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# Notes (and Transposing Notes) On the Transverse Flute In the Early Sixteenth Century

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**S**URPRISINGLY LITTLE INFORMATION survives in treatises on music about the way transverse flutes were tuned and played in the first half of the sixteenth century.<sup>1</sup> Sebastian Virdung, in his not altogether enlightening little textbook, *Musica getuscht* (1511), included an illustration of a single transverse flute, but he did not describe the instrument or its playing technique in any detail.<sup>2</sup> In fact, he mentioned the flute in his text only in passing, where he described the field drums played by soldiers, usually with *Zwerchpfeiffen*. In this context, of course, *Zwerchpfeiff* means fife rather than transverse flute; Virdung and other sixteenth-century writers used the same word for both instruments. So it is not absolutely clear that Virdung even knew the transverse flute as an instrument suitable for soft chamber music.

Transverse flutes probably took part regularly in the performance of courtly secular music in the fifteenth and early sixteenth centuries—at least in northern Europe—although relatively few pictorial or archival documents of the time offer unambiguous testimony to prove that hypothesis. It is true that a number of fourteenth-century pictures and references in French and German literature show that the instrument was well known at that time in northern Europe.<sup>3</sup> A few of the pictures, such as

1. As various modern commentators have pointed out, among them Joscelyn Godwin, "The Renaissance Flute," *The Consort* 28 (1972): 70–81; Raymond Meylan, *La Flute* (Lausanne: Payot, 1974); Bernard Thomas, "The Renaissance Flute," *Early Music* 3 (1975): 2–10; David Munrow, *Instruments of the Middle Ages and Renaissance* (London: Oxford University Press, 1976), pp. 53–56; Anne Smith, "Die Renaissancequerflöte und ihre Musik, Ein Beitrag zur Interpretation der Quellen," *Basler Jahrbuch für Historische Musikpraxis* 2 (1978): 9–76; and Jane Bowers, "*Flauto traverso* and *Flute d'Allemagne*—The Development of Flute Playing in France from the Late Middle Ages up through 1702," *Recherches sur la musique française classique* 19 (1979): 7–49.

2. Sebastian Virdung, *Musica getuscht* (1511), facs. ed. by Klaus Wolfgang Niemöller (Cassel and Basel: Bärenreiter, 1970). The most recent study of Virdung is Edwin M. Ripin, "A Reevaluation of Virdung's *Musica getuscht*," *Journal of the American Musicological Society* 29 (1976): 189–223, who draws attention to Virdung's shortcomings. The flute is illustrated in Virdung, fol. Biii<sup>r</sup>, and "zwerch pfeiffen" are mentioned in fol. Civ<sup>v</sup>.

3. For examples of transverse flutes in fourteenth-century art and literature, see, in ad-

those illustrating the Lieder of the Minnesänger in the so-called Manesse Manuscript, make it clear that the transverse flute played a role in the performance of secular music in a courtly atmosphere.<sup>4</sup> But fifteenth-century pictures offer no such assurances about the musical repertory entrusted to the instrument. Early in the century a few Franco-Flemish angels with transverse flutes appear among the crowds of angels that people the periphery of various illuminations in books of hours and Bibles.<sup>5</sup> A few fifteenth- or early sixteenth-century pictures show a flute (or rather a fife) being played with a drum by soldiers on military exercises, or at tournaments, as in fig. 1,<sup>6</sup> or by minstrels at dances or banquets, as in fig.

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dition to the studies cited in note 1 above, Howard Mayer Brown, "Flute," *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980), 6:664–81. Brown, "Trecento Angels and the Instruments They Play," *Modern Musical Scholarship*, ed. Edward Olleson (Stockfield: Oriel Press, 1980), pp. 112–40, argues that the complete absence of transverse flutes in trecento paintings that show all instruments praising God strongly suggests that the instruments were unknown in Italy at the time.

4. Musicians playing transverse flutes to accompany dancing, and perhaps also singing, may be seen in *Die Manessische Lieder Handschrift*, facs. ed. (Frankfurt am Main: Insel Verlag, 1925–27), fols. 413<sup>v</sup> and 423<sup>v</sup>. See also the reproductions from this manuscript in Robert Haas, *Aufführungspraxis der Musik* (Wildpark-Potsdam: Akademische Verlagsgesellschaft Athenaiion, 1931), opp. p. 80; Heinrich Bessler, *Die Musik des Mittelalters und der Renaissance* (Potsdam: Akademische Verlagsgesellschaft Athenaiion, 1937), p. 175; Karl Michael Komma, *Musikgeschichte in Bildern* (Stuttgart: Alfred Kröner Verlag, 1961), nos. 102, 103, and 105, and the studies cited in note 1, among other places.

5. See, for example, (1) the Annunciation in the *Belles Heures du duc de Berry* (illuminated by the Limbourg brothers in the first decade of the fifteenth century), now in New York, Metropolitan Museum MS 54.1.1, fol. 30, reproduced in Millard Meiss, *The Limbourgs and their Contemporaries*, 2 vols. (London: Thames and Hudson, 1974), 2: pl. 410; Meiss, *French Painting in the Time of Jean de Berry: The Late Fourteenth Century and the Patronage of the Duke*, 2 vols. (London: Phaidon, 1969), 2: pl. 779; Meiss, *French Painting in the Time of Jean de Berry: The Boucicaut Master* (London: Phaidon, 1968), pl. 126; and *The Belles Heures of Jean, Duke of Berry*, ed. Millard Meiss and Elizabeth H. Beatson (New York: George Braziller, 1974), fol. 30; (2) St. Jerome in his study, in the *Bible moralisée* painted by the Limbourg brothers, now in Paris, Bibliothèque nationale MS fonds fr. 166, fol. A, reproduced in Meiss, *Limbourgs*, 2: pl. 357; and (3) Christ in Glory in the *Heures de Turin* (now destroyed), painted by the Parent Master and his workshop, reproduced in Meiss, *French Painting . . . Late Fourteenth Century*, pl. 38. These paintings clearly reflect a continuation of the late fourteenth-century tradition of depicting music-making angels (including some playing transverse flute) in the margins of manuscripts, seen in such manuscripts as the *Belleveille Breviary* and the *Hours of Jeanne d'Evreux* (both of which include flutes). For two other flute-playing angels of the late fourteenth century, see Meiss, *French Painting . . . Late Fourteenth Century*, pll. 95 and 180.

There is at least one flute-playing Spanish angel in a late fourteenth- or early fifteenth-century painting of the Virgin and Child by a follower of Juan Daurer. The painting, in the church of St. Maria del Puig in Pollensa, is reproduced in Chandler R. Post, *A History of Spanish Painting*, 14 vols. in 20 (Cambridge, Mass.: Harvard University Press, 1930–66), 3: pl. 309.

6. An engraving by Master MZ (probably Matthäus Zaisinger), showing a tournament in

2.<sup>7</sup> The tradition of depicting the transverse flute regularly as a chamber instrument seems to begin with the illuminations showing a trio of evidently upper-class people—a lady singing, a second person playing lute, and a third either flute or recorder—making music in a small boat. Such pictures illustrate the month of May in calendars that preface Flemish books of hours, such as that shown in fig. 3.<sup>8</sup> A single flute can be seen, too,

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Munich in 1500, and reproduced in *Fifteenth Century Engravings of Northern Europe from the National Gallery of Art, Washington, D.C., December 3, 1967–January 7, 1968*, Exhibition Catalogue by Alan Shestack (Washington, D.C.: National Gallery of Art, 1967), pl. 153.

Other soldiers playing fife and drum on military exercises are shown in two Swiss manuscript illuminations from the last third of the fifteenth century, reproduced in Edmund Bowles, *Musikleben im 15. Jahrhundert* (Leipzig: VEB Deutscher Verlag für Musik, 1977), pll. 69 and 70; in another engraving dated 1500 by Master MZ, reproduced in *Fifteenth Century Engravings*, pl. 151; in an engraving dated 1499 by Master PPW of Cologne, reproduced in *Ausstellung Maximilian I. Innsbruck, 1. Juni bis 5. Oktober 1969* (Innsbruck: Verlagsanstalt Tyrolia, 1969), pl. 15; and in two early sixteenth-century woodcuts by Hans Burgkmair, reproduced in Georg Hirth, *Kulturgeschichtes Bilderbuch aus drei Jahrhunderten*, 3 vols. (Leipzig, 1882), 1:130 and 132.

7. A woodcut by Master CA (ca. 1500), reproduced in Sir Frank Crisp, *Mediaeval Gardens* (London, 1924; repr. New York: Hacker Art Books, 1966), fig. 110, and in *Die Musik in Geschichte und Gegenwart* 5: cols. 1555–56. It was originally published in Marsilio Ficino, *Das Buch des Lebens* (Strasbourg, 1509).

Master MZ also made an engraving of a ball in Munich in 1500, which shows several couples dancing to the accompaniment of two musicians playing fife and drum in a gallery. It is reproduced in Bowles, *Musikleben*, pl. 39; *Fifteenth Century Engravings*, pl. 152, and Robert Wangermée, *La musique flamande dans la société des XVe et XVIe siècles* (Brussels: Éditions Arcade, 1965), pl. 60. Bowles, *Musikleben*, p. 160, also reproduces a woodcut by Michael Wolgemut, showing four couples dancing outdoors to fife and drum. The woodcut was printed in *Der Schatzbehälter* (Nuremberg, 1491) and in Hartmann Schedel's *Weltchronik* (Nuremberg, 1493) among other places, and it was used as a model for a wall painting in the Knights' Hall in the Castle of Zvikov in Czechoslovakia. The wall painting is reproduced in Tomislav Volek and Stanislav Jares, *Dejiny Ceske Hudby v Obrazech* (Prague: Editio Supraphon, 1977), pl. 88, who also reproduce as pl. 92 a woodcut of a fife player accompanying a couple dancing in a tavern from a Czech book published in 1505. Soldiers playing fife and drum appear also in the margins of the Grimani Breviary of about 1500, now in Venice, Biblioteca Nazionale Marciana; the page showing fife and drum players is reproduced in *Le Bréviaire Grimani à la Bibliothèque Marciana de Venise*, ed. Salomone Morpurgo, Scato de Vries and Giulio Coggiola (Leiden: A. W. Sijthoff, 1903), pl. 22. In the early sixteenth century, Hans Burgkmair also made several woodcuts showing minstrels playing fife and drum at a dance, while street entertainers do acrobatic tricks, and for a court entertainment for Emperor Maximilian I. These are reproduced, among other places, in Hirth, *Kulturgeschichtliches Bilderbuch*, 1:490, 1:399 and 1:101 (Maximilian's *Mummenschanz* is also reproduced in Wangermée, *Musique flamande*, pl. 62).

