INTRODUCTION: PRECEDENTS FOR PLANTIN'S WORK

LABORE ET CONSTANTIA (WORK AND PERSEVERANCE)

This motto, combined with its visual counterpart of a pair of compasses, became the standard, readily recognizable symbol of the *Officina Plantiniana* of Antwerp, the printing-publishing business begun by the Frenchman Christopher Plantin in 1555.[1] It was renowned throughout sixteenth- and seventeenth-century Europe for both the exceptional scale and the quality of its numerous publications. Plantin's editions were often highly influential, as others sought to emulate or compete against them. As we will document in the following pages, this was also the case in the realm of book illustration, where Plantin's persistent effort – his "Labore et constantia" – to sustain a novel, systematic production of books with engraved or etched illustrations irrevocably altered the market for these publications. Drawing from the uncommonly rich archival sources documenting the work at the *Officina Plantiniana*, we will delve into essential, but often ignored topics on the production and distribution of books with such illustrations in sixteenth-century Europe. We will demonstrate how one publisher – Christopher Plantin – could make such production viable economically and practically, and we will reveal the means by which a revolution in book design came about.

That such trends would come to dominate book illustration was far from clear when printers first started to produce illustrated editions in the later fifteenth century. Then, there were three primary means available for illustrating typographically printed texts: manually added illuminations, woodcuts, or engravings. Hand-painted illustrations were clearly the most labor-intensive, time-consuming approach to illustrating numerous copies of a printed edition. Books with such illustrations are usually associated with wealthier buyers who liked the appearance of illuminated manuscripts but were ready to compromise and accept a faster, cheaper, standardized printing of the text. Antoine Vérard, a scribe in Paris turned book printer-publisher, is perhaps

[1] Here, the stationary point of the compass represents *constantia* and the moving point *labore*. The third printer's mark Plantin used (starting in 1557), this would continue to be favored by Plantin and his successors for the next three centuries (cf. Voet, GC, I, p. 31).

the best-known producer of texts with this combination of techniques, but he was far from the only one. Gilles and Germain Hardouyn (also active in Paris) are, for example, known for carrying the tradition on into the early sixteenth century.[2]

Woodcuts are a "relief" print technique, like that of the movable type with which the texts themselves were printed, whereby the image to be printed is left raised on the top of the woodblock. Woodcuts were the most economical means of illustrating texts, both because they were usually cheaper to make than engravings and because one could pull thousands of impressions from a single, well-cared for block. Woodcuts were also technically the most logical medium to combine with printed texts because they could be set, inked, and printed together with the movable type in a single operation under the supervision of the printer of the text.

Engravings, like etchings, are an "intaglio" print technique, namely, one in which ink is left in lines made in a metal plate and the paper used to pull the impression has to be pressed down into the lines in order to catch the ink. Engravings offered several advantages over the preceding two techniques. Often producing a finer, more detailed image than a woodcut, engravings also provided a more efficient means of producing multiple copies of a subject than employing someone to paint each image by hand. Nevertheless, there were also limitations and disadvantages to using this technique to illustrate typographically printed texts. Financially, intaglio prints were generally more costly to make than woodcuts and, particularly in this early stage in the development of the technique, could produce significantly fewer impressions than woodcuts.[3] Furthermore, because intaglios had to be printed on a different press than that used for type, their combination with a typographically printed text brought extra technical challenges and resulted in a longer "time to completion" of the illustrated copies than if the text had simply been illustrated with woodcuts from the start.

Which technique was a printer to use if seeking to make his name in the new world of printing? It was not simply a matter of determining which technique one's potential customers preferred – it had to be practical technically to combine with printed texts and economically viable to produce and sell. Which considerations carried the greatest weight: ease of printing and fewer costs, or a finer, but more costly illustration that would be a credit to one's publications and have a better chance of appealing to a more affluent and potentially influential buying public? The choice could be critical because, as was the case with any business, the bottom line for most printer-publishers was to devise a product that would sell and not constitute a financial loss.

The books (printed and manuscript) that have come down to us from this period of experimentation in the production of texts attest to the fact that there was no single, clear-cut answer.[4] While woodcuts quickly became the most common medium for

[2] For several examples of hand-colored illustrations added to printed books, as well as references to additional literature on the topic, see McKitterick 2003, pp. 67–68, 75, 79–80, and 87.

