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# On Using the Proper Tympani in the Performance of Baroque Music

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THE growing interest in Baroque music and its popularity with performing groups in recent years has led to a concern for the correct *Aufführungspraxis* based upon historical precedents and authentic instrumental sound. More and more frequently, concerts and recordings alike reflect this awareness, as seen in the care taken to execute ornaments or embellishments in the proper style and to perform with original instruments or faithful replicas. Unfortunately, this concern has virtually ignored the tympani, in spite of the fact that they came into their own as an orchestral instrument during the seventeenth century.<sup>1</sup>

Strictly speaking, authentic performances require the use of proper instruments; and it is no more "correct" to play Baroque

1. While it can probably be assumed that drums were called for as early as Monteverdi's *Orfeo* (1607), the first extant score specifying tympani is Orazio Benevoli's *Festmesse* (1628), which features among its 53 parts two antiphonal wind bands, each with a pair of drums. On the argument for the use of drums in the opening toccata of *Orfeo*, see C. Titcomb, "Baroque Court and Military Trumpets and Kettledrums: Technique and Music," *The Galpin Society Journal*, IX (1956), 69f. Some early examples of music for tympani include: Nicolaus Hasse, *Aufzug 2 Clarinde (und) Heerpauken* (ca. 1650); Johann Schmelzer, *Drei Stücke zum Pferdeballer* (1667); Daniel Speer, *Aufzug für sechs Trompeten* (ca. 1685); Pavel Vejvanovský, *Serenade for Strings, Cembalo, Trumpets and Tympani* (1680); André Philidor, *Marche à quatre timbales pour le carrousel de Mons.*; Jean-Baptiste Lully, *Thésée* (1686); Henry Purcell, *The Faerie Queene* (1692); Sebastian Knüpfer, *Cantata, "Ach Herr, strafe mich nicht"* (1700); František Biber, *Sonata for 6 Trumpets, Organ and Tympani* (ca. 1700); Marc-Antoine Charpentier, *Te Deum* (ca. 1702); Claude Bablon, *Marche de timbales pour les Gardes du Roi* (ca. 1705); and Johann Gottmann, *Aufzug für 4 Clarini und Tympani* (ca. 1710).

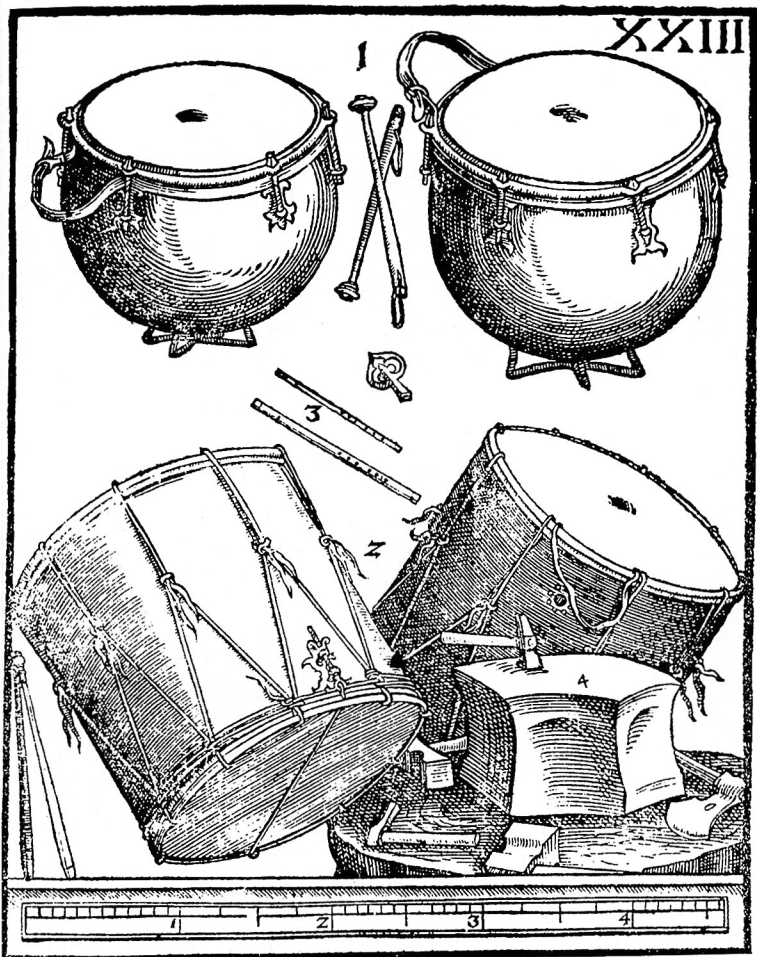


FIGURE 1. Early Baroque kettledrums. From Michael Praetorius, *Syntagma Musicum*, Wolfenbüttel, 1619 (facs. ed. Kassel, 1958), Vol. II.