8. From Munich, Bayerische Staatsbibliothek Cod. lat. 23,638, fol. 6<sup>r</sup>, an early sixteenth-century Flemish calendar, described and reproduced in Georg Leidinger, *Miniaturen aus Handschriften der kgl. Hof- und Staatsbibliothek in München*, vol. 2: *Flämischen Kalender* (Munich: Riehn und Tietze, s. d.), pl. 10. Note, however, that a drummer stands in the boat along with the musical trio (or quartet?). (Pl. 24 shows a couple dancing to fife and drum,



FIGURE 1. Master MZ. The Tournament. Engraving. Washington, D.C. National Gallery of Art.

and pl. 25 people being led home from an evening entertainment by a fifer and a drummer.)

Other trios consisting of singer, lute and transverse flute in a boat appear in calendars of books of hours in the following manuscripts: (1) Brussels, Bibliothèque royale MS II.158, fol. 5<sup>v</sup>, the so-called *Heures de Notre Dame dites de Hennessy*, painted ca. 1540, and reproduced in Bowles, *Musikleben*, pl. 93, and Wangermée, *Musique flamande*, pl. 46; and (2) New York, Pierpont Morgan Library MS M.52, fol. 4, a Flemish Breviary, probably prepared for Queen Eleanor of Portugal, whose arms appear on the first folio.

Brussels, Bibliothèque royale MS IV.90, one of the recently recovered partbooks that belongs with the Tournai Chansonier, shows a similar trio but with the third person playing recorder rather than flute. The page is reproduced in Wangermée, *Musique flamande*, pl. 48, and in my essay "Instruments and Voices in the Fifteenth-Century Chanson," in *Current Thoughts in Musicology*, ed. John W. Grubbs (Austin, Texas and London: University of Texas Press, 1976), pl. 9, where the problems of performing chansons with this combination are outlined. I also list there several other similar trios with recorder rather than flute; the list could easily be extended.

Shepherds are seen playing transverse flutes in two early fifteenth-century miniatures reproduced in Meiss, *Limbourg*, 2: pl. 235 and 237, but they are illustrations of Virgil's *Eclogues*, and may well reflect ancient tradition, or the artist's conception of ancient tradition, rather than social reality.

Further illustrations of fifteenth-century transverse flutes are listed in Edmund Bowles,

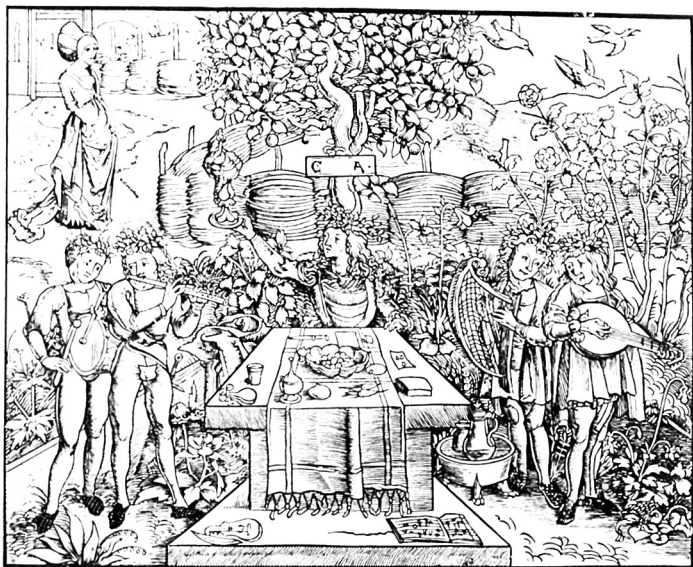


FIGURE 2. Master CA. Woodcut from Marsilio Ficino, *Das Buch des Lebens* (Strasbourg: J. Grüninger, 1509).

among the instruments supplying music at banquets in Franco-Flemish paintings showing the prodigal son among whores;<sup>9</sup> and a series of paintings showing a trio of genteel ladies (one singing and the others playing flute and lute) seems to have been produced in quantity in Flanders during the first half of the sixteenth century. At least some of these pictures were for export to France where they were said to have hung traditionally

<sup>9</sup> "A Checklist of Musical Instruments in Fifteenth Century Illuminated Manuscripts at the British Museum," *Notes* 29 (1973): 694–703, and Bowles, "A Checklist of Musical Instruments in Fifteenth Century Illuminated Manuscripts at the Bibliothèque Nationale," *Notes* 30 (1974): 474–91.

9. On paintings showing the prodigal son at banquets, with one person playing a transverse flute, see H. Colin Slim, *The Prodigal Son at the Whores': Music, Art and Drama* (Irvine, California: University of California, Irvine, 1976). One of the paintings is reproduced in Wangermée, *Musique flamande*, pl. 67. The paintings with the transverse flute seem all to date from the 1530's, 1540's, or even later.

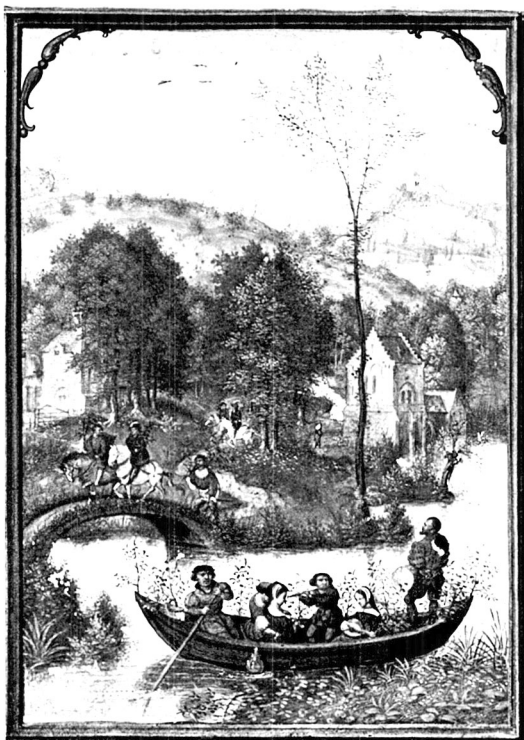


FIGURE 3. Munich, Bayerische Staatsbibliothek, Cod. Lat. 23.638, fol. 6<sup>v</sup>. The month of May in a calendar from a sixteenth-century Flemish book of hours.

in inns and taverns.<sup>10</sup> The Flemish ladies are shown performing from legible notation real chansons such as Claudin de Sermisy's "Jouissance vous donneray," first published by Pierre Attaignant in Paris in 1529.

10. This trio of ladies is reproduced widely. H. Colin Slim, "Paintings of Lady Concerts and the Transmission of 'Jouissance vous donneray,'" *Imago Musicae* 1 (1984): 51–73, the most complete study of the ladies to date, compares in detail four versions of the painting: the best-known copy in the Harrach Gallery at Rohrau along with versions in Leningrad (Hermitage Museum), a private collection in Brazil, and one formerly in the Ducal Castle at Meiningen. He dates the paintings ca. 1520–1525. Slim includes an edition of Claudin's "Jouissance vous donneray" and cites previous studies of the paintings.

The numerous pictures from the first half of the sixteenth century showing flutes as chamber instruments began to appear at just about the same time as the only two surviving volumes of music in which a substantial number of compositions are singled out as especially appropriate for the instrument. In 1533, the Parisian music publisher Pierre Attaignant issued two volumes of chansons, *Chansons musicales a quatre parties* and *Vingt et sept chansons musicales a quatre parties*, in which the title pages explain that the compositions marked with an "a" are better ("plus convenables") on flutes, those marked "b" better on recorders, and those marked "ab" equally appropriate for either instrument.<sup>11</sup> Anne Smith, who has recently published a list of the contents of the two volumes with the range and clef of each of the surviving parts, has also described in some detail a copy of Georg Forster's *Frische teutsche Liedlein* (Nuremberg, 1552), in which manuscript annotations single out some individual parts as especially good on the flute ("zwerch pfeiff gut," "gut zwerch," or some such), recorder ("gut flöt" or "gudt fleidt" or some such), bagpipe ("gut sackpfeiff" or something similar) and fiddle (if that instrument is meant by "gut leyren").

11. Attaignant's two volumes are described, and the contents listed, in Daniel Hertz, *Pierre Attaignant, Royal Printer of Music* (Berkeley and Los Angeles: University of California Press, 1969), pp. 250–53; Howard Mayer Brown, *Instrumental Music Printed Before 1600, A Bibliography* (Cambridge, Mass.: Harvard University Press, 1965), pp. 43–45; and Smith, "Renaissancequerflöte," pp. 64–67. These two volumes were neither the only music Attaignant published in which transverse flutes were singled out for mention, nor the earliest chansons explicitly for flutes. Quite aside from volumes like the Arnt von Aich *Liederbuch* (RISM [1519]<sup>3</sup>), in which the music is described as "lustick zu syngen. Auch etlich zu fleiten, schwegelen und anderen musicalisch Instrumenten artlichen zu gebrauchen," Lawrence F. Bernstein, "The Bibliography of Music in Conrad Gesner's *Pandectae* (1548)," *Acta musicologica* 45 (1973): 119–63, lists two volumes of music for flutes (both now lost), after a mid-sixteenth-century bibliography: item 156, p. 148: "Viginti cantiunculae Gallicae 4. vocum, excusae Argentorati apud Petrus Schoeferus 1530. in 12. per transversum, maiori forma folii, chartis 16," (which he points out is the same as his item 285), and item 282, p. 158: "Quarante & quatre chansons a deux, ou duo, chose delectable aux fleustes. Petrus Attaignans excudebat Parisiis." Daniel Hertz, "Au pres de vous—Claudin's Chanson and the Commerce of Publishers' Arrangements," *Journal of the American Musicological Society* 24 (1971): 213–14, cites a royal privilege Attaignant received in 1531 to protect his publications, including his "tablatures . . . des jeux de flustes."

Another volume of music for transverse flute was published in 1558 by Simon Gorlier in Lyons, but it does not survive today. His *Livre de Tabulature de flutes d'Allemand* is described in Brown, *Instrumental Music*, p. 180.

Attaignant's three anthologies and those for flute published by Peter Schoeffer in Strasbourg and Simon Gorlier in Lyons, together with the increase in the number of pictures of lady concerts, boating parties, and flutes in mixed consorts, suggests that the flute enjoyed a great vogue from about 1520 on, both as an instrument to mix with other families of instruments and with voices, and as an instrument to play in unmixed consorts. On the possibility that conventions differed depending on the way the flute was used, see footnotes 25 and 46 below.



