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## **Percussion Performance**

### **The Timpani and Their Performance (Fifteenth to Twentieth Centuries): an Overview**

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**Edmund A. Bowles**

#### **Fifteenth Century**

Timpani (as opposed to their small medieval cousins, the *nakers*) were introduced into western Europe via Hungary and German-speaking lands in the 15th century.<sup>1</sup> Paired exclusively at first with trumpets, their function was essentially military, providing rhythm to the march and, by extension, lending pomp and circumstance to various court functions at which loud and brilliant music was required. The abundant iconographical evidence indicates that drums were always used in pairs, one drum slightly smaller than the other. One assumes (there being no specific evidence to the contrary) that these early timpani were more or less “tuned” to the tonic and subdominant or dominant of the key in which the trumpets were playing. However, the primitive tuning devices—often mere rope tensioning—together with extremely thick and unyielding skins,

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<sup>1</sup> See, for example, my article, “The Kettledrum,” *Encyclopedia of Percussion*, ed. John H. Beck (New York, 1995), 201-26. A far more extensive treatment of the instrument will appear in my contribution to the forthcoming revision of the *New Grove Dictionary*.

crudely made, could only have produced a muddy and indistinct sound, the many overtones completely overshadowing the fundamental notes.<sup>2</sup>

### Sixteenth Century

The sizes of kettledrums until the late 19th century were small by modern standards. Originally carried in pairs on horseback, they had of necessity to be lightweight; thus their dimensions were limited by the capacity and physical size of their equestrian porters.

In earlier times timpani heads were usually prepared by the parchment-maker, using calf, goat, or donkey skin. The scraping, preparation, and curing was a primitive process, all done by hand, the end result being a thick, stiff, and opaque head. It had a hard, leather-like quality and a surface like coarse sandpaper. Whatever the material, the resulting tone was dull and "thick," owing in part to the preponderance of overtones obscuring the fundamental. With wooden-ended mallets the resulting sound was like a thud, considered somewhat harsh even then.<sup>3</sup>

For several centuries timpani sticks were made entirely of wood (beach or boxwood, for example) or, occasionally, of ivory, from 8 to 12 inches long, terminating in a small knob or rosette at one end. Producing a loud, dry, and percussive sound, they were ideal for the

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<sup>2</sup> On the acoustics of drums and their membranes, see Dayton C. Miller, *The Science of Musical Sounds* (New York, 1916); Percival Kirby, *The Kettle-Drums* (Oxford, 1930), 21f.; and J. Jeans, *Science and Music* (Cambridge, 1947), 242. A highly technical work dealing with this subject is T.D. Rossing, *The Physics of Musical Instruments* (New York, 1990), esp. ch. 3 (membranes and plates) and ch. 18 (drums), 498-512.

<sup>3</sup> Sebastian Virdung, *Musica getutscht* (1511) refers to kettledrums as "monstrous rattletaps" (*ungeheur Rumpelfasser*). Curt Sachs, in his *The History of Musical Instruments* (New York, 1940), 329, translates this phrase as "rumbling barrels." See also Sachs, *Handbuch der Musikinstrumentenkunde*, 2nd ed. (Leipzig, 1930), 86.



outdoor ceremonial music performed (mostly) by mounted kettle-drummers, when volume of sound—to say nothing of display—was all important to the court festivities in which these instruments participated. Even when the timpani joined the court music ensemble, these wooden mallets continued to be used; paired invariably with the trumpets, they still provided balanced dynamics vis-à-vis the other instruments.

