretorum mulierum* (The Secrets of the Secrets of Women) at the Bavarian Carthusian house of Buxheim;<sup>21</sup>

<sup>18</sup> The catalogue was made during the priorate of Burchard (1112–1147); the copy is, unusually, called *Liber Mustionis de purgamentis mulierum*. In the 1483 catalogue, it bore the title *Geneziam Mustionis cum contentis*. See Max and Karl Manitius, *Handschriften antiker Autoren in mittelalterlichen Bibliothekskatalogen*, Leipzig, Otto Harrassowitz, 1935; reprinted, Wiesbaden, O Harrassowitz, 1968, p. 252; and Florence Eliza Glaze, 'The perforated wall: the ownership and circulation of medical books in medieval Europe, c.800–1200', PhD diss., Duke University, 1999, pp. 193 and 281. While there is still a copy of an abbreviated form of Muscio in a Bamberg library (Staatsbibliothek, cod. med. 3 [L.III.11], s. xii, ff. 150r–156r, a copy of *De passionibus mulierum* B), this manuscript attributes the text to Theodorus Priscianus, not Muscio.

<sup>19</sup> Vatican, Biblioteca Apostolica Vaticana, MS Pal. lat. 1304, ss. xii & xiii (Italy). This large composite manuscript comprising not only Muscio but also the *Trotula* was owned by a fifteenth-century German doctor of medicine and theology named Johannes Spenlin. In both these texts, he annotated only passages dealing with obstetrics and neonatal childcare. This is the only medical manuscript that Spenlin is known to have owned; see Green, op. cit., note 12 above, p. 336.

<sup>20</sup> Besides Spenlin's copy that entered the Palatine library in Heidelberg (see previous note), these extant manuscripts include Munich, Bayerische Staatsbibliothek, Cgm 597, c.1485, which was copied by Bavarian scribes and which contains the full sixteen-figure sequence on ff. 260r–261v, here with accompanying text; and Erlangen, Universitätsbibliothek, MS B 33 (*olim* Im. 1492), s. xv ex. (S. Germany), ff. 93v–95r, here with sixteen coloured foetus-in-utero pictures, labelled A–Q, but without the text, drawn into a woman in the classic "disease woman" posture; it immediately follows the south German translation of the pseudo-Albertus *De secretis mulierum*. In addition, the Nuremberg physician Hartmann Schedel (1440–1516) may have been

responsible for bringing a thirteenth-century Italian copy of the images, Munich, Bayerische Staatsbibliothek, Clm 161 (see note 14 above), back from his studies at Padua in 1463–66. The physician Hermann Heyms (*fl.* 1427–1472), who copied out Dresden, Sächsische Landesbibliothek—Staats- und Universitätsbibliothek, cod. lat. P.34 (N. 78), s. xv<sup>2</sup>, was personal physician to the Holy Roman Empress, Eleanor of Portugal (1434–1467), and seems to have spent most of his career in Rothenburg ob der Tauber (in Bavaria), where he was city-physician, and also in Graz. Copies of the images circulating in northern Germany include a copy that entered the university library in Erfurt at some point between 1407 and 1493, where we find in the catalogue a gynaecological work with "*locationes infantis in matrice*", a description that would only apply to Muscio's *Gynaecia* (Paul Lehmann, *Mittelalterliche Bibliothekskataloge Deutschlands und der Schweiz*, 2. Band: *Bistum, Mainz, Erfurt*, Munich, C H Beck, 1928, p. 154); and a copy that migrated to Germany at the end of the century when Conrad Boseian, a German from Brunswick, master of arts and bachelor of medicine from Paris and Montpellier, respectively, purchased a copy in Toulouse in 1483 (now Oxford, Bodleian Library, MS Rawlinson C.671, s. xiii<sup>1</sup>, France), containing the full *Gynaecia* but lacking the images. Leipzig, Universitätsbibliothek, MS 1192, an. 1434–40 (eastern Germany), with sixteen foetus-in-utero pictures on ff. 263v–264v and 277r, uniquely has the accompanying text in German. At least two late-fifteenth-century copies of the famous Florentine codex containing Celsus, Muscio, and other late antique works (now Florence, Biblioteca Medicea-Laurenziana, Plut. 73, cod. 1) came to Germany from Italy after the discovery of that manuscript in 1427, but neither had the illustrations.

<sup>21</sup> Berlin, Staatsbibliothek Preussischer Kulturbesitz, MS lat. qu. 373, c.1470 (south Germany), ff. 154r–159v. The manuscript was owned by Master Hildebrandus Brandenburg, who then donated it to the Carthusian house of Buxheim.

and (3) a pervasive local interest in “women’s secrets”, which manifested itself in the popularity not only of the late thirteenth-century pseudo-Albertus Magnus text of that title, but also in the circulation of gynaecological texts and pictures of “disease women”.<sup>22</sup>

While the Muscian foetal images, with their accompanying text, could certainly have been helpful in teaching some basic obstetrical interventions, there was something that the *full* text of Muscio’s *Gynaecia* contributed to obstetrics that neither the images alone nor the abbreviated versions could offer. In all these derivative forms, Muscio’s explicit statement in his prologue that his intended audience was midwives had been lost. Even when gynaecological texts were addressed to women (as we occasionally find in France, England, and the Low Countries between the thirteenth and fifteenth centuries), they were addressed to women generically, not to specialist midwives.<sup>23</sup> It is therefore notable that in the early 1460s, the Munich physician Johannes Hartlieb (d. 1468) should announce his plans to translate the whole of Muscio’s text, wondering why no German translation had yet been made of a book that would obviously be “such a treasure to midwives”.<sup>24</sup> Hartlieb ended up abandoning the project because, he said, of the work’s excessive length, but he had at least articulated for the first time the virtue of targeting obstetrical writings directly to midwives—a sentiment all the more notable since he addressed his two other writings on women to lay male patrons.<sup>25</sup> It is probably no coincidence that Hartlieb conceived of producing such a “treasure for midwives” at precisely the time when towns throughout southern Germany were beginning to draft their own regulations for the licensing of midwives (Regensburg in 1452, with half a dozen other cities following in the next half century). The moment was clearly ripe for the composition of an obstetric text that made available for late fifteenth-century Germany what Muscio had done for late antique North Africa.

In sum, therefore, there is no question that Muscio’s Latin *Gynaecia*—usually just excerpts but also occasionally the whole work—was readily available in southern Germany from the middle of the fifteenth century. There was not only general interest in the topic of reproduction among both male medical practitioners and clergy, but a growing desire to regulate the practice of midwifery. There was, in other words, a “market” for Muscio. But besides offering an obvious *iconographic* model for the woodcuts that Rösslin commissioned for the *Rosegarten*, Muscio’s *Gynaecia* played only a minimal role in the *Rosegarten*’s composition. Indeed, it was not even used for all the text that explained what the foetal images were meant to depict.

Originally, Muscio’s *Gynaecia* had had fifteen images of foetal presentations. This number grew to sixteen in manuscripts produced from the twelfth century with the

<sup>22</sup> On the phenomenon of “women’s secrets”, see Margaret Schleissner, ‘Pseudo-Albertus Magnus: *Secreta mulierum cum commento*, Deutsch critical text and commentary’, PhD dissertation, Princeton University, 1987; and Green, op. cit., note 12 above, chap. 5.

<sup>23</sup> See Monica H Green, ‘The possibilities of literacy and the limits of reading: women and the gendering of medical literacy’, in Green, op. cit., note 9 above, essay VII; and Green, op. cit., note 12 above, chap. 4.

<sup>24</sup> Kristian Bosselmann-Cyran (ed.), ‘*Secreta mulierum*’ mit Glosse in der deutschen Bearbeitung von Johann Hartlieb, Pattensen/Hannover, Horst Wellm, 1985, pp. 209–10: “Das selb buch Müscio ist ain

sollicher schatz den hebammen, das wunder ist, das es so lang ungetewschet beliben ist, und doch jn kain dingen grosser und schedlicher jrrung geschicht dan jn der geburt und genyst armen und reichenn frawben”. As was typical of the period, Hartlieb only recognizes Muscio’s utility as a resource on obstetrics; the work’s gynaecological content is never mentioned.

