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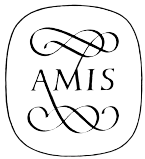

New Light on the Development of the Transverse Flute between about 1650 and about 1770

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BETWEEN the middle of the seventeenth century and the middle of the eighteenth century, the transverse flute underwent various transformations that changed it from a one-piece cylindrically bored instrument with six tone holes and no keys to a four-piece conically bored instrument with seven tone holes and one key. A lack of documentation pertaining to these transformations has meant that this phase of the flute's history has never been clearly understood. Many aspects of its development have had to be guessed at, and various theories have been propounded as to when and where the flute changed its bore, added its key, and was divided first into three separate pieces and later into four pieces.

It is not my good fortune to be able to offer any newly discovered documents that will put an end to the guesswork and speculation and will establish with certainty specific dates and places and persons responsible for the transformations of the flute. Nevertheless, I can call attention to various pictorial sources, biographies of instrument makers, and characteristics of extant instruments that seem to shed light on the dating of certain changes the instrument underwent. Because of the earlier and almost meteoric rise of the one-keyed flute and its music in France,[1] its frequent depiction in

1. On the rise of the one-keyed flute and its music in France see the author's dissertation, "The French Flute School from 1700 to 1760," University of California, Berkeley, 1971.

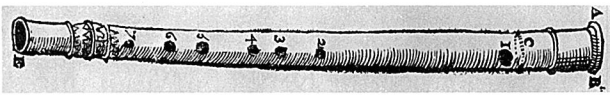

FIGURE 1. "Fluste d'Allemand." Marin Mersenne, *Harmonie universelle*, ed. François Lesure. Reproduced by courtesy of the Centre National de la Recherche Scientifique, Paris.

French paintings and engravings, and the existence of a substantial body of French flute makers who left behind them instruments that have survived to this day, the evidence offered by French art, instrument makers, and instruments is the most helpful in clarifying some of the murky areas in the early history of the one-keyed flute, and I shall focus most directly on it in this study.

* * *

Shortly before the middle of the seventeenth century, two treatises on musical instruments were compiled that establish the nature of the transverse flute at that time in France. These treatises are the "Traité des instrumens" which formed part of Marin Mersenne's *Harmonie universelle* published in 1636 and Pierre Trichet's unpublished "Traité des instruments de musique" written around 1640 in Bordeaux. Mersenne's description and illustration of the flute show that it was a cylindrically bored instrument, made from a single piece of wood, with an embouchure hole and six tone holes[2] (Figure 1). His illustration also demonstrates that the flute, at least the particular one he copied, had some ornamental raised rings around the end of the flute nearest the embouchure hole and

2. *Harmonie universelle: Traité des instrumens*, ed. François Lesure (1636; facs. rpt. Paris, 1963), pp. 241–244. The cylindrical bore is indicated by the statement: "Elle [the flute] est percée d'une esgale grosseur tout au long, ce qui n'arrive pas à toutes sortes de Chalumeaux, comme je diray ailleurs, & cette grosseur est de huict lignes." Raymond Meylan, in *La Flûte: Les Grandes Lignes de son développement de la préhistoire à nos jours* (Lausanne, 1974), p. 70, argues that the divergence of fingerings for several notes in Mersenne's fingering charts for flutes of two different pitches indicates that the conically bored flute had already arrived on the scene. Though the different fingerings probably reflect flutes with somewhat different bore dimensions, Meylan's argument for conical bore is not convincing, since not enough variables are taken into account and no other sources, including Mersenne's own text, lend weight to the assertion.

FIGURE 2. Eustache Le Sueur, *Les Muses Clio, Euterpe et Thalie*, detail. Cliché des Musées Nationaux, Paris.

about midway between this end and the embouchure hole, as well as three other rings decorated with a saw-tooth pattern between the last tone hole and the lower end of the flute. Trichet's description of the flute is much less full than Mersenne's, and indeed seems to be partially based upon it, but his brief comments suggest that the instrument had not yet undergone any significant changes.[3]

A painting probably executed about 1647–1649 by the French artist Eustache Le Sueur (1616–1655) depicts a one-piece keyless flute like that described by Mersenne and Trichet, except that it does not have the ornamental turnings and decorations of the flute illustrated by Mersenne (Figure 2). Le Sueur's painting, which is of the muses Clio, Euterpe, and Thalia, is one of the panels that the artist executed for the Cabinet des Muses in the Hôtel Lambert in

3. *Traité des instruments de musique*, ed. François Lesure (Neuilly-sur-Seine, 1957), pp. 72 and 76–77.

FIGURE 3. Lissieu flute. Sammlung alter Musikinstrumente des Kunsthistorischen Museums, Vienna.

Paris.[4] Although Le Sueur may have copied some of the poses and types of muses from engravings he saw of Raphael's Stanza della Segnatura and from Poussin,[5] he substituted other instruments for those used by Raphael and Poussin. Thus it seems likely that he copied the flute—which in his work appears in the hands of Euterpe, the muse of lyric poetry—from a real instrument, and I would guess it was from the type of flute current in Paris around the middle of the seventeenth century. Unfortunately, Le Sueur's depiction of the flute appears to be one of the rare appearances of the instrument in French art of the seventeenth century,[6] so it is necessary to turn to other sources to follow the development of the instrument from around 1650 until 1692, when a French engraving of the flute clearly establishes its transformed appearance.

What intermediary stages the flute may have passed through between its mid-seventeenth-century form and the one it had assumed by the last decade of the century are not clear. However, a French flute marked with the name "Lissieu" in the Kunsthistorisches Museum in Vienna has characteristics which suggest that it represents a transitional stage in the development of the instrument. This flute is constructed in two pieces—a head joint that flares out into a bulge near its lower end, and a longer tube with six tone holes (Figure 3). The head joint of the flute has several rings of

4. Anthony Blunt, *Art and Architecture in France 1500–1700*, The Pelican History of Art (London, 1953), p. 178.

5. *Ibid.*, p. 178.

6. A.-P. de Mirimonde, in "Les Sujets musicaux chez Simon Vouet," *Bulletin de la Société de l'Histoire de l'Art Français*, Année 1964, p. 47, mentions that a transverse flute appears in Vouet's *Concert des muses* in the library of the Hôtel Seguier, but I have not been able to study this work. Mirimonde's *L'Iconographie musicale sous les rois bourbons: La Musique dans les arts plastiques (XVII^e–XVIII^e siècles)* (Paris, 1975), includes reproductions of several other seventeenth-century French works that depict the flute, but none sheds any light on this study.

wood turned around it in three places—at the upper end of the joint and on both sides of the bulge near its lower end—and the second joint has a thick ring of wood which protrudes from its lower end. No cap fits over the end of the head joint, as would be the case with the later three-piece flute; instead, the flute is open upwards from the plug which stops the vibrating column of air. Although the instrument has retained the cylindrical bore and six tone holes of the mid-seventeenth-century flute,[7] it has adopted two features that resemble those of the later three-piece instrument —a jointed construction (albeit with only two instead of three joints) and a swelling of the wood where the joints fit together. While Lissieu's instrument is no more ornate than the flute depicted by Mersenne, its irregularity of profile seems to be partially related to its jointed construction, and this characteristic also points in the direction of the later instrument.

Unfortunately the Lissieu instrument cannot be precisely dated. The only contemporary reference to the maker of the instrument that I have been able to find appears in Charles-Emmanuel Borjon's *Traité de la musette*, published in Lyons in 1672. Borjon's full citation reads: "In the provinces good makers of musettes are also found, and teachers who teach how to play them very well. Mr. Lissieux, who has been established at Lyons for some years, constructs them with much correctness and good intonation, and also makes all sorts of other wind instruments."[8] Although Borjon is helpful in telling us that Lissieu's instrument-making activities extended from some years before 1672 through that year itself, we can only assign the flute a rough date of about 1660–1675(?) on the basis of this information.

The first appearance of a conically bored flute constructed out of three pieces—head, middle, and foot joints—with an added sev-

7. The cylindrical bore has been established by measurements taken by Friedrich von Huene, the Boston maker of historical woodwind instruments.

8. (Lyons: Jean Girin & Barthelemy Riviere, 1672), p. 39. "Il se rencontre aussi dans les Provinces de bons faiseurs de Musettes, & des maîtres qui enseignent tresbien à en joüer. Le sieur Lissieux, qui dépuis quelques années s'est étably à Lyon, en construit avec beaucoup de propreté & de justesse, aussi bien que toute sorte d'autres instrumens à vent."

enth tone hole supplied with a closed key in the foot joint, can be dated no more exactly. We are told in Johann Joachim Quantz's *Versuch einer Anweisung die Flöte traversiere zu spielen* published in 1752 that the d♯ key was added to the flute in France and that the "improved" flute with the single key was acquired by the Germans from the French about fifty or sixty years before the date of Quantz's writing.[9] According to a letter written by Michel de La Barre (ca. 1675–1743 or 1744), the Parisian composer and flutist, the transverse flute was transformed later than the oboe and recorder.[10] But neither of these sources reveals the specific time of the transformation of the instrument. Nevertheless, it is possible to approach the date more closely through a French engraving of 1692 and a somewhat earlier French musical score.

In 1692 a fairly accurate depiction of two one-keyed three-piece flutes appeared on the title page of Marin Marais' *Pièces en trio pour les flûtes, violon, & dessus de viole* (Figure 4). One of the distinguishing features of the Marais title-page flutes, which were engraved by Charles Simonneau, is a very long head cap that slides over the end of the head joint extending it in length by several inches. This feature is also suggested by some measurements written down between 1685 and 1701 by an Englishman, James Talbot, of a flute made by P. J. Bressan, a craftsman active in London.[11] Other distinguishing features of the flutes in Simonneau's engraving are the irregular, somewhat bulbous profile of the head cap,

9. "Short History and Description of the Transverse Flute," *On Playing the Flute*, trans. Edward R. Reilly (New York, 1966), pp. 30–31 (I: 4, 5, and 7).

10. "Mémoire de M. de la Barre: Sur Les Musettes et hautbois &c.," in *Ecrits de musiciens (XVe–XVIIe siècles)*, ed. J.-G. Prod'homme, 3rd ed. (Paris, 1912), p. 244.