[3] See ch. 1 for more information on intaglio print techniques, how they were combined with letterpress, and their relative cost in comparison with woodcuts. See Bowen and Imhof 2005 and ch. 5 for the varying number of impressions that can be pulled from a single copper plate.

[4] For examples of manuscripts illustrated with either woodcuts or engravings, see, e.g., McKitterick 2003, pp. 53–64; for a recent case study, see Schmidt 2003. For examples of illuminated illustrations in printed books, see n. 2 above. Examples of printed books with woodcut and intaglio illustrations are given below.

illustrating printed texts, experiments with the other media – particularly engravings – continued.[5] Nearly a century passed before one printer, Christopher Plantin, was able to coordinate everything he needed to make the systematic production of books with intaglio illustrations a practical, desirable component of his total output.

The significance of Plantin's success was recognized at the time, as his novel editions with intaglio illustrations were quickly imitated and emulated throughout Europe.[6] Plantin is also regularly cited in modern literature as a pivotal figure in the history of book illustration because his publications furthered the widespread switch to engravings as the favored means of embellishing books in the seventeenth century.[7] Engravings continued to enjoy this privileged position for two hundred years until they were supplanted by new printmaking techniques – wood-engraving and lithography – in the nineteenth century.[8] Nevertheless, the following is much more than a simple success story of one well-known printer. Rather, this examination of Plantin's production of these influential texts has significant ramifications that are, for example, of fundamental importance for the ostensibly distinct fields of bibliography and the cataloguing of a graphic artist's œuvre.[9] Such far-reaching results are possible thanks to the juxtaposition of a thorough knowledge of copies of Plantin's publications with uncommonly extensive archival sources documenting his production and the distribution of his works with intaglio illustrations. This combination has enabled us to describe in unprecedented detail not only how these books were made and what the actual, as yet not fully understood, implications were of this process, but also what the usually indeterminable "market demand" for books with intaglio illustrations genuinely comprised: who, specifically, throughout Europe, purchased which texts and in what quantities? These results will, in turn, improve historians' ability to assess accurately both the illustrated books that have survived and the place of their intaglio illustrations in the œuvre of the artists concerned.[10] But, in order properly to evaluate Plantin's contribution to this manifest alteration in book illustration, we need to go back in time and consider the antecedents to Plantin's own richly illustrated editions. First we will examine the publications of the early entrepreneurs in this field and determine what they reveal concerning the initial technical expertise in printing such books, the development of the market for them, and the common, modern perspective on these publications. With this essential background information, we will then turn to Plantin

[5] For numerous examples of incunabula with woodcut illustrations, see, e.g., the extensive BMC series. The earliest known printed book to be illustrated with printed illustrations (in this case woodcuts) is a 1461 edition of Ulrich Boner's *Der Edelstein*, printed by Albrecht Pfister in Bamberg (cf. GW, IV (1930), no. 4839). The early use of engraved illustrations is discussed in greater detail below.

[6] See ch. 4 and the Conclusion for such examples.

[7] For a sampling of such appraisals, see, e.g., Harthan 1981, p. 98; Bland 1969, p. 161; Pastoureau 1982, p. 508; and Landau and Parshall 1994, p. 222.

[8] For a brief account of wood-engraving and lithography, see, e.g., Griffiths 1996, pp. 22–25 and 100–108, respectively.

[9] For a standard guide to historical bibliography, see Gaskell 1972. Examples of the implications for discussions of artists' work are given below.

[10] See Gaskell 2004 for a call for further work to clarify the implications of this combination of printing techniques. Although highly valuable sources of information, the Hollstein series on graphic artists often provides misleading information on prints used to illustrate books owing to its rigid adherence to certain faulty assumptions concerning book illustrations. These publications are discussed in greater detail below.

and discuss what this study of his illustrated editions will contribute to our understanding of how editions with intaglio illustrations were produced and what the expectations and markets for such books were.