She has also published a list of the other music from the sixteenth and early seventeenth centuries in which transverse flutes are assigned particular parts.<sup>12</sup> Attaignant's volumes of chansons appear to have been intended for quartets of flutes or recorders, an ensemble that apparently was cultivated more in France than in Germany during the first half of the sixteenth century, if François de Scépeaux, sieur de Vielleville and maréchal of France, is to be believed. Scépeaux wrote, after an evening of chamber music in Metz in 1554, that he could not understand why the instrument was called a German flute, "for the French play them better and more musically than any other nation; and they are never played a 4 in Germany, as they normally are in France."<sup>13</sup>

The flute figures prominently, too, in the anthology of "plusiers singularités" (which includes the Lord's Prayer in a number of exotic languages; a fascinating series of architectural drawings of parts of the Cathedral at Reims, Notre Dame de Paris, the Sainte Chapelle, and various other buildings; a number of astronomical and astrological drawings; and a collection of musical instruments, shown alone and in whole and mixed consorts) compiled by François Merlin, *contrôleur général* for the household of Marie Elizabeth, only daughter of Charles IX. It was written out between 1583 and 1587 in an exceptionally elegant calligraphic hand by Jacques Cellier, a resident of Reims. In the section on musical instruments, dated 1585, Cellier includes not only an "Accord de luth, violle, harpe, & flutte" (fig. 4), played by *putti*, but also an "accord de flutes d'allemand" (fig. 5).<sup>14</sup> We should not, however, be so dazzled by the charm of the drawing

12. Smith, "Renaissancequerflöte," pp. 68–76.

13. *Nouvelle collection des mémoires pour servir à l'histoire de France, depuis le XIII<sup>e</sup> siècle, jusqu'à la fin du XVIII<sup>e</sup>*, vol. 9: *Mémoires de la vie de François de Scépeaux*, ed. Michaud and Poujoulat (Paris, 1838), p. 204. Scépeaux's evening in Metz involved making music with two singers (soprano and bass), and an ensemble consisting of harpsichord, lute, treble viol and flute, presumably a typical ensemble with single flute and other instruments and voices. In the original, Scépeaux's remark reads:

Mais il l'entretenoit parfaite et en prince; car avecques ung dessus et une basse-contre, il y avoit une espinette, ung joueur de luth, dessus de viole, et une fleute-traverse, que l'on appelle à grand tort fleuste d'allemand; car les Français s'en aydent mieulx et plus musicalement que toute aultre nation; et jamais en Allemagne n'en fust joué à quatre parties, comme il se fait ordinairement en France.

14. Figs. 4 and 5 are taken from Paris, Bibliothèque nationale MS fonds fr. 9152, pp. 163 and 174. On the treatise of Merlin and Cellier, see Thurston Dart, "Some Sixteenth-Century French Drawings," *Galpin Society Journal* 10 (1957): 88–89 and pll. VI and VII; and Susi Jeans and Guy Oldham, "The Drawings of Musical Instruments in MS Add. 30342 at the British Museum," *Galpin Society Journal* 13 (1960): 26–31.



FIGURE 4. Paris, Bibliothèque Nationale, MS fonds fr. 9152, p. 174. "Accord de luth, violle, harpe, & flutte."

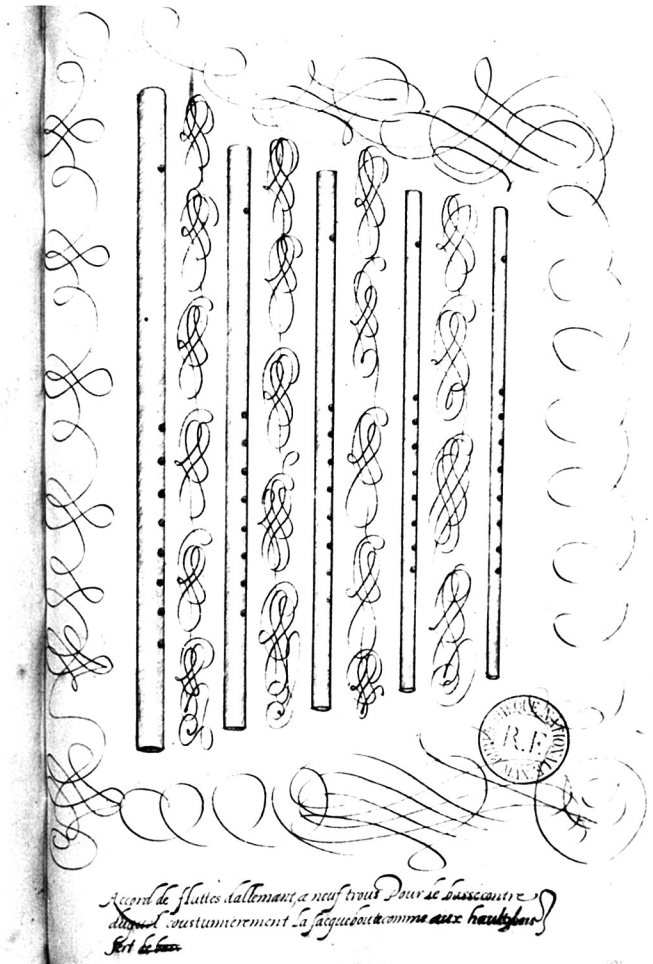


FIGURE 5. Paris, Bibliothèque Nationale, MS fonds fr. 9152, p. 174. "Accord de flutte d'allemanr."

that we take what information Cellier has to give us absolutely literally. It seems improbable, for example, in the face of the overwhelming evidence to the contrary, that there could have been five different sizes of flute in common use in 1585, and quite unlikely that they should all have had the eight fingerholes depicted by Cellier. His statement, on the other hand, that consorts of flutes, like consorts of shawms ("hautbois"), often used as their bass a sackbut, seems entirely plausible, especially since that convention is mentioned by various later writers as well.

In short, either the flute was played in chamber ensembles more regularly in the sixteenth century than it had been before, or else it was more often described by writers and depicted by artists of the time. In either case, it would be good to know how it was used during that period so that we could have a clearer image of the sonority of a particular kind of music; and explaining tuning and transposition on the flute might help us to understand better the general (and presumably widespread) conventions of transposition. For information on these subjects, we are forced to turn to Martin Agricola, for he is the only writer to furnish details about performing on the flute before Philibert Jambe de Fer described the instrument in his treatise of 1556.<sup>15</sup> After Jambe de Fer, no other writer took up the instrument and its technique until the 1590s, when Zacconi included some information about it in his *Prattica di musica*,<sup>16</sup> and in the

15. Martin Agricola, *Musica instrumentalis deudsch* (Wittenberg, 1528/29) has been reprinted in quasi-facsimile in *Publikation älterer praktischer und theoretischer Musik-Werke*, vol. 20 (Leipzig: Breitkopf und Härtel, 1896) along with the fourth, revised edition of 1545. All references are to the Leipzig facsimile. The section on recorders and flutes (after both the 1529 and the 1545 editions) has been translated into English in William E. Hettrick, "Martin Agricola's Poetic Discussion of the Recorder and Other Woodwind Instruments," *The American Recorder* 21 (1980): 103–13, 23 (1982): 139–46, and 24 (1983): 51–60. The translation offered in William S. Hollaway, "Martin Agricola's *Musica instrumentalis deudsch*: Translation and Commentary," Ph.D. dissertation, North Texas State University, 1972, is not reliable.

Philibert Jambe de Fer, *Épitome musical des tons, sons et accordz, es voix humaines, fleustes d'alleman, Fleustes à neuf trous, Violes, & Violons* (Lyons, 1556) is reprinted in facsimile in François Lesure, "L'Épitome musical de Philibert Jambe de Fer (1556)," *Annales musicologiques* 6 (1958/63): 341–86.

Hieronymus Cardanus, in his *De musica* written about 1546 and in his *De musica* completed in 1574, mentions the transverse flute (which he calls *fifola* or *fistula*); but he offers detailed information only about the recorder (which he calls *flautus* or *elyma*). Evidently, he did not know the flute well, for in one passage he claims that it has a range of only nine tones, while in another he explains how to play the upper register. See Cardanus, *Writings on Music*, translated and edited with an introduction by Clement A. Miller (American Institute of Musicology, 1973), esp. pp. 51, 113, 115 and 191.

16. Lodovico Zacconi, *Prattica di musica*, 2 vols. (Venice, 1592–1622) is reprinted in facsimile by Forni (Bologna: Forni, 1967). What meager information Zacconi gives on the transverse flute is to be found in the section on instruments, 1:212–19. He mentions only the transverse flute "in D."

following decades the flute was treated in varying amounts of detail by Aurelio Virgiliano,<sup>17</sup> Michael Praetorius,<sup>18</sup> Marin Mersenne<sup>19</sup> and Pierre Trichet.<sup>20</sup>

Modern writers have been quick to assume that the remarks by Praetorius, Mersenne, and the other late sixteenth- and seventeenth-century writers can be applied directly and without reservation to instruments and music of an earlier period. That assumption is not necessarily true and must be tested at every step along the way. In any case, we should exhaust what information we can glean from writers who lived during the first half of the century, before we try to apply statements printed almost a hundred years later to that music. Therefore, we first need to know what Agricola wrote—and what he meant—for he did offer important and fairly detailed information about the transverse flute, even if his exposition of the material is confusing and unclear (as he himself admitted in the introduction to the second and completely revised edition of his treatise<sup>21</sup>), so that his meaning has been misunderstood in the past.

Agricola published his *Musica instrumentalis deutsch* in 1528 or 1529 as an elementary instruction book both for his young students at the Protestant Latin school run by the city of Wittenberg and for laypeople and lovers of

17. Aurelio Virgiliano's *Il Dolcimelo*, surviving only in manuscript in Bologna, Civico Museo Bibliografico Musicale, is printed in facsimile by Marcello Castellani (Florence: Studio per Edizioni Scelte, 1979). Aurelio gives a fingering chart for the flute "in D" on p. 109, with indications of how the player can substitute one clef for another in order to transpose to any scale degree. On Aurelio's manuscript, see Imogene Horsley, "The Solo Ricercar in Diminution Manuals: New Light on Early Wind and String Techniques," *Acta musicologica* 33 (1961): 29–40.

18. Michael Praetorius, *Syntagma musicum*, vol. 2: *De Organographia* (Wolfenbüttel, 1619) is reprinted in facsimile by Wilibald Gurlitt (Cassel and Basel: Bärenreiter, 1958). The first and second parts of the volume are translated into English by Harold Blumenfeld as *The Syntagma Musicum of Michael Praetorius. Volume two. De Organographia. First and Second Parts* (2nd ed., New York: Bärenreiter, 1962), and by David Z. Crookes as *Michael Praetorius. Syntagma Musicum II. De Organographia. Parts I and II* (Oxford: Clarendon Press, 1986).