11. See Anthony Baines, "James Talbot's Manuscript," *The Galpin Society Journal*, I (1948), 16–17. The manuscript is in the library of Christ Church, Oxford, England, and the pertinent portion of its description of Bressan's flute reads: "Ye upper Joynt has one hole for ye mouth about an Inch & half above this a cross piece of wood or Plug determines ye length of ye long bore from ye end to ye end: from ye Plugg to ye top about 4 Inches" (p. 15 of the manuscript). For a helpful comparison of Talbot's measurements to those of a real flute see Eric Halfpenny, "A Seventeenth-Century Flute d'Allemagne," *The Galpin Society Journal*, IV (1951), 42–45.

FIGURE 4. Title-page, Marin Marais, *Pièces en trio*. Bibliothèque Nationale, Paris.

the wide ferrule of double, mirrorlike construction around the socket where the head and middle joints fit together, the raised rings around the socket where the middle and foot joints meet, and the convex shape of the exterior of the foot joint below these rings.

It is clear from Simonneau's engraving that the one-keyed flute had arrived on the scene in Paris by 1692. The inclusion of this type of flute among the other instruments illustrated on the title page of Marais' trios seems to indicate that it was considered appropriate for performing the trios, and indeed that there were probably a fair number of players of the instrument that could be induced to purchase them. Though these works are the first independent pieces I have found that were directed at the one-keyed transverse flute, the instrument seems to have already been scored for in France something over a decade earlier. Jean-Baptiste Lully's opera-ballet, *Le Triomphe de l'Amour*, premiered and printed in 1681, specified that the highest part in a "Prélude pour l'Amour" could

be played by recorders or transverse flutes, and it called specifically for two "Flûte[s] d'Allemagne" in a ritornello for an air sung by the goddess Diana.[12] It is virtually certain that this ritornello was intended for the transformed flute with the new d# key, since both flute parts call for numerous second-octave e♭s, a note for most purposes unusable on the keyless alto/tenor flute with the lowest note of d', and the parts also lie here and there too high to be played on the keyless bass flute with the lowest note of g. Thus the one-keyed flute had probably arrived on the scene in Paris by at least 1680.

It does not seem possible, however, to demonstrate the earlier existence of the three-piece one-keyed flute at this time. According to convincing arguments advanced by Jürgen Eppelsheim, other indications of "flutes" in ballet and opera scores of Lully most likely meant recorders,[13] so that other Lully scores cannot shed light on the date of the arrival of the transverse flute. Similarly the appointment of Philbert Rébillé at court, famed as the first player of the one-keyed transverse flute in France,[14] cannot clearly fix the flute's arrival date, since the documents that list Philbert as a "joueur de flutte ordinaire du cabinet du Roy" or simply as "flutte" do not specify the transverse instrument.[15] In the absence of other evidence that can clarify the date of the invention of the one-keyed flute, then, let us turn to extant instruments to see what they and their makers can tell us about the questions that concern us.

The only flutes presently known that closely resemble the flutes depicted by the Simonneau engraving are:

(1) A flute marked "Chevalier" preserved in the Museum of Fine Arts, Boston (Figure 5).
(2) A flute marked "P-I Bressan" in the Guy Oldham Collection, London.
(3) A flute marked "Hotteterre" with an anchor in the Staatliches Institut für Musikforschung, Berlin (Figure 6).
(4) A flute almost identical to that in Figure 6 marked "Hotteterre" with

12. Paris: Jean-Christophe Ballard, 1681, pp. 75 and 200.
13. *Das Orchester in den Werken Jean-Baptiste Lullys* (Tutzing, 1961), pp. 64–68.
14. According to La Barre, pp. 244–245, and Quantz, p. 30 (1: 6).
15. See Marcelle Benoit, *Musiques de cour: Chapelle, chambre, écurie 1661–1733* (Paris, 1971), pp. 19, 64, 100, and 114.

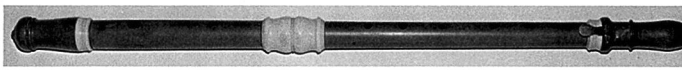

FIGURE 5. Chevalier flute. Lesley Lindsey Mason Collection of Musical Instruments (formerly Galpin Collection), Museum of Fine Arts, Boston.

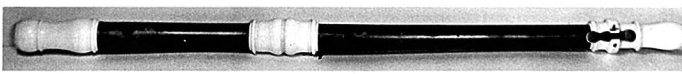

FIGURE 6. Hotteterre flute. Staatliches Institut für Musikforschung, Berlin.

an anchor in the Institute of the Theater, Music, and Cinematography, Leningrad.

(5) A flute marked "Hotteterre" with an anchor in the Musée de La Couture-Boussey.[16]

(6) A flute marked "Rippert" in the Musée Engadin, St. Moritz.

(7) An anonymous flute which was described in the catalogue of the former Snoeck collection[17] before its head joint was lost. It is now in the Staatliches Institut für Musikforschung, Berlin.

None of these flutes can be specifically dated. Though Galpin and Bessaraboff suggested a date of around 1670 for the flute made by Chevalier,[18] it cannot be conclusively established that the one-keyed flute had made its appearance by this date. The name "Chevalier" itself offers no clue in dating the instrument for while there were several Chevaliers (or Chevalliers) who were musicians at the French court in the late seventeenth and early eighteenth centuries, none is known to have been an instrument maker, and none can be identified with playing the flute or any other woodwind.[19] Although

16. See G. Thibault, Jean Jenkins, and Josiane Bran-Ricci, *Eighteenth Century Musical Instruments: France and Britain* (London, 1973), p. 135, no. 87.

17. C. C. Snoeck, *Catalogue de la collection d'instruments de musique anciens ou curieux* (Ghent, 1894), no. 666, pp. 136–137.

18. Francis W. Galpin, *Old English Instruments of Music*, rev. Thurston Dart, 4th ed. (London, 1965), pl. 31, and Nikolas Bessaraboff, *Ancient European Musical Instruments at the Museum of Fine Arts, Boston* (Cambridge, Mass., 1941), p. 54.

19. On the Chevalliers see Marcelle Benoit's *Musiques de cour* and *Versailles et les musiciens du roi 1661–1733* (Paris, 1971), *passim*; Yolande de Brossard's *Musiciens de Paris 1535–1792: Actes d'état civil d'après le Fichier Laborde de la Bibliothèque Nationale* (Paris, 1965), pp. 61–63; and various volumes of *"Recherches" sur la musique française classique.*

Nicolas (iii) Hotteterre, one of the principal instrument turners of the famed Hotteterre family, was married to a Catherine Chevalier, she seems to have been the daughter of a lawyer rather than a musician.[20] Under the circumstances, I think that about 1680 is the earliest date that may safely be assigned to this flute. But since I propose to show that flutes of this kind were also current as late as around 1715, this flute ought to be ascribed to the entire period of about 1680 to about 1715 rather than being assigned a more specific date.

The second flute listed above, unfortunately not available for reproduction here,[21] was made by P. J. Bressan, the instrument maker whose flute was described by James Talbot. Bressan was probably a Frenchman by birth, though he seems to have settled in England by 1683 and to have worked there for the rest of his life. He probably died around 1731–1732.[22] It is quite possible that he transported the principles of the new French recorder and transverse flute from France to England. But while this instrument seems to be Bressan's oldest extant transverse flute, for reasons that will presently appear, this does not aid us in ascribing a specific date to it.

The three flutes listed above marked with the name "Hotteterre" are among the most elegant instruments of their type known today. All have head caps and foot joints made entirely from ivory, and the two in Berlin and Leningrad are of a bright reddish boxwood and have round keys, rather than the more common square key. Which member of the illustrious Hotteterre family made these in-

20. See Nicolas Mauger, *Les Hotteterre: Célèbres Joueurs et facteurs de flûtes, hautbois, bassons et musettes des XVIIe & XVIIIe siècles. Nouvelles Recherches* (Paris, 1912), p. 34.

21. The flute, which belongs to Guy Oldham, is most clearly depicted in the *Catalogue of the Musical Instrument Exhibition*, Expo Sussex 1968 (Haywards Heath, Sussex, [1968]), pl. 1a. A less accurate reproduction of it appears in Philip Bate: *The Flute: A Study of its History, Development and Construction* (London, 1969), pl. 2B.

22. Eric Halfpenny, "Biographical Notices of the Early English Woodwind-making School, ca. 1650–1750," *The Galpin Society Journal*, XII (1959), 46–48, and the same, "Woodwind Instruments by P-I Bressan," *The Galpin Society Journal*, XVII (1964), 106–107.

struments is not certain. The most likely candidates are Jean (iii) (ca. 1648–1732), Louis (v) (died 1716), Nicolas (iii) or Colin (ca. 1652–1727), and Jacques Hotteterre le Romain (1674–1763).[23] Jean (iii) and Nicolas (iii) must have been among the best known of the Hotteterres for instrument making, since both were cited in Du Pradel's *Livre commode* of 1692 as "Maîtres pour le Jeu et pour la Fabrique des Instruments à Vent,"[24] and both left considerable quantities of instrument-making tools upon their death.[25] Jean was cited again along with Jean-Jacques Rippert in Joseph Sauveur's *Principes d'acoustique et de musique* of 1701 as one of the two "plus habiles facteurs de Paris" for woodwind instruments.[26] Louis (v), a brother of Nicolas (iii), was also cited in an addendum to

23. For Louis' death date, see Marcelle Benoit and Norbert Dufourcq, "Documents du Minutier Central: Musiciens français du XVIIIe siecle," *"Recherches" sur la musique française classique*, X (1970), 211. For Nicolas' date of baptism, see *ibid.*, p. 209. Jacques' birthdate is given as 29 September 1674 in the Etat Civil Reconstitué at the Archives de la Seine, Paris, while his death date is given as 16 July 1763 in the Archives Nationales, Paris, O^1 872, no. 49, p. 28 (according to information supplied me by John Hajdu). The Roman numerals identifying the members of the family of which more than one had the same first name come from my forthcoming article on the Hotteterre family in *Grove's Dictionary of Music and Musicians*, 6th ed., ed. Stanley Sadie.

24. Abraham du Pradel [Nicolas de Blegny], *Le Livre commode des adresses de Paris pour 1692*, ed. Edouard Fournier, vol. I (Paris, 1878), 212. Du Pradel gives the addresses of both Hotteterres here and also of Louis Hotteterre in vol. II, p. 72. Those for Nicolas and Louis correspond with addresses given for Nicolas (iii) and Louis (v) in a document of 1690 cited in Norbert Dufourcq and Marcelle Benoit, "Les Musiciens de Versailles à travers les minutes du Bailliage de Versailles conservées aux Archives Départementales de Seine-et-Oise," *"Recherches" sur la musique française classique*, VI (1966), 200. Mauger, in *Les Hotteterre*, p. 30, also quotes a document of 1693 giving the same addresses for Nicolas and Louis. I have found no document giving Jean (iii)'s address around this time, but as he seems to have been the only Jean Hotteterre living and old enough to be an established maker in 1692, there can be no question about the Jean to whom Du Pradel was referring.

