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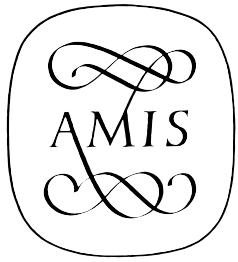


The German Oboe in the Eighteenth Century

Cecil Adkins

In my essay on the oboes of the English Milhouse family,[1] I cited Eric Halfpenny's seminal article on the two- and three-keyed oboe in England as the first organized attempt to classify oboes according to their exterior shape, and the first to suggest some evolutionary trends in English oboes in the eighteenth century.[2] Since that time other writers have followed the classifications Halfpenny established,[3] and while the categories have been expanded and elaborated upon,[4] no one—except for Bruce Haynes, who has posited a plausible explanation of the oboe's development in the seventeenth century[5]—has offered any extensive insight into the flow of the instrument's evolution.

Halfpenny grouped early oboes into four categories (A, B, C, and D), which ranged from an elaborate Baroque style through two progressively simpler forms and then returned to a more elaborate style—the Classical oboe—at the end of the eighteenth century. Haynes expands these four categories to five, several of which he subdivides in order to account for prominent structural variations. In a simplified manner, table 1 compares these two systems of classification.

Full explanations of these categorizations, particularly that of Haynes, impart a good sense of the structural differences between the groupings. Both are intended to be chronological, though Haynes's extra categories confound this scheme somewhat. Yet neither conveys any sense of the continuous development that must have existed during the century. The working out of Halfpenny's and Haynes's ideas would suggest that the

1. Cecil Adkins, "William Milhouse and the English Classical Oboe," this Journal 22 (1996): 42–88, at pp. 42–46.

2. Eric Halfpenny, "The English 2- and 3-Keyed Hautboy," *The Galpin Society Journal* 2 (March 1949): 10–31.

3. See Philip Bate, *The Oboe,* 3d ed. (London: Benn, 1975), 52; and Bruce Haynes, *The Eloquent Oboe: A History of the Hautboy, 1640–1760* (Oxford: Oxford University Press, 2001).

4. Bruce Haynes, *The Eloquent Oboe,* Draft, February 2000, 57–63. Haynes has also offered a revision of this classification (see table 1) in a draft article "Hautboy Types by Turning Styles," forthcoming as "Die Entwicklung der Oboe im Wandel der Stile," *Tibia* 26 (2001).

5. Bruce Haynes, " 'Sweeter than Hautbois': Towards a Conception of the Schalmey of the Baroque Period," this Journal 26 (2000): 57–82.

Table 1. The oboe classification schemes of Eric Halfpenny and Bruce Haynes.

Halfpenny		Haynes	
		1. Earliest identifiable oboes	c. 1670–1704
A. Basically Baroque, elaborate architectural turnings	before 1734	A. 2. Common International type	c. 1670–1763
		3. Predominantly Dutch	c. 1700–1744
B. Reduced, less attractive turnery	1730–1765	B. French, vertically symmetrical baluster	1730–1740
C. Straight top	1765–1790	C. Italian-English straight top	1730–after 1800
		1. Rococo (Type A2), International	after 1760
D. Classical, return to an exaggerated form of A	after 1789	D. 2. Classical oboe	1770–1828
		3. Extreme, elaborate turnery	late 18th C.
		E. French, stretched form of A2	around 1750

reversal of the trend toward simplification of the elaborate Baroque style in the first half of the eighteenth century, and the subsequent return to its many shapes a generation later, was hardly more than serendipitous.[6] On the contrary, I would propose that the apparent return to the earlier elaborate style was rather the culmination of generations of stylistic evolution, which is best reflected in the work of the oboe makers of four major Germanic centers: Nuremberg, Leipzig, Dresden, and Vienna. The ensuing discussion will trace the developments in each of these centers during the oboe's first hundred years[7] through an analysis and comparison of the external characteristics of surviving instruments.

Some New Techniques of Analysis

One of the major difficulties encountered in any broad-based study of oboe development has been the lack of a consistent means of describing and comparing the shapes of parts of the instrument. Such terms as cotton-reel finial, pirouette, baluster, bobbin, onion, vase, and bulb—to list some of the expressions used to describe the uppermost decorative portions of the instrument—convey an impression of shape, but do not provide a coherent means of describing their similarities or differences. Several years ago Bruce Haynes and I developed a consistent nomenclature for the main features of the instrument. This was published in my recent study on architectural motives in oboe design, in which I also described a method of using molding patterns to identify turning styles.[8]

6. See Halfpenny, 16–17: "The final form of the simple hautboy, and the type to which additional keys were subsequently added, is a curious reversion to the highly ornamental outline of the Baroque pattern but with some modifications. It is almost impossible to suggest any reason for this remarkable change in fashion. . . . The most prominent feature of Type D is a return to the bulbous top in an exaggerated form which is aptly typified by Adam Carse as 'onion-like.' " Also Haynes, "Hautboy Types by Turning Style," Draft, 1: "Observing these types, the original trend seems to have been toward simplification; Type A2 was less complicated than A1, B less than A2. From about mid-century, however, designs again became more complex. Type E, which may have derived from B, again had more beading, and the classical hautboy, evolving from Type D1, was almost as complex in profile as A2."

7. The period of the two- and three-keyed oboe was about 1680 to 1830. The oboe's "first hundred years" thus really encompasses at least two decades on either side of the eighteenth century.

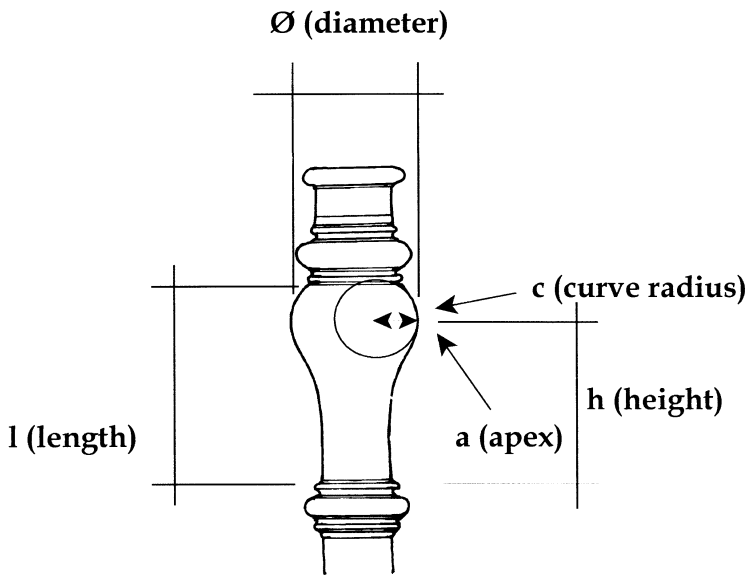
8. Cecil Adkins, "Proportions and Architectural Motives in the Design of the Eighteenth-Century Oboe," this Journal 25 (1999): 95–131 (Appendix A, Oboe Nomenclature, p. 128, reprinted as an appendix to the present article; Appendix B, Molding Shapes, pp. 129–31).

Comparisons of complex moldings are useful to demonstrate consistency of manufacture, to identify anonymous or poorly marked instruments, to verify changes in design, and to demonstrate stylistic developments and evolutionary trends. Such comparisons rely on the patterns created by the combined shapes, but the molding data is so complex that the use of measurements has not been practical. Changes in the compound shape are recognizable, but the minute size and complexity of the moldings hinder identification through casual observation. Larger features—such as the shapes of balusters, bells, and finials—are, however, more clearly discernible. Though the visual clues they offer allow easier identification, the descriptive terms mentioned earlier, such as onion and vase, do not offer the necessary degree of precision. Further, complex geometrical analysis of composite curves, such as that used by Kevin Coates in his book *Geometry, Proportion and the Art of Lutherie*,[9] is beyond the skill (and patience) of most organologists.

After trying many complex geometrical and mathematical schemes in an attempt to accurately define the differences in baluster curves, I came upon the following simple method, which is based on two relationships: the ratio (r) between the radius of the baluster curve (c) and the diameter of the baluster ($Ø$), expressed as a fraction; and the apex (a), defined as the height (h) of the widest point of the baluster curve, divided by the baluster length (l). Figure 1 illustrates how the relationship between the curve ratio ($r = c / Ø$) and the curve apex ($a = h / l$) can be quantified for an oboe baluster.

As a way of quantifying the three elements of a baluster, this ratio/apex relationship can also be converted to a discrete baluster index number (BIN)—derived by the formula $a\,(Ø/r)$—that can then be used as a direct indicator of baluster configuration. Though other formulas can be made using the diameter, curve radius, and apex of the baluster, this is the only one that yields consistently discrete numbers. Further, the BIN can be used as an aid to stylistic determination, for example in associating anonymous instruments with a particular style. Of course, all of this can be done by keeping the individual elements at hand, i.e., in the head, but the numbers provide a more objective means of grouping instruments. In the case of the German makers being considered here, the BIN has been helpful in identifying the style of the main corpus of a maker's instruments and in isolating anomalous instruments that may

9. (Oxford: Clarendon Press, 1985).



c = Baluster curve radius.
Ø = Widest diameter of the baluster.
r = Ratio of the baluster curve expressed as a fraction of the baluster diameter.

h = Height of the widest diameter.
l = Length of the baluster curve.
a = Apex: height of the widest diameter divided by the length of the baluster.

$$r = c / Ø$$
$$a = h / l$$

Baluster Index Number (BIN) = a (Ø / r)

Figure 1. Baluster calculations.

have been manufactured by subcontractors. Baluster index numbers for central German instruments range from 5.83 to 186, with larger numbers indicating a smaller curve radius and a heightened apex. Baluster diameters of the forty-six oboes used in the sample range from 23.8 to 41.3 mm, with both an average and a median of 31.3 mm. As an example, table 2 gives the baluster data for ten Nuremberg and Nuremberg-related oboe makers; each set of numbers represents a specific instrument by that maker.

The illustrations in this article are line drawings based on technical renderings or photographs. Although each drawing represents the salient details of a specific instrument, many of the instruments were chosen because they are illustrative of certain features of a group of oboes.

The German Oboe in the Eighteenth Century

The German-speaking area encompassed in this discussion of eighteenth-century oboes includes the major centers of Nuremberg, Leipzig, and Dresden (all within the southeast quadrant of modern-day Germany), as well as Vienna, which lies farther to the east. Altogether sixty-nine manufacturers of two- and three-keyed oboes were active in these four cities between 1680 and 1830. This number represents 47 percent of the 146 documented makers in Germany and Austria during this time.[10] Of the eleven Nuremberg makers, five made important contributions to the development of the instrument, as did five of the twenty known makers in Leipzig, five of thirteen in Dresden, and seven of twenty-five in Vienna.

A number of well-known makers in these four cities are listed in figure 2, where their family relationships, professional connections (master/apprentice, assistant), and business associations are shown. Placement on this chart is keyed to the maker's twenty-fifth year, based on the assumption that he would have completed his apprenticeship and applied for master's status between the ages of twenty-five and thirty. In most cases his significant innovations would probably have come within the

10. Only makers who can be linked with an extant instrument are counted here. Altogether there were 173 known oboe makers working in the central European countries during the eighteenth century, distributed geographically in this way: Germany 121, Austria 25, Czechoslovakia 14, Denmark 5, Switzerland 4, Poland 2, Hungary 1, Sweden 1. Additionally, there are 49 other makers whose reputations exist without instruments, and in my master file of 350 two- and three-keyed continental oboes, fully ten percent are by anonymous makers.

Table 2. Baluster measurements and related ratios of some Nuremberg oboe balusters.