19. Marin Mersenne, *Harmonie universelle* (Paris, 1636) is reprinted in facsimile with an introduction by François Lesure, 3 vols. (Paris: Centre National de la Recherche Scientifique, 1963). The books on instruments are translated into English by Roger E. Chapman in Marin Mersenne, *Harmonie universelle. The Books on Instruments* (The Hague: Martinus Nijhoff, 1957).

20. Trichet's treatise, surviving only in manuscript in Paris, Bibliothèque Sainte-Geneviève, was completed after 1638 and before 1644 (the approximate date of Trichet's death). The treatise has been printed in a modern edition in François Lesure, "Le Traité des instruments de musique de Pierre Trichet," *Annales musicologiques* 3 (1955): 283–87 and 4 (1956): 175–248.

21. Agricola, *Musica*, 1545 edition, fol. A3, describes the first edition as "zutunckel und schwer zu verstehen" ("too obscure and hard to understand").

music in general.<sup>22</sup> Because he had such modest aims, happily for us, he explained many of the basic assumptions that sixteenth-century musicians took for granted, but that we need to have spelled out for us explicitly. In teaching a general audience about musical instruments, Agricola organized his treatise into three sections: one on winds, one on strings, and one on percussion instruments. When he came to publish his greatly expanded and reorganized second edition in 1545, even the overall organization was different. The 1545 edition contains five chapters: (1) on wind instruments; (2) on three kinds of fiddles (Italian, Polish, and small three-stringed *Geigen*); (3) on the lute and monochord (with special emphasis on placing the frets, that is, on establishing the temperament); (4) on the proportions of organ pipes and hammers; and (5) on miscellaneous instruments (harp, psaltery, xylophone and dulcimer).

Winds thus take pride of place in Agricola's treatment of musical instruments, and foremost among the wind instruments Agricola deals with recorders and flutes. Most of the space is given over to a brief description of the instruments and their playing technique. Each type is illustrated, and Agricola includes diagrams giving ranges and fingering. These diagrams are set up in the first place for recorders and flutes, but those for recorder include information about other instruments as well, especially shawms and crumhorns.

Agricola explains that there were three sizes of recorders—bass, tenor/alto, and discant—tuned, like most other winds, a fifth apart. The lowest notes of the three sizes are given in example 1; their almost fully chromatic ranges extend an octave and a sixth or seventh above their lowest notes. Fig. 6 shows Agricola's fingering chart for tenor recorder, taken from the 1530 printing of the first edition.<sup>23</sup> It shows at the bottom of the page a tenor recorder "in C" fingered for its note *g'* (an octave and a fifth above the lowest written note), and it gives the top of the tenor crumhorn's range and a special fingering for the ninth above the lowest note on the tenor shawm or *Bomhart*. But the main part of the diagram is taken up (reading from right to left) with vertical columns for the

22. Agricola, *Musica*, 1529 edition, fol. A2, writes that he has had his book published for "der jugent und allen andern auch leyen und ungelerten, die nur lesen können" ("youths and all others including laymen and the unlearned who only know how to read").

23. Agricola, *Musica*, 1530 edition (in Washington, Library of Congress), fol. B1<sup>v</sup>. The 1529 edition contains a mistake on this and the following page (see the Leipzig facsimile of 1896), as the editor, Robert Eitner, points out on pp. 287–88. The 1529 edition confused the fingering charts for discant and tenor/alto recorders, a mistake corrected during the press run in some copies.

A. As their bottom notes are written:



B. As their bottom notes would actually sound  
(if they were tuned to modern pitch standards):



EXAMPLE 1. Agricola's three sizes of recorder.

solmisation syllables of each note in the tenor recorder's range, the fingers that must be lifted up to produce the notes, the note names according to letters of the alphabet (C, D, E, F, and so on), the available accidentals (note that they are all to be solfeged as *fa*), their fingerings, and finally, in the left column, the clefs (F, C, and G) that serve as orientation for the reader.

It is important to note that what Agricola has to say about recorder fingerings has nothing to do with absolute pitches. We can never learn from such diagrams anything about absolute pitch levels, or what pitches instruments were actually tuned to.<sup>24</sup> Indeed, the greatest difficulty in associating surviving instruments with information given about them by sixteenth-century writers is that we can never be certain how the surviving instruments were said to be tuned.<sup>25</sup> Instead, what Agricola writes about is

24. On the difficulty of knowing for certain the absolute pitch levels used in the past, see Arthur Mendel, "Pitch in Western Music Since 1500, A re-examination," *Acta musicologica* 50 (1978): 1–93, who cites past studies of the subject.

On the pitches of surviving sixteenth-century flutes, see Rainer Weber, "Some Researches into Pitch in the 16th Century with Particular Reference to the Instruments in the Accademia Filarmonica of Verona," *Galpin Society Journal* 28 (1975): 7–10.

25. Thomas, "Renaissance Flute," pp. 2–10, makes the astute observation that Praetorius's plates seem to show flutes in larger sizes than would be appropriate for instruments tuned *g*, *d'* and *a'*. He suggests that flutes in the sixteenth century may regularly have sounded pitches approximating modern *f*, *c'* and *g'*. His suggestion that sixteenth-century flutists may therefore have transposed pieces in G-Dorian down a whole step is ingenious but, as he admits, it is not supported by any historical evidence.

Agricola (at least by implication in the 1545 edition of his treatise) and later writers (including Praetorius) all agree in stating that flutes were said to be in "g," "d'" and "a'" (some

Der Frotupphode  
 ner stel.  
**Zeno? Zaltus**

	\$643	bb	fa	i	h	\$654	321	mi	
	\$5321	gr	fa	i	aa	\$54	321	re	
g	\$421	F	fa	i	g	\$4321		sol	
					F	\$31		fa	
	871	de	fa	i	e	\$21		mi	
	Auff de Böhme 7 re d					○	all auffre		
e					e	754321		fa	
	64321	b	fa	i	h	654321		mi	
	f321	Ge	fa	i	a	54321		re	
	421	F	fa	i	G	4321		sol	
					F	31		fa	
	z	De	fa	i	E	z1		mi	
	y	Ge	fa	i	D	1		re	
					C	●	all zu vt		

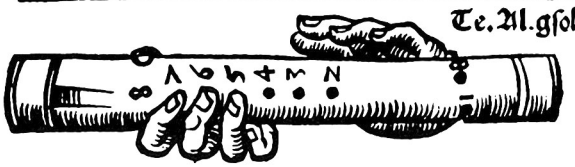


FIGURE 6. Martin Agricola, *Musica instrumentalis deudsch* (from the 1530 printing of the first edition), fol. B1'. Fingering chart for the tenor/alto recorder.



the relationship between the player's fingers and what he sees on the page. Thus Agricola tells us that every time a player of the tenor/alto recorder "in C" sees a *c* (an octave below middle *c'*), he is to play the lowest note of his instrument; every time he sees *c'* he is to play a note one octave above his lowest note; and so on. Similarly, every time a player of the bass recorder "in F" sees *f* (a fifth below middle *c'*), he is to play a note an octave above his lowest note; every time a player of the discant recorder "in G" sees a *g'* he is to play a note an octave above his lowest note; and so on. Understanding Agricola's tables in this way—as a diagram explaining how the player is to finger the notes he sees in the music before him—seems straightforward enough when it is applied to the recorders, but we shall see that the failure to understand Agricola's intentions has led to confusion apropos his treatment of transverse flutes.

In any case, applying Agricola's fingerings to a randomly selected German Lied of the early sixteenth century—Paul Hofhaimer's "Ach edler hort," the beginning of which is given as example 2<sup>26</sup>—shows that Agricola

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writers omit one or more of the sizes). Therefore, whatever the actual pitches sounded, the lowest note on the flute "in D" must have been whatever the flutist saw as D in the written music before him (unless, of course, he was transposing using Agricola's tables, or some similar convention). In describing the scoring of particular pieces in *Syntagma musicum*, 3:153–54 and 156–57, Praetorius may have intended to refer only to flutes "in D," in which case his remark that flute parts in tenor clef go too low to balance other instruments makes better sense than it otherwise would. (Praetorius seems to be saying the same thing in his universal table in *Syntagma musicum*, 2:21, when he writes that "Diese Flötte [that is, a recorder in "D" or "C"], so wol auch die Querpfeiffe in diesen Thon, kan nicht allein zum Discant, wie ich es alhier eingesetzt, sondern auch zum Tenor ein Octave drunter, gebraucht werden," or, as Blumenfeld, p. 21, somewhat freely translates, "This recorder, and the cross flute in this register [*recte*: pitch] as well, may not only be used as a discant instrument [*recte*: on the discant part], as which I have set it down here, but also as a tenor [*recte*: on the tenor part], an octave lower").

That Praetorius lists three sizes of flute may only be an indication of his historicism. Already in 1556, Jambe de Fer asserted that flutes "in D" played treble parts; Zacconi in 1592 and Aurelio Virgiliano about 1600 both give ranges for the flute "in D" exclusively, and they do not mention other sizes; and Mersenne in 1636 gives fingerings for flutes "in G" and "in D" (although the treble part of his example of music for four flutes goes uncomfortably high if played on a flute "in D"). In short, there is little evidence that discant flutes "in A" were in common use at the end of the sixteenth and the beginning of the seventeenth centuries, especially since Praetorius's table of sizes can easily be explained away as evidence of his desire for historical completeness. Nevertheless, there still remains the problem of playing the Eb's on a flute "in D" required by Praetorius in the pieces cited in *Syntagma musicum* 3. But that problem is the fit subject for a separate study, for whatever the solution, it will throw little light on the conventions of transposition in operation during the first third of the sixteenth century.

26. After Hans Joachim Moser, ed., *Einundneunzig Tonsätze Paul Hofhaimers und seines Kreises* (Stuttgart, 1929; reprint, Hildesheim: Georg Olms Verlagsbuchhandlung, 1966), pp. 24–25.

1. Ach ed-ler hort, ver-nimm ———— mein klag, die ich send-  
 1. Ach ed-ler hort, ver-nimm ———— mein klag, die ich send-lich  
 1. Ach ed-ler hort, ver-nimm ———— mein klag, die ich send-  
 1. Ach ed-ler hort, ver-nimm ———— mein klag, die ich send-

5

lich im ———— her- tzen trag, hülf mir auß ———— not,  
 im her- - - tzen trag, hülf ———— mir auß not, etc.  
 lich im her- - - tzen trag, hülf mir ———— auß not,  
 lich im her- tzen trag, hülf mir ———— auß not,

EXAMPLE 2. Paul Hofhaimer, "Ach edler hort," mm. 1–8.

expected recorders to sound an octave higher than notated. The first note of the bass part (*G*) is thus realized as a second above the lowest note of a bass recorder "in F," that is, *g* below middle *c'*, if the instrument is tuned to modern pitch standards. The first note of the tenor part (*bb*) is realized as a minor seventh and the first note of the alto part (*g'*) as an octave and a fifth above the lowest note on the tenor/alto recorder "in C"; and the first note of

the superius part ( $d'$ ) as a fifth above the lowest note on the discant recorder "in G." If the instruments were tuned to pitches we could understand as approximating modern  $f$ ,  $c'$  and  $g'$ , then the piece would sound on four recorders an octave higher than written.