Regrettably, our knowledge of how early printed books were illustrated is usually limited to the often unrepresentative selection of books that have come down to us. This problem is all too often overlooked, although evidence of it is widespread. In the case of books, it is frequently the cheaper and/or smaller editions for everyday reading or prayer that have disappeared from view. Thousands of prints were also "used up" and are known only through archival records.[11] Consequently, all of the trends described below must remain tentative generalizations based upon incomplete sources. Similarly, attempts to document "the first ever" appearance of a particular print technique in a printed text are, to some extent, a lost cause from the start, as we will never know precisely all that was printed centuries ago.

Despite these pitfalls inherent in studies of early printed books, we can nevertheless derive useful information from the often unique examples of illustrated editions that have been documented thus far. For example, a succinct list of the twenty-eight known fifteenth-century editions with engraved or etched illustrations supports the following observations.[12] The use of intaglios as book illustrations began in earnest around 1476, some fifteen years after the earliest known use of woodcuts as such. At first glance, this initial group of publications is noteworthy for the frequency with which a new edition with intaglio illustrations appeared – a little more than one per year, on average – and the number of cities throughout western Europe in which printers attempted to combine an intaglio printmaking technique with letterpress. This variety, however, is simultaneously symptomatic of both the early widespread interest in illustrating texts with intaglios and the difficulty in doing so successfully. Specifically, the strikingly diverse selection of cities represented here – Bruges (Low Countries), Lyon (France), Cologne, Nuremberg, Würzburg, and Eichstätt (Germany), and Bologna, Florence, Rome, and Milan (Italy) – attests to a pervasive, contemporaneous interest throughout western Europe in illustrating books in this fashion.[13] Nevertheless, the fact that many of these works appear to constitute one printer's solitary attempt to combine these two dissimilar printing techniques suggests that other concerns – technical, as well as financial, perhaps – ultimately frustrated an initial inclination (possibly based on aesthetic preferences) to try working with the intaglio technique. Technical difficulties in printing the illustrations properly on to the sheets of text – the accurate "registration" of the plate on the sheet – are evident from the numerous books in which the illustrations were printed askew, did not fit properly into the space left open for them, or were

[11] For the case of books, consider, e.g., the number of Plantin's small books of hours that are known only via archival records (see Bowen 1997a, pp. 223–258, *passim*). For the case of prints, see, e.g., Van der Stock 1998, pp. 173–181.

[12] See Von Arnim 1984, pp. 119–121, for this list, which contains references to more detailed discussions of the cited books. Hofer 1934, pp. 203–227, provides a more descriptive (but often less detailed), chronologically arranged account of many of the books cited by Von Arnim.

[13] We will be using the term "Low Countries" to refer to territories now part of present-day Belgium and the Netherlands. These may also be referred to as the Southern and Northern Netherlands, respectively. Other countries cited here are referred to according to their current names and national boundaries.

simply printed separately and then pasted in.[14] Such difficulties may reflect the often overlooked consideration that a true intaglio (roller) printing press, with fixed rollers and a movable bed on which the paper and plates could be systematically and accurately registered, may not yet have been invented. Although some system of printing images with the use of weighted drums appears to have been in use in Italy, at least, by the late fifteenth century, it may still have been difficult to align the plates properly and print the larger runs desired for the illustration of an entire edition.[15] The switch to woodcut variants of a set of engraved illustrations for the embellishment of subsequent editions of a given text is also often cited by Philip Hofer as yet another indication of technical or financial concerns. For, even if a printer was able to arrange for the technically successful combination of intaglio images and letterpress, a switch to woodcuts for the illustration of subsequent editions of the text might reflect the fact that he could not find a market to support his continued production of the work with intaglio illustrations.[16] As is discussed in greater detail below in connection with the Würzburg liturgical editions, it is also possible that the illustration of some publications was split, such that some copies were illustrated with woodcuts and others (that happen to be unknown to us) were illustrated with intaglios.