music on modern instruments than it is to play recent music on seventeenth-century instruments.<sup>2</sup> More specifically, Baroque kettledrums are quite different in size, shape, and sound from their more modern counterparts. In spite of this, one gets the impression that performers and conductors in general are either completely ignorant on this subject, or are quite content to play old music on new instruments, dismissing the whole question with the rationalization that any way one hits it, a drum is a drum.<sup>3</sup>

While when compared to other instruments the tympani have not changed radically over the past few centuries, there are in fact very significant differences over time that bear serious investigation. From the Renaissance through the nineteenth century, kettledrums were small by modern standards. In the Baroque era, a pair usually measured approximately eighteen and twenty inches in diameter and about twelve inches deep.<sup>4</sup> With a smaller, shallower bowl, the

2. A hilarious example of this latter approach is a recording of the Hoffnung Interplanetary Music Festival of 1958 (Angel S35800), featuring the Dolmetsch Consort "performing" the final movement of Tschaiikowsky's Fourth Symphony and 1812 Overture.

3. Even the former New York Pro Musica owned a modern chain-tuning tympani made specially by Saul Goodman of the New York Philharmonic. Both the skin and mallets were of course new. Two conspicuous exceptions to this state of affairs in recorded music are to be found on the DGG "Archive" label. The Praetorius Dances from *Terpsichore*, according to the album notes, employ "three small kettledrums." According to Dr. Andreas Holschneider of the Archiv Produktion in Hamburg, these were "reconstructed." The anonymous Intradas for 2 Organs, Trumpets, Horns and Kettledrums from manuscripts in the Einsiedeln Monastery in Switzerland employ tympani revamped in 1905. Sometimes, however (again according to Holschneider), original instruments are borrowed, such as the pair in the Germanisches Nationalmuseum in Nürnberg.

4. See for example M. Mersenne, *Harmonie universelle: The Book on Instruments* (1616), tr. R. E. Chapman (The Hague, 1957), p. 551: "two feet in diameter or thereabouts"; and M. Praetorius, *Syntagma Musicum* (Wolfenbüttel, 1619), fasc. ed. by W. Gurlitt (Kassel, 1958), Vol. II (*De Organographia*), Plate xxiii. Praetorius gives the measurements of 17<sup>1</sup>/<sub>2</sub> and 20<sup>1</sup>/<sub>2</sub> inches in diameter respectively, and 12 inches deep. Extant examples of Baroque tympani include the following: Copenhagen, Musikhistorisk Museum, Inv. No. H-9, approx. 21<sup>1</sup>/<sub>4</sub> inches in diameter (see A. Hammerich, *Musikhistorisk Museum Beskrivende Illustreret Katalog* [Copenhagen, 1909], p. 9); Frankfurt, Historisches Museum, Inv. No. X17061, approx. 17<sup>5</sup>/<sub>8</sub> inches in diameter and 11<sup>3</sup>/<sub>4</sub> inches deep (see P. Epstein, *Katalog der Musikinstrumente im Historischen Museum* [Frankfurt, 1927], p. 7); Stockholm, Kungl. Armémuseum, Inv. No. ST Puka 54, 21 inches in diameter; Vienna, Musikinstrumenten-Sammlung, Inv. No. C-266, approx. 22<sup>1</sup>/<sub>2</sub> and 24<sup>3</sup>/<sub>8</sub>



FIGURE 2. Instrument-Maker's Workshop. From Johann Amos Comenius, *Orbis sensualium pictus*, Nürnberg, 1657 (facs. ed. Osnabrück, 1964), p. 204.

skin was under less tension. Thus, a given note would normally lie under the mean of the drum's compass. Not only was there less resonance and volume of sound, but the quality was different. The smaller the kettle, the more intense the unrelated, or "inharmonic," frequencies. When struck, the head, with more "slack," tended to emit a "belting" tone, the skin sagging under the sticks' impact and the response delayed due to the slower recovery period before the next stroke.<sup>5</sup> This is an important point, for playing on smaller

inches in diameter respectively and  $14\frac{1}{8}$  inches deep (see J. Schlosser, *Die Sammlung alte Musikinstrumente* [Vienna, 1920], p. 94).