25. See Ernest Thoinan [Antoine Ernest Roquet], *Les Hotteterre et les Chédeville: Célèbres Joueurs et facteurs de flûtes, haubois, bassons et musettes des XVIIe et XVIIIe siècles* (Paris, 1894), pp. 35–36, and Benoit and Dufourcq: "Documents du Minutier Central," p. 204.

26. (Paris, n.d.), p. 37. Sauveur's treatise was also published in the *Histoire de l'Académie Royale des Sciences, année 1701. Avec les mémoires de mathematiques & de physique pour la même année* (Paris, 1704), pp. 197–364.

Du Pradel's *Livre commode* "pour tous les Instrumens à vent."[27] Finally, Jacques, younger than the other Hotteterres discussed here and hence not mentioned by either Du Pradel or Sauveur, was active as an instrument maker at least as early as 1715, according to the diary of J. F. A. von Uffenbach, who described a visit paid him on October 25, 1715. Uffenbach wrote that Jacques had showed him "many beautiful transverse flutes that he himself makes and from which he wishes to gain special profit."[28] Since some of the surviving Hotteterre instruments are marked "L. Hotteterre" and "N. Hotteterre," it may be that both Louis and Nicolas marked their instruments with their first initial, at least after each established his own workshop, and the honor of making the flutes described above may more likely belong to Jean (iii) or Jacques. The elegance of the flutes also suggests that they could well have originated in Jacques' workshop.

The most exquisite of the instruments in the above list, however, is the flute made by Jean-Jacques Rippert, the second of the two "plus habiles facteurs de Paris" for woodwind instruments cited by Joseph Sauveur in 1701.[29] The flute must certainly have been custom-made for a wealthy customer, since the ivory of the head cap, the two ferrules, and the band around the end of the foot joint is more ornately carved than that of any other one-keyed flute I know. A document dated February 14, 1696, in the Bibliothèque Nationale, Paris, identifies Rippert as a "Faiseur de Flûtes" in Paris who had been established in that profession a long time.[30] The "flûtes" that Rippert made must have been principally of the recorder family, since almost all of his extant instruments are recorders, ranging in size from the sopranino to the bass.[31] Though he was

27. II, p. 72.

28. Eberhard Preussner, *Die musikalischen Reisen des Herrn von Uffenbach* (Kassel, 1949), p. 128.

29. *Principes d'acoustique*, p. 37. The flute is reproduced in Meylan, p. 64.

30. MS. fonds français 21, 732, fols. 220–223. Rippert's first names are given in another document dated 21 August 1696, in the same MS, fol. 106, where he is also described as a "Maistre faiseur d'Instruments à vent" in Paris. I am indebted to the late Geneviève Thibault for calling my attention to these documents.

31. See Lyndesay G. Langwill: *An Index of Musical Wind-Instrument Makers*, 3rd ed., rev. and enl. (Edinburgh, 1972), p. 131.

FIGURE 7. Frontispiece, Jacques Hotteterre, *Principes de la flûte traversière*. Dayton C. Miller Collection, Library of Congress, Washington.

described as slow because of his age by Uffenbach, who paid him several visits during his Paris sojourn in 1715, Rippert was still actively making instruments at that time.[32] He may even have lived on to receive a privilege for "un recueil de *Sonates* et autres pièces qu'il a composées pour les instruments de musique" on June 26, 1722, and to publish in the same year a book of sonatas for flute and bass ascribed to a "M. R. . ." on the title page.[33] In any case, Rip-

32. Preussner, p. 128.

33. *Sonates pour la flûte traversière, avec la basse continüe* (Paris: Boivin, 1722). For the privilege granted to Jean-Jacques Rippert see Michel Brenet [Marie Bobillier], "La Librairie musicale en France de 1653 à 1790, d'après les Registres de privilèges," *Sammelbände der Internationalen Musikgesellschaft*, VIII (1906–1907), 427.

pert's long period of activity as an instrument maker does not enable us to assign a specific date to this instrument. It could equally well have originated in the late seventeenth century or in about the first fifteen years of the eighteenth century.

For according to the available pictorial evidence, the design of the Chevalier, Bressan, Hotteterre, and Rippert flutes appears to have been the favored one for flutes during the first decade of the eighteenth century, and it seems to have persisted into the second decade of the century as well, although modifications of the design had also been introduced by this time. Bernard Picart's engraving of a flutist for the frontispiece of Jacques Hotteterre's *Principes de la flûte traversière*, published for the first time in 1707, depicts an instrument that is identical in design to those described above (Figure 7). A painting tentatively attributed to Robert Tournières in the National Gallery, London, of five unidentified French musicians, one of whom is probably Michel de La Barre, depicts three flutes of the same type; since it also illustrates La Barre's *Troisième livre des trio* that appeared in 1707, the painting probably dates from shortly after that year[34] (Figure 8—detail). A delicate crayon drawing of a flute player by the foremost French artist of the time, Antoine Watteau, in the Fitzwilliam Museum, Cambridge, England, seems to show the same type of instrument (Figure 9). While Watteau's drawing cannot be precisely dated, the figure of the flutist reappears in two other works of the artist, one of which has been assigned to late 1716.[35] Among other French representations of this sort of flute from the same period is a cartoon for a tapestry of the

34. For discussions of this painting, see Martin Davies, *National Gallery Catalogues: French School*, 2nd ed. (London, 1957), pp. 212–213, and "L'Art du Dix-huitième Siècle: Some Family and Group Portraits by François De Troy (1645–1730)," ed. Jean Cailleux, advertisement supplement to *The Burlington Magazine*, CXIII:817 (April 1971), x–xi. Cailleux attributes the painting to François De Troy.

35. According to K. T. Parker and Jacques Mathey, in *Antoine Watteau: Catalogue complet de son oeuvre dessiné*, II (Paris, 1958), 358, this subject was used by Watteau in *Le Concert champêtre* at the Musée des Beaux-Arts, Angers, and in another *Concert champêtre* that is now known only through an engraving. Hélène Adhémar, in *Watteau: Sa Vie—son oeuvre* (Paris, 1950), p. 224, suggests the date of late 1716 for the Angers painting.

FIGURE 8. Attributed to Robert Tournières, *La Barre and Other Musicians*, detail. Reproduced by courtesy of the Trustees, The National Gallery, London.

FIGURE 9. Antoine Watteau, *Man Playing a Flute*. Fitzwilliam Museum, Cambridge.

FIGURE 10. Joseph Christophe, *Baptême du dauphin, fils de Louis XIV*, detail. Cliché des Musées Nationaux, Paris.

baptism of the dauphin sketched in 1711 and painted in 1715 by Joseph Christophe[36] (Figure 10—detail).

In German lands, similar flutes appear in pictorial sources probably executed in the second decade or early in the third decade of the eighteenth century. One appears in a portrait of a flute player—possibly the imperial court musician Ferdinand Joseph Lemberger—painted by the Bohemian artist Jan Kupecký presumably between 1709 and about 1724 or 1725 when the artist resided in Vienna.[37] Several versions of this painting are known. In the one that belongs to the Germanisches Nationalmuseum, Nuremberg

36. Pierre Marcel, *La Peinture française au début du dix-huitième siècle* (Paris, [1906]), pp. 208–209.

37. František Dvořák; *Kupecký: The Great Baroque Portrait Painter*, trans. Hedda Stránská (Prague, n.d.), p. 43.

FIGURE 11. Jan Kupecký, *Der Querflötenbläser*. Germanisches Nationalmuseum, Nuremberg.

(Figure 11), it is not entirely clear whether the flute depicted possesses a wide upper ferrule of double construction, half of ivory and half of wood, or whether the ivory stops where it meets the player's hand. As Figure 14 demonstrates, however, half-ivory, half-wood ferrules were sometimes made, and it seems likely that this is what the painter intended to represent here. In any case, the flute resembles the others discussed above in all other respects. Another German pictorial source illustrating this sort of flute is a portrait of a gentleman playing the flute in the *Musicalisches Theatrum*, a series of engravings demonstrating musical instruments published

between about 1715 and 1725 by Johann Christoph Weigel in Nuremberg.[38]

At some point, probably still rather early in the eighteenth century, makers began to experiment with the design of the flute. They produced several intermediate flute forms between that of the earliest known one-keyed instrument and that of the trimmer and plainer flute of four pieces that was to establish itself well before the middle of the century. The first appearance of the change may be represented by a fourth flute marked "Hotteterre" with an anchor that resides in the Landesmuseum Joanneum in Graz. Made of black ebony with an ivory head cap and two ivory ferrules, this flute resembles the ones discussed above except that its head cap is somewhat shorter (Figure 12). Friedrich von Huene, the Boston maker of historical flutes and recorders, believes that this flute was made by the same man who fashioned the two Hotteterre flutes in Berlin and Leningrad because of close similarities in the measurements of the three instruments.[39] If so, it probably stemmed from a different period of its maker's output, perhaps a later one, since the head cap of the flute was to become progressively shorter in the early part of the eighteenth century. The Graz instrument has a loud, full, rich sound in both its low and high registers and is one of the best of the early one-keyed flutes still extant.

Another flute whose head cap was still shorter than that of the Graz Hotteterre flute is an instrument in the Berlin collection marked "Naust" (Figure 13). This flute, made entirely of wood with no ivory decoration, appears in Figure 13 as it was at the time Curt Sachs' catalogue of the Berlin collection appeared in 1922.[40] It is supposed that the head cap shown in Sachs' catalogue was the original one, though it was later lost, and a new head cap fashioned for the flute that was made to resemble the longer ones on the Chevalier, P. J. Bressan, and boxwood Hotteterre flutes, thus giv-

38. Facsimile ed., ed. Alfred Berner, *Documenta Musicologica*, Erste Reihe, XXII (Kassel, 1961), Blatt 11, and Notes, p. VIII.

39. Personal communication from Friedrich von Huene.

40. *Sammlung alter Musikinstrumente bei der Staatliche Hochschule für Musik zu Berlin: Beschreibender Katalog* (Berlin, 1922), pl. 25, no. 2667. See also col. 255.