Indeed, of the thirteen printers/publishers known to have produced books with intaglio illustrations in the fifteenth century, only three appear to have found it worth repeating the experiment. These are the Florentine Nicolò di Laurenzo (or Nicolaus Laurentii) and the German printers Georg and Michael Reyser, active in Würzburg and Eichstätt respectively. While di Laurenzo printed at least three texts with engraved illustrations between 1477 and 1482, the Reysers are credited with printing at least fifteen liturgical editions with an intaglio coat of arms (and, depending upon the publication, an engraving of the Crucifixion), between 1479 and 1499.[17]

Di Laurenzo's first publication with engraved illustrations, a 1477 edition of Antonio Bettini's *Monte sancto di Dio*, is often cited as the first printed book with true engraved text illustrations – although occasionally poorly printed.[18] Di Laurenzo never succeeded in finding printers who could combine these two techniques successfully on one sheet of paper, however. His second known edition with engraved illustrations – a 1481 edition

[14] For two well-known examples of the initial technical difficulties of adding intaglio illustrations, consider *De la ruyne des nobles hommes et femmes*, a French translation of Giovanni Boccacio's *De casibus virorum illustrium*, printed by Colard Mansion in Bruges in 1476 (see Von Arnim 1984, no. 63), and a 1481 edition of Dante's *Divina commedia*, printed in Florence by Nicolò di Laurenzo (see Von Arnim 1984, no. 115).

[15] For discussions of the development of the roller press, see, e.g., Landau and Parshall 1994, pp. 29–30, and Meier 1941. The earliest known reference to a press for printing engravings dates from 1540. Although Landau and Parshall erroneously refer to the pertinent document as an inventory, it is actually (as discussed in Van der Stock 1998, p. 155 and appendix III, docs. 22 and 26) an agreement for the loan of the press, copper plates, and other materials needed to print engravings.

[16] Hofer 1934, p. 214.

[17] For an overview of di Laurenzo's work as a printer and descriptions of many of his publications, see BMC, VI (1930), pp. 624–631. The most complete, succinct list of the Reysers' publications with intaglio illustrations is provided in Von Arnim 1984, I, pp. 119–121. Several of Georg Reyser's publications are also discussed in BMC, II (1912), pp. 569–572 (which also has a brief introductory note on Reyser); and in Von Rath 1927, pp. 64–65.

[18] For a sampling of accounts of this book, see, e.g., McKitterick 2003, p. 81; Von Arnim 1984, no. 14; Hofer 1934, pp. 209–214; BMC, VI (1930), pp. 626–627; and GW, II (1926), no. 2204.

of Dante's *Divina commedia* – similarly suffers from technical difficulties in adding the engraved illustrations to the printed sheets of text, while in his third such publication – a 1480–1482 edition of Francesco Berlinghieri's *Geographia* – he avoided this difficulty altogether by having the accompanying engraved maps printed separately and inserted into copies of the book.[19] Thus, despite having earned the honor of being one of the first printers to persist in producing books with engraved text illustrations, his efforts appear to have been foiled by technical difficulties and, potentially, an insufficient market for them.

While admittedly less ambitious than the illustrated works conceived of by di Laurenzo, the numerous editions including an intaglio coat of arms that were published by the German printers Georg and Michael Reyser attest to a more lasting, basic achievement in the combination of these two media. For here, various factors point to an active production of books with intaglio illustrations that was not simply successful technically, but clearly was sustained by a demand for them – albeit, perhaps, one dictated by the idiosyncratic wishes of the local bishops.[20] Of particular importance are the adeptness with which the plates were usually (although not always) printed directly on to the sheets with letterpress, the frequency with which editions bearing the bishops' and chapters' coats of arms were produced, as well as the evidence of several different plates being used in the course of time for the printing of them. As of 1495, however, woodcut variants of these coats of arms began to appear.[21] One might argue that the essentially simultaneous use of woodcut and etched (or engraved) coats of arms for these publications represented a savvy broadening of the market for these editions for buyers with distinct budgets, interested either in copies with more costly intaglios or in copies with cheaper woodcuts. It was a practice that Plantin and his successors successfully exploited for decades.[22] The apparent disappearance of editions with intaglio illustrations soon thereafter, however, suggests that something in the earlier success formula had changed. The passing away of the bishops who had instigated this practice, for example, may have meant the end of a guaranteed market for such books and, hence, the loss of the incentive to produce them.[23]

The initial success enjoyed by the Eichstätt and Würzburg editions would not be achieved again until the mid-sixteenth century. Philip Hofer attributes this lack primarily to inadequate public interest in buying these richly illustrated editions, arguing

[19] For a few of the numerous discussions of di Laurenzo's Dante edition, see McKitterick 2003, pp. 81–82; Caron 1998, cat. 13; Von Arnim 1984, no. 115; and Hofer 1934, pp. 218–220. For extensive bibliographic descriptions of this book, see, e.g., GW, VII (1938), no. 7966, and BMC, VI (1930), pp. 628–629. For di Laurenzo's edition of the *Geographia*, see, e.g., von Arnim 1984, no. 40; Levarie 1995, p. 126; Hofer 1934, p. 216; and BMC, VI (1930), pp. 629–630.

