ANALYTICAL QUEST OF FOUR SELECTED HARMONIZED CHORALES OF JOHANN SABASTIAN BACH

John Francis Annan
Department of Music Education, University of Education, Winneba
Emmanuel Obed Acquah
Department of Music Education, University of Education, Winneba
Godfred Sackey
Department of Music Education, University of Education, Winneba

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ABSTRACT
Chorale No 9 (Ermuntre dich mein schwacher Geist), Chorale No 14 (O Herre Gott, dein gottlich Wort), Chorale No 73 (Herr Jesu Christ, du höchstes Gut) and Chorale No 81 (Christus, der uns selig macht), are selected Lutheran chorales harmonized by Johann Sebastian Bach, an iconic composer of the Baroque era. In his harmonic processes, Bach explored various altered chords, harmonic devices, and non-harmonic tones. Focusing on a case study design, purposive sampling technique, and document analysis, the authors attempt to provide a formal analysis of the four selected harmonized chorales, employing parameters such as scale, vocal ranges, melodic organization, harmony and tonality, non-chord tones, texture, and form. The analysis unravels his harmonic vocabulary to determine his compositional style. The harmonized chorales of Johann Sebastian Bach are therefore good educational materials of harmony and counterpoint andragogy for music students.

Key Words: Bach, chorale, harmonic devices, altered chords, non-harmonic tone.

1. INTRODUCTION
One of the musical artefacts that emerged during the Baroque era of Western music history is the Chorale. Allan (2002) described chorale as “hymns, poetic words set to music” (p. 6). Jørgensen and Madsen (2002) on the other hand emphasized that “chorales are originally one voiced melodies from the German reformed church’s singing tradition, started by Luther” (p. 1). In corroboration with the above assertions, Highben (2017) gives a clearer elucidation of the concept and opined:

The term “chorale” comes from the German word Choral, meaning Gregorian chant. It may also be derived from the Latin choraliter, a word related to the unison, unaccompanied manner in which chants were sung. The term is somewhat ambiguous and can refer to text and tune together, tune alone, or sometimes text alone. Textually, chorales were congregational hymns written in the vernacular (German) language. (p. 39)

This musical type which emanated from the musical developments of the reformation period led by Martin Luther, characteristically, has provided source material for generations of composers, more especially, Baroque composers, who wrote cantatas, oratorios, motets, operas, and other musical genres of the era. Meanwhile, William (2021) in an earlier page highlighted how the chorale arose from the musical developments of the reformation period:
Among the developments that arose during the Reformation were musical ones that had an enormous impact on Western music, especially sacred songs. Luther’s love of singing and his conviction that music was a vehicle for evangelical proclamation gave birth to a new genre of church music: the chorale. (p. 37)

Etymologically, the chorale is a German concept of hymns aimed at promoting congregational singing. It is easy to sing and remember since it has one note to a syllable, and moves with a steady rhythm. This was so because the chorale was originally the Gregorian chant, which according to Kamien (2011, p. 82), “consists of melody set to sacred Latin texts and sung without accompaniment; the chant is monophonic in texture and came from the Jewish synagogues of the first centuries after Christ in the vernacular (German)”.

Four-part writing became a predominant norm in the Baroque era for both vocal and instrumental music; it was primarily viewed as the premise of tonal music. Comparatively, the four-part writing is richer in sonority than the two or three-part writing. One researcher emphasized that “indeed, by enabling a more permanent use of complete triads and seventh chords, four-part harmony is an enrichment of the sound compared to two-part and three-part harmony” (Ijzerman, 2018, p. 137). Of course, chorale, as a vocal musical type of the Baroque era was texturally affected; from monophonic texture to homophonic and or polyphonic texture. Composers began to arrange more complex music to accompany the original melody of the chorale. For instance, the chorales of Bach are much more complex than the simple style found in the early century but also Bach’s techniques can be made rather concrete (Jørgensen & Madsen, 2002).

Undoubtedly, tonal harmony had commenced in the baroque era, where tonalities were developed out of the major and minor scale systems, and had features such as conjunct melodic motion (melodies tend to move by short distances from note to note), acoustic consonance (consonant harmonies are preferred to dissonant harmonies, and tend to be used at points of musical stability), harmonic consistency (the harmonies in a passage of music tend to be structurally similar to one another), limited macro-harmony (the total collection of notes heard over moderate spans of musical time) and centricity (one note is heard as being more prominent than the others, appearing more frequently and serving as a goal of musical motion) (Tymoczko, 2010).