In the 1529 edition of his treatise, Agricola's introduction to the fingering charts for flutes does not give their "normal" pitch, but in the 1545 edition of his treatise, he implies that whereas recorders are tuned to F, C and G, flutes are tuned to G, D and A.<sup>27</sup> It would be convenient if we could explain this difference as simply being caused by the fact that transverse flutes have no hole for the little finger of the lower hand (and, indeed, no thumb hole) and thus lack the lowest note of the recorders in corresponding sizes, even though such an explanation has, of course, no basis in fact. When the reader comes to apply the fingerings Agricola gives in 1529 for the three sizes of flute required for four-part music, however, he will be in for a rude surprise. Agricola's 1529 diagram (fig. 7) for the fingerings on a tenor/alto flute<sup>28</sup> shows  $A$  (a minor tenth below middle  $c'$ ) as that instrument's lowest note. Thus, the first note of the tenor part in Hofhaimer's "Ach edler hort" (Example 2), written as  $bb$ , would be played as a minor ninth above the tenor/alto flute's lowest note, and the first note of the altus ( $g'$ ) as an octave and a seventh above the lowest note. On a flute "in D," instead of  $bb$  and  $g'$  the two notes will sound  $eb$  and  $c'''$ . If I am correct in assuming that Agricola is explaining the relationship between the written note and the player's fingers, in 1529 he regarded flutes as instruments that transposed not an octave above their written pitch, but an octave and a fourth above their written pitch.

If Agricola did not offer a convincing explanation of this curious state of affairs in his revised 1545 edition, he at least supplied further information which helps us to understand his interpretation of sixteenth-century conventions. In 1545, Agricola offered two sets of diagrams for transverse flutes. The first is described by him as "Sequuntur tres irregulares, harum Tibiarum Scalae, ad Epidiatess[aron] transpositae."<sup>29</sup> The diagram for tenor/alto flute "in D" is given as fig. 8. The second set of diagrams is described as "Sequuntur tres aliae, harum Fistularum, Scalae regulares."<sup>30</sup> The diagram for tenor/alto flute "in D" is given as fig. 9.

27. On this point, see Hettrick, "Agricola's Poetic Discussion," vol. 24, p. 60. I am grateful to Professor Hettrick for his help on this point.

28. Agricola, *Musica*, 1529 edition, fol. B6.

29. "There follow for these flutes three irregular scales, transposed up a fourth." The fingering chart for the tenor/alto flute is given in Agricola, *Musica*, 1545 edition, fol. D3<sup>v</sup>.

30. "There follow for these flutes three other, regular scales." The fingering chart for the tenor/alto flute is given in Agricola, *Musica*, 1545 edition, fol. D7.

der Instrument. Musica. xiijf

		ā	6	la	] velocissimo	] Alto.
		gg	6r3	sol		
		ff	43	fa	] veloci	
		ee	6	mi		
dd		dd	6r	re	] or	
	4z	cc	143z	fa		
		bb	43z	mi	] veloci	
		aa	6	re		
g		g	6r	sol	] veloci	
		F	5	fa		
	4z	o	4	mi	] veloci	
		d	3z	re		
ff		e	z	fa	] veloci	
	x	b	1	mi		
		a	6	re	] veloci	
		G	6r	sol		
		F	53z	fa	] medio	
4	vt 4z	E	43z	mi		
		D	3z	re	] or	
		C	z	fa		
	x	B	1	mi	] Ten	
		A	●	re		

FIGURE 7. Agricola, *Musica instrumentalis deudsch* (1529), fol. B6. Fingering chart for the tenor/alto flute. Photograph courtesy of the New York Public Library.

To take matters up in the order in which Agricola presented them, the table of fingerings shown in fig. 8 (offering scales transposed “up a fourth”) actually produces music sounding a fourth lower, or rather an octave and a fifth higher. But while this situation seems utterly bewildering at first glance, the explanation is actually rather simple and easy to understand.

## Das erste Capitel.

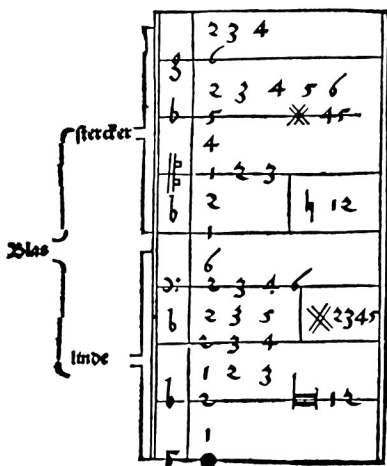


FIGURE 8. Agricola, *Musica instrumentalis deutsch* (1545), fol. D3<sup>v</sup>. Fingering chart for the tenor/alto flute transposed “ad Epidiatessaron.” Photograph courtesy of the Herzog August Bibliothek Wolfenbüttel.

Comparing the fingering chart for tenor/alto flute playing “a fourth higher” (fig. 8) with Hofhaimer’s “Ach edler hort” (example 2), we see that the first note in the tenor is to be played as an octave and a third higher than the lowest note, and the first note in the altus is to be played two octaves above the lowest note, producing on a flute “in D” the notes *f*’ and *d*’’ rather than *b*’ and *g*’. In other words, using the fingering chart to play this piece on four flutes would produce a performance in the D-Dorian rather than the G-Dorian mode, and thus the music is transposed, in one sense, a fourth lower, even though the actual notes sound an octave and a fifth higher than the notated pitches.

But from the player’s point of view such a transposition makes sense if it is described as using a scale transposed up a fourth, for what a player will do is to imagine that his flute “in D” is actually a flute “in G” tuned a fourth higher. The flute, it should be emphasized, stays the same; it is still a flute sounding “d” as its lowest tone. But imagining it a fourth higher “in G”

Don mancherley Pfeiffen. 31  
 Des Tenors vnd Alts  
 fundament.

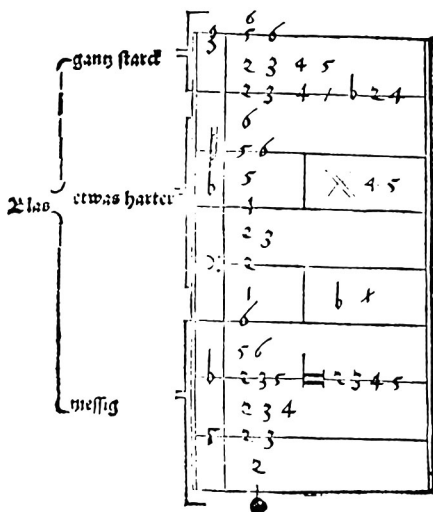


FIGURE 9. Agricola, *Musica instrumentalis deudsch* (1545), fol. D7. Fingering chart for the “untransposed” tenor/alto flute. Photograph courtesy of the Herzog August Bibliothek Wolfenbüttel.

means that from the player’s point of view the first note of the tenor can easily be understood as sounding an octave and a third above the fundamental note, and the first note of the altus can easily be understood as two octaves above the fundamental. Clearly, then Agricola’s first set of tables (fig. 7), from his 1529 edition, could have been described as presenting scales transposed a fifth higher, even though they create sounds an octave and a fourth higher (or “transposed a fifth lower”) than the notation would suggest.<sup>31</sup>

31. In the remainder of this essay, I shall use the terms “transposed down a fourth” and “transposed down a fifth” to describe these procedures.

A part of the complication arises from the fact that Agricola seems to have regarded the flute at “untransposed” pitch as a two-foot, not a four- or eight-foot instrument, for his third set of tables (fig. 9) offers fingerings that will sound two octaves above notated pitch. Thus the tenor flutist would play the first note of Hofhaimer’s “Ach edler hort” not a sixth above his lowest note, but an octave and a sixth above his lowest note. And the player of the alto line would first sound a note not an octave and a fourth above his fundamental but two octaves and a fourth above his fundamental. In other words, taking the two-octave transposition into account, the diagrams said to present music up a fourth (fig. 8) and up a fifth (fig. 7) actually present music *down* a fourth and fifth from the “normal, untransposed” version two octaves higher than notated. Agricola’s first set of fingering charts will produce a performance of Hofhaimer’s “Ach edler hort” in C-Dorian, his second in D-Dorian, and his third in G-Dorian.

We must suppose that sixteenth-century musicians did make use of this convention, if only because Agricola was not writing speculative theory, but describing as simply as he could to his students and the lay audience of sixteenth-century Germany his understanding of musical practices. But why did musicians make use of such an apparently confusing convention? The answer is not difficult to find, once the notion that the transverse flute was regarded as a two-foot instrument is understood. It would be very difficult to perform Hofhaimer’s “Ach edler hort,” for example, using Agricola’s third “untransposed” fingering chart because the piece lies so high for all the instruments. The parts sound almost entirely in the second and third octaves of each instrument’s range, and the highest notes are at the very top of Agricola’s fingering chart (in the case of the altus), or very nearly so (for the other instruments). In other words the piece would sound unpleasantly shrill, with all the players using “vento velociori” or even breath pressure described as “auffß schnellst/velocissimo,” to quote Agricola’s characterization of the amount of wind necessary to play in the second and third octave.<sup>32</sup>

Therefore, the music needs to be brought down to a more comfortable range. Agricola’s first transposition, from G-Dorian to C-Dorian, brings all the instruments down a fifth, within the comfortable part of their range, but the piece is still virtually unplayable at that pitch level, because the

32. See Agricola, *Musica*, 1529 edition, fols. B4<sup>v</sup>–B5<sup>v</sup> and 1545 edition, fols. D2<sup>v</sup>–D4 and D6<sup>v</sup>–D7<sup>v</sup>, for fingering charts where the amount of breath pressure is indicated for each segment of each instrument’s range. Agricola also describes the amount of breath pressure necessary on fol. B4 of the 1529 edition.

discant flute “in A” has prominent B $\flat$ ’s (written as F’s), and the tenor/alto flutes “in D” both have prominent E $\flat$ ’s (written as B $\flat$ ’s), a minor ninth above their fundamentals. These are the least successful notes on the transverse flute, since they need to be half-holed,<sup>33</sup> and they can almost never be satisfactorily sounded exactly at pitch or with a tone quality in any way equivalent to that of the other notes. Quite aside from these impossible notes, moreover, all four flutists would need to play as stable scale degrees chromatic notes that are not wholly secure on their instruments. But if the composition is brought “down a fourth,” transposed from G-Dorian to D-Dorian, using Agricola’s second transposition tables (fig. 8), the piece fits relatively well on all the instruments, not only in terms of range, but also because the most awkward chromatic fingerings are no longer required on the principal destination notes of the song.