### Seventeenth Century

During the early baroque these cavalry timpani were dismounted and used for stationary music-making, for which purpose they were usually provided with low stands. A typical pair measured approximately 18 and 20 inches in diameter and from 11 to 15 inches deep, respectively. Producing less resonance and volume of sound than today's instruments, they were ideally suited to the much smaller instrumental ensembles of the period, when timpanists were often required to play indoors with a lower level of dynamics. Improvisation and conspicuous display gave way to more formalized playing from written music.<sup>4</sup>

For most of the era the smaller drum was tuned to the dominant and the larger to the tonic, the notes falling more or less exactly in the middle of their respective compasses. Later on, however, when composers started writing music calling for the high drum to be tuned to the tonic and the larger to the dominant or subdominant (modern *d* and *A* or *G*, but at the lower baroque pitch, for example), the skins were under less tension, and the two notes lay below the drums' means. Consequently there was less resonance and precise pitch; the smaller the kettle the more intense the unrelated, or "enharmonic," frequencies. When struck, the heads, providing more

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<sup>4</sup> See Edmund A. Bowles, "The Double, Double, Double Beat of the Thundering Drum: the Timpani in Early Music," *Early Music* 19 (1991), 419f. Extant early drums and their respective sizes can be found in my article, "On Using the Proper Timpani in the Performance of Baroque Music," *Journal of the American Musical Instrument Society* 2 (1976), fn. 4.



Illustration 1.

Christoph Weigel, Sr., *Abbildungen der gemein-nützlichen Stände* (Regensburg, 1698): "The Parchment-Maker."

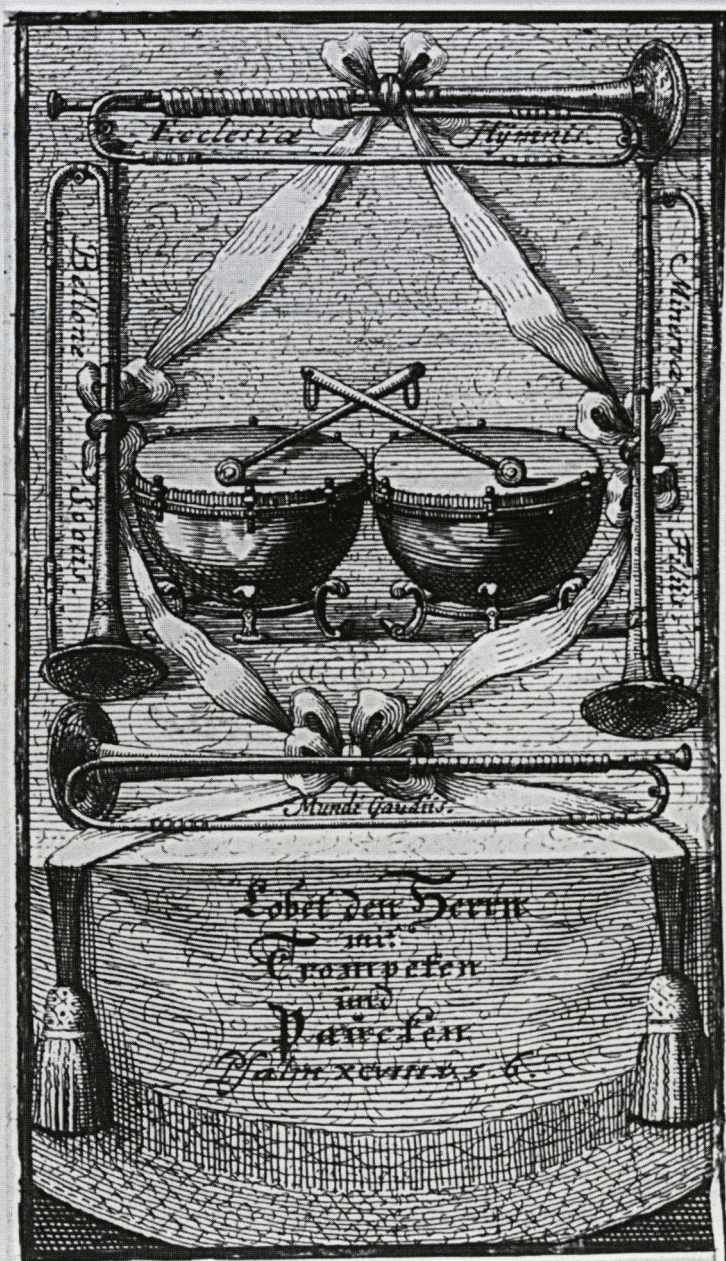


Will uns der Ehre Kerke blenden,  
und von dem wahren Licht abwenden,  
das nie verlieret Glantz und Schein:  
So muß, ein Schirm der blöden Augen,  
damit sie scharff zu sehen taugen,  
die Sterblichkeits-Betrachtung seyn.