FIGURE 12. Hotteterre flute. Landesmuseum Joanneum, Graz.

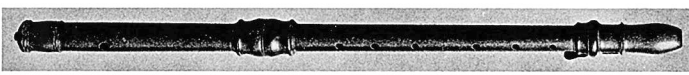

FIGURE 13. Naust flute. Staatliches Institut für Musikforschung, Berlin.

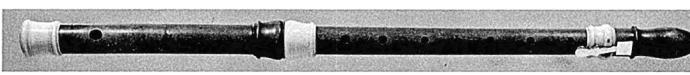

FIGURE 14. Rippert flute. Glen Collection, Glasgow Museums and Art Galleries.

ing an incorrect idea of the instrument's original design.[41] The identity of the maker is uncertain. Gustave Chouquet asserted that Naust was established in Strasbourg in the eighteenth century,[42] though it may be that the Pierre Naust described in a marriage document as a "maître joueur d'instruments" living on the *rue de l'Arbre sec* in Paris in 1708[43] was also the Naust who made instruments.

A flute made by Rippert in the Glen Collection in the Glasgow Art Gallery also illustrates that maker's experimentation with the design of the flute (Figure 14). It has a head cap which is still shorter and more cylindrical than those on the Graz Hotteterre and Naust flutes, though in all other respects the instrument is like those listed on pages 12–13 above. When Eric Halfpenny assigned this flute to the late seventeenth century,[44] he did not know about Rippert's later instrument-making activities, and I would guess that the instrument probably dates from the latter rather than the

41. Personal communication from Dr. Dieter Krickeberg of the Staatliches Institut für Musikforschung.

42. *Le Musée du Conservatoire National de Musique. Catalogue descriptif et raisonné*, nouv. éd. (Paris, 1884), p. 112.

43. Brossard, p. 225.

44. "A Seventeenth-Century Flute d'Allemagne," p. 42.

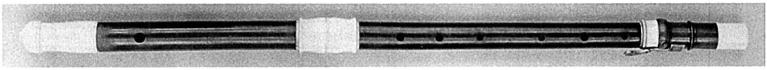

FIGURE 15. Naust flute. Musée Instrumental du Conservatoire Nationale de Musique, Paris.

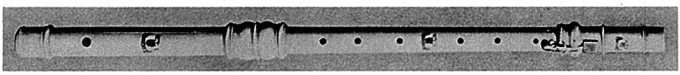

FIGURE 16. Denner flute. Staatliches Institut für Musikforschung, Berlin.

earlier part of the maker's career because of its shorter head cap which appears to represent a transitional type current between the earlier long, bulbous head cap and the later much shorter flat cap introduced at least by the 1730's.

A second extant flute by Naust which resides in the museum of the Conservatoire National de Musique in Paris demonstrates yet another sort of experiment made with the shape of the flute (Figure 15). Though the head cap of this instrument is long and bulbous as those on the earliest one-keyed flutes, its foot joint is nearly cylindrical below the socket, rather than convex. The flute is also somewhat longer and lower in pitch than the other instruments under discussion; it sounds about a minor third below them and is therefore a *flûte d'amour*. Since its straighter, less curvaceous, foot joint foreshadows that of the later standard four-piece flute, it suggests that the instrument represents another transitional type between the earliest form of the one-keyed flute and the later instrument.

At some point, makers altered the design of both the head cap and the foot joint of the flute, straightening out the exterior profile of both as well as shortening the length of the head cap, while retaining the other aspects of the three-piece one-keyed flute intact. Two such flutes survived into the twentieth century. One of them—an ivory instrument made by Jacob Denner (died 1735), a famous Nuremberg craftsman—was in the Berlin collection before the war though it was subsequently lost (Figure 16). Sachs says that Denner's flute possessed two foot joints, one of which extended the

FIGURE 17. Bressan flute. Dayton C. Miller Collection, Library of Congress, Washington.

range of the instrument downwards by a whole step and was supplied with two keys.[45] Though he does not specify which notes the two keys provided, one must have been the normal d♯ key, while the other was probably a low c♮ key, given the length of the foot joint. Since Quantz says that flutes with a lengthened foot joint that permitted the low c♮ to sound were already being made about thirty years before his writing, hence in the early 1720's, Denner's flute may date from around that time.[46] It is also possible, though less likely, that the two-keyed foot joint was made for an already existing instrument, so that a post–early 1720's date for the flute is not absolutely certain. Nevertheless, the tentative date that the two-keyed foot joint suggests for the Denner instrument does not seem out of line with evidence offered by pictorial sources, as we shall see.

The only currently extant three-piece flute with both an essentially straight head cap and foot joint—that is, straight if the elegant turned rings are disregarded—that I know of is an instrument made by P. J. Bressan in the Dayton C. Miller Collection at the Library of Congress, Washington (Figure 17). Since we possess no precise information that helps us date this flute, it is necessary to turn to pictorial sources to establish the approximate time at which this sort of flute flourished.

The earliest painting I have found that depicts this kind of flute is Watteau's *L'Alliance de la comédie et de la musique*, which is in a

45. *Sammlung alter Musikinstrumente*, p. 255, L.G.

46. *On Playing the Flute*, p. 34 (1:16). The only treatise from the first half of the eighteenth century to depict such a flute is Joseph Friedrich Bernhard Caspar Majer's *Museum musicum theoretico practicum* (Schwäbisch Hall: Georg Michael Majer, 1732). Majer's illustration (on p. 33), however, is somewhat confusing to study since it erroneously depicts the "gross Schloss" for c higher up on the instrument than the "klein Schloss" for d♯.

private collection in Lausanne[47] (Figure 18—detail). If the date 1707–1708 suggested by Jacques Mathey for this painting were correct, it would demonstrate that this sort of flute was in existence very early in the eighteenth century. But Hélène Adhémar assigns the painting to the period 1712–1715, and Ettore Camesasca also believes that Mathey's date is too early.[48] Two further paintings by Watteau which represent a flute of similar type—*L'Accord parfait* in the collection of Lord Iveagh in London, a copy of which is in the National Gallery, London (Figure 19—detail), and *Le Lorgneur* in the collection of Edouard de Rothschild in Paris—were probably

47. John Sunderland and Ettore Camesasca, *The Complete Paintings of Watteau* (London, 1971), p. 108. The purpose of this painting has been disputed, according to Camesasca. A discussion of its iconography appears in A.-P. de Mirimonde, "Les Sujets musicaux chez Antoine Watteau," *Gazette des Beaux-Arts*, LXIII (1961), 262–263.

48. Jacques Mathey, *Antoine Watteau: Peintures réapparues* (Paris, 1959), p. 66; Adhémar, p. 211; and Sunderland and Camesasca, p. 108.

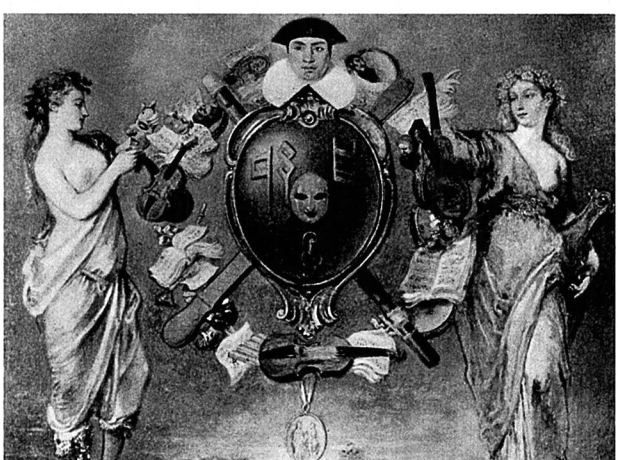

FIGURE 18. Antoine Watteau, *L'Alliance de la comédie et de la musique*, detail. Reproduced by courtesy of the Société Française du Livre, Paris.

executed around the mid-1710's.[49] (In the undated drawings by Watteau in the Bibliothèque des Arts Décoratifs in Paris which served as models for these paintings,[50] the flute's design is less clear than in the paintings.) These works suggest that the three-piece one-keyed flute with an essentially straight head cap and foot joint probably began to flourish in Paris during the second decade of the eighteenth century. It may be that the new design pushed other flute models into the background at this time, although the earlier type of instrument still continued in use.

It has not proved possible to find any pictorial sources clearly attributable to the 1720's that illustrate the nature of the flute

49. Adhémar assigns *L'Accord parfait* to 1715 (p. 215) and *Le Lorgneur* to late 1716 (p. 223), while Mathey assigns the former to ca. 1718–1719? (p. 69) and the latter to ca. 1713–1715 (p. 68).

50. See K. T. Parker and J. Mathey, II, nos. 837 and 813, pp. 359 and 356.

FIGURE 19. Antoine Watteau, *L'Accord parfait*, detail. Reproduced by courtesy of the Trustees, The National Gallery, London.

FIGURE 20. Jean Raoux, *Le Quatour*. Reproduced by courtesy of Christie, Manson and Woods Ltd., London.

during that decade, unless Jean Raoux's (1677–1734) *Le Quatuor* tentatively dated around 1724–1726 by Celia Alegret were to qualify.[51] In the only version of this painting I have been able to study (Figure 20), the flute in the player's hands has a long bulbous head cap while the foot joint is unclear; the foot joint of the flute lying on the floor, however, appears to have a convex rather than a straight exterior. Thus Raoux's presumably later painting does not illustrate either of the modernizations of the flute's exterior observed in the above works of Watteau.

51. According to a letter of 4 July 1975, addressed to the author. The version of the painting discussed here was sold by Christie's in London in late November 1974, according to Mlle Alegret. See also n. 99 on p. 56.

FIGURE 21. Nicolas Lancret, *Le Duo*, detail. Caisse Nationale des Monuments Historiques, Paris.

By the 1730's, however, paintings indicate that the three-piece flute had undergone yet another modification in design, although there seem to be no extant instruments that demonstrate that type. This modification pertained to the instrument's upper ferrule, which lost its double construction, or at least became a good deal narrower, while the instrument's head cap and foot joint remained as they were on the Dayton C. Miller Bressan flute. This sort of instrument appears in the French artist Nicolas Lancret's (1690–1743) *Portrait de Mlle. Sallé*, which the *Mercure de France* reported finished in April 1732.[52] It is also seen in Lancret's undated *Le Duo* on deposit at the Musée des Beaux-Arts in Lyons (Figure 21—detail) and in the same artist's *Le Duo* at the Carnegie Institute in Pittsburgh, except that in the latter painting its upper ferrule is not visible.[53] An engraving by Basset said to be after a painting by Lancret also rather clearly demonstrates an instrument of this type (Figure 22).