In short, Agricola supposed the transverse flute to be a two-foot instrument, playing two octaves above written notation. But since playing in that way meant that much of the secular polyphonic repertory of the early sixteenth century went too high for the instruments, forcing them either to play at the very top of their range or denying them access to the music because it went out of their range entirely, flutists had to transpose downwards much of the music they played in unmixed consorts, to make it fit the instruments better. In 1529, Agricola clearly thought that transposition “down a fifth” was the one most commonly used by flutists. At least that is the implication of the fact that he gave only the one fingering chart, without even warning the unsuspecting reader that transposition was involved.

In the revised edition of 1545, he introduced the third set of fingering charts—those for “untransposed” flutes—with a passage that explicitly declares the first two sets of diagrams to have been transposing tables:

Volget noch ein ander, besser, und gemeine art, wie man die Claves nach Musicalischer weise, auff diesen Pfeiffen blasen und greiffen soll.

Weiter mag ich nicht verschweigen  
Sondern noch ein arth anzeigen  
Der obgesagten fundament  
Auff Schweitzerpfeiffen jtz genent,  
Welchs das gmeinst und leicht geacht  
Drumb hab ichs auch auff die ban bracht  
Las dir es aber nicht faul thun  
Das ich von zweien sage nun,

33. That is, the lowest hole must be only half covered by the finger (• • • • •  $\emptyset$ ).



Und vom dritten gesagt jensmal<sup>34</sup>  
 Inn der Deudschen Instrumental,  
 Denn man kan alhie die Scalas  
 Transponirn, wie im gsang, merck das,<sup>35</sup>  
 Auch wie es auff Orgeln geschicht  
 Auff Lauten, wie ich dich bericht,  
 Und auff den andern so furtan  
 Derhalben lass fahrn den argwan.  
 Drumb hab ich sie beid dargestelt  
 Nim eine welche dir gefelt,  
 Idoch wil ich reden inn gmein<sup>36</sup>  
 Diese deucht mich die bequemst sein,  
 Wie du sie aber solt verstan  
 Wil ich inn figur n zeigen an,  
 Und lassen sie herfür draben  
 Du magst achtung darauff haben.<sup>37</sup>

*(There follows a second, better and common way for one to finger and sound musical notes on these flutes.*

*Moreover, I do not wish to keep secret, but rather to show still another kind of the regulations explained previously for [the instruments] now called Swiss pipes; this [set of regulations] is thought to be the most common and the easiest, and for that reason I have brought it into the discussion. But do not take it evil that I speak now of two [sets of regulations] and that I spoke earlier of a third in the Musica instrumentalis deudsch [of 1529], for here [i.e., with these two sets, or on flutes?] one can transpose the scales as in singing (note that!), and also as is done on organs, on lutes (as I have told you), and so forth; therefore, lay aside your mistrust. For that reason, I have shown you both sets; use whichever pleases you. Nevertheless, I wish to say that in general this [set of regulations] appears to me to be the most convenient. I wish to show you in diagrams how you should understand it, and let it come forth gradually; you ought to study it carefully.)*

The information Agricola offers is by no means exhaustive, but he seems to be saying that he prefers his third set of fingering charts simply because they are the least complicated. He implies, in other words, that he would transpose flute music by two octaves whenever he could, because that transposition is not only the most widespread and the easiest (“das gmeinst und leichtst”) but also, it seems to him, the most convenient (“Diese

34. The marginal comment here reads: “Anno 1529.”

35. The marginal comment here reads: “Quemadmodum in cantu, ita in Instrumentis musicis, transpositio cantus fieri potest,” that is, “How the transposition of a melody can be accomplished on musical instruments as in singing.”

36. The marginal comment here reads: “Fundamentum, huius generis Tibiarum optimum,” that is, “The best set of regulations for this kind of flute.” I am grateful to Traute Marshall for advice about the translation of the passage by Agricola, and for correcting some of my mistakes.

37. Agricola, *Musica*, 1545 edition, fols. D5<sup>v</sup>–D6.

deucht mich die bequemst sein"). Agricola fails to give any reason why transposition should be necessary, but surely the most obvious explanation is the desire of instrumentalists to bring music which otherwise lay too high for them down within the ranges of their instruments, or simply to make the music fit better under the fingers. The latter reason seems to have impelled some sixteenth-century lutenists to transpose chansons and motets to diverse pitches, if Adrian le Roy can be taken as a reliable spokesman. In describing how to intabulate vocal music for the lute, Le Roy went to some pains to explain where compositions in particular modes best fit on the lute, that is, the relationship between notated pitch and the placement of the players' fingers on the strings. From Le Roy's explanation of the technique of intabulation, we can infer that chansons in Dorian mode, for example, were heard not only "in D" and "in G," but also in "E," "A" and "B."<sup>38</sup>

If my explanation of Agricola's practice is correct, then there is some circumstantial evidence to indicate that this convention of transposition was not limited to smaller German cities and to students at Latin schools. Indeed, transposition "down a fourth," set out in Agricola's second transposition table (fig. 8), but the first he gave in his new and improved edition of 1545, may have been more common than any other. At any rate, if flutists normally transposed the music they played "down a fourth," Philibert Jambe de Fer's statement in 1556 that music in flat keys was better for flutes than music in sharp keys can finally be seen to make sense.<sup>39</sup> Jambe de Fer's remark has puzzled modern commentators, for it appeared to be nonsense. The worst notes on keyless Renaissance flutes are those a minor second or a minor ninth above the fundamental note. Since they must be played by half covering the lowest hole, they can almost never be played in tune or with a satisfactory tone quality. On flutes in "G," "D," and "A,"

38. See Adrian le Roy, *Les Instructions pour le luth (1574)*, ed. Jean Jacquot, Pierre-Yves Sordes and Jean-Michel Vaccaro, 2 vols. (Paris: Centre National de la Recherche Scientifique, 1977), 1:5–45. Le Roy's procedure is briefly summarized in Howard Mayer Brown's review of this modern edition of Le Roy's treatise, in *Music and Letters* 60 (1979): 475–78. For a similar overview of the possibilities of transposition on the lute (chiefly by using the same fingerings on instruments tuned to various pitches), see the table of transposition prepared by George Bürscher, printed as a single leaf about 1571, and described and illustrated in Martin Staehelin, "Neue Quelle zur Mehrstimmigen Musik des 15. und 16. Jahrhunderts in der Schweiz," *Schweizer Beiträge zur Musikwissenschaft*, series 3, vol. 3 (1978): 82–83 and pl. 12.

39. Jambe de Fer, *Épitome*, ed. Lesure, pp. 48–49, writes apropos transverse flutes: "Le Jeu de b mol . . . est le plus plaisant, facile & naturel. . . . Le Jeu de ♯ quarré . . . n'est si usité, si plaisant, ne si facile."

therefore, A $\flat$ 's, E $\flat$ 's and B $\flat$ 's could not be sounded securely. If, however, flutists normally transposed "down a fourth," the bad notes on the three sizes of instrument would be the relatively uncommon D $\flat$  (on the bass), A $\flat$  (on tenor/alto) and E $\flat$  (on discant), a much better compromise than transposing the music "down a fifth," where the impossible notes would be the much more frequently needed E $\flat$  (on the bass), B $\flat$  (on tenor/alto) and F (discant). In short, Jambe de Fer's statement makes perfect sense if he is writing about consorts of flutes that sound a fourth lower than two octaves above written pitch. Moreover, whereas the transposition a fifth lower is much better for sharp keys (that is, music with finals on A and G), it would still cause greater difficulties than music in flat keys transposed "down a fourth," since in the transposition "down a fifth," the discant flute does not have a secure F.

The hypothesis that flutists more often transposed "down a fourth" rather than "down a fifth" receives some support from the conventions governing the transposition of other instruments in the early sixteenth century. Hans Gerle, for example, included in his *Musica und tabulatur* (second edition, 1546) a table of transposition for viols played in consort that is very similar to Agricola's transposing tables; and Gerle offered it for the same reason.<sup>40</sup> He explained that some of the music he wished to play went too high to fit comfortably on a treble viol with a top string tuned to "a'," a tenor/alto viol with a top string tuned to "d'," and a bass viol with a top string tuned to "a." Therefore, Gerle devised a table that made it simple to transpose such music down a fourth, so that it would fit better on the five-stringed instruments he preferred. Moreover, this sort of transposition may have become so common among instrumentalists that it was commercially feasible to build keyboard instruments that transposed down a fourth automatically.<sup>41</sup> If John Shortridge's hypothesis is correct (it has by no

40. Hans Gerle, *Musica und Tabulatur, auff die Instrument der kleinen und grossen Geygen, auch Lautten* (3rd, rev. ed., Nuremberg, 1546), fols. j2<sup>v</sup>–j3. On sixteenth-century conventions of transposition on viols, see Howard Mayer Brown, "Notes (and Transposing Notes) on the Viol in the Early Sixteenth Century," in *Music in Medieval and Early Modern Europe*, ed. Iain Fenlon (Cambridge: Cambridge University Press, 1981), pp. 61–78.

41. See John Shortridge, "Italian Harpsichord Building in the 16th and 17th Centuries," *U.S. National Museum Bulletin*, no. 225 (1960), pp. 95–107. Studies challenging Shortridge's position, or debating the issue, are listed in Brown, "Notes . . . on the Viol," p. 69, note 19.

It seems to me that the most serious drawback to supposing that such transpositions were common everywhere in the sixteenth century is the probability that transverse flutes were much less cultivated in Italy than elsewhere in western Europe. But Italians did play transverse flutes, and sometimes even in consort. Cristoforo da Messisbugo, *Banchetti, composizioni di vivande e apparecchio generale* (Ferrara, 1549), modern edition ed. Fernando Bandini (Venice: Neri Pozza Editore, 1960), for example, lists flutes among the instruments taking

means found universal agreement) many Italian harpsichords in the sixteenth century had automatic transposing keyboards, on which, for example, *c'* was sounded when the player depressed the key that looked to be *f'* a fourth above. If transposition down a fourth were so common for viol players and flutists, it may be that harpsichord makers were encouraged to build such transposing instruments to accompany other instrumentalists, thus saving the keyboard player the necessity of using his head.