Of course, the basis of harmony in the baroque era has to do with the development of triads and their conventional progressions in the framework of the major-minor tonality. For instance, triad I can best resolve to triad IV or V whilst triad V can best resolve to triad I or vi. One of the significant harmonic practices developed out of the major-minor tonality was the equal temperament: a system that allowed all instruments to play in any key. Halewood (2015) explained the concept as a system of tuning where the distance between each note is equal. It is, perhaps, best envisaged in terms of the modern piano keyboard where each note is one equal step up from the previous one (p. 4). Composers of the baroque era used this technique to elaborate their scope of harmonic principles. Forney and Machlis (2007) emphasized that “even though his preferred tuning system is not really known, Johann Sebastian Bach demonstrated that he could write in every one of the twelve major and minor keys” (p.146).
Undisputedly, Johann Sebastian Bach is a master of harmony and counterpoint since his harmonic and contrapuntal concepts are still used as models by music students today. His active exhibition of virtuosity in harmony and counterpoint made him outstanding among his contemporaries.

In an attempt to describe the iconic composer, Forkel, as cited in Shane (2013), gave a vivid account of Bach’s harmony:

> From about the year 1720, when he was thirty-five, until his death in 1750, Bach’s harmony consists in this melodic interweaving of independent melodies, so perfect in their union that each part seems to constitute the true melody. Herein Bach excels all the composers in the world. At least, I have found no one to equal him in music known to me. Even in his four-part writing, we can, not infrequently, leave out the upper and lower parts and still find the middle parts melodious and agreeable. Strangers often asked Bach to play to them between the hours of divine service. On those occasions he was wont to select and treat a theme in various ways, making it the subject of each extemporization even if he continued playing for two hours. Bach was one of the greatest musical geniuses of all time. (p.23)

Obviously, the discussion of harmony and counterpoint cannot be done without the mention of Johann Sebastian Bach and his compositions. It is evidently clear in his chorales that he has shown an amazing control of the concept. The chorales explicitly elucidate the various concepts of harmony and counterpoint and serve as models and teaching materials to enhance effective teaching and learning in higher institutions. As one of the most preeminent composers of the early eighteenth century, Johann Sebastian Bach is associated most strongly with the height of the Baroque Era. Intricate polyphony and harmonic complexity remained to define characteristics of his style even toward the end of his life – features that were at times the subject of criticism from his own contemporaries (Lu, 2020).

2. REVIEW OF RELATED LITERATURE

2.1 Musical Analysis

The study of musical structure in either composition or performance may be perceived to be musical analysis since it unravels the elementary components of the formal structure of the music. Musical Analysis is the resolution of musical structure into relatively simpler constituent elements and the investigation of the functions of those elements within that structure. Musical analysis is that part of the study of music which takes as its starting point, the music itself rather than external factors (Agawu, 2004; Bent, 2001). Music analysis is important to answer a question like ‘how does this music work?’. By asking appropriate questions, we are exposed to both the general identifications and various structural components of the compositions respectively.

Two steps may be considered when analysing musical compositions. The first step has to do with the identification of the various structural elements (pitch, rhythm, timbre etcetera), compositional devices (repetition, sequence, inversion, randomness, serialism, etcetera), and how they have been used by the composer. The second step, on the other hand, is to make adjudication, of how the identified elements and compositional devices relate to the context, genre, and style of the composition. Even though the discussion above focuses on the structures of the composition, it is commonly accepted that musical discourse cannot be limited to just the musical structures. It is
with no doubt, an interdisciplinary matter which may include other extramusical aspects such as psychological, personal factors, social and historical environment, stylistic conventions, artistic aims, linguistic, visual, gestural, ritual, technical, and so forth (Aleshinskaya, 2013; Roy, 2010; Tagg, 2003).

2.2 Formal Analysis

The study of structures of a musical composition forms the basis of formal analysis in music. It is also acknowledged that gestural analysis is, in many ways, formal analysis. Instead of relying only on chordal function, several other variables (boundaries of analysis) are considered. Variables such as scale, vocal rages, melodic organization, harmony and tonality, non-chord tones, texture, and form are largely considered in formal analysis. The formal analysis uncovers deep relationships between these structures and examines how they dramatize the form, and how they may heighten the expressive quality of the work. In effect, it provides insights into compositional styles (Marvel, 2021; Stanley, 2021). Based on the discussions above, it is only appropriate to use formal analysis as the analytical bent for the analysis of the four selected chorales in order to unravel the harmonic vocabulary and compositional style of Johann Sebastian Bach.