Maker	Conjectural Working Dates	Location of Instrument	Baluster Apex a	Baluster Diameter Ø (mm)	Curve Ratio r	Baluster Index No. a (Ø / r)
Paulhahn, P.	early 18th C.	Vienna, Harnoncourt Collection	0.505	27.2	2	6.868
Oberlender, J. W. (2)*	1705–c. 1745	Amsterdam, Han de Vries Collection	0.750	26.4	2	9.915
Denner, [J. C.]	1683–1707	Leningrad, Exhibition of Mus. Ins. 508	0.680	24.8	1½	11.24
Denner, J.	1707–35	Nuremberg, Germ. Nat. Mus. MIR 370	0.668	29.9	1½	13.31
Schell, J.	1697–1732	Berlin, Musikinstrumenten-Mus. 5250	0.600	23.8	1	14.28
Denner, [Johann David]	1736–64	Venice, Cons. "B. Marcello," Correr 34	0.696	28.8	1	20.04
Königsberger, J. W. (2)	fl. 1724–1752	Boston, Museum of Fine Arts 17-1908	0.706	28.6	1	20.19
Oberlender, J. W. (2)	1735–1779	Vermillion, Shrine to Music 4240	0.720	28.5	1	20.52
Königsberger, A. (1)	fl. 1699–1753	Munich, Deutsches Museum 25986	0.758	28.7	1	21.75
Englehard, J. F.	1758–1801	ex Michel Piguet Collection	0.674	31.7	⅔	32.08

*Han de Vries, the owner of this instrument, and Phillip Young (*Loan Exhibition of Historic Double Reed Instruments* [Victoria: University of Victoria, 1988], 21) attribute it to Oberlender 1. Its mark, which is a diagonal banner surmounted by a pine tree, is logically attributed to Oberlender 2 by Ekkehard Nickel. See William Waterhouse, *The New Langwill Index* (London: Tony Bingham, 1993), 284.

next decade or so.[11] Though some makers worked past the age of seventy-five, the average life span was about fifty years. The working periods of the Nuremberg makers range from about 1680 to the mid-eighteenth century; those of the Leipzig makers from 1703 to 1801; Dresden makers from 1728 to 1822; and the Viennese from 1748 to after 1820. As can be seen in figure 3, oboe manufacture flourished successively in each of these locations. The refinements and changes introduced by each new generation within a given geographical area superseded the work of their predecessors, who for the most part continued to produce oboes in much the same way that had first been developed in their region.

Nuremberg. German oboe production is first documented in Nuremberg in the last decade of the seventeenth century, only a few years after its beginnings in France. The earliest known reference occurs in a 1696 request to the Nuremberg city council for rights to build "French musical instruments, particularly oboes and recorders," which the petitioners Johann Christoph Denner and Johann Schell claimed were "invented in France approximately twelve years ago."[12] The prominent Nuremberg makers are listed with their birth and death dates in table 3.

J. C. Denner's influence is notable in all the oboes produced both by his eldest son Jacob and by his successor and youngest son Johann David, as well as in the oboes produced by Johann Wilhelm Oberlender and his son of the same name. However, the instruments of Johann Friedrich Engelhard, who rose to prominence after 1750, exhibit the characteristics of the later Dresden oboe.

11. However, Herbert Heyde's article "Makers' Marks on Wind Instruments," in William Waterhouse, *The New Langwill Index* (London: Tony Bingham, 1993), xiii–xxviii, shows—particularly the portions on guild regulation, wholesaling, and provenance — that the whole process of manufacturing and selling of instruments in the eighteenth century was fraught with exceptions and irregularities. In spite of careful vetting of stylistic features, makers' marks, and so forth, one may never be certain of the authenticity of an instrument or the circumstances of its manufacture, but must proceed anyway.

12. Ekkehart Nickel, *Der Holzblasinstrumentenbau in der freien Reichsstadt Nürnberg* (Munich: Emil Katzbichler, 1971), 204: ". . . französischen musikalischen Instrumenta, so mainsten in Hautbois und Flaudadois bestehen . . . die ongefehr vor 12 Jahren in Frankreich erfunden worden." This would place the date of the oboe's invention at 1684. But in a personal communication dated 17 March 2000, Bruce Haynes asserts that the instrument was fixed in its definitive form between 1664 and 1670.

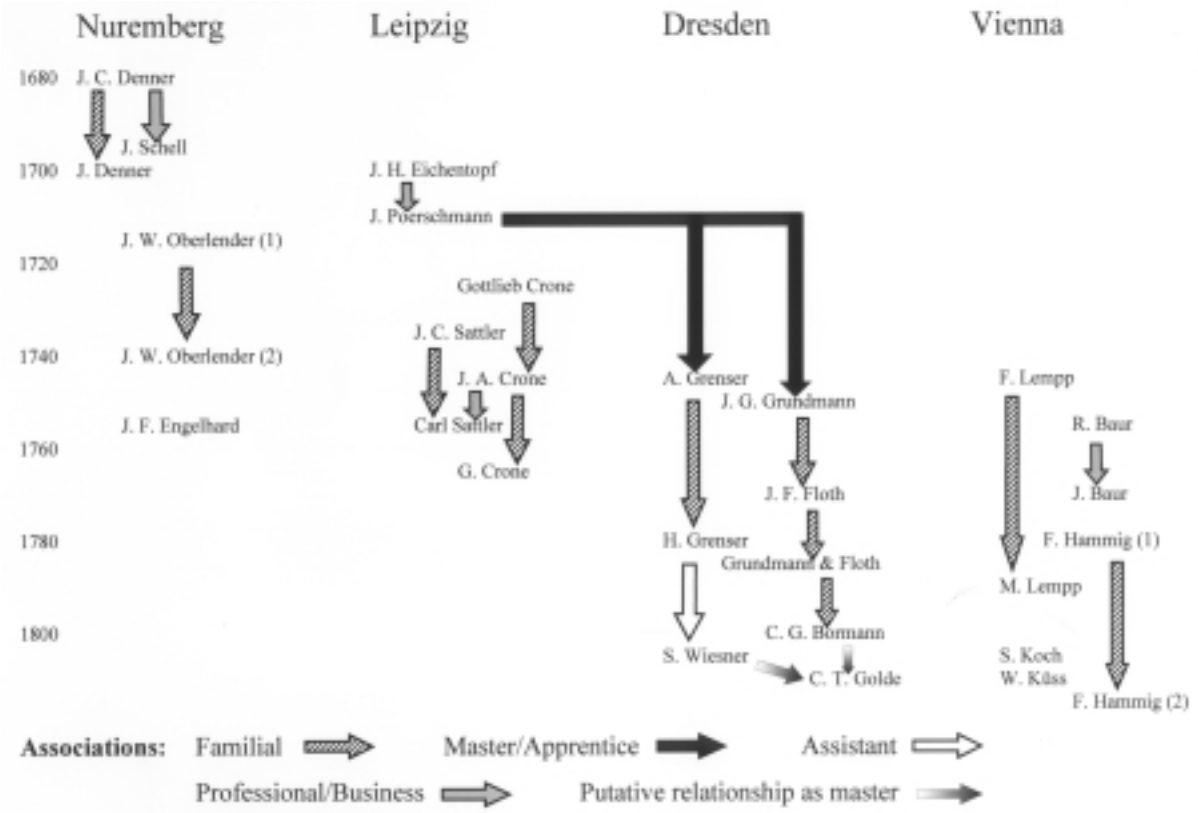


Figure 2. Relationships of German and Austrian oboe makers.

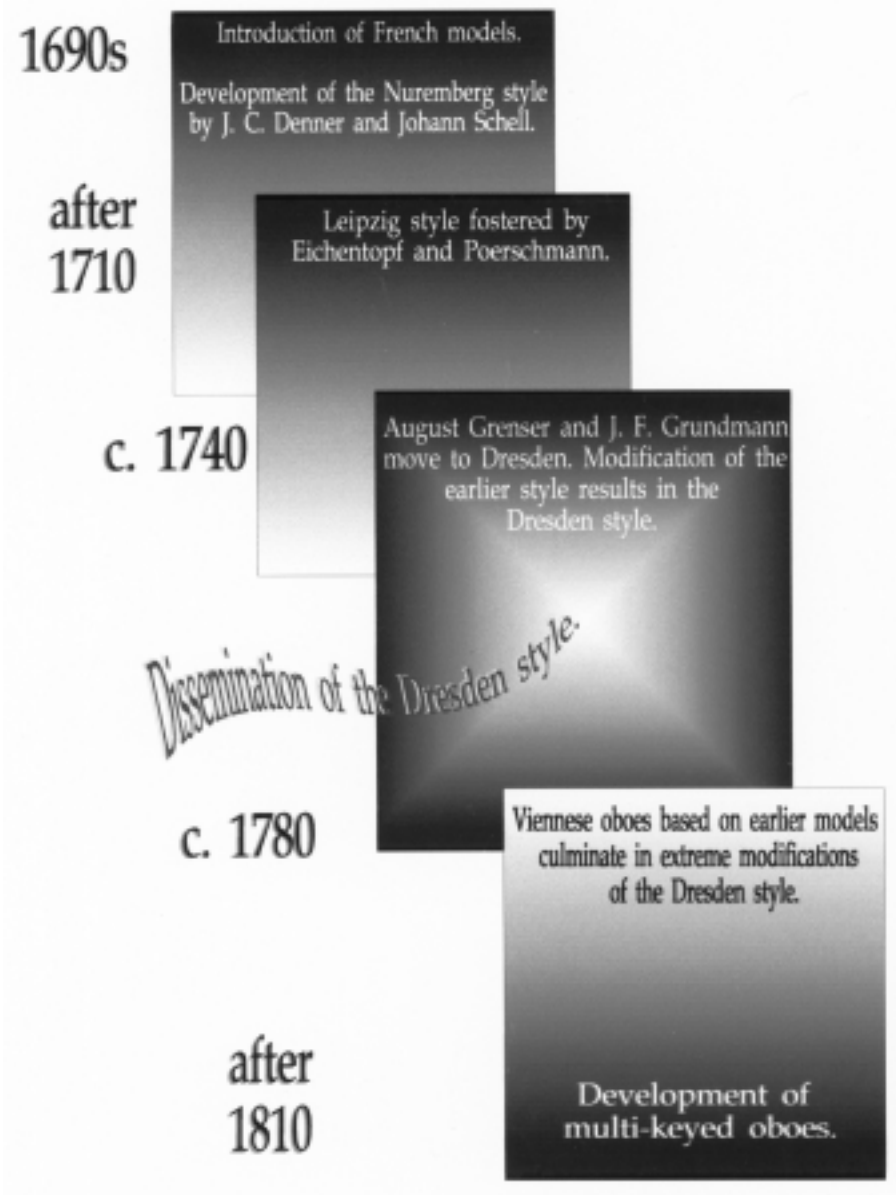


Figure 3. Generational development of the German oboe.

Table 3. Prominent Nuremberg makers and contemporaries using Nuremberg styles.

In Nuremberg	
Johann Christoph Denner	1655–1707
Jacob Denner	1681–1735
[Johann David Denner	1691–1764]*
Johann Wilhelm Oberlender (1)	1681–1763
Johann Wilhelm Oberlender (2)	1712–1779
Johann Friedrich Engelhard	1730–1801
Elsewhere	
Klenig	Unknown location
Königsberger family	Roding (70 mi. east of Nuremberg)
P. Paulhahn	Unknown location
Scherer family	Butzbach (30 mi. north of Frankfurt)

*Johann David Denner (1691–1764) is thought to have been the successor to his father, J. C. Denner, since the right to use the maker's mark unaltered was passed to the widow and then to the youngest son. Heyde ("Makers' Marks," xviii) believes that J. C. Denner's mark was continued unchanged throughout Johann David's working life. In the face of no written documentation and instruments with no significant variations, it is not possible to accurately date oboes bearing this mark or to assign them to either maker.

The Nuremberg oboe as developed by J. C. Denner has these distinctive features:

- a narrow top-joint baluster and finial
- waisted balusters on the other two joints
- two sets of waist beads and two sets of flare beads on the bell
- a simple concave flare to the bell and a full rounded rim finished with a fillet (fig. 4).[13]

13. The bell baluster shape on some Denner instruments is ambiguous. Some hint at a waisted shape, but I have seen none with a distinctive quirk or the beading characteristic of J. C. Denner's middle-joint balusters. See the appendix for a clarification of the parts of the eighteenth-century oboe, as well as an illustrated summary of molding shapes used in this article. A fuller description of the moldings may be found in Adkins, "Proportions and Architectural Motives," 129–32.

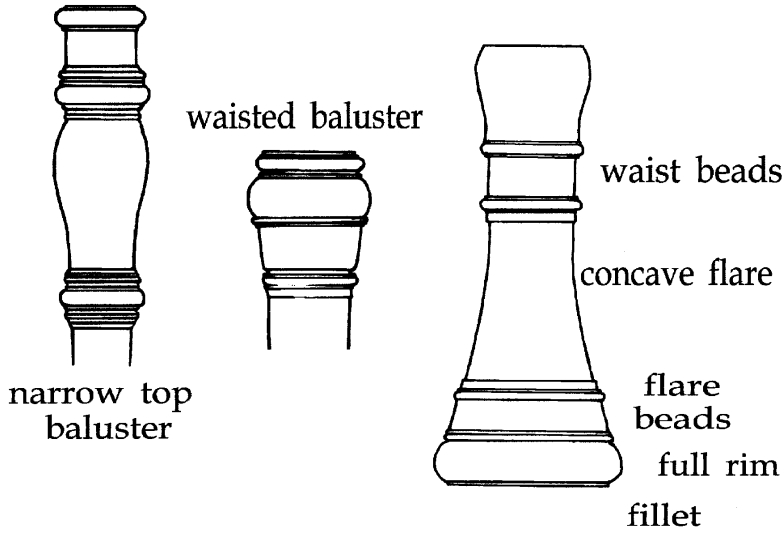


Figure 4. The Nuremberg oboe of Johann Christoph Denner.