<sup>25</sup> These were paired translations of the pseudo-Albertus Magnus, *Secreta mulierum*, and the *Trotula* ensemble. They were dedicated to Siegmund, Duke of Bavaria-Munich, Count-palatine of the Rhine, with a later version being prepared for Emperor Frederick III.



Figure 1: Figures 5–8 of the Muscian foetus-in-utero series from a manuscript produced in Bavaria/Swabia around 1485. The copyist has misplaced the image of the small-headed foetus (what should be Figure 6) into the lower right corner. München, Bayerische Staatsbibliothek, Cgm 597, f. 260v, reproduced from Karl Sudhoff, 'Neue Handschriftenbilder von Kindslagen', *Archiv für Geschichte der Medizin*, Jan. 1908, 1: 310–15, plate III. (Wellcome Library, London.)



Figure 2: Depiction of a foot presentation in Rösslin's *Rosegarten*. Reproduced from Eucharius Rösslin, *Der schwangeren Frawen und Hebammen Rosengarte* [sic], [Augsburg, Heinrich Steiner, 1529], f. Ciiii verso. (Wellcome Library, London.)

addition of a new image depicting an additional pair of twins, one presenting head-first, the other feet-first. All three of the extant manuscripts of the images that come from southern Germany have this full sixteen-image sequence, and two of them have the accompanying text.<sup>26</sup> Yet the first thing we notice when we compare the sequence of images in the Muscio manuscripts with that in the *Rosegarten* is that, whereas the order of images and topics is quite stable in the two dozen manuscript copies of the Muscian figures,<sup>27</sup> Rösslin's printed text deviates not only from the order, but omits presentations that Muscio had included and adds new ones (see Table 1). In Chapter 2, on time of delivery and natural versus unnatural presentations, Rösslin included the first two Muscian images, which illustrated a normal, head-first presentation, and then an abnormal (but not necessarily dangerous) feet-first presentation. In Chapter 3, on deliveries that are hard or easy, he included a new image showing a two-headed baby born in Werdenberg the previous year, in 1512. This latter image, although depicting a child that has already been born, is presented within a uterus that looks like an upside-down bottle,

<sup>26</sup> See note 20 above.

<sup>27</sup> Some cases of reordering can, I think, be attributed to the confusion of copyists, as we find in the Munich manuscript shown in figure 1 above. There is, however, one branch of the tradition that

adapts the sequence to incorporate the image of a foetus with a large head (image 10A in Table 1). See Green and Mooney, op. cit., note 17 above, at pp. 463 and 561–62.

Table 1  
The foetus-in-utero images in Muscio, *Gynaecia*, vis-à-vis Rösslin, *Rosegarten*<sup>1</sup>

Sequence of images in Muscio, <i>Gynaecia</i>	Sequence of images in Rösslin, <i>Rosegarten</i>
Image 1: <i>hic est secundum naturam primus et melior ab omnibus partus</i> (normal presentation, head down, arms at side, legs straight)	Image 1: Chap. 2, f. Ci verso ( <i>die natürlich geburt</i> )
Image 2: <i>et hic secundum naturam est, sed secundus partus</i> (head up, both feet straight down, arms down by sides)	Image 2: Chap. 2, f. Ci verso ( <i>wan das kindt uß müter leib kompt zü ersten mit den füessen</i> )
[no correspondence]	Image 3: Chap. 3, f. Cii verso, new image of two-headed baby born in Werdenberg ( <i>ein kindt mit zweyen heuptern geboren</i> )
[no correspondence]	Image 4: Chap. 4, f. Diii verso, repetition of image 1 ( <i>Dises alles ist gesagt von der natürlichen geburt</i> )
[no correspondence]	Image 5: Chap. 4, f. Diiii recto, repetition of image 2 ( <i>Wo aber das kind erscheynt und kompt mit unnatürlicher geburt mit beden füessen</i> )
Image 3: <i>Si in divexum</i> <sup>2</sup> <i>iacet</i> (transverse lie, usually with arms extended straight out to side, i.e., straight up/down axis of uterus)	Image 8: Chap. 4, f. Ei recto ( <i>Wo aber das kind käme mit einer seiten an die geburt</i> [here with both hands swinging to the foetus's right side])
Image 4: <i>Quotiens manum mittit</i> (one hand leading, extended through mouth of uterus; head down, legs together, other arm at side)	Image 11: Chap. 4, f. Ei verso ( <i>Item ob das kind ein hand erzeugte</i> )
Image 5: <i>Si ambas manus eius foras invenerit</i> (two hands leading)	Image 12: Chap. 4, f. Eii verso ( <i>Ob aber das kind mit beyden henden erschyne</i> )
Image 6: <i>[S]i brevissimum caput habeat et ambas manus foras eiecerit</i> (small head, with two hands alongside)	[no correspondence]
Image 7: <i>Si in pedibens descendens in aliquam partem vulvae relicum corpus inclinaverit</i> (feet descending first, but “stuck” in sides of uterus, arms extended straight to sides)	[no correspondence]

Sequence of images in Muscio, <i>Gynaecia</i>	Sequence of images in Rösslin, <i>Rosegarten</i>
Image 8: <i>Et si unum pedem foris eiecerit</i> (one foot presenting, other bent; arms extended to sides)	Image 7: Chap. 4, f. Diiii verso ( <i>Wo aber das kind züm ersten käm mit einem füß allein</i> )
Image 9: <i>Si ambos pedes foris eiecerit et manus super caput contortas habuerit</i> (feet first, arms extended to side or above head)	Image 6: Chap. 4, f. Diiii recto ( <i>Wo aber das kind erscheint mit beyden füessen</i> )
Image 10: <i>Si divisis pedibus duabus partibus vulvae plantas infigat</i> (feet first, legs separated, arms extended down and out)	Image 9: Chap. 4, f. Ei recto ( <i>So aber das kind kem mit geteilten füessen</i> )
Image 10A: <i>Si caput transversum aut tortum habeat</i> (head first, neck twisted, arms extended out)	Image 14: Chap. 4, f. Eii verso ( <i>Item ob das kind mit gebogntem geneygtem oder krümem haupt erschyne</i> )
Image 11: <i>Si genua ostenderit</i> (knees first)	Image 10: Chap. 4, f. Ei verso ( <i>Und so das kind sich mit den kneüen erzeugt</i> )
Image 12: <i>Si vero in naticas sedet</i> (buttocks first)	Image 13: Chap. 4, f. Eii recto ( <i>Item ob das kind sich mitt dem hindern erzeugte</i> )
Image 13: <i>Si duplicatus fuerit . . . volo duobus modis pecus in vulva duplicari</i> (folded in half, either forwards or backwards, buttocks or head leading)	Images 15 and 16: Chap. 4, f. Eii verso ( <i>Und so das kind käme mitt beiden oder einem füß und mit dem haupt [bent forwards]</i> ) and Eiii recto ( <i>Item ob das kind geteilt lege oder uff seinem angesicht [bent backwards]</i> )
Image 14: <i>Si in divexum iacet</i> (transverse, with arms bent)	[no correspondence]
Image 15: <i>Et si plures ab uno fuerint, tres vel quattuor</i> (twins (or more), both head up/feet down or head down/feet up)	Images 17 and 18: Chap. 4, f. Eiii recto ( <i>Item ob der kinde mer dann eins wer als zwyling und sich gleich erzeugten mit den höuptern [heads down]</i> ) and Eiii verso ( <i>Wo aber die zwyling kömen mitt den füessen [heads up]</i> )
Image 16: (2nd set of twins, one up one down, or both head down)	Image 19: Chap. 4, f. Eiii verso ( <i>So aber der zwyling einer kompt mit den haupt, der ander mitt den füessen [one up, one down]</i> )

<sup>1</sup> Muscio, *Gynaecia*, as edited in Valentin Rose (ed.), *Sorani Gynaeciorum vetus translatio latina*, Leipzig, Teubner, 1882, pp. 84–9; and Eucharius Rösslin, *Der Swangern Frauwen und hebammen Rosegarten*, facsimile reproduction of the 1513 Strasbourg edition, ed. Huldrych M Koelbing, Zürich, Verlag Bibliophile Drucke von J Stocker, 1976.

