

UNIVERSITY OF NEVADA, RENO

**Thematic Analysis and Considerations on J.S. Bach's Fugues from
*Das Wohltemperierte Klavier I & II: A Synthesis of Rhetoric from the 17th
through the 21st Centuries.***

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Musical Arts

by

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December 2023

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UNIVERSITY OF NEVADA, RENO
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prepared under our supervision by

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ABSTRACT

This dissertation aims to study and analyze the fugal themes (subjects) of Johann Sebastian Bach's (1685-1750) *Das Wohltemperierte Klavier I* (1722) and *II* (1744). Many scholars have examined and studied the set through numerous ways (Engels, 2006; Groocock, 2003; Ledbetter 2002; Bruhn, 1993; Brook, 1907), however, no single work exists as a guide that has analyzed its themes in such an intricate manner using rhetoric and hermeneutics from different music theorists throughout the centuries. Both volumes are historical landmarks organized in a system that allowed one to play in twelve major and minor keys. Manuscripts show different stages of composition; some were composed much earlier than the whole set, and some were even later transposed to fit the key scheme. Its pedagogical use was perhaps the driving force for its coming together as a set, but ultimately bound as a culmination of an art that has defined baroque polyphony.

For this paper, thematic analysis of Bach's fugues are done through the analysis and identification of the heads and tails, as proposed by Harrison (2008); the identification of the *figurae* as proposed by authors: Printz (1673), Praetorius (1619), Beyer (1703), Walther (1703), and Kürzinger (1763); the analysis and identification of rhythmic feet as explained by Williams (1892), while paying careful attention to Bach's mensural notation according to Kilgore (1973) as evidence of Bach's congruence to the Greek ideals of rhythm.

Particularly, analysis of the subjects used in the fugues of the first and second volume include: identification of the motive; identification of the tails and heads of the subject; identification of subject *figurae* such as, *groppo*, *suspirans*, *messanza*, *corta*, *accentus*, *tirata*

and circolo. Furthermore, analysis of rhythmic feet, namely, the trochee, dactyl, paeon, and the ionicus, as well as the identification of the placement of the anacrusis—which according to Aristoxenus (360 B.C.), gives it (subject) strength—All these as evidence that Bach was using rhythmic rhetoric in a way paralleling the Greek ideals.

The observations within these analyses show the apparent uniqueness of each subject, their absence of unity as a volume, their dispositions suggesting no intended relation to the sequence of the performance, and the apparent more complex subjects used later in the volume. More observations should arise upon the completion of the analyses, including the congruity or incongruity of the rhetoric as proposed by the theorists, and evidence that most Bach's themes fit the rhetorical schemes.

This dissertation sheds new light to a better understanding of Bach's musical ideas and prove to be an invaluable resource to music theorists, scholars, and performers as a reference to fresh performance practice, or theoretical works that may touch on its themes that is the heart of any fugal work.

*To my mom, Violetta Soriente,
who worked tirelessly to make my education possible.*

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CHAPTER 1: INTRODUCTION

Knowing J.S. Bach

As a pianist growing up, I still remember the first time I encountered a work by J.S. Bach. The first composition I ever played by him was his Invention no. 8 in F major, BWV 799. At the time, the ignorant musician in me thought that learning the Invention would be an easy task, but little did I know that it was my first lesson in polyphonic music. In the early 2000s in the Philippines, the music that I grew up listening to was nothing close to the culmination of an art that is displayed in Bach's music. An art that is complex as it can be abstract to demand so much for its musicking experience to be fully appreciated or understood. I do not wish to describe it and put it on a pedestal, but it is almost impossible to do so as this subject has been heralded as the choice of music for "intellectual" musicians. Perhaps a metaphor exists that J.S. Bach is the recurring subject/theme when asked for their favorite composer. I remember having to look closely and pay attention to the eyes of people who told me that Bach was their favorite composer to see how serious they were. I am not writing this to redeem myself and claim that J.S. Bach now is a favorite composer of mine, but that I have found fondness in his study.

Perhaps a question that this work is bound to answer is how much theorizing will be enough for a piece of art as complicated as Bach's music? Or when is it too much? Maybe an AI replicating Bach's mind can answer this question for us, but my best guess is that we may have rolled and kicked the apple far from its tree for far too long. I can only wash my hands by

claiming that I am not the first perpetrator of this kind, but an apprentice picking up a small fruit in the trail.

Any educated musician knows the value of studying Bach's music whether as an analytical tool for a theory class, or an introduction to polyphony or keyboard skills, or simply as a listening enjoyment for the unique beauty of its complexity. His music will be used and over and over again that only time will tell for how much more. This study is but one of many that will perpetuate a cycle of its study and reap from it an almost everlasting knowledge, discovery, and rediscovery. A discovery and rediscovery that is arguably not entirely about his music, but it being as a subject where we develop and form our own ideas and concepts, treatises of humanities that may be larger than the subject itself.

I have read and heard many debates that revolve around the utility of music theory over performance, or vice versa, either justifying why one is more important over the other, and sometimes with a more sensible argument that both only help and complement each area of study. Another opinion is one that would say that the great composers never thought about any of these treatises, or never in their wildest of imaginations have contemplated such a complicated reasoning or justification for their compositions. Perhaps we really cannot tell which among our greatest composers would be delighted in knowing centuries later that millions of people have obsessed and admired their work, even to an extent that may be deprecating on their works depending on who you might ask. But there is comfort in knowing that we may only be acting in the most innocent of intentions to pass on their legacy and better our understanding of music of old and that our actions are in the assumption of the lack of

cynical judgement from the ancient past over the work that we do today. It is merely a play and a game of understanding.

If you are reading this work, I am in the assumption that you already know who J.S. Bach is, and that reviewing his biography is unnecessary, as I could imagine it being a filler chapter that my reader will want to skip. Bach was painted in many ways as Bach the German Patriot—Bach the Orthodox believer—the virtuoso organist—the deep thinker of complex music—the reluctant virtuoso organist and school musician—an incomparable composer indifferent to opera, etc.¹ However there are many things to notice in between facts about him. For example, as the composer of the greatest single repertory of organ repertoire, why did he not publish any of his organ works until he was fifty-four?² Why did he never answer requests for an autobiography? Why was nothing published in the book-center of Leipzig ever dedicated to him, as a notable resident feted by kings and dukes for nearly thirty years?³ Is it possible that Bach kept a file of press cuttings?⁴ If so, does that change the way we view the composer of the B minor mass? The answers to some of these questions are speculative, and I am one with no answers to give, but say that Bach was human. In his public life, he was a cantor, organist, composer, teacher, church musician, and so on, but what was he really like in his private life? This is comparable to our childhood thinking on how we perceived our teachers. All we see them as teachers who can do no wrong and know all the answers to everything, but now we

¹ Peter Williams, "What Is It to Write a Biography of J.S. Bach?" *Bach* 45, no. 1 (2014): 1–14, <http://www.jstor.org/stable/43489887>.

² *Ibid.*

³ *Ibid.*, 3.

⁴ *Ibid.*, 5.

know that is untrue. In the same way, the idolizing of Bach as a great composer can be crippling even to the most educated of scholars and performers. The play of it all is forgotten and buried under an overwhelming detail of expectation that we as future benefactors have imposed among ourselves and on top of what is already a seemingly complicated work as it is. I do not want to sound a hypocrite for what tedious task that this dissertation may have been, but an aspect of it is a playful meditation that you as the reader can partake in. May this be a reminder that even a seemingly tedious and laborious work such as learning the music of Bach, or the reading of this dissertation can be a fun and easy trifle task of a play.

Origins of the Fugue

The word Fugue can be traced in origins, one a German verb, “fügen,” meaning to put together something meticulously; one in Latin, “fuga,” meaning flight or escape. The latter denoting a sense of running away, as in its voice entrances seemingly running away from the imitation of its followers. The two forerunners of the Fugue are the medieval motet and the ricercare. The motet a is vocal counterpoint with a main melody in which one or more vocal lines are added in counterpoint, and while the ricercare is a contrapuntal instrumental composition between 16th-18th centuries. The baroque era of composition was more developed in Northern Germany, as they were more resistant to the counter-reformation and the abolition of contrapuntal music. These compositions were made for a duality, one for the glory of God, the other, is for the enlightenment of man. ⁵

⁵ Siglind Bruhn, *J.S. Bach's Well-Tempered Clavier: In-Depth Analysis and Interpretation, Vol III* (Hong Kong: Mainer International, 1993), 15.

Theme vs Motif

This dissertation will focus on the themes from the fugal works of Bach, specifically the 48 fugues from his Well-Tempered Clavier, books 1 and 2 that covers the 24 keys of modern tonality in major and minor modes. It is common knowledge that Bach is the master of the art of fugue, and I thought that what better way to focus on the study of his music than to focus on the heart of it all, its themes. The theme is the heart of any fugal work, it is the ultimate, the prime, the central, and literal beginning and end that the music is evolved and worked around upon and from as poetic as it may sound. Note that the term motif and theme is confused as one and the same, they are similar, but the difference is that the theme is the complete idea, while the motif can mean a remnant of the theme,⁶ thus in this dissertation we will be using the term theme as the focal point of study. Alternately, the word subject is tantamount to the word theme. Both words will be used alternately in this paper.

Music and Rhetoric

The connection between rhetoric and music, particularly in the Baroque period was very close, significantly influencing the fundamental elements of music. However, understanding these interrelationships has been challenging due to the decline of rhetorical disciplines in modern education since the 19th century. It was only in the early 20th century that music historians rediscovered the significance of rhetoric as a foundation for aesthetic and theoretical concepts in earlier music. This relationship is evident in the interplay between music and the

⁶ William Drabkin, "Motif," *Grove Music Online*. 2001; Accessed 15 Nov. 2023, <https://www-oxfordmusiconline-com.unr.idm.oclc.org/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000019221>.

spoken arts, such as grammar, rhetoric, and dialectic, as most of vocal music that is tied to words, impacting composers, possibly including Bach, influenced by rhetorical principles in setting texts to music. Even with the rise of independent instrumental music, rhetorical principles continued to shape both vocal and instrumental compositions.⁷

Much of the rhetoric and the analyses that this dissertation entails will be looking into a synthesis of rhetoric throughout the ages, evidently showing a picture of Bach who was composing music in alignment with ancient rhetoric and that of his time.

Existing Literature

Many books have been published surrounding Bach's life and works. It is worth an examination and an overview on what literature is already written about his Well-tempered Clavier, specifically his 48 fugues before delving into it. I have found a few books that were dedicated to analyzing the Well-tempered Clavier. The earliest one is by Sampson Brook, *A Digest of the Analyses of J.S. Bach's Forty-Eight Fugues from the Well-Tempered Clavier, Das Wohltemperirte Klavier* (1907). The book is a classic reference that focuses on the dissected parts of the fugues, identifying its parts and the analytical plans for each. Brook's book is a very technical analysis that is dedicated to almost a purely technical standpoint.⁸ The following literature was written almost a century later by Siglind Bruhn, *J.S. Bach's Well-Tempered Clavier: In-Depth Analysis and Interpretation* (1993). Bruhn's book comes in four volumes that

⁷ Blake Wilson, George J. Buelow, and Peter A. Hoyt, "Rhetoric and music," *Grove Music Online*, 2001; Accessed 15 Nov. 2023. <https://www-oxfordmusiconline-com.unr.idm.oclc.org/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000043166>

⁸ Brook Sampson, *A Digest of the Analyses of J.S. Bach's Forty-Eight Fugues from the Well-Tempered Clavier, Das Wohltemperirte Klavier* (England: Vincent Music Co., ©1905-©1907, 1907).

tackles not only the fugues, but also the preludes. It is not as in-depth technically in comparison with that of Brooks, but her book takes a more holistic approach on discussing guidance questions on how each part of the fugues should be performed or treated. This book is geared more towards performing artists who want to understand Bach's music further.⁹ The next book published in this literature is by David Ledbetter, *Bach's Well-tempered Clavier: The 48 Preludes and Fugues* (2002). Ledbetter took a more holistic approach in his book, unlike Brook or Bruhn's work where they discuss each of the Preludes and Fugues, Ledbetter takes a larger chunk of the works to discuss those parts in general. His approach is both theoretical and historical, but it being so general on the topics meant that it was not in-depth on each work per se.¹⁰ The following year, 2003, Joseph Grocock published his book *Fugal Composition: A Guide to the Study of Bach's '48,'* edited by Bach scholar Yo Tomita whose work is extensively used in this dissertation. Grocock's book focuses on the 48 fugues of the Well-tempered Clavier focusing on the analytical aspect of the different voices, separating those fugues with two, three and four voices and grouped with and without a stretto. His work is very technical almost avoiding any historical or literary context to Bach's work.¹¹ Marjorie Wornell Engels' *Bach's Well-Tempered Clavier: An Exploration of the 48 Preludes and Fugues* (2006) is neither as technical as Brook's nor is it as practical as that of Bruhn's, Engels approach examines Bach's work in a historical context, cross referencing his music to different literatures that gives his music more

⁹ Siglind, "J.S. Bach's."

¹⁰ David Ledbetter, *Bach's Well-Tempered Clavier: The 48 Preludes and Fugues*, 1st ed. (New Haven: Yale University Press, 2002).