Other pictorial sources of the 1730's that illustrate the same sort of flute include Jean-Baptiste Pater's (1695–1736) *Concert champêtre* at the Metropolitan Museum of Art, New York, probably

52. See Georges Wildenstein, *Lancret* (Paris, 1924), p. 109, and Emile Dacier, *Une Danseuse de l'Opéra sous Louis XV: Mademoiselle Sallé* (Paris, 1909), pp. 81–83. Voltaire viewed the portrait at Lancret's studio on 13 April 1732.

53. For the Pittsburgh *Le Duo* see *French Painting: 1100–1900* (Pittsburgh, Carnegie Institute, Department of Fine Arts, 1951), no. 79.

FIGURE 22. Nicolas Lancret, *Par une tendre chansonette*, engraved by Basset. Dayton C. Miller Collection, Library of Congress, Washington.

FIGURE 23. J. B. Pater, *Concert champêtre*, detail. The Metropolitan Museum of Art, New York. Purchase Joseph Pulitzer Bequest Fund, 1937.

painted in 1733[54] (Figure 23—detail). A similar instrument, albeit with perhaps a larger ivory ferrule, appears in a painting, *Hofkonzert bei Ismaning*, probably executed in 1733 by the Munich court painter Peter Jacob Horemans[55] (Figure 24—detail). The

54. See Charles Sterling, *The Metropolitan Museum of Art: A Catalog of French Paintings, XV–XVIII Centuries*, I (Cambridge, Mass., 1955), 114, and H. W. Williams, Jr., "A Concert Champêtre by Pater," *Bulletin of the Metropolitan Museum of Art*, XXXII (May 1937), 148–151.

55. Dated in Johann Georg Prinz von Hohenzollern's *Der kurbayerische Hofmaler Peter Jacob Horemans (1700–1776)* (Munich, 1974), pp. 20–21, a catalogue of an exhibition of Horemans' paintings at the Alte Pinakothek, Munich.

FIGURE 24. P. J. Horemans, *Hofkonzert bei Ismaning*, detail. Bayerisches Nationalmuseum, Munich.

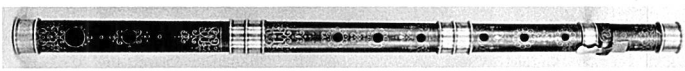

FIGURE 25. Bressan flute. Crown Copyright, Victoria and Albert Museum, London.

prevalence of this sort of flute in works of the early 1730's by Lancret and other artists suggests that the three-piece instrument lasted well into this decade and that it was not immediately replaced by the four-piece instrument which may already have been developed by the early 1720's (see below). From the pictorial evidence, indeed, it appears that the three-piece flute may even have been more prevalent than the four-piece flute up until around 1735.

* * *

About half a century after it seems to have come into use, the three-piece flute was supplanted by a flute in four pieces with a thin, flat piece of wood or ivory that closed off the upper end of the head joint replacing the former longer head cap; two rounded, smooth ferrules at the lower end of the head joint and the upper end of the lower middle joint without the mirror construction or decorative turning typical of the older double ferrule; and a foot joint with a straight profile below the lowest ferrule. To establish the approximate date at which the division of the flute into four pieces first occurred, let us recall what Quantz had to say on the subject:

If the same pitch had prevailed everywhere, these three pieces would have sufficed. About thirty years ago [i.e., ca. 1722], however, the flute was supplied with several interchangeable middle pieces, necessitated by the fact that the pitch to which we tune is so varied that a different tuning or prevailing pitch has been introduced not only in every country, but in almost every province and city, while even at the very same place the harpsichord is tuned high at one time, low at another, by careless tuners. Accordingly, the long middle piece with six holes was divided into two parts, to make the flute more convenient to carry about in one's pocket; and to take the place of one of these two parts, namely the upper section, two or three others were fashioned, one shorter than another, so that they differed from one another by about a semitone.[56]

56. *On Playing the Flute*, pp. 31–32 (1: 9). The phrase "in one's pocket" appears only in the French edition, according to Reilly.

Although an earlier written account of the division of the flute into four pieces appeared in Michel Corrette's *Méthode pour apprendre aisément à joüer de la flûte traversière* published around 1740,[57] Corrette did not state when this type of flute was introduced:

> Les Flutes les plus à la mode son Composées de quatre pièces pour les porter plus aisément dans la poche: autrefois on ne les faisoit que de trois pieces qui étoient fort incõmodes à porter.[58]

But he did clearly indicate that four-piece flutes were the most fashionable ones at the time of his writing in Paris.

A look at one extant four-piece flute that appears to be of relatively early design seems to corroborate Quantz's contention that the middle joint of the flute had been divided into two parts by the 1720's. This flute, made by P. J. Bressan and now in the Victoria and Albert Museum, London, is an extremely beautiful ebony flute inlaid with silver and spanned by silver rings (Figure 25). These rings are considerably flatter than those on Bressan's other flutes, and scarcely any irregularity of profile exists. The flute's head cap is shorter than those belonging to any of the instruments previously discussed, and in addition to its other modern features, the flute has unusually thin walls and a slotted boss which holds the key.[59] Certain of the instrument's features still closely resemble those of the three-piece flute, however. The silver rings that span the instrument at the top of each of its two middle joints are still fairly wide and, more importantly, they still feature elements of double construction. Though Eric Halfpenny and Anthony Baines both as-

57. There has been uncertainty about the date of publication of this method, but it must have appeared after 1735 because a privilege dated that year is printed in the book, and after 1739 because a gavotte and minuet from Rameau's *Dardanus*, which was first performed in that year, are included among the musical examples. The method probably came out in 1740, because a new flute treatise was announced in the December II issue of the *Mercure de France* (p. 2920) in that year, and it is described there in terms that fit the treatise exactly: "Une nouvelle Méthode pour la Flûte Traversière, dans laquelle sont démontrés plusieurs tons & cadences qui n'ont jamais été enseignés, avec des principes de Musique, & beaucoup de Leçons à une & deux Parties." The treatise was published in Paris by Madame Boivin and Le Clerc.

58. P. 7.

59. Bate, p. 84.

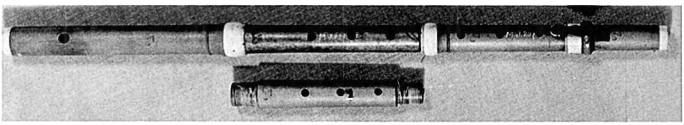

FIGURE 26. Denner flute. Germanisches Nationalmuseum, Nuremberg.

signed dates in the vicinity of 1710–1715 to this instrument,[60] I have found no evidence to support such an early date. Nevertheless, it does seem likely that the flute was among the earliest instruments made in four pieces, both because of its older features and on account of some surmises made about Bressan's health by Halfpenny. Halfpenny shows that Bressan had become poor by 1727, and suggests that ill health or some other malady had probably interfered with his working ability before this time.[61] If this were so, and if Quantz's estimate of when the four-piece flute came into existence were reliable, the ebony and silver Bressan flute ought to date from about 1722–1727.

The death of another instrument maker, Jacob Denner, in 1735 offers a fixed point for predating two other four-piece flutes. Two of Denner's instruments, one in the Germanisches Nationalmuseum, Nuremberg, and the other in the Musée du Conservatoire Royal de Musique, Brussels, are of four-piece design, and they appear to be later instruments than the Denner three-piece flute discussed above, not only because of their four-jointed construction, but also because of their simpler profile. For these flutes, Denner did not retain wide ferrules of mirror construction, but substituted smooth and nearly rounded ferrules around the two highest sockets. (Nevertheless, some remnant of the wider design may be noticed in the way the wood flares out from a narrow ornamental raised ring to meet the ivory part of the ferrule on the Nuremberg flute [Figure 26].) Another new feature is the flat ivory cap that closes

60. Halfpenny, "Two Rare Transverse Flutes," *The Galpin Society Journal*, XIII (1960), 42, and Baines, *Victoria and Albert Museum: Catalogue of Musical Instruments*, II, 89.

61. "Biographical Notices," pp. 47–48.

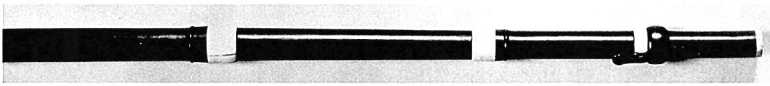

FIGURE 27. Dumont flute. Dayton C. Miller Collection, Library of Congress, Washington.

off the top of this flute's head joint without bulging out from the straight profile of the wood. The foot joint, below the raised ring of wood which holds the key, has a completely flat exterior though it is banded at the very end by a ring of ivory. Denner's four-piece flute in the Brussels collection is similar to his Nuremberg flute in design, though only its uppermost ferrule is made partially of ivory, while its second ferrule is made of a single rounded piece of wood.[62]

Among extant French instruments, a flute pitched a fourth lower than the conventional size instrument may also belong among the earliest four-piece instruments, though the evidence is less clear than in the above cases. Marked with the name "Dumont," this flute has wide, almost flat ivory ferrules and a straight foot joint, except for the wide ring of wood that holds the key, which ends with a nonprotruding ivory ring (Figure 27). Unfortunately its original head cap was missing when Dayton C. Miller acquired the flute in 1928, so that its design is not known.[63] Since a Du Mont was listed as a wind instrument maker in Du Pradel's *Livre commode* of 1692,[64] that year is the approximate date suggested for the instrument by the *Checklist* of the Dayton C. Miller Collection, where the instrument resides.[65] Although it is certainly possible that longer flutes preceded the flute in d′ in the division of their center joints because of the greater difficulty of boring out long pieces of wood, the nature of the ferrules and the flat profile of the instrument make it highly unlikely that it dates from such an

62. It is pictured in Roger Bragard's and Ferdinand J. de Hen's *Musical Instruments in Art and History*, trans. Bill Hopkins (New York, 1968), pl. IV-II.

63. According to information supplied by William Lichtenwanger of the Library of Congress.

64. I, 213.

65. Laura E. Gilliam and William Lichtenwanger, *The Dayton C. Miller Flute Collection: A Checklist of the Instruments* (Washington, 1961), p. 62, No. 870.

