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Conductors' Annotated Scores: A Comprehensive Study

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CONDUCTORS' ANNOTATED SCORES: A COMPREHENSIVE STUDY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Musical Arts

in

The School of Music

by
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To my wife Carmem
Music can name the unnamable and communicate the unknowable.

Leonard Bernstein
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ABSTRACT

Conductors’ annotations have a different nature and goal from those of orchestral musicians.

The purpose of this study is to obtain a better understanding of the process of conductors’ annotations based on examined scores\(^1\) collected from professional conductors and supported by a questionnaire answered by twenty-seven participants.

Certain questions provided a better understanding of the elements used in conductors’ annotations. For example: Why do some conductors prefer to use symbols, words, numbers, or colors? What kind of annotations are more suitable to specific repertories? Why are reinforcement markings, although redundant, so popular among conductors and why do some conductors consider the score as a document that should not be modified under any circumstances?

Analysis of the scores as well as the questionnaire responses show some similarities among conductors’ annotated scores and orchestra musicians’ annotations. However, the utility and nature of the conductors’ annotations are so unique that they resulted in a different outcome from the research of musicians’ annotations used as a reference for this research.

Despite the similarities among conductors’ annotations, the study found no clearly defined or standardized process. Rather, the findings include individual solutions annotated by conductors to make the music more readable and to provide a unique, personal specific analysis in order to achieve a better understanding of the piece.

\(^1\) This study used Tchaikovsky’s Symphony no 5, in E minor, Op.64 as reference instead of an open choice so that some aspects of the analysis could only be compared to the same musical content. However, some conductors sent an annotated score of other work, which the author accepted considering that the focus of this research was the annotations rather than the music itself.
Further research emphasizing the annotation process of world-renowned conductors and their practices across an array of works and musical styles should be undertaken as a means of determining their individual approaches to the art and craft of conducting.
CHAPTER 1. INTRODUCTION

Annotated scores reveal many aspects of the musical analysis performed by conductors. The academic examination of such scores has become a rich field that has been attracting attention for its musical importance as well as its documentary and historical information.

Although the meaning and intention of many handwritten annotations may appear to be obvious, problems arise due to a) having no standardized procedure for score annotation and b) the absence of a broad investigation of the semantics of these signs in the musical context. That the meanings of these annotations are not in themselves self-evident points up two important aspects of their nature: 1) their intent is that they be understood by one person only: the conductor, as a mnemonic device reflecting study, performance practice, and rehearsal matters, all for the immediate purpose of performance; and 2) as an integral part of score preparation, they deserve adequate study for the purpose of understanding how effective performances are achieved.

This comprehensive study explores various uses of the most common annotation symbols, words, numbers, and multiple markings used by conductors in their scores. Through the analysis of different handwritten markings, one can identify a variety of signals and their unique and individual use by different conductors. Careful study reveals similarities, both among the annotations themselves and in the use of the similar annotations and procedures by different conductors for mastering and/or performing music.
1.1 Literature review

Megan Winget, an assistant professor at the University of Texas at Austin and PhD in Information and Library Science who focused on score annotation and interpretation behaviors of performing musicians has explored annotated scores in depth. Her work includes analysis of over 25,000 annotations made by musicians of all skill levels and performance modes. Additionally, rehearsal observations and detailed interviews provided her with a context in which to meaningfully interpret the data. In her dissertation, she provided a comprehensive analysis of basic annotation characteristics, the purposes and motivations for making those annotations, and the knowledge necessary to create and use those annotations. Her work is one of the most important sources for this study in that it explores in detail many different styles of score annotation along a wide spectrum of performers, including orchestral musicians as well as some unique symbols used only in the scores of conductors. The bulk of her study, however, emphasizes the work of performing instrumentalists. Winget studied score annotation from the musicians’ perspective, while our research project explores the individual and semantically rich universe of conductors’ handwritten annotations. The importance and utility of annotated scores vary according to many aspects, such as the quality and reputation of the conductor. The documentary and historical record of annotations has increased in recent years as librarians and private collectors around the world have seized upon the importance of the personalized and well-marked scores. According to Dr. Jovan Zvicovic, whose monograph approaches the conductor’s performance practice by reviewing his/her preparation process:

[Annotation] represents the way in which music has been read and understood by the conductor and serves as a valuable educational tool not only for the one who is marking the score, but also to any other conductor who is studying those markings later on. By

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observing markings, one can identify the priorities of the conductor who marked the score, understand how he shaped rehearsals and performance, detect possible difficulties in the piece, and even pinpoint possible problems during the rehearsal process. As stated, marking scores is a highly individualized process. 3

Zivkovic synthetizes two concepts restated in this research project: a) the importance of the annotations as an object for study, b) the annotations’ individualized process.

1.2 The variety of annotation styles

The variety of personal handwritten notes reflects the lack of a standardized process in the marking of scores. According to Bewley, “Every conductor develops a singular approach to marking scores. What may be common practice for one conductor might never appear in another conductor’s scores.”4 Thus, the construction of a personal vocabulary varies from one conductor to another. Nonetheless, studying the process of learning and performing music based on this set of handwritten signs results in only a partial comprehension of the way conductors approach music and experience the emotions expressed within it. Winget explains that the analysis of annotations gives us the ability to generate theory based on the notator’s conscious and unconscious decisions and markings in his or her work.

Despite the particularities found in various annotated scores, these markings, taken together, provide a different source for other musicians seeking to analyze a musical performance, in addition to the traditional use of recordings and a live performance. For instance, Bewley5 notes in his article that Eugene Ormandy, the longtime musical director of the Philadelphia Orchestra, typically followed the common and musically least significant norm of

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5 Ibid.
markings, using them mostly for reinforcement. Others, like Claudio Abbado, map the score with details concerning musical expression itself. According to Moreni, a musicologist who observed and reported meticulously on Abbado’s scores:

[…] every page in every score of Claudio Abbado’s is a world unto itself. Delved through, commentated and annotated; with little touches, adding, cutting; with details in full relief, meticulously translated words. And a design of what’s to be brought to the foreground; the hues and tones, the pianos in particular, the pianissimos and più che pianissimos […]

Moreni’s observations also provide detail of superficial annotations, from the geography of concert halls, to expressions, such as Leise Tränen written to express emotion in the entrance of the harp in Mahler’s Ninth.

Although Winget dedicates a subsection of her dissertation to conductors’ annotations, she reflects less on them, while exploring musicians’ annotations in depth. Winget thought that conductors’ annotation styles as radically different in both character and purpose from those of the instrumental musicians and for this reason glossed over them in her study, she suggested that conductors’ annotations deserve further study, her data collection from that group was not complete or extensive.

This study picks up where Winget left off and covered part of Winget’s study, but from the perspective of conductors. However, we did not intend to answer all the questions asked by Winget. On the contrary, considering that conductor annotation analysis is a field little explored to date, many questions in our questionnaires examine annotations by conductors in great depth.

Some particulars are only, or primarily, found in conductors’ scores, such as an orchestra


7 Ibid. Translated by Moreni to: Light tears.
chart, historical information about the performance (e.g., dates, soloists), decisions about orchestration and balance, subdivisions regarding the beat of the music, and other aspects of particular importance to conductors. Furthermore, some common practices among conductors, such as the use of colors in the score, are not listed by Winget in her analysis of musicians’ annotations. During my career as a conductor I have observed the use of color by several conductors to highlight markings on dynamics, tempo, and printed signs, and by others to visually separate the various orchestral choirs.

One can also find annotations that reveal many aspects of the conductors’ emotive responses to the music that, according to Bewley, 8 typically help the musician know what mood to set for a piece, and they differ from informational-contextual annotations in that these conceptual annotations use more general terminology, their referents are less specific, and the action resulting from the annotation is not sensibly evident.

Conductors use many markings and comments to indicate emotional intensity. Many use Italian words or phrases, as is traditional in music: calmato, avanti!, affrettando. These may also be words they use to convey their vision to the musicians in rehearsal.

Annotations can also provide important instructions regarding the instrumentation, orchestration, and aspects of how music can be performed. Some institutions have committed to preserving printed scores with markings. For example, Abravanel Studio Digital Collection is scanning all of Gustav Mahler’s Symphonies with annotations by the Utah Symphony Conductor Maurice Abravanel and providing the recordings related to his annotations. 9 This source provides

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9 Utah Symphony's 2014-2015 and 2015-2016 seasons. During this first year of celebration of Maurice Abravanel, the first four Mahler Symphonies were performed. Performances of Symphonies No. 5 through No. 9 completed the cycle in the 2015-2016 season.
historical and performance practice information regarding Abravanel’s performance of the complete Mahler symphonies cycle. For instance, Abravanel’s score of Mahler’s 8th Symphony includes a map of the placement of the choir:

![Annotated placement for the choir in Mahler’s 8th Symphony](image)

Figure 1. Annotated placement for the choir in Mahler’s 8th Symphony

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10 This marked score belonged to Maurice Abravanel, conductor of the Utah Symphony from 1947 to 1979. This particular Mahler symphony has been performed by the Utah Symphony three times: December 1963; April, 1978; and, November, 2002. “Annotated Mahler Scores,” https://music.utah.edu/students/mckay-music-library/Scores.php (accessed November 8, 2017)
The sketch in Figure 1 shows the solution found by Abravanel to place the choir, orchestra, and soloists for this particular performance and can be helpful to other conductors seeking a solution to deploy the various orchestral and choral forces.

1.3 The nature of conductors’ annotations

In her book, Winget observes, with a tinge of regret, that there is little formal research that reports the interaction of musicians with the written music. In her approach to musicians’ behavior, she presents thorough ethnographic research that studies the use of annotation in music. However, there are many other possibilities for approaching the handwritten annotations. Considering that the process is not at all standardized, we can assume that it is essentially personal and depends upon the musical interest and intention of the performers at various moments of their engagement with the score. With regard to conducting, individual personalities and their many idiosyncratic characteristics must be considered. According to Bewley, a study of conductors’ score markings has the potential to increase our understanding of the art of conducting in general as well as the specific techniques of individual conductors.

Although the marking of scores is a fairly common practice among conductors, it is not universal. That is, not all performers write in the score, and it is therefore difficult to ascertain whether what some conductors write in their scores reflects their sole or indeed main approach to the music or merely a “subroutine”, part of a larger and more complex process.

Considering that conductors’ annotations have a different purpose other than that of the annotations of the orchestra players, the present study focuses on the markings and procedures that make this activity among conductors so distinct.

On one hand, for musicians, except for some specific technical solutions such as points to breathe (winds), bowings (strings), or change of instruments (percussionists), the musicians’ annotations take place mostly during the rehearsals. They need to take notes based on the
conductors’ interpretative ideas and solve many of the technical problems they encounter during the rehearsal. On the other hand, for conductors, everything needs to be prepared prior to rehearsal and it is rather uncommon to see conductors taking notes during the rehearsal, though it is not entirely absent. Some of the conductors’ annotations are based on rehearsal events, such as cues for instruments that did not work during the rehearsal (and/or need to be more emphatic or eliminated altogether) as well as any other unpredictable event that comes to the conductor’s attention during the rehearsal, e.g., the tendency for certain pitches on some instruments to go out of tune. Perhaps the indication on the bottom of Mahler’s score by the legendary conductor Willem Mengelberg (1871-1971) is such a response to rehearsal events (see Figure 2).
What attracts attention to this annotation is the written expression: *vorsicht* \(^{11}\) with an asterisk for the first violins. This could be one annotation done after an unsuccessful reading of the work,

\(^{11}\) “Precaution”, my translation.
possibly regarding the rhythm in the fourth bar. There is another indication with an asterisk in the third bar for the pickup of the first violins indicating a recommendation written by Mengelberg that suggests playing the pickup as if it were the beginning of a Viennese waltz.\footnote{In pen,‘‘Vln.1 Mahler sagte in Der Probe: Bitte spilen für das \textit{rall}. (…) als ob wir in Wien eine ‘‘Wienerwalzer’’ anfangen, my translation.}

Although John Bewley explores many aspects of Eugene Ormandy’s approach to the music through his handwritten notes, what makes Ormandy’s approach singular and more meaningful is the complexity with which he determines the bows. The changes written in Ormandy’s score, according to Bewley, elucidate the remarkable sound of the Philadelphia Symphony in Ormandy’s era, even though Bewley also gives attribution to Maestro Ormandy’s conducting technique and the quality of the players to be relevant as well. Ormandy, he suggests, belonged to a tradition of conductors who held that the handwritten annotations were often concerned with rewriting the original music. The annotated scores of this subset of conductors register their modifications to balance the orchestra, add and remove instruments, modify dynamics, and make many changes to obtain a desired sound.

The practice, by today’s standards, would be considered ahistorical and inauthentic. Mahler’s rescoring of Schumann (and Beethoven) solve not only technical issues (taking into account the mechanical improvement of certain instruments and their playing mechanisms), but also transplanting one set of historical practices into another. Thus, Mozart rescores Handel’s Messiah, adding Classical instrumentation (and additional counterpoint) to the Baroque score; Mahler brings the Romantic Beethoven into a post-Wagnerian aesthetic.

The relationship established between the conductors and their scores starts as soon as they make physical contact with it. The cover, the layout, the paper or digital source are the first characteristics of the score with which the conductor must interact, and the format matters. Does
one scroll through a pdf file or carry a large, yellowed, and perhaps pre-marked Wagnerian score? The process may or may not resemble the reading of a book. Rather, the reading of a score is usually done several times, exploring and learning the music from various perspectives and layers of information. Regarding this aspect of reading a score, Bewley reports how diverse the conductor’s approach to the music can be:

While some conductors learn a new piece by "experiencing" it (either through rehearsal or by mentally conducting the piece), others utilize various analytical tools to digest a new work. These tools can run the gamut from harmonic analysis to analysis of structural features. There are few indications that Ormandy approached music analytically; markings of harmonic or structural analysis are extremely rare in his scores. Occasionally, he marked his scores to reveal phrase structures by marking groups of measures with the number of measures in the group. One can presume that if Ormandy engaged in any sort of detailed analysis it was either done on a separate score or intuitively.  

Bewley reinforces the absence of musical analysis markings in Ormandy’s scores by comparing them to his observations of what he calls “analytical tools” in other conductors’ scores. However, he suggests that “experiencing” a new piece as a learning process provides an idea of an empirical process of learning the music instead of a systematic one.

Furthermore, there is a sense of movement while reading the music. According to Wood,

[the effect of music is essentially kinetic. ‘Music is movement.’ (…) It is quite useless to attempt to read a score, in the sense of imagining the effect of the music it notates, until one not only can imagine the vertical effect at each instant but can [also] perform the operations of recognition and imagination with a rapidity equal to that with which those instants would succeed each other if the music were being played.  

In this regard, annotations for Ormandy seemed to work as a point of contact by which the conductor brings out information that was processed and understood by him or her and could subsequently be represented by symbols, words, and/or numbers.