¹¹ Joseph Grocock, *Fugal Composition : A Guide to the Study of Bach's "48,"* ed. Yo Tomita, (Westport, Conn: Greenwood Press, 2003).

context.¹² These are only some of the literatures that were published in English that I have had the privilege to go examine, as some of the materials were either inaccessible by me, or in another language. None of the literature I have discussed have analyzed the 48 fugues in the same fashion as within this dissertation.

Chapter 3: BRIEF HISTORICAL BACKGROUND of WELL-TEMPERED CLAVIER

History of Compilation

The beginnings of *Das Wohltemperierte Klavier I*, or The Well-tempered Clavier I can be traced back in Bach's Weimar years (1714-1717),¹³ perhaps even conceived during his imprisonment for his "unfavorable discharge," as Ernst Ludwig Gerber hints, "in a place where ennui, boredom, and absence of any kind of musical instrument forced him to resort to this pastime."¹⁴ The earliest composition started during his Weimar years, but the conception of Well-tempered as a set was perhaps conceived until later. Earlier versions appear in *Clavier-Büchlein vor Wilhelm Friedemann*, a collection that Bach compiled for his eldest son in 1720, two years earlier from the earliest known compilation of the first volume.¹⁵

In 1722, he compiled the first volume with the title:

¹²Marjorie Wornell Engels, *Bach's Well-Tempered Clavier: An Exploration of the 48 Preludes and Fugues*, 1st ed. (Jefferson: McFarland & Company, Incorporated Publishers, 2006).

¹³ Christoph Wolff, *Johann Sebastian Bach* (USA, NY: W.W. Norton & Company Ltd., 2000), 168.

¹⁴ *Ibid.*, 184.

¹⁵ Ralph Kirkpatrick, *Interpreting Bach's Well-tempered clavier: a performer's discourse of method* (New Haven: Yale University Press, 1984), 6.

*“The Well-Tempered Clavier, or preludes and fugues in all tones and semitones, in major as well as minor, for the benefit and use of musical youth desirous of knowledge as well as those who are already advanced in this study. For their especial diversion, composed and prepared by Johann Sebastian Bach, currently ducal chapelmaster in Anhalt-Cöthen and director of chamber music, in the year 1722.”*¹⁶

Bach compiled the set to demonstrate the “musical manageability of all twenty-four chromatic keys,” which during his time was only theoretical.¹⁷ This sets his work as a historical landmark, demonstrating that the tonal system can be expanded to twenty-four keys along its implications to chromatic harmony only to be realized a century later.¹⁸

Traces of Revisions

The first traces of the second volume are found in the so-called London Autograph, written between 1738-42,¹⁹ with revisions from 1744.²⁰

The second volume does not have the same title as the first volume.²¹ However, the authority for calling the second volume part of *WTC* (Well-tempered Clavier), is derived from manuscript copies. The copy made by J.C. Altnikol entitled:²²

¹⁶ Ibid., *“Das Wohl temperierte Clavier oder Praeludia und Fugen durch alle Tone und Semitonia Sowohl tertiam majorem oder Ut Re Mi anlangend, als auch tertiam minorem oder Re Mi Fa betreffend. Zum Nutzen und Gebrauch der Lehrbegierigen Musicalischen Jugend als auch derer in diesem studio schon habil seyenden besondern Zeit Verreib aufgesetzt und verfertiget von Johann Sebastian Bach p.t. Hochfurstl. Anhalt. Cothenischen Capell-Meistern und Directore derer Cammer-Musiquen. Anno 1722.”* Trans. by author.

¹⁷ Wolff, *Johann Sebastian Bach*, 229.

¹⁸ Ibid., 230.

¹⁹ Ibid., 373.

²⁰ Kirkpatrick, *“Interpreting Bach’s,”* 12.

²¹ Mark Lindley, 2001 “Well-tempered clavier,” *Grove Music Online*. September 25, 2023, <http://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000030099>.

²² Kirkpatrick, *“Interpreting Bach’s.”* 13.

“The second part of *The Well-Tempered Clavier*, consisting of preludes and fugues in all tones and semitones, prepared by Johann Sebastian Bach, royal Polish and electoral Saxon court composer, chapelmaster and choir director in Leipzig, in the year 1744.”²³

Bach followed the same key scheme of twenty-four key possibilities, writing both a prelude and fugue in each. More manuscripts survive showing the writing process of the second volume than the first. In fact, there is evidence that Bach transposed earlier versions to achieve the key scheme. For example, earlier versions of the Prelude and Fugue in C-sharp was originally composed in C major; the prelude in E-flat Major originally in D; Fugues G and A-flat major originally in F major.²⁴

His Fugetta in C major, *BWV 872a/2*, as seen on figure 1, is a prime example of Bach’s revisionary work, done not only once but twice. The manuscript we have is a copy belonging to Michel, who worked for C.P.E. Bach, and was probably composed circa 1720 or earlier.²⁵

The original Fugetta, *BWV 872a/2* is only 19 bars long, while his second revision, *BWV 872b/2* has 30 measures, as seen on figure 2, a copy made by Johann Friedrich Agricola in 1738, who began his study with Bach that same year.²⁶ The first and second Fugetta, have a difference of 11 measures and with revisions interspersed within the piece. Tomita (1998) noted the revisions as improvement in structural design and enhancement of character on each section.²⁷

²³ Ibid., “*Das Wohltemperierte Claviers Zweiter Theil*, bestehend in Praeludien und Fugen durch alle Tone Und Semitonien, verfertigt von Johann Sebastian Bach, Königl. Pöhlisch und Churfürstl. Sächs. Hoff Compositeur Capellmeister und Directore Chori Musici in Leipzig. Im Jahre 1744.” Trans. by author.

²⁴ Ibid., 14.

²⁵ Ibid., 38

²⁶ Ibid., 37.

²⁷ Ibid., 38.

Figure 1: Fugetta in C major BWV, 872a/2, c. 1720.²⁸

Fugetta J. S. Bach (composed c. 1720)

The musical score for the Fugetta in C major BWV 872a/2 by J.S. Bach is presented in two staves (treble and bass clef). The piece is in C major and 3/4 time. The score is divided into six systems, each containing two staves. Measure numbers 1, 4, 8, 11, 14, and 17 are indicated at the beginning of their respective systems. The piece begins with a treble clef and a common time signature, which changes to 3/4 time at the start of the first measure. The melody is introduced in the treble clef, while the bass clef provides a steady accompaniment. The piece features intricate counterpoint and a variety of rhythmic patterns, including sixteenth and thirty-second notes. The score concludes with a final cadence in the bass clef.

²⁸ Yo Tomita, "Analysing Bach's Ink. Through a Glass Darkly," *The Musical Times* 139, no. 1865, 1998, 40.

Fugetta J. S. Bach (revised c. 1738)

Figure 2: *Fugetta* in C major, BWV 872b/2, 1738.²⁹

The Fugue in C# major found in *WTC II*, is a direct result of the transposition of the second *Fugetta* revision to fit the volume's key scheme, with the exemption of the added five measures between mm. 25-29: an augmentation of the subject.³⁰

Purpose of Composition

The purpose of his compositions can perhaps be more understood as we look more closely to his manuscripts. Tomita, identified two types of patterns observable in Bach's manuscripts. He describes the early and later stages of composition:³¹

“...in an early stage of composing Bach focused his mind on developing the piece using a restricted number of ideas, such as the genre, style, and principal motives, and

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid., 37.

basically adhered to this set of rules. Many revisions that Bach worked out later were specifically targeted to invigorate the inherent characters of these original ideas, which were perceived in a much broader and deeper structural sense in order to strengthen the gist of their functional meaning.”³²

As discussed earlier, Bach transposed earlier compositions to fit the *Das Wohltemperierte Klavier's* key scheme, and as mentioned above, such revisions are motivated for pedagogical and performance purposes. Another motivation is mentioned by John Barnes, who suggested *Bach* was stimulated by the challenge:³³

“the writing of a cycle of pieces in all major and minor keys would have carried a challenge to exploit the variety of available intervals in an expressive manner. It is therefore understandable that several such cycles were written at the beginning of the 18th century and that Bach was sufficiently stimulated by the inherent problems to compose the two greatest examples.”³⁴

³² Ibid.

³³ John Barnes, "Bach's Keyboard Temperament: Internal Evidence from the Well-Tempered Clavier," *Early Music* 7, no. 2, 1979, 249, accessed October 26, 2023, <http://www.jstor.org/stable/3126342>.

³⁴ Ibid.

Chapter 4: SYNTHESIS OF RHETORIC

21st Century

In his articles, Daniel Harrison (2008) points out a split found in Bach's fugal subjects or themes: "a highly energetic and exciting first part is followed by an alarmingly boring second," or simply put "strong beginning and weak ending." However, he explains further that it is not always the case and, in some cases, could be the opposite.³⁵

As he suggests, the analysis of the heads and tails relationship in Bach's fugues can enable extensive hermeneutics of fugal rhetoric.³⁶ However, this paper can only provide an expansion of fugal rhetoric through a synthesis of existing rhetoric and analysis of the motives for the purpose of a reference and possible theoretical arguments and will not provide substantive hermeneutics.

The idea of having a head and a tail or comparable to the idea of antecedent and consequent which in turn justifies the theme of the fugue as a complete idea. This identification will prove useful in analyzing the thematic material in congruence to the Greek ideals of rhythm to be discussed shortly.

³⁵ Daniel Harrison, "Heads and Tails: Subject Play in Bach's Fugues," *Music Theory Spectrum* 30, no. 1, 2008, 152.

³⁶ Ibid.

17th and 18th Century

Printz (1673) described three figures that musicians should be aware of in constituting a passage namely the *corta*, *messanza*, and *suspirans*, which, Marpurg (1763), writing after Bach's death suggests that such figures are part of the rhetoric of the music.³⁷

Some of the fugal rhetoric that Bach used were well-known groupings of notes known as *figurae*. These were easily recognized by musicians during his time as improvisational and compositional devices or tools. Schmitz suggested that singers (musicians) should be aware of them when constituted in a passage.³⁸

The *corta* implies a rhythmic figure consisting of two short notes followed by a long one, or vice versa. As seen below on *figure 3*.³⁹

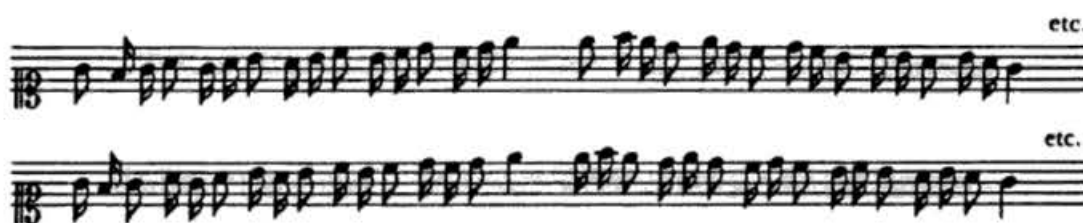


Figure 3: *corta* example in soprano clef.⁴⁰

³⁷ John Butt, *Bach interpretation: articulation marks in primary sources of J.S. Bach* (Cambridge, England: Cambridge University Press, 1990), 19.

³⁸ *Ibid.*, 19.

³⁹ *Ibid.*, 20.

⁴⁰ *Ibid.*

The *messanza*, is a four-note figure constituting both conjunct and disjunct notes (steps and skips). In Bach’s music, it is common to see three conjunct notes followed by a disjunct or vice versa. As seen on *figure 4*.⁴¹



Figure 4: *messanza* example in soprano clef.⁴²

The third figure mentioned by Printz is the *suspirans*, consisting of a rest on the first of four quarters of the beat giving it an upbeat quality. As seen on *figure 5*.⁴³



Figure 5: *suspirans* example in soprano clef.⁴⁴

Another figure was identified by Praetorius (1619), the *accentus*, implying a legato style describing it as “gezogen,” or “*following type*.” Beyer (1703) likewise used the same

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid., 21.

⁴⁴ Ibid.

term in his realization of the *accentus*, describing it as notes moving from one line to a space, or vice versa.⁴⁵ Walther (1708), who calls it *Superjectio*, describes it as a sliding up or down from a consonance to a dissonance, or from a dissonance to a consonance, in seconds (note that we will be using the term *accentus* in this paper). As seen below in *figure 6*.⁴⁶



*Figure 6: accentus example according to Walther.*⁴⁷

Later writers like Kürzinger (1763) included other simple four-note patterns to be slurred, such as the *gropo*, a group of conjunct notes with the first and the third being usually the same pitch, and the *tirata*, a shooting run of conjunct notes.⁴⁸

The *circolo*, is essentially an embellishment of a single note,⁴⁹ and according to Ernest Fowles (1907), analogous to the turn.⁵⁰ As seen on figure 6a.

*Figure 6a: Circolo, from Vivaldi's Op. 111.*⁵¹



⁴⁵ Ibid.

⁴⁶ Ibid., 22.

⁴⁷ Ibid.

⁴⁸ Ibid., 23.

⁴⁹ Ibid., 44.


⁵⁰ Ernest Fowles, *Studies in Musical Graces* (Boston: USA, Stanhope press, F. H. Gilson company, 1907), 143.


⁵¹ Ibid.