Among the Nuremberg makers the baluster curve radius ranged from one to two times the baluster diameter (see table 4).[14] This contrasts with French practice between 1680 and 1730, where the baluster curve ratio was either one or one-and-a-half, as shown in table 5. Figure 5 compares the baluster curve of an oboe made by Nicolas Hotteterre le

14. However, there are some exceptions: the J. C. Denner oboe no. 1071 in the Berlin Musikinstrumenten-Museum is a tenor with a long, flat top-baluster curve, giving a baluster ratio of three, like those found on French oboes around the mid-eighteenth century; a Martin Lot oboe from the 1740s or later in the collection of Marc Ecochard has a similar baluster curve. Another oboe in Berlin (2942), a soprano also stamped J. C. Denner, has a ratio of one-half, which creates a very tight curve. (The upper joint of this oboe has been missing since World War II. I have measured the baluster from a photograph in Curt Sachs, *Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Musik zu Berlin: Beschreibender Katalog* [Berlin: J. Bard, 1922], Tafel 26.) Both of the Denner examples are anomalies in his known oeuvre and may have been experiments by his son Johann David. Another possibility is that they may be the result of a decree of 1699 forcing makers of mediocre instruments to sell them at a reduced price to a master like J. C. Denner, who would remedy the defects and then resell the instruments at a higher price. Heyde writes ("Makers Marks," xx): "It is thus hardly surprising that there survive so many instruments bearing his [i.e., Denner's] mark which, at the same time, are stylistically in part highly dissimilar." One must also consider the practice, widespread in Leipzig and Dresden, of hiring other makers to supply instruments for large contracts, but with the instruments being marked by the

Table 4. Baluster ratios used by Nuremberg makers between 1680 and 1730.

Maker	Ratio	Instrument Measured
Paulhahn, P.	2	Vienna, Harnoncourt Collection
Denner, J. C.	2	Linz, Oberösterreichisches Landesmuseum 120 (taille)
Denner, J.	2	New Haven, Yale University 3411.78
Oberlender, J. W. (1)	2	Amsterdam, Han de Vries Collection
Denner, J.	2	New York, Metropolitan Museum of Art 89.4.893
Denner, J. C.	1½	Leningrad, Permanent Exhibition of Musical Instruments 508
Denner, J.	1½	New York, Metropolitan Museum of Art 89.4.1566
Denner, J.	1½	Vienna, Kunsthistorisches Museum, SAM 7289
Denner, J.	1½	Sotheby's sale, 3 May 1979, lot 93
Denner, J.	1½	Nuremberg, Germanisches Nationalmuseum MIR 370
Schell, J.	1	Berlin, Musikinstrumenten-Museum 5250
Denner, J. C.	1	Berlin, Musikinstrumenten-Museum 516 (oboe d'amore)
Denner, J. C.	1	Venice, Conservatorio "B. Marcello," Museo Strumentale, Correr 34
Königsberger, J. W.	1	Boston, Museum of Fine Arts 17-1908
Oberlender, J. W. (1)	1	Vermillion, Shrine to Music Museum 4240
Königsberger, J. W.	1	Munich, Deutsches Museum 25986

Table 5. Baluster ratios used by French makers between 1680 and 1730.

Maker	Ratio	Instrument Measured
Naust, Pierre	1½	Montreal, Bruce Haynes Collection
Debey	1½	Oxford, Bate Collection 2
Depuis	1	Berlin, Musikinstrumenten-Museum 2933
Desjardin, Baptiste	1	Winston-Salem, Wachovia Museum 0-113
Hotteterre, Nicolas le jeune (dit Colin)	1	Brussels, Musée des instruments de musique 2320

contract holder. Heyde further comments that the "boundary between own manufacture and trading and wholesaling activities was vague, so that it was not unnatural for J. H. Eichentopf [a woodwind-instrument maker] and M. Hirschstein [a wind-instrument dealer] to sell violins under their name" (ibid., xxi).

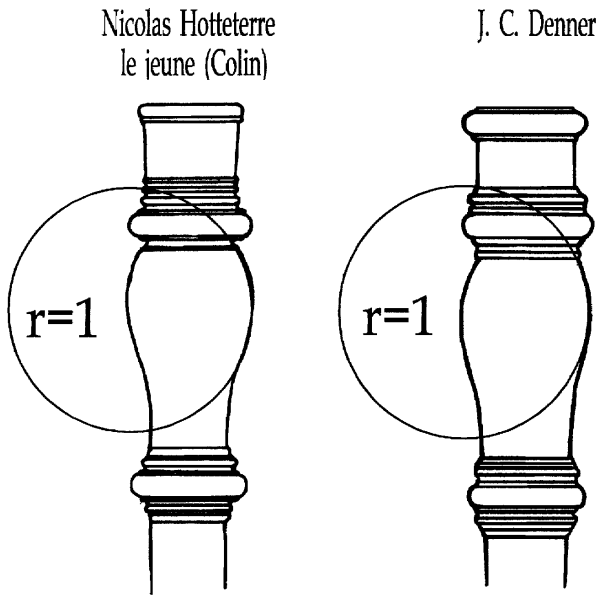


Figure 5. Baluster ratio of 1 on instruments of Nicolas Hotteterre le jeune (1653–1727) and Johann Christoph Denner (1655–1707).

jeune (dit Colin) and one by J. C. Denner. Nuremberg baluster ratios are also shown in figure 6, where it will be noted that J. F. Engelhard is the only maker who used a ratio as small as two-thirds, a characteristic of the later Dresden style.

Some variation occurs in the application of the remaining features used by the other Nuremberg makers. The beaded waist on the center baluster of the elder Denner's oboe shown in figure 7 is seen elsewhere only on the center and bell balusters of a Klenig instrument,[15] though all of the Nuremberg makers use the basic waisted shape. Figure 8 depicts oboe bells by J. C. and Jacob Denner and by J. W. Oberlender Sr. As defined by J. C. Denner, the bell had two sets of waist beads, two sets of flare beads, a simple concave flare, and a full rounded rim finished with a fillet. Jacob Denner altered this design by conflating the two sets of flare beads and omitting the bottom fillet, which lengthened the rim and allowed him to increase its fullness. The Oberlenders used a single

15. See figure 10 below.

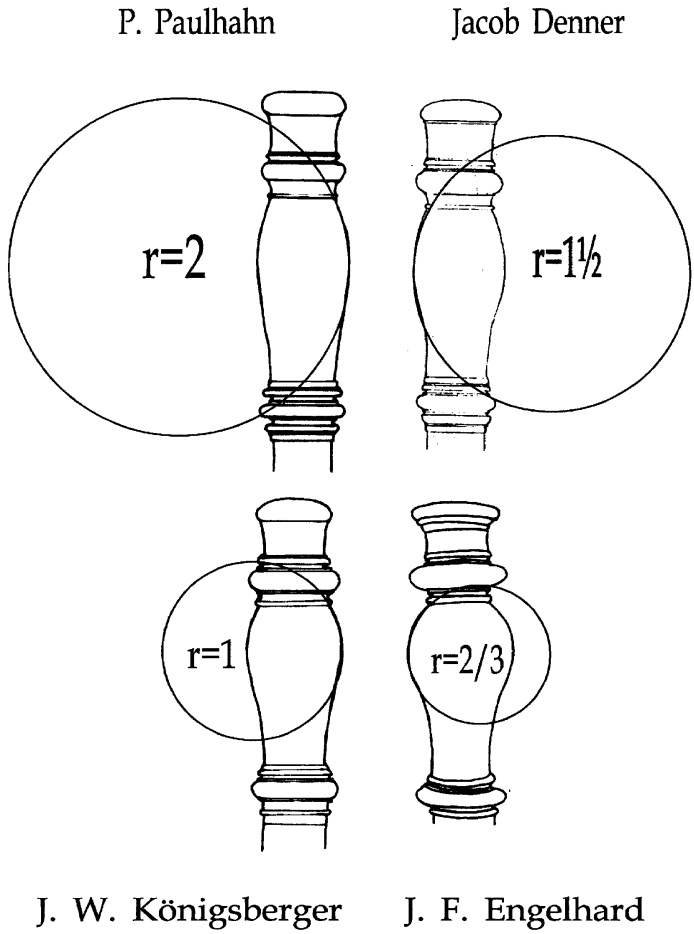


Figure 6. Baluster ratios used by Nuremberg oboe makers.

quirk (or groove) in place of the lower flare beads and replaced the bottom fillet with a single quirk.[16]

16. Both Ekkehard Nickel (cited by Waterhouse, "Oberlender," *New Langwill*, 284) and Phillip Young (*Loan Exhibition of Historic Double Reed Instruments* [Victoria: University of Victoria, 1988], 21), place the younger Oberlender in the Denner shop at least after Jacob Denner's death in 1735; Nickel further claims that J. W. II took over as head. Kirnbauer (also cited by Waterhouse, loc. cit.) disputes this on the basis of the inadmissability of a turner taking over the shop of a hunting-lure maker, though there are enough anomalies in the application of the Nuremberg guild rules to make such assertions dubious when that is the only evidence.

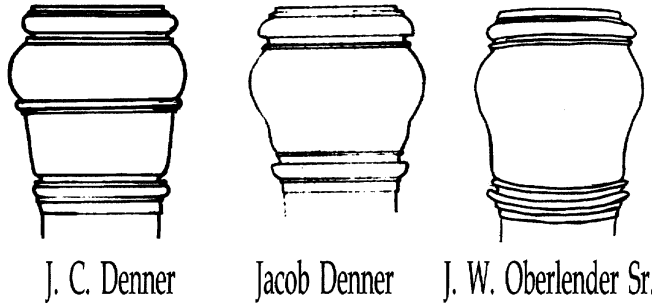


Figure 7. Waisted center balusters on Nuremberg oboes.

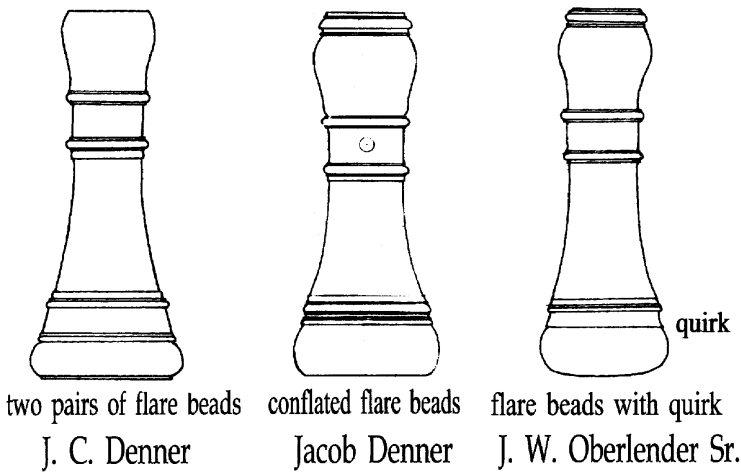


Figure 8. Flare bead and bell rim styles used in Nuremberg.

Although this discussion relates specifically to the Nuremberg makers, the style of their oboes was influential throughout South Germany, as may be seen in the instruments of Andreas and Johann Königsberger of Roding, those of the Scherers of Butzbach, and those of Klenig (whose first name and place of activity are unknown). Figure 9, illustrating the oboes of both Königsbergers,[17] shows narrow top balusters with

17. Only one oboe by each Königsberger has been found: the Deutsches Museum in Munich has an instrument by Andreas (25968), and the Boston Museum of Fine Arts possesses one by his son Johann Wolfgang (17.1908). Königsberger is the variant of the family name used by Andreas's son Marianus, a well-known Benedictine com-

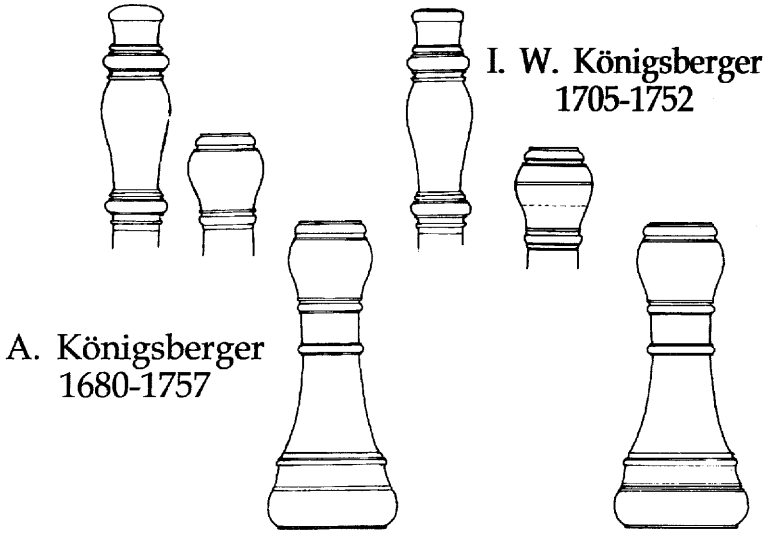


Figure 9. Oboes of the Königsberger family.

some variation in the finials and top beads, waisted center balusters, and the bell configuration of J. C. Denner.