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For those conductors who do not mark the score at all, the score itself is committed to memory, which seems to be enough to establish the connection between the conductor and the score, but this aspect will be not explored for the purpose of this study. Nevertheless, some conductors who declared against marking the scores are found nonetheless to be guilty of this practice. In one example, conductor Kenneth Woods recalls discussing the topic with his former teacher:

Gerhard Samuel had conflicting feelings about marking. On seeing some of my heavily marked scores, he told me (rather emphatically) that I shouldn’t need all those marks if I actually learned the music well enough, but I later discovered he himself often marked his scores almost as thoroughly. ¹⁵

In the same article, Woods lists three reasons why conductors mark a score:

One, the purpose of score marking is to make a non-performable approach to notation performable, or, in other words, to make the score easier reading for the musicians. This would obviously involve a complete review of all of the musicians’ parts, adding bar numbers, rehearsal letters or numbers, cuts, etc.

The second purpose would be to create a performing edition unlike the previous one. The intent here is not to make the music more playable but to project the conductor’s interpretative ideas onto each part. Many conductors maintain their own set of parts for just this purpose.

The third reason is the most common, and that is to facilitate the conductor’s study, mastery, and performance of a score. This practice can make use of a personal marking technique or borrow from pre-existing “schools” of score marking.

In contrast to the abundance of markings in Ormandy’s annotated scores, the adherence of some conductors to reinforcement markings, meaning that they prefer to save highlighted

annotation for only a few moments in the music. This paucity of markings does not make them less meaningful; rather, a few significant markings encourage us to compare those marked moments with similar but unmarked scores.

Annotations can reveal the breaking of boundaries of some interpreters like Ormandy and many of his contemporaries. Conductors whose exacerbated aspects of the music or simply modified it according to their taste, which resulted in historical conflicts among composers and conductors.

Some composers, such as Igor Stravinsky notably among them, did not favor conductors’ interpretations which did not rigorously follow their instructions as laid down in the score. Stravinsky’s idea was that conductors should approach the music with the consideration that all information relevant to performance has been provided in the score (even though, practically, this has been found not to be the case).

A mode of composition that does not assign itself limits becomes pure fantasy. The effects it produces may accidentally amuse but are not capable of being repeated. I cannot conceive of a fantasy that is repeated, for it can be repeated only to its detriment. (Stravinsky 65-66)\textsuperscript{16}

However, as many musicologists and performers can attest, even Stravinsky’s own recordings of his own music show that it is possible to recognize musical ideas that are not explicitly found in his notation. It is impossible to imagine a performance without color, shape, feeling, aura, aesthetics, audience, acoustics, and all elements which influence the performance. Indeed, most of these aspects are not part of the music notation, however they are part of the annotations found in the conductors’ scores as the emotive remarks cited before.

1.4 Conclusion

One important conclusion in Winget’s study is that the more skilled a musician is, the more annotations he/she will make. Thus, it would be reasonable for annotation technique to be systematically taught, considering the prevalence of the practice, but it is not. Finding a way to instruct musicians to annotate is possible due to the many similarities found in the handwritten notes of excellent musicians. Nonetheless, Winget observes the difference between conductor- and musician-made notes. She writes that the musical score can be interpreted as “an ideal-type boundary object that according to its multiplicity of functions can satisfy differently the conductor and the musicians.”

In the present research, unlike Winget’s results about orchestra musicians, we observed that conductors’ annotations were not directly related to the skills themselves but were used as a resource that vary in a number of ways, from their frequency to their quality and variety of texts, numbers, and symbols, all according to the preference and needs of the individual conductors.
CHAPTER 2. WHY, WHAT, AND HOW TO ANNOTATE IN THE SCORE – SOME REFERENCES FROM ORCHESTRAL CONDUCTING TEXTBOOKS

The art of orchestral conducting, as it emerged in the 19th century until the present, is concerned mostly with the interpretation and performance of music. As a result, besides the literature about conducting technique, learning to conduct has been primarily based on the previous musical experiences of expert conductors and/or a tutorial discipleship from its early days. The literature about conducting began with Hector Berlioz’s *Le chef d’orchestre: théorie de son art*, published in 1856, followed by Richard Wagner’s *Über das Dirigieren* (1914).

As part of this study, we analyze the conducting textbooks that comprise mostly musical skills and include the approach to orchestra conductors’ score markings. Considering orchestral conducting as one of the newest professions in the field of music performance, its formal training is even newer. José Maurício Brandão studied the most important textbooks used for the purpose of teaching conducting, a broad reference considering the approach to different levels and topics. Given the fact that conducting is a new profession, Brandão states: “Perhaps because of that, there is no established agreement about its didactical procedures, and, as a consequence, an absence of methodological approaches. These deficiencies are especially apparent in the literature about the field.” The information about annotation found in these textbooks is quite inconsistent and only a few of them present conducting markings as a topic or chapter.

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17 The concept of “conducting technique” approached in the textbooks refers mainly to gestures.
Elizabeth Green, in *The Modern Conductor*,\(^\text{19}\) makes just two small references to the use of annotations. However, in *The Conductor's Score*,\(^\text{20}\) which is an updating of an older text by Nicolai Malko, there appears a very detailed chapter written by Malko about marking the score, which serves as a follow-up to his previous chapter, “Studying the Score”, concerning how to undertake the first observation of the score. Malko’s approach to the music is very rational and structured, therefore he presents a step-by-step approach to score study following this sequence of observations: instrumentation, rationalization of the score, phrasing, dynamics, expression, style, quality, tradition, and philosophical observations. According to the editor of *The Conductor’s Score*:

> Just as Malko was an impeccable conductor technically so were his study scores edited in an impeccable manner. Professional conductors, glancing through his scores, never cease to express admiration for the clarity of thought and the neatness of his markings. There is no mutilation of the notation. Each note is pristinely clear.\(^\text{21}\)

When we refer to annotations, the range of information varies from the surface of the music to the most subjective and conceptual interpretations. Malko critically refers to a category of conductors who write all their gestures and tricks down at the pertinent places in order to perform what he calls “diligently prepared exhibitionism.” The examples include how to look to the violin players and make a fist gesture with the left hand.

In general, markings of reinforcement are repudiated by Malko for being redundant and for defacing the score. In contrast, he presents two categories of score markings: markings that do not change the score and marks that do. He writes, “We might say that marks that do not not

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\(^{21}\) Ibid.
change the score are for the conductor’s eyes and those that do change the score are for the ears.”

The modifications in the scores’ content such as a change in instrumentation, correction of misprints, composer’s errors, reviews, and retouches are not the focus of this research. Despite being two very distinct categories, we might consider relevant some observations about markings that change the score. Malko considers dynamics and bowings as well as changes intended to balance the orchestra in terms of acoustics as part of the second category of changing the score, suggesting that they are arbitrary modifications.

The discussion about the modification of original scores, including the two categories cited by Malko, and presenting the argument that those modifications are intended to clearly project everything written by the composer, has not been resolved. The clarity of lines is not always the only goal of the composer. There are important passages of the symphonic repertoire in which the composers apparently did not want to be clear at all, such as the famous passage for double-bass in the Beethoven’s 6th Symphony, movt.4., mm. 21 – 23:

![Double-bass passage in Beethoven’s 6th Symphony, movt.4.](image)

Figure 3. Double-bass passage in Beethoven’s 6th Symphony, movt.4.

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22 Ibid, 43.
23 A common opinion among modern bassists, however, is that this particular passage is actually allowed, or even intended, to be somewhat 'messy' to create an effect. This movement of the symphony is titled "thunderstorm," and the fast, loud, low, and slurred notes played by the cellos and basses in this passage are thought to depict thunder. Shanti Nachtergaele, ‘Examination of mid-nineteenth century double bass playing based on A. Müller and F.C. Franke’s discourse in the Neue Zeitschrift für Musik, 1848 – 1851’, 1 (2015), KC Research Portal. https://www.researchcatalogue.net/view/103988/135390/0/0 [accessed 11/09/2018]
It is important to identify what kind of texture and sound a composer intended to have. The decision to change the printed music or not has been made arbitrarily throughout the history of conducting, to varying degrees, changing or not the printed music. The purpose of this work is to focus on the annotations that do not change basic musical elements such as rhythm and notes. We also do not deal with problems of re-orchestration tackled by conductors.

Considering markings that do not change the score, Malko considers it essential that the instrumentation be clear. The most important point Malko makes is that a neat and clean annotation style facilitates the reading of a score, and he presents clear directions for how to do it. Many scores present a diagram that is hard to follow by the conductors for the displacement of the staves and the absence of indications of instruments in the margins. Malko also calls attention to a very common practice among conductors whose annotations indicate the division of parts on the same score page.

Malko considers the phrasal analysis of the score an absolute necessity for conductors, but that it should not stand alone. In making such an analysis he discovers many structural subtleties that might otherwise be overlooked, such as 3-, 5-, or 7-bar phrasal groupings. The concept of phrase as used by Malko refers largely to structure: beginning a new melody, the entrance of new instruments, new rhythmic patterns, vital dynamic changes, harmonic sequences, and so on. According to him, phrasal analysis is imperative. The markings recommended by Malko regarding phrasal analysis are presented by numbers referring to the number of grouped bars in the bottom of the staff. Although this is a neat indication, this is rarely found in most conductors’ scores, as presented in Chapter 5. Instead they annotate on the top of the scores using a (v) between the grouped phrasal bars.

To indicate cues, Malko recommends marking, with a black pencil, the abbreviation for the cued instrument directly above the entry beat in the top margin of the score, and the same for
more than one instrument. Again, this practice, despite being neater and cleaner than others, is not popular among conductors.

Regarding dynamics, Malko recommends marking with red pencil *forte* and used blue for the *piano*. Malko does not reinforce the dynamics markings as many other conductors do, rewriting the same indication beside the original one. On the contrary, he uses a half-colored (red or blue) to encircle each dynamic in the following manner: \( f \), \( p \), \( fp \).

One of the most detailed approaches to conducting annotations is the system suggested by Frederik Prausnitz.24 In his book *Score and Podium*, he describes all the processes involved in score preparation from the first glance at a score to its eventual performance. He considers that conducting involves practical skills in three key areas:

- Organizing and evaluating the information available in the score
- Transforming that information into a vivid mental image of the performance-to-be
- Communicating the essentials of that performance to an orchestra

He exemplifies the above information with a chart (see Figure 4) that shows the different steps and how the skills interact with each other:

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Figure 4. Prausnitz’s scheme.

Prausnitz approaches the organization and evaluation of information in the score. However, his work permeates deeply through many abstract aspects of the end product of a lengthy process of preparation and maturation: the performance.

As part of his systematic approach for the preparation of scores for performance, Prausnitz suggests examining the score in terms of what he calls discovering its “musical
evidence.” Prausnitz separates the musical content into two classes in order to explore evidence indicative of a composer’s intention. First—facts— which are components of the “musical surface” and which must remain constant. Second—instructions— which are components subject to a certain range of legitimate interpretation. Both aspects of musical content are essential for the conductors’ task of transforming the musical surface into a working image of the music. Although Prausnitz describes the variety of information that should be, as he says, “mapped out,” in order to create a framework of the approach to the musical surface, he does not mention whether or not that information should be annotated in the score, on a separate piece paper, or whether it should be kept only in the mind. However, regarding the outlines of subsections, the author gives clear directions in the use of a pencil to indicate subsections which can be periods and phrases and which are represented by symbols the author [Prausnitz] has developed over the years (Figure 5):

![Figure 5. Markings of measure groups (Prausnitz)](image)

According to Prausnitz, larger phrases are usually composites and indicated by a vertical line; if not, they should be indicated with a number plus an arrow, e.g. 5→ and amplified with a (3+2) or (2+3) or (4+1), etc. depending on the shape of the phrase.

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25 Objective facts: clefs, key signature, meter, pitches, instrumentation. Facts subject to interpretation (in relation to other facts): dynamics, harmonies, tempo markings, textural densities. Instruction (subject to interpretation according to relationships and groupings of evidence left for determination by the performer): harmonic function (if significant), tempo relationships, instrumental balance, dynamic nuance, shapes of phrases, musical “gesture.” Ibid.

26 Prausnitz recommends the use of a soft black pencil 6b because it shows up even the light markings well and it is easy to erase.
Regarding the orchestration of the piece, Prausnitz gives some general suggestions to mark cues for individual players using abbreviations for all woodwinds:

<table>
<thead>
<tr>
<th>Picc.</th>
<th>Piccolo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fl.</td>
<td>Flute</td>
</tr>
<tr>
<td>A. Fl.</td>
<td>Alto Flute</td>
</tr>
<tr>
<td>Ob.</td>
<td>Oboe</td>
</tr>
<tr>
<td>E.H.</td>
<td>English Horn</td>
</tr>
<tr>
<td>Cl.</td>
<td>Clarinet (in B♭ or A)</td>
</tr>
<tr>
<td>E♭ (C, D) Cl.</td>
<td>E♭ (C, D) Clarinet</td>
</tr>
<tr>
<td>B.Cl.</td>
<td>Bass Clarinet</td>
</tr>
<tr>
<td>Bn.</td>
<td>Bassoon</td>
</tr>
<tr>
<td>C.Bn.</td>
<td>Contrabassoon</td>
</tr>
</tbody>
</table>

Figure 6. Woodwinds abbreviations (Prausnitz)

The brass and percussion are shown by symbols:

- ○ — French Horn
- ⊕ — Trumpet
- ⊙ — Cornet
- ［ — All Trombones
- ＝ — Trombone 1,2
- ＝ — Trombone 3
- Ｔ — Tuba

Figure 7. Brass abbreviations (Prausnitz)

- ▽ — Kettledrums
- ○ — Snare Drums
- ○ — Bass Drum
- ○ — Cymbal (struck)
- × — Cymbals (crashed)
- ○ — Tam Tam
- ○ — Tambourine
- △ — Triangle
- Glock. — Glockenspiel
- Ｍ — Chimes
- Crot. — Antique Cymbals (Crotali)
- ⊙ — Sleigh Bells
- ⊖ — Xylophone
- ⊗ — Woodblock
- ⊙ — Castanets
- ＴＢ. — Temple Blocks
- Ｍ — Harp
- Ｃ. — Celesta
- Ｐ — Piano

Figure 8. Percussion abbreviations (Prausnitz)
Stringed instruments are marked by groups:

Figure 9. Strings abbreviations (Prausnitz)

In “The Book of Kirk,”²⁷ Maestro Kirk Trevor includes the cueing system developed by the famous Dutch conductor Willem van Otterloo that was passed to him by his teacher. (See Figure 10)

Figure 10. Cueing system abbreviation (Otterloo)

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²⁷ Kirk Trevor “The Book of Kirk”. This is a handbook used for more than twenty years by the renowned conductor Kirk Trevor in his conducting workshops around the world. In the author’s possession.
We can observe many similarities between Otterloo’s chart and the system provided by Prausnitz.

