6 Conducting Rhythm

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The great conducting teacher Hans Swarowsky told his students at Vienna's Academy of Music and Performing Arts that a conductor has only three jobs: start the piece, make any changes within it, and finish it. Indeed, certain elements of time keeping would seem to render that task in conducting rather simple.

At its most basic level, a conductor's gestures convey, through a repeated, patterned series of pulses with the hands and arms, a visual counterpart to the rhythmic structure of the score that the musicians hear as they play. While this information can be helpful to those who are playing, it is often crucial to those in a group who may be looking at bars of rest, as it helps them confirm the passage of musical time, including when they may be called upon to rejoin the musical discourse.

Here is the question anyone who sees a conductor is likely to ask: How do the gestures of a conductor help musicians stay in place? In the vast majority of cases, musicians usually have in front of their eyes only their own lines to play in a piece for ensemble or orchestra. Thus, at the first reading of a piece, players start creating in their minds a virtual score that resides in their memory. This virtual score is constructed from what they hear in relation to what they play and to a conductor's clear, consistent indication of the beats in the piece. This process, usually done in rehearsal, helps the players assess securely whether the other parts they hear are before, after, or coincide with what they play. For the conductor, determining what will be most important in gestural terms has to do with allowing the players to make the best, most accurate virtual score in their minds. The better musicians understand what their colleagues are doing, the more flexibility and interpretative liberty they obtain.

In scores before the early 1800s, the rhythmic organization for most Western concert music did not really require such a time beater; performances could be led from the first violin chair or from the keyboard. While some notable exceptions existed, Beethoven's Fifth Symphony being a good example, to be played properly, most compositions had few major changes that would need a conductor.

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However, early into the new century composers such as Berlioz, Schumann, and Mendelssohn were writing works that enjoyed the possibilities in expanding the size of larger instrumental groups, combined with a less strictly organized rhythmic pulse. As a well-known example, performing the opening measures of Berlioz's *Symphonie Fantastique* without a conductor's help in the shaping of how all the players interpret time's flow would be a major challenge. It is certainly possible, but a good deal of rehearsal will be consumed in an activity that is vastly simpler with a good conductor. And this is before any consideration of the musicians being in an acoustic where transparent hearing is not possible.

Such demanding scores led to the rise of conducting as a profession during the nineteenth century. Romantic composers' interests in explorations of varying moods, often within a single piece of music, meant that a conductor could be called upon to negotiate quite a number of changes in a short period of time. As an example, the second movement of Rimsky-Korsakov's *Scheherazade* begins with a small cadenza for solo violin and harp, followed by a recitative-like melody for bassoon and divided bass section. Rimsky-Korsakov continues to develop this material while adding new ideas expressed in different meters and speeds.

Before the nineteenth century, rubato was a way of using rhythm where two parts could float in freedom as long as they came back together at some point. The classic rule of thumb was that, for a pianist, the right hand steals time (forward or backward) without the left hand being aware of anything amiss. Starting with the Romantic composers, rubato might be viewed as a structural device, that is to say, within-phrase tempo variation could be applied as a way of changing or influencing the arc of the piece on a larger scale. This kind of rubato might not be connected within a bar or bars, but rather used to delineate one part in a work that has great tempo freedom in contrast with other parts that are more strict. The second movement of Tchaikovsky's Fifth Symphony is a good example, as the composer sets up a first section where melodic material and even the opening harmony respond to the tempo of *Andante Cantabile, con alcuna licenza* by being flexible even before the many printed indications of *animando*, *ritenuto*, *sostenuto*, *animato*, and the like. This is contrasted by a second section where a tempo indication of *Moderato con anima* and an unwavering series of regular syncopations in the accompaniment make it clear that rubato is to be put aside. Indeed, this section ushers back in the motto of the work, itself of a rhythmic quality unrelenting in its steadiness. In this way, for Tchaikovsky, the desired tempo indications that include rubato actually serve a formal as well as an expressive purpose.

Nineteenth-century opera was a major driver in the importance of the conductor's role. The addition of ever larger groups of soloists, choruses, and dancers created a compelling need for the conductor to be able to present the passage of time and its changes visually to the performers. The dramatic narrative began to evolve away from opera as a collection of scenes that might contain widely different expressive material presented with quite wide-ranging musical means. While some earlier composers such as Mozart had been expanding numbers in their operas for expressive purposes (the finales of acts two and four of *The Marriage of Figaro*, or the finale of Act One of *The Magic Flute* come to mind), the division between separate numbers as a way to articulate a story becomes much less rigid. Opera composition transforms from a set of scenes into a flowing narrative with wide ranging musical means to express the many moods and situations succeeding each other without interruption. The wink in Swarowsky's eye is evident when one considers just how challenging "making any changes" could be.

At the dawn of the twentieth century, the influence of rhythm's importance in Western art music was being felt through an increasing number of challenging scores. Composers were using syncopation, complex meter changes, and polyrhythms in their experiments with freeing up musical time. Dance choreography was also pushing against the traditional boundaries set by traditional ballet. While Stravinsky's *Rite of Spring* is held up as the poster child for this newer, complex use of rhythm, works such as Debussy's *Jeux*, Schoenberg's *Five Pieces for Orchestra*, Webern's *Six Pieces for Orchestra*, Ravel's *Daphnis and Chloe*, Ives's *Three Places in New England*, and Grainger's *The Warriors* all demand a very organized mind and clear hand to be played well.