3. METHODOLOGY

The study was rooted in the case study research design. A case is described as being made up of several relevant dimensions constructed from single or multiple observations from which an understanding of a larger class of observed phenomena can be extracted. It may be intrinsic or instrumental. Intrinsic cases are those which are pursued solely to develop a deeper understanding of a phenomenon or situation by itself, whereas an instrumental case study involves investigating a particular case to develop a broader appreciation or understanding of more general problems or issues (Turnbull et al., 2021). In this paper, the authors used the intrinsic case study, by way of analysis to unravel the depth of the formal constituents of the selected chorales of Bach. Johann Sebastian Bach was purposively selected as one iconic composer whose masterpieces marked the apogee of the Baroque era, showed an astounding mastery of harmony and counterpoint, and whose works are used as models by music students today (Kamien, 2011) Also, the purposive sampling technique was used to sample four chorales (two in a major key and two in a minor key). As explained by Etikan et al. (2016), and as cited in Casteel and Bridier (2021), purposive sampling is “the intentional selection of a participant because of the characteristics and qualities the individual possesses” (p. 350).

Furthermore, document analysis was used to detail the primary data for the analysis. It is explained by Morgan (2022) that document analysis consists of analyzing various types of documents including books, newspaper articles, academic journal articles, and institutional reports. Any document containing text is a potential source for qualitative analysis. In our opinion, document analysis as an instrument for data collection covers visual sources, such as photographs, video, film, sheet music, or compiled musical pieces. All these documents have texts that can be a source for qualitative analysis. In this regard, document analysis was used to gather the needed information from the four selected harmonized chorales of Bach to unravel his harmonic vocabulary and determine his compositional style.

Analysis
As already indicated in our literature review, musical analysis is the study of musical structure in either compositions or performances (DeVoto, 2004). Analysis differs from analyst to analyst since it is the individual’s musical lens of the formal structures of the composition. In order to come out with a good musical analysis, we considered a thorough deconstruction of the chorales, determining the manipulations and relationships between identified musical elements and compositional devices, and then communicating detailed and substantiated judgments about how these relate to the context, genre and the expressed compositional style.

The four selected chorales of Johann Sebastian Bach are distinctive illustrations of the four-part writing of the Baroque era. Bach creatively added three other parts to accompany the main melody. The study therefore considered formal analysis as the analytical bent, focusing on the following as the analytical parameters; scale, vocal ranges, melodic organization, harmony and tonality, non-chord tones, texture, and form.

Scale
Scale is defined by Kwami (2011) as a “series of pitches arranged in order from low to high or high to low”. In the four selected chorales, however, both the major and the minor scales were explicitly employed as the basis of the tonal centre. In Ermutre dich mein schwacher Geist, for instance, the major scale was used in two different tonal centres (G major & D major) whilst the minor scale was also used in two different tonal centres (A minor & E minor). The G major scale served as the basis upon which other scales were developed. In bars 1 and 2 respectively, the scale degree 4 of the G major scale was raised by a semitone to transiently establish a tonicized D. The Example 1 below is an illustration.

Example 1: Tonicized D
Likewise in other bars such as bars 5 to 7, the A minor scale was developed from the original tonal centre whilst the relative minor of the G major scale was utilized in bars 8 and 9 respectively. See Example 2 for an extract.

Example 2: A minor and E minor

Similarly, in O Herre Gott, dein gottlich Wort, a D major scale was developed in bars 9 to 11 from the G major scale which served as the basis of the tonal centre. Example 3 is an illustration.

Example 3: Tonicized D
In the other chorales such as *Herr Jesu Christ, du höchstes Gut* and *Christus, der uns selig macht* respectively, Bach established minor scales as the basis for the tonal centres and developed other major scales from them. In *Herr Jesu Christ, du höchstes Gut*, for instance, G minor scale was used as the basis for the tonal centre and developed the F major scale in bars 8 and 9 correspondingly. Also, in *Christus, der uns selig macht*, Bach used A minor as the basis for the tonal centre, and then developed C and F major scales from it. See Examples 4 and 5 for illustrations.