Illustration 2.

Friedrich Friese, *Ceremoniel und Privilegia derer Trompeter und Pauker* (Dresden, 1650): Frontispiece.





slack, tended to emit a "belting" tone, sagging under the sticks' impact and slow to respond, or recover, before the next stroke. The resulting tone was thus more indistinct than that produced by today's larger instruments.

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When, during the 17th century, timpani found their way indoors, permanently joining the ever-expanding court orchestras, both the improvisation and conspicuous display associated with outdoor parades and official entertainments gave way to more formalized playing from written music. The sizes of the instrument began to increase gradually as well. The timpani's role up to this time had been primarily, if not exclusively, rhythmic and ceremonial.<sup>5</sup> Certainly, before the advent of written parts the drummer played *ad lib.*, improvising his strokes based upon the music of the lowest trumpet part. This began as mere rhythmic support, developing into an entire repertory of stock formulas and phrases embodying elaborations of basic note patterns that were interpolated in performing the mainly field music of the time. Best known by the German term *Schlagmanieren* (literally, methods or patterns of beating; there is no precise translation), they ran the gamut from 8th-, 16th-, and 32nd-note figures to special rolls and cross-beatings. Expressed in another way, they were *embellishments* in being selected from a specific repertory, but *improvisations* in that the performer was left pretty much to his own judgment concerning what to use and when.<sup>6</sup>

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<sup>5</sup> See, for example, my article, "Eastern Influences on the Use of Trumpets and Drums during the Middle Ages," *Anuario musical* 26 (1972), 1-28; and Caldwell Titcomb, "Baroque Court and Military Trumpets and Kettledrums," *Galpin Society Journal* 9 (1956), 56-81.

<sup>6</sup> This is discussed in detail under the section "Performance practices" in my article, "The Double, Double, Double Beat of the Thundering Drum," 426-30.

## Early Eighteenth Century

Altenburg, citing an anonymous treatise of 1768, listed 14 basic formulas which the apprentice drummer had to perfect and commit to memory.<sup>7</sup> For example, diminutions, called *Zungen* (literally, "tonguing," borrowed from the trumpeter's art), were the half-dozen or so rhythmic diminutions of written note patterns (Figure 1). Strokes, or beats, included various patterns of cross-beatings which originated in outdoor cavalry music, when the visual was as important as the aural. Miscellaneous general techniques falling under the rubric of *Schlagmanieren* included the roll, or tremolo, as well as various kinds of extremely rapid alternating strokes on two drums, as well as final cadential embellishments.

In outdoor field music, at least, these various patterns were played with varying dynamics and tempi, along with posturing, body movements and fancy turns of the wrist, all intended to enhance the visual festive impression. However, the problem is that Altenburg not only wrote his treatise when such practices were dying out, but was referring mainly to the practice of mounted timpanists playing at outdoor spectacles of military functions. There are no extant theoretical works from the baroque which describe these *Schlagmanieren* and their use; thus, questions remain concerning when, precisely, the player applied these embellishments, whether or not he had wide latitude (most probably), and what were the ground-rules. Following the transition from largely unwritten, improvisational music to parts compiled from a composer's score, just how extensive was the use of these stock formulas?

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<sup>7</sup> Johann Ernst Altenburg, *Versuch einer Anleitung zur heroisch-musikalischen Trompeter- und Pauker-Kunst* (Halle, 1795), 128f. See also Johann Mattheson, *Das neu-eröffnete Orchestre oder universelle und gründliche Anleitung* (Hamburg, 1713), 272. The best modern summaries classifying these formulas are Gerassimos Avgerinos, *Lexikon der Pauke* (Frankfurt/Main, 1964), 76f. and 92f., and Harrison Powley, "Two Little-Known 19th Century Timpani Tutors: Suggestions towards More Authentic Performance Practice," *Liberal Arts Review* 7 (1979), 78-88.