Another category, which Prausnitz dubbed his “joker in the pack”, includes one’s personal musical or extra-musical ideas and associations when exploring all the elements of the musical surface. Some areas described in detail\(^2\) by Prausnitz include: texture, shapes, melody, rhythm, dynamics, articulation, and program. All of these serve as ways to make the connections that, according to Prausnitz, may be reinforced in the score in order to help the conductor remember.

Prausnitz does not suggest that conductors take notes of everything, but the annotations must be a result of the observation of all elements described in his analytical system. They have the purpose of helping the conductor master (and often memorize) the score.

Hans Swarowsky, one of the most important conducting teachers of the 20\(^{th}\) century, led a legacy of conductors, trained by him, who dominated the musical scene after the second half of the century.

Swarowsky describes that the sound material used for a composition, from a simple motive to the whole work, can be represented by what he calls “measure groups.” According to Swarowsky:

> The groups of measures are cells within the formal parts and do not always mean the same as phrases. The group of measures refers to the division into the total movement,

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\(^2\) Prausnitz describes the following elements regarding their importance to the conductors’ association. Texture – identifies an elementary evidence if more soloistic, more contrapuntal, or more antiphonal in order to help to identify sections. Shapes—regards the events taking place in time and reveals the building blocks of large musical structures. Melody—considered the importance of the character and not only the “tune” itself. Rhythm—considers that many compositions take this element as the most important element, so the conductor must give it the necessary attention. Dynamics and articulation—creates a powerful impression in performance and can change suddenly in the music. Program—regards the extra-musical association especially related to the emotional aspect of the musical event.
under the consideration of the braid of voices, while the phrase refers to the purely melodic division.  

In his book *Defensa de la obra* he does not specify whether his “measure groups analysis” should or should not be kept annotated in the score. Perhaps it does not matter, since its importance is completely related to the process of learning the music rather than performing it. However, Swarowsky’s process of analyzing a musical work is similar to the annotation process described by Prausnitz. According to Swarowsky, “to learn a work according to its content, the interpreter has to go over in the opposite direction of the creator.” He means that the interpreting artist must deconstruct the composer’s ideas, break it into parts (not only the form and its musical speech), but to understand all of the composition’s elements including instrumentation, dynamics, phrases, etc., so as to achieve a coherent interpretation of the work. Deconstruction is an important part of the conductor’s process to get before the beginning of the compositional process and to understand the creative impulses behind the compositional process. According to Dr. John Dickson, professor of choir studies at Louisiana State University: “In choral music, the conductor must always begin with the text that inspired the composition one looks at the music”.

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29 Ibid., 31 – “los grupos de compases son células dentro de las partes formales y no significan siempre lo mismo que frases. El grupo de compases se refiere a la división en el total del movimiento, bajo la consideración del trenzado de voces, mientras que la frase alude a la división puramente melódica”. My translation.  
31 Ibid. – “Para conocer una obra según su contenido, el intérprete tiene que recorrer en sentido contrario aquel camino que el creador tomó para la creación de su obra”. My translation.  
32 Personal communication with the author.
The measure groups analysis seems to be very popular among conductors, even though individual conductors adapt it as needed and use different markings, usually reinforcing the bar with a pencil, inserting a (V) on the top of the bar between the measure groups or using parentheses around them. The analysis can also be done on a separate page, in order to observe the big frame more clearly.

Following (Figure 11) is an example of participant 25’s score, with markings representing the concepts of Swarowsky and Prausnitz.

![Example of participant 25's score](image)

**Figure 11. Measure groups on Mahler’s 5th Symphony (Rondo-Finale)**

The participant in Figure 11 uses a green line to divide the measure groups and also indicates the length of every group using symbols such as (\(\sqrt{\)) or (V).

Diane Wittry reinforces the idea that what is most important is not how you mark the score, but your knowledge of the music itself. However, in order to study the scores, she
recommends certain procedures, listed below, some of them to be written down in the score, such as:

- Basic tempos and relationships between sections and movements
- Harmonic analysis and harmonic relationships of the larger sections
- Breathing points based on individual phrases

One of her suggestions indicates that these notes should be made in a different place than the score:

- Make a detailed chart of the overall form and the musical structure of the piece
- Place bowings into the string parts

Gustav Meier\textsuperscript{33} wrote one of the most complete and complex systems of score annotation to be found in conducting literature. It is based on diagrams representing the placement of the instruments in the orchestra as well as the sequence of cues represented by the insertion of numbers on the diagrams.

Meier’s diagram has a unique representation of the orchestra sections as follows:

*Strings*

The diagrams on the right correspond to the string section with each of the other instruments represented by circles:

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Figure 12. Meier’s orchestral chart (strings) \(^{34}\)

Figure 13. Meier’s strings cues diagram \(^{35}\)

\(^{34}\) Ibid, 156.
\(^{35}\) Ibid, 157.
Woodwinds

The diagrams for the woodwind section are represented by a square in which each instrument is indicated by circles or numbers in every corner of the diagram, corresponding to the placement in the orchestra, as follows:

Figure 14. Meier’s woodwinds cues diagram 36

Figure 15, below, is a diagram that is one abbreviation of the squared graph recommended for the woodwinds

Figure 15. Meier’s woodwinds cues diagram 237

36 Ibid, 159.  
37 Ibid, 161.
Brass

Following the criteria of the placement of the orchestra, the brass diagram is represented by circles in a single line. However, when the horns are placed in double rows, the diagram can be represented by a square, as with the woodwinds.

![Brass diagram figure](image)

Figure 16. Meier’s brass cues diagram

The diagrams suggested by Meier predict not only the cues for one instrument, group of instruments, or entire section but also, with a simplified drawing, show a schematic representation of a sequence of cues that allow conductors to make predictions about where, spatially, the cues will be.

![Diagram suggesting movements for cues](image)

Figure 17. Diagram suggesting movements for cues

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38 The graph only shows the horns. However, Meier applies the same diagram to the other brass instruments.
40 Ibid, 174.
Despite the complexity of the diagrams recommended by Meier, they mostly refer to gestural moves by conductors that relate to the positions of musicians, and they can be useful to a certain extent. However, the conductor must know the musical content very well. The diagram tries to compile, for instance, a musical texture, such as a fugal section. However, one cannot utterly rely on the diagram because it is not musically self-sufficient. In the example above, the conductor can get the direction of the move, but unless one knows the musical content, one cannot figure out how many bars or beats should be in every numbered position in the diagram.

Diane Wittry\textsuperscript{42} recommends a similar diagram for the purpose of cueing for multiple instruments one after the other. However, unlike Meier, she recommends the use of diagrams not to practice cuing, but to memorize the order of the instruments’ entrances for the performance.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure18.png}
\caption{Diagram suggesting movements for cues\textsuperscript{41}}
\end{figure}

\textsuperscript{41} Ibid, 177
Because of the interest of some authors in particular aspects of annotated scores, we can have a comprehensive understanding of specific applications, for instance, using colors to reinforce printed markings or dividing the music into small sections, phrases, and motives. Thus, the use of colors in musical scores has been applied in many different ways. Celso Wilmer suggests the use of colors to emphasize harmonic functions, although it is not a common application by conductors. Colors serve as contrast against the black and white printed score, but also have specific meaning for many conductors. Wilmer states that the use of colors allows an additional resource for immediate identification of the key to be played. He indeed was referring to the use of colors on the piano’s keyboard. In the full score, the use of colored pencil in the staffs would include the selection of one specific color for each instrument or section.

43 Ibid, 129.
2.1 Composers and composers’ advocates annotations

The approach to composers’ annotation, as well as to conductors who advocated for composers and considered them authorities in specific repertory, have two important roles for the purpose of this research:

- Analysis of discrepancies between editions and misprints
- Understanding of some changes based on the current tradition or “invented” tradition

Gustav Meier also called attention to problems of inconsistencies in the score that require a decision from the conductor.

Ambiguities about articulations and dynamics must be annotated, for example when to play *pizzicato* and when to return to *arco* or when to use mutes and when to remove them. The same problems occur regarding other effects, such as *col legno* and *sul ponticello*. “When facing problems of misprints, inconsistencies of dynamics and articulation,” Meier pointed out, the conductor should ask:

- Was the composer or publisher simply careless in matters of notation?
- Did the composer assume that the performer would understand what was intended and modify and adjust dynamics and articulations accordingly?
- Did the composer *intend* to be inconsistent in his or her notation of articulations and dynamics?
- Should slight differences in dynamics and articulation between the exposition and the recapitulation be adjusted or left alone? 45

It is common practice among composers to take notes and change the music during rehearsals. Frequently, the only remaining sources are the musician’s parts, which creates uncertainty about the origin of certain markings and changes. Furthermore, when we examine emendations to the musicians’ parts, we can check for indications about whether musicians were

asked to do so by the composer during the rehearsals. According to Max Rudolf, authenticity in musical performance is not always easily definable and not necessarily based on adherence to an "urtext" edition. Grosbayne gives an example: “Debussy had a habit of changing spots in the orchestration of some of his works (La Mer, for example) from time to time, until just before his death. Some orchestras play one way, some another. Few conductors know all the variants.”

However, careful study of marked scores, considering many factors such as calligraphy, can prove the genuine origin of those markings. Studying composers’ markings also reveals observations of performances of their music by other conductors. Rudolf, Jonas, and Barber illustrate the case of a marking’s investigation of Brahms’ Requiem score that belonged to the composer. They sought to identify which of the markings were done by Brahms, but not necessarily referring to his own performance. Most of his markings concerned dynamics and tempo modifications.

Alterations on a printed score are very important for understanding what the composer intended to achieve in terms of balance in a particular performance. Moreover, according to Rudolf, the other markings not attributed to Brahms, probably done by unidentified conductors, provide additional material that may throw light on performance practices during Brahms’s lifetime.

Regarding the conductor’s interference with the score, Grosbayne states:

Many try their hand at re-orchestrating composers like Schumann, and we all know the result. Pierre Monteux is one of the few who has a thorough knowledge of the misprints and variants in text of the whole French repertory and modern ballet works. He is eminently qualified by experience and friendship with so many composers to do for these works what Weingartner has done for many of the German classics. Thus far he

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has replied to urgings to set his great knowledge down for posterity by modest deprecations. If he does not leave students the substance of his hardly gained knowledge, they will be great losers indeed. 48

This hierarchical and empirical knowledge, also called tradition, supports the arguments given by some conductors in order to justify their interpretative choices that do not correspond exactly with what is written in the scores.

Thus, the “tradition” was frequently confused with liberties taken by conductors such as Nikish and Büllow and their unorthodox interpretations. According to Kahn, “After Wagner, a conductor was judged by the amount of individuality and originality he put in his work.” 49

However, Wagner was misinterpreted about those liberties assigned to him and evident among his followers. Wagner himself was very strict about liberties and paid special attention to the right tempo. He wrote,

The whole duty of a conductor is comprised in his ability always to indicate the right tempo. His choice of tempi will show whether he understands the piece or not. With good players, again, the true tempo induces correct phrasing and expression and conversely, with a conductor, the idea of appropriate phrasing and expression will induce the conception of the true tempo. 50

Regarding Wagner and his ideas about the right tempo, Serge Koussevitzky states:

In Wagner’s scores we find no exact tempo indication after Tannhäuser and Lohengrin. He omitted them deliberately, and said in his book, about conducting, that it is unnecessary to give the exact tempo, since a gifted conductor will find the right one and an untalented one will never grasp it regardless of what the score says. That is why

Wagner only indicates his tempi in general terms such as “bewegt” “slower,” “faster,” and so on.\textsuperscript{51}

According to Saminsky,\textsuperscript{52} Weingartner considered inferior the conductors whose “interpretations consisted of wandering through crude waves of orchestral effects in a setting-up of climaxes at random, and improvisation of an inferior sort of \textit{Tempo-rubato-Dirigenten}.” Saminsky complements this thought regarding the right \textit{tempo} stating:

If metronome marks are actually those of the composer and not (as in some editions of pre-metronome classics) those of an editor, they should be treated with due respect. Regarding the tempo established by “tradition” this may vary to be a bewildering extent… There may be historic evidence of one kind or another of the composer’s intentions. But some traditions are mere barnacles and need be treated with no respect whatsoever.\textsuperscript{53}

On the other hand, Arturo Toscanini was completely obsessed with the originality of the work, not giving space to romanticisms, and performing the score “as is.” Kahn comments: “A highly sensitive musician and efficient conductor should be able to unveil all the hidden mysteries in the scores of the masters without resorting to emotionalism and even tricks, just for purposes of effect.”\textsuperscript{54}

Saminsky describes the idea of the sacred code assigned to tradition. Based on interviews with Dr. Charles Münch and Dr. Hugo Weisgall, he explains that tradition is a dynamic process reinvented and changed over time. Tradition depends on many factors that connect with the tastes of the time, so that what first is a violation of tradition becomes the new tradition as time

\textsuperscript{53}Ibid.
goes on. In his book, Saminsky gives an example that illustrates the dynamic process of tradition:

When Dr. Münch performed the overture to Tannhäuser for the first time after coming to Boston, certain critics attacked him for what they considered to be unconventionally slow tempi. An old score in the orchestra library showed his playing time to be exactly what Karl Muck’s was more than thirty-five years ago. Several “traditions” had come and gone in the meantime. Their upholders do not seem to know that a tradition is not a concrete and eternal thing.

Moreover, breaking tradition takes time, even regarding the flexibility of professional orchestras. Conductors frequently struggle to choose between conveying their own ideas or dealing with the practices made intrinsic in specific orchestras because of tradition. The time it takes to work with an orchestra that is accustomed to a specific performance practice can discourage conductors from trying to change those habits. When conductors stay for a long period of time directing a single orchestra, they consolidate particular practices as well as creating an artistic symbiosis between orchestra and conductor. Wagner mentions that, when he was invited to conduct the Philharmonic Society in London, previously conducted by Mendelssohn for several seasons, he realized that the tradition of Mendelssohn’s readings was firmly preserved, and Wagner could not avoid letting the orchestra follow Mendelssohn’s remarks.

In addition to master-to-pupil transference of knowledge and the advent of musical recordings, annotated scores strongly perpetuate performance practices. It was reflected by many

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55 Told to the book’s author by Mr. Leonard Burkat, friend and assistant of Dr. Münch
interpreters who advocated for composers that they were admirers, friends, or pupils, later claiming to become authorities in specific composers or repertory.

Richard Strauss’ annotation in the beginning of his Beethoven’s ninth symphony score says, “Everything we know about this symphony comes from Wagner.”

Holden completes the idea when he writes, “As Wagner was the artistic giant who shaped the interpretative climate of that period, it was almost inevitable that he would influence the ways in which subsequent generations of performers approached the work.” Perhaps conductors from this period had a much different view of how to authentically represent a composer's musical intentions; thus argues John Bewley to justify Ormandy’s interference with musical content.

Richard Strauss annotated his scores based on remarkable interpretations mostly inherited from Wagner and Bülow. According to the director of the Richard-Strauss-Institut, Dr. Dominik Sedivý,

In fact, there are annotations by Richard Strauss to each symphony by Beethoven, all based on the interpretation by Hans von Bülow. These notes are therefore unique documents of 19th century Beethoven interpretation as based on the Wagner/Bülow tradition. Strauss made his entries in copies of the score and was until his death proud to have been part of this tradition himself.