After the First World War, the number and variety of rhythmic explorations continued to increase. The influence and incorporation of jazz elements, ethnomusicological research into both European and non-European folk musics, as well as the type of experimental ideas put forward in Henry Cowell's book *New Musical Resources*, which imagines a future of superimposed speeds and time signatures, led to a perplexing set of challenges that might face a conductor when encountering a new score.

Following 1945, with the continued experimental ideas of the composers who came of age during this period such as Boulez, Maderna, Stockhausen, Berio, Cage, Nono, Carter, Xenakis, and Birtwistle, among many others, conductors might be forgiven for approaching a new score with a certain amount of trepidation. The technical demands of works by these composers might require a unique rhythmic approach for every new opus.

What is one to do, for example, at the end of Carter's *Double Concerto* where the two different groups play in $\frac{4}{4}$ and $\frac{9}{8}$ simultaneously? Personally, in preparing this passage, I worked for several months to beat four equal beats with my left hand while hearing all the music in the $\frac{9}{8}$ group in my head, followed by conducting three equal beats with my right hand while hearing all the $\frac{4}{4}$ musical material in my head. The trick was then to put these two beat patterns together simultaneously and flexibly (no mean feat in a bilaterally symmetrical body!) while imagining the whole in one's inner ear. As a small footnote, it also meant making a copy of all the pages of the score and putting them on one enormous sheet of music so that I didn't have to turn pages!

With the rhythmic choices available to composers today, it is often helpful for the conductor to have a few rules of thumb to help make decisions when encountering a new score for the first time. In a practical sense, the rhythm of most scores will be roughly divided, from the conductor's point of view, into two categories: (1) the use of a pulse with a certain degree of regularity that is subdivided into various groupings, as in *Modulations* by Gérard Grisey or (2) a small duration used as the basis for combinations of different bar lengths, as seen throughout *Tehillim* by Steve Reich. The reality, however, is quite often a combination of these two approaches in addition to any tempo flexibility that may be required. Hence a piece might require a conductor to beat what appear to be simple time signatures, but within those bars some players are playing seven notes in the time of three while others may have a syncopated rhythm of five against four. This is the sort of approach one might find in a score by György Ligeti. In another score, there could be combinations of successive bars with alternating lengths of $\frac{7}{16}$, $\frac{3}{8}$, $\frac{2}{4}$, $\frac{11}{16}$, and so on, as seen in works by Australian composer Brett Dean.

A number of composers have developed quite sophisticated uses of tempo changes in close succession and of superimposed tempi to give the effect of music that moves at several speeds at once. Elliott Carter's metric modulation is one example in which an underlying subdivision of, say, five sixteenth notes on one side of a barline equaling four triplet eighth notes on the other, keeps the change of speed in a mathematical relationship. Karlheinz Stockhausen developed a scale of tempo that would be parallel to a scale of tones by dividing the speeds of 60 and 120 beats per minute into twelve discrete gradations, equivalent to the twelve semitones within an octave. This allows him in his composition *Inori*, for example, to have a tempo that switches up or down with an immediacy equivalent to the change of pitch. This is why, in that score, the three beats in a bar for the

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conductor may require three quite different speeds. It also accounts for the raised eyebrows of musicians when encountering 63.5 as a metronome marking.

Thomas Adès uses a system of metric time signatures to denote the different speeds of notes and bars in his scores that at first glance may appear confusing. In traditional notation we use a fraction such as $\frac{5}{4}$ to indicate that the length of that bar is five quarter notes long. Each one of those quarter notes could be combined or subdivided to make for larger or smaller units of half notes, eighths, or sixteenths within the bar. But those units also could be parsed differently. If we combine the last two quarters into a half note and then subdivide that into triplets, we have a bar of three normal quarters followed by three triplet quarters. Adès used the value and speed of the last three notes to write them out as "sixth" notes (notes whose speed is a relation of six in the time of four) and our so our familiar $\frac{5}{4}$ could be written out as $\frac{3}{4}+\frac{3}{6}$. This may require some explanation in rehearsal when players are confronted with a series of times signatures of $\frac{1}{6}$, $\frac{2}{4}$, $\frac{3}{8}$, $\frac{2}{4}$, $\frac{2}{6}$, $\frac{4}{4}$ as found in the third movement of Adès's *Asyla*. It is, however, simply a very practical way to notate the idea of metric modulation on a smaller time scale and becomes intuitive quickly.

Sometimes the requirement is to stay exactly synchronized with an electronic component, as in *Désintégrations* by Tristan Murail, or a visual element, as in *Three Tales* by Steve Reich. This degree of precision and alignment with other clock sources necessitates the use of a click track in which a series of audible clicks is fed to the conductor via headphones. Indeed, it is not unusual in the realm of soundtrack recordings for film that an entire group of musicians has a click given to them directly on headphones while they play. In this studio setting, it might appear that the conductor no longer needs to fulfill the duties of a timekeeper, but it glosses over an important fact. Conductors work with their own bodies to create a personal language in which they are able to express the quality and feeling of the rhythms to be played while they are also providing the regular pattern of the time signature and speed of the tempo. This is, thankfully, not something that the click will ever accomplish on its own and is an essential part of unifying any performance of music, with or without a click provided.

Thus, even when it seems like one might simply replace the timekeeper with a machine of some sort, the conductor's job returns, in a very real sense, back to Professor Swarowsky's adage and demonstrates how, ironically in a purely aural medium, a conductor visually embodies time.