The Scherer oboes have shapes much like the Nuremberg models except for the bell rim, which lacks the fullness of the Denner examples.[18] Klenig's instruments also have similar profiles, except his bells exhibit varying features; one uses a quirk like the Oberlender bells, while others have the paired flare beads and bottom fillet characteristic of J. C. Denner (fig. 10). The maker P. Paulhahn, wherever he worked—according to Gerhard Stradner he may have been Viennese, but Paul Hailperin claims him as a Leipziger—seems likewise to have been under

poser; the spelling Kinigsperger was used by both Andreas and Johann and the latter also used Kenigsperger.

18. Besides this difference in the bell rim, which actually continues the line of the bell curve almost to the end of the instrument, the Scherer oboes have noticeably different bores. The top joints are quite large; their smallest interior dimensions of 6.0 and 6.4 mm contrast sharply with those of the Denners, which range from 5.4 to 5.9 mm. The wider middle joint is constricted again in the lower part of the bell by as much as 5 mm in comparison with the Nuremberg oboes. I thank Alfredo Bernardini (communication of 23 February 2000) for pointing out similarities between the Denner and Scherer exteriors. Phillip Young, "The Scherers of Butzbach," *The Galpin Society Journal* 39 (September 1986): 112–24, at p. 120, also notes that both key rings on the Scherer oboes are hemispherical rather than having the usual square upper and rounded lower ring.

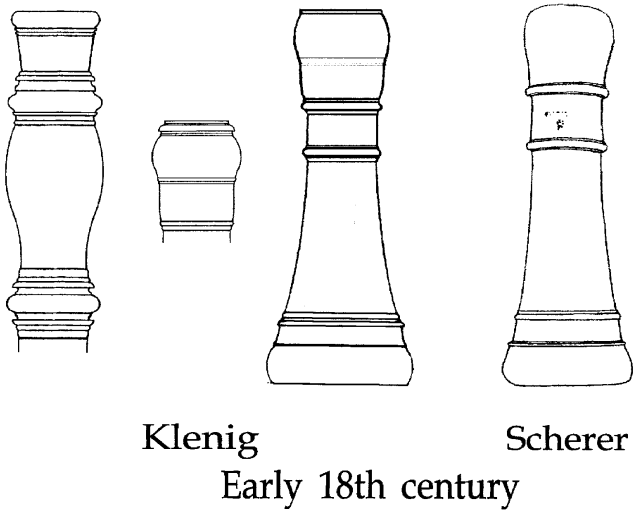


Figure 10. Nuremberg characteristics of the oboes of Klenig and the Scherer family.

the influence of Nuremberg.[19] Paulhahn's bell is virtually the same as the Nuremberg bells, and the top-joint baluster resembles some of those of Jacob Denner, who frequently used a larger ratio of two for laying out the baluster (fig. 11).

Leipzig. From its beginnings in the late 1690s, oboe making in Nuremberg had been controlled by the guild of hunting-lure turners and the city council, but in Leipzig such was not the case, for there had never been an instrument makers' guild in that city.[20] Anyone was free to set up in business without being a citizen, having served an apprenticeship, or even having had training. As a result, at the turn of the eighteenth century Leipzig was home to more instrument makers and had

19. Gerhard Stradner, "Wiener Instrumentenbau zur Zeit Maria Theresias," *Musik am Hof Maria Theresias: In memoriam Vera Schwarz,* ed. Roswitha Vera Karpf (Munich and Salzburg: Katzbichler, 1984), 168–78, at p. 170; Paul Hailperin, private communication to William Waterhouse (see "Paulhahn, P." *New Langwill,* 293). Alfredo Bernardini (loc. cit.) suggests that Paulhahn's instrument has a strong relationship to those of the Scherers of Butzbach, except that the bore is much narrower in the upper sections than are those of the Scherers. The upper-joint bore of Paulhahn's oboe ranges from .65 mm to 2 mm smaller.

20. Ardal Powell and David Lasocki, "Bach and the Flute: The Players, the Instruments, the Music," *Early Music* 23 (1995): 9–29, at p. 17.

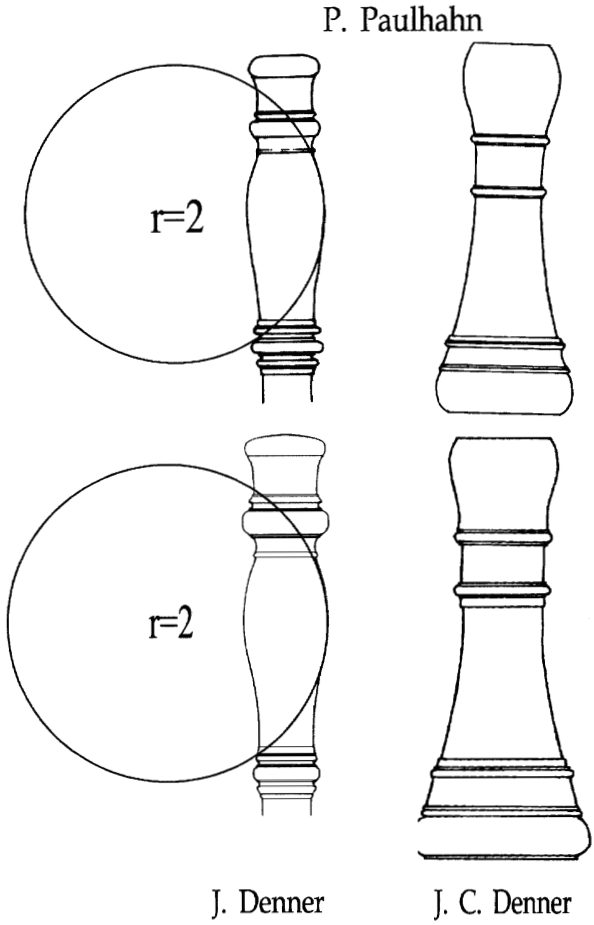


Figure 11. Nuremberg characteristics of P. Paulhahn's oboes.

more styles of instrument making than any of the guild cities where the entrenched masters rigidly controlled the lives and work of their younger colleagues. A case in point is Johann Carl Denner, brother of Johann Christoph, who came to Leipzig after having failed to gain guild rights or master's status in Nuremberg, where he had been imprisoned for debt and adultery in 1701.[21]

21. Martin Kirnbauer, "Überlegungen zu den Meisterzeichen Nürnberger 'Holzblasinstrumentenmacher' im 17. und 18. Jahrhundert," *Tibia* 17 (1992): 9–20, at pp. 15–16; Waterhouse, "Denner," *New Langwill*, 86.

Leipzig oboe making rose to prominence in the early eighteenth century through the efforts of two such immigrants. Johann Poerschmann, born in Wittenberg about 1680, was recognized as an instrument maker, oboist, and bassoonist by the time of his marriage in Leipzig in 1708. A year earlier Johann Eichentopf, a demobilized soldier, had also settled in Leipzig. Over the next three years he established himself and was an acknowledged maker when he married in 1710. Both worked until midcentury, training many apprentices in addition to establishing the style of the Leipzig oboe. Of the thirty-three oboe makers documented in that city during the eighteenth century, fully two-thirds were connected to five families. Besides Eichentopf and Poerschmann, who can be considered the founders of the Leipzig school, the families of Crone and Sattler were important contributors to the development of the instrument (table 6).[22]

Table 6. Prominent Leipzig makers.

Johann Heinrich Eichentopf	1678–1769
Johann Poerschmann	1680–1757
Johann Cornelius Sattler	1691–1739
Johann August Crone	1727–1804
Carl Wilhelm Sattler	1738–1788

The oboes of the Leipzig makers occupy a middle ground between the earlier Nuremberg and the later Dresden style. The older Leipzig makers, particularly Eichentopf, Poerschmann, and Johann Cornelius Sattler, emulated the work of the Denners, while the younger Carl Wilhelm Sattler and the Crones produced oboes more in the newer Dresden style, which is described in the following section. This latter mode became characteristic of all the Dresden makers from about the mid-eighteenth century, whereas the Leipzig makers continued to use a mixed style throughout the middle third of the century.

Figure 12 compares Nuremberg and Dresden features of the oboes of Leipzig makers Johann Heinrich Eichentopf and Johann August Crone. Particularly noteworthy features of the Crone instrument include the

22. The Bauers were the fifth family numerically prominent among the Leipzig makers, but only two of their oboes are known to have survived. Both are described in Phillip T. Young, *4900 Historical Woodwind Instruments* (London: Tony Bingham, 1993), 14–15, where an example by Johannes Gottlob Bauer (fl. 1719–1724), Nuremberg, Germanisches Nationalmuseum MIR 376, is cited as having no lip in the bell.

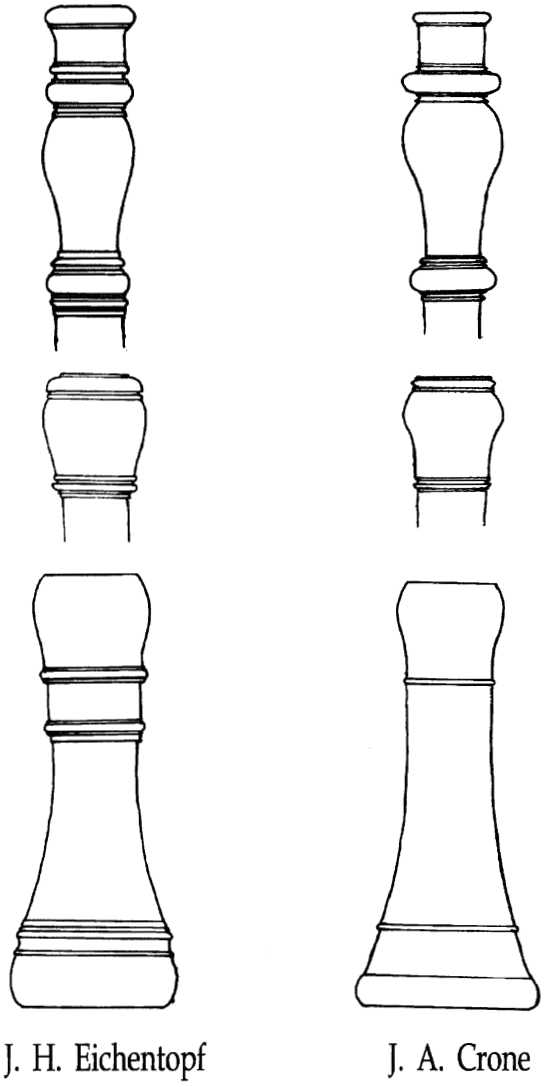


Figure 12. Leipzig oboes in the Nuremberg and Dresden styles.

reshaped upper baluster, which is more protuberant; the smoothing of the waisted segment of the center baluster; and the simpler shape of the bell, which now has a flared lip rather than the inwardly curved rim of the earlier style. The work of the later Leipzig makers Crone and Sattler is roughly contemporaneous with the work of the early Dresden makers

Grenser and Grundman, who had been trained in Leipzig. Nonetheless, the point of origin of the Dresden style is hazy, since it is quite possible, in light of the conclusions of this article, that the Dresden features found in the oboes of Crone and Sattler represent an early expansion of the Dresden style outside of its own sphere. This view is corroborated by the instruments of the Nuremberger Johann Friedrich Engelhard, which are also in the Dresden mode.[23]

Another interesting comparison, showing the gravitation of later Nuremberg and Leipzig styles toward that practiced in Dresden, may be made among the finial shapes used by German makers. In eighteenth-century Germany, finial coves (the portion between the upper and lower finial beads; see the appendix) had either parallel or tapered sides, with the latter appearing as an expanding taper either toward the top or toward the bottom of the cove. The cove was sometimes given a concave shape, but more often concentric fillets at the top and bottom of the finial cove give the impression that the parallel form is concave. The finials were crowned with a flat disc, an oval disc, or a simple rounded chamfer. Those combinations of elements are shown in a generalized form in figure 13, which also lists by city the makers who used a particular finial style. Nuremberg makers, who were the earliest group, used a greater variety of finial types (four), whereas the Leipzig makers, commencing work a generation later, used only three. The Dresden and Viennese makers, as well as the later Leipzig makers J. A. Crone and Carl Sattler, all employed the simple parallel finial cove. It was only after 1800 that Bormann and Golde in Dresden began to make an inverted taper.