19th Century

According to Charles Francis Abdy Williams (1892), rhythm is a principle of unity and symmetry—similar to the flow of sound and speech—that is applied to the arts of movement, such as music, poetry, and dance. He mentions that it was classical Greece, “rhythm of poetry and music was one and the same thing.”⁵²

He stated that Bach, unconsciously (as there is no evidence supporting the idea that Bach actually had studied this, or even knew of it), due to his instincts produced nearly all forms of rhythm used by the Greek poets and musicians, exemplifying the Greek rhythmic ideals. Aristoxenus and a later anonymous writer reduced these forms into four species (*feet*), namely: The *Trochee*, the *Dactyl*, the *Pæonic* and the *Ionicus*.⁵³

The *Trochee*,  consists of a long and a short, a ratio of 2:1 feet.⁵⁴

The *Dactyl*,  consists of a long and two shorts, a ratio of 1:1 feet.⁵⁵

The *Pæonic*,  consists of a long and three shorts, a ratio of

3:2 feet.⁵⁶


⁵² Charles Francis Abdy Williams, "The Rhythmical Construction of Bach's "Forty-Eight" Fugues," *Proceedings of the Musical Association* 19, 1892, 74, accessed October 10, 2023, <http://www.jstor.org/stable/765444>.

⁵³ *Ibid.*, 76.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*, 77.

⁵⁶ *Ibid.*

The Ionicus,  consists of six shorts, and or two longs and two shorts, a ratio of 2:1 feet.⁵⁷

Williams' methodology uses Aristoxenus' ancient theory of counting of the foot equivalent to a beat or a unit in modern notation within the subjects. Starting the count on the first whole beat, neglecting the *Anacrusis*, which according to him is, "unaccented note or notes preceding the first accent of any rhythmical division, carefully distinguished by or as only a portion of a foot".⁵⁸ The feet is then divided by the *antecedent* and the *consequent*, forming a feet ratio and identification of the species.⁵⁹ (It is important to note that Williams' term of antecedent and consequent is similar to Harrison's concept of head and tail; head = antecedent; tail = consequent; we will be using Harrison's terminology in this paper to better emphasize the polar opposites he proposed).

The presence of the anacrusis is important, as Aristoxenus tells us that phrases that begin in an anacrusis are more masculine and vigorous than those that simply start on a strong beat.⁶⁰ It should be mentioned that the implication of masculine simply implies a strong entrance. I acknowledge that these words may imply stereotypes that do not adhere to 21st century ethics, and for this reason, the "masculine" quality cited by Aristoxenus will simply be described as a strong quality henceforth.

⁵⁷ Ibid.

⁵⁸ Ibid., 79.

⁵⁹ Ibid., 81.

⁶⁰ Ibid., 80.

20th Century

Perhaps another point of consideration is the syntax by which Bach wrote his music. According to Kilgore (1973), "modern notation" only reached its maturity in the late eighteenth century, mensural notation lacked a rhythmic norm and relied on musical styles.⁶¹ *Well-tempered Clavier*, having compositions some in *stile antico* and some in *style galant*, verge closely to the late eighteenth-century styles, which share the same styles of notation, including metric symbols. Both pre-baroque and post baroque notations are present in Bach's composition, therefore: we cannot expect the same treatment to his meters the same we would Mozart's.⁶²

Kilgore's hypothesis gave us points when faced with mensural notations of Bach, and these are some of the most important:⁶³

1. The metric basis for all his music was duple and triple.
2. All simple duple meters were assigned **C** or **♢**, the choice of one over the other being influenced by extra-metrical factors.
3. Measures containing four metric units were duple, not quadruple, in treatment and concept.
4. By 1742, the symbol **♢** acquired a new, but unexplained meaning for Bach.
5. General trend to indicate duple meters by numeric time signatures is reflected in Bach's use of 2/4 in the second volume of the *Well-Tempered Clavier*.

⁶¹ Edna Kilgore, "Time Signatures of the "Well-Tempered Clavier": Their Place in Notational History," *Bach* 4, no. 2, 1973, 3, Accessed October 15, <http://www.jstor.org/stable/41639890>.

⁶² *Ibid.*, 4.

⁶³ *Ibid.*, 13.

6. Manuscript copies of the *Well-Tempered Clavier* show that after mid-century, the C of Bach meant C , and that C and 4/4 were considered to be interchangeable.

Tomita mentioned that the first volume was perhaps more interesting than the second one. Some scholars obsessing on numerology found on his first book that with every “14” number of notes in the subjects of the fugues in C major and B major signifying a personal or theological nature.⁶⁴ It is true that Bach was more knowledgeable as he got older, but the essence of his youth was perhaps captured more readily on his earlier works. He also mentions the apparent lack of enthusiasm in his second volume and is attributed to Bach’s attitude towards it. For instance, Bach did not publish the second volume and its ideas were no longer innovative at the time.⁶⁵ In the 1920s and 1930s, John A Fuller-Maitland and Alan E.F. Dickinson concluded that the second volume had no other strong desire besides to provide some teaching material. In his doctoral thesis, Uriel M. Ittenberg goes as far as to say, WTC II, “major creative impulse is not found in the second book.”⁶⁶ But perhaps these comments should not be taken as a real judgement of value to the second volume but more of a reflection of the commentators and their time. I could imagine in the 1930’s that not many recordings of the Well-tempered Clavier existed, let alone were they exposed to the scholarship and myriad of performances that a 21st century listener has access to, and that alone may lead to poor dismissal of such works.

⁶⁴ Yo Tomita, "Psalm and the "Well-Tempered Clavier" II: Revisiting the Old Question of Bach's Source of Inspiration," *Bach* 32, no. 1 2001, 18, accessed October 22, <http://www.jstor.org/stable/41640485>.

⁶⁵ *Ibid.*, 19.

⁶⁶ *Ibid.*

The rhetoric mentioned above are a synthesis of rhetoric that scholars believe exists in the music of Bach. Some of these rhetoric dates to the Ancient Greek ideals of rhythm and masculism stretching to those that existed during Bach's time.

Chapter 5: RESEARCH RATIONALE

The main purpose of this dissertation is to shed light to a synthesis of rhetoric surrounding the music of Bach all pointing to rhetoric of his time captured in the figurae, Greek rhythm, the placements of the anacrusis, and the binary nature of his themes consisting of a head and a tail. The analyses provided in this paper are one of many other possible analyses of the fugal themes and should not be treated as the only approach of understanding. This is in practice that music theory is not absolute as an interpretative art. A lot of my peers compare music theory to math, and yes, it is mathematical in concept, but it is not bound and confined to its laws. I like to think of theory in music as if math is *arting*. Similarly, my analyses have also been malleable, which I will further discuss in my methodology chapter.

I wish that this paper may serve as a reference to any performer and theorist, or anyone who would like to see the fugal themes of Bach's fugue masterpieces in a different light. May it offer a fresh perspective closer to its time with possible newfound interpretations at your own perusal.

ANALYSES METHODOLOGY

The thematic analysis of Bach's fugues are done through the analysis and identification of the heads and tails, as mentioned by Daniel Harrison⁶⁷; the identification of the *figurae* as mentioned by authors: Printz (1673), Praetorius (1619), Beyer (1703), Walther (1703), and Kürzinger (1763)⁶⁸; the analysis and identification of rhythmic feet as explained by Williams (1892) implying ancient theory, and while paying careful attention to Bach's mensural notation according to Kilgore (1973), as evidence of Bach's congruence to the Greek ideals of rhythm.⁶⁹

The subjects are the only remnants of the fugue in this paper. I recommend that one should see the whole fugue to be able to examine how I identified the themes. A guiding indication is how Bach used the theme which appears multiple times in the different voice entrances, and usually in a cadential pattern that often leads to a restatement of the whole theme.

The *figurae* will be identified for functioning almost similarly to an ornamentation that happens in a quick fashion, in this case, it occurs in rhythm that is tantamount to sixteenth notes or quicker. The *figurae* identified in this paper are limited to the discussions prior to this chapter, namely, the *corta*, *messanza*, *suspirans*, *accentus*, *gropo*, and *tirata*. Note that the *accentus* and *gropo* may have similar definitions but there is a difference. The *accentus* appear sparsely, while the *gropo* tend to have more notes that congregate closely.

⁶⁷ Harrison, "Heads and Tails."

⁶⁸ John Butt, "*Bach interpretation*"

⁶⁹ C. F. Abdy Williams, "The Rhythmical Construction."

The anacrusis is identified as the beginning of a colon that does not begin on the beat, there is usually a presence of a rest on the beat before the note. This identification is necessary in counting the rhythmic feet, and in distinguishing a strong theme.

The rhythmic feet will be identified by counting the rhythmic foot, which is equivalent to a whole beat. The counting begins on the first note that begins on the beat, meaning that the anacrusis at the head is not accounted for. The rhythmic feet are identified as trochaic, dactylic, paeonic, or ionic based on the ratio of each colon. Each theme will be divided into two colons, the head and the tail, thus creating its ratio.

The tails and the heads are identified hugely through an interpretative approach based on musical queues. This concept is similar to an answer and response, eliciting the division between opposites, repetition, direction, sequence, break by a rest and so on.

Note that the meter is analyzed as either common time, triple, or duple. As discussed earlier, Bach's use of meter changed overtime depending on which time period. However, the analyses in this paper does not take that into consideration, and the decision to analyze it either way is a result in consideration of today's performance practices, or what is deemed sensible in the account of its performance.

CONSIDERATIONS IN ANALYSIS

The analysis contained in this research is one of many possible interpretations of analyses of Bach's 48 fugal themes. The art of identifying the subject on each fugue is an interpretative art on its own. I should mention that some of the factors involved in identifying the subjects involve comparison to the other voice entrances, the reappearance of the theme after a cadential passage, and the key signature of the fugue. What makes it difficult is when encountered inconsistencies in any of these aspects. Another factor to consider is that some music theorists believe that the main entrances should not contain a stretto, at least not on the first entrances of the voices. Some of my analysis had to go against this in favor of other factors I mentioned.

As you will see in the later chapters, three of the fugues (WTC I, E major; WTC II, E-flat major and G major) does not have the ideal rhythmic feet, those in WTC II displaying 13 feet each in total are irredeemable, however the E major fugue in WTC I is analyzed with a ratio of 1:2, it may fit the trochee or paeonic schemes if the ratios are interchangeable. The ratio represents relative sizes, and interchanging sides changes the meaning of the value being compared to the other. Perhaps this may be a matter of preference of how much malleability there may be in the analysis. But to maintain the integrity and meaning of the ratios, my interpretation dictates that positioning of the ratios are not interchangeable, therefore maintaining its mathematical value.

In clarification of the ratios, I took the liberty to deduce the numbers of each colon by determining the common denominator on each side, for example, 12:8 with a common

denominator of 4 on each side is deduced to 3:2; a 4:2 with a common denominator of 2 is deduced to 2:1.

It was mentioned in earlier chapters that determining the head and the tail made it possible to analyze the rhythmic foot, giving us each side of the ratio. In instances where the head and the tail are ambiguous, determining how the rhythmic foot fit the scheme helped in determining some of the divisions. For example, figure 53, the B minor fugue in WTC II, it was challenging to determine where the head ends and where the tails begin, but after determining a scheme that fits its math, it does make sense to start the tail at the anacrusis on the F#, it's dominant, similarly how the head begins with an upbeat. Perhaps the phrase "a means to an end", and vice-versa, do apply.

As a musician in the 21st century in practice we tend to deduce and interpret meters according to their pulse or the feel of the music. We are aware of the duple, triple and quadruple meters, and sometimes when calling for a slow tempo, we simply use the numerator in the time signature to determine that pulse. Perhaps one that I have not read in the books is the feel of one, it was never mentioned by Tomita that Bach used one as a pulse. In practice, the feel of one as a pulse usually occurs as a further reduction of the duple or the triple meters. I was tempted on several occasions to analyze the meter of the fugues in such fashion, I even tried using this idea to the three infamous fugues that do not fit the rhythmic schemes, but to no avail.

Another factor that I would encourage for my readers to consider is how I determined the figurae. As mentioned before, the figurae have similar qualities to the ornamentations in the Baroque, but their importance are of completely different matter. Some of the figurae that

may be observed at first glance were not considered in consideration of the meter, being that my interpretations for the figurae should happen in a quick fashion.

Chapter 5: ANALYSES OF 24 FUGUES FROM WELL-TEMPERED CLAVIER I

FUGUE IN C MAJOR, BWV 846

Figure 7: Fugue in C major, Das Wohltemperierte Klavier I. ⁷⁰

The subject of the fugue in C major, BWV 846, on *figure 7*, is analyzed in common time, contrary to the belief that Bach used only duple or triple meters. It is divided by the head and the tail both beginning with an *anacrusis* (↑), located at the first quarter of the measures. The subject is made up of six trochaic feet, a long within the head, and a short within the tail giving a ratio of 2:1. The *accentus* starts on the dotted eighth note as it slides down to E. The *tirata* is featured at the offbeat sliding down within the tail.

⁷⁰ Johann Sebastian Bach. *Das Wohltemperierte Klavier I*. Edited by Alfred Kreutz. Leipzig: Edition Peters, 1963, 6.

FUGUE IN C MINOR, BWV 847

Figure 8: Fugue in C minor, Das Wohltemperierte Klavier I.⁷¹

The subject of the fugue in C minor, BWV 847, on *Figure 8* is analyzed in common time, and equally divided of its head and tail. The head begins with an *anacrusis* (↑) on the first quarter of its bar, while the anacrusis for the tail is overlapped at the last dactylic foot of the head. It is made up of eight dactylic feet, with a ratio of 1:1. The *corta* is distributed with the short-short-long pattern or vice versa. Observe William's hypothesis that that the tail can never have a caesura, musically one could argue that a caesura can exist on each colon, which can easily be imagined given they have equal measurement, but it can also be argued that the placement of the *corta* extinguishes the *caesura* on the tail.