**Figure 1.**

**Examples of Conventions/Methods of Beating (*Schlagmanieren*)**



**Illustration 3.**

**A Court Timpanist of the Early Eighteenth Century**

**Johann Christoph Weigel, *Musicalisches Theaterum* (Nuremberg, 1722), plate xv.**





However, the use of such techniques did not end suddenly with the early baroque but were carried over into the developing tradition of written music. As composers incorporated more and more of them into their scores it became less and less necessary for the kettle-drummer to interpolate them into his part. Certainly by the time of Bach and Handel these patterns were embedded into their scores. Some 18th century symphonic scores omitted the timpani part, occasionally with the printed comment *timpani ad lib*. This presented no problem at all for the drummer, who, having cut his teeth on practicing *Schlagmanieren* as a student, could easily “create” his part based upon the second trumpet’s music.

### Late Eighteenth Century

By the mid-18th century changes in the orchestra’s make-up and its music—in particular, requirements for more strings and woodwinds and an expanded dynamic range—began to exert their effects upon the timpani. Consequently, what Dr. Burney referred to as the “eternal din” began to wear upon the listeners’ ears; and in order to provide a more balanced sonority the drums were placed at the very back of the ensemble. Another response to the growing problem of loud and unvarying sound was to wrap the knobs of the sticks with material such as leather or woolen cloth in order to be more responsive to the music’s expressive requirements.<sup>8</sup> Thus, around 1800 it was recognized that an additional pair of mallets was required. Chamois, a thin and pliable leather, or flannel, widely available, was wrapped around the knobs and sewn tight.

Alternatively, thin donut-shaped discs of leather were inserted over the end of a threaded mallet and held in place, or “sandwiched,” between them, by means of a nut. It was soon discovered that hat

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<sup>8</sup> See Altenburg, *Versuch*, 127f.: “This muffling of sound can also be done by wrapping the beater or mallet ends with leather or cloth or the like.”



felt was a good substitute for cloth, and this, too, became a standard covering.

By the later 18th century the small cavalry timpani had been all but abandoned in favor of larger instruments, called double drums in English, measuring from 23 to 24 and 26 to 27 inches in diameter, respectively, for a typical pair. Sizes tended to vary slightly from country to country and from maker to maker. English drums were the largest, followed by the French, at least in Paris, where, later on, Mendelssohn found the opera's instruments "booming."<sup>9</sup> Most German timpani remained small by comparison, a fact observed by the visiting Berlioz, who criticized their insufficient volume of sound.<sup>10</sup>

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Until the very end of the 18th century the practice was to hit the drum at or near its center, something made absolutely clear in contemporary pictorial representation. The resulting dull thud instead of a clear, precise, and ringing tone was suitable for outdoor ceremonial music stressing volume of sound and percussive effect, but for playing in an indoor ensemble these strokes ultimately became objectionable. Just when the shift to beating closer to the rim took place is not known precisely; it had certainly occurred by Haydn's time.

Passages with grace notes, whether written as such or suggested by the rhythmic character of the music, were played the same as side-drum drags; that is, as repeated strokes with one stick. Originally, this practice was to ensure that the thick, crude skins were hit in exactly the same spot. However, the increasing musical demands of 19th-century orchestral music soon led to the abandonment of this

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<sup>9</sup> Felix Mendelssohn-Bartholdy, *Reisebriefe aus den Jahren 1830 bis 1832*, ed. Paul Mendelssohn-Bartholdy, 7th ed. (Leipzig, 1865), 342.