Other distinctive features that highlight the Leipzig oboes, and which were probably carried over into the Dresden style, are depicted in figure 14. Beginning with Eichentopf, the center and bell balusters lose the waisted appearance characteristic of the Nuremberg oboes, though the center balusters on Crone's instruments tend toward the sharper curves seen on the more angular Dresden center balusters. The upper balusters of Eichentopf, Poerschmann, and J. C. Sattler (shown in figure 15, along with two balusters of J. C. Denner) resemble more the early Nuremberg balusters, as do the bells, though the balusters tend to be worked out in less detail. Figure 16 depicts the bell of an instrument by J. C. Sattler, now in Stockholm (Musikhistorisk Museet 157). This oboe has two very

23. Engelhard was born in Hatten in Lower Alsace about 1730. As yet no one has determined where he received his training, but he did achieve master's status in Nuremberg through marriage in 1758.

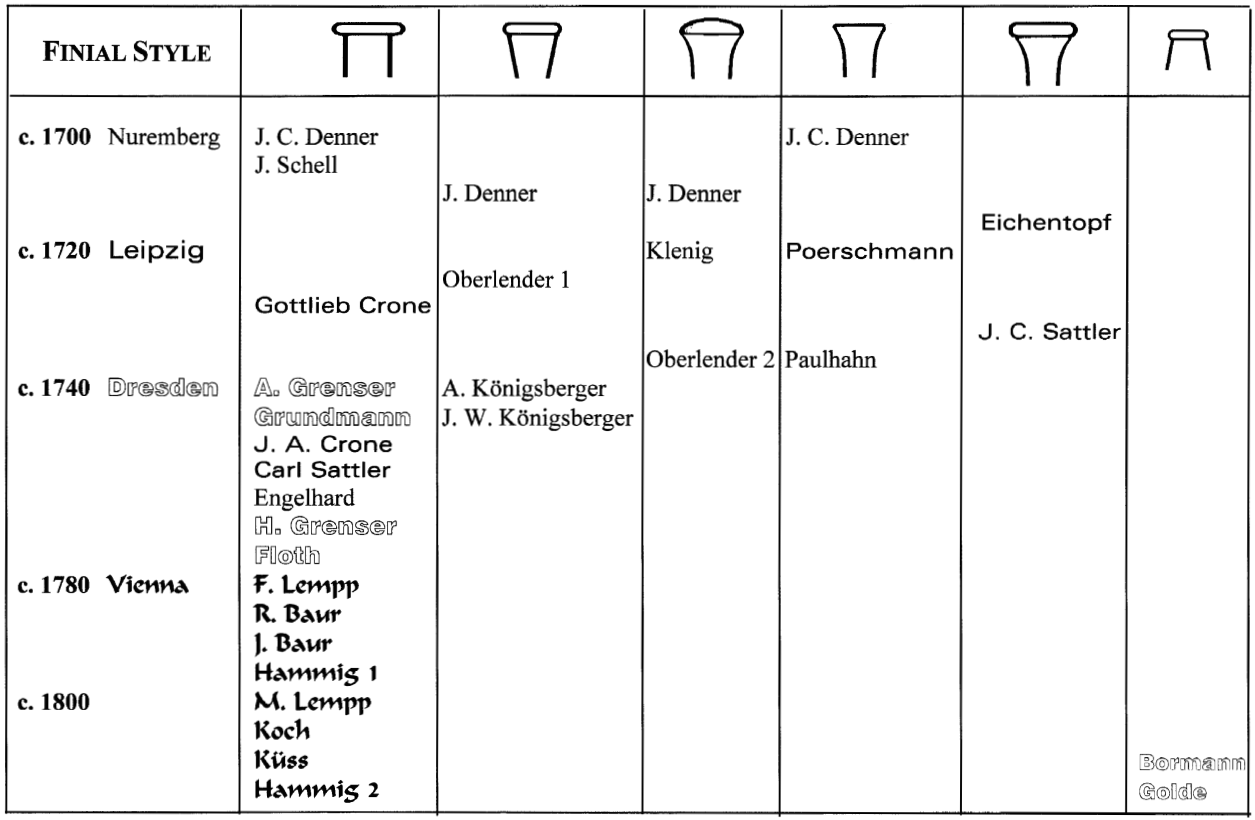


Figure 13. Oboe finial styles in the eighteenth century.

Figure 14. Leipzig center balusters compared with Nuremberg and Dresden center balusters.

interesting features: the first is a tenon at the top of the bell that fits into a lower socket of the bell baluster, an individual feature most likely resulting from a defect in the original baluster or a mistake in the turning process; the second is the use of only one set of upper waist beads on the bell. This latter feature would later become standard on all classical oboes, but its appearance here, before 1740, comes at least a full generation before its common use.

The later Leipzig oboes of Carl Sattler and the Crone family mostly continue the center-baluster styles of their predecessors (fig. 14), but the upper-joint balusters are in the newer Dresden style, as are the bells. This upper-baluster style, which we encounter first on the instruments of August Grenser in Dresden some time after 1745, features a baluster drawn on a smaller radius and centered higher on the column (fig. 17).

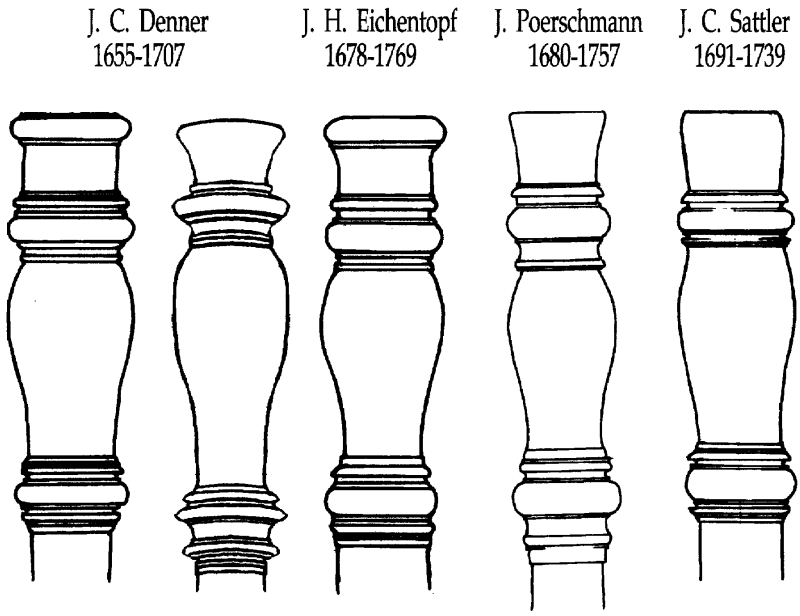


Figure 15. Nuremberg and Leipzig balusters.

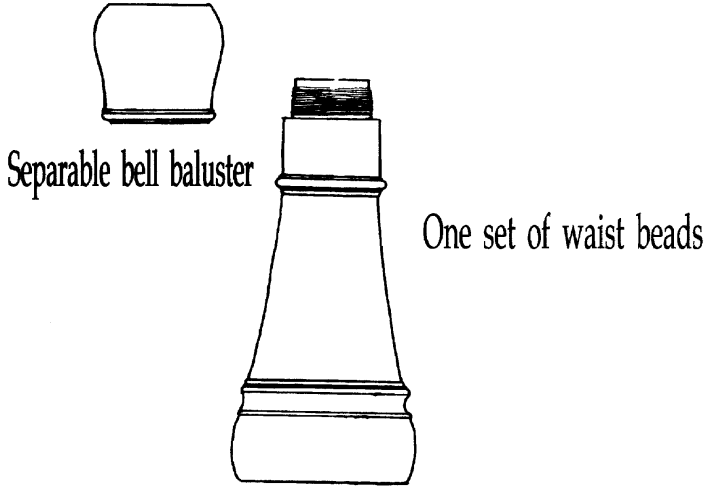


Figure 16. A unique bell made by J. C. Sattler before 1739.

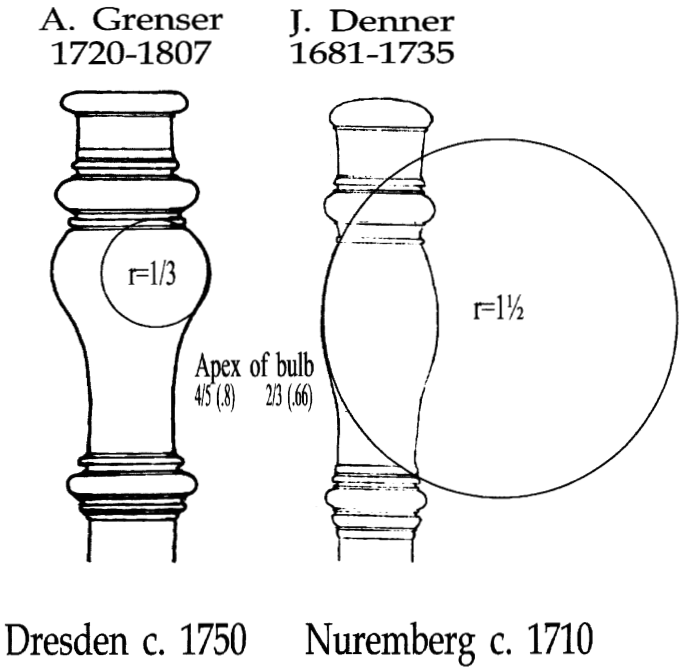


Figure 17. Dresden baluster style.

This style, illustrated by the instruments of J. A. Crone and Carl Sattler in figure 18, is common to all later Leipzig and Nuremberg oboes, as well as to those made in Vienna. The Leipzig makers also use a different bell design, but this pattern is first seen on Grenser instruments about a decade earlier. Shown in figure 19, this "Dresden bell" represents a radical departure from the Baroque style. The early Dresden bells are simply styled with an undecorated baluster in the Leipzig shape, one waist bead and one flare bead (each consisting of a bolection molding made up of a bead-astragal-bead pattern),[24] between which is an unbroken concave flare. The lower part of the bell continues the flare with less expansion and melds into an expanded rim. It is possible that this style of bell originated in Leipzig, but the missing link would be an oboe bell by Johann Poerschmann, who was the master of both August Grenser and Johann Grundmann, the progenitors of oboe making in Dresden. Unfortunately,

24. A bolection molding is a projecting profile made up of several simple figures. While never a unique pattern, it is a useful term for descriptive purposes. See Adkins, "Proportions and Architectural Motives," 130–32.

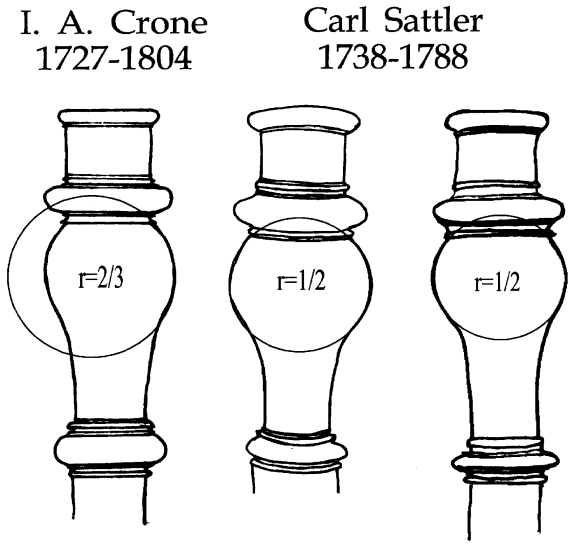


Figure 18. Baluster ratios of later Leipzig oboes.