⁷¹ Ibid., 10.

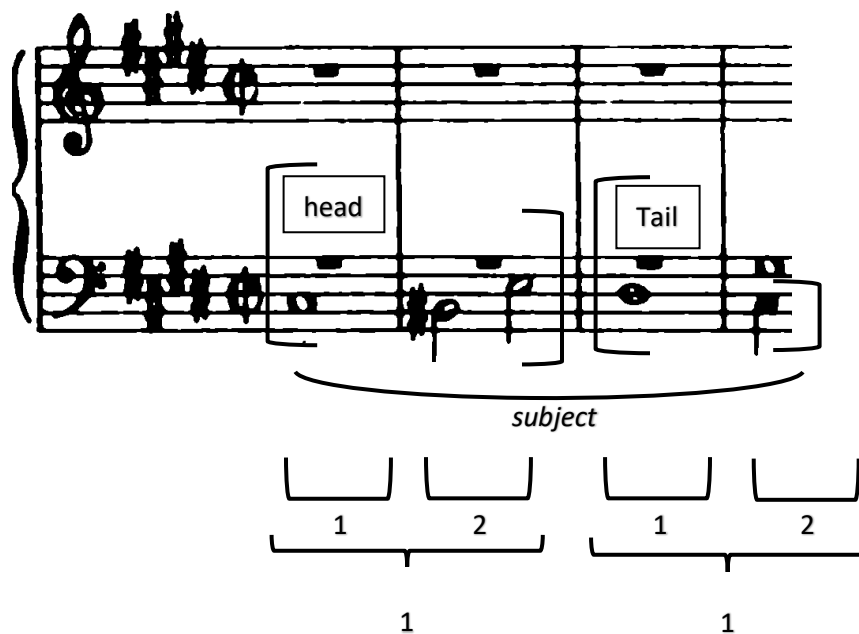
FUGUE IN C# MAJOR, BWV 848

Figure 9: Fugue in C-sharp major, Das Wohltemperierte Klavier I.⁷²

The subject of the fugue in C# major, BWV 848, on *figure 9* is analyzed in duple meter, and equally divided of its head and tail right at the *anacrusis* (↑) on the first beat of the second bar. It is made up of four dactylic feet, with a ratio of 1:1. The *circolo* is recognized with its turn figure, and the *corta* with the long-short-short rhythm. If it is to be analyzed in common time, it will not fit the ideas of Greek proportion. Note that in the 21st century this piece is performed in cut time making a stronger case for this analysis.

⁷² Ibid., 14.

FUGUE IN C# MINOR, BWV 849

Figure 10: Fugue in C-sharp minor, *Das Wohltemperierte Klavier I.*⁷³

The subject of the fugue in C# minor, BWV 849, on *figure 10* is analyzed in cut time, and equally divided of its head and tail covering four bars. This is the first piece of the set that starts on the downbeat with the absence of the anacrusis. It is made up of four dactylic feet, with a ratio of 1:1. There are no *figurae* present.

⁷³ Ibid., 20.

FUGUE IN D MAJOR, BWV 850

Figure 11: Fugue in D major, Das Wohltemperierte Klavier I. ⁷⁴

The image shows a musical staff with a treble clef and a key signature of one sharp (F#). The subject is written in the bass clef. The notation is annotated with several terms: 'head' is a box around the first two notes; 'tirata' is an arch over the first three notes; 'groppo' is an arch over the first and third notes; 'accentus' is a dotted rhythm over the fourth note; and 'Tail' is a box around the last two notes. Below the staff, a rhythmic diagram shows four dactylic feet (1 2 1) with an anacrusis (↑) before the first foot. The first foot is marked with '1' and the second with '2'. The third foot is marked with '1' and the fourth with '2'. Below the diagram, there are two '1' marks.

The subject of the fugue in D major, BWV 850, on *figure 11* is analyzed in common time, equally divided of the head and the tail on the third beat of the first bar. It is made up of four dactylic feet of a ratio of 1:1. An anacrusis (↑) is formed leading to the beginning of the tail of the motif. The subject is started of a *tirata* figure shooting up and combined with a *groppo*, being the first and the third note the same, and followed with an *accentus*, marked by the dotted rhythm, as it descends to F.

⁷⁴ Ibid., 26.

FUGUE IN D MINOR, BWV 851

Figure 12: Fugue in D minor, Das Wohltemperierte Klavier I.⁷⁵

The subject of the fugue in D minor, BWV 851, on figure 12, is analyzed in triple meter, and is divided equally at the head the and tail both beginning with an *anacrusis* (↑). It is made up of six dactylic feet of a ratio of 1:1. The *messanza* figure is observed on the down beat of the second bar, consisting of conjunct and disjunct notes.

FUGUE IN E-Flat MAJOR, BWV 852

Figure 13: Fugue in E-flat major, Das Wohltemperierte Klavier I.⁷⁶
⁷⁵ Ibid., 30.⁷⁶ Ibid., 36.

The subject of the Fugue in E flat major, BWV 852, is analyzed in common time. The head and the tail are divided between the second and third beats of the second bar, and each colon starts on the beat. It is made up of eight dactylic feet, with the head as the long, and the tail being the short, giving us a ratio of 2:1. The subject starts with the *messanza* figure composed of conjunct and disjunct notes, while the tail exhibits the hidden *accentus*, as it reiterates the same note on a descending or sliding down figure.

FUGUE IN D-SHARP MINOR, BWV 853

Figure 14: Fugue in D-sharp minor, *Das Wohltemperierte Klavier I.*⁷⁷

The subject of fugue in D-sharp minor, BWV 853, is analyzed in duple meter. Both the head and the tail start on the beat, with the tail beginning on the 3rd beat of the second bar. It is made up of six dactylic feet, a ratio of 1:1. The *tirata* figure is observed on the second beat; these notes can be imagined in sixteenth notes considering the duple meter as a *corta* figure ending the head. The *accentus* in the tail is considered due to the tying of the note, creating a dotted rhythm.

⁷⁷ Ibid., 40.

FUGUE IN E MAJOR, BWV 854

Figure 15: Fugue in E major, Das Wohltemperierte Klavier I.⁷⁸

The image shows a musical score for the Fugue in E Major, BWV 854, from the Notebook for Anna Bach. The score is in E major and common time. The subject is divided into a 'head' and a 'tail' at the anacrusis on the fourth beat of the first bar. The 'head' consists of the first four notes, and the 'tail' consists of the last four notes. The score includes annotations for 'suspiciens', 'gropo', and 'messanza'. Below the score are two diagrams illustrating the subject's structure with numerical labels 1, 2, 3, 4 and 'or'.

The subject of Fugue in E Major, BWV 854, is divided by the head and the tail at the *anacrusis* (↑) on the fourth beat of the first bar. This is perhaps the first time we encounter some analytical issues in William's theory. It is imperative to take into consideration the performance practice of this piece, being that it is mostly played in 4, and though one can argue that a performance of this piece in duple meter is possible, it is not ideal. In congruence with the possibility of Bach's treatment of the common time alternately as a cut time, it should be analyzed as being made up of a ratio of 1:2, an invalid ratio. Another possible analysis is a feet ratio of 2:3, if counted in common time, but both outcomes invalidate the application of Greek rhythmic ideals. The tail exhibits the *suspiciens* as it starts with the *anacrusis*; the *gropo* with the first and third note sharing the same pitch; the *messanza* with the disjunct and conjunct notes.

⁷⁸ Ibid., 46.

FUGUE IN E MINOR, BWV 855

Figure 16: Fugue in E minor, Das Wohltemperierte Klavier I.⁷⁹

The image shows a musical score for the subject of Fugue in E minor, BWV 855. The score is in 2/4 time and consists of three bars. The first two bars are labeled 'head' and the third bar is labeled 'tail'. The subject is annotated with 'accentus' and 'messanza'. The 'accentus' is a hidden accent on the repeating notes in the first two bars. The 'messanza' is a phrase of conjunct and disjunct notes in the second bar. The score is annotated with numbers 1 through 6 and 1, 2, 3, 1, 2, 1, indicating the structure of the subject.

The subject of Fugue in E Minor, BWV 855, is divided by the head on the first two bars and the tail on the third bar. (An alternative analysis is starting the tail on beat 1 or 2 of the 2nd bar, giving ratios of 3:4 or 4:3; both invalidating Greek rhetoric) It is made up of seven trochaic feet, a ratio of 2:1. The hidden *accentus* is exhibited on the repeating notes that slides down until it reaches the *messanza*, composed of conjunct and disjunct notes.

⁷⁹ Ibid., 50.

FUGUE IN F MINOR, BWV 857

Figure 18: Fugue in F minor, *Das Wohltemperierte Klavier I*.⁸¹

The subject of Fugue in F Minor, BWV 857, ends on the downbeat of the 4th measure.

The head is speared upwards ending on the 3rd beat of bar 2, the tail begins at beat 4. This theme is analyzed in a duple meter with the anacrusis beginning on each colon (↑). It is made up of 6 dactylic feet, a ratio of 1:1.

FUGUE IN F-SHARP MAJOR, BWV 858

Figure 19: Fugue in F-sharp major, *Das Wohltemperierte Klavier I*.⁸²

⁸¹ Ibid., 58.

⁸² Ibid., 64.

The subject of Fugue in F-sharp major, BWV 858, ends on the downbeat of the 3rd bar. The head and the tail is divided between rests setting up the anacrusis (↑). It is analyzed in common time, and is made up of eight dactylic feet, a ratio of 1:1. The *corta* figure is displayed on the second half of the first bar in a long-short-short snipet; the *groppo* figure is seen on repeating the first and the 3rd notes, regardless of the upper mordent.

FUGUE IN F-SHARP MINOR, BWV 859

Figure 20: Fugue in F-sharp minor, Das Wohltemperierte Klavier I.⁸³

The subject of Fugue in F-sharp minor, BWV 859 is analyzed in triple meter. Beginning the head with an anacrusis and ending on the fourth beat of the second bar, leading to an anacrusis (↑) at the beginning of the tail. It is made up of ten paeonic feet, with a ratio of 3:2. The *gropo* is seen at the entrance of the tail with the first and third notes sharing the same pitch, and the *messanza* figure on the third bar, consisting of conjunct and disjunct notes.

⁸³ Ibid., 68.

FUGUE IN G MAJOR, BWV 860

Figure 21: Fugue in G major, Das Wohltemperierte Klavier I. ⁸⁴

The image shows the musical score for the subject of Fugue in G major, BWV 860. The score is written in G major (one sharp) and 4/4 time. The subject is divided into three parts: a 'head' (measures 1-4), a 'tail' (measures 5-6), and a 'tail' (measures 7-8). The first part is labeled 'circolo' and the second part is labeled 'tirata'. The score is annotated with various brackets and numbers indicating rhythmic groupings and phrasing. The first part is divided into six measures, with the first measure being a 'circolo' and the following five measures being a 'tirata'. The second part is divided into two measures, with the first measure being a 'tirata' and the second measure being a 'tirata'. The third part is divided into three measures, with the first measure being a 'tirata' and the following two measures being a 'tirata'. The score is annotated with various brackets and numbers indicating rhythmic groupings and phrasing. The first part is divided into six measures, with the first measure being a 'circolo' and the following five measures being a 'tirata'. The second part is divided into two measures, with the first measure being a 'tirata' and the second measure being a 'tirata'. The third part is divided into three measures, with the first measure being a 'tirata' and the following two measures being a 'tirata'. The score is annotated with various brackets and numbers indicating rhythmic groupings and phrasing.

The subject of Fugue in G major, BWV 860, ends on the first beat of the fifth measure, and is divided by the head and the tail between bars three and four. It is analyzed in duple meter, making up of nine trochaic feet, consisting of a long and a short, with a ratio of 2:1. The *circolo* is observed at the first bar with its turn-like figure. The descending *tiratas* are observed on the tail at bar four.

⁸⁴ Ibid., 72.

FUGUE IN G MINOR, BWV 861

Figure 22: Fugue in G minor, Das Wohltemperierte Klavier I.⁸⁵

The subject of Fugue in G minor, BWV 861, is analyzed in common time. The head and the tail both start with an anacrusis (↑). It is made up of five paeonic feet, with a ratio of 3:2. The *corta* is observed at the tail, exhibiting consecutive short-short-long patterns. No *figurae* is observed.

FUGUE IN A-FLAT MAJOR, BWV 862

Figure 23: Fugue in A-flat major, Das Wohltemperierte Klavier I.⁸⁶
⁸⁵ Ibid., 78.⁸⁶ Ibid., 82.

The subject of Fugue in A-flat major, BWV 862, is analyzed in common time. The head and tail are divided between the third and fourth beat of the first bar. It is made up of four dactylic feet, a ratio of 1:1. No figura and anacrusis are observed.