<sup>2</sup> The term here, *divexus*, means “spread out”. Some manuscripts read *dextrum*.

just like all the other “foetuses”. Rösslin has moved beyond the medieval understanding of the images as being aids to obstetrical intervention, into a Renaissance fascination with monsters and marvels.<sup>28</sup> The “bottle” of the uterus is now iconographic shorthand for saying “This is a foetus *or* a newborn”.

In Chapter 4, Rösslin repeats the first two images of “natural” positions and then fills in the rest of the chapter with fourteen more images, all of them corresponding to models from Muscio, but differently arranged and sometimes presenting two different versions of parallel conditions. For example, images 15 and 16 show foetuses doubled over, one forward, the other backward. In fact, both versions can be found in Muscio manuscripts, but never together. Rösslin seems to have had at least two manuscript exemplars that he was working from. But more to the point, he had a different *text* than Muscio’s that he was trying to illustrate with this expanded sequence of images.

Compare Muscio’s description of what should be done in the case of a foot presentation (Figure 1, lower left figure) with that of Rösslin (Figure 2):

<p>Muscio, <i>Gynaecia</i>, Bk II, chap. 18, ¶ 18:</p> <p>Et si unum pedem foris eiecerit? iubemus ut numquam eum obstetrix teneat et conetur adducere, ne reliquo corpore infantis plus cludatur. [S]ed prius infixis digitis ad inguina infantis susum eum revocet et post inmissa manu sua pedem alterum corrigat et si fieri potest manus eius lateribus iungat, et adprehensis pedibus foris adducere conetur.<sup>29</sup></p>	<p>Eucharius Rösslin, <i>Rosegarten</i>, chap. 4:</p> <p>Wo aber das kind zum ersten käm mit einem füß allein, so soll man die müter do an rucken legen, die bein vber sich, das haupt vnder sich vnd den hindern wol erhäben. Vnd sol die hebame mit ir hand des kindes füß wider hinder sich senfftiklichen schyben. Vnd soll die müter sich züm dicker male vmb schyben vnd voltzen so lang biss das kind sein haupt vndersich gekeret zu dem aussgang. Darnach soll die müter widerumb sitzen auff iren stül vnd sol ir die hebame wider helffen als obstat.<sup>30</sup></p>
<p>And if one foot should come out? We command that the midwife should never take hold of it and try to pull it out, lest the rest of the infant’s body is stuck inside. Rather, having first fixed her fingers on the groin of the infant, let her reduce it back upwards. And after, putting in her hand, let her correct the other foot. And if possible, let her join its hand to its sides. And grabbing hold of the feet, let her attempt to draw it out.</p>	<p>But when the child comes at first with one foot alone, one should have the woman lie on her back with her legs over her, her head below her, and her hind parts quite elevated. And then the midwife should gently put back the child’s foot. And the mother should push herself around and roll around many times until the child has turned his head around toward the exit. Then, the mother should once again sit on her stool and the midwife should assist her again, as [described] above.</p>

<sup>28</sup> Rösslin, op. cit., note 8 above, f. C ii verso. A W Bates, *Emblematic monsters: unnatural conceptions and deformed births in early modern Europe*, Amsterdam, Rodopi, 2005, does not include Rösslin’s account in his appendix listing descriptions of monstrous births from 1500–1700, even though it

is likely that the *Rosegarten* was a major early contributor to this growing fascination.

<sup>29</sup> Muscio, *Gynaecia*, in Rose (ed.), op. cit., note 3 above, p. 86.

<sup>30</sup> Rösslin, op. cit., note 8 above, f. Diiii verso.

### Rösslin's 'Rosegarten for Pregnant Women and Midwives' (1513)

As is obvious, Muscio's recommendations and Rösslin's have no overlap other than the injunction to push the presenting foot back inside. Whereas Muscio recommends a podalic extraction pure and simple, Rösslin recommends that the parturient should perform a sort of gymnastic self-massage in order to get the child back into a head presentation. Only after that has been attempted does he advise (in the subsequent passage) podalic extraction. There is no direct textual correspondence here.

One might think that Rösslin was simply offering an original elaboration on Muscio—based, presumably, on his own experience—except that there is another text that presents the same instructions as the *Rosegarten*'s. Here is Savonarola's recommendation:

If [the foetus] should come out upon one foot, it is necessary that the woman not sit, but lie with her thighs elevated, and with her head erect. And the midwife with her hand should gently reposition its feet. Then, the patient should turn herself around with many turnings, until the embryo turns itself around, its head inclined downward toward the port of exit, and then let her sit again.<sup>31</sup>

Like Rösslin, Savonarola then goes on to recommend podalic extraction if the foetus will not move sufficiently. In other words, the only significant difference between Savonarola's version and Rösslin's is that in the former the woman's head is up and in the latter it is down—the kind of minor difference readily attributable to scribal error (whether in the Latin or German tradition).

After the footling presentation, Rösslin's text diverges both from Savonarola's Latin text (which did not go into any further detail on different malpresentations) and from the unillustrated manuscript text of *Kranckheiten* as found in the Hamburg manuscript. The text accompanying Figures 4, 6, and 9 to 19 of the *Rosegarten* (as well as smaller passages in between) reflects to varying degrees the Latin text that had traditionally accompanied the Muscian images. Whether Rösslin translated the Latin text himself or drew on a previously existing German translation is unclear.<sup>32</sup> Beyond the foetal images and their brief explanatory text, however, there is no evidence that Muscio served as the source either for the *Kranckheiten* or for Rösslin's printed *Rosegarten*. Rather, it is Savonarola's Latin *Practica* that underlies the bulk of these two German texts.

### The *Rosegarten* and Michele Savonarola's *Practica*

Michele Savonarola was born in Padua c.1385, and studied and taught medicine there until being called to the court of the d'Este family in Ferrara in 1440. He remained in Ferrara for the rest of his career and died there around 1466. Although not as famous now as his firebrand grandson, the Florentine preacher Girolamo, he certainly enjoyed local fame, producing some seventeen different medical writings on topics from fevers to medicinal baths to physiognomy as well as various other political and moral works.<sup>33</sup>

<sup>31</sup> Savonarola, op. cit., note 8 above, Tractatus VI, cap. XXI, rubr. 32, f. 245ra: "si oportebit quia super alterum pedem egrediatur, oportet ut non sedeat, sed iaceat cruribus elevatis, et erecto capite, obstetrixque manu sua reponat suaviter pedes suos; deinde revolvat se paciens revolutionibus pluribus, donec embrio revolvendo se, caput inclinet inferius ad portam egressionis, et ex tunc sedeat." In this and all subsequent citations, I have standardized the punctuation.

<sup>32</sup> I find no correspondence between the German Muscio in Leipzig MS 1192 (see note 20 above) and the text accompanying the foetal figures in the *Rosegarten*.