FIGURE 28. Bizey flute. Dr. Ulrich Rück Collection of Historical Musical Instruments, Germanisches Nationalmuseum, Nuremberg.

early time. Indeed, a four-piece ivory flute of standard pitch in Berlin whose head joint also seems to be marked "Dumont"[66] (the mark is partly worn away) so closely resembles instruments of a much later time that it suggests that if these two instruments were made by the same person, that maker's working period extended well into the eighteenth century. I would hesitate to date these flutes before the 1720's, at the very earliest, and since the Berlin flute closely resembles flutes whose design can only be substantiated for the first time in the 1730's, my hunch is that it did not originate before that decade.

Another extant French four-piece flute made by Charles Bizey, in the Dr. Ulrich Rück Collection of Historical Musical Instruments at the Germanisches Nationalmuseum, Nuremberg, is fortunately stamped with the date 1736, and it therefore establishes an important point of comparison for other instruments of the same general design. This flute has a short flat head cap (though the one the instrument now has is a copy of the original),[67] a primarily straight foot joint except for the ring of wood that holds the key, and smooth, rounded ferrules around the joints which are half ivory and half wood (Figure 28). In these respects the instrument closely resembles the Denner flute in the same museum, arguing for a similar date of origin, though the Denner is necessarily a little older since that maker died in 1735.

Bizey's career as an instrument maker extended from around 1716, when he was received as a master into the *communauté des maîtres-luthiers* of Paris after having completed his apprenticeship, through at least 1752, when he was charged, along with the four other master makers of wind instruments, with discriminating

66. No. 5054.

67. Personal communication from Dr. J. H. van der Meer, curator of instruments at the museum.

FIGURE 29. Bizey flute. Morley-Pegge Memorial Gift, Bate Collection, Oxford.

FIGURE 30. Bizey flute. Musée Instrumental du Conservatoire National de Musique, Paris.

against another wind instrument maker who wished to be admitted to mastership in the society.[68] In spite of the probability that Bizey's career began before the division of the flute into four pieces, no instruments of three-piece design by him are known today. In fact, only his flute at Nuremberg is dated, and it is not possible to suggest precise dates for the others.

A flute by Bizey in the Morley-Pegge Memorial at Oxford University, Oxford, England, has a much flatter profile (Figure 29). Its key is mounted on a slotted boss, and both this feature and the slim profile resemble those of the ebony and silver Bressan flute, though in their materials and upper ferrule designs they are not similar. Because this Bizey flute represents an apparently rare design, it is not possible to tell whether the flute is earlier or later than the 1736 Bizey. I can only suggest that the resemblance of its very flat profile to that of a flute depicted in a portrait of La Pouplinière (see below) indicates that such flutes were apparently made around 1739. Other extant flutes by Bizey are made entirely of ivory. One, in the Paris Conservatoire collection (Figure 30), has an exchange piece for the upper middle joint while another, in the collection of Philip Bate on deposit at Oxford University, has three additional keys and a metal band surrounding the foot joint which were added at a later time. Both flutes exhibit rounded ferrules and an ivory ring that holds the key. They cannot be precisely dated and prob-

68. According to a *jugement* of 1752 printed by Constant Pierre, in *Les Facteurs d'instruments de musique, les luthiers et la facture instrumentale* (Paris, 1893), pp. 40–46.

FIGURE 31. Alexis Grimou, *Il Suonatore del flauto*. Soprintendenza alle Gallerie della Campania, Appartamento Storico di Palazzo Reale, Naples.

ably could have originated anytime between the early 1730's and Bizey's death date, which is unknown.

Additional light on the characteristics of the four-piece flute in the 1730's is shed by several pictorial sources. The earliest works I have found that depict the new four-piece instrument are two paintings by the French artist Alexis Grimou (1678–1733). One of these works, *Il Suonatore del flauto*, hangs in the Museum of the Royal Palace in Naples (Figure 31). Although the painting is not signed or dated, its attribution to Grimou does not seem doubtful,[69] and that artist's death date indicates that it was executed before

69. Personal communication from Marina Causa Picone, Director of the Appartamento Storico di Palazzo Reale, Naples.

FIGURE 32. Frontispiece, [Michel Corrette,] *Méthode pour . . . la flûte traversière.* Dayton C. Miller Collection, Library of Congress, Washington.

early May 1733.[70] The flute exhibits smooth and nearly rounded wooden ferrules around the two highest sockets—ferrules that resemble those of the Nuremberg Denner flute closely, except that they are entirely of wood—and a very short, flat head cap. The foot joint is straight in profile except for the protrusion of the ring of wood into which the key is set. Grimou's other painting which depicts a transverse flute—referred to as *Portrait of a Man* in the catalogue of the Richard Myddelton Collection Sale, Sotheby and Company[71]—cannot be precisely dated either, but it too had to

70. On the painter see C. Gabillot, "Alexis Grimou: Peintre français (1678–1733)," *Gazette des Beaux-Arts*, 53e Année (1911), pp. 157–172, 309–323, and 412–426.

71. London, 13 May 1970 (118), p. 29.

originate before May 1733. In the two paintings, the poses of the flute player and the flutes themselves are nearly identical.

Another French source that depicts an essentially similar instrument, though it is only roughly sketched, is the humorously captioned engraving of two flutists which forms the frontispiece to Corrette's *Méthode* of about 1740 (Figure 32). Carle van Loo's portrait of the wealthy French tax farmer Le Riche de La Pouplinière, which is said to date from 1739,[72] shows an instrument, probably made of ebony, that exhibits a perfectly flat profile throughout its entire length, sockets that are only banded by very narrow metal rings, and a slotted boss that holds the key. The flutes in all four of these illustrations appear to have the same kind of flat head cap.

Whatever their other individual variations, the flutes depicted in these four illustrations differ much more markedly in design from their three-piece predecessors than they do from each other, and they also differ more from the only surviving four-piece flute that can reasonably be assigned to the 1720's—the Bressan flute in the Victoria and Albert Museum—than they do from each other. These fundamental differences convince me that flutes similar to those appearing in pictures executed during the 1730's ought not to be assigned to an earlier decade unless documentary evidence is found that clearly establishes an earlier date. Because of the time it must have taken instrument makers to institute new models and players to become convinced of the desirability of them, it is probable that four-piece flutes were not made in large numbers during the 1720's. Pictures show us that three-piece instruments probably continued to be numerous in the early 1730's too. In addition to the Lancret, Pater, and Horemans illustrations discussed above, the frontispiece to the London-published *Newest Method for Learners on the German Flute* of about 1730[73] also depicts a three-piece flute,

72. Georges Cucuel dates it 1739 in *La Pouplinière et la musique de chambre au XVIIIe siècle* (Paris, 1913), p. 416. The portrait forms the frontispiece to Cucuel's book and was in the collection of M. de Cheveigné at the time of its publication.

73. See Thomas Warner, *An Annotated Bibliography of Woodwind Instruction Books, 1600–1830*, Detroit Studies in Music Bibliography, XI (Detroit, 1967), 13–14, for the date of publication of this work.

FIGURE 33. Frontispiece, *Newest Method for Learners on the German Flute.* Courtesy of The Newberry Library, Chicago.

though one of curious design (Figure 33: notice the old-fashioned double ferrule and convex foot joint alongside the modern short, flat head cap). The fingering chart in J. F. B. C. Majer's *Museum Musicum Theoretico Practicum* of 1732[74] also illustrates a three-piece flute. These sources indicate that the three-piece instrument did not immediately disappear upon the introduction of the new four-piece design. Corrette's *Méthode*, it should be repeated, was the first method to illustrate and discuss the four-piece flute, and its very statement that this instrument was the most fashionable type

74. See note 46. A facsimile reprint of the Majer treatise was published by Heinz Becker, in *Documenta Musicologica*, VIII (Kassel, 1954).

of flute then in use implies that the three-piece model was still being played.

Assigning terminal dates to extant instruments of the four-piece type is even trickier than establishing their earliest possible dates of origin, and it can only be done if the final dates of activity of their makers are known, since the type of four-piece flute established in the 1730's had a long period of stability. There appears to have been no significant change in the design of the four-piece one-keyed flute from the earliest dated example—the 1736 Bizey flute—through at least 1770, according to the sources I have studied, though variations in details of the design can be observed throughout this period. Since this stability of design is well illustrated by the instruments made by French craftsmen active around the middle of the eighteenth century, I should like to discuss them here.[75]

Alongside Bizey, one of the most prominent Parisian *maîtres-luthiers* for wind instruments cited by the *jugement* of 1752 was Thomas Lot, a very prolific maker of flutes, judging from the number of his instruments that survive today. Among these instruments is a pair of flutes said to have belonged to Louis XV,[76] now in the Carse Collection at the Horniman Museum in London (Figure 34). Apart from minor differences—such as in the amount of ivory in their ferrules (different for the two Lot flutes themselves) and in the way the wood of the Lot flutes flares to meet the ivory without being marked with narrow wooden ridges—these flutes are of essentially the same design as the Nuremberg Bizey and Denner flutes. The flute on the left in the illustration was presumably used by the king himself since it has a gold key bearing a crown and cipher as well as a golden ornament attached to the head cap; the same flute has narrow ivory ferrules. The flute on the right was presumably intended for Louis' tutor; it has only a silver key and

75. Since I am only concerned with the one-keyed flute, instruments like the five-keyed bass flute an octave below the standard instrument will not be discussed here. Nor will the instruments of standard pitch made with additional keys shortly after the middle of the century be taken up.

76. *The Adam Carse Collection of Old Musical Wind Instruments* (London, 1951), p. 23. But Thibault, Jenkins, and Bran-Ricci, p. 136, merely assign the flutes to a "nobleman" and his tutor.