Dr. Sedivý also provided his impression regarding Strauss’s annotations of Beethoven’s symphonies:

It is very intriguing to find out when studying these annotations that Strauss explicitly neglects G. Mahler's suggestions and also in many points differs from what Weingartner said (however, he often aimed for a very similar or the same effect in the orchestra by giving completely different directing instructions).

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60 Dr. Dominik Sedivý, email message to author, September 3, 2018.
61 Ibid
Another composer whose symphony scores are among the most annotated within the symphonic realm is Schumann. According to Franck, \(^{62}\) Schumann was very criticized as an orchestrator, despite being considered historically one of the most important composers of the 19\(^{th}\) century. The nature of his notes relates primarily to the orchestra’s balance. Gustav Mahler made some changes in Schumann’s first symphony, balancing melodic lines, revising timpani parts, modifying horn and trumpet parts and string orchestration, and making dynamic and articulation adjustments. Although the goal of this work is not to approach annotations that change the musical content, what we consider important here is the nature of the annotations explored in Franck’s article that illustrates how the alterations were used to make Schumann’s symphonies more fitting to the balance of the orchestra in Mahler’s time, and how this concept became less suitable to performance practice over the years.

2.2 A Counterpoint

In *The complete conductor*, \(^{63}\) Gunter Schuller provides an important counterpoint to the current research. The use of annotated scores influences performance, whether the annotations are by the composer or by conductors who advocated for specific repertoire. Sometimes, conductors have the composer’s acknowledgement, for example, as we mentioned, Monteux and Weingartner. Schuller repudiates the ego-driven extremes of over-personalized interpretations.

As they ignore and/or reject many important compositional/notational aspects of a composition,

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Schuller considers them disrespectful of the work. This view is the essence of what Schuller named his own “philosophy of conducting.”

Schuller rarely mentions annotations. His references to annotations are primarily about the notes incorporated in the score by the composer after experiencing the music in a rehearsal. An interesting example regards the use of annotation to reinforce the effect intended by the composer and written by him to avoid a tendency to do it differently: “Beethoven sprinkled his scores with cautionary, reminding markings of *sempre pp* and *sempre f*.”

For Schuller, the only reliable source for a good interpretation is the score itself:

> Within the confines of fidelity, there is considerable interpretive freedom and room for multiple interpretations, but of course, not for interpretations that subvert the real meaning and intention of the composer. (…) intelligent, inspired textual fidelity best serves, intellectually and emotionally, the work itself, the performance, and the listener’s aesthetic experience.

What Schuller argues in his “philosophy of conducting” does not contradict the concept of annotations presented and used for the purpose of this research. Nevertheless, Schuller abominates annotations that change the original marking, especially the tempo, dynamics, and articulation, or suggest any exaggerated or overstated interpretation based on arguments preconized by people other than the composer.

For Schuller, the extra-supportive sources, such as letters to and by the composer, contemporary accounts of performances, or any other information beyond the score, can be used, but he considers them rarely reliable or important enough to supplant the information already contained in the composer’s writings.

Janice Waldron wrote an article about Schuller’s book that brings some considerations to his “philosophy.” According to her:

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64 Ibid.
65 Ibid.
Closer examination of Schuller’s ideas reveals an approach to conducting tacitly rooted in the two philosophies of idealism and realism. In the former, the ideal version of a piece is believed to exist only in the composer’s mind. Thus, the best that musicians can hope to achieve in a performance is a close approximation to the original version envisioned by the composer. Realists believe that the score is a literal translation of the composer’s intent. The two philosophies overlap to some extent; their one common thread is the belief that a score is not open to more than one interpretation. Adherence to the score therefore becomes the ultimate standard by which performances are measured.66

Schuller’s ideas are important when considering the perpetuated musical traditions annotated in scores at a particular period of time, and how much they can be used as a historical source for a new interpretation.

Annotated scores provide not only the conductors’ information about interpretation. Dates, names, technical issues, alterations, revisions, and particularities of performances are also revealed in many annotated scores, all of which relate to musical and historic importance.

Given the references within this chapter, the current research resulted in a closer attention to the lonely analytical process of the conductors’ annotations, revealing, beyond their handwritten jottings, varying approaches, from simple reinforcement markings to complex emotional annotations regarding musical interpretation.

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CHAPTER 3. DATA COLLECTION AND METHODOLOGY

Analyzing and comparing annotations from professional and renowned conductors on the same repertoire can reveal the importance of the semantics of annotation in order to perform the music. To address this, we studied the most used annotation procedures, classified the markings, and discussed which annotations are prevalent among professional conductors.

One of the most important sources that supports our methodology is the ethnographic research conducted by Winget\(^\text{67}\) in which she reports a similar approach to annotated scores by interviewing twenty-two musicians and analyzing twenty-five thousand annotations from two-hundred and fifty parts of thirteen complete musical works. Her research, however, focuses on musicians’ perspectives on annotations, i.e., that of the players, while our study focuses on the annotations used by conductors.

3.1 The research survey and questionnaire

For our questionnaire, we selected and adapted some questions used by Winget\(^\text{68}\) in her research. We converted the questions to the perspective of conductors and added questions that we considered suitable to a better understanding of the particulars needs of conductors.

Some of Winget’s questions were non-applicable or not relevant to our study: “Have you always played your current instrument? What other instruments do you play?”, “How likely are you to bring a pencil to rehearsal?”. Unlike those of musicians, conductors’ annotations are rarely created during rehearsals, but instead are carefully prepared in advance. However,

\(^{67}\) Ibid.

\(^{68}\) Winget interview questions were based on the annotation framework set out by Marshall (1998) and MacMullen (2005) which attempted to cover three areas of annotative characteristics: 1) creation and use, 2) object qualities, and 3) the knowledge necessary for effective use.
considering the creative context, questions like, “During the performance, how much do you use the written note and your annotations?” were very important to understand the annotation process and the use of annotations during rehearsals and performances.

For the other categories, such as user context and motivational context, we kept the questions applicable to conductors and excluded questions that exclusively concerned the musicians’ universe.

The questions added to the questionnaire by the author were required in order to understand some specific information about conductors. For example, questions such as, “Have you ever read about conducting annotations?” were very useful in order to support the literature review, and also to know where conductors learned about annotations or developed their annotation style.

The answers that we received supported our understanding of the annotation process, provided a framework for the content found in the annotated scores’ analysis, and answered the guiding questions suggested by Winget:

- Why do annotators annotate? (motivation)
- How do annotators annotate? (process)
- What form(s) do the annotations take? (object)
- What meanings and value do the annotations have? (knowledge)
- How do the annotations add value? (utility)

This qualitative research followed certain steps:

- Collect and examine annotated scores of Tchaikovsky’s Symphony n5 in E minor, Op.64.
• Collect and examine annotated scores other than Tchaikovsky’s Symphony when necessary to exemplify any information in particular or when the participants preferred to send another score.

• Send a questionnaire to conductor participants in order to identify the meaning of their annotations and what the annotations represent to them.

3.2 Data collection source

There were two main sources of data. First, copies of the scores and questionnaires were returned to us by the participants via internet. Some of them preferred to mail the score to be copied. I also had help from people who kindly copied the scores when the conductor was not able to do so and send it from a distance.

Second, we used the New York Philharmonic – Leon Levy Digital Archives – which provide annotated scores from remarkable conductors, such as:

• Erich Leinsdorf - [https://archives.nyphil.org/index.php/artifact/fb9aeb54-1af9-4f21-ac64-5ede029241fc-0.1?search-type=singleFilter&search-text=Tchaikovsky+symphony+5&doctype=printedMusic](https://archives.nyphil.org/index.php/artifact/fb9aeb54-1af9-4f21-ac64-5ede029241fc-0.1?search-type=singleFilter&search-text=Tchaikovsky+symphony+5&doctype=printedMusic)

• Leonard Bernstein⁶⁹ – [https://archives.nyphil.org/index.php/artifact/f67d4eac-f9f3-4ea4-b918-6e43f63ef039-0.1?search-type=singleFilter&search-text=tchaikovsky+symphony+5&doctype=printedMusic](https://archives.nyphil.org/index.php/artifact/f67d4eac-f9f3-4ea4-b918-6e43f63ef039-0.1?search-type=singleFilter&search-text=tchaikovsky+symphony+5&doctype=printedMusic)

⁶⁹ There are three scores of Tchaikovsky’s 5th Symphony assigned to Bernstein with his annotations. One of them has annotations assigned to Gustav Mahler and Artur Rodzinski, but whose markings belong to whom is still under investigation.
3.3 Data collection justification

We also collected and examined annotated scores of Tchaikovsky’s *Symphony no. 5 in E minor*, Op.64 from twenty-five professional and renowned conductors. For our analysis, it was important to have many samples of the same music that we could compare in order to analyze the meaning of the annotations from a variety of conductors on the same musical passage when necessary. This comparison could reveal what markings are common to multiple conductors, as well as the unique particularities of certain conductors.

We received seventeen scores of Tchaikovsky from the participants. The other participants cooperated by providing copies of scores from other composers, such as Dvorak or Brahms, that we analyzed to exemplify annotations not frequently used on Tchaikovsky’s 5th Symphony.

We achieved our goal of twenty annotated scores using as our source Leon Levy Digital Archives of the New York Philharmonic Archives, a source for annotated scores from Bernstein, Mehta, and Leinsdorf.

3.4 Methodology

The sample scores served as a complement to the questionnaires completed by participants in order to exemplify the ideas in this chapter. We also sought to identify and classify the most common types of annotations and provide some significant applications of the
more remarkable annotations as a means by which we could illustrate their importance to other conductors.

3.5 Research trustworthiness and validity

In order to request participation in our study, we contacted approximately two-hundred and fifty conductors worldwide, using primarily professional profiles on social media (Facebook, Instagram and personal web pages). I also used a list of principal conductors of important orchestras (https://en.wikipedia.org/wiki/List_of_principal_conductors_by_orchestra). However, that list does not represent a broad, complete, and updated compilation of professional orchestras by country. It also does not provide a direct means of contact with the conductors, such as phone numbers or e-mail addresses, since the contact with renowned conductors is usually done through an agent. There was no return from the conductors gleaned from this list.

Contact through social media was more effective. Twenty-six questionnaires were completed by professional conductors and returned to us. For those conductors who are not part of the select group, those at the helm of well-established and economically strong orchestras, social media such as Facebook and Instagram, as well as the video sharing website YouTube, have become accessible, affordable, and effective tools to promote their work. Therefore, first contact with most conductors was done via Facebook Messenger or directly on their web pages. These scores were collected in the Professional Orchestra’s Library and Special Collections as listed before. Other scores, the bulk used in the study, came from professional conductors active around the world. These scores were sent directly to the author’s e-mail or mailed to his home address, to be scanned and returned.

Annotations can reflect a conductors’ engagement with a piece of music. Frequently, this engagement can be in the form of either technical or emotional notes. Thus, score markings can
reveal an individual’s process of marking the scores or uncovering previous interpretations (from other conductors) through the conductors’ annotations. As soon as the conductor begins studying the music, intimacy with the score increases and a perspective on the music reflects both knowledge and depth of exploration of the music. Once the conductor absorbs the content of the score, this intimacy goes to a different level, one where sound comes to life. At this point, annotations can become more important than the written music, because the annotations can provide a “performing vision” of the written music that immediately brings to memory the musical content. As a result, the contact between the conductor and the score can be established by a group of annotations that synthetize most of the musical, emotional, and technical content.

One of the greatest difficulties in conducting this research was asking conductors for personal copies of scores. During data collection, we received many requests regarding how to handle the scores. It was not uncommon for a request for a score to be declined because the conductor felt that the score markings no longer represented his or her thoughts on the work, or their current practices in general.

Acknowledging that Tchaikovsky’s Fifth Symphony is often programmed at the beginning of a conductor’s career, we needed to clarify emphatically that we would not make comparisons or judgments regarding the annotations. Our interest in the markings was to gain an understanding of what drives conductors to annotate, and what motivates the content of their notes.

Some replies, listed below, provide a better understanding of our communication process with the conductors in order to have access to this precious material:

Dear Leandro, I found really interesting your research [sic]. It is a profound and long path learning to study a score and our marks in the scores are a piece of intimacy between us and the music (Participant 1).

I unfortunately do not have a score of Tchaikovsky’s 5th Symphony marked according to what I practice today, since I only studied it at my undergrad time in Rio. My markings
today are the result of the work I did with Ronald Zollman during my graduate program in Pittsburgh and they are quite peculiar. For this reason, I would prefer not to provide this material, because it does not represent me as an artist, but rather as a student (Respondent).

3.6 Findings

Although some kinds of traditional analysis, like harmonic or Schenkerian, can provide important information about certain repertoire, they are sometimes not helpful to performers in understanding the music. Thus, it is very common for performers to adopt an unusual method of analysis. According to Kartomi,

Rather than applying an independent procedure to the act of interpretation, one focuses on analyzing pragmatically significant matters such as the shaping of phrases, rhythmic details, tone quality, tempo, dynamics, and overall structure, the aim being to bring a performance to fruition in a manner that the relevant culture finds creative and satisfying. Although a performer often adopts procedures that are more intuitive than systematic, she/he weighs up the myriad choices about every performance detail with great care.70

3.7 Categorization

For the purpose of this research, we based our categorization of the annotations found in the collected conductors’ scores on the Data Analysis Framework proposed by Winget71 and also on Bewley’s criteria to analyze Ormandy’s annotations, both described in the Chapter 5.

CHAPTER 4. OUTCOME OF THE QUESTIONNAIRE

The examples provided in this chapter were carefully selected from the answers received from participants. We based our selections on two general criteria: completion and overall representation among all the responses.

4.1 Acknowledge references

The first question in the survey was very generic. To help clarify the kind of information we were looking for, we presented options from which our participants could choose. We also left space for them to clarify their responses or expound upon their responses. We asked if they ever read about conducting annotations, and if so, what kind of annotations were involved. In the questionnaire, the options were: instrumental abbreviations, dynamics reinforcements, phrases and motives, abstract emotional notes, colored notes, harmonic analyses, and “other.” The only textbooks mentioned by the participants were Gustav Meier’s The score, the orchestra And the Conductor and Prausnitz’s Score and Podium, both cited twice.

A quarter of the participants reported that they had never read about annotations. Based on the participant’s responses, it is evident that there is not much literature about musical score annotations. Since the career of a conductor does not always follow a formal and academic path, most conductors have an empirical knowledge of annotations or have learned about them directly from the annotation practices of their teachers. Below, a participant nicely sums up the kinds of responses we received:

I have read a significant amount of literature on the subject of score markings, however I’ve never found a book that would dictate specific types of standardized ways of doing annotation and/or markings. All of my score markings are the product of my own personal needs and the learnings from influential teachers along my career (Participant 19).
The participants who have read literature about annotating stated they have read mostly about marking phrases and motives. The conductors who added information in the field “other” indicated elements such as change of meter, tempo, and form as a type of annotation that they had read or about which they had knowledge.