5. See P. Kirby, *The Kettle-Drums* (Oxford, 1930), pp. 21ff. Praetorius (*op. cit.*, p. 77) calls kettledrums "great rattletraps" (*Rumpelfasser*). This phrase bears a striking similarity to Viridung's epithet in *Musica Getutscht* ("Das synd gar ungeheuer Rumpelfasser") and thus may not refer to contemporary instruments at all. Cited in C. Sachs, *Handbuch der Musikinstrumentenkunde*, 2nd ed. (Leipzig, 1930), p. 86. Sachs translates this phrase as "rumbling barrels" in his *The History of Musical Instruments* (New York, 1940), p. 329.



FIGURE 3. A pair of kettledrums at the Coronation of King James II, 1685. Engraving by Sandford. London, Mansell Collection. Photograph courtesy of James Blodde.

drums producing a lower level of dynamics provided a better balance in the smaller-sized Baroque and early Classical-style orchestras.<sup>6</sup>

Even the rather squat shape of most Baroque drums had an effect upon their sound. Acoustically speaking, the ideal depth of a drum should be equal to the distance from the playing spot to the furthest edge; in other words, about four inches less than its diameter. The cavity, or sound chamber, should be hemispherical for proper reflection of the sound waves to a spot equidistant from the beating node. Of course, little was known about the acoustics of instruments during the seventeenth century, which may in part explain the wide variety of drum shapes encountered.<sup>7</sup>

While there are no manufacturers today who make "Baroque" tympani, a reasonable compromise can be obtained through the use of twenty- and twenty-three-inch drums, both readily available. If one is willing to go to the expense, kettles can be ordered in any size and shape from a metalworking shop equipped to spin or hammer sheet stock over wooden forms. Fittings, of course, can be obtained separately from any drum company.<sup>8</sup>

It is unfortunate for those concerned with recreating the authentic sound of Baroque tympani that plastic heads have become so ubiquitous. Indeed, today it is difficult to find calf skins and the metal hoops over which to stretch them. As any tympanist knows, plastic heads do not have either the same "feel" or "bounce" when struck as does natural hide; they exhibit less resonance, less elasticity. Even the sonority is different: it is dryer, more brittle, and the tone shorter and duller. The chief physical differences are that

6. On the acoustics of drums in general, see J. Jeans, *Science and Music* (Cambridge, 1947), p. 242; and D. C. Miller, *Science of Musical Sounds* (New York, 1916). Two highly technical works are E. G. Richardson, *Sound: A Physical Textbook* (London, 1929), esp. pp. 125-128; and A. B. Wood, *A Textbook of Sound* (London, 1957), pp. 162ff.

7. This point has also been made by H. C. Robbins Landon in *The Symphonies of Joseph Haydn* (London, 1955), p. 126.

8. The author was fortunate in obtaining a pair of rebuilt tympani dating from 1875, the kettles of which were formed over wooden molds dating from the late eighteenth century. They were manufactured by Henry Potter and Company in Aldershot, who have been supplying tympani to the Royal Household Cavalry and other regiments since Handel's time.



FIGURE 4. Saxon, Polish, or Danish kettledrum, 1689. Stockholm, Kungl. Armémuseum, Inv. No ST Puka 54.

plastic heads exhibit a faster decay of the note and produce more sound at low frequencies, thus providing uneven dynamics.<sup>9</sup>

For hundreds of years, drum heads were fashioned by the parchment makers, who as a rule used goat or calfskin. The sheets were thicker and, being hand-scraped, far less uniform in texture than today's skins, which are machine-honed with an oscillating knife. According to contemporary sources, the best skins were half-tanned.<sup>10</sup> By far the most superior products offered by American

9. See H. C. Hardy and J. E. Ancell, "Comparison of the Acoustical Performance of Calfskin and Plastic Drumheads," *Journal of the Acoustical Society of America*, xxxiii (1961), 1391-1395. During a recent conference on restoration, a recital of trumpet and drum music by the Edward Tarr Brass Ensemble demonstrated clearly the superiority of contemporary heads over their modern counterparts on eighteenth-century drums. The latter "sounded terrible" (J. Montagu, "Nuremberg Conference on Restoration," *Early Music*, II [1974], 267).

10. See D. V. Thompson, *The Materials of Medieval Painting* (London, 1936), pp. 24-28. Basically, tanning consists of a two-step process of unhairing the skin with a lime solution and then, after thorough rinsing, "fixing" the protein in the skin with a vegetable tanning material or metallic salt. In so-called "half-tanning,"



dealers are the aborted calfskin heads, which produce a sharp, well-defined tone, well focused and clear. English firms still offer the somewhat thicker ordinary calfskin, which produce a more diffuse tone and heavier sound. This, of course, is much closer to the Baroque sound.