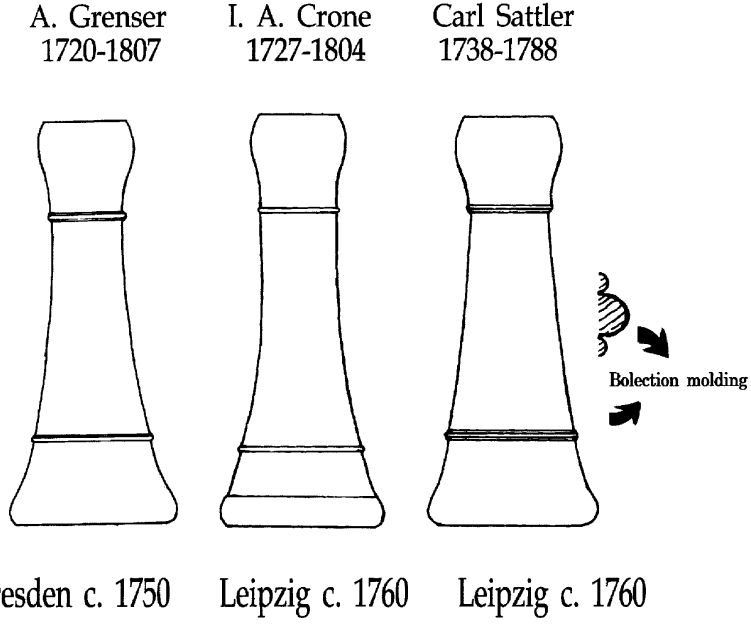


Figure 19. The early Dresden bell.

the only known part of a Poerschmann oboe is a center-joint fragment surviving in Poznan. What little we know of his work has been extrapolated from the oboe d'amore in the Metropolitan Museum of Art (89.4.2041), which does, however, have a top baluster in the Nuremberg style (fig. 15).

Dresden. The manufacture of oboes in Dresden, beginning around the middle of the eighteenth century, was dominated by the Grensers, Grundmann, and their business associates (table 7). Both August Grenser and Johann Friedrich Grundmann trained under Johann Poerschmann in Leipzig. Grenser, the elder by seven years, moved to Dresden in 1739 and was well established by 1744; Grundmann followed in 1753. Johann Heinrich Wilhelm Grenser (known as Heinrich) was apprenticed to his uncle August in 1779 and became his successor in 1796. After the death of his wife, who was August's daughter and eleven years his elder, Heinrich married again in 1806. After his death in 1813 he was succeeded by Samuel Wiesner, who had come into the shop in 1811, and who married Heinrich's widow in 1817.

Table 7. Prominent Dresden Makers.

(Carl) August Grenser	1720–1807
Jakob Friedrich Grundmann	1727–1800
Johann Friedrich Floth	1761–1807
Heinrich Grenser	1764–1813
Grundmann & Floth	1800–1805

Grundmann carried on a successful business in Dresden for almost fifty years. After his death in 1800, his widow married Johann Friedrich Floth, who had become Grundmann's assistant in 1784, having previously been his apprentice. Floth was succeeded in 1807 by Carl Gottlob Bormann, who had joined Grundmann's shop in 1795. The Dresden tradition of oboe making was continued in the nineteenth century by Carl Theodore Golde, who was famous for his oboes, all of which have from eleven to thirteen keys. Golde, according to different sources, had been an apprentice of either Bormann or Samuel Wiesner.[25]

25. Waterhouse writes ("Golde," *New Langwill,* 140): "According to Drechsel, apprenticed to Bormann, according to Heyde, apprenticed to Wiesner." The Drechsel attribution cannot be confirmed, but Heyde (*Katalog zu den Sammlungen des Händel-Hauses in Halle, 7. Teil: Blasinstrumente, Orgel, Harmoniums* [Halle: Händel-Haus, 1980], 505–6) opines "Apprenticeship in Dresden with Samuel Wiesner (?)" ["Lehre in Dresden bei Samuel Wiesner (?)."]

The salient features of the later Dresden oboe are the balusters and the bell. Though both the center and bell balusters are modified, only the center baluster exhibits the sharply beaked profile seen in the later instruments (fig. 20). The modification of the top baluster is most extreme in the instruments of Grundmann and his successor Floth (fig. 21). Here the radius of the turning has been tightened and is now only 25 percent of the baluster diameter, compared to the 33 percent seen in the Grenser balusters. The bulb has also been moved to a higher position, which is now at about four-fifths of the baluster length, whereas formerly its average position was at about two-thirds of the baluster length. Another characteristic of the Dresden style of this time is the trapezoidal design of the finial, which is laid out so the finial beads and the baluster lie in a straight line (fig. 22). The graceful form of the bell, cited earlier in conjunction with the later Leipzig instruments (fig. 12), here undergoes further modification.

The basic bell design employed by August Grenser, which I will call Type 1, was still being used on many of his oboes through the end of his working years (about 1797), as it was by the Leipzig makers Crone and Carl Sattler. Figure 23 shows both this and a second design used by Grenser at least from the 1770s (Type 2), which maintains the concave flare but makes the section below the flare beads more vertical, creating a more distinct rim on the bell. This design, or a slight modification of it, was also used by Heinrich Grenser, Grundmann, and Floth throughout their careers (fig. 24). A third type displays a compound curve between the beads (fig. 25). The vertically-sided lower portion was first made with

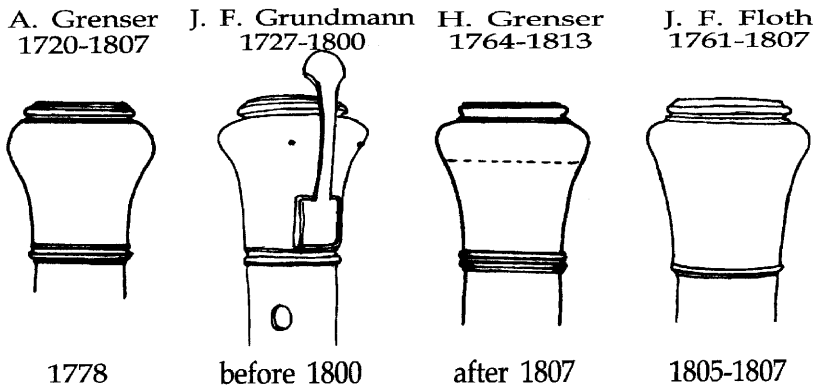


Figure 20. Dresden center balusters.

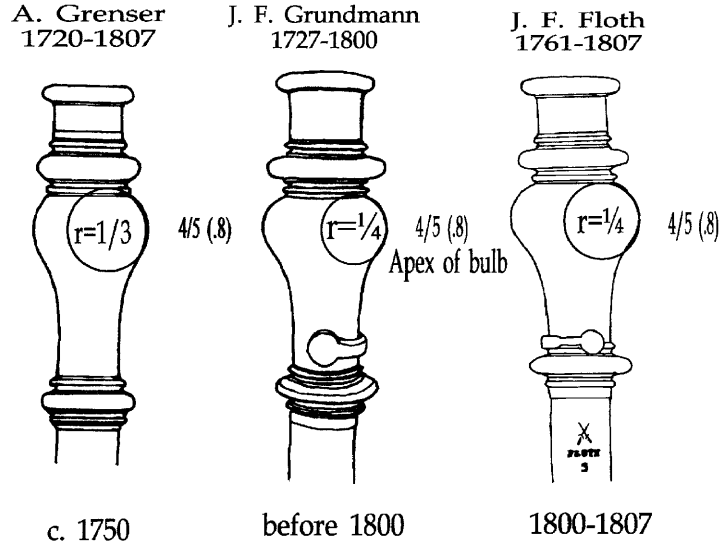


Figure 21. Late Dresden baluster style.

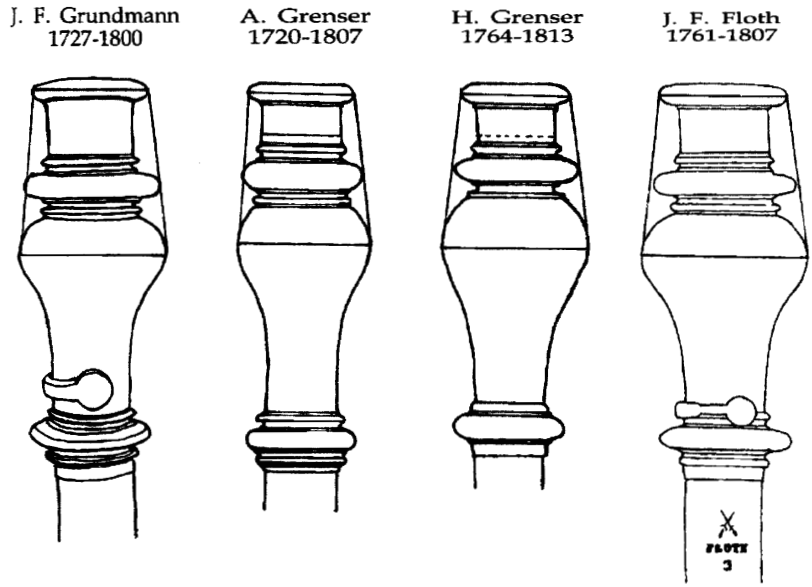


Figure 22. Characteristic trapezoidal shape of Dresden balusters.

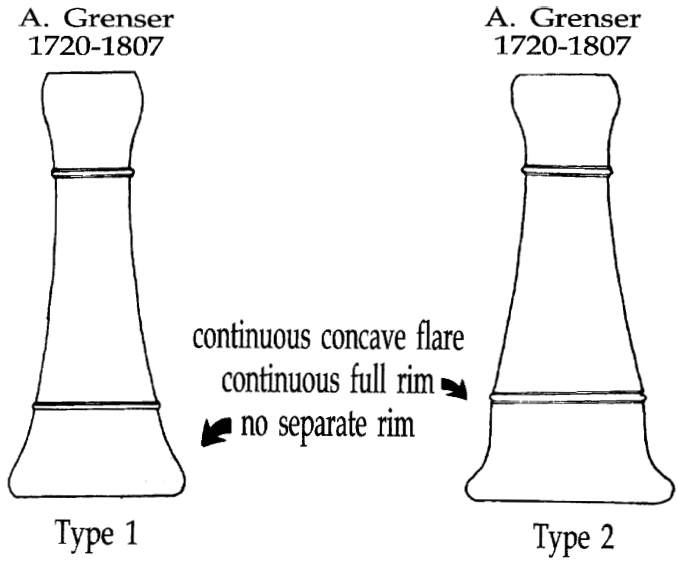


Figure 23. Dresden bells: types 1 and 2.

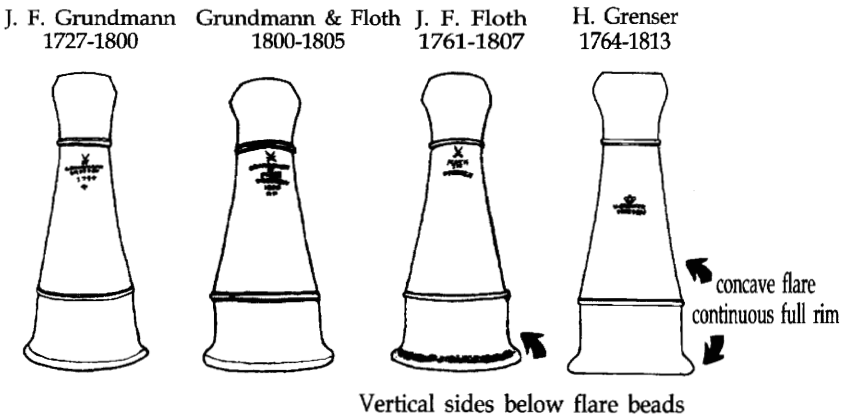


Figure 24. Type 2 Dresden bells.