Still another bit of evidence supports the hypothesis that consorts of flutes often transposed "down a fourth." Like Jambe de Fer's statement about the best keys for flutes, Pierre Attaignant's criteria for deciding that some of the chansons he published were better for flutes and others better for recorders have never been understood.<sup>42</sup> He seems not to have decided between the two instruments on the basis of poetic content, range, or even mode, and no one has ever offered a convincing explanation of why some compositions were singled out as more appropriate for the one sort of instrument and some for the other, whereas some compositions were said to be equally good for both.

Since the superius part book alone survives from the set of *Chansons musicales*, it is not possible to reconstruct all the parts of all the chansons. But the majority can be identified, and Anne Smith has listed them all in the order in which they appear in the volumes, along with their ranges, clefs and modes.<sup>43</sup> Even though table 1 thus duplicates information already

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part at various banquets he arranged in Ferrara in 1529–32; see Howard Mayer Brown, "A Cook's Tour of Ferrara in 1529," *Rivista italiana di musicologia* 10 (1975): 216–41. During the drawing for prizes at the banquet on 24 January 1529, a consort of flutes played; see Brown, *ibid.*, p. 240.

Flutists will understand that transposition "down a fourth" is actually a very easy and practical transposition, since three of the four players in a consort need only imagine that they are playing the next larger size of instrument. That is, the player of the discant flute "in A" can transpose "down a fourth" by using the fingerings of the tenor/alto flute "in D" (what modern players usually call "C fingerings"); players of the tenor/alto flute "in D" can transpose "down a fourth" by using the fingerings of the bass flute "in G" (what modern players usually call "F fingerings"); and players of the bass flute "in G" can transpose "down a fourth" by imagining that their parts are written in tenor rather than bass clef. I am grateful to Thomas MacCracken for pointing this fact out to me, for observing that shawm players in the sixteenth century also normally transposed their parts by imagining they were playing the next larger size of instrument, and for offering other good advice about the problem of transposition on wind instruments during the Renaissance.

42. Thomas, "Renaissance Flute," pp. 5–6, and Smith "Renaissancequerflöte," pp. 28–30, for example, both acknowledge the ambiguity of Attaignant's criteria.

43. Smith, "Renaissancequerflöte," pp. 64–67. Since Smith has listed all the chansons, which are also listed in Brown, *Instrumental Music*, pp. 43–45, and in Hertz, *Attaignant*, pp. 250–53, I have omitted from table 1 those chansons Attaignant designated as suitable for both flutes and recorders by marking them "a b".

TABLE 1

Chansons for Flutes or Recorders in Pierre Attaignant's Anthologies<sup>a</sup>*A. Chansons best for flutes (marked "a" by Attaignant)**In Chansons musicales (1533)*

2. "J'aymeray qui m'aymera." Nicolas Gombert  
S:  $d'-f''$  A: missing T: missing B: missing mode: G-Dorian
5. "Je l'ay aymé." [Pierre Certon]  
Certon, *Chansons polyphoniques . . . Livre I (1535-1539)*, ed. Henry Expert and Aimé Agnel (Paris: Heugel, 1967), pp. 2-3.  
S:  $d'-d''$  A:  $g-bb'$  T:  $f-g'$  B:  $G-d'$  mode: G-Dorian
7. "Si par fortune." Pierre Certon  
Certon, *Chansons polyphoniques*, ed. Expert and Agnel, pp. 4-5.  
S:  $d'-d''$  A:  $g-a'$  T:  $d-f'$  B:  $Bb-d'$  mode: G-Dorian
8. "Desir m'assault." Pierre de Manchicourt  
S:  $d'-d''$  A: missing T: missing B: missing mode: G-Dorian
10. "En espoir d'avoir mieulx." Nicolas Gombert  
Gombert, *Opera Omnia*, ed. Joseph Schmidt-Görg, vol. 11 (American Institute of Musicology, 1975), no. 9 (in D-Dorian).  
S:  $d'-eb''$  A:  $g-a'$  T:  $f-f'$  B:  $Bb-c'$  mode: G-Dorian
11. "Aultre que vous de moy ne jouyra"  
S:  $c'-c''$  A: missing T: missing B: missing mode: F-Lydian
13. "Hors envieus retirez." Nicolas Gombert  
Gombert, *Opera Omnia*, ed. Schmidt-Görg, vol. 11, no. 17 (in D-Dorian).  
S:  $e'-f''$  A:  $a-bb'$  T:  $d-f'$  B:  $Bb-d'$  mode: G-Dorian
14. "Sur tous regretz." Jean Richafort  
Robert Eitner, ed., *Johann Ott: Ein hundert fünfzehn weltliche . . . Lieder*, 3 vols. (Leipzig: Breitkopf und Härtel, 1873-75), vol. 2, no. 78.  
S:  $c'-c''$  A:  $f-f'$  T:  $c-eb'$  B:  $G-bb$  mode: D-Dorian
17. "Vous l'ares s'il vous plaist." Adorno  
S:  $d'-f''$  A: missing T: missing B: missing mode: G-Dorian
19. "Le printemps fait." Benedictus  
Tenor in The Hague, Koninklijke Bibliotheek MS 74.H.7, no. 13.  
S:  $d'-g''$  A: missing T:  $d-g'$  B: missing mode: G-Dorian
20. "Si ung oeuvre parfait." Claudin de Sermisy  
S:  $d'-c''$  A: missing T: missing B: missing mode: F-Lydian
25. "Veu le grief mal." Guillaume Le Heurteur  
Albert Seay, ed., *Pierre Attaignant. Transcriptions of Chansons for Keyboard* (American Institute of Musicology, 1961), pp. 181-82.  
S:  $g'-g''$  A:  $d'-c''$  T:  $a-a'$  B:  $c-d'$  mode: D-Dorian
26. "Par trop aymer." Benedictus  
S:  $g'-g''$  A: missing T: missing B: missing mode: D-Dorian

27. "La plus gorgiazee du monde"  
S:  $g'-bb'$  A: missing T: missing B: missing mode: G-Dorian
29. "Souvent amour me livre." Guillaume Le Heurteur  
Leta E. Miller, ed., *Thirty-Six Chansons by French Provincial Composers, 1529–1550* (Madison, Wisconsin: A-R Editions, 1981), pp. 50–51.  
S:  $e'-c''$  A:  $f-g'$  T:  $e-d'$  B:  $F-g$  mode: F-Lydian
30. "Si je ne dors je ne puis vivre." Jean Le Gendre  
S:  $f'-e''$  A: missing T: missing B: missing mode: G-Dorian

### **In Vingt et sept chansons musicales (1533)**

3. "Parle qui veult." Claudin de Sermisy  
Sermisy, *Opera Omnia*, ed. Gaston Allaire and Isabelle Cazeaux, vols. 3 and 4 (American Institute of Musicology, 1974), vol. 4, no. 123.  
S:  $f'-f''$  A:  $b-a'$  T:  $g-g'$  B:  $A-d'$  mode: G Mixolydian
7. "Amours amours vous me faictes." Nicolas Gombert  
Gombert, *Opera Omnia*, ed. Schmidt-Görg, vol. 11, no. 10.  
S:  $d'-f''$  A:  $g-c''$  T:  $g-f'$  B:  $d-d'$  mode: G-Dorian
13. "Pren de bon cueur." Pierre de Manchicourt  
S:  $f'-f''$  A:  $a-bb'$  T:  $g-g'$  B:  $c-d'$  mode: G-Dorian
16. "Jectes moy sur l'herbette." Lupi  
S:  $d'-g''$  A:  $f-a'$  T:  $d-g'$  B:  $Bb-f'$  mode: G-Dorian
20. "Elle veult donc." Claudin de Sermisy  
Sermisy, *Opera Omnia*, ed. Allaire and Cazeaux, vol. 3, no. 47.  
S:  $d'-d''$  A:  $f-g'$  T:  $f-f'$  B:  $G-bb$  mode: G-Dorian
23. "Hayne et amour." Pierre Vermont  
S:  $d'-f''$  A:  $f-bb'$  T:  $g-g'$  B:  $Bb-c'$  mode: G-Dorian
24. "Pourquoy donc ne fringuerons nous." Passereau  
*Anthology de la chanson parisienne au XVIe siècle*, ed. François Lesure *et al* (Monaco: Oiseau Lyre, 1953), no. 4.  
S:  $f'-f''$  A:  $g-bb'$  T:  $f-g'$  B:  $c-d'$  mode: G-Dorian
26. "Je n'avoie point." Claudin de Sermisy  
Sermisy, *Opera Omnia*, ed. Allaire and Cazeaux, vol. 3, no. 76.  
S:  $f'-f''$  A:  $bb-a'$  T:  $g-e'$  B:  $G-bb$  mode: G-Dorian
28. "Si bon amour merite recompense." Jacotin  
S:  $e'-d''$  A:  $f-g'$  T:  $f-f'$  B:  $Bb-g$  mode: F-Lydian

### **B. Chansons best for recorders (marked "b" by Attaignant)**

#### **In Chansons musicales (1533)**

6. "De noz deux cuers." Jean Guyon  
Miller, ed., *Thirty-Six Chansons*, pp. 31–33.  
S:  $d'-d''$  A:  $e-a'$  T:  $c-f'$  B:  $A-c'$  mode: A-"Aeolian"

(continued)

TABLE I (continued)

9. "O desloialle dame." François Bourguignon  
 S:  $d'-d''$  A: missing T: missing B: missing mode: G-Mixolydian
16. "Puis que j'ay perdu mes amours." Lupi  
*Second livre* (Paris: Attaignant, 1536), no. 24.  
 S:  $c'-d''$  A:  $g-g'$  T:  $f-f'$  B:  $A-c'$  mode: G-Mixolydian
22. "Eslongné suys de mes amours"  
 S:  $c'-d''$  A: missing T: missing B: missing mode: G-Mixolydian

***In Vingt et sept chansons musicales (1533)***

18. "Troys jeunes bourgeois." Guillaume Le Heurteur  
 Howard Mayer Brown, ed., *Theatrical Chansons* (Cambridge, Mass.: Harvard University Press, 1963), no. 57.  
 S:  $f'-e''$  A:  $f-a'$  T:  $g-f'$  B:  $G-a$  mode: G-Mixolydian
19. "Allez souspirs." Claudin de Sermisy  
 S:  $e'-c''$  A:  $g-g'$  T:  $f-e'$  B:  $A-a$  mode: A-"Aeolian"

<sup>a</sup>Table I lists the chanson incipit; the composer's full name (in brackets if the attribution does not appear in one of Attaignant's anthologies); a single modern edition, if one exists, or, in the case of the compositions from *Chansons musicales*, a sixteenth-century edition that includes all the parts; the range of each voice; and the mode of each chanson (no distinction is made between authentic and plagal forms of each mode). Smith, "Renaissancequerflöte," pp. 64–67, includes all the chansons in both volumes, and furnishes information about the clef of each voice.