[20] On the importance of Bishop Rudolf von Scherenberg for the Würzburg editions, see Von Rath 1927, p. 64. On the involvement of Bishop Wilhelm von Reichenau of Eichstätt, see Von Arnim 1984, no. 321, in which Von Arnim observes that the coat of arms used to illustrate this edition (in addition to three similar ones) was etched and not engraved – as is suggested in Hofer 1934, pp. 223–224, and BMC, III (1913), p. 665. Our examination of a copy of this work in the British Library (BL) (I B 12803) supports Von Arnim's attribution. See also Hofer 1934, p. 222, on the relative success of these editions.

[21] Hofer 1934, p. 225, and Von Rath 1927, p. 65.

[22] See pp. 29 and 172 for a more detailed discussion of Plantin's application of this system and ch. 1, n. 45, and ch. 4, n. 136 for examples of editions with both series of woodcut and intaglio illustrations.

[23] Bishop Rudolf von Scherenberg of Würzburg passed away in 1495, just as the woodcuts came into use, while Bishop Wilhelm von Reichenau of Eichstätt died a year later in 1496.

that if there had been sufficient willingness to pay for such books, resourceful printers would have resolved any remaining technical problems.[24] Evidence from the various editions produced in the intervening years (from 1500 to 1545) supports this hypothesis.

Far fewer editions with engraved or etched illustrations are commonly known from the first half of the sixteenth century than the preceding twenty-five years.[25] The implied significant reduction in the production of such books may, in fact, be exaggerated owing to simple scholarly neglect. For, these decades constitute neither the intriguing period of "firsts" among incunabula nor the triumphant phase of the second half of the sixteenth century when numerous printers throughout western Europe began to produce richly illustrated editions with engravings.[26] Despite the uncertain numbers, editions with intaglio illustrations are known to have been produced in at least seven different western European cities between 1500 and 1545.[27] Attesting to a comparably diverse, widespread production of such books as was observed for the incunabula period, these editions similarly document a continued, pervasive interest in attempting to illustrate printed texts with engravings and etchings. The essential difference in the works produced in these two periods is the new proficiency evident in the early sixteenth-century editions in combining these two distinct printing techniques.[28] Perhaps not unrelated to this phenomenon was the development of a true roller printing press in these decades – the earliest known reference to one is included in a legal document from 1540, which was composed in Antwerp, then a burgeoning center for the production of prints.[29] These observations, combined with the lack of evidence that any one of these editions was popular enough to be reprinted and imitated like the Würzburg and Eichstätt editions, support one of Hofer's recurring arguments: that at this stage, the lack of a sufficient market to support the continued production of books with intaglio illustrations was the primary factor impeding a more active production of such works, rather than practical, technical concerns.

Had publishers simply not hit upon a type of illustrated text that would appeal to a broader public, or were too many potential buyers still reluctant to pay extra

[24] Hofer 1934, p. 227. [25] For a brief overview of most of these works, see Hofer 1934, pp. 295–303.

[26] Discussions of books with intaglio illustrations from the first half of the sixteenth century are often limited to what happens to be cited in a general survey of illustrated books (cf., e.g., Levarie 1995, Harthan 1981, Bland 1969), catalogues of particular collections (although older publications, Mortimer 1964 and Mortimer 1974 are good examples for this given the extra attention to illustration in the entries and despite the periodic confusion between etchings and engravings), or sales catalogues of rare books.