FUGUE IN G-SHARP MINOR, BWV 863

Figure 24: Fugue in G-sharp minor, Das Wohltemperierte Klavier I. ⁸⁷

The image shows a musical score for the subject of Fugue in G-sharp minor, BWV 863. The subject is written in the bass clef and is divided into a 'head' and a 'tail'. The head consists of the first four notes, and the tail consists of the remaining six notes. The subject is analyzed in common time, with the head ending on the downbeat of the second bar and the tail beginning on the anacrusis of the second bar. The subject is made up of eight dactylic feet, with a ratio of 1:1. The *corta* is observed at the head, third beat of the first bar. The diagram below the score shows the dactylic feet analysis, with the first four feet grouped under a bracket labeled '1' and the next four feet grouped under a bracket labeled '1'. The first four feet are labeled 1, 2, 3, 4 and the next four feet are labeled 1, 2, 3, 4. The *corta* is marked with an 'x' over the third note of the head.

The subject of Fugue in G-sharp minor, BWV 863, is analyzed in common time, with the head ending on the downbeat of the second bar, and the tail beginning on the *anacrusis* (↑) as seen on the second bar. It is made up of eight dactylic feet, with a ratio of 1:1. The *corta* is observed at the head, third beat of the first bar.

⁸⁷ Ibid., 86.

FUGUE IN A MAJOR, BWV 864

Figure 25: Fugue in A major, Das Wohltemperierte Klavier I.⁸⁸

The subject of Fugue in A major, BWV 864, is analyzed in triple meter, divided by the head and the tail at the *anacrusis* (↑) on the first third of the second bar. The identification of the head can be tricky with the first note being separated by rests and is followed by a series of triplets. But if we look closely, a break exists at the interruption of the outlined ascending diatonic scale. It is made up of six trochaic feet, consisting of a long and a short, with a ratio of 2:1. The triplet figures could be analyzed as accentus.

⁸⁸ Ibid., 89.

FUGUE IN A MINOR, BWV 865

Figure 26: Fugue in A minor, Das Wohltemperierte Klavier I. ⁸⁹

The subject of Fugue in A minor, BWV 865, analyzed in common time is divided by the head and the tail at the fourth quarter of the second bar, both beginning with an anacrusis (↑). It is made up of twelve dactylic feet, with a ratio of 1:1. The *corta* is observed at the first bar, both with a short-short-long and a long-short-short. The *circolo* with its turn figure is observed

⁸⁹ Ibid., 94.

at the first beat of the second bar. The *messanza* is exemplified with the presence of conjunct and disjunct notes at bar three, the start of the tail.

FUGUE IN B-FLAT MAJOR, BWV 866

Figure 27: Fugue in B-flat major, *Das Wohltemperierte Klavier I.*⁹⁰

The subject of Fugue in B-flat major, BWV 866, analyzed in triple meter is divided by the head and the tail at the anacrusis (↑) located at the first third of bar three. It is made up of twelve dactylic feet, a ratio of 1:1. The *corta* is present in the second bar with a long-short-short figure followed by the *tirata* as it shoots down. The ascending *tirata* is also observed at bar

⁹⁰ Ibid., 102.

three and four within the tail. The *circolo* with its turn figure at bar four, and the *messanza* with the presence of conjunct and disjunct notes.

FUGUE IN B-FLAT MINOR, BWV 867

Figure 28: Fugue in B-flat minor, Das Wohltemperierte Klavier I.⁹¹

The subject of Fugue in B-flat minor, BWV 867, analyzed in duple meter is divided by the head and the tail at the anacrusis (↑) of the first half of the second bar. It is made up of 4 dactylic feet, and a ratio of 1:1. No figuræ is observed.

FUGUE IN B MAJOR, BWV 868

Figure 29: Fugue in B major, Das Wohltemperierte Klavier I.⁹²

⁹¹ Ibid., 106.

⁹² Ibid., 110.

The subject of Fugue in B major, BWV 868, analyzed in common time is divided by the head and the tail at the *anacrusis* (↑) located at the first quarter of the second bar. It is made up of eight dactylic feet, and a ratio of 1:1. The figure *Corta* is observed with its long-short-short rhythm.

FUGUE IN B MINOR, BWV 869

Figure 30: Fugue in B minor, *Das Wohltemperierte Klavier I*.⁹³

The subject of Fugue in B minor, BWV 869, analyzed in duple meter is divided between the head and the tail between the last two eighth notes of the second bar, both beginning with an anacrusis (↑). The break between the tail and the head is justified by the ascending sequence of slurred notes until it breaks the pattern on a tonic note, d. It is made up of six dactylic feet, and a ratio of 1:1. In consideration of the duple feel, *suspiciens* can be observed right at the beginning, with a rest following three notes; *accentus* figures are seen on the sequence of ascending slurs moving in adjunct and disjunct notes; *messanza* figures consisting of a step and a skip.

⁹³ Ibid., 114.

Chapter 6: ANALYSES OF 24 FUGUES FROM WELL-TEMPERED KLAVIER II

FUGUE IN C MAJOR, BWV 870

Figure 31: Fugue in C major, *Das Wohltemperierte Klavier II*⁹⁴

The subject of Fugue in C major, BWV 870, is analyzed in duple meter, with its head and tail divided on the downbeat of the third bar, both beginning with an anacrusis (↑). It is made up of 8 dactylic feet, with a ratio of 1:1. The *corta* can be observed on both upbeats; the *messanza* can be seen on the tail, displaying steps and leaps.

⁹⁴ Bach, Johann Sebastian. *Das Wohltemperierte Klavier II*. Edited by Carl Czerny, Franz Kroll, and Adolf Ruthardt. Leipzig: Edition Peters, 1937. 8.

FUGUE IN C MINOR, BWV 871

Figure 32: Fugue in C minor, Das Wohltemperierte Klavier II ⁹⁵

The subject of Fugue in C minor, BWV 871, is analyzed in common time and divided by its head and its tail on the third quarter of the first measure as suggested by the leap downward. The head starts with an anacrusis, while the tail begins as a continuation of the beat from the head. It is made up of 4 dactylic feet, with a ratio of 1:1. The corta can be observed with the short-short-long rhythm within the tail.

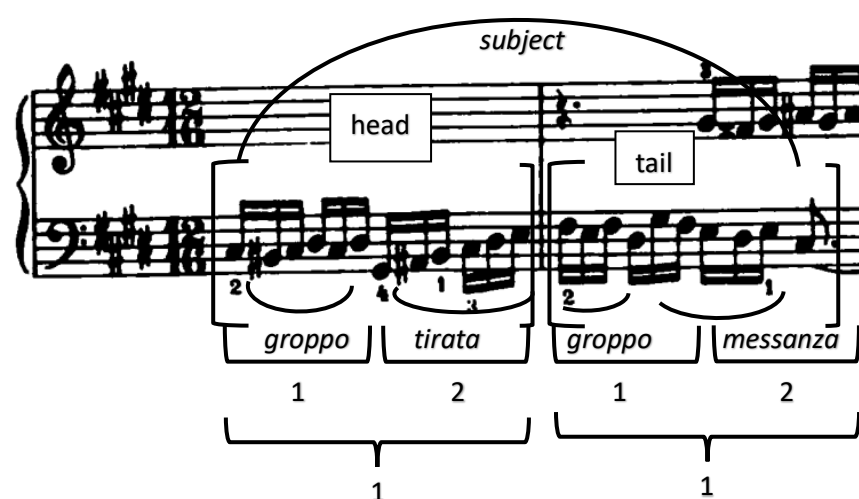
FUGUE IN C-SHARP MAJOR, BWV 872

Figure 33: Fugue in C# major, Das Wohltemperierte Klavier II ⁹⁶
⁹⁵ Ibid., 12.⁹⁶ Ibid., 16.

The subject of Fugue in C-sharp major, BWV 872, is analyzed in common time, with its head contained in the first three beats, the tail begins at beat four of bar one. An anacrusis can be seen at the beginning of the head, while the tail begins on the beat. It is made up of four dactylic feet, with a ratio of 1:1. No figurae are observed.

FUGUE IN C-SHARP MINOR, BWV 873

Figure 34: Fugue in C# minor, *Das Wohltemperierte Klavier II* ⁹⁷



The subject of Fugue in C-sharp minor, BWV 873, is analyzed in duple meter, with the head contained on the first bar, and the tail on the second. It is made up of four dactylic feet, with a ration of 1:1. No anacrusis is observed. The grosso figura can be seen on the head with the emphasis of the C#, followed by the stepwise ascent observed as the tirata; the messanza can be seen on the tail, attributed with its steps and leaps.

⁹⁷ Ibid., 21.

FUGUE IN D MAJOR, BWV 874

Figure 35: Fugue in D major, Das Wohltemperierte Klavier II ⁹⁸

The musical score for Figure 35 shows the subject of the Fugue in D major, BWV 874, in cut time. The subject is divided into three parts: 'head', 'messanza', and 'tail'. The 'head' section ends on the downbeat of the second bar, and the 'tail' section continues to the F#. The score includes fingerings (1, 2, 1) and a '5' above the final note. A 'tirata' figure is also indicated.

The subject of Fugue in D major, BWV 874, is analyzed in cut time with the head ending on the downbeat of the second bar, continued by its tail to the F#. Both colons start with an anacrusis, and are made up of three trochaic feet, with a ratio of 2:1. The messanza figure can be observed by the tail identifiable by the leaps and steps in consideration of the cut time.

FUGUE IN D MINOR, BWV 875

Figure 36: Fugue in D minor, Das Wohltemperierte Klavier II ⁹⁹

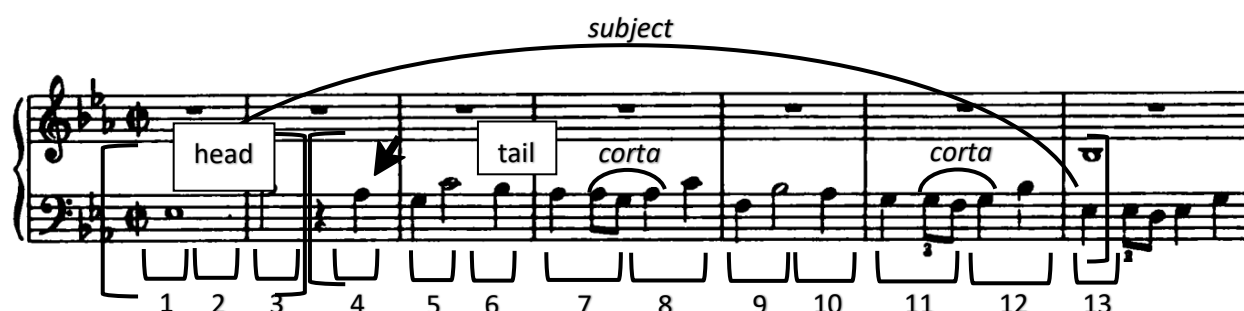
The musical score for Figure 36 shows the subject of the Fugue in D minor, BWV 875, in cut time. The subject is divided into two parts: 'head' and 'tail'. The 'head' section is marked with 'tirata' and '3' above the notes. The 'tail' section is marked with '1' above the notes. The score includes fingerings (1, 2, 3, 1, 2, 3) and a '1' below the final note.

⁹⁸ Ibid., 28.⁹⁹ Ibid., 32.

The subject of Fugue in D minor, BWV 875, is analyzed in common time with the division of the tail and the head on the third beat of the first bar. It is made up of 6 dactylic feet, with a ratio of 1:1. No anacrusis is observed. The tirata figure can be seen at the beginning of the motif, with the consecutive ascending and descending of notes in stepwise motion.

FUGUE IN E-FLAT MAJOR, BWV 876

Figure 37: Fugue in E-flat major, *Das Wohltemperierte Klavier II* ¹⁰⁰



The subject of Fugue in E-flat major, BWV 876, is analyzed in duple meter, with the head ending at the rest of the second bar continued with an anacrusis (↑) by the tail that is on a descending pattern. It is made up of 13 feet, therefore incongruent with the Greek ideals of rhythm. The corta can be observed on its tail, with the short-short-long rhythm. One can make a case that the theme ends right before the downbeat on measure 7, but the E flat being the home key makes it improbable.

¹⁰⁰ Ibid., 36.

FUGUE IN D-SHARP MINOR, BWV 877

Figure 38: Fugue in D-sharp minor, *Das Wohltemperierte Klavier II*¹⁰¹

The subject of Fugue in D-sharp minor, BWV 877, is analyzed in common time with the division of the head and the tail at the downbeat of the second bar. The subject starts with an anacrusis (↑), and is made up of eight dactylic feet, with a ratio of 1:1. The corta can be seen by the tail leading upwards before it descends to the end of the subject.

FUGUE IN E MAJOR, BWV 878

Figure 39: Fugue in E major, *Das Wohltemperierte Klavier II*¹⁰²
¹⁰¹ *Ibid.*, 41.¹⁰² *Ibid.*, 46.

The subject of Fugue in E major, BWV 878, is analyzed in duple meter, with the head and the tail each occupying a bar and both beginning on the beat. It is made up of four dactylic feet, with a ratio of 1:1. No figurae are present.