<sup>10</sup> Joseph Fröhlich, *Systematischer Unterricht in den vorzüglichsten Orchester-Instrumenten* (Würzburg, 1829), II, 500f.; and Hector Berlioz, *Memoirs of Hector Berlioz from 1803 to 1865*, trans. Ernest Newman (New York, 1960), 309.



technique in favor of alternating beats using both mallets. Slower to die out was the use of repeated strokes with a single stick in rapid figured passages between two drums. So-called cross-malleting didn't come into full use until the early decades of the century.

### Nineteenth Century

During the early 19th century there came to be a variety of sticks available for the drummer's kit-bag to meet the increasingly varied demands of the music. The old, wooden-ended mallets continued to provide a hard, and brilliant sound, but were used less and less. Leather coverings of various types and thicknesses offered a somewhat lighter and less percussive effect. Sticks with ends wrapped or sandwiched with one or more layers of cloth gave a still softer tone.<sup>11</sup> Around 1825 a new innovation appeared in the form of sponge-headed mallets, soon becoming the preferred vehicle for producing a more blended sound, especially for rolls.<sup>12</sup> Originating in France (known for its extensive sponge-fishing industry), and introduced by Berlioz's favorite timpanist, Charles Poussard, of the Paris Opéra, they were brought to Germany by the visiting

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<sup>11</sup> J.P. Eisel, *Musicus autodidaktos; Der selbst-informirende Musicus* (Erfurt, 1735), 67f; Fröhlich, *Systematischer Unterricht*, II, 505; Wilhelm Schneider, *Historisch-technische Beschreibung der musicalischen Instrumente* (Neisse/Leipzig, 1834), 101; and Christian Reinhardt, *Der Paukenschlag* (Mehlis, 1848), 13.

<sup>12</sup> See Jean-Georges Kastner, *Méthode complète et raisonné de timbales* (Paris, 1845), 23; and Hector Berlioz, *Grand traité d'instrumentation et d'orchestration*, rev. ed. (Paris, 1870), 26. The composer noted that using a more elastic material produced more of a rebound, giving the timpanist the ability to control both the height and pressure of his sticks vis-à-vis the drum head, thus being able to execute extremely soft pianissimo rolls.

Berlioz (who first called for their use in his own music) and popularized by the Leipzig timpanist Ernst Pfundt.<sup>13</sup> The final step was the appropriation of piano felt as a covering around 1830. Much thicker and more refined than hat felt, this material could be sliced into pieces of different thickness, enabling the kettledrummer to have several pairs of sticks of the same type from very hard to very soft, encompassing the entire dynamic range required by the music he played. The timpanist Carl Gollmick from Frankfurt was possibly the first to write that he used all three types of mallets (wood, sponge, and felt).<sup>14</sup> English orchestras, always conservative when it came to adopting innovative instrumental technology, not only used wooden sticks for several more decades but continued to prefer hand-tuning drums as well.<sup>15</sup>

With the abandonment of wooden and leather-covered sticks as the mainstay, and the general use of softer coverings, the sound produced by the kettledrums in the orchestra became mellower and less dry, no longer "hard, stiff, and banging," as Pfundt recalled. Today, sticks of all sorts are fabricated out of wood, bamboo, slightly flexible cane (favored in France), and aluminum, all with a variety of coverings. American drummers, especially, prefer hard sticks, owing both to the penchant for louder sounds and the lack of "bounce" of plastic heads (the harder the material, the less the rebound).

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<sup>13</sup> Ernst G. B. Pfundt, *Die Pauken: eine Anleitung dieses Instrument zu lernen* (Leipzig, 1849), 31; and Georg Fechner, *Die Pauken und Trommeln in ihren neueren und vorzüglicheren Konstruktionen* (Weimar, 1862), 19f.

<sup>14</sup> Karl Gollmick, *Autobiographie von Carl Gollmick: Nebst einigen Momenten aus der Geschichte des Frankfurter Theaters* (Frankfurt/Main, 1866), 119.