[27] Consider, for example, the following publications: Domenicus Lupi, *Figurae ad devotionem excitantes de passione Christi cum alia figura rosarii virginis* (Bruges: Hendrick de Valle, 1503) (NK 3448); editions of the *Heiltumbuch*, printed in Wittenberg in 1509 (cf. Hofer 1934, pp. 298–299) and Halle in 1520 (cf. Hofer 1934, pp. 301–303) (see, e.g., the Deutsche Historische Museum of Berlin for copies of both); Thomas Aquinas, *Della purita della conscientia & del modo da confessarsi* (Florence, 1512) (cf. Bland 1969, pp. 121 and 142; and Hofer 1934, pp. 299–301); Ambrosius Leo, *De Nola* (Venice: Giovanni Rosso, 1514) (cf. Mortimer 1974, no. 255); Amadeus Berrutus, *Dialogus . . . de amicitia vera* (Rome, 1517) (Hofer 1934, p. 301; and STC Italian, p. 89); and Augustin Hirschvogel, *Ein aigentliche und grundtliche Anweysung in die Geometria* (Nuremberg: Johann vom Berg and Ulrich Neuber, 1543) (Hofer 1934, pp. 303–304; copy in, e.g., BS Munich).

[28] The primary example of difficulties in this regard is Ambrosius Leo's *De Nola* (Venice: Giovanni Rosso, 1514). In this case, while pages were left blank for the addition of the illustrations, they were ultimately printed separately and inserted, resulting in an ad hoc placement of the illustrations and an unintended waste of valuable paper (see Mortimer 1974, no. 255).

[29] See n. 15 above for sources on this legal document and ch. 2 on the print world in sixteenth-century Antwerp.

for this more costly, but nevertheless mechanically produced form of illustration? The two books that initiated the dramatic shift in the market for works with intaglio illustrations suggest that the content of the book was significant. For, the "success" of these books – Thomas Geminus's pirated edition of Andreas Vesalius's anatomical work, the *Compendiosa totius anatomiae delineatio* (London: John Herford, 1545), and a history of the kings of France, *Epitome des rois* (Lyon: Balthasar Arnoullet, 1546) – is usually measured on the following two counts. First, by the reuse of their plates for the illustration of other comparable texts and, second, by the emulation of both of these types of illustrated editions by other publishers working with their own distinct sets of intaglios. Geminus's plates, for example, were used to illustrate several other editions of this text, including two subsequent editions printed in London in 1553 and 1559, as well as Jacques Grévin's revision of it, printed by André Wechel in Paris in 1564–1565 and 1569.[30] In addition, other publishers had comparable sets of engravings made to illustrate their own anatomical editions, including: (1) Paulus Fabricius in Nuremberg for his 1551 publication of Jacob Bauman's *Anatomia Deudsch*; (2) Antonio Salamanca and Antonio Lafreri in Rome for their 1556 Spanish edition of Juan de Valverde's anatomical edition; and (3) Christopher Plantin, who had a set of plates made after the Italian engravings first used by Salamanca and Lafreri.[31] The French portrait edition of the kings of France had similar repercussions, as several related editions were printed in Lyon with many of the same plates, while other texts with engraved series of portraits were made.[32]

In the decades following the publication of these "breakthrough" editions, a wide sample of texts boasting engraved and etched illustrations appeared throughout western Europe. Accounts of these books now tend to arise in discussions concerning a specific artist's or publisher's achievements, or else in more general surveys that either highlight the evolution of particular trends in book illustration (title-pages, for example) or are devoted to specific types of texts (emblem books, for example) or collections in which editions with engraved or etched illustrations appear.[33]

It is true that during the third quarter of the sixteenth century – in contrast with the preceding decades – certain cities and even specific individuals began to dominate

[30] For a full discussion of Geminus's and related editions, see Cushing 1962, pp. 119–130. For discussions of the influence of the original Geminus plates, see, e.g., Hind 1952, pp. 39–52. On the reuse of the plates for the Parisian editions, see also Mortimer 1964, no. 541.

[31] For a brief account of the first two editions, see, e.g., Cushing 1962, pp. 132 and 146–147. For a more detailed discussion of the Italian plates, see Mortimer 1974, no. 513. See ch. 3 for an extensive discussion Plantin's anatomical editions.

[32] For the original and some subsequent French editions using this series of portraits, see, e.g., Mortimer 1964, nos. 208–209 (for the original issues), and nos. 456 and 51 for later uses of many of the same plates. For examples of other successful texts with engraved series of portraits, see, e.g., Mortimer 1964, no. 518, and Mortimer 1974, nos. 40, 100, 117, 173, and 460.