<sup>33</sup> Tiziana Pesenti Marangon, 'Michele Savonarola a Padova: l'ambiente, le opere, la cultura medica', *Quaderni per la Storia dell'Università di Padova*, 1976–77, 9–10: 45–102, plus genealogical tables; Tiziana Pesenti, *Professori e promotori di medicina nello studio di Padova dal 1405 al 1509*:

One of his medical writings was a text little studied in the history of women's medicine, but pertinent to this story as a model, perhaps, for Rösslin (or rather, the German translator from whom Rösslin borrowed). This was a work called *Ad mulieres ferrarienses de regimine pregnantium et noviter natorum usque ad septennium* (Regimen for the Ladies of Ferrara for Pregnancy and Care of the Newborn Child, hereafter simply *Regimen*), written c.1460.<sup>34</sup> This vernacular work, composed in the local Ferrarese dialect, is currently known in only three manuscript copies, which does not suggest that it enjoyed any broad popularity. Nevertheless, recognizing that he had foreclosed international fame by composing it in the local vernacular, Savonarola mused out loud that the work might some day be translated into Latin and thus "foreigners, who are unfamiliar with the vernacular used in this volume, will be able to have it translated [into their own tongue] with great ease".<sup>35</sup> While I find no evidence that Savonarola's Italian *Regimen* directly influenced the *Rosegarten*, knowledge that a work written specifically for an audience of laywomen and their midwives could find a market may have given Rösslin the idea to publish his own work on obstetrics. The German text of *Kranckheiten* as it exists in the Hamburg manuscript does not address women; as Kusche has already noted in her 1994 study, it instead speaks to "the common man" (*gemeine man*).<sup>36</sup> Rösslin had served in 1508 at the court of Duchess Katharina of Brunswick-Lüneburg, and in dedicating his work to her and then explicitly addressing both pregnant women and midwives, he was doing in German exactly what Savonarola had done for the women of Ferrara. After all, Savonarola himself recognized the value of patronage by women, whom he called "the trumpets of physicians" (*medicorum tube*).<sup>37</sup>

It was not the Italian *Regimen*, however, but rather Savonarola's Latin *magnum opus*, his *Practica* (sometimes called the *Practica major*) that underlies the German *Kranckheiten*. A huge work, the Latin *Practica* consisted of short sections on proper decorum for the physician, general sections on pharmaceuticals and regimen, and then, as its longest part, an extended treatise on diseases, addressed in head-to-toe order. As was normal in such works, the *Practica* included a section on gynaecological and obstetrical conditions; this was far more detailed (about causes, symptoms, and therapies) than the vernacular text Savonarola would compose twenty years later for women. The *Practica* found its way to Germany along with a large body of other works by northern Italian physicians. Medical student traffic from Germany to northern Italy had been heavy since

*Repertorio bio-bibliografico*, Padua, Edizioni LINT, 1984, pp. 187–96; and Chiara Crisciani, 'Michele Savonarola, medico: tra università e corte, tra latino e volgare', in *Filosofia in volgare nel medioevo. Atti del Convegno della Società italiana per lo studio del pensiero medievale (S.I.S.P.M.)*, Lecce, 27–29 settembre 2002, *Textes et études du Moyen Age*, Louvain-la-Neuve, Fédération Internationale des Instituts d'Études Médiévales, 2003, 21: 433–49.

<sup>34</sup> Savonarola, *Regimen*, in Belloni (ed.), op. cit., note 3 above. Belloni knew of the Vatican and Venice copies and used both for his edition; a third copy of the text is Reggio Emilia, Biblioteca Municipale, MS Turri C 12, s. xv<sup>2</sup>. On Savonarola's vernacular texts in general and their pronounced didactic intent, see

Chiara Crisciani, 'Histories, stories, exempla, and anecdotes: Michele Savonarola from Latin to vernacular', in Gianna Pomata and Nancy G Siraisi (eds), *Historia: empiricism and erudition in early modern Europe*, Cambridge, MA, MIT Press, 2005, pp. 297–324.

<sup>35</sup> Savonarola, *Regimen*, in Belloni (ed.), op. cit., note 3 above, p. 4, translation by Martin Marafioti. (My thanks to Prof. Marafioti for permission to cite this.)

<sup>36</sup> Kruse, op. cit., note 5 above, p. 231.

<sup>37</sup> Savonarola, op. cit., note 8 above, f. 227ra: "ut omnino dominabus succurramus, que sunt medicorum tube". Savonarola repeats the phrase in the *Regimen*, in Belloni (ed.), op. cit., note 3 above, p. 4.

at least the second third of the fifteenth century, and these students brought back copies of the lectures and writings of their teachers. For example, we know that the Munich physician Johannes Hartlieb studied in Padua in the 1430s, when Savonarola himself would have still been teaching there.<sup>38</sup> We also know that the Nuremberg physician Hermann Schedel (1410–1485) made his own copy of Savonarola's *Practica* when he was studying in Padua in 1442.<sup>39</sup> Furthermore, printed copies of the entire *Practica* were available in editions published in 1479 and thereafter.<sup>40</sup> Given this traffic, it seems likely that the *Practica* would have been readily available in Germany by the 1490s. In what follows, I demonstrate how the author of *Kranckheiten* manipulated Savonarola's Latin text. Four examples should suffice.

### *A Prenatal Regimen to Avoid Difficult Birth*

The author of *Kranckheiten* devotes the fourth chapter of his text to "how a woman should behave during, before, and after childbirth, and how one should come to her aid in a difficult delivery".<sup>41</sup> This chapter includes the bulk of the work's instructions for regimen during the latter part of the pregnancy and for ministrations during active labour, whether it was difficult or not. It also includes a description of the obstetrical chair (about which more later) and the sequence of foetus-in-utero figures with accompanying instructions on how to deliver the malpositioned foetus.

In the first third of the chapter, the author explains that one should take steps to avoid a difficult labour even before it happens. The woman should have all potentially complicating conditions of the genitalia (boils, ulcers, warts) attended to by a surgeon. Likewise she should try to remedy any urinary tract conditions or problems of the anus. Constipation should be avoided by changing her diet, by use of enemas, or by medicines. The woman should also use various lubricating applications and stretching techniques to prepare the birth canal. Further recommendations about baths, foods, wine, etc., follow. Not a single authority is cited.

Comparing these instructions to Savonarola's Latin text, we find in the latter half of his long Tract VI, chapter XXI, rubric 32, *De difficultate partus* (On Difficult Birth) virtually identical recommendations. Savonarola begins by clarifying that the regimens he is about to describe are really only for women of the governing classes, "for the

<sup>38</sup> Hartlieb's promoters for his medical degree in 1439 were Antonio Cermisone and Bartolomeo Montagnana, both colleagues of Savonarola.

<sup>39</sup> This manuscript is now Munich, Bayerische Staatsbibliothek, Clm 12. In Clm 13, Hermann Schedel's younger cousin, Hartmann (1440–1516) who also studied in Padua, wrote out notes for distinguishing between a *mola vera* and pregnancy. Between them, the two also owned four copies of the Salernitan *Trotula* texts on women's medicine.

<sup>40</sup> Arnold C Klebs, 'Incunabula scientifica et medica', *Osiris*, 1938, 4: 1–359, item 882.1–3, p. 292, identifies the first edition as coming from Colle di Valdelsa (Tuscany), Bonus Gallus, 13 Aug. 1479,

with editions from Venice in 1486 and 1497.

Although the first edition seems to have had a limited circulation (I have found no extant copies in German libraries), the Bayerische Staatsbibliothek in Munich has the 1486 and 1497 editions, as do many other libraries in Germany.

<sup>41</sup> *Von Kranckheiten, Siechtagen und zu val der Swangern und geberenden frowen und ihrer neugebornen Kinderen*, Hamburg, cod. med. 801, p. 22: "wie sich ain yede fraw, in, vor, und nach der gepurt halten solle vnd wiemann ir in harter gepurt zu hilffe komenn sol". Cf. Rösslin, op. cit., note 8 above, f. Ciiii recto.

physician does not busy himself very much with the poor”.<sup>42</sup> We find here all the same elements as in the German text—the recommendation to take care of complicating secondary conditions prior to the birth, foods and drinks to avoid or employ, baths that are recommended or not, oils to apply to the genitals to lubricate them. The differences are slight: Savonarola recommends frequent intercourse in the days prior to birth, a topic on which the German author is silent. The latter says that in older women, the genitals and uterus are drier and harder, and so less likely to be stretched by the softening regimens;<sup>43</sup> Savonarola makes no age distinction. Overall, however, the correspondences between the two texts leave no doubt that the German author must have been relying on his Italian predecessor.