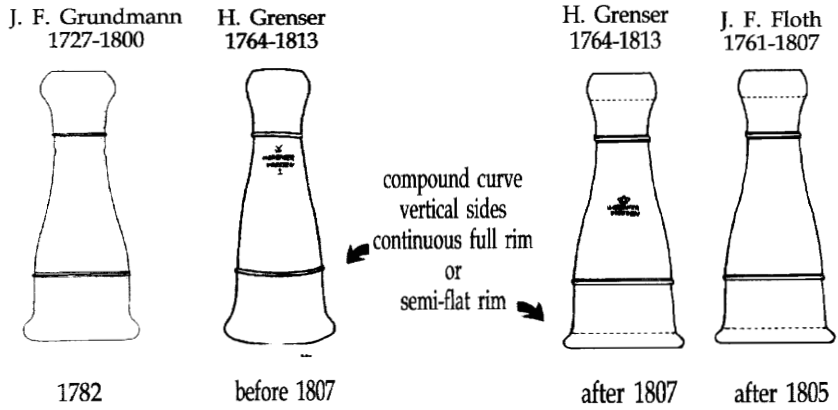


Figure 25. Type 3 Dresden bells.

a full rim by Grundmann as early as 1782, and then with a flatter rim by Heinrich Grenser and Floth after 1807 and 1805 respectively. Carl Bormann, successor to Grundmann and Floth in 1807, developed a fourth type of bell, featuring a concave curve with vertical lower sides and a very flat rim (fig. 26). On later instruments, particularly those made in Vienna, the composite curve of the Dresden Type 3 bell became more shouldered. In cases where the bell was shortened to accommodate the placement of a key for low B on the lengthened middle joint, the instruments present a squat and ungrateful appearance (fig. 27). Even with a detailed study of the Grenser oboes, we may never know whether the differences seen in the bell curves originated with Heinrich Grenser or with some of the other Dresden makers who supplied him with instruments, which he then marked with his stamp, as was the practice of the time.[26]

26. Late eighteenth-century Dresden, on the cusp of the industrial revolution, had many large shops that produced instruments in batches. Numbers on the lower edges of the joints or on the tenon ends are indications of "batching." These numbers, such as the number "5" stamped on the Jeremias Schlegel oboe preserved in Leipzig (Musikinstrumenten-Museum der Universität Leipzig 1322), differ from those often seen just under the top-column beads on the top joint, which were intended to differentiate joints of differing length made as part of a *corps de rechange.* These latter numbers are common on the oboes of Grundmann and the Grensers. Herbert Heyde, "Die Werkstatt von Augustin Grenser d. Ä. und Heinrich Grenser in Dresden," *Tibia* 18 (1993): 593–602, at p. 599, reprints an inventory of the Grenser shop from the time of Heinrich's death, which lists seven lathes and a polishing machine among its tools. Ardal Powell, "Science, Technology, and the Art of Flutemaking in the Eighteenth Century," *The Flutist Quarterly* 23 (1994): 33–42, at pp. 37–38, describes at length French mass production techniques in the second half of the century.

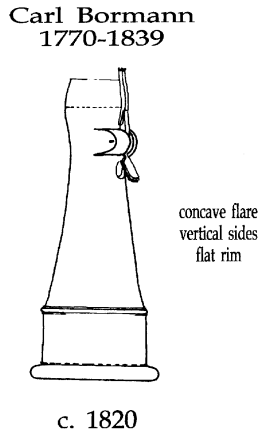


Figure 26. A type 4 Dresden bell.

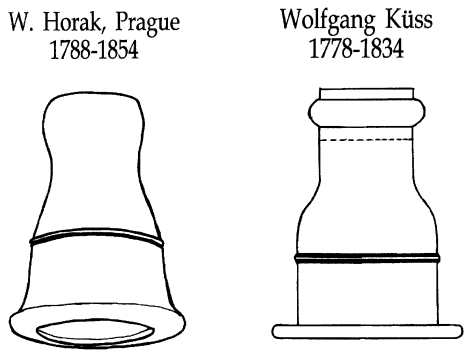


Figure 27. Nineteenth-century oboe bells from Prague and Vienna.

Vienna. Vienna, like Leipzig, boasted numerous oboe makers in the last half of the eighteenth century, but it was not until near the end of the century that the Viennese makers came into their own. Just as the Leipzig makers rose to dominance a generation after oboe making was established in Nuremberg, the Dresden makers claimed ascendancy about 1740, and were followed a generation later by the increasingly prominent Viennese.

Until the turn of the century, however, Viennese and other Austrian oboes exhibited designs reflecting the developments in the older centers. Of the seven leading makers listed in table 8, four comprise two

father-son pairs, and one member from each of the latter two families held the post of royal instrument maker. Friedrich Lempp was established in Vienna around mid-century. His son and apprentice Martin succeeded him at his death in 1796, and was appointed royal instrument maker in 1800. Friedrich Hammig had set up shop in Vienna by 1791, and was appointed to the royal post in 1794. His son and namesake was also active in Vienna after the turn of the century. The Baurs, apparently not closely related, are most often mentioned as suppliers of reeds to Haydn's orchestra in the 1760s and 70s.[27] The best known makers of the Viennese group are Wolfgang Küss and Stephan Koch. Küss, who was first established in Vienna in 1810, was noted for training apprentices, and held the post of royal instrument maker from 1827 until his death in 1834, while Koch, active during the years 1815 to 1828, is best remembered as the maker of keyed oboes according to the system designed by Josef Sellner (1787–1843). A noted performer, Sellner perfected his thirteen-key system about 1820 and in 1825 published a tutor for this instrument, which set the German standard for the next fifty years.[28]

Table 8. Leading Viennese Makers.

Friedrich Lempp	1723–1796
Rocko Baur	fl. 1764–1777
Jacob Baur	1743–1797
Friedrich Hammig (1)	fl. 1791–1823
Martin Lempp	1766–1836
Stephan Koch	1772–1828
Wolfgang Küss	c. 1779–1834
Friedrich Hammig (2)	fl. 1800–1825

All of the earlier Viennese oboes use the Type 1 Dresden bell, which has a simple concave flare decorated with a single set of beads (fig. 28). The upper balusters maintain the trapezoidal configuration of the finial portion, as is seen on many Dresden instruments, though here the baluster ratios tend to be smaller, ranging from one-half to one-sixth (fig. 29). The center balusters reflect a variety of styles (fig. 30): both Lempps used the Nuremberg waisted type, Rocko Baur the earlier Leipzig design,

27. H. C. Robbins Landon, *Haydn, Chronicle and Works* (Bloomington: Indiana University Press), 1 (1980) and 2 (1978). Indexed in these two volumes are twenty-four citations of payments made to Jacob Bauer and Rocko Baur for reeds and instrument repairs for the Esterházy court for the years 1764 to 1780.

28. Bate, *The Oboe*, 83.

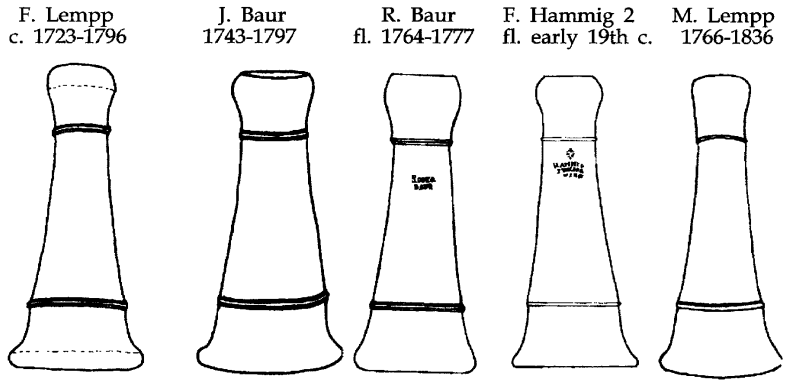


Figure 28. Dresden type 1 bells used on Viennese oboes.

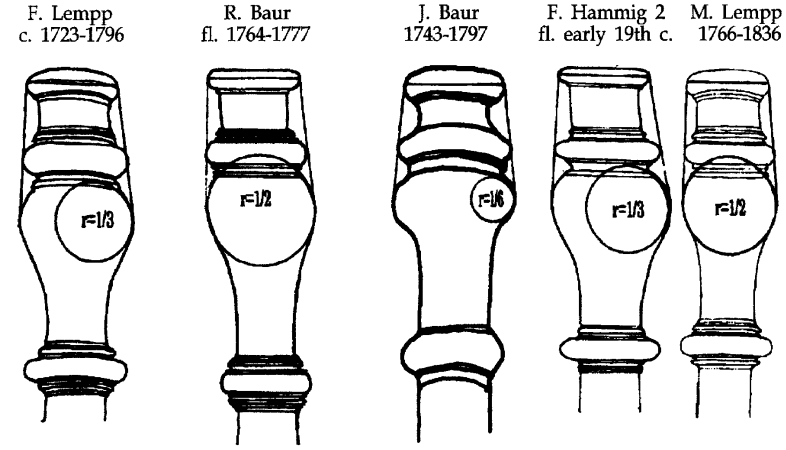


Figure 29. Dresden-style balusters on Viennese oboes.

and the others a rounded shape or some form of the later beaked Dresden type. That of Jacob Baur is the most extreme, as is also his upper baluster, which is shown in figure 31.

The earlier oboes of Stephan Koch and Wolfgang Küss are patterned after elements of later Dresden manufacture. Interestingly, Küss's early instruments reflect an earlier style with a fuller upper baluster that has a ratio of two-fifths, a parallel-cove finial that is actually a tuning slide, central and bell balusters with a semicircular projection in place of the

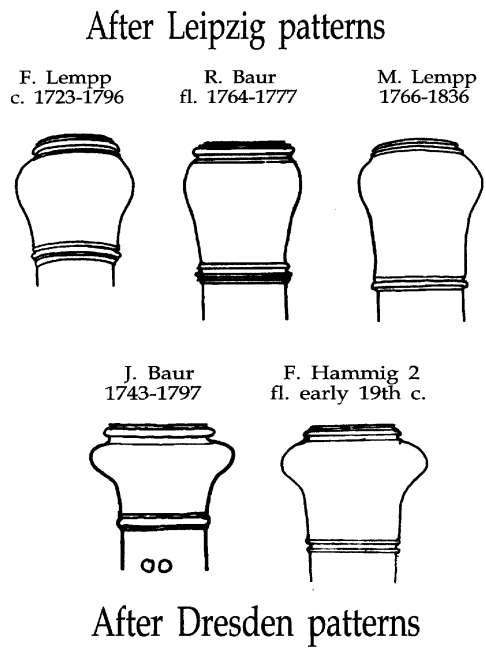


Figure 30. Viennese center balusters.

Dresden hawksbeak, and a Dresden Type 3 bell with a compound curve (fig. 32). Koch's earlier oboes exemplify a later Dresden style with baluster curve ratios of one-quarter, hawksbeak center balusters, and Type 4 bells like those used by Carl Bormann of Dresden (cf. fig. 26), who had succeeded Johann Friedrich Floth in 1808 (fig. 33).[29] Later multi-keyed instruments of Koch, such as that depicted in figure 34,[30] show a narrowing of the baluster diameter and a less extreme curve ratio typical of instruments by Carl Golde of Dresden and Johann Samuel Stengel of Bayreuth,[31] although on this instrument Koch abandoned the lower

29. Bormann's known output consists of five multi-keyed oboes, though Waterhouse ("Bormann," *New Langwill,* 41) reports that he supplied a two-keyed instrument to the Munich court in 1812 .

30. This oboe has a baluster ratio of one-third, and ten silver keys with scallop-shaped key covers. It was exhibited in August 1986 at the Galpin Society's fortieth-anniversary celebration. A photograph may be found in the catalog of that exhibition, *Made for Music* (London: Sotheby's, 1986), no. 74.

31. See Phillip Young, *Loan Exhibition,* 37–38, for photographs of these instruments.

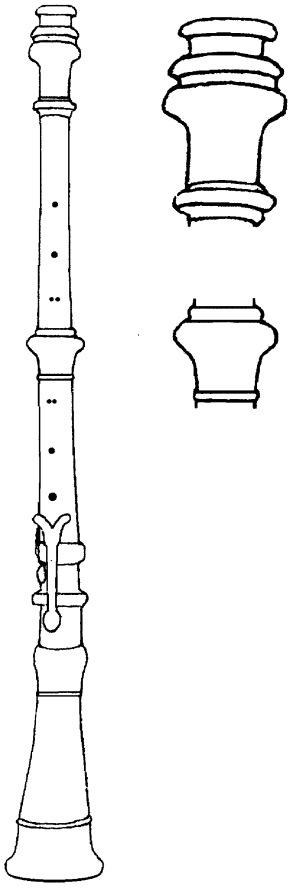


Figure 31. A Viennese oboe by Jacob Baur (1743–1797).

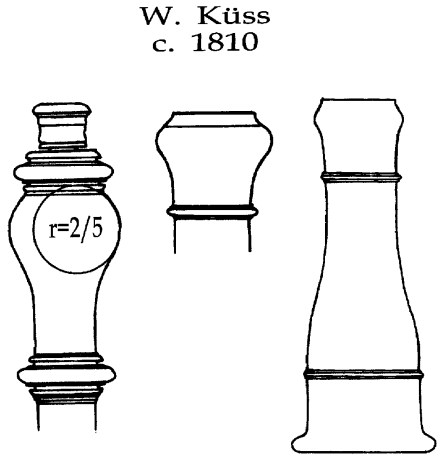


Figure 32. Stylistic modifications by Wolfgang Küss (c. 1779–1834).