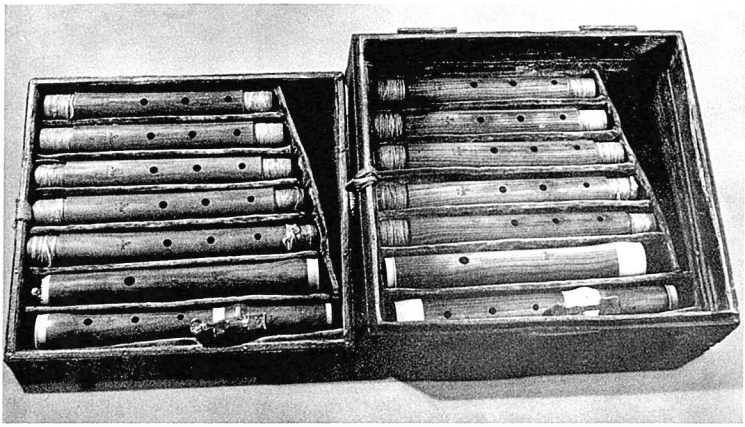

FIGURE 34. Pair of Thomas Lot flutes. Horniman Museum, London.

no ornament on the head cap, but it does exhibit wider ivory ferrules. The king's flute is made from olivewood, the tutor's from tulipwood. Both flutes have five upper middle joints of different lengths for the purpose of tuning, and both play beautifully.[77]

Lot's output alone illustrates the stability of that type of flute in the middle years of the eighteenth century, since the maker's career was a long one, extending from before 1736 through at least 1783 and probably 1785.[78] But though the basic design of the flute does not appear to have changed during Lot's working period, there is a certain variation in the materials and ornamental features of Lot's flutes; for example, a flute of his in the Bayerisches Nationalmuseum, Munich (Figure 35), is very close in style to the Horniman Museum's tutor's flute, while other Lot flutes in the Museum of

77. Information about the wood and playing condition of these flutes was supplied by Friedrich von Huene.

78. Pierre, pp. 40–46 and 100. That Lot had begun working by 1736 is clear from an announcement about the publication of his sonatas for two flutes that appeared in the *Mercure de France*, March 1736, p. 533. Here he is referred to as a "Faiseur d'Instrumens de Musique."

FIGURE 35. Thomas Lot flute. Bayerisches Nationalmuseum, Munich.

FIGURE 36. Thomas Lot flute. Escher Foundation, Haags Gemeentemuseum, The Hague.

FIGURE 37. Thomas Lot flute. Photographie du Musée des Techniques, Conservatoire National des Arts et Métiers, Paris.

Fine Arts, Boston, the Dayton C. Miller Collection, and the Gemeentemuseum, The Hague (Figure 36), display raised wooden rings at the ferrules. The Dayton C. Miller flute as well as a Lot flute formerly in the collection of R. Morley-Pegge have dome-shaped ivory head caps, and a Lot flute in the Brussels collection is made of ivory and garnished with black horn ferrules.[79]

Lot also made one-keyed flutes of similar design in sizes other than the standard one. These include a flute a fourth below standard pitch in the Conservatoire National des Arts et Métiers, Paris (Figure 37), and a *flûte à la tierce* a minor third above standard pitch in the Dayton C. Miller Collection (Figure 38). A piccolo with black horn rings stamped "Lot A Paris" with an accompanying sun and star in the Dayton C. Miller Collection (Figure 39) has been listed under Thomas Lot's name in the index to the catalogue of the collection,[80] but it would be surprising if Thomas Lot had not marked the instrument, were it his own, with a "T. Lot" over a lion rampant, as he did so many of his other instruments; thus it is probably of some other maker's design. Nevertheless, the manufacture of piccolos in Paris around 1740 is established by Corrette's *Méthode*:

79. The Brussels flute is pictured in Bragard and de Hen, pl. IV-11.
80. Gilliam and Lichtenwanger, p. 107.

FIGURE 38. Thomas Lot *flûte à la tierce*. Dayton C. Miller Collection, Library of Congress, Washington.

FIGURE 39. Lot piccolo. Dayton C. Miller Collection, Library of Congress, Washington.

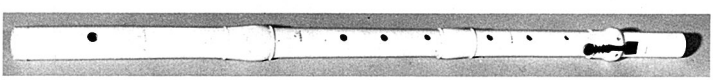

FIGURE 40. Villars flute. Sammlung alter Musikinstrumente des Kunsthistorischen Museums, Vienna.

On fait présentement à Paris des petites Flûtes Traversières à l'Octave qui font un effet charmant dans les Tambourins et dans les Concerto faits exprès pour la Flûte. Voyez Ceux de Messieurs Boismortier, Corrette, Nodeau, Braun, et Quantz.[81]

Though only a few transverse flutes made by other woodwind instrument makers active in Paris in the middle portion of the eighteenth century appear to have survived, these instruments are of the same type as those of Bizey and Thomas Lot. A flute made by Paul Villars (fl. 1741–1776) in the Vienna collection (Figure 40) and another made by Denis Vincent (fl. 1752–1769) in the collection of Frans Brüggen are entirely of ivory and closely resemble the Bizey ivory flute pictured above.[82] Since Villars was Bizey's apprentice,[83] he might represent a second generation of French makers of four-piece flutes working in the same style. A second Villars flute made of boxwood and garnished with ivory ferrules in the Rendall Collection is described in the catalogue of a musical instrument exhibi-

81. P. 11.

82. The dates of both Villars and Vincent are given by Pierre, pp. 99–100 and 103. Frans Brüggen has informed me that his Vincent flute plays at a′=413, and that its head joint is not stamped, like the other joints, with Vincent's name. Though that may indicate a replacement, the head joint matches the others exactly in form.

83. Pierre, pp. 42 and 99.

tion held in Edinburgh in 1968.[84] A few extant flutes have been attributed to the Parisian maker Leclerc who died shortly before 1752,[85] but the different spellings (Lecler, Leclere, and Leclercq) of the name on these instruments as well as the frequency of the name in eighteenth-century France suggest that more than one maker may have been responsible for them. Thus, no hard evidence is offered by these instruments. Two other woodwind instrument makers from about the same period in Paris—Jacques Lusse and Gilles Lot—made no flutes that have survived to the present time, as far as I have been able to determine.[86]

The stability of the design of the one-keyed flute as illustrated by the products of French makers is borne out by those of craftsmen of other nations as well. Their very numbers make it impossible, however, to discuss the others here. By looking at some precisely dated pictorial sources that illustrate the design of the flute in the middle decades of the eighteenth century, nevertheless, we can strengthen our picture of the one-keyed flute's design up through this time. Pictorial sources from around the middle of the century in which the flute appeared are numerous, and they include still-life and music-making scenes as well as group and individual portraits. In almost all of those I have examined the basic design of the instru-

84. *An Exhibition of European Musical Instruments*, ed. Graham Melville-Mason (Edinburgh, 1968), no. 47, p. 14.

85. For the location of the instruments, see Langwill, p. 92. The *jugement* of 1752 printed in Pierre shows that Leclerc had died before that year.

86. Lusse was one of the five *maîtres-luthiers* for wind instruments in Paris mentioned by the *jugement* of 1752. All the instruments attributed to him that I have seen are clearly marked "C. Delusse" and hence probably belong to the output of Christophe Delusse. (See my forthcoming article "Delusse" in *Grove's*, 6.) Gilles Lot had not been admitted to the society of wind instrument makers by 1752 because of the opposition of Bizey, Thomas Lot, Villars, Vincent, and Lusse (indeed this is what the *jugement* is all about), but he had been active as a maker for some time before this. He had been apprenticed to his cousin Thomas Lot for five years, had been an assistant (*compagnon*) to Bizey for another, and had married Leclerc's daughter and maintained the shop and practices of his widow when Leclerc died. One of his transverse flutes was in the Berlin collection (no. 2680) before the war (see Sachs, col. 257), but it is now lost. The two transverse flutes ascribed to him in Langwill, p. 98, are both by Thomas Lot, according to Dr. Georg Himmelheber of the Bayerisches Nationalmuseum, Munich.

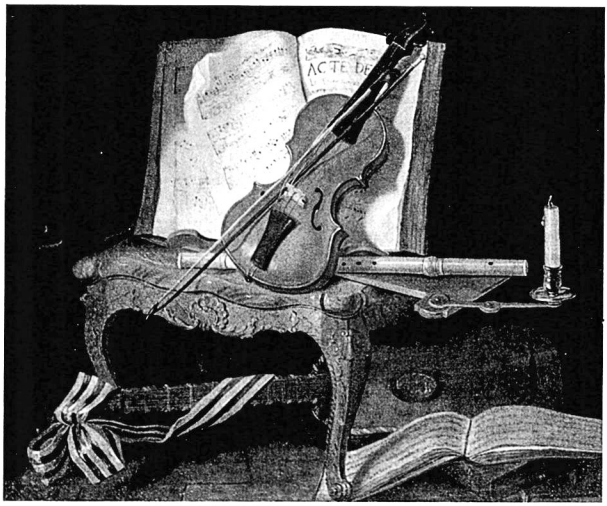

FIGURE 41. J.-B. Oudry, *Devant de cheminée*. Cliché des Musées Nationaux, Paris.

ment is the same as that illustrated by the products of the French makers.

Among the fashionable types of still-life paintings in France to include musical instruments was the "devant de cheminée." An example of this type which depicts a flute, violin, and guitar is a painting by Jean-Baptiste Oudry (1686–1755) at the Louvre (Figure 41). According to H.-N. Opperman, a specialist in Oudry, this painting is a replica of a larger *Devant de cheminée* exhibited at the Salon in 1741, and the flute is completely identical in the two paintings.[87] *Les Arts démontrés par leurs attributs* by Pierre-Nicolas Huilliot (1674–1751), which is signed and dated 1743, portrays the same sort of flute, at least in the head and upper middle joints,

87. According to information supplied by Isabelle Compin at the Musée du Louvre.

which are all that are visible in the painting.[88] The lower three joints of a similar flute appear in the same artist's *Nature morte* which is at the Château de Versailles (Figure 42). Though this painting cannot be precisely dated, Huilliot exhibited several still lifes with musical instruments at the Salon in the mid-1740's,[89] and the painting may belong to that decade; it certainly stems from no later than 1751 since the artist died in that year. While the flutes in the Oudry and Huilliot paintings do not exactly resemble any of the extant four-piece instruments discussed above, they are similar to several of them in all essential aspects.

In Johann Georg Ziesenis' portrait of Karl Philipp Theodor, Elector of the Palatinate, painted in 1757[90] (Figure 43—detail), we can, however, recognize an instrument almost identical to one of Thomas Lot's wooden flutes with rather narrow ivory ferrules towards which the wood flares smoothly, a flat ivory head cap, and an ivory ring at the end of the foot joint. Similar flutes, albeit with differing amounts of ivory, appear in the flutist de Lusse's *L'Art de la flûte traversière*, published in Paris probably in late 1760[91] (Figure 44), and, at least as far as the head joint is concerned, in Jean-Baptiste Chardin's *Les Attributs de la musique* (1765) which is at the Louvre[92] (Figure 45—detail).