FUGUE IN E MINOR, BWV 879

Figure 39: Fugue in E minor, *Das Wohltemperierte Klavier II* ¹⁰³

The figure displays two staves of music for the subject of Fugue in E minor, BWV 879. The top staff shows the first four bars, labeled 'subject'. The first bar is marked 'head' and contains a triplet of eighth notes. The second bar is marked 'grosso' and contains a triplet of eighth notes. The third and fourth bars are marked 'accentus' and contain eighth notes. The bottom staff shows the next four bars, labeled 'tail'. The first bar is marked 'tirata' and contains a triplet of eighth notes. The second, third, and fourth bars contain eighth notes. Below the staves, brackets indicate the rhythmic analysis. The first four bars are grouped under a bracket labeled '1', and the next four bars are grouped under a bracket labeled '2'. The first four bars of the tail are grouped under a bracket labeled '1'.

The subject of Fugue in E minor, BWV 879, begins with an anacrusis and is analyzed in duple meter with the start of the tail at the beginning of bar 5. It is made up of twelve trochaic feet, with a ratio of 2:1. The head contains the *grosso*, which can be seen as an embellishment

¹⁰³ Ibid., 52.

of the long notes prior to the sixteenth runs, followed by a descending accentus pattern; The tail is composed of the tirata figures in descending patterns.

FUGUE IN F MAJOR, BWV 880

Figure 40: Fugue in F major, *Das Wohltemperierte Klavier II* ¹⁰⁴

The image shows a musical score for the subject of Fugue in F major, BWV 880. The score is written in treble clef with a key signature of one flat (F major) and a time signature of 16/8. The subject is marked with a large slur. Below the staff, there are labels for different parts of the subject: 'gropo' (under the first two notes), 'head' (under the next two notes), 'gropo' (under the next two notes), 'tirata' (under the next two notes), 'messanza' (under the next two notes), and 'tail' (under the final two notes). The 'tirata' and 'messanza' labels are connected by a bracket. Below the staff, there are fingerings: '2' above the first note, '1' above the second note, '5' above the third note, '2' above the fourth note, '1' above the fifth note, '3' above the sixth note, and '3' below the seventh note. Below the staff, there are also some numbers: '1', '2', '3', '4', '1', '2', '3', '4' under the first eight notes, and '1' under the last two notes. There are also some other markings like '7.' and '3' near the end of the subject.

The subject of Fugue in F major, BWV 880, is analyzed in duple meter with the head and the tail divided equally on the third bar. It is made up of eight dactylic feet, with a ratio of 1:1. There are anacrusis present in the motif. The gropo figure can be seen as an embellishment to the main notes that follow; The tirata can be seen right at the start of the tail, with the consecutive stepwise runs followed by a messanza, characterized by a step followed by a leap.

¹⁰⁴ Ibid., 60.

FUGUE IN F MINOR, BWV 881

Figure 41: Fugue in F minor, Das Wohltemperierte Klavier II ¹⁰⁵

The subject of Fugue in F minor, BWV 881, is analyzed in duple meter, starting with an anacrusis (♩). The head and the tail are divided on the second bar between the sixteenth notes on the second beat. Notice the repetition on the head, resulting in this analysis. It is made up of eight dactylic feet, with a ratio of 1:1. The *corta* can be observed in the head leading to the repetition; the *tirata* figures can be seen on the consecutive stepwise run, in between a *messa* figure characterized by a leap and steps that follow.

¹⁰⁵ Ibid., 65.

FUGUE IN F-SHARP MAJOR, BWV 882

Figure 42: Fugue in F-sharp major, *Das Wohltemperierte Klavier II* ¹⁰⁶

The subject of Fugue in F-sharp major, BWV 882, is analyzed in duple meter with the head and the tail dividing on the downbeat of bar 2, leading to an anacrusis to its tail. It is made up of six dactylic feet, with a ratio of 1:1. The *corta* is seen with its short-short-long pattern; the *messaña* at the heart of the tail is characterized with a step and leap.

FUGUE IN F-SHARP MINOR, BWV 883

Figure 43: Fugue in F-sharp minor, *Das Wohltemperierte Klavier II* ¹⁰⁷

¹⁰⁶ *Ibid.*, 72.

¹⁰⁷ *Ibid.*, 78.

The subject of Fugue in F-sharp minor, BWV 883, is analyzed in duple time, dividing on the second half of bar two between its head and its tail. It is made up of six dactylic feet, with a ratio of 1:1. The anacrusis can be seen on the beginning of each colon. The corta is observed with its short-short-long pattern located on each side.

FUGUE IN G MAJOR, BWV 884

Figure 44: Fugue in G major, *Das Wohltemperierte Klavier II* ¹⁰⁸

The image displays a musical score for the subject of Fugue in G major, BWV 884, in G major (one sharp) and 3/4 time. The subject is marked with a bracket and the word "subject". The first two bars are labeled "head", and the next five bars are labeled "tail". Below the staff, a rhythmic diagram shows 12 pulses, with the first two bars grouped as "1 2" and the next five bars as "1 2 3 4 5". A separate musical fragment below shows a 7-measure phrase with a bracket and the number "13" below it.

The subject of Fugue in G major, BWV 884, is analyzed in triple meter, in this meter the head is identified before the descending sequence from bars 3 - 5. It can be noted that an alternative analysis is that the head continues to bar 3, marking bar 4 as the beginning to the tail as it comes back to G major, but even this does not align with the Greek ideals of rhythm. In consideration of the meter, no figurae are observed.

¹⁰⁸ Ibid., 84.

FUGUE IN G MINOR, BWV 885

Figure 45: Fugue in G minor, Das Wohltemperierte Klavier II ¹⁰⁹

The subject of Fugue in G minor, BWV 885, is analyzed in triple meter, with its head and tail dividing on the third *third* of bar three, leading to an anacrusis on its tail. It is made up of twelve trochaic feet with a ratio of 2:1. No figurae are observed.

FUGUE IN A-FLAT MAJOR, BWV 886

Figure 46: Fugue in A-flat major, Das Wohltemperierte Klavier II ¹¹⁰

¹⁰⁹ Ibid., 88.

¹¹⁰ Ibid., 96.

The subject of Fugue in A-flat major, BWV 886, is analyzed in common time with its head and tail both beginning with an anacrusis divided on the third quarter of bar two. It is made up of nine trochaic feet, with a ratio of 2:1. The corta can be seen with its short-short-long pattern on both sides; On its tail, the messanza is seen with a step and leap; tirata with its consecutive stepwise motion; groppo with its repetition of the first and the third notes.

FUGUE IN G-SHARP MINOR, BWV 887

Figure 47: Fugue in G-sharp minor, *Das Wohltemperierte Klavier II* ¹¹¹

The image displays a musical score for the subject of Fugue in G-sharp minor, BWV 887. The score is written in G-sharp minor (three sharps) and 2/4 time. The subject is divided into two main sections: the 'head' and the 'tail'. The 'head' section spans from the second quarter of bar 1 to the end of bar 2, and the 'tail' section spans from the beginning of bar 3 to the end of bar 4. A large bracket labeled 'subject' encompasses the entire piece. Below the staff, rhythmic analysis is provided. The head section is marked with four dactylic feet (1, 2, 3, 4) and a larger bracket labeled '1' underneath. The tail section is also marked with four dactylic feet (1, 2, 3, 4) and a larger bracket labeled '1' underneath. The score includes a treble clef, a key signature of three sharps, and a common time signature.

The subject of Fugue in G-sharp minor, BWV 887, is analyzed in duple meter, with both the head and tail starting on downbeats of bar 1 and 3. It is made up of eight dactylic feet, with a ratio of 1:1. No figurae are observed.

¹¹¹ Ibid., 104.

FUGUE IN A MAJOR, BWV 888

Figure 48: Fugue in A major, Das Wohltemperierte Klavier II ¹¹²

The subject of Fugue in A major, BWV 888, is analyzed in common time dividing between its head and tail on the first quarter of the second bar, and both beginning with an anacrusis. It is made up of six trochaic feet, with a ratio of 2:1. Both *messaanza* figures can be seen on each side with its step and leap; the *corta* can be seen on its head with its short-short-long rhythm.

FUGUE IN A MINOR, BWV 889

Figure 49: Fugue in A minor, Das Wohltemperierte Klavier II ¹¹³

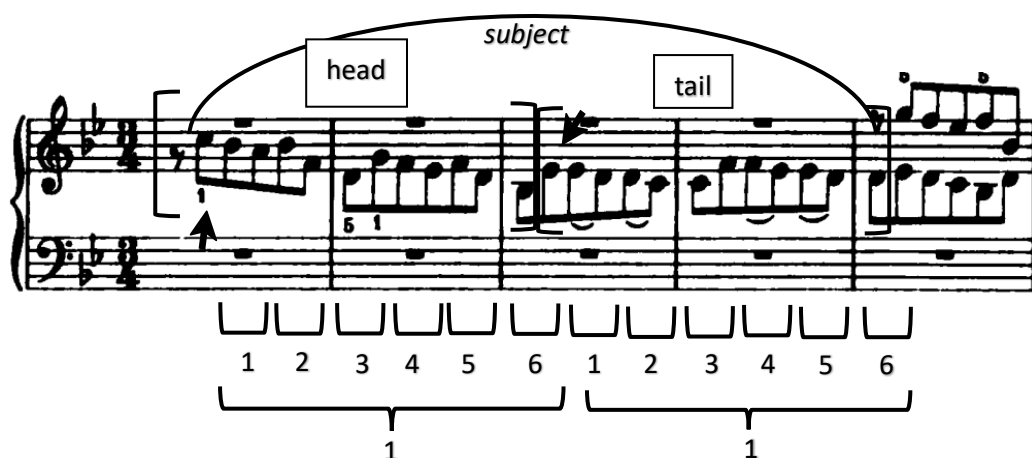
¹¹² *Ibid.*, 110.

¹¹³ *Ibid.*, 114.

The subject of Fugue in A minor, BWV 889, is analyzed in common time with its head and tail dividing on the third quarter of the second bar, its tail beginning with an anacrusis. It is made up of nine trochaic feet, with a ratio of 2:1. In consideration of the meter, no figurae are observed.

FUGUE IN B-FLAT MAJOR, BWV 890

Figure 50: Fugue in B-flat major, *Das Wohltemperierte Klavier II* ¹¹⁴



The subject of Fugue in B-flat major, BWV 890, is analyzed in triple meter dividing its head and its tail on the downbeat of bar three, both sides beginning with an anacrusis. It is made up of twelve dactylic feet, with a ratio of 1:1. In consideration of its meter, no figurae are observed.

¹¹⁴ Ibid., 120.

FUGUE IN B-FLAT MINOR, BWV 891

Figure 51: Fugue in B-flat minor, *Das Wohltemperierte Klavier II* ¹¹⁵

The subject of Fugue in B-flat minor, BWV 891, is analyzed in triple meter with the head ending on the second third of the second bar, followed with its tail beginning with an anacrusis. It is made up of ten dactylic feet, with a ratio of 1:1. The messanza can be seen on its tail, characterized with its steps and leaps.

FUGUE IN B MAJOR, BWV 892

Figure 52: Fugue in B major, *Das Wohltemperierte Klavier II* ¹¹⁶

¹¹⁵ *Ibid.*, 126.

¹¹⁶ *Ibid.*, 133.

The subject of Fugue in B major, BWV 892, is analyzed in duple meter both its head and tail starting on the downbeats of bar 1 and 3. It is made up of eight dactylic feet, with a ratio of 1:1. The *corta* can be seen on its tail with its short-short-long rhythm.

FUGUE IN B MINOR, BWV 893

Figure 53: Fugue in B minor, *Das Wohltemperierte Klavier II*¹¹⁷

The image shows a musical score for the subject of Fugue in B minor, BWV 893. The score is written in treble clef with a key signature of two sharps (F# and C#) and a 3/8 time signature. The subject is marked with a large bracket labeled "subject" that spans from the beginning of the first measure to the end of the fourth measure. The first three measures are labeled "head" and the last two measures are labeled "tail". The rhythmic diagram below the score consists of 18 vertical lines representing feet. The first 12 feet are grouped into three sets of four, each with a bracket underneath labeled "1". The next two feet are grouped with a bracket underneath labeled "2". The final six feet are grouped into two sets of three, each with a bracket underneath labeled "1".

The subject of Fugue in B minor, BWV 893, is analyzed in triple meter, with its head ending on the second third of bar 4, followed by its tail on the third beat. It is made up of eighteen trochaic feet, with a ratio of 2:1. No *figurae* are observed in consideration of the meter.

¹¹⁷ *Ibid.*, 141.

Chapter 7: RESULTS: OBSERVATIONS AND CONSIDERATIONS

Considering all the anacrusis that was identified in the analyses, the graph below shows the number of anacrusis in the heads and tails that can be identified within the fugue themes. First in the chart shows the anacrusis contained on the themes of WTC I, separating the ones that show in the head, tail, and the number of fugues with no anacrusis within the subject, meaning each colon that begins on the beat, thus creating a weaker theme.