*The Obstetrical Chair*<sup>44</sup>

The second birth regimen in both Savonarola and *Kranckheiten*, that to be followed during labour itself, shows the same relationship. The description of the obstetrical chair merits close examination. The use of a specially designed chair for the labouring woman—distinguished by a hole in its centre and its low back—was described by Muscio in his *Gynaecia*, which in turn was a spare abbreviation of Soranus’s earlier, more detailed description.<sup>45</sup> Some form of Muscio’s *Gynaecia*, as noted above, was indeed available throughout most of the Middle Ages, but in the more commonly accessible abbreviated versions, reference to the obstetrical chair had been omitted. Nor did any version of the popular *Trotula* texts or any of the major encyclopaedic works that included chapters on difficult birth make reference to a special chair. In his *Chirurgia*, Albucasis had said only that, if the foetus was stuck at the back of the uterus, the midwife should make the labouring woman sit on a chair, its form unspecified (“*fac eam sedere super sedem*”), and lean to the right side to help dislodge the child.<sup>46</sup> In his *Canon medicine* (Canon of medicine), Avicenna merely says “it is better that what she sits on during labour is a stool with a cushion placed behind it”.<sup>47</sup>

In the manuscript copy of *Kranckheiten*, there is only a passing reference to *ein banck* on which the labouring woman should sit, with a cushion behind her.<sup>48</sup> It may well be that the brevity of this passage reflects a first-draft attempt by the author to address

<sup>42</sup> Savonarola, op. cit., note 8 above, f. 244va: “Primum attendendum est maxime pro dominabus magnis, nam pro pauperculis non multum laborat medicus”.

<sup>43</sup> Hamburg, cod. med. 801, p. 25; cf. Rösslin, op. cit., note 8 above, f. Di verso.

<sup>44</sup> On the development of illustrations of the birth chair in the 1547 and 1559 printed editions of Savonarola’s *Practica*, see E A Rauws and J E Rauws, ‘De baarstoel van Michele Savonarola’, *Geschiedenis der Geneeskunde*, 2005, 10 (6): 46–53.

<sup>45</sup> Muscio described it as follows: “What is an obstetrical chair? It is like a barber’s chair, in which [the woman] is seated so that she has below her seat a hole cut out in the likeness of a moon where the infant can fall out”; Rose (ed.), op. cit., note 3 above,

p. 21: “Qualis est obstetricalis sella? sicuti est sella tonsoris, in qua sedetur ita ut habeat sub sessu similitudine lunae foramen praecisum, ut illuc infans cadere possit”. Cf. Owsei Temkin (trans.), *Soranus’ Gynecology*, Baltimore, Johns Hopkins University Press, 1956, pp. 70–2.

<sup>46</sup> Albucasis, *Chirurgia*, Book II, cap. lxxv, here citing from Venice, Biblioteca Nazionale Marciana, MS lat. Z 320, f. 98va.

<sup>47</sup> Avicenna, *Liber canonis*, Venice, 1507; repr. Hildesheim, Georg Olms, 1964, f. 169vb: “Et melius super quod sedetur apud partum est scamnum posito pulvinari post ipsum”.

<sup>48</sup> Hamburg, cod. med. 801, p. 28: “sol sy sitzen auff ein banck und sol hinder iren zuchen mit einem kussen underlegen”.

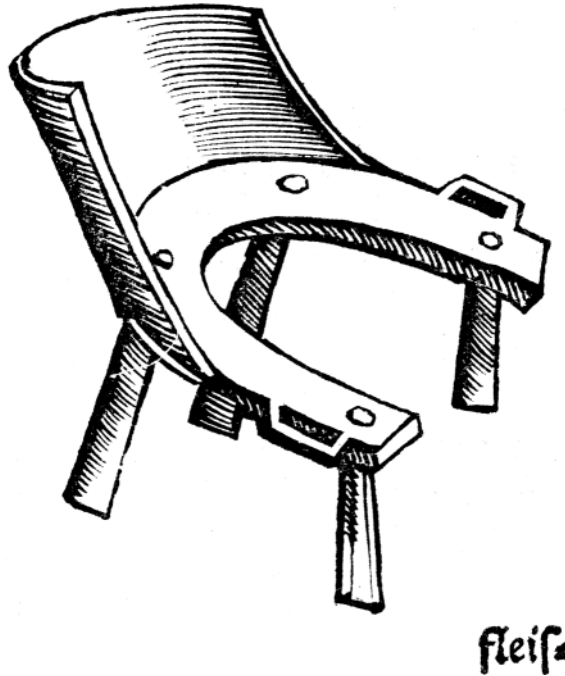


Figure 3: Image of the birth chair in Eucharius Rösslin, *Der schwangeren Frawen und Hebammen Rosengarte* [sic], [Augsburg, Heinrich Steiner, 1529], f. Cii verso. (Wellcome Library, London.)

this issue, for in the printed text of the *Rosengarten* the obstetrical chair is very clearly described:

[I]n the lands of upper [that is, southern] Germany [*Vnd in hohen teutschen landen*], and also in Italian regions [*auch in welschen landen*], the midwives have special chairs when the women are to give birth, and they are not high but cut out and hollow inside, as shown here [see Figure 3]. And they are to be made in such a manner that the woman is able to lean backwards with her back. The chair should be stuffed with cloths at the back, and when the time has come, the midwife is to reposition the cloths on the right or the left side as needed. And she is to sit before the woman, sedulously watching the movements of the child in the womb.<sup>49</sup>

Especially because this passage seems to be a novel addition of the printed text vis-à-vis the manuscript version, we might be inclined to assume that it was Rösslin, in his role as editor, who added this apparently attentive observation of current practices in Germany. However, an even fuller description of the birthing chair is found in the printed *Frauenbüchlein* of c.1495 and its manuscript version, both of which mention the practices of "Italian regions" and "our lands".<sup>50</sup> I suggest that these several German

<sup>49</sup> Rösslin, op. cit., note 8 above, f. Dii verso.

<sup>50</sup> Kruse, op. cit., note 5 above, p. 232. Cf. her complete edition of the manuscript version of the

*Frauenbüchlein* in Britta-Juliane Kruse, *Verborgene Heilkünste: Geschichte der Frauenmedizin im*

descriptions all derive ultimately from that in Tract VI, Chapter XXI, rubric 32 of Savonarola's Latin *Practica*. He describes the birthing chair and its use in much the same way, but with considerably more detail:

First, the midwife ought to prepare a chair above which the parturient ought to stand, or rather, in relationship to which the parturient ought to position herself so as to make the birth quicker. And in diverse regions and cities women have diverse inventions, which are not possible for me to enumerate. But I should touch on their common [features] which are applicable in all cases.

When she is finally in the act of giving birth, let the midwife order the pregnant woman to sit for the space of an hour or thereabouts. I say "thereabouts" because there are some women so accustomed to giving birth that they give birth in one hour. For if it is not her first birth, the midwife ought to inform herself right from the start so that she knows how she ought to regulate herself vis-à-vis the pregnant woman. Then she should make her walk around, jumping sometimes on one foot, sometimes on the other, which is exceedingly helpful, or she should shout out forcefully, or she should hold her breath so that it presses on the lower parts. Likewise, she should have her hips rubbed and pressed in order to expel the foetus. And when the woman senses that the foetus is descending and the mouth of the womb is opening up with intensifying pains, and that the fluids begin to flow out in greater quantity, then let the midwife order that the pregnant woman sit upon the high seat with a cushion on its outer edge. And behind let [another] cushion be placed, and another woman to whom she can cling; or, if it is possible, let her stand on her own feet and let her suspend herself from the neck of a strong woman who holds her up. Or let her squat on her knees on a bed where she is supported by other women. And some women, such as the Greeks, have a seat made in this manner, like this. [Presumably an illustration was meant to appear here.]<sup>51</sup>

While the parturient sits upon the first semicircular outer edge [of the chair], behind her stands the [woman] who supports her, and she holds on to the cushion, and behind her is another woman slightly above her, holding and controlling her, on whom the woman leans for support. And this is a good method, although it is not used everywhere. But you can be certain, as I have heard tell from [women], no single procedure works [in all situations] because it is necessary to adapt according to the pains and the causes impeding the exit of the foetus.<sup>52</sup>

*Spätmittelalter*, Berlin, Walter de Gruyter, 1996, pp. 307–13.