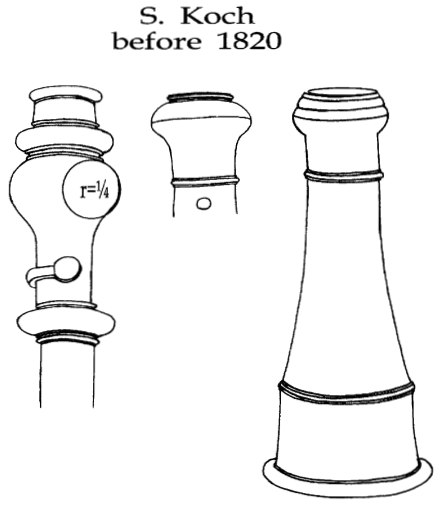


Figure 33. An early oboe by Stephan Koch.

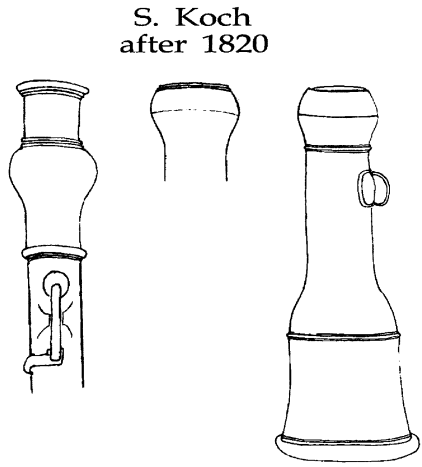


Figure 34. A multi-keyed oboe by Stephan Koch.

finial bead, which was part of the trapezoidal shape used in Dresden and by many of the Viennese makers including Küss. Koch also adopted the more rounded center baluster and a variant of the Type 3 bell, in which the compound curve is more abrupt. This is not unlike a lengthened version of the Küss bell depicted in figure 35, though the Koch shape most likely preceded that of Küss. On this later bell Küss actually turned the semicircular baluster projection into a ring, matching those on the second joint that were used for key support. The very short length of this bell, as well as the addition of keys, emphasis on tightened baluster radii, and shorter, narrower tuning-slide finial all reflect Viennese innovations that occurred early in the nineteenth century. From the mid-eighteenth century Viennese makers had largely followed the Dresden styles, but their interest in developing multi-keyed oboes according to the ideas of Sellner in the third decade after 1800 allowed them to come to the forefront of central European oboe making.

Conclusions

We have here surveyed the stylistic changes that took place in the development of the German oboe in the eighteenth century, coming full circle from the Nuremberg instruments patterned on French models at the beginning of the era to the Dresden-style instruments that spread

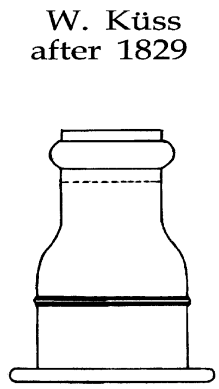


Figure 35. A late oboe by Wolfgang Küss.

back to France, and indeed across the continent, at the century's end. The Dresden oboe, which should be viewed as culminating a century of oboe evolution rather than as a "curious reversion to the highly ornamental outline of the Baroque pattern . . . ,"[32] was disseminated across the continent through sales, commissions, and the agency of traveling performers. Its superior musical qualities and increased range, along with its refined shape, stimulated reproduction by others, not only of its musical features but also of its exterior form. One has only to look at the late eighteenth-century output of the oboe makers of any European country to see instruments adorned with Dresden balusters, finials, and bells. Figure 36 and table 9 compare some of the significant features of the Dresden instruments with a sampling of later eighteenth- and early nineteenth-century oboes from France, Italy, and England. Older, non-German oboes exhibit early Dresden features, while those from after the turn of the century reflect the later Dresden styles. For the eleven oboes illustrated in figure 36, the baluster ratios range from one-sixth to two-thirds of their respective baluster diameters. The greatest extremes are among the Italian oboes, and the least variation is found in the French instruments. It is also of interest that the French and Italian makers adopted the trapezoidal configuration of the Dresden finials, but the English were not at all rigorous in its application. Although the bell shapes of these examples are not illustrated, the two types of Dresden

32. Halfpenny, 17 (see note 6 above).

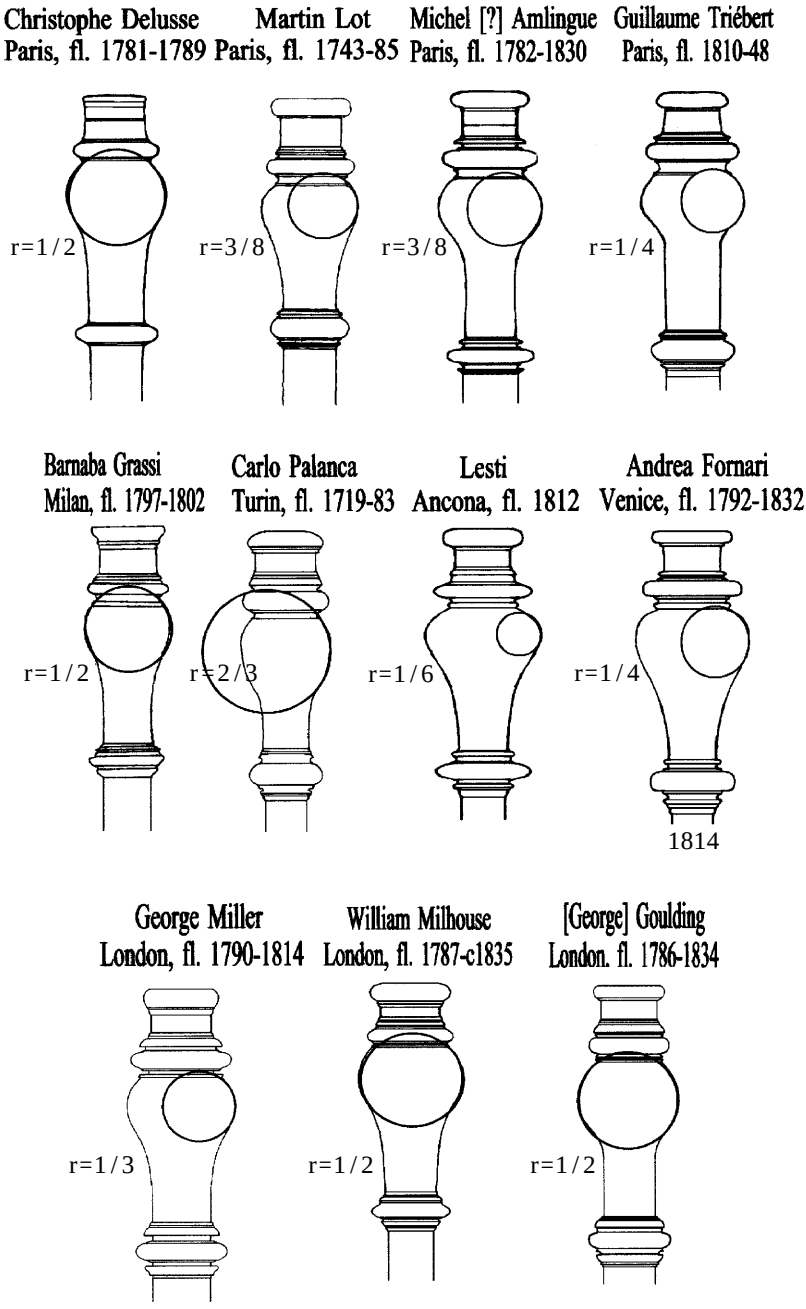


Figure 36. Baluster ratios of late eighteenth- and early nineteenth-century French, Italian, and English oboes.

Table 9. Dresden bell types used in other countries.

Maker	Conjectured Working Dates	Place	Location of Instrument	Bell Type
France				
Martin Lot	1742–1785	Paris	Brussels, Musée des instruments de musique 1980	1
Christoph Delusse	1781–1789	Paris	Oxford, Bate Collection 20	1
Amlingue	1782–1830	Paris	Vindelle (France), Marc Ecochard	1
Guillaume Triebert	1810–1848	Paris	Vindelle (France), Marc Ecochard (9 keys)	2
Italy				
Carlo Palanca	1719–1783	Turin	Berlin, Musikinstrumenten-Museum 5336	1
Andrea Fornari	1791–1832	Venice	Bern, Historisches Museum 36776	2
Barnaba Grassi	1797–1802	Milan	Modena, Museo Civico SM n.35–1981	2
Lesti	after 1812	Ancona	Mantua, Paolo Grazzi	2
England				
George Miller	1765–1796	London	ex Nora Post	2
William Milhouse	1780–1830	London	Washington, D.C., Smithsonian Institution 74.8	1
William Milhouse	1780–1830	London	Edinburgh, Coll. of Historical Musical Instruments 2003	2
William Milhouse	1780–1830	London	York, Castle Museum DA 595	3
William Milhouse	1780–1830	London	Boston, Museum of Fine Arts 17.1909	4
George Goulding	1786–1834	London	Ellenwood (Ga.), Daniel Noonan	2

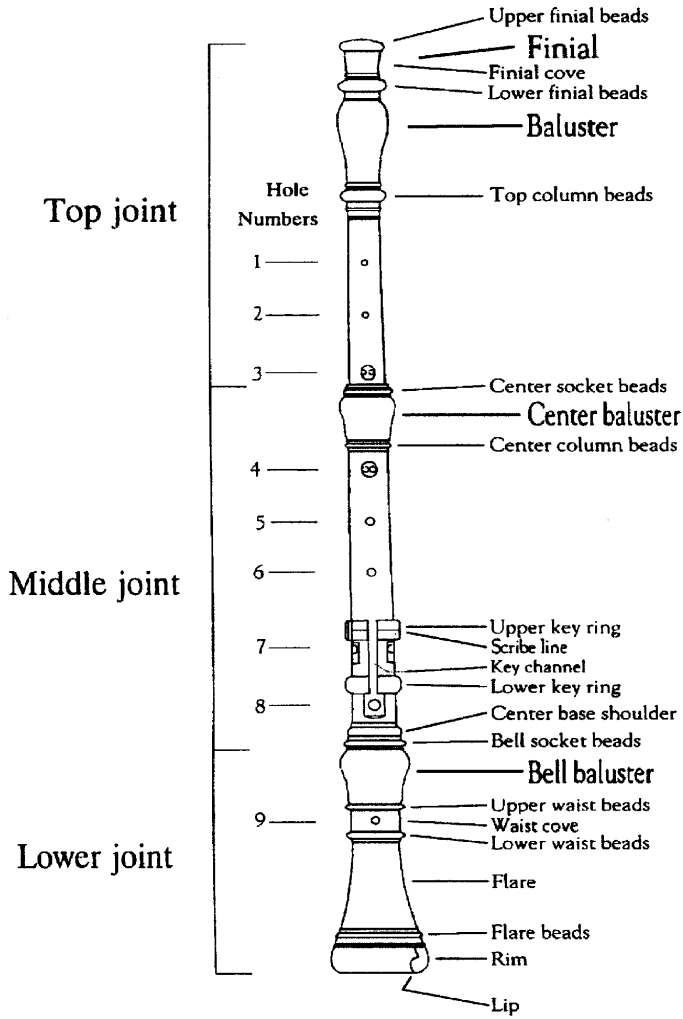
bells used on each of the eleven instruments are identified in table 9. Here are also listed four William Milhouse oboes, each with a different type of Dresden bell.[33]

Even though present-day interest in nineteenth-century oboes has centered on the early development of multi-keyed oboes in Vienna and the later shift of this development to France, the two-keyed Classical instrument was still the standard for much of the first third of the nineteenth century. It is perhaps the greatest tribute that this oboe, perfected by the Dresden makers Grundmann and Grenser, was the model chosen by oboe makers all over Europe as they began the expansion to the multi-keyed oboe.

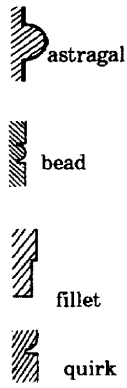
33. See also Cecil Adkins, "William Milhouse," 67, figure 21. In that illustration the bells are listed chronologically: a, b, c, d; a new understanding of the Dresden bells, gained in the course of the preparation for the present article, leads me to believe that they would be better ordered a, d, c, b, in line with Dresden Types 1, 2, 3, 4.

APPENDIX

Oboe Nomenclature



Moldings



1. This scheme of oboe nomenclature was developed in 1990 by Bruce Haynes and Cecil Adkins.