Table 1. Types of annotations the participants have read about

<table>
<thead>
<tr>
<th>Types of Annotations</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phrases and...</td>
<td>27</td>
</tr>
<tr>
<td>Other</td>
<td>27</td>
</tr>
<tr>
<td>Colored Markings</td>
<td>27</td>
</tr>
<tr>
<td>Abstract and...</td>
<td>27</td>
</tr>
<tr>
<td>Never read about it</td>
<td>27</td>
</tr>
<tr>
<td>Dynamics</td>
<td>27</td>
</tr>
<tr>
<td>Harmonic</td>
<td>27</td>
</tr>
<tr>
<td>Instruments...</td>
<td>27</td>
</tr>
</tbody>
</table>

4.2 How the participants learned how to annotate in the score

For this question, we consistently received two categories of answers. The majority of the participants answered that they learned how to annotate based on what their teachers used to do. However, most respondents explained that while that modeling by teachers served as a guide to start, as they became comfortable with the annotation process, and as their careers developed, they arrived at a more personal approach, adding and eliminating elements taught by their teachers. Most of the answers indicated that teachers did not impose or insist on certain methods, but rather showed methods to the students who, driven by initiative and curiosity, adopted.
elements of the teacher’s annotation style. Developing and learning annotation techniques is a constant work-in-progress, especially in the first years as a student and early in a conductors’ professional life.

Table 2. How participants learned to annotate in the score

<table>
<thead>
<tr>
<th>Method</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>2</td>
</tr>
<tr>
<td>Personal experiences</td>
<td>8</td>
</tr>
<tr>
<td>With their teachers</td>
<td>17</td>
</tr>
</tbody>
</table>

In answering the second part of the question, participants demonstrated that their annotations were not definitive, but rather reflected a developing process that changed, depending on the type and complexity of the repertoire, as well as how familiar they were with the repertoire. Most are not opposed to changing their previous annotations on a score. In fact, they consider such revisions to be part of their growth, and instrumental in their achieving a deeper approach to the music over time.

I’ve asked all of my teachers to show me how they mark their scores, and my system is an amalgamation of theirs plus what my experience has taught me to do. I both need to annotate and enjoy it; it helps me process and ‘chunk’ information into segments, thus making it easier for me to learn and memorize. I often change how I annotate according to my personal needs for each score. Often, I write very little in scores I already know well, and the opposite is true for scores I don’t know at all. As my understanding of the music changes, so too do my markings; I don’t hesitate to change a marking, especially if the change enhances my ability to stay within the ‘flow’ of the music while I’m conducting it (Participant 15).
My markings and ideas on a specific piece do change over time. However, I mark less now than I did when I was younger. I was given ideas with my first conducting teacher but have morphed those ideas to something that I have developed now (Participant 14).

A few conductors reported that they developed their own method of markings from the beginning, according to their requirements and never followed any external reference. However, even for those participants who are independent of any pre-determined annotation process, we noticed that their markings are not unique and do not differ significantly from conductors who said they followed references.

The second question asked how much the participants use the score for the performance. Two variants appeared very frequently in the answers:

1. It depends on the repertory. (Less for the standard repertory, comprising the music from the seventeenth to the nineteenth centuries, and more for music after the twentieth century. Opera is often cited as the genre that requires greater use of the score, although we did not submit any specific question about annotation demands according to genres.)

2. It depends on how familiar they are with the music.

In contrast to the greater number of conductors who claimed to conduct by memory, or who use the score as little as possible and only as a reference to support their memories, two very experienced, renowned conductors reported that they always use the scores in performance.

The two types of answers may have resulted from the ambiguity of the question. Some participants interpreted the question as referring to the use (or not) of the score during performances. However, the answers were, to a certain extent, related to each other, and conveyed a broad range from “conduct by memory” to “conduct following the score.”

Asked about what kind of annotation they considered helpful for the performance and how much they looked at the annotations during a performance, the participants indicated “phrasal markings” as being the most useful in order to have groups of musical content brought
to memory, to predict events, and to keep the flow of the music. Thus, they could remain focused on the orchestra. All of them stated that, during performances, they try to look at the score as little as possible.

I think I use my markings more as waypoints, especially the phrase markings. By that I mean that I don’t actually stare at the score; rather, as soon as I glance down and see where we are in the music I usually remember what’s coming up and don’t need to look down for the entire phrase (Participant 16).

What I rely on the most during performances as far as my own annotations go is the use of phrase markings, they help me both during the period of preparation and study, in internalizing and memorizing the score, and also during the performance by allowing me to maintain visual contact with the orchestra players (Participant 18).

Main structural events, phrase lengths, important cues, some of the dynamic changes, meter changes, where in the measure certain events happen. I don’t use the markings in performance as much as I use them in rehearsal (Participant 21).

Other observations reflected aspects of score marking that are not strictly musical, but rather related to aspects such as genre, rehearsal time, and logistics:

In case the preparation time is too short (Ex. when to substitute somebody last minute): fermatas and time changes (Participant 5).

[That] depends on the musical edition and program: with soloists ninety percent, opera ninety-five percent, others maybe zero to thirty percent (Participant 13).

Depends on the context. Instrumental cues/dynamic changes/meter changes are extremely helpful in a fast-moving Scherzo or contrapuntal passage. I use my markings less in slow music (Participant 17).

It’s helpful to read the following notes: ‘Please raise the choir’ or ‘Please, wait for clarinet to change to Bb’ (Participant 26).

We also looked at the number of annotations in a score and compared that with their importance to the performance. We observed that, in general, annotations become less important as rehearsals progress, since the musical content and the spots highlighted by markings become absorbed in such a way that the markings, and sometimes also the score, become unnecessary for the performance itself.
In the initial phase of study, I would say it would be on the scale of 5, but in the definitive phase I would fit in the scale of 1 or 2\textsuperscript{72} (Participant 6).

Depending on the repertory, I annotate more for twentieth century works (Participant 4).

For most of the participants, the annotations are more important to the process of studying the music and for rehearsals than for the performance, as stated by Participant 14:

The biggest consequence of the notation I perform is the deepening into the music and the memory generated by the act of writing manually. As you write, you internalize what you see in a much more lasting and profound way (Participant 14).

Other important data was gathered from participants’ descriptions of the development of the annotations over time:

Table 3. Annotations written throughout the years

![Bar chart showing the development of annotations over time.]

One participant mentioned that “[i]t has fluctuated greatly. At first, I marked quite heavily, then I went to using almost no markings at all and now I’d say I’m in between.” (Participant 18)

\textsuperscript{72} The question considers 0 as absence of markings and 5 full of markings.
Although it seems to be a process of development in which conductors annotate less and less the more experienced they are, this is not a rule. The annotation process can increase along the years, acquiring newer and deeper significance. Moreni reports her impression of Abbado’s scores:

For each performance, Abbado’s score remains the same, while indications increase in layered strata. You can distinguish them thanks to the different shades of gray of the pencils he uses; and there are a lot more annotations in his last scores – Mahler’s, Bruckner’s, Schubert’s symphonies – than in the earlier ones.  

4.3 Where to annotate

When looking at conductors’ annotations, we mostly refer to annotations that flow with the music and which correlate to those musical events that represent a large-scale section or a single note. However, some aspects of the musical structure can become clearer if visualized separately from the score, and although they relate mostly to the macro-structure of the music, (depending on the repertoire), other elements can be presented on a different page.

Whereas seventy-four percent of participants reported that they write all the annotations in the score, twenty-six percent reported using a separate paper, mainly for extra-musical information such as storyboard and program notes that can pollute the score if written directly on it. Other reasons given for using an extra paper for annotations have to do with the overview of the work:

I graph the form of pieces in another paper, so I can see the sections of the piece like an architect sees the overview of the design of a building (Participant 12).

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There was a time when I wrote everything down in the score, but it took a lot of work to remove it. Currently, I just write down in the score what I need for the rehearsal or the performance (Participant 6).

Some participants, however, reported that the annotations made off the score do not help them much in the preparation process. When in need of a better understanding of the form, they reported that they annotate separately:

I do oftentimes [sic] use some sort of story chart when I’m trying to compare elements that perhaps appear in one section of the piece and then reappear later on, so I can observe their similarities and/or differences in the way they’re presented. (Participant 18)

When participants were asked if they would be able to perform using a score without markings after having prepared the orchestra with their own annotated score, sixty-three percent answered yes:

I think I would be able to do that, but I should concentrate much more to get the same result as if I had my own score (Participant 7).

Only eleven percent said they would be unable to perform without their personal annotated scores:

No. My notes are like a map. I can even remember all the ways, but I will certainly feel insecure without the map. (Participant 14)

About a quarter of respondents stated that their comfort with an unmarked score depended on the repertory and how familiar they are with the music:

This depends on the piece of music and the level of difficulty. It also depends on how well I know the work. I would not perform as well from a clean copy. This is mainly because a marked copy has my own design of interpretation (feeling) and leading the orchestra (technique) (Participant 26).

Although sixty-three percent of participants stated that they would be able to perform the music using a clean score, most of them added that doing so would be more difficult and they would miss particular annotations.
4.4 The annotation process

The annotation processes described by survey participants mainly indicate that they “work from the big picture to the small” (Participant 23). Most participants first check for problems with rehearsal numbers and discrepancies between the score and parts, marking bar numbers, rehearsal letters, and the “translation of the foreign or unknown music terms throughout the score” (Participant 18). Therefore, most participants listed a sequence of procedures they used to become familiar with the musical structure, identify main sections, and mark phrase lengths and changes of meter. After establishing a framework, more respondents proceeded to marking important cues and dynamics. Other elements such as harmonic analysis and orchestration, vary more in importance depending on the composition, according to our respondents.

Another common practice among the survey participants is that they read the music over several times, and each time focusing on a different aspect of it, providing a means by which they delve more deeply into the music. Every reading adds new information and nuance to their understanding, and this overlap of readings brings better comprehension of the work.

By carefully studying each instrument, the counterpoints, the harmonies, the orchestration, the orchestral coloring, the thematic elements, the support elements, the different voices, the interconnection between them are evidently recognized, which should be emphasized and what should be in second and third planes, understanding the composition at its core, and the sense that we must follow to give the greatest brightness to the incredible that is there in our hands (Participant 14).

In this context, annotations are clearly part of the process of learning the music and reading the different layers. Many participants reported that every reading corresponds to a new set of annotations; however, at a certain point, some annotations lose their importance. An abundance of annotations can make reading the score difficult and for this reason some conductors erase the annotations that have become obsolete, redundant, or simply unnecessary.
In a new score, at the beginning of the study, there are several written indications so that I can memorize, but as soon as they are cemented in my memory and automated in the gestural I erase them. Keeping them in the score would be a reason to divert my attention to the general context. I read in a global way, keeping annotations without more sense would make me divert attention to them (Participant 6).

Two of our questions elicited replies of “no” in all but eighteenth percent of cases. First, we asked participants if they annotated any particular musical elements more frequently than others. From the few replies, the major consideration was of phrases.

They help me understand where I am going or coming from (Participant 21).

I focus on these (phrase arrival points) most because they help me be a better conductor. I do not want to move the way everyone else does. I do not want to get up there to just show tempo and “feel-good” gestures that do not mean anything to the players. I want to get on the podium to unify an interpretation and to become part of the ensemble. That means that I have to have opinions about how everyone should play all of their parts (Participant 15).

Second, we asked participants if they had any particular annotation for transposed instruments. In addition to the eighty-eight percent of participants who answered “no” to this question, a few participants said that they were very skilled with the transposition of the instruments of an orchestra with a few considerations such as the one mentioned below.

Well it’s a given that any conductor should know transposition but there are some instances when indicating the concert pitch for less common transposing instruments is helpful, so I tend to mark those in case there’s a question about pitch and/or tuning of a chord, etc. (Participant 18).

4.4.1 The personal versus institutional annotation process

Asked if their annotations are personal or institutional, with reference to any academic source or school, participants unanimously answered that annotation, for them, is completely personal. Some participants mentioned a few sources or vaguely referred to procedures by famous conductors such as Bernstein, Monteux, and Boulez. Others described having learned some tips from their teachers. However, all of them stated that, considering external references,
they transformed the few recommendations they learned from textbooks as well as the procedures taught by their mentors into a very personal process.

It is a personal process. Only one teacher taught me how to make annotations, but he never told me that there was a universal standard for the annotation process. The orientation was that each conductor has their personal codes (Participant 6).

I feel it is more a personal process, in all my school years I never had a teacher telling me a correct or incorrect way to annotate the score (Participant 18).

4.4.2 The purpose of annotations

Although the participants reported unanimously that their annotations are fully personal, we observed that most of them have their own standardized process of marking the score.

Annotations serve as an immediate mnemonic resource during the performance to quickly recognize the necessary information (Participant 1).

The flexibility to change procedures according to the repertory is described by one participant this way: “For tonal music I use Roman numerals, for modal music I use jazz notation chords, for atonal music, I look for a fitting system” (Participant 5). Nevertheless, their annotation process is frequently quite regular.

My annotations are personal and moderate. I follow the same procedure with every work (Participant 23).

I basically use the same symbols used by two of my previous teachers, I learned their way of marking and annotating by studying their own scores. I don’t tend to over mark my scores and I do use the same way of marking regardless of the piece; in a way, I standardized my own way of annotating for my own personal purposes (Participant 18).

I use a highly standardized format and procedure, indicating solo entrances of instruments, main or important voices in the orchestra for cueing (Participant 26).

Most participants reported the use of abbreviations in the score for the woodwinds and brass sections, numbers for the violins (1st and 2nd), abbreviations for viola, cello, and bass, and symbols for percussion.
4.4.3 Annotation tools

Asked about the implements they use to annotate, ninety-two percent of respondents said they use pencil due to the dynamic process of annotation and the ability to erase all or part of the markings. In addition to the pencil, the use of two or three colored (mostly red, blue, and green) pencils or pens is reported by participants. Red is the preferred color for important cues and dynamics, but we found some variants among the conductors.

Annotations can be deleted as I automate memory and gesture. At the beginning of my career I used many colors, each section had a color, but this started to disturb me when reading or conducting the score. So, for at least 30 years, I have adhered to the use of only the pencil. I choose a type of soft pencil that does not leave marks on the paper when erased. (Participant 6)

4.5 Annotations in the orchestra musicians’ parts

We identified two categories of practice regarding annotations in the musicians’ parts. One, conductors who do not consider these notes important and just ask for changes during the rehearsal in case something is not in agreement with their ideas, or two, conductors who transfer the annotations to the musicians’ parts previously, alleging that this procedure will save a great deal of time in the rehearsal and consequently avoid discrepancies and misprints between the conductor’s score and the musicians’ parts. Some of these conductors judge what is written in the musicians’ parts as so important that they own their own set, matching the conductors’ and musicians’ scores. One participant answered:

When possible or necessary I obtain or produce my own set of annotated parts. Bowing is important here, as a remark like ‘vib,’ ‘at the tip or frog’ etc. Also, techniques for players in other sections particularly brass. But in general, I let the musicians have considerable leeway. Marking parts saves rehearsal time. Part of conductor prep is to know how the parts are laid out. This also helps clarify a composer’s intention (Participant 25).