<sup>51</sup> I have not had the opportunity to examine manuscript copies of the *Practica* to determine if there was a medieval tradition of illustrating this chair. It does not appear in either the 1486 or the 1561 printed editions I consulted, but cf. Rauws and Rauws, op. cit., note 44 above.

<sup>52</sup> Savonarola, op. cit., note 8 above, ff. 244vb–245ra: "Primo itaque debet obstetrix preparare sedem, super quam stare debet parturiens, aut modum secundum quem parturiens debet se aptare, ut facilis fiat partus, et in diversis regionibus et civitatibus diversa habent ingenia mulieres ipse, que a me enumerare non esset possibile: modum saltem tangam communem, et abilem omnibus. Cum autem est in actu sic parturiendi, obstetrix iubeat pregnantem sedere per spatium hore, uel circa. dico circa quoniam alique sunt ita habilitate ex se ad partum, ut in una hora parturiant. si itaque non est primus partus, debet se informare obstetrix de primo ut sciat, quomodo se regulare [correcting from regulariter] debet circa pregnantem. Deinde faciat ipsam ambulare saltando

modo super uno pede, modo super alio, est iuvativum valde, et quod aut fortiter clamet, aut ut potest anhelitum teneat ad hoc, ut inferius comprimat. Item faciat ilia sua fricare, et premere ad expellendum foetum. Cumque sentit mulier foetum descendere, et os matricis aperiri ex fortificatis doloribus, et quia humiditates incipiunt in maiori quantitate emanare; tunc precipiat obstetrix ut pregnans stet super sedem altam in extremitate eius super pulvinare. Retro autem ponatur pulvinar, et mulier alia cui adhereat: aut, si potest, stet suis pedibus, et se suspendat collo unius fortis mulieris, que etiam sustineat. Autem stet super genua sua in lecto ab aliis substantata mulieribus, et quedam mulieres, ut grece habent sedem hoc modo factam, ut hic. [A small space appears here.]

Nam super primam extremitatem semitotundam stat parturiens, retro eam stat, que ipsam substat, et tenet cum pulvinari, et retro ipsam est aliter una, que ut iam est eleuata, ad quam se apodiat mulier, eam substinens et gubernans; et est modus bonus, quamuis non ubique fiat. Sed certe, ut ab eis habui, non valet aliquis modus singularum, quoniam oportet mutare

In the section of *Kranckheiten* that follows the passage describing the birthing chair (at which point its readings reconverge with those of the *Rosegarten*), the German author includes much of Savonarola's additional description of the positions the parturient and her attendants should take as the labour pangs increase; he simply does not structure so much of the action around the chair itself. Comparison of the *Kranckheiten* and *Rosegarten* passages with Savonarola thus shows that both versions of the German text are little more than an abbreviated and somewhat rearranged translation of Savonarola's Latin. Rösslin may indeed be offering a local observation of German practices when he exchanges Savonarola's cushions for the sheets of cloth. But nearly every other detail of this birth scene is the same: having the woman sit for an hour; having her hold her breath or shout; having the midwife anoint her hands with lily or almond oil; having her encourage the woman by telling her she will bear a son; breaking the amniotic sac with her nails or a knife or scissors. Instead of jumping on one foot and then the other, the two versions of the German text have the woman go up and down stairs. And all the elaborate supports offered by the other attendants have disappeared. Finally, there is no mention in either version of the German text of the use of a speculum to open the uterine mouth if it does not do so spontaneously, perhaps because no such instrument was then in use in Germany.<sup>53</sup> These are the signs of intelligent adaptation, not original composition. The addition of the apparently local reference in Rösslin's *Rosegarten, Vnd in hohen teutschen landen*, causes the reader to overlook his source of information on practices observed *auch in welschen landen*.

### *Causes of Difficult Labour*

As noted, the original German author of *Kranckheiten* was not an unthinking compiler. There are points where he clearly abbreviates and significantly rearranges Savonarola's much longer and more structurally challenging text. For example, in his third chapter he provides an itemized listing of the causes and signs of impending difficult labour. With efficient concision, he lays out eighteen situations that will complicate birth. Thus, for example, if the uterus is small and the woman less than twelve years old; if the opening of the uterus is too small; and so forth. In Savonarola, in contrast, we find a much longer analysis with more dialectical organization.<sup>54</sup> There are eight general kinds of factors: those having to do with the pregnant woman herself; with the foetus; or the uterus; or the afterbirth; or an adjacent part of the body; or the time of the birth; or the midwife; or underlying causes. Each of these headings is then broken down further.<sup>55</sup> The German author does retain the heuristic model of the enumerated list from Savonarola, but he fashions a much more concise summary. Savonarola had listed those factors of difficult birth attributable to the foetus as

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secundum dolores, et causas impediētes exitum foetus."

<sup>53</sup> The Zurich surgeon, Jakob Ruf (1500–1558), writing about forty years after Rösslin, described a tri-valve screw speculum, as well as several foetal extractors, in his obstetrical work, *Ein schön lustig Trostbüchle von den Empfengknüssen und Geburten der Menschen*, Zurich, Christoph Froschauer, 1554. This also appeared in Latin as *De conceptu et*

*generatione hominis: De matrice et eius partibus, nec non de conditione infantis in utero, et gravidarum cura et officio: . . . libri sex . . .*, trans. Wolfgang Haller with a new preface probably by Ruf himself, Zurich, Christoph Froschauer, 1554.

<sup>54</sup> Savonarola, in fact, is closely echoing Avicenna here.

<sup>55</sup> Savonarola, op. cit., note 8 above, f. 244rb–va.

(1) it is female (which according to him is harder to give birth to than a male); (2) its head is too big (especially difficult if the woman herself is small); (3) its body is too big; (4) its body is too small (and thus feeble); (5) it has two heads or is otherwise deficient; (6) it is dead; or (7) it is malpositioned in the womb. Savonarola provides a personal anecdote for his second category, describing a one-year-old boy he saw in Padua with an adult-sized head who was mentally deficient, unable to talk, and who eventually died at the age of nine or ten. The German author likewise has seven factors attributable to the foetus, but in the manuscript version of the text Savonarola's anecdote is omitted and there is no local marvel to take its place. In the printed text, Rösslin, in contrast, adds back in his own local "wonder": the baby born "in this twelfth year [i.e., 1512] in the county of Werdenberg [Württemberg?], with two heads". Rösslin, as noted above, employs the "baby in a bottle" frame of the Muscian foetal images to present a woodcut of the two-headed baby. Such localized touches have long persuaded scholars that Rösslin was an original writer. What comparison with Savonarola and the Hamburg text shows, rather, is that he had an astute eye for nuanced adaptation.