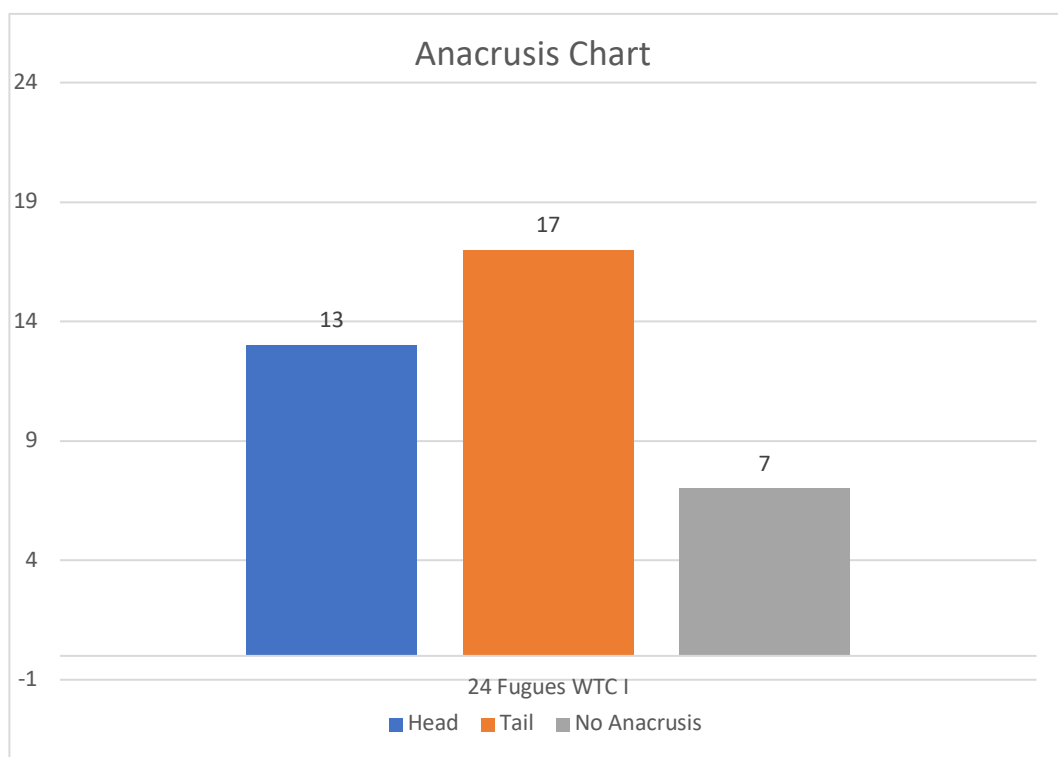


Table 1: Anacrusis Chart, Well-tempered Clavier I

Out of the 24 themes, 13 of which had themes that begin with an anacrusis on its head, and 17 of which exhibits an anacrusis in the tail, and 7 does not exhibit anacrusis on either colon. Note that the anacrusis is only accounted for at the beginning of each colon.

The chart below shows the anacrusis chart for the fugal themes within WTC II. Out of the 24 themes, 11 of which had themes beginning with an anacrusis on its head, and 16 of which exhibited an anacrusis in the tail, and 7 did not exhibit anacrusis on either colon.

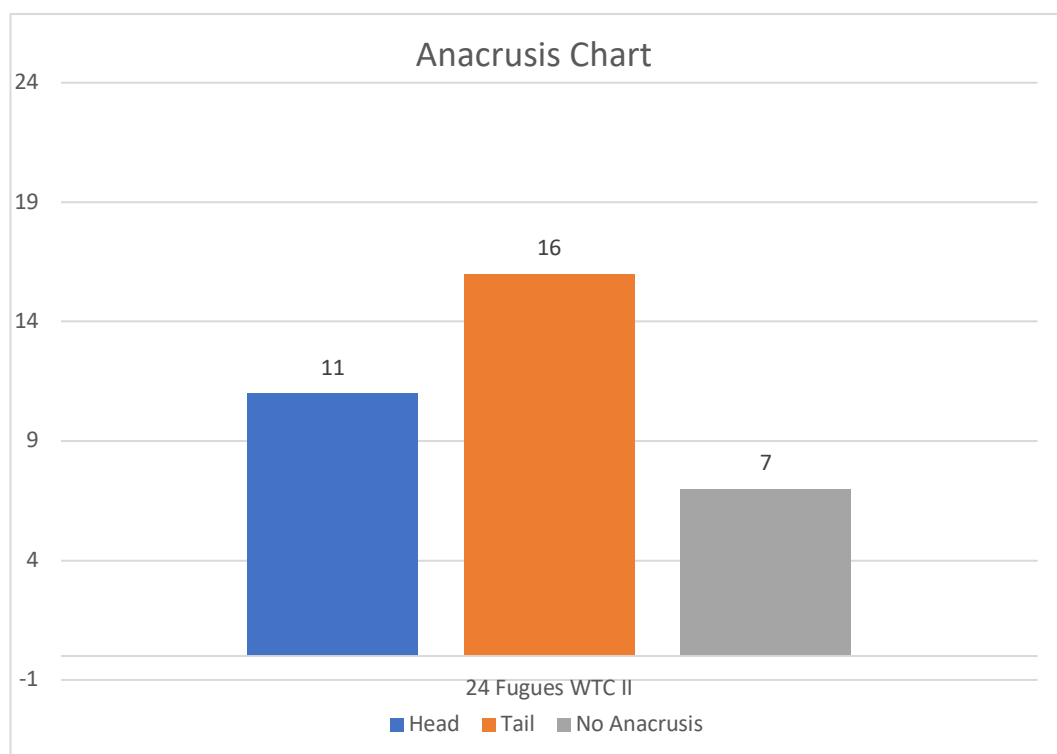


Table 2: Anacrusis Chart, Well-tempered Clavier II

Finally, *table 3* shows a combined result for both WTC I and II.

At first glance one might think that most of Bach's themes contain an anacrusis that translates to a masculine and vigorous theme that is congruent to the rhetoric that Aristoxenus proposed. If we are to consider the data provided here, it shows that out of the 48 fugues, 34 of the themes show a strong quality simply by displacing a rhythmic foot to create a strong beat with an anacrusis. However, one might consider that the anacrusis on the head should be the only one accounted for because it is the beginning of the entire theme, therefore disregarding

the anacrusis in the tail, and in which case we are left with 24 themes displaying a strong entrance. Nevertheless, creating a balance.

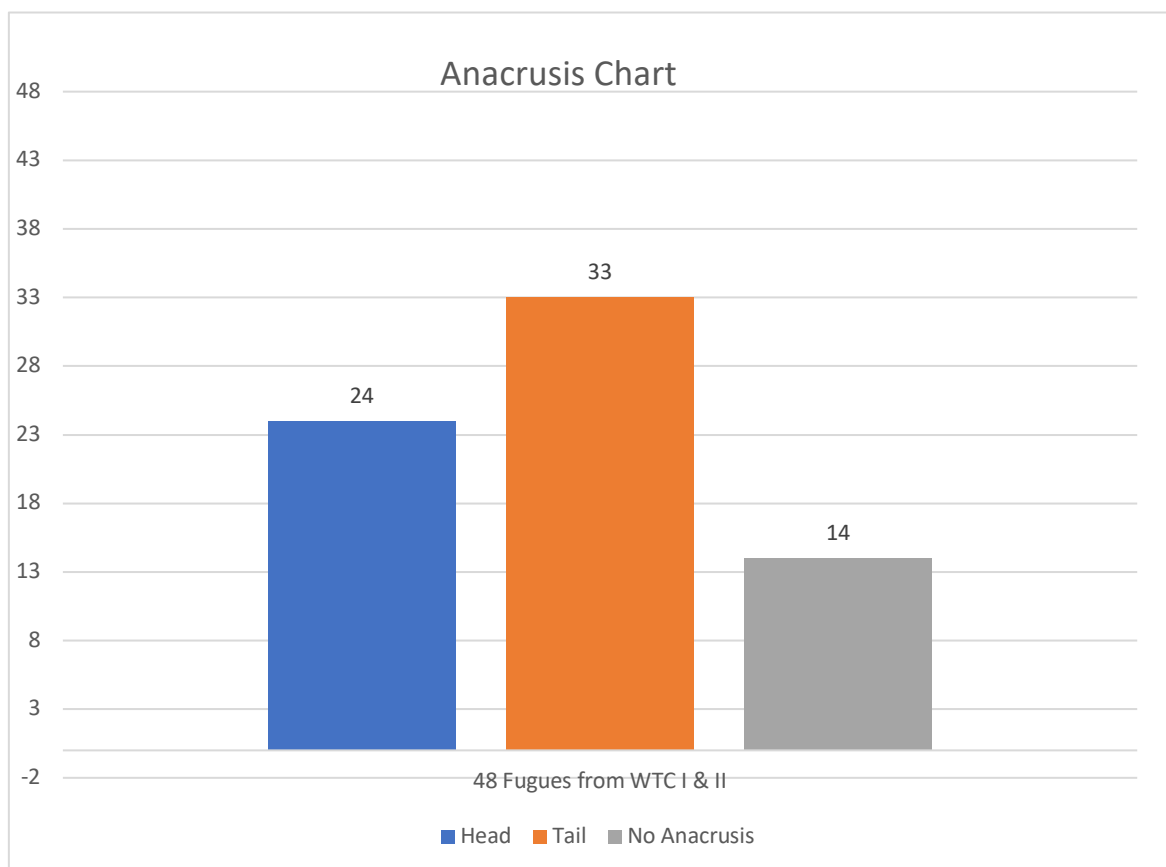


Table 3: Anacrusis Chart, Well-tempered Clavier I & II

Another data worth considering is the counting of the rhythmic feet as proposed by Williams (1892) pointing out Aristoxenus' ideals of Greek rhythm. Table 4 shows the rhythmic feet in WTC I & II. Combined, 11 of the fugal themes are trochaic, 28 are dactylic, and 2 are paeonic. Note that I did not recognize any Ionicus which has the same ratio as the trochee, 2:1. Three of the fugues contain themes that do not adhere to the specificities of Aristoxenus, namely, themes from E major from WTC I, and E-flat major and G major from WTC II. All of which had an odd number of rhythmic feet, E-flat major and G major both having 13 feet, and E

major having about 5 feet. However, the odd number is simply not the issue, it is not fitting any of the ratios as pointed out by Aristoxenus.

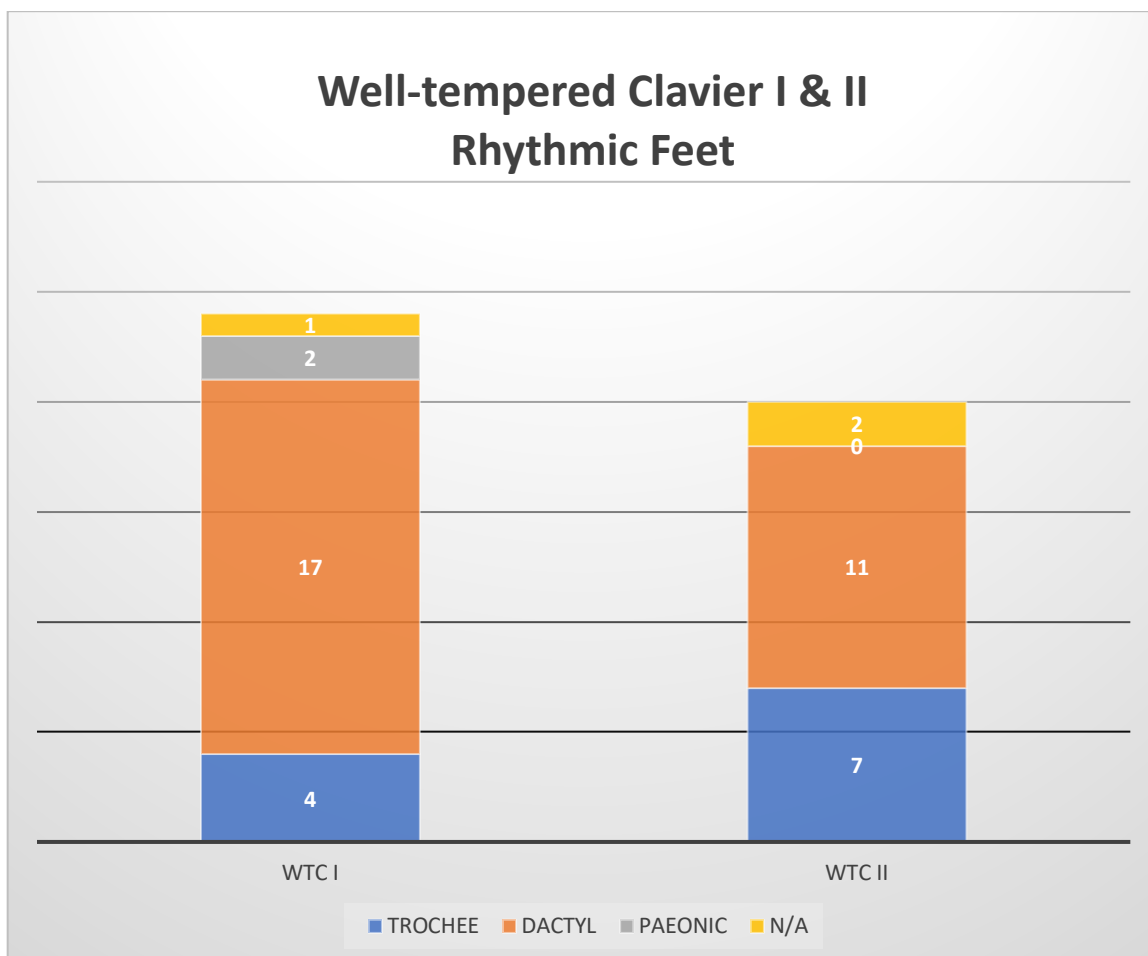


Table 4: Rhythmic feet, Well-tempered Clavier I & II

What does this tell us? Perhaps it is Bach preferring a ratio of 1:1, equating to equal parts in both the head and the tail. Whether Bach was consciously or unconsciously composing in this manner is something we'll never know for sure, though it is highly probable that he preferred a balance in both colons if he were thinking in this fashion, but the fact that I was

able to distinguish a reasonable head and tail on each fugal theme tells us that Bach may have in fact thought of this aspect as a necessity, which as we discussed in earlier chapters makes for a complete idea similar to an antecedent and consequent or an answer and response.