In two other paintings of the 1760's—Horemans' *Konzert bei Maximilian III* (1762) at the Schloss Nymphenburg, Munich[93] (Figure 46—detail), and François Hubert Drouais' group portrait of

88. Depicted as fig. 272 in Michel Faré, *La Nature morte en France: Son Histoire et son évolution du XVIIe au XXe siecle*, II (Geneva, 1962).

89. See Émile Bellier de la Chavignerie and Louis Auvray, *Dictionnaire général des artistes de l'école française depuis l'origine des arts du dessin jusqu'à nos jours*, I (Paris, 1882), 793.

90. Harald Keller, *Die Kunst des 18. Jahrhunderts*, Propyläen Kunstgeschichte, X (Berlin, 1971), 410–411.

91. (Paris, L'Auteur), n.d. The method was first reviewed in the *Mercure de France* of January II 1761 (p. 177).

92. See A.-P. de Mirimonde's "Les Oeuvres françaises à sujet de musique au Musée du Louvre: II. Natures mortes des XVIIIe et XIXe siècles," *La Revue du Louvre*, XV:3 (1965), 115–116.

93. See François Lesure, *Musik und Gesellschaft im Bild: Zeugnisse der Malerei aus sechs Jahrhunderten* (Kassel, 1966), pp. 184–185.

FIGURE 42. P.-N. Huilliot, *Nature morte*. Cliché des Musées Nationaux, Paris.

FIGURE 43. J. G. Ziesenis, *Karl Philipp Theodor, Kurfürst der Pfalz*, detail. Bayerisches Nationalmuseum, Munich.

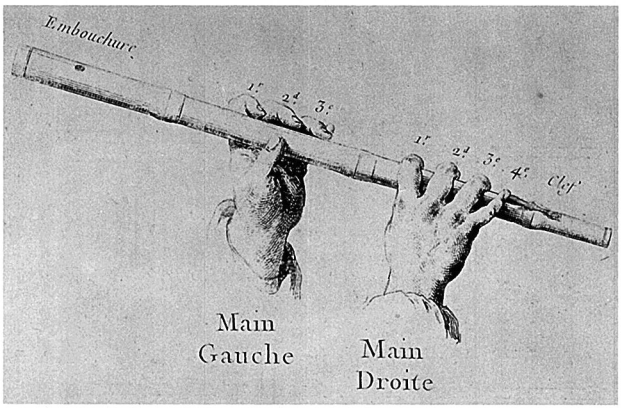

FIGURE 44. De Lusse, *L'Art de la flûte traversière*. Dayton C. Miller Collection, Library of Congress, Washington.

the Sourches family (1766) at Versailles[94] (Figure 47—detail)—flutes with wider, costlier bands of ivory appear. Though the Drouais flute does not appear to differ much from the wider-banded Thomas Lot flute at the Horniman Museum, the Horemans flute, with its very wide ferrules completely of ivory, resembles, in this way, a flute made by the English maker Thomas Stanesby Junior (1692–1754) at the Horniman Museum (Figure 48) and an almost identical flute by the same maker in the collection of Frans Brüggen. The somewhat elongated head caps of the Stanesby flutes seem to suggest a fairly early date of origin, before the firm establishment of the short, flat cap, but we do not know when these flutes originated, and Stanesby's working period seems to have been a long one.[95] Although the flute in the Horemans painting may

94. See G. van der Kemp, "Musée de Versailles et des Trianons: Acquisitions de 1950 à 1961," *La Revue du Louvre*, XV:1 (1965), 47–48.

95. According to Eric Halfpenny in "Further Light on the Stanesby Family," *The Galpin Society Journal*, XIII (1960), 56–69, it probably extended from long before 1729 through about 1750.

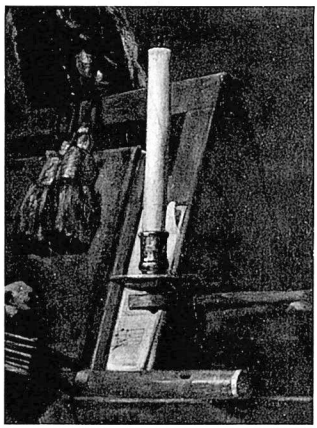

FIGURE 45. J. B. Chardin, *Les Attributs de la musique*, detail. Cliché des Musées Nationaux, Paris.

FIGURE 46. P. J. Horemans, *Konzert bei Maximilian III*, detail. Schloss Nymphenburg, Munich.

FIGURE 47. F. H. Drouais, *La Famille de Sourches*, detail. Cliché des Musées Nationaux, Paris.

have been made well before the date of its depiction, unless further evidence turns up, its style of decoration cannot be assigned to a specific period. It seems to me that both the Stanesby and Horemans flutes may represent a subtype cultivated by some makers throughout the middle decades of the eighteenth century—that is, a minor variation of the basic model rather than a model that had its own period of dominance.

The only significantly exceptional note sounded by a representation of a flute from the same general period comes from the frontispiece to a new edition of Hotteterre's *Principes de la flûte traversière* that was published by M. Bailleux in Paris around 1765

FIGURE 48. Stanesby Junior flute. Horniman Museum, London.

FIGURE 49. Frontispiece, M. Bailleux, *Méthode pour . . . la flûte traversière.* Dayton C. Miller Collection, Library of Congress, Washington.

under the title *Méthode pour apprendre à jouer en très peu de tems de la flûte traversière*[96] (Figure 49). The instrument in the new frontispiece has very wide ferrules which are also rather decoratively turned around both ends. I know of no extant flutes from this period which resemble this one closely, yet the instrument seems exact enough in all other respects to have been drawn from a real flute. The position and features of the figure posing with the flute, it is true, seem to be identical with those in Bernard Picart's engraving for the original edition of the Hotteterre treatise (cf. Figure 7). But the hairstyle and dress of the figure have been brought up to date, and the instrument is also modern in all es-

96. See Warner, p. 9, for the date of this treatise.

sential matters, so that it cannot merely represent the artist's fanciful conception. Given its unique design among all the sources I have studied, however, this sort of instrument must have been an exception to the norm; perhaps it was a costly design that never established itself as a successful model. A related though less significant and far less elegant exception is depicted in the *Darmstädter Gesellschaft im Freien* (Figure 50—detail) probably painted around 1750–1751 by Johann Christian Fiedler, court painter at Darmstadt (1697–1765).[97] Once again this sort of instrument must have been a rare, and perhaps a local, variation of the standard model that did not establish itself as an independent type.

Aside from these special cases, the pictorial sources of the 1730's through the 1760's that I have found reveal a fairly narrow range of variation in the design of the flute and a stability of basic design that did not alter during this period. Still, I should point out the distinct ferrules depicted in the Grimou, Oudry, and Huilliot paintings (which date from no later than 1733 through no later than 1751) contrast with the smoothly flaring ones depicted in the Ziesenis, de Lusse, and Chardin illustrations (1757–1765). It may be that flutes with little ridges at the edges of the ferrules, as the 1736 Bizey and the Nuremberg Denner flutes, preceded flutes with smoothly flaring ferrules in manufacture. In Thomas Lot's output where both types are represented, it is possible that the ridged instruments are older than the flaring ones. But not enough evidence is available at this time to put forth convincing arguments in this matter. What is clear is that from the time the flute assumed the form it displays in Grimou's two paintings through that of Drouais' portrait of the Sourches family (1766), it remained much more stable than the instrument had in the preceding twenty to thirty years—that period in which it lost its long head cap and large double ferrule, acquired a flatter exterior, particularly in the foot joint, and was divided into four pieces.

* * *

97. Information about the painting supplied by Hans M. Schmidt of the Hessisches Landesmuseum, where the painting is housed, from a typewritten catalogue of Darmstadt paintings by Barbara Bott.

FIGURE 50. J. C. Fiedler, *Darmstädter Gesellschaft im Freien*, detail. Hessisches Landesmuseum, Darmstadt.

One of the conclusions to be drawn from the information presented in this study is that the earliest one-keyed flutes now in existence ought not to be dated before about 1680, because there is no evidence that unquestionably establishes the existence of the one-keyed instrument before this time. Furthermore, no evidence definitely establishes its shape and style of decoration before 1692.

Secondly, the type of flute that existed from around 1680 or 1690 appears to have remained the standard instrument throughout the first decade and part of the second decade of the eighteenth century, although the three-piece instrument with a shorter head cap and/or a straight foot joint may have begun to appear before 1710.

Thirdly, while the earliest four-piece flutes may have been made in the early 1720's, there is little reason to think that this type of flute took over immediately. During the 1720's and 1730's it is likely that both three- and four-piece flutes were made and played, but there is no evidence that four-piece instruments were produced in any quantity before the 1730's. Indeed, pictorial sources of the early 1730's demonstrate that the three-piece instrument was still very much in use, albeit alongside its ultimate four-piece successor.

Finally, from the time the latter instrument came into vogue, the basic design of the flute remained quite stable through at least 1770, although many variations of detail can be observed in extant instruments and pictorial sources. Four-piece flutes with this basic design should therefore be assigned approximate dates with care; attributing them to the 1720's should usually be avoided. Indeed, all instruments should be dated within a wide time spectrum taking into account the entire period in which a particular instrumental design flourished, unless specific information allows a more precise date to be given.

While this study does not discuss many aspects of the flute's construction—for example, the dimensions of its bore, the size of its embouchure and tone holes, and the placement of the embouchure hole vis-à-vis the upper end of the instrument—it is my understanding that the variations observable in these aspects of the flute's construction seem to depend much more upon the individual maker than upon the date at which the instrument was made, as far as we can tell,[98] and no general line of development of each individual element during the time period in question can be traced that helps to date particular instruments. If this is the case, the best hope we have of discovering the development of the design of the flute lies in studying pictorial evidence and the biographies of individual makers along the lines I have indicated here. Only after this has been done can a reasonably accurate history of the one-keyed flute be written.[99]

New York City

98. According to information supplied me by Friedrich von Huene.

99. After this article had gone to press, the author discovered a drawing of a flute in a fingering chart published in 1725 in Paris in a collection of *Brunettes ou petits airs à II dessus, à l'usage de ceux qui veulent apprendre à jouer de la flûte traversière* by M^r R** (Jean-Jacques Rippert). Since this drawing is the only depiction of a flute I have found that definitely belongs to the 1720's, it is worth describing here. The flute has three pieces, a very short, flat head cap, and a primarily straight foot joint; it retains the large double ferrule typical of the early three-piece flute. Since it is not identical to any of the other flutes discussed in the text, it further illustrates the experimental nature of flute design in the 1720's and 1730's.