<sup>15</sup> Richard Wagner, "Die königliche Kapelle betreffend," in *Der junge Wagner: Dichtungen, Aufsätze, Entwürfe (1832-1844)*, ed. J. Kapp (Berlin/Leipzig, 1910), 390f. The famous kettledrummer Pontigny claimed to have been the first in England to employ a covering of felt over small vulcanite knobs on his mallets. Victor de Pontigny, "On Kettledrums," *Proceedings of the Royal Musical Association*, II (1875-1876), 53.



During the 1850s a much thinner, translucent skin (*Glasfell*) was introduced, scraped by machine and employing a more refined chemical treatment. The result was a much clearer, almost bell-like tone. This type remained in use throughout the world until the advent of the ubiquitous plastic head of polyethylene-terephthalate after World War II. This modern substitute exhibits less resonance and elasticity than the animal skins. During fortissimo passages and rolls especially, plastic tends to "belt," owing to the lack of decay between strokes. The sonority is different as well as drier, more brittle, the tone shorter in duration, emphasizing more volume at the lower notes, thus providing an uneven dynamic range.<sup>16</sup>

When, during the late 19th and early 20th century, music began to require four drums and a range from high *g* or even *a*, down to low *F* or even *D*, orchestras had to be outfitted with sets of timpani anywhere from 20 to 32 inches in diameter. The symphonic compositions by Mahler and Strauss are prime examples of this.

During the first half of the 19th century a number of composers of both orchestral and operatic music wrote for three or four timpani and required rapid changes of pitch which, with only screw-tuning drums available, demanded extra instruments pre-tuned to the additional notes. As a result, radical alterations took place in both the use and construction of the timpani. Indeed, the development of so-called machine drums, with the mechanical devices to facilitate rapid tuning, reflected the widespread innovations in the design and manufacture of musical instruments generally.<sup>17</sup> Numerous inventors, working hand-in-hand with court mechanics and metalworkers, developed various means for tuning drums by means of a single ten-

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<sup>16</sup> See, for example, H.C. Hardy and J.E. Ancell, "Comparisons of the Acoustical Performance of Calfskin and Plastic Drumheads," *Journal of the Acoustical Society of America* 33 (1961), 1391-95.

<sup>17</sup> Edmund A. Bowles, "Nineteenth-Century Innovations in the Use and Construction of the Timpani," *Journal of the American Musical Instrument Society* 5-6 (1980), 74-143.

sion screw or lever, rotation of the kettle itself, or, ultimately, a foot pedal. This latter device, patented in 1881 by Carl Pittrich of Dresden as a separate mechanism to be attached to existing drums tuned with a crank, was truly a giant step forward that ended forever the limitation placed upon composers and performers alike.<sup>18</sup> It was the first drum the pitch of which could be tuned reliably with the help of a gauge and the first which could be tuned while the timpanist continued to play with both hands, solving the problem as well of how to correct a slightly out-of-tune note without interruption. Moreover, performers could now easily correct those countless passages in French and Italian operas in particular in which, owing to the lack of time for quick changes, the composers left the drums tuned to their original key in spite of harmonic changes in the rest of the orchestra which caused painful dissonances in the timpani parts.

However, there was a "cultural lag" between the advent of machine drums and rapid tuning and their implied use in the music of most contemporary composers. Indeed, in most scores with rapid or frequent modulations the timpani parts were simply written in the instrument's designated key. The player with hand-tuning drums either played the dissonant notes as written (the most usual practice), omitted them entirely (as Pfundt counseled), or, if he was lucky, had a third or fourth drum which he tuned in advance to the required notes. This wasn't always possible, however; for in addition to their scarcity, the extra instruments often couldn't fit into the small orchestra pits of regional opera houses. It was only between about 1880 and 1910, really, that both symphony and opera orchestras alike acquired the three, four, or even five matching drums required to execute the increasingly demanding timpani parts that composers incorporated into their scores. Indeed, with lever- or crank-operated instruments, it was common practice even then for a fellow musician