An anthology of chansons from *Vingt et sept chansons* is published in modern edition as Bernard Thomas, ed., *Pierre Attaignant (1533), Fourteen Chansons for Four Recorders or Voices ATTB* (London: London Pro Musica Edition, 1972). Three of the chansons from table 1B (no. 6 from *Chansons musicales*, and nos. 18 and 19 from *Vingt et sept chansons*) are published in a modern edition as Howard Mayer Brown, ed., *Chansons for Recorder* (New York: Associated Music, 1964).

published, it will nevertheless be helpful in seeking an explanation for Attaignant's criteria for selection. Table 1 lists all the chansons for flutes or recorders published by Attaignant, arranged not in the order in which they appear in his volumes, but grouped according to the categories devised by Attaignant: section A, that is, names those chansons marked "a" in Attaignant's volumes, signifying they are better on flutes; and section B names the chansons marked "b," better for recorders.

Table 1 reveals, first of all, that virtually all the chansons singled out as better for flutes were in fact composed in flat keys. There is only one exception among the twenty-one compositions: Claudin's "Parle qui veult" (*Vingt et sept chansons*, no. 3) in G-Mixolydian. Moreover, the chansons for recorders are all in sharp keys. Without exception their finals occur on G or

A, and they lack any key signatures. The chansons appropriate for both kinds of instruments include some in flat and some in sharp keys. They evidently offer the instrumentalist some exceptions to the general rule coordinating accidentals with type of instrument.

In the second place, table 1 suggests some guidelines about the ranges most appropriate for the two kinds of instruments. Some of the superius parts in the chansons for flutes go as high as  $f''$  or  $g''$ , whereas those for recorders never ascend above  $d''$  or  $e''$ . Some of the alto parts in the chansons for flutes go as high as  $bb'$ , whereas those for recorders never ascend above  $g'$  or  $a'$ . And some of the bass parts in the chansons for flutes go as high as  $d'$  (and one as high as  $f'$ ), whereas those for recorders never ascend above  $c'$ . Even though Agricola's fingering charts take the discant recorder up to  $f''$ , the tenor/alto up to  $bb'$ , and the bass up to  $d'$ , these were evidently not secure notes on recorders played in consort. Since Attaingnant took pains to avoid those notes, we may assume that his choice of an appropriate instrument related to some extent to range.

Table 1, in other words, does show that flutes were thought to be better in some modes than others, and that their ranges were somewhat different from those of recorders. But to understand Attaingnant's intentions better, we must look carefully at one chanson in each of his two principal categories.

Taking Claudin's "Elle veult donc" (the beginning is shown in example 3)<sup>44</sup> as a sample of chansons in category A, we can see immediately that the chanson could not be played "untransposed" on a consort of flutes tuned in "G," "D" and "A." The ranges of the superius and altus parts would necessitate playing in the very highest register of flutes treated as two-foot instruments. Moreover, the frequent  $Bb$ 's in the superius part, and the frequent  $Eb$ 's in the alto and tenor parts make the chanson nearly impossible to perform on two-foot flutes. Nor does transposing the chanson "down a fifth" from G-Dorian to C-Dorian make performance any easier, for while the range is more convenient for the consort of flutes, the discant flute will find it nearly impossible to play the written F's and difficult to play so many exposed written  $Bb$ 's; and the tenor/alto flutes will find it impossible to play the written  $Bb$ 's. Transposing the chanson "down a fourth," however, will not only bring the chanson down to a good range for all three sizes of flute—albeit a range higher than that we have hitherto supposed Renaissance flutes normally used—but will keep all principal pitches to the good

44. After Claudin de Sermisy, *Opera Omnia*, ed. Gaston Allaire and Isabelle Cazeaux, vol. 3 (American Institute of Musicology, 1974), pp. 74–76.



El- le veult donc, par es- tran- ge ri-  
 El- le veult donc, par es- tran- ge ri- gueur,  
 El- le veult donc, par es- tran- ge ri- gueur,  
 El- le veult donc, par es- tran- ge ri- gueur,

5

gueur, A mes en- nuys don- ner nour- ris-  
 A mes en- nuys don- ner  
 A mes en- nuys don- ner  
 A mes en- nuys don- ner nour- ris-

10

se- ment  
 nour- ris- se- ment  
 nour- ris- se- ment  
 se- ment

EXAMPLE 3. Claudin de Sermisy, "Elle veult donc," mm. 1–11.

notes on the instrument; this transposition avoids the impossible notes altogether.

In short, if flutes were really thought of as being in “G,” “D” and “A” in relation to written music (and no evidence known to me contradicts that assumption), and if we must choose between “untransposed two-foot” performance or transposition “down a fourth or fifth”—the only transpositions Agricola explicitly mentions and hence the only transpositions documented as having been applied to flutes in the first half of the sixteenth century—then “Elle veult donc” can only have been played “down a fourth” on a consort of flutes. On the other hand, the designation of this chanson as “plus convenable à la fleuste d’allemant” implies that it is less apt for a consort of recorders, and it is not clear why that should have been thought to be true, especially since “Elle veult donc” is one of the chansons that does not go above *d*’ in the superius, *g*’ in the tenor and alto, or *bb* in the bass. But then Attaignant did not say that the chansons marked “a” were impossible to play on the recorder, only that they were more convenient on the flute.

Similarly, Claudin’s “Allez souspirs” (the beginning is given as example 4),<sup>45</sup> marked with a “b” to signify that it is more convenient for recorders than flutes, fits an untransposed consort of recorders very nicely, all the parts coming comfortably within the range of each of the three sizes of instrument tuned in “F,” “C” and “G.” Like “Elle veult,” “Allez souspirs” cannot be played on flutes as two-foot instruments sounding two octaves above written pitch, but it would not be impossible to play on a consort of flutes transposed either “down a fourth” or “down a fifth.” In short, the chanson may be more comfortable on recorders, but it is not impossible on transposing flutes. And in like manner, all the chansons marked “ab” in Attaignant’s volumes fit recorder consorts as well as consorts of flutes transposed either “a fourth or a fifth down,” though none could comfortably be played “at pitch,” that is, two octaves above the written pitches.

So Attaignant’s enigmatic classification scheme, and Jambe de Fer’s apparently meaningless remark about the propensity of flutes to play in flat keys can both be understood once we know the meaning of Agricola’s bewildering fingering charts. And all three primary bits of evidence make good sense only if we suppose that consorts of flutes normally operated as transposing instruments, sounding music an octave and a fourth or fifth higher than written, that is, at transpositions a fourth or fifth below their regular two-foot pitches. Indeed, the evidence suggests that transpositions “down a fourth” must have been more common than transpositions “down

45. After Sermisy, *Opera Omnia*, 3:1–2.

5

Al- lez, sous- pirs, en- flam- mez au froid

Al- lez, sous- pirs, en- flam- mez au froid

Al- lez, sous- pirs, en- flam- mez au froid

Al- lez, sous- pirs, en- flam- mez au froid

10

cueur Tant que la gla- ce de ri- gueur soit fon- du-

cueur Tant que la gla- ce de ri- gueur soit fon- du-

cueur Tant que la gla- ce de ri- gueur soit fon- du-

cueur Tant que la gla- ce de ri- gueur soit fon- du-

15

e. Et si pri- e- re est au ciel en- ten- du- e.

e. Et si pri- e- re est au ciel en- ten- du- e.

e. Et si pri- e- re est au ciel en- ten- du- e.

e. Et si pri- e- re est au ciel en- ten- du- e.

EXAMPLE 4. Claudin de Sermisy, "Allez sous-pirs," mm. 1–18.

a fifth," which means that flutes, like viols and harpsichords in the early sixteenth century, often adjusted the written music to fit more comfortably on their instruments, and in exactly the same way.<sup>46</sup> Praetorius, Mersenne and the other late sixteenth- and seventeenth-century writers do not make any reference to these practices. By then, older conventions may well have died out and new ones have taken their place. Indeed, Jambe de Fer's statement that the tenor/alto flute often played top parts<sup>47</sup> (Jambe de Fer does not even mention the smallest flute "in A") already signals the passing of an old order; and Mersenne seems to have known only two sizes of flute, those "in G" and "in D." Moreover, Aurelio Virgiliano included information about transposition to almost every pitch, so the special character of transpositions by fourth and fifth seems already to have been broken by the end of the century, although in one passage of his encyclopedic work, Praetorius at least implies that the easiest (and hence most common) intervals of transposition were those of a fourth or fifth.<sup>48</sup> But the traditions and conventions of later times should not be allowed to obscure what happened in the early sixteenth century. Indiscriminately mixing descriptions of standard practices written a hundred years apart may only serve to hide what really happened, preventing us from ever knowing which conventions changed, and which stayed the same.

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46. No sixteenth- or seventeenth-century writer makes an explicit distinction between the way flutes played in consort transposed, and the way a single flute playing with other instruments and voices transposed. The conventions of transposition "down a fourth" and "down a fifth," as I have explained them, clearly apply best to consorts of like instruments (although I have suggested the possibility that such transpositions were common among viol and keyboard players as well). But when a single transverse flute played in a mixed consort, presumably it normally sounded one octave (according to Praetorius) or two octaves (according to Agricola) above written pitch. Agricola's statement that he preferred "untransposed" (that is, two-foot) flutes may possibly mean that he was more accustomed to hearing the flute as a single instrument in a mixed consort than as one member of a family of four.

47. Jambe de Fer, *Épitome*, ed. Lesure, p. 53, explains apropos recorders that "la partie du dessus ne se joue sus les tailles & haute contre comme en lautre;" that is, that treble parts are not played on tenor/alto recorders, as is done on flutes. Thus, he reveals only indirectly that he thought the flute "in D" the most appropriate instrument to play top parts.

48. Praetorius, *Syntagma musicum*, 2: fol. 9, complains that during church services, when the organist transposes by a second or third, the cantor can easily cause a concerted composition to start on the wrong pitch, so that the instrumentalists cannot come in, because they are not familiar with transposition by a second or a third. "Sintemahl," he writes, "es etlichen sawer und schwehr gnug wird, einen Cantum *per Quartam* oder *Quintam* zu *transponieren*, und machen also wol gar eine *Confusion*, oder doch sonsten erbärmliche Arbeit" (in Blumenfeld's somewhat free translation, p. 3: "To be sure, it is difficult and onerous enough for some of them just to transpose a part by a fourth or a fifth, and even this simple transposition often engenders confusion and results in pitiful playing").