Drumsticks, too, differed radically from those in use today. The earliest examples were furnished with tiny knobs at their ends.<sup>11</sup> Later on, the sticks usually terminated in small, wooden disks. Fortunately, there is an extremely precise seventeenth-century description to guide us: the material beech or boxwood, the length eight or nine inches, with a rosette at the end the size of a silver crown.<sup>12</sup> Felt was of course unknown, and for softer effects the drummer used sticks covered with chamois or ordinary leather. At least two writers advise him to vary the point at which the sticks hit the drum head.<sup>13</sup>

Obviously, the sound emanating from a skin struck by wood or leather is a far cry from that produced by hitting a head with mallets covered with flannel or cotton felt: it was more percussive,

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the second step was omitted. An eighteenth-century writer says that the best drum skins were those smeared with brandy and garlic and then dried in the sun or in front of a fire before being lapped over their hoops (J. P. Eisel, *Musicus autodidaktos: der sich selbst informirende Musicus* [Erfurt, 1738], p. 66). Aborted calfskin heads, a more recent American product, were the most popular until plastic supplanted them. Thinner due to the age of the unborn animal, they are made translucent by using continuous lime baths after the hair is removed.

11. For example, in the retinue of King Christian IV of Denmark on the occasion of his visit to James I in 1606 was a mounted drummer, his two instruments slung over the back of his horse, "whereon hee strooke two little mallets of wood" (F. W. Galpin, *Old English Instruments of Music* [Chicago, 1911], p. 252).

12. A. M. Mallet, *Les travaux de Mars* (Amsterdam, 1685), III, 98.

13. For example, one eighteenth-century writer says that for softer effects one played closer to the rim, while for loud passages the skin was hit near the middle. D. Speer, *Grundrichtiger . . . Unterricht der musicalischen Kunst* (Böppingen, 1697), p. 106. Experiments with Lycopodium powder placed in equal amounts around the head of a drum have demonstrated that maximum agitation occurs directly opposite the node, or beating spot, of truest tone production. This point is approximately  $3\frac{3}{4}$  inches from the rim for a small (23- or 24-inch) drum. Playing at this spot produces proper deflections of the sound waves at right angles, with equal air pressure throughout, making a perfect "square" inside the kettle and returning the sound to the skin at the opposite point from that described above. See H. W. Taylor, *The Art and Science of the Tympani* (London, 1964), pp. 15-20.

“drier,” and of course louder. The hard knoblike ends of the Baroque-style sticks have less “spread” on the drum head, and produce a less full or spacious sound. For solemn or funereal music, sticks covered by wool or gauze were suggested. There is another point worth mentioning. Using a pair of sticks shorter by several inches provides less momentum for the bounce after the initial downward stroke, meaning that the end hitting the drum rests on the skin for a fraction of a second longer. In the roll, shorter sticks, with less recoil on the upstroke, make for a slower trill. However, for articulated passages or embellishments, the hands have better control than with a pair of modern sticks fourteen or fifteen inches long.

Fortunately, it is relatively easy to convert modern sticks for Baroque performance. A leathersmith can recover the disk-ended sticks with soft leather, stitching around the edges. Any tympanist familiar with the technique can remove the felt balls from a pair of mallets and replace them with soft chamois, pulling the material around the knobs tightly by means of heavy thread. Wooden-ended sticks, of course, present no problem, although fiber-covered mallets may be preferable as being less “bombastic.”

A few words should be said concerning performance practices during the Baroque period. The love of spectacle, pomp and circumstance, and embellishment of life in general among the nobility is well known; and kettledrummers played accordingly. They flung their hands high in the air between strokes, and exaggerated the cross-malleting from drum to drum, both techniques ideally suited to conspicuous display.<sup>14</sup> This was the period during which these members of the exclusive trumpeters’ and drummers’ guild evolved from their status as mounted performers at military pa-

14. Mallet (*loc. cit.*) refers to the fine-looking or impressive [*beau*] movement of the arms. A contemporary work observes that “the playing of the tympanist is executed with many contortions of the body and arms that appear excessive [*extravagante*]” (A. Furetière, *Dictionnaire de l’Académie* [Paris, 1696]). A German writer reports that the kettledrummer knows how to strike the drums “elegantly” [*zierlich*], this being accomplished with certain movements and turns that in other contexts would seem ridiculous (J. H. Zedler, *Grosses vollständiges Universal-Lexicon*, vol. XII [Halle, 1735], col. 1092f.). Eisel (*op. cit.*, p. 66) says that the tympanist’s hands must be flexible [*schlenckrende*].