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<sup>18</sup> *Ibid.*, 128-31; Nancy Benvenga, *Timpani and the Timpanist's Art: Musical and Technical Developments in the 19th and 20th Centuries* (Göteborg, 1979), esp. 15f., 34, and 115; and Herbert Tobischek, *Die Pauke: Ihre spiel- und bautechnische Entwicklung in der Neuzeit* (Tutzing, 1977), 206-10.



to help change the pitch of the drums as the timpanist was busy playing, especially in Austria.<sup>19</sup>

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During the first half of the 19th century improvisatory additions varied from country to country. The practice of adding rhythmic embellishments to the timpani parts as printed seems to have died out in France, owing in part, perhaps, to the impact of the Revolution. According to the composer-theorist Georges Kastner, the drummer in the Paris Opéra orchestra (Charles Poussard) didn't recognize any of these formulas, adding in his commentary that players who interpolated them into their music were subject to a severe reprimand from the conductor.<sup>20</sup> In Italy many of these *Schlagmanieren* were still in use, judging by their description in Boracchi's manual.<sup>21</sup> Timpanist in the royal theater orchestra at Milan, he mentions, for example, double cross-malleting, in which both drums are struck with both sticks, one right after the other. However, it was in Germany that *ad lib.* ornamentation continued to be used at least until mid-century. While most sources describing them do so as a pedagogical device, there were still occasions when performers added them to their written parts. Pfundt, the most famous kettledrummer of his generation, wrote that he employed many of these *Schlagmanieren*, including several varieties of rolls and beating patterns, when play-

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<sup>19</sup> A typical case in point is the fourth movement of Mahler's First Symphony. See Edmund A. Bowles, "Hans Schnellar and His Viennese Lever Timpani," in *Proceedings of the Conference on Austria 1996-1996: Music in a Changing Society* (Ottawa, 2-7 January 1996), ed. Walter Kreyszig (in preparation).

<sup>20</sup> Kastner, *Méthode complète*, 28. The author adds that embellishments by the timpanist were used in improvisatory marches and quadrilles but never in orchestral music.

<sup>21</sup> Carlo A. Boracchi, *Manuale pel timpanista* (Milan, 1842), 23f.

ing music by Rossini and Meyerbeer, for example.<sup>22</sup> Even some dozen years later, apparently a few of these methods of beating were still being used, probably for extended rhythmic passages (especially during repeats) and final cadences: Fechner claimed that “only a very few of these” were used; otherwise the music was “played as written.”<sup>23</sup>

Prior to the early 1900s there were a variety of techniques for producing a roll or tremolo. For example, in addition to the simple, unmeasured roll was the measured, or double roll, used for added effect, in which the first stroke was played on the drum tuned to the tonic, with succeeding strokes played on the drum tuned to the dominant or subdominant, the pattern repeating itself until the final accented stroke on the tonic again. Both Boracchi and Kastner mention the double roll, still used for special effects, in the 1840s; but by then one hand rolled on the tonic drum while the other passed quickly back and forth between both drums, alternating strokes. Or, in a variation of this, the timpanist could hit each of his two drums with rapid alternating strokes.<sup>24</sup>

During the first half of the 19th century it was not uncommon to perform rolls using what today is called the side-drum technique; that is, with a rebound stroke, two with one stick followed by two with the other (r.r., l.l., r.r., etc.). By the 1840s both methods existed side by side. Pfundt, for example, acknowledged that the so-called alternating stroke technique was superior in terms of tone quality, advising that in long, protracted rolls with changing dynamics it was quite acceptable to rest one hand by playing “piano” passages using

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<sup>22</sup> Ernst Pfundt's *Pauken-Schule*, new 3rd rev. ed. by Hans Schmidt (Leipzig, 1894), 21-28.

<sup>23</sup> Fechner, *Die Pauken und Trommeln*, 37f.

<sup>24</sup> See, for example, Boracchi, *Manuale*, 23; Kastner, *Méthode complète*, 34f., who notes that there are “a hundred ways” the kettledrummer can execute a roll, ad-libbing anew each day; and Reinhardt, *Der Paukenschlag*, 42.



the rebound, or repeated stroke, technique. He also said that this latter method was useful in eliminating cross-beating involving both drums.<sup>25</sup> However, by the time that Fechner wrote his treatise, the side-drum technique was already a thing of the past, and he ignored it completely.