Conductors who transpose their annotations for the musicians say things like:

I prepare ALL parts…all bowings, dynamics, everything for ALL instruments and send to librarians before rehearsals (Participant 20).
Yes, [I annotate] bowings, repeats, some suggested fingerings, correction of wrong notes, and occasional changes that may improve playability (Participant 21).

Aside from twelve participants who stated that they do not annotate anything ahead of time in the musicians’ parts, four elements were considered important enough to be written in the musicians’ scores: bowings, dynamics, phrases, and articulations. Bowings were mentioned by the participants as the most annotated marking they write in musicians’ parts. Dynamics and phrases were equally mentioned as the second most frequent annotation, and articulations were the least common annotation from this category.

One participant considered that annotating in the musicians’ score “could be helpful especially in baroque repertoire that demands a high level of expressive details, but nothing is written” (Participant 24). Another participant also brings out a special concern when referring to Baroque music:

In Baroque repertoire, I collect all the parts and write down a great part of the proposed dynamics, besides specific musical language questions (Participant 27).

Comparing the nature of conductors’ annotations to musicians’ annotations, most of our participants stated that the two are different and serve to achieve distinct goals. Conductors’ annotations are more about the interpretation of the music, cues, and framework, supporting a very broad approach that connects events in the score such as phrases and motives, as stated above. Musicians’ annotations have a much more technical approach regarding fingerings, breathing, bowings etc.

The annotations have different characters. I do not need to note in my score fingerings, bowings, whether to put on or take out mute, instrument exchange, and other practical techniques of the instrumentalists (Participant 1).

For sure. The conductor makes annotations thinking in whole music. The musicians differently make annotations in a specific part that requires more attention like a specific articulation, an accelerando, ritenuto, that are not written in the part, an asking breath in a melodic phrase asked for the conducting, bows in the strings, or another thing that is not
in the score but that is required by the conductor for his interpretation. Besides that, the musician can also make annotations in places that require more attention (Participant 7).

They are different. Conductors’ marks encompass the entire spectrum of the composition while individual musicians’ annotations refer in most cases just to their part and what they need to do, in order to perform it, in such a way to adjust and adhere to the conductors’ overall vision of the work (Participant 18).

4.6 Annotation utility

Regarding utility, we asked participants three questions based on Winget’s interviews of musicians and conductors in her research. Winget’s questions were:

1. Do you think you would use your annotations again if you were performing this piece after a long break, or would you erase them and start from scratch?
2. If you were to get sick and could not perform tonight, would your annotated part be useful for someone else trying to take your place?
3. Would you find it interesting to look at the annotations of a world-class [violinist, cellist, etc.]?74

The purpose of asking similar questions of professional conductors was to investigate the outcomes of this group of participants, who were the object of our study. The questions we asked were:

1. If you perform an annotated piece again after a long break, will you re-use the annotations?

2. Do you think if someone else had to use your annotated score to replace you in a performance with your group, would the annotations be helpful, or would they need to be erased?

3. Do you think that reading the annotations of other conductors would be useful/interesting? (For example, if you could look at a world-famous conductor’s score, would you be interested in how s/he annotated the music?) Would you find a famous conductor’s annotations interesting? Why or why not?

4.7 Re-Use of self-annotation

Compiling the answers of twenty-seven professional conductors, we found that most of the participants would re-use their scores when they needed to perform the same piece again. However, the majority of these affirmative answers were followed by comments about making additions to the previously made notes.

Yes, and I often add other details that have escaped me the first time. (Participant 2)

Yes, but I usually make modifications as needed. We don’t brush our teeth the same way at age 60 we did at 25 so… (Participant 21)

Yes, I will use the same score, but go through again to add or change things that I think are needed. (Participant 12)

Some answers showed how dynamic and useful is the act of marking the score in order to establish a new approach to the music they studied before.

Yes, I use it, but I miss more notes, and in fact, what I really miss is the process of learning and deepening that marking implies and generates (Participant 14).

Whenever I am going to repeat a particular work, I re-study it in detail so that I can add or remove notes. Each case is different. Usually my tendency is to erase old annotations to the max. When I systematize a work in my head, the subject gets settled forever, so fewer annotations are better (Participant 6).
Regarding re-use of previous notes, we had a different outcome from Winget’s. In contrast to her results, not all participants said that they re-use their scores. Four of our twenty-seven participants said they prefer to use a clean copy of the music and annotate again. Annotating the score seems to be not only about the final product, but also about the process itself, considered essential to learn the music and bring it into their minds afresh, which works better for these four participants than simply reviewing previously made notes. Despite having old annotated scores, some participants stated they would miss the process of adding markings, especially “the process of learning and deepening that marking implies and generates” (Participant 14). Regarding the psychological process of annotating-as-learning, participants stated:

When I am learning a piece, I mark it heavily, as you will see below; but that is all in the service of being actively involved with the score. From the standpoint of psychology, I am actively invoking my memory by “noticing” various elements of the score: irregular phrase lengths, vibrato in the strings, an inner voice to be brought out, whom to cue, etc. Writing it in the score means that I have found it significant. Since one cannot conduct everything, one must choose what to emphasize, and that emphasis is one’s “interpretation.” For me the ideal is to conduct from memory as faithful a rendering of the score as possible. The markings are not an end product; clear leadership is the end product. But score markings serve as a valuable part of preparation and as a great resource if one returns to a score after many years (Participant 25).

I will study the piece again and see if I continue following my old notes or if I will change everything or something. It will depend if I have a new approach to the music (Participant 7).

I try to start clean but refer to the old annotations after I have re-learned the piece. I may realize something that I uncovered the first time that I had forgotten about. I like starting clean however (Participant 15).

If I am doing a piece again, I’ll start from a fresh score and mark that one anew; I won’t even look at my old score until after I’ve ‘re-learned’ the piece, and then I’ll compare notes. I don’t like to let my past markings/analyses interfere with my current thinking (Participant 16).

I usually look at them and start a new one. Whenever possible, which is often, I have a clean copy of the score at hand (Participant 25).

4.8 Someone else’s annotation
Just over half (fifty-one percent) of the participants considered their annotations could be helpful if someone else had to use their annotated score to participate in a performance with their groups. The main concern was the readability and clarity of their annotations rather than the accessibility of the interpretative suggestions implicit in annotations. We received comments such as:

Several of my colleagues have thanked me when one of my scores turns up! They say that everything is very clear and helpful. Not too much and not too little (Participant 17).

I think my annotations are easy to read and definitely helpful (Participant 26).

They loved it, they thanked me a lot. My old assistant took my scores to practice frequently (Participant 27).

However, four percent of the participants stated that their annotations could be helpful but “with a bit of explaining” (Participant 18) and fifteen percent of participants said that it would depend on the guest conductor’s profile and how different his ideas about the piece are. For example:

It depends on the person who will conduct with my score. I do not know if the person will understand all my notes or not, and also have the same interpretive vision of the work (Participant 7).

It will depend on who this ‘someone else’ is! If he/she has an aesthetic thought close to mine, such notes could be of great value! (Participant 4).

Some participants reported that their markings are few in number or illegible. This fifteen percent of respondents, therefore, said their notes would have negligible, if any, value to another conductor.

I don’t mark much, so I would think that they would not affect another conductor much (Participant 12).

They would hardly be visible and wouldn’t hurt anything. They would be able to see all of the original ink (Participant 15).
Also, fifteen percent considered that their score would not be useful to a conductor invited to step in front of their group. Two basic reasons were given. One, an abundance of personal symbols would make their score unusable:

They would not understand ninety percent of my annotations (Participant 20).

A second perspective emerged: those conductors who repudiate the practice, claiming it lacks artistic integrity:

He should be able to do his own annotations. Each one has its own (Participant 11).

If this ‘someone else’ accepts and uses my annotations, he/she isn’t an artist (Participant 13).

4.9 Annotations from world-famous conductors

When asked if it would be interesting and useful to look at annotated scores from world-famous conductors, eighty-five percent of participants said yes. In addition to being motivated by innate curiosity, they cited many other reasons for this interest.

The annotations of other world-famous conductors are not only interesting but revealing (Participant 26).

Every indication of a great director is absolutely worthy of interest and from which you can learn something (Participant 2).

It’s a window into another person’s process and brain (Participant 19), a way to see the word (in this case the music) with another person eyes (Participant 22).

Some of the conductors regard the study of famous conductors’ scores as “a standard part of the preparation, when available” (Participant 25). Other comments about this idea include:

It could certainly be interesting because it could reveal one’s strategy of study (Participant 5).

It is what I do many hours of every day, so I am interested in how others approach the process (Participant 23).
One of the reasons given by our participants for studying the scores of famous conductors is to compare their annotations with those of a renowned artist. But the goal is not to copy, but to gain insight:

I gain insight into some ideas that I may not have thought of. Most of the time it is highlighting changing meters and dynamics already in the score (which I rather just learn than marking). However, sometimes there are ideas in there about phrasing or interpretation that I had not considered. I find that exciting to uncover (Participant 15).

The other motivations that drive participants to look at famous conductors’ scores related to what can be discovered. For example, the individual decisions that each famous conductor made can reveal not only their interpretative choices, but also the performance practice of their period. One cannot deny the historical importance of this material in order to understand the musical environment in which those masters lived and worked.

It is fascinating to look at other conductor’s scores (Bernstein, Mengelberg for example....). It gives you a clear insight into their minds and their musical approach (Participant 17).

I’ve been glancing through Abravanel’s Mahler scores here in Salt Lake City and have been fascinated by his insight and knowledge. Most interesting and revealing are his anecdotes and editorializing often due to comparison to an original source or in contrast to convention (Participant 16).

I think it will be very interesting in order to see how he thought about the music, and also to see his interpretation. If he were much older than I, it would help me understand the aesthetic of his time. Despite the historical importance of his notes, they would not necessarily cause me to change my approach or concepts, since musical aesthetics change over time (Participant 7).

I'm always looking to improve my performance in some way, so if a score can bring new subsystems of understanding, I think that's important. I think we have a lot of important comparison resources these days. I watched a video of maestro Georg Solti and he mentioned the need for each of us to know how and what is being done around the world, so I have one more reason to know what the great conductors do and how they do it. Their notes may be one of these means (Participant 6).

4.10 The printed music and its interpretation
For this study, when we refer to annotations, we essentially are talking about notes taken on printed music instead of manuscript. Most of the conductors conduct using printed music.

However, we understand that printed music is a byproduct of the original manuscript, and thus subject to error and interference by copyists, musicologists, and editors. Sometimes conductors’ annotations reveal published errors or musical content that has been misinterpreted by the editors, sometimes obviously, sometimes not.

Since the published score is the main source available for the study of music, most of the participants in our survey agreed with the general understanding that there are elements within a published score that are open to interpretation. The most important argument was regarding *tempo*:

For me the most discussed and subject to interpretation is the metronome time and the time indications (Participant 2).

That is a complicated question. Mostly tempo can be adjusted for various reasons. Many things depend on the performing venue and skill of musician (Participant 12).

Other points were made regarding phrasing and tradition, with some caution about what “open to interpretation” means. What we intended with this question was to understand the level of trust with which the conductors rely on the printed scores and what elements they considered more subject to interpretation despite printed instructions.

This is a very subjective question and it depends on each interpreter. An open interpretation means a lot, until it totally changes the composer's intention. It all depends on the time and style of the work and ‘this interpretive opening’ can be done up to a certain limit obeying the style of the time, in the style of the composer and, especially, what music in the whole transmits without deforming it (Participant 7).

I believe everything must be interpreted. A melodic line needs shape. If you look at the opening of Tchaikovsky’s 5th symphony, there is phrasing there in the first two measures that needs to be applied but not marked. Are you driving to the *em* resolution or are you building to the *iv chord* then backing away to the downbeat? Simple but every measure has something that needs an interpretation even if you are not changing tempo or making drastic decisions. That affects how that is conducted and how it sounds. That’s what makes each conductor useful – not the tempo of it (Participant 15).
Yes, plenty of them, especially in a score like Tchaikovsky’s 5th Symphony. There are also many interpretative aspects that are done because of tradition that are not indicated in the score, nuances, dynamics, even orchestration revisions or liberties that conductors take when comes to their own personal vision and approach (Participant 18).

4.11 Conclusion

The results compiled from the questionnaire showed the preferences of participants about some aspects of the annotation process and to what extent they consider it useful. Moreover, many other observations emerged that revealed how controversial this topic can be. For example:

This is a great topic and an area in which very little research has been done. I myself have questioned many of my teachers about this over the years. Some recommend (and insist on) no markings whatsoever; I think this is a fantasy. One took my score while I was on the podium and showed the orchestra what a great ‘artist’ I was; later that evening he repeated this insult to the workshop participants. This was all incredibly rude, and I wrote him a lengthy email in which I said that had I conducted from memory he would have nothing to say about my markings. Others have shown me what markings they use, and I have been able to look at the scores of legendary conductors (Bernstein—long before they were on the web; Zinman, MTT, etc.). My only conclusion … is that score markings are highly individual and ought not to matter unless (as in so many things in conducting) they interfere in some way with the character and flow of the music. (Participant 25)

The conclusions drawn by participant 25 above summarize very properly the findings from the questionnaire, demonstrating how wide-ranging are the possibilities and potential uses inherent in annotations.
CHAPTER 5. ANALYSIS OF THE SCORES

5.1 Categories of data analysis

For the purpose of classifying the annotations found in the conductors’ scores, we used the categorizing criteria created by Winget\textsuperscript{75} and Bewley\textsuperscript{76} in order to elucidate the following categories:

- Markings of reinforcement
  - Reinforcement of dynamics and articulations
  - Reinforcement of Symbols
  - Reinforcement of tempo and tempo changes
  - Indication of cues and other matters (e.g., fermatas)

- Musical analysis
  - Analysis of form (e.g., sections)

- Technical annotations
  - Bowings indications and breath marks
  - Conducting solutions

\textsuperscript{75} Winget’s categories: mode (textual, symbolic, numeric), purpose (technical, technical-conceptual, conceptual), type (bowing, fingering, articulation, timing, dynamics, emotive, phrasing)

\textsuperscript{76} Bewley’s categories: markings of secondary interest (reinforcement, analysis, durations), editing (tempos, dynamics, bowings, conducting solutions), alterations to musical content (cuts, changes to orchestration).
5.2 Markings of reinforcement

As the name suggests, reinforcement markings are mostly redundant annotations that conductors write without any additional information that, according to Bewley:

…are typically enlargements made of markings already present on the score: tempos, instrument names, time signatures, and dynamics, often enlarged by conductors for enhanced visibility during rehearsal or performance. Markings of this type may also be a tool used by conductors during the process of learning or memorizing a score. The markings may also note critical points in a work that warrant special attention.