[33] For examples of studies focused on specific artists and publishers who were important figures in this stage of the evolution of engraved book illustration, see, e.g., Iwai 1986 or Seelig et al. 2001–2003, or the discussion of the work of Antonio Lafreri in Bury 2001 (which includes references to several other works devoted to Lafreri). Studies of engraved title-pages range from Alfred Johnson's original work (e.g., Johnson 1936) to Remmert 2005. For catalogues of emblem books, one of the most prominent genres that, as of the mid-sixteenth century, would boast numerous editions with intaglio illustrations, see, e.g., Adams et al. 2002 and Landwehr 1976, although these authors cannot be relied upon to distinguish between engraved and etched illustrations. For examples of other more general publications on illustrated books from the sixteenth century, see n. 26 above.

the production of texts with intaglio illustrations. Notably, while publications from Germany figured prominently in the incunabula period, this was no longer the case by the second half of the sixteenth century, when works with intaglio illustrations, such as Melchior Jamnitzer's *Perspectiva corporum regularium* (published in Nuremberg in 1568 with illustrations etched by Joost Amman), were seldom published.[34] This relative lack of editions with intaglio illustrations may be a result of a generally poor national market for such works. As we will discuss in greater detail in the chapters that follow, Plantin's editions with engravings and etchings sold well in most of western Europe except Germany, where buyers exhibited a persistent preference for books with woodcut illustrations.[35] The Low Countries – at least prior to the 1570s, when Plantin began to produce books with engraved illustrations on an unprecedented scale – similarly declined in its relative importance in this market. For while publishers from Bruges, like their counterparts in the fifteenth and early sixteenth centuries, occasionally contributed a solitary edition with etched illustrations in the mid-sixteenth century, this rate of production did not increase, as it did in cities in France and Italy. Consequently, while the then Bruges-based artist Marcus Gheeraerts I and the Bruges antiquarian Hubertus Goltzius were engaged in the production of a few editions with etched illustrations in 1557 and periodically during the 1560s, these remained the exception, rather than the rule.[36]

It was, rather, in France and Italy that the initial burst in the production of works with intaglio illustrations took place from *c.*1548 to the early 1570s. The sudden rise in importance of France in this area is particularly striking given the previous paucity of such illustrated editions. Indeed, prior to the appearance of the 1546 edition of the *Epitome des rois* in Lyon, only one other French publication with intaglio illustrations is known, namely, the 1488 French edition of Bernhard von Breidenbach's *Peregrinatio in terram sanctam*, which was similarly published in Lyon.[37] Thereafter, however, numerous such editions were printed in both Paris and Lyon in the 1550s and 1560s.[38] Although the intaglios were often successfully printed on the sheets with letterpress in the Lyon publications, in these initial Parisian editions text and illustrations were typically printed separately. Either the plates were inserted among the pages of text or else the publication consisted primarily of a large series of plates whereby the letterpress text was subordinated to a brief introduction. Thus, while the Lyon editions attest to

[34] On this and related publications, see, e.g., May 1985, pp. 161–165 and cat. nos. 756–757.
[35] See also appendix 3.
[36] For a more extensive discussion of Goltzius's editions and Gheeraerts's illustrations to Edward de Dene's *De warachtighe fabulen der dieren* (Bruges: Pieter de Clerck for Marcus Gheeraerts I, 1567), see ch. 5.
[37] See, for example, GW, IV (1930), no. 5080, and Von Arnim 1984, no. 85, for this publication.
[38] Consider, for example, Leonard Thiry, ed. by J. de Mauregard, *Livre de la conqueste de la toison d'or* (Paris: 1563) (Mortimer 1964, nos. 519–520); Jacques Androuet du Cerceau, *Livre d'architecture* (Paris: B. Prévost, 1559) (Mortimer 1964, no. 22); and A. Wechel's anatomical editions discussed in ch. 3, as well as Pierre Woeiriot, *Pinax iconicus antiquorum ac variorum in sepulturis rituum ex Lilio Gregorio excerpta* (Lyon: printed for C. Baudin, 1556) (Mortimer 1964, no. 555); Georgette de Montenay, *Emblemes ou devises chrestiennes* (Lyon: J. Marcorelle, 1567 and 1571) (see Adams 2000 for the 1567 edition and Mortimer 1964, no. 380, for the better-known 1571 edition); and Nicolas de Nicolay, *Les quatre premiers livres des navigations et peregrinations orientales* (Lyon: G. Rouillé, 1568) (Mortimer 1964, no. 386). Jacques Besson's *Instrumentorum et machinarum liber primus* is also dated to this period (*c.*1569) and is believed to be a rare example of the production of a work with intaglio illustrations in Orléans (see Mortimer 1964, no. 56).