### *Menstrual Retention/Lochial Flow*

A final example will suffice to show one other element of the German author's compiling technique. Savonarola had structured the gynaecological and obstetrical chapters of his *Practica major* in the same way most medical encyclopaedists did: he included the diseases and conditions unique to the female as part of his overall *a capite ad calcem* (head-to-toe) ordering. Thus, women's conditions follow sections on urinary conditions and andrological problems, and precede those of the joints and lower extremities. The author of the German *Kranckheiten* (and Rösslin following him), in contrast, was not writing a textbook on women's conditions generally but only on obstetrical concerns. Thus, he has no separate chapters on menstrual problems, uterine cancer, etc. But certain of those topics were still pertinent and so he extracted some sections from Savonarola's other chapters and embedded them unobtrusively in the obstetrical chapters. Thus, for example, in his chapter on excessive lochial flow after birth, Savonarola had referred his reader back to his earlier chapter on treating excessive menstrual flow.<sup>56</sup> The German author culls from Savonarola's rubric 7 (*De fluxu non naturali menstruorum*) a ten-item list of causes of excessive menstrual/lochial flow. He then skips over the many symptoms that Savonarola had described, and moves to his injunction that, because the condition becomes increasingly grave the longer it lasts, the physician should be very concerned about it. "Lastly, you should know that honour rarely devolves on physicians from treatment of this, because women are ashamed to reveal this suffering and hence very often it only comes into the hands of the physicians when it has already endured a long time."<sup>57</sup> The German author, interestingly, turns this warning to the physician into a gentle admonition that "women in distress [should] not have too

<sup>56</sup> Savonarola, op. cit., note 8 above, Tract VI, cap. XXI, rubric 34, *De regimine multi sanguinis post partum*, f. 246rb: "Unde est verum, quod cura huius aperta est ex dictis supra de fluxu menstruorum".

<sup>57</sup> Savonarola, op. cit., note 8 above, Tract VI, cap. XXI, rubr. 7, f. 230va: "et ideo sollicitus esto. ¶

Postremo scito, quod raro medici consequuntur honorem de cura eius, quia domine verecundantur detegere [text: detegre] hanc passionem, et ideo ut plurimum non nisi inveterata ad manus pervenit medicorum, et ideo considera".

much shame, but rather should disclose and explain their sufferings to the doctor", for it is on the basis of his questions and her frank answers that he can determine his advice.<sup>58</sup> Then, rather than wrestling with Savonarola's extraordinarily lengthy *treatments* for menstrual flux (they occupy four and half columns in the printed edition of the Latin), the German author just returns to the few remedies laid out in the original rubric 34 on the lochial flow.

### Rethinking the *Rosegarten*

While several more sections of the German *Kranckheiten* and Rösslin's *Rosegarten* can readily be shown to have parallels with Savonarola's *Practica* (for example, the description of the three "skins" that surround the foetus *in utero* in Chapter 1, which is a very brief excerpt from Savonarola's rubric 22), the Italian physician's text was clearly not the German author's or Rösslin's only source. The author of *Kranckheiten* seems to have taken most if not all his references to the Persian authority Avicenna from Savonarola, but all references to the German authority Albertus Magnus are new.<sup>59</sup> While so much of the advice in the first half of Chapter 7 on how to conduct a labour comes, as we have seen, directly from Savonarola, there are other passages that may eventually show the German author's originality. For example, the German author includes towards the end of the chapter instructions for repairing an ano-vaginal fistula.<sup>60</sup> Part of this section derives ultimately from the *Treatments of women* of the twelfth-century Salernitan healer Trota, which became the central piece of the so-called *Trotula* ensemble. Although incorporated into the *Compendium medicine* (Compendium of medicine) by Gilbertus Anglicus in the mid-thirteenth century and, in somewhat more abbreviated form, into Francesco da Piedemonte's medical textbook, Trota's instruction ultimately had little impact on learned discussions of this condition. Even Savonarola's treatment of the condition was perfunctory at best.<sup>61</sup> Yet here in the German we find Trota's treatment, not simply in something close to its full form, but elaborated in such a way as to suggest yet another layer of authorship.

The instruction to sew the tear between the vagina and the anus with four or five stitches with a silk thread comes directly from Trota, but then the German author describes another procedure I have seen nowhere else in a medieval text. He instructs that pieces of linen cloth should be plastered on the two sides of the tear. Then, it is these linen strips, not the woman's own flesh, that is sewn together—for, our German author

<sup>58</sup> Hamburg, cod. med. 801, p. 49: "So nun mangerley ursach sind uberiger frowen fluß ist vast not, das sich die frowen in noten nit zu vil scham haben sunder sich gegen den artzet entplossen und im ir einligen noch not durfft erzellen der auß sinem fragen und auß ir antwurt wol mag underricht werden, von was sach wegen, ir solicher uberiger fluß komen siey, dem nach er ir wol raten kan". Cf. Rösslin, op. cit., note 8 above, f. Giii recto.

<sup>59</sup> The references to Albertus Magnus are found in the Hamburg, cod. med. 801, pp. 14, 15, and 16. Cf. Rösslin, op. cit., note 8 above, ff. Biii verso, Ci recto, and Ci verso.

<sup>60</sup> Rösslin, op. cit., note 8 above, fols. Giiii verso–Hi recto.

<sup>61</sup> The 'Trotula', Green (ed.), op. cit., note 10 above, ¶ 149; cf. Gilbertus Anglicus, *Compendium medicine Gilberti Anglici tam morborum universalium quam particularium nondum medicis sed et cyrurgis utilissimum*, Lyons, 1510, Book VII, chapter *De exitu matricis & secundine*, f. 307va. Although the *Trotula* was available in two different German translations (including one by Johannes Hartlieb), neither one included this section of Trota's *Treatments for women*.

notes, “as the surgeons should know, thus the lips of the rupture go together”.<sup>62</sup> It is very interesting, therefore, that whereas Trota had attributed the affliction of ano-vaginal fistula to the inadequacies of those assisting the parturient, the author of *Kranckheiten* less harshly credits it to the unfortunate combination of a vagina that is too small and a foetus that is too big. This may suggest that these novel elements come not out of some other textual source but out of the writer’s own surgical practice.

Also, as Kruse herself noted, there is still need to work out the relations between the *Rosegarten* and its earlier printed predecessor, the anonymous *Frauenbüchlein* of c.1495 (for which Kruse also found a manuscript version that predated the printed text).<sup>63</sup> Kruse showed that where the *Frauenbüchlein* and the *Rosegarten* overlap in the chapter on pre-natal regimen, the former has the fuller readings, implying that Rösslin then incorporated select passages of the *Frauenbüchlein* into the *Rosegarten*. Comparison of the passage describing the birthing chair, for example, in Savonarola’s Latin text with the three German texts does not easily resolve the lines of affiliation: the text in the *Frauenbüchlein* (which is essentially identical in both manuscript and print versions here) presents a fuller reading than either the Hamburg text or the printed *Rosegarten*, though it is not closer to the Latin. Rather, the author/translator is here trying to explain more fully the arrangement of the chair and the sheets draped around it, as if trying to visualize a scene that was less familiar to him than it had been to Savonarola.<sup>64</sup> The same is true of a passage recommending the use of apples baked with sugar and the drinking of sweet apple juice as an aid for delivery.<sup>65</sup> As with the surgical innovations, it may well be that the four German texts show successive layers of creative translation and other interventions on the core Latin text, demonstrating an effort not only to understand the words but also the social practices being imported into Germany from northern Italy.

Clearly, then, there is need for more systematic comparative study of the *Frauenbüchlein* (in both its manuscript and print versions), the Hamburg manuscript of *Kranckheiten*, and Rösslin’s *Rosegarten*, in comparison to one another and with other

<sup>62</sup> Hamburg, cod. med. 801, p. 58: “Also dan die scherer wissen sollen, so gend die lefftzen des bruchs zu samen”. Cf. Rösslin, op. cit., note 8 above, f. Hii recto, where we find “wundartzat” instead of “scherer”. In the *Trotula*, surgical repair for ano-vaginal fistula is described in ¶ 149 (Green (ed.), op. cit., note 10 above, pp. 124–6). A second remedy from the *Trotula* for perineal rupture (¶ 228, cf. Green (ed.), p. 158) follows this description of surgical repair in the German.