Thinking about reinforcement markings in light of Winget’s categories, reinforcement can be represented by any mode and type, including simple highlighted symbols, numbers, or text, as well as reinforced slurs, circled dynamics etc.

Our research found that reinforcement markings are among the most commonly used annotations. Enlarging, highlighting, or circling the dynamics, articulations, and other musical elements is a widely used practice in the preparation of the score, a means used by many conductors to learn the music or to make the score more “readable” for rehearsals and performances.

5.2.1. Reinforcement of dynamics and articulations

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In the following examples, extracted from Tchaikovsky’s Symphony no. 5, E-minor, we can identify the redundant annotation expressed by the (sf) on the top of the bar 28 as well as the circle on the original score marking.

Examples from scores provided by survey participants:

Figure 20. Reinforcement of dynamics

Figure 21. Reinforcement of dynamics
These types of reinforced dynamics are present in most of the scores we consulted. Both the scores from participants and the scores from the consulted archives presented many examples, shown in Figures 20-22 above. The similarities we identified among the styles of annotated typography used in the scores are remarkable.

Reinforcement of the articulations is not as frequent as reinforcement of the dynamics among the participants and scores we consulted. However, around twenty percent of the scores present this type of annotation. The following participant’s example illustrates reinforcement of the articulation in addition to the markings of dynamics cited above.

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78 New York Philharmonic, Leon Levy Digital Archives: Tchaikovsky, Pyotr Ilyich / SYMPHONY NO. 5, E MINOR, OP. 64 (ID: 2364). https://archives.nyphil.org/index.php/artifact/ad372a5b-e6e3-4631-956b-e1c27bf14d8f-0.1/fullview#page/10/mode/2up. The score markings from this score are assigned to Leonard Bernstein, Gustav Mahler and Artur Rodzinski. However, according to a website note Mahler and Rodzinski annotations have yet to be officially verified.
5.2.2 Reinforcement of symbols

The reinforcement markings can also be an enlargement of signs such as fermata (Figure 24), General Pauses and rehearsal numbers and letters (Figure 25). We included key, clef, and time signature in this category. Reinforcement of symbols is not frequently done; however, time signature reinforcement, such as at Figure 26,\(^{79}\) and especially in music with frequent changes in meter, present an abundance of such reinforcements markings. Following are some examples from the participants:

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\(^{79}\) Excerpt from participant’s score of Debussy’s *Prélude à l’Après-midi d’un faune* (mm 1)
5.2.3 Reinforcement of tempo and tempo changes

We categorized tempo reinforcement as either textual or symbolic because it is frequently expressed and reinterpreted by the conductors with symbols such as arrows indicating *accelerando*, *ritardando* (depending on the direction), or indicating sudden changes to *tempi* as follows:

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80 Excerpt from Antonín Dvořák’s Cello Concerto in B minor, Op. 104 (mm 55-58)
In the example above, *un poco sostenuto in tempo* is emphasized by an arrow in the opposite direction of the music flow, suggesting a slower *tempo* than the previous one.

Many of the tempo reinforcements are just emphasized by highlighter and/or circled with a pen or pencil as shown in the following example:

![Highlighted tempi](image)

Figure 28. Highlighted *tempi*  

**5.2.4 Indication of cues and other matters**

Annotation of cues and attentive markings is found in most conductors’ scores and remains by far the most frequent use of markings in the majority of scores submitted by our participants and collected for this research.

As we presented in Chapter two, many textbooks suggest standardized processes, but, in fact, conductors in general annotate cues with the abbreviation of the instrument right before its entrance in the stave, either by simply by drawing an attentive marking, or circling the entrance.

Only one participant presented an extra paper with the key entrances as follow:

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81 Excerpt from Gustav Mahler’s 5th Symphony, Rondo (mm 10-17)
In performance, cues play the most important role for conductors. Thus, recording these events in the score beforehand remind the conductor of important instrumental entrances (and in performance, serve the additional function of keeping everyone in the orchestra confident that the music is happening as intended by the composer and performers, under the guidance of the conductor). Recall that Winget had referred to the markings made by instrumentalists, which referred, in her words, to “something that someone else is doing that the primary musician must acknowledge in one way or another; and attentive notes refer to directions that the primary annotating musician must do himself” [sic]. Conductors, as we have been emphasizing throughout, have a different function. For them, cues work as reminders of their prior preparation. Perhaps the problem is in the terminology, where the word “cue” refers to two different but necessary matters: on the one hand, the term refers to something printed or otherwise indicated in the parts (usually in a smaller music font and in the transposed key of the instrumentalist). Thus, a tricky entrance by, say, a flute, three bars after the trumpet (which
enters at the beginning of a four-bar phrase) would have the trumpet entrance indicated to alert the flutist. In addition to this, the conductor “cues” both players (i.e., he or she indicates by gesture) at the appropriate moment.

Although conductors claim their annotations are very personal, we found some similarities among the ones we surveyed regarding the symbols and text related to cues used in the scores we studied. As stated above, the use of abbreviations to annotate the cues is the most common practice. However, there is no standardized process even for the abbreviation of the names of instruments. The abbreviation can appear either in the original language of the score, in the conductors’ language, or any other language chosen by the conductor to keep his markings regular.

Since the cues and reinforcement annotations are essentially attentive annotations, the following examples regarding this category will illustrate some attentive annotations found both in musicians’ parts and conductors’ scores.

In Figure 30, we have an example that shows a combination of textual and symbolic cues using an abbreviation followed by brackets to indicate the entrances.
We found many combinations of abbreviations and brackets to indicate the cues and additional symbols, like parentheses, to indicate cues for a group of instruments as follows:
5.3 Musical analysis

Second to cues and entrances, musical analysis is perhaps the most important group of annotations found in conductors’ scores. Considering the group of twenty scores from Tchaikovsky’s 5th Symphony we can list the types of analysis used:

- Formal analysis
- Macro structure

Most of the participants mentioned form as being one of the most important matters in the engagement with the score. The annotations describing the parts of the form were only found in about twenty percent of the scores. Following are examples of the introduction and 1st Theme from the Tchaikovsky Fifth Symphony as annotated by various participants:
Only one participant annotated the form’s type in the score:

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82 In pencil, *introducción* that means: Introduction.
83 In pencil, there is an annotation of *I Tema* that means: 1st Theme.
5.3.1 Measure groups

Another extremely frequent (and consistent) type of notation in the scores provided for this study is that of measure groups. We based the concept of measure groups on the ideas preconized by Swarowsky and also described systematically by Prausnitz.

The grouping of measure groups is present in about eighty percent of the annotated scores collected for this research. However, the measure groups are represented in different ways, such as the highlighting of a bar line, its extension, or the use of any other dash showing the separation point between groups. Additionally, conductors frequently numbered the measure groups according to how many measures are in each group, as we can see in Figure 35.
Figure 35. Annotation of measure groups
In order to have a better overview of the musical structure, a few conductors used an additional paper with the structural parts subdivided into measure groups or a sequence of these measure groups. Only two participants presented or said they use an extra paper with this kind of annotation.
Following is a participant’s example of part of Tchaikovsky’s 5th Symphony, 1st mov. (exposition and development). The annotations show the macro form (intro “andante”, allegro con anima, transitions, development, recap etc.), the framework with the measure groups, and also some information concerning dynamics and cues mostly as they relate to the measure groups and presented in a structured way. For example, at rehearsal letter K, the dynamics of that transition are structured by a measure group of (4+4+4) and associated with f, mf, p respectively. The same idea is used for the cues and structured melodies as defined by instruments, as we can see in the allegro con anima. At that point in the score, after the first four measures, this participant indicates (rhythm), and groups the bars [4+4] + [4+4] + [4+4] respectively, represented by (Cl, Fg “bassoon”) + (Fl, Cl) + (Vl, Al “viola”) in the Figure 37.

Figure 37. Measure groups and cues annotated separately
5.3.2 Micro and motivic structure

We found some annotations regarding the similarities of motives and micro structure that connect the development of the musical narrative. Since these small structures are usually no longer than one bar, conductors frequently just circle them with a pencil or draw a line between the notes or motives as follows:

Figure 38. Connecting elements

In the figure above, the micro structure is defined by a sequence of single notes to be cued or at least pointed out in the rehearsal by the conductor. The following examples show small structures circled by Bernstein in order to show the repeated motives:

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84 Leonard Bernstein, https://archives.nyphil.org/index.php/artifact/bc9b46f8-cbc6-4ef4-9d95-5b6133ca5fb4-0.1/fullview#page/91/mode/1up
5.3.3 Harmonic analysis

Harmonic analysis appears in only a few scores, in approximately ten percent of our samples. The findings do not show frequent use of a deep and complex analysis of the harmony or of any particular analytical technique, such as Schenkerian analysis or other traditional analysis. However, the annotations we found that do concern harmony are very simple and direct when they appear. Conductors tend to be very pragmatic about harmonic annotations. They mostly describe the harmonic section (big frame) and sometimes annotate harmonic function, as in Figure 40, or only chords, as in the Figure 41. They also sometimes indicate the inversion beside the chord:

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85 Leonard Bernstein, https://archives.nyphil.org/index.php/artifact/bc9b46f8-cbc6-4ef4-9d95-5b6133ca5fb4-0.1/fullview#page/27/mode/1up
Curiously, most of the scores containing harmonic analysis showed a decrease in use of this practice after the first page, although it does, in rare cases, conductors continue the practice systematically until the end.

5.4 Technical annotations

The following categories also emerged from ideas presented by Winget and translated for our purposes in this study. According to Winget:
Technical annotations were defined as those that are specifically concerned with the physicality of performing the piece: which fingers to place on which strings (fingering), how to hold and pull the bow across the strings (bowing), where to look or listen (attentive), what notes to play (pitch), and how to begin and end playing those notes (articulation). These annotations have an immediate, physical, and specific meaning. Their purpose is intimately related to performance and reliable repetition.  

Fingering was not found in the scores of our participants or those we consulted via other sources. Our study of scores from professional conductors revealed that fingering is not something that the conductors seem to be occupied with when dealing with professional musicians. Since fingering is very specific to the instrumental technique, there is no reason for conductors to mark it in their scores.

### 5.4.1 Bowings and breaths

This category is mostly symbolic. Despite not being frequently found in conductors’ annotations, it can be textual, indicating a specific region of the bow or any specific technical information, as in Figures 42 and 43. However, the symbolic bowings (¶) and (V) appear in about thirty-five percent of the scores analyzed, as in Figure 44. Unlike annotations found in the scores of string players, the indication of bowings in conductors’ scores is annotated only for special spots that require some attention or decision by the conductor.

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In pencil, *punta*, i.e.,: tip of the bow.

In pencil, *molto arco*, i.e.,: to use much of the bow.
Considering the similar nature of its technical use, we added the breath mark indicated by the symbol (’) mostly for the winds in this category. Both bowings and breath decisions are annotated by conductors in order to get a specific articulation or phrase. Following is an extract from the Bernstein score indicating first, on bar four, a “no breath” followed by a “breath” in the pick-up of bar seven. This type of annotation is not frequently found in conductors’ scores, and only fifteen percent of the scores presented any symbol to indicate it.

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89 Neither Bewley nor Winget opened a category for this symbol in their work.
5.4.2 Conducting solutions

We included this category, conducting solutions, in order to approach the technical solutions found by conductors in order to solve some problems in musical passages. These solutions are mostly represented by subdivisions and gestural organization represented by symbolic, numeric, and textual instructions.

Annotations such as: in 2, in 6 etc., as in the previous figure, are very common, especially for pieces that can be conducted in both ways, depending on the speed chosen by the conductor for the piece or passage.

In the following example, the participant shows a numeric indication of subdivision at the bottom of the score and reinforced in the horn section. Additionally, there is a textual annotation\(^90\) that reinforces these subdivisions: *segura*.

![Figure 46. Technical solution and subdivision](image-url)

\(^{90}\) In pencil, between the timpani and 1	extsuperscript{st}, the annotation *segura* means “hold” and it is the solution found by the participant to slow down to the new tempo.
5.5 Emotive annotations and storyboard

Emotive annotations are essentially conceptual and intended to suggest a feeling and an emotional approach to the passage, with or without external references. This kind of annotation concerns the character and the atmosphere the conductor hopes to create in his gestures and which he or she expects to be expressed musically by the orchestra players. The emotive annotation can refer to an isolated moment, represented by a few bars, or to a sequence of events that shape a complete story, such as in some symphonic poems.

In Figure 47, Bernstein provides one such emotive instruction for the string choir. He uses a simile: “Like a Russian choir humming” and he also indicates the technical procedure, “free bowing,” that helps to achieve the desired sound. According to Dr. Cavanaugh,

Bernstein’s system, using two sided “office” or “post” pencils, as they are called in the UK, was to write indications for himself in blue and those to be copied into the musicians’ parts in red. Especially late in his career, he traveled with his own set of pre-marked parts. When he was free-lancing after his stint at the NY Phil had his (many) assistants copy his instructions into the parts. 91

Conductor and Bernstein associate John Mauceri provides a recent discussion of Bernstein’s score markings 92:

Leonard Bernstein’s score markings are clear and unambiguous. He made use of a two-colored pencil with a red side and a blue side. These pencils were developed in Europe and used by accountants: blue for incoming money and red for expenditures. Bernstein was imitating Mahler who marked his scores in red and blue. The blue indicated where his eye needed to go when conducting a rehearsal or a performance, and the red indicated editorial changes he wished to make in the

91 Personal communication from Dr. Mark Cavanaugh, Professor and Conductor at Nova Southeastern University, Fort Lauderdale, Florida. Dr. Cavanaugh met Maestro Bernstein many times during the 1970s and 80s. After the Maestro’s death in 1990, his score library was transferred to the archives of the New York Philharmonic, and Dr. Cavanaugh meticulously copied many of Bernstein’s score markings, particularly those of Beethoven, Brahms, and Mahler into his own scores. During those many visits, the archivist of the Philharmonic, Barbara Haws, explained Bernstein’s use of colors to Dr. Cavanaugh. The Bernstein scores were subsequently digitized and made widely available online.

92 See also (Harmon & Prince, 2018) for a discussion of the copying duties of various Bernstein assistants.
printed indications in the score—changes in dynamics, orchestration, tempo. While Mahler’s use of red and blue is inconsistent, Bernstein’s is not. He said that anything marked in red could be sent to an orchestra librarian and added to the orchestra parts so that his wishes were clearly stated before rehearsals began.  

In Figures 48 and 49, two participants annotated an external reference from the composer found in his first sketch that suggested a programmatic character to the Fifth Symphony.