In *table 5*, is a graph for all the figurae within the fugal themes in both volumes. The *corta* is observed in 29% of the fugal themes, followed by the *tirata* and the *messanza* with both 20% of the themes, the *groppo* and the *accentus* also sharing a percentage of 14%, and while the *suspirans* with the least appearance of only 3%.

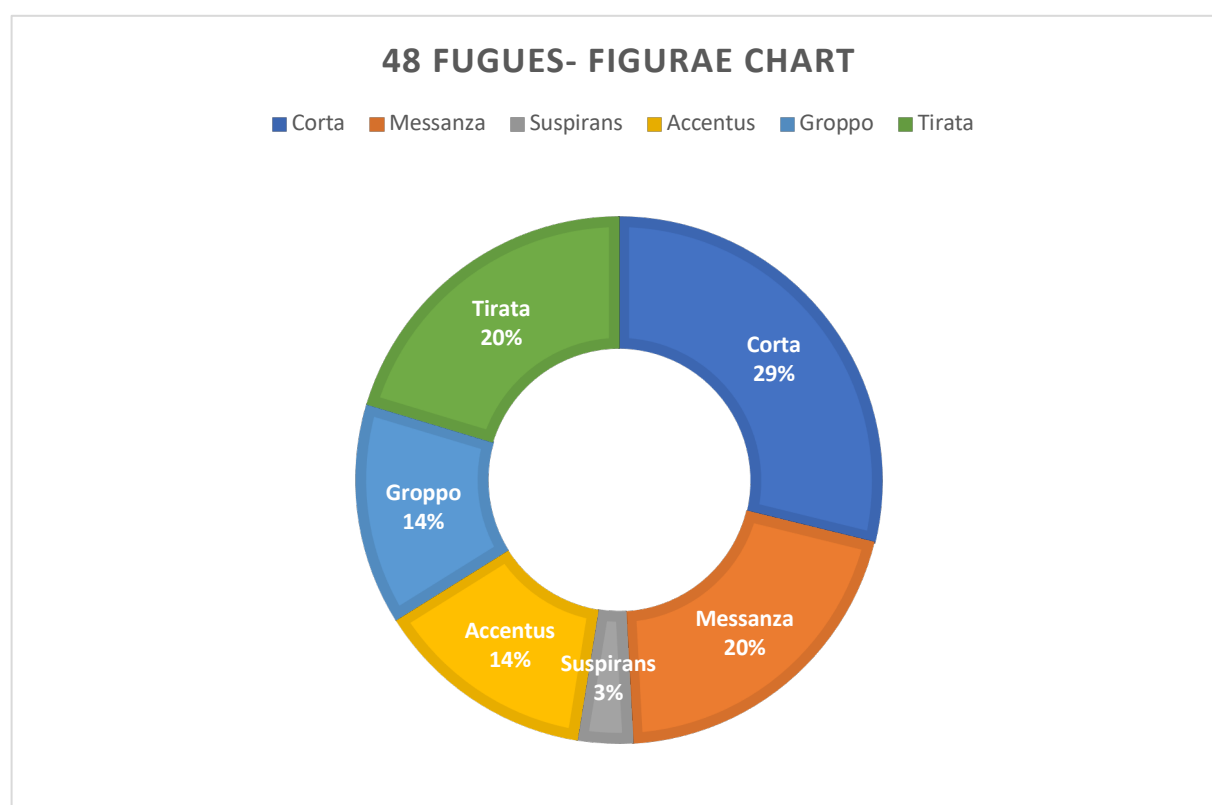


Table 5: Figurae, Well-tempered Clavier I & II

It is convincing that a short-short-long figure exhibited in the *corta* is a common figure in the Baroque period, and it can be argued that it is simply a common pattern regardless of the era. The *tirata* characterized with its successive stepwise runs is more in alignment to the

baroque as a time when the bravura techniques in the art of bel canto first started to flourish, leading to the birth of the oratorio and opera, necessitating the development of the acrobatics of singing techniques and the first cadenza passages.¹¹⁸ Perhaps another more obvious figurae that exudes the Baroque is the groppo, which appears with a repeating first and third note, circling around the main note which is also a characteristic of a turn. One should note that the figurae is not tantamount to the embellishments of the baroque. It is apparent that it does echo its qualities, but its function is completely different. The figurae are a tool of composition and improvisation, and while embellishments are devices to be added on top of a composition and considered dispensable.

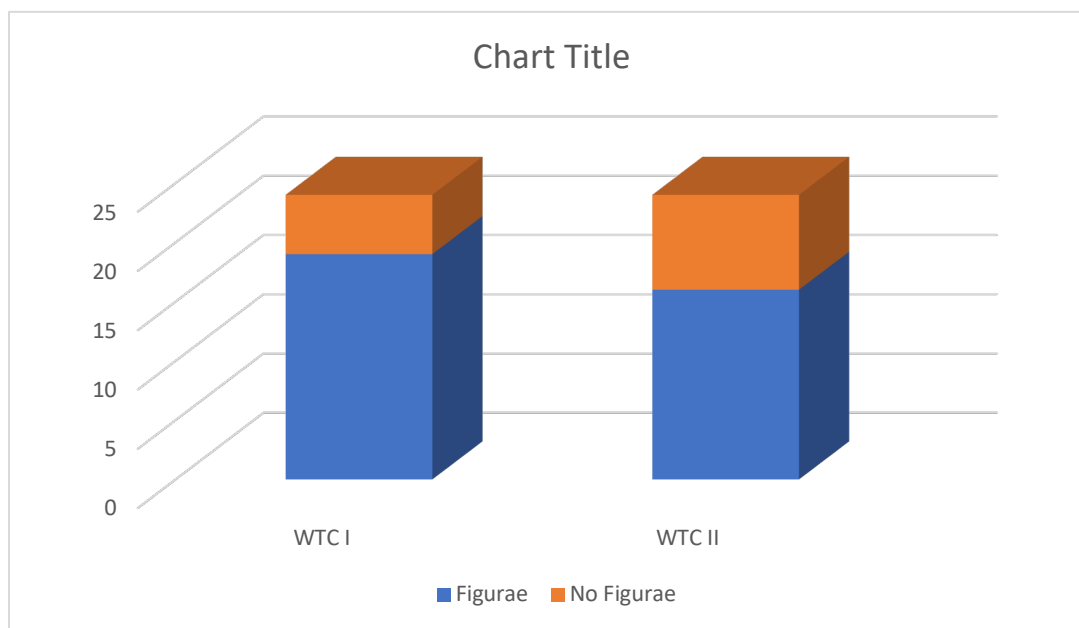


Table 6: Present Figurae, Well-tempered Clavier I & II

¹¹⁸ Eva B Badura-Skoda, Andrew V. Jones, and William Drabkin, "Cadenza," *Grove Music Online*. 2001; Accessed 18 Nov. 2023. <https://www-oxfordmusiconline-com.unr.idm.oclc.org/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000043023>.

Another observation that I would like to discuss is the presence of the figurae in both volumes. See table 6 and observe how WTC I has more figurae present, and WTC II has double the amount of missing identifiable figura on its themes. This may be caused by the metric feel of the meter, not being quick enough to be considered as figurae in these analyses. I can only speculate reasons for this, one being that Bach may have felt composing slower fugues, or that his treatment for meter may have changed. Remember that Kilgore mentions that by the mid-century Bach's treatment and understanding with time signatures have shifted and it could be argued that this may be its earlier traces.

Chapter 8: CONCLUSION

The evidence shown in this paper point to the probability that Bach had indeed composed his music in keeping with the rhetoric that was in place during his time period. I believe that sound evidence does speak, but how much evidence can extinguish doubts for a coincidence? We have seen how the synthesis of rhetoric shown in this paper do in fact reinforce and support each individual idea that fits the rhetorical schemes.

The analysis in this paper does not claim to be the sole or the absolute answer, there are more interpretations and can conflict with the ones existing here.

The antecedent and consequent should not be confused with the head and tails as mentioned by Harrison. The concept of question and answer is a huge similarity; however, the antecedent and consequent concept are sentences that make up a period, they are cadential in nature.¹¹⁹ The subject can be cadential and not, and a subject can be as short as only a sentence and that should deter one from interchanging the two concepts and terms.

The analysis of the head and the tail made Williams' (1892) analysis of the four species possible. Without the recognition of the head and tail, identification of the Greek species would be difficult without an alternate knowledge of the division.

Some conflicting ideas that I observed are from the writings of Williams (1892). This includes his statement that the Pæonic species does not exist on Bach's themes.¹²⁰ In fact, I

¹¹⁹ "Antecedent and consequent." *Grove Music Online*. 2001. Accessed September 29, 2023. <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000000992>.

¹²⁰ Charles Francis Abdy Williams. "The Rhythmical Construction of Bach's "Forty-Eight" Fugues." *Proceedings of the Musical Association* 19 (1892): 77. <http://www.jstor.org/stable/765444>.

have concluded that the fugues in F major and G minor from WTC I are of that species. The F major fugue can be analyzed with 2:3 or 3:2 ratio, whilst the G minor fugue has a solid 3:2 ratio. This may be an issue of the length of the thematic material that was considered. Another mystery would be his procedure of analyzing the third fugue in E major, if one were to count the feet traditionally, it will give 5 rhythmic feet, incongruent to the four species he has mentioned. However, thanks to Kilgore (1973), we now know the inconsistencies of Bach's mensural notation, this has solved the problems on quadruple meters summing up to invalid ratios and counting them as duple meters has solved this issue. Whether a coincidence or not, the majority of the themes that Bach composed have proven fit to the species of classical Greek rhythm. The abundance of the *anacrusis* leads to stronger motifs in Bach's music.

Another issue that I have encountered was Kilgore's hypothesis that all of Bach's *Well-tempered Clavier* was based on duple and triple meters. I do believe that Bach have used quadruple meters as a basis for his music as well. For example, the fugue in F-sharp major, which would make it impossible or at the least be very difficult to play in duple meter, as the notation dictates it to be quadruple, especially with the presence of the 32nd notes, which we can imagine in difficulty or its playability, whether a challenge imposed by Bach, can be an argument, but for what benefit if it is outside usable practical technique?

One interesting observation is the *anacrusis*. Invalid ratios are sometimes inevitable if the *anacrusis* is not to be counted, however, if the anacrusis exists on a downbeat, eliminating it on the count helps avoid incongruencies with the ideal rhythms. Williams provided examples with *anacrusis* existing only on downbeats, which may be an indication he knew should only

exist on downbeats, but its definitions vary. Today, we know anacrusis as an “upbeat,” coming from the Greek word *ana* “upwards” and *krousis* “to strike” that anticipates the downbeat.¹²¹

Overall analyses and results in this research prove that almost all of Bach’s fugal themes do in fact align with the Greek ideals of rhythm, whether consciously or not; that the themes are in fact not a unary unit, but binary in nature, with its likeness to the concept of antecedent and consequent; finding that half of the themes, if not most of them when considering the anacrusis in the tail, are in fact strong in nature simply by utilizing an upbeat; that the figurae contained in most of the fugal themes share a likeness to the Baroque ornamentation bearing an expectation of its usage during its time; proving that the analyses of the rhythms can be a means to an end, allowing us to identify its binary nature, and vice versa to its rhythms, and likewise supporting the case that some of the quadruple meters should in fact be felt in duple.

Furthermore, my hope is that these themes, especially the analysis on each theme, can be a reference on future studies on either performance or theory. Some of its applications in performance exists, for example, treating the figurae as ornamentations but fundamental to the composition, or the treatment of the anacrusis bringing a strong quality to the theme, and a weaker nature in its absence, or the division of the head and the tail where treatments of it in performance as a separate phrase can be emphasized, and this would call for a completely different interpretation on the entire fugue.

For music theorists, all the materials in this paper can be reexamined and added upon. I am convinced that our understanding of Bach’s music will only continue to evolve as society

¹²¹ Mine Doğantan, 2001 "Upbeat," *Grove Music Online*, October 5, 2023, <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000028812>.

continues to evolve. This may very well be a purpose that Bach may have never imagined in his lifetime, that centuries after his death that his music will continue to educate pianists in the art of piano pedagogy, or perhaps that people from all over the world will continue to obsess on his works adding theories upon theories over its existence.

According to Tomita, there is no unity found in the fugal subjects. I believe that his statement may still stand true if we are talking about a material that unites the subjects. However, this statement will ring untrue if we take into consideration all the rhetoric that was discussed in this paper.

For further studies, it is worth investigating Dmitri Shostakovich's 24 Preludes and Fugues, Op. 87, or Felix Mendelssohn's Preludes and Fugues, Op. 35 (we are currently aware that Mendelssohn is held responsible for the rediscovery of J.S. Bach's music in the 19th century), and see how much rhetoric are sustained and applicable in the analysis of these compositions in comparison to the analyses in this paper—the assumption is that these works are very well inspired by J.S. Bach's Well-Tempered Clavier.

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