<sup>63</sup> The *Frauenbüchlein* is made up of three chapters: the first corresponds directly to chapter 4 in the *Rosegarten*, focusing on regimen and preparations for birth. The second section is a regimen for the woman during her lying-in after birth; while there are many headings on post-partum conditions in Savonarola’s *Practica* (including a chapter specifically on the regimen for the *enixa*), it offers no direct parallel. The same is true of the *Frauenbüchlein*’s third chapter, which is a listing intended to warn the recent parturient of other diseases that might befall her; it reads as if it were a

table of contents of Savonarola’s entire gynaecological section, Tract VI, Chapter XXI. In other words, the *Frauenbüchlein* seems, in my opinion, really to be a “women’s little book”: an adaptation of the fuller translation of Savonarola’s obstetrical chapters for a lay female audience. Like Savonarola’s own Italian text for women, it is long on advice for behaviour and diet, and short on anything more technical or theoretically demanding.

<sup>64</sup> Kruse, op. cit., note 5 above, p. 232, offers a comparison of parallel passages describing the obstetrical chair corresponding to *Rosegarten*, chapter 4, from the Hamburg manuscript, the *Rosegarten*, and the *Frauenbüchlein*. The reading from the manuscript version of the *Frauenbüchlein* which she also discovered (Vienna, Österreichische Nationalbibliothek, Cod. 2967, c.1500) can be found in Kruse, op. cit., note 50 above, p. 309.

<sup>65</sup> Cf. Kruse, op. cit., note 5 above, p. 233, which compares all four German texts. In the corresponding passage of the Latin, Savonarola says nothing about baked apples.

gynaecological, pharmaceutical and surgical texts, German and Latin, that may have been available to these German writers. Even without a full understanding of all of the sources used by the still anonymous author of *Kranckheiten* and by Eucharius Rösslin after him, however, recognition of their reliance on Savonarola's *Practica* suggests that we should look beyond the young apothecary Eucharius Rösslin to find some other figure who can claim responsibility for all this work of translation and adaptation. We must assume that by the early 1490s at the latest—when Rösslin was beginning his career and before the Hamburg manuscript was written in 1494 and the *Frauenbüchlein* was published in c.1495—there was already circulating in southern Germany a fairly comprehensive translation/adaptation of Savonarola's Latin obstetrics. The Hamburg manuscript, the sole extant copy of the *Kranckheiten*, is unlikely to have been the original copy of the text; as Kruse noted, it is the work of a professional scribe and bears several errors of inattention unlikely to have been allowed to stand had the composing author been supervising.<sup>66</sup> We know that the Hamburg manuscript was in the hands of one Constantin Rösslin, apparently an older relative of Eucharius Rösslin, and it stayed in the family for at least two generations.<sup>67</sup> We do not know, however, who this Constantin was nor what his competence might have been to have produced a text such as this.

Although we thus cannot rule out Constantin Rösslin from consideration, there are some other likely candidates for the role of translator/compiler of *Kranckheiten*. Bartholomeus Metlinger, the physician whose paediatric text was absorbed into the Hamburg manuscript and afterwards into the *Rosegarten*, took his medical doctorate at the University of Bologna in 1470. He resided throughout most of his career in Augsburg, where the *Frauenbüchlein* was first published c.1495.<sup>68</sup> Most interestingly, we know that Metlinger had a pronounced interest in gynaecological matters. He composed a brief text (perhaps for his own wife) for strengthening the womb, with instructions in German keyed to Latin recipes that followed. He also copied with his own hand a series of Latin chapters (apparently drawn from an as yet unidentified Latin compendium) on gynaecological conditions.<sup>69</sup> Metlinger therefore merits further examination as a possible collaborator in the translation of Savonarola and in the composition of the Ur-version of the *Rosegarten*.

Another possible candidate, perhaps even more likely than Metlinger, is Bartholomeus Scherrenmüller (b. c.1450 and active until at least 1493), a physician trained at Erfurt, Tübingen, and probably some northern Italian university. He was associated with the court of Duke Eberhard im Bart in Tübingen. Known to have translated both a regimen from Guglielmo da Saliceto's Latin *Summa conversationis et curationis* and Pietro d'Argellata's *Chirurgia*, he also claims to have translated a work entitled *Wie sich die*

<sup>66</sup> Ibid., p. 230.

<sup>67</sup> Ibid., pp. 234–35. Kruse suggests the manuscript was in Eucharius the elder's hands throughout his life, then passed immediately to his son, Eucharius the younger. It then passed to another apothecary named Johan Wessen.

<sup>68</sup> Although his date of death is not known, we do know that he was still the city physician of Augsburg in 1488. See Ludwig Schuba, *Die medizinischen Handschriften der Codices Palatini Latini in der*

*Vatikanischen Bibliothek. Kataloge der Universitätsbibliothek Heidelberg*, Band I, Wiesbaden, Ludwig Reichert, 1981, p. 279.

<sup>69</sup> Vatican, Biblioteca Apostolica Vaticana, MS Pal. lat. 1248, an. 1470–1488, ff. 159r–173r, *De egritudinibus matricis*. I have compared the incipit of this text (the beginning of the chapter on uterine suffocation) with a variety of Latin compendia and have not yet been able to identify its source.

*kindendenn frawenn in dem geberen der kind halten sollent* (How Pregnant Women Should Comport Themselves in Bearing Their Children).<sup>70</sup> This work has been assumed to be lost, but as both Kruse's findings and mine suggest, because the origin of the *Frauenbüchlein* and the *Rosegarten's* Ur-text must now be situated in at least 1494 if not earlier, we are in fact in need of finding something like Scherrenmüller's text. As its title suggests, it matches the topic of the Savonarola translation perfectly. The text in the Hamburg manuscript may, therefore, be Scherrenmüller's "lost" text.

Whomever we eventually identify as the "author" of the Hamburg text, *Kranckheiten*, it is clear now that Savonarola, the professor from Padua and Ferrara, and not Muscio, must be recognized as the key source for what would prove to be the foundational text of early modern European obstetrical literature. Remaining puzzles notwithstanding, the present study should establish that Rösslin's *Der Swangern Frauwen und Hebammen Rosegarten* is neither *sui generis* nor a work created out of thin air. Nor, aside from some quite novel traditions in pelvic floor surgery and perhaps some individual pharmaceutical therapies, does it reflect a particularly German tradition of women's healthcare. Eucharis Rösslin, "author" of the *Rosegarten*, can be credited with very little originality; as we have seen, not even such local details as the recommendation of baked apples as an aid for delivery can be attributed to him. His imprint on the text was really that of a salesman, someone who recognized the possibilities of print, both as a mechanism to cheaply reproduce the Muscian images and as a way to curry favour among women who might offer some kind of patronage. Less clear is whether he also had larger "public health" motives in mind, as did Johannes Hartlieb several decades before him, in intending to address an obstetrical text to midwives. Surely the most important finding of this analysis, however, is to show how intimately linked the manuscript culture of the late Middle Ages was with the print culture of the Renaissance. Savonarola's concern that he would not get due credit for his obstetrical writing was justified, since his name is found nowhere in the German *Kranckheiten* or the *Rosegarten*, and it has been lost to the historical record until now. Yet in fact, the obstetrical practices of Italy that he described proved the basis not only for German obstetrics, but for developing traditions all over western and central Europe as the *Rosegarten* was repeatedly translated and republished over the next century and a half.<sup>71</sup>

<sup>70</sup> See Gundolf Keil, 'Scherrenmüller, Bartholomäus (B. Scherrenmüller de Aula)', *VL* 8, coll. 652–54; I have not been able to consult Wolfram Schmitt, 'Bartholomäus Scherrenmüllers *Gesundheitsregimen* (1493) für Graf Eberhard

im Bart', diss. Heidelberg, Inst. Gesch. Med., 1970.

<sup>71</sup> I examine this larger phenomenon of the functions of literate medicine in the field of women's health in Green, op. cit., note 12 above.