FIGURE 5. Artillery kettledrums. Detail from a tapestry depicting the battle of Blenheim. Duke of Marlborough Collection, Blenheim Palace. Photograph courtesy of The British Library.

rades, maneuvers, and outdoor court festivals to members of stationary indoor orchestras; from performers of strictly improvised music to executants of more formal compositions with parts written out, albeit with fairly wide performance latitude by modern standards.

The music played by the tympani during the so-called outdoor, improvisatory period was generally a simplification of the lowest, or bass, trumpet (clarino) part, but with rhythmic elaborations.<sup>15</sup> Within the aristocratic guild itself, little music was written down, lest it fall into unauthorized hands. Both playing techniques and fanfares were handed down from master to apprentice. Performance was either from memory or was improvised on the spot by combining stock patterns and motifs. Even later on, when kettle-drums had already moved from the field to the salon, their techniques codified and their music written down, musicians were expected to embellish the written notes with rhythmic variations and ornamentations. Improvisation thus remained both a prerequisite and a prerogative.<sup>16</sup>

During the seventeenth and eighteenth centuries, the various methods of beating (*Schlagmanieren*) included no less than fourteen basic units, running the gamut from ordinary rolls and cross-beating, or "tonguing," to an entire repertoire of embellishments.<sup>17</sup> Like the high clarino players' special broad and shallow mouth-pieces, tonguing was a closely-guarded trade secret. The trumpeters' term came to be used by the drummers as well, and involved embellishments executed in place of longer notes. Final cadences especially provided a wonderful opportunity for the tympanist to exhibit his skill. According to Daniel Speer, he should improvise

15. Quoting Eisel (*loc. cit.*) almost word for word, Altenburg writes that the kettledrummers sounded the "fundamental bass" of the trumpeter's heroic music (J. E. Altenburg, *Versuch einer Anleitung zur heroisch-musikalischen Trompeter- und Pauker-Kunst* [Halle, 1795], p. 113; English edition by D. Smithers, *Trumpeters' and Kettledrummers' Art* [Nashville, 1974], p. 122). See also p. 124: "Kettledrummers usually perform their stroking—now loud, now soft, now slow, now fast—[together] with artful figures, turns, and movements of their bodies."

16. Numerous examples of outdoor music can be found in G. Schünemann, *Deutsche Fanfaren und Feldstücke aus alter Zeit* (Kassel, 1936). On the status and functions of these musicians as well as their guild, see Titcomb, *op. cit.*, pp. 56–59; and J. Blades, *Percussion Instruments and Their History* (London, 1970), pp. 226–230.

17. G. Fechner, *Die Pauken und Trommeln* (Weimar, 1862), pp. 37–55. See also Altenburg (Smithers ed., *op. cit.*), p. 124f.; and G. Avgerinos, *Lexikon der Pauke* (Frankfurt, 1964), p. 76. The *Schlagmanieren* are described under their German rubrics on pp. 22–26, 34f., 37, and 88.



FIGURE 6. Eighteenth-century kettledrums. Photograph of a recording session at the insiedeln Cloister in Switzerland. Photograph courtesy of the Archiv Produktion, olydor International, Hamburg.

during the last few measures, elaborating the trumpet part with sixteenth- and thirty-second-note patterns, and hitting the tonic drum very hard after the trumpet music had come to an end.<sup>18</sup> However, by the time kettledrums had found their way into sym-

18. Speer, *op. cit.*, p. 219.

phonic music on a widespread basis, the outdoor military technique proved unsuitable, and different performance practices of necessity began to evolve. While the rhythmic formulas and embellishments themselves generally remained the same (or were, in some cases, simplified), the manner of execution was altered. Even the size of the drums changed: freed from the horse, they became progressively larger.

In sum, there is ample evidence available concerning both the nature of Baroque tympani and contemporary performance practices to point out conclusively that using modern instruments is musically and historically anachronistic. Given the care often taken to play on authentic instruments in the rest of the orchestra, sidestepping the issue of kettledrums can only be ascribed to ignorance or simply lack of consistency. With the knowledge now at our disposal, musicologists and organologists alike must start educating the performing tympanist. Surely, this application of scholarship to living music is one of the most important contributions we can make.

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