Cadences, particularly final ones, had always provided the timpanist with opportunities for conspicuous display. This was especially true during the baroque era, when the mounted kettledrummers were expected to end with a bang. Speer (Figure 2) selected an example of

**Figure 2.** Daniel Speer, *Grundrichtiger Unterricht der musikalischen Kunst* (Ulm, 1687), 219.



this for particular emphasis; in addition, the performer had to add several improvisatory but measured embellishments after their trumpet-colleagues had stopped playing. During the 18th and 19th centuries, when a tremolo or roll was called for in final cadences, such solo flourishes were a thing of the past: the part was played as written, except that the final stroke was always accented. When the last measure of the timpani part concluded in a quarter or half note, for example, with nothing for the remainder of the measure, in spite of the rest of the orchestra playing, the note was either struck and left to vibrate or the timpanist filled up the measure with notes of the same value or else substituted a roll.

<sup>25</sup> Pfundt, *Die Pauken*, 7f.

As far as dynamics are concerned, timpanists did not invariably play loudly, at a single dynamic level, throughout the music; even the mounted drummer varied his playing from loud to soft. In order to control their dynamics with the hard, wooden sticks and thick, unresponsive heads they not only executed more or less pressure on each individual stroke, but played loud passages closer to the center of the drum and soft ones closer to the edge, or rim. Again, precisely when this change in beating took place is questionable; it is mentioned in the earliest instructional manuals around 1840. Kastner, citing an old baroque technique, went further and recommended that in order to provide maximum volume to a series of loud notes the timpanist would hit his instrument with both mallets simultaneously, one positioned a few inches closer to the center of the skin. It was further suggested that when the timpani part consisted of a single short or whole note in one or more measures, when the other instruments were playing figured music the performer should either prolong the note by playing a roll or else add strokes corresponding to the rhythm of the rest of the orchestra.<sup>26</sup>

### **Twentieth Century**

The exploitation of various and unusual tone colors and effects characterizes the role of the timpani in much modern music: for example, glissando passages, stepwise ascending and descending passages, hitting the center of the drum, using a different type of mallet in each hand, playing with snare-drum sticks, wire brushes or even two coins, or even placing cymbals on the drum-heads. In addition, complex rhythmic passages often make the ultimate demands upon the performer's technique, while the requirements of virtually instantaneous changes in pitch, often to be executed while the timpanist continues to play, require skilled manipulation of foot pedals and a well-trained ear.

Playing technique has changed as well, especially in England and America. Here, the mallets are usually held between the first, rather

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<sup>26</sup> Kastner, *Méthode*, 29.



than second, joint of the index finger and the thumb, which is on top instead of inwards, as on the continent. It has been argued that “flicking” the sticks with the tips of these joints produces a more instantaneous “bounce” and therefore a clearer tone. Be this as it may, placing the thumb upwards while playing a roll places the wrist in an awkward position for rapid flexing up and down; and most modern timpanists who have adopted this technique cannot beat or alternate their strokes as fast as those playing with the so-called continental method.

There seems to have been a fundamental shift, particularly in America, away from the concept of supporting or underpinning the music as an ensemble instrument towards viewing the role of the timpani as essentially a solo instrument. Indeed, many kettledrummers freely add notes to their parts at will, ignoring “authenticity” altogether. Whereas before, the timpani blended in with the orchestral texture, nowadays the instruments are more forward, louder, more “percussive.” There has also been a corresponding change away from the larger and softer sticks to smaller, harder mallets, in part to achieve a proper rebound on the more resistant plastic heads, along with an emphasis upon louder dynamics in general. In short, yesterday’s practice was more unobtrusive, whereas today’s is more conspicuous. It is almost as if the timpani have come full circle, and are again considered a virtuoso and display instrument, as they were some three-hundred years ago.