the ability of both text printers and print workshops to work together to create a real integration of the two media, the Parisian editions suggest a continued de facto separation of the two realms of printing that must have impeded, at least temporarily, a more varied production of books with intaglio illustrations.[39]

Italy's flourishing production of books illustrated with engravings or etchings comes as less of a surprise, although there were some significant shifts in the centers of production of such works. For example, while Florence had been home to a couple of fifteenth-century printers – in particular, Nicolò di Laurenzo – who are known for their early endeavors to produce works with intaglio illustrations, it was not until the 1580s that other Florentine printers – in particular, members of the Giunti family – took up the production of such works again.[40] Similarly, while one Bolognese edition with engraved illustrations is known from 1477, very few have been documented from the mid-sixteenth century either.[41] It was, rather, Venice and Rome – famous, respectively, for the printing of books and the printing of engravings – that would dominate this production from the 1550s to the early 1570s.[42]

Venice's unheralded emergence as an important center for the printing of books with engraved illustrations is noticeably reminiscent of Lyon's. While neither can be credited with any significant contributions to the development of this aspect of book illustration in the preceding decades, in both cities the combination of an established, significant body of book printers and a growing group of engravers or etchers evidently gave rise to the ready publication of numerous richly illustrated editions for the new emerging market for books with intaglio illustrations. The number of distinct printers and artists engaged in the production of the Venetian editions attests to the great potential of the city in this area of book production in mid-sixteenth-century Europe. However, some have seen a potential decline in the prosperity of printing and the graphic arts in Venice around 1575–1577 when the plague rampaged the city.[43]

In contrast to Venice, Rome both gave rise to some of the original fifteenth-century editions with engraved illustrations and was subsequently home to entrepreneurs who were influential in the development of professional print publishers.[44] Consequently,

[39] See Martin 1954, p. 257, for similar conclusions regarding the Parisian editions, although he credits the lack of true engraved text illustrations to a simple preference for woodcuts in Paris at that time.

[40] For examples of some of the editions with intaglio illustrations published by Filippo and Jacopo Giunti in Florence as of 1579, see, e.g., Mortimer 1974, nos. 83 and 223.

[41] Consider, a 1477 edition of Ptolemaeus's *Cosmographia* printed by Dominicus de Lapis (see von Arnim 1984, no. 280), and a 1555 edition of Achille Bocchi's *Symbolicarum quaestionum libri quinque* (see Mortimer 1974, no. 76).

[42] On Rome's leading position in the area of engraved prints and Venice's own growing importance in the same in mid-sixteenth-century Italy, see Bury 2001, pp. 121–131 and 171–174. On Venetian book production, see, e.g., Grendler 1977 and di Filippo Bareggi 1994 for a more recent re-evaluation of the subject.

[43] A few of the better-known Venetian publications include: Enea Vico, *Le imagini delle donne auguste. Libro primo* (Venice: Enea Vico and Vincenzo Valgrisi, 1557); Girolamo Ruscelli, *Le imprese illustri* (Venice: Francesco Rampazetto [for Damiano Zenaro], 1566); and Giovanni Battista Mutiano, *Il primo libro di fogliami antiqui* (Venice: Giovanni Francesco Camocio, 1571). These and several other editions with intaglio illustrations published between 1548 and 1570 (the year in which Plantin's production of editions with intaglio illustrations began in earnest) are described in Mortimer 1974, nos. 15, 104, 108, 197, 316 (Mutiano's study), 318, 404, 449 (Ruscelli's work), 460, 467, 475, 532–533 (Vico's *Imagini*), and 556. On Venice's ascribed decline, cf. Bury 2001, pp. 174–175.

[44] The earliest known Roman edition with intaglio illustrations is a 1478 edition of Ptolemaeus's *Cosmographia*, printed by A. Buckinck (see, e.g., Hofer 1934, pp. 214–215, and Von Arnim 1984,