Figure 47. Emotive reference

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94 In pencil, the annotation on the top: “like a Russian choir humming” and in red “free bowing” with a complementary indication of *vibrato molto legato.*
In general, participants preferred to mark their personal impressions of a passage as in Figures 50 and 51:

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95 In pencil, En un boceto, Tchaikovsky escribe: “Introducción: submisión total ante el destino o lo que es igual, ante la predestinación ineluctable de la providencia” which means: total submission before fate, or, what is the same thing, the inscrutable designs of Providence.

96 In pencil, participant annotated: “like funeral march”.

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Some other impressions are annotated by the participants on the back cover, and do not relate to the mood or interpretation of a passage of the piece as do the examples above. Rather, these notes bring out the conductors’ emotional and general impression of the piece at a certain moment, as follows:

In pencil, participant annotated: “Tema cíclico, sombrio e triste. Sugere ao mesmo tempo uma marcha e um coral”. Translation: Cyclical theme, dark and sad. It suggests at the same time a march and a choir.

“Oct 81, I do not like this symphony, only one melody and a lot of motives. I loved it at eleven and twelve years old. I like symphony #4 so much more now, so much you can do with it, and conducting was a far more of a technical challenge except for last movement.” My translation.
5.6 Rehearsal annotation

Rehearsal annotations are the markings made by a conductor, sometimes by the assistant conductor, before and/or during rehearsals, as a reminder of spots to be worked on in the following rehearsal. Experienced conductors know the “tricky” spots of some pieces they conducted before, and thus serve as an alert or way of anticipating any difficult passages.

In my personal experience of attending rehearsals, these kinds of annotations are not commonly made in scores, though I have seen many conductors bring an extra paper to the rehearsal with notes about where and what the problems were, usually based on the last rehearsal. Considering that this is not a regular process and varies from rehearsal to rehearsal and orchestra to orchestra, conductors as a rule do not keep these extra papers in their scores.

We found a few types of annotations from rehearsals among our participants’ scores. Some attached post-it notes to the scores, as in Figure 53 below. This must indicate an annotation taken in order to fix some problems from a previous rehearsal such as piccolo softer and “work Q,” etc. Some other annotations are difficult to decipher; it is unclear whether they were written before the first rehearsal or after a previous experience performing the piece. Considering that they are listed together we suppose they are all of a piece, and that an indication such as “shape phrase” occurred in a moment of post-rehearsal reflection.

Figure 53. Annotations from rehearsals
We also found annotations that are instructions to be relayed to the orchestra during rehearsals.

For example:

![Figure 54. Instructions and recommendations for rehearsal](image)

Asked about his specific motivation to write this annotation, the participant stated:

> You should make your corrections sparingly in rehearsals. remembering he/she has practiced this for about 10 years and you just showed up this week so don’t expect any radical changes. Just let him/her know that you will follow them and not to feel the need to keep too much contact with you for that minute. They will LOVE you and play better than ever.  

5.7 Historical annotation

Historical annotation conveys information about performance, musical decisions that occurred in the past for specific performances and musical references from other conductors such as tempo. Nearly fifteen percent of the scores presented this kind of annotation. Performance

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99 Answer given in a conversation between one participant and the author via internet chat on 12/20/2018.
dates were the most frequent historical annotation found and appeared primarily on the back cover of scores.

The following examples, found on the back cover of two participants’ scores, list concert dates as well as the orchestra that performed the work and the performing venue at which each event took place.

![Example of concert dates]

Figure 55. Performances dates

![Example of concert dates]

Figure 56. Performances dates
In the next example, the participant notated some historical information about the music itself.

Figure 57. Historical annotation with dates

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

For this research, we collected and analyzed annotated scores from twenty-five participants and about six on-line score collections such as the New York Philharmonic and Utah Symphony. Additionally, we conducted a survey of twenty-seven professional conductors who answered a questionnaire and were asked for more details over time, during the writing of this dissertation.

The research provided an overview of many kinds of annotations, exploring in some depth the ample variety of markings and the different nature and meanings they have for conductors.

Despite having Winget’s research on musicians’ interaction with scores and the behaviors of performing musicians as a reference, conductors’ annotations proved to be different in many aspects from those of musicians. For example:

- Conductors’ annotations are mostly written before the first rehearsal.
- The number of annotations made by professional conductors is not related to their skill level. Some very experienced and renowned conductors presented scores completely devoid of markings, while others presented heavily annotated scores.

The answers to our questionnaire were definitive in helping us understand conductors’ preferences for annotations and the multiple possibilities for marking a score. These findings also showed the preferences of our participants for certain aspects of the annotation process and to what extent they consider it useful.

Despite the attention given by some institutions to remarkable conductors’ collections, such as those of Eugene Ormandy, Maurice Abravanel, and Leonard Bernstein, further research regarding individual annotations could be revealing in order to identify the interpretative aspects,
sonority, technical, and many other elements. When we read the conductors’ impressions marked in musical passages, we better understand, for example, the blended “Philadelphia sound” of Ormandy’s bowings, or Bernstein’s emotion-driven performances.

The results of this research project should lead to broad discussions about whether it is important for conductors to learn how to annotate systematically. We have seen that a few complex systems established in the past did not become standard over the years. On the other hand, many personal systems developed by conductors have been passed down to their pupils though generations. Considering Winget’s conclusion that the meaning of a musician’s annotations is not personal, we cannot state definitively that conductors’ annotations are as well-defined as those of orchestra musicians.

Another important outcome was that some annotations, such as formal and harmonic analysis, are important only for the learning process, while others, such as reinforcement markings, are useful only for rehearsals and performances.

Considering that markings of “measure groups” were used by about eighty percent of the participants, we recommend additional research that further explores this frequent annotation. We believe that the function of those annotations in breaking the music down into pieces has a very important role in the process of studying and also performing.

We did not contemplate editing annotations because doing so requires a particular study and must be examined in close detail. Some articles about these alterations, such as changes in tempo, attitude toward repeats, cuts, and all sorts of orchestration changes made by conductors on the symphonic repertory, have emerged recently, especially about Mahler, who adopted the practice famously in his rescoring of Bach, Beethoven and Schumann consistently. As this was a common practice by conductors from the nineteenth and twentieth centuries, it deserves to be explored in greater depth.
This study provided two major accomplishments:

1. A broad understanding of the characteristics found in orchestra conductors’ annotations provided by the augmented list of types of annotation.

2. A better understanding of the applicability of annotations to the musical context.
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Rudolf, Max, Oswald Jonas, and Elinore Barber. "Riemenschneider Bach Institute Vault Holdings: A Recently Discovered Composer-Annotated Score of the Brahms


APPENDIX A. QUESTIONNAIRE ABOUT CONDUCTORS’ ANNOTATED SCORES 101

Context / Process of Creation and Use (What purpose does annotation serve?)

• Please checkmark the answer below: Have you ever read about conducting annotations?
  _____ Yes _____ No

• What kind of annotation? (Please check all that apply.)
  _____ Instruments abbreviation
  _____ Dynamics reinforcement
  _____ Phrases and Motives
  _____ Abstract emotional notes
  _____ Colored notes
  _____ Harmonic

Others (Please write any additional annotations in the space provided below)

• How did you learn how to annotate

• As you come to a greater understanding of the music, do you sometimes eliminate, or
  change your annotations? (Please checkmark your answer):
  _____ Yes _____ No

101 This questionnaire was based on interview’s questions performed by Megan Winget in
her dissertation: "Annotations on musical scores by performing musicians: Collaborative models,
interactive methods, and music digital library tool development." Journal of The American
Complete, 2008.
• During performance, how much do you use the written music? (Please checkmark your answer):
  _______ All the time
  _______ Depends on the repertoire
  _______ Never

• What kind of notes do you consider helpful for you in the performance and how much do you use your annotations?

• In a scale from 0 to 5, where 0 means absence of markings and 5 full of markings, how much do you mark your scores? (Circle the answer):
  0 1 2 3 4 5

• In a scale from 0 to 5, what is the importance of the markings during the performance? (Circle the answer):
  0 1 2 3 4 5

• Regarding your annotations do you consider that along the years you annotate. (Please checkmark your answer):
  _______ I annotate less and less along the years
  _______ It does not change
  _______ I annotate more along the years

• Where do you annotate? (Please checkmark your answer):
  _______ All the annotations in the score
  _______ All the annotations on another paper
  _______ Some annotations in the score, and other annotations on separate paper (in this case could you explain what information you write in the score and what information in the extra paper?)
• If you were to lose your annotated copy of the written music, and had to use a clean copy of your part during performance, do you think you would be able to perform as well as you would with the annotated copy? (Please checkmark your answer):
  ______ Yes ______ No
If not, where would the problems be?
• Tell me about the annotation process. How do you proceed in order to mark the score?
• Do you annotate any musical elements particularly often? Why those elements?
• Do you have any particular annotation to transposed instruments?
• Do you write any musical analysis such as harmonic, melodic and formal (morphologic) down into the score?
• Is annotation a personal process or a more institutional one? Any school references?

Annotation Object
• Talk about your annotation process and style [symbols/text/numbers].
• This could be a separate question: [heavily annotated/lightly annotated]. Are your annotations personal or do they have some kind of standardized format and procedure?
• How do you mark your score: Pencil___ Pen___ Red and Blue ___ Multicolor___?
• Do you annotate the musicians’ part as well? In case you do, what kind of annotation?
• What do you do with scores that are already annotated (by someone else) when you get them?
• Are your annotations important for you? Why or why not? Under what circumstances are they important? Under what circumstances are they not important?
• Do you think if someone else had to use your annotated score to participate in the performance with your group would the annotations be helpful or would the annotations need to be erased?
• Are your annotations important for you? Do you think you’d be able to perform this piece of music without the annotations?
• Do you think conductors’ annotations are different from the orchestra musicians’ annotations? Why? Can you give an example?

**Annotation as Knowledge**

• How long have you been a musician?
• How long have you been a conductor?
• Do you consider yourself an amateur, semi-professional, or professional musician?

• Did you provide a copy of your annotated score for this research? What period of your career/life do the annotations found on that score represent:
  Student ____ Beginning of professional career ____ Current ____

If you provided a score other than Tchaikovsky’s 5th Symphony please specify which one and why did you prefer to submit that one:

• Do you consider your notes comprehensible to other conductors or does it have a particular meaning only for you? Is there some specific knowledge someone *must* have to understand your annotations?

• Are there elements within a published score that are understood to be open to interpretation?
• Do you think that reading the annotations of other performers would be useful / interesting? (For example, if you could look at a world-famous conductor’s score – would you be interested in how s/he annotated their music?) Would you find a famous conductor’s annotations interesting? If you do think they’d be interesting, why? If not, why not?
• If you perform an annotated piece again after a long break, will you re-use the annotations?
APPENDIX B. CONSENT FORM

Louisiana State University – School of Music, Phone# (225) 578-3261

Conductors Annotated scores: A comprehensive study

Introduction to the Study:

We are inviting you to be involved in an investigation of how conductors annotate in the score. The study is being conducted by Leandro de Magalhaes Gazineo (Doctorate Student from the School of Music) Ph 2253711376, email: lgazin1@lsu.edu, having as supervisor Dr. James Byo (225578-4905), email: jbyo@lsu.edu.

Purpose:

I am conducting a research focused on professional conductors whose topic is the approach and analysis of their personal annotations in the scores.

With this research I will be able to study and analyze the most recurrent types of markings, the diversity of notes, and all the relevant information noted by professional conductors in the score.

What Will Happen During the Study:

To participate in this study, you must meet the requirements of both the inclusion and exclusion criteria. The requirement to participate is to be a professional orchestra conductor. The participant will be excluded if state being an amateur or any category other than a professional conductor.

We will send a questionnaire with questions regarding your annotation process. We also asked a copy of the Tchaikovsky 5th Symphony as a basis and reference for some comparison among annotations.

Your Privacy is Important:

Privacy will be protected at all times, there will be no risk or discomfort involved, and participants can decide to end the process at any time. Nothing will be published without prior
permission and the examples used in the dissertation will not be attributed to the respective conductor.

Risks and Discomforts:
We do not know of any personal risk or discomfort you will have from being in this study.

Your Rights:
You decide on your own whether or not you want to be in this study.

By continuing this survey, you are giving consent to participate in this study.

If You Have Any Questions:
If you have any questions or concerns about the study, please contact Leandro Gazineo (lgazin1@lsu.edu) or James Byo (jbyo@lsu.edu).

Institutional Review Board Approval:
The Behavioral Institutional Review Board (Behavioral IRB) of the Louisiana State University has approved this study. If you have any concerns about your rights in this study, you may contact the IRB Chair, Dr. Dennis Landin, 578-8692, or irb@lsu.edu.”

Your Consent:
I have had the chance to ask any questions I have about this study, and they have been answered for me. There are two copies of this form. I will keep one copy and return the other to the investigator.

I have read the information in this consent form. By continuing this survey, you are giving consent to participate in this study.
APPENDIX C. LIST OF PARTICIPANTS

This list below provides names of people that contributed to this research. For privacy reasons, this list does not specify how the participant contributed to this work but acknowledges the fundamental importance of each of them that helped and supported this research.

- Abel Rocha
- Alessandro Bonato
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- Emilio Cesar de Carvalho
- Erick Vasconcelos
- Francisco Terribas
- Guilherme Mannis
- Gonzalo Berná
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- Jose Escandell
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- Kirk Trevor
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- Ricardo Rocha
- Rico Saccani
- Roberto Laborda
- Rogelio Castro
- Sergio Bernal
- Suzanne Rome
- Thiago Tavares
- Timothy Muffitt
- Valentino Favoino
- Victor Yampolsky
VITA

Leandro de Magalhães Gazineo was born in Salvador, Bahia, Brazil in 1977 to a musical family. He was always surrounded by music. He received much of his musical education at the Federal University of Bahia (UFBA), where he earned a Bachelor of Music degree in orchestral conducting in 2000 and a Master of Music Degree in orchestral conducting in 2004, both programs under the direction of Dr. Erick Vasconcelos. He also studied voice, violin, and piano.

At UFBA he worked as instructor, professor, coach, and conductor. He was the Chief Conductor of UFBA Madrigal Ensemble (2006-2009) and Associate Conductor of the UFBA Symphony Orchestra for ten years (2000-2009). He was conductor of the Salvador Youth Symphony Orchestra for six years.

Gazineo conducted relevant groups in Brazil, such as the USP Symphony Orchestra, National Symphony Orchestra, Blumenau Chamber Orchestra, Symphony Orchestra of Bahia, Symphony Orchestra of the Federal University of Bahia, Symphony Orchestra of Rio Grande do Norte.

Recently, Gazineo has also conducted with great success the Philharmonic Orchestra of Mendoza in Argentina and the Philharmonic Orchestra of Montevideo in Uruguay. Gazineo is the assistant to the renowned Brazilian conductor, Ligia Amadio. Since 2015, Gazineo has studied Orchestral Conducting at Louisiana State University with the Maestro Carlos Riazuelo where he is a candidate of the Doctor in Musical Arts degree.

Currently, he holds a full professorship at the Federal University of Rio Grande do Norte in Brazil, where he teaches in the Conducting Program.