**Example 4:** F major scale

**Example 5:** A minor, C major and F major scales

**Vocal ranges**

Vocal ranges may refer to the span of pitches of vocal parts in a musical composition. Schmidt-Jones and Jones (2007) observed:

A typical choral arrangement divides women into higher and lower voices and men into higher or lower voices. Most voices can be assigned one of these four ranges, and this gives the composer four vocal lines to work with, which is usually enough. The four main vocal ranges are soprano (a high female or boy’s voice), alto (a low female or boy’s voice), tenor (a high adult male voice) and bass (a low adult male voice). Arrangements for these four voices are labelled SATB. (p. 87)

In the four selected chorales, however, Bach predominantly operated within the range of an octave for the upper parts (soprano and alto) whilst the lower parts (tenor and bass) explored the compound interval which is beyond an octave. Of course, his choice of vocal range is favourable for the trained singer since it represents the right choice of pitches for the various vocal parts. In *Ermutre dich mein schwacher Geist*, for instance, Bach operated ranges between intervals of eight (8) for Soprano, six (6) for alto, ten (10) for tenor and fifteen (15) for bass. See illustration below.

Soprano | Alto | Tenor | Bass
Example 6: Vocal ranges

In *O Herre Gott, dein gottlich Wort*, however, Bach operated ranges between intervals of eight (8) for Soprano, eight (8) for alto, eight (8) for tenor and ten (10) for bass. See illustration below.

Example 7: Vocal ranges

Also, in *Herr Jesu Christ, du höchstes Gut and Christus, der uns selig macht* respectively, Bach worked out vocal ranges between intervals of eight (8) and eight (8) for Soprano, seven (7) and nine (9) for alto, eleven (11) and seven (7) for tenor and eleven (11) and ten (10) for bass. See illustration below.

Example 8: Vocal ranges of *Herr Jesu Christ, du höchstes Gut*

Example 9: Vocal ranges of *Christus, der uns selig macht*

Melodic Organization

Etymologically, the word melody is derived from the Greek *melodia* and consist of two Greek words for tune and singing or song. The literal translation is something like ‘singing tune’ (Aldridge & Aldridge, 2008). Melody may be perceived as the vital core of music without which music is unconceivable. The purpose of the chorales as stated earlier on was to encourage congregational singing. Chorales were very easy to assimilate. In view of this, melodies of the four selected chorales are made up of simple melodic themes generally organized with an intervallic structure of predominantly seconds, with very few or no chromatic notes. See illustrations below.
Example 10: Excerpts of melodic themes

Example 10 above is made up of excerpts of melodic themes from the four selected chorales. As indicated with circles in the example, the few intervals above a second can be seen as either a third or a fourth. Benward and Saker (2009) defined intervals as “the relationship in pitch between two notes” (p. 55). In corroboration with the definition above, Kostka et al. (2018) elucidated further, and thus asserted:

An interval is the measurement of the distance in pitch between two notes.
A harmonic interval results when the notes are performed at the same time, whereas a melodic interval occurs when the notes are played successively.
The method of measuring intervals is the same for both harmonic and melodic intervals. (p. 16)

Even though intervals may be melodic and harmonic respectively, the indicated intervals in Example 10 are melodic. It is so because, the organization of melody involves the linear succession of pitches based on horizontal intervallic structures. For instance, in *Ermuntre dich mein schwacher Geist*, the indication is made of an interval between B⁴ and D⁵ which is a minor third. Also, in *O Herre Gott, dein gottlich Wort*, the interval between D⁴ and G⁴ is a perfect fourth. *Herr Jesu Christ, du höchstes Gut* on the other hand has an interval between A⁴ and D⁵. The interval as indicated is a perfect fourth. Again, the interval in *Christus, der uns selig macht* specified with a circle is a minor third between A⁴ and C⁵. With regards to the use of chromatic notes in the melodic themes, very few were used for the purpose of modulation. In *Ermuntre dich mein schwacher Geist*, C sharp and D sharp were used to modulate to D major and E minor respectively.

**Harmony and Tonality**

Aldwell and Schachter defined harmony as “the simultaneous combination of notes into chords and the sequential ordering of chords” (cited in Schellenberg et al., 2005). When you have more
than one pitch sounding at the same time in music, the result is harmony. Harmony is one of the basic elements of music, but it is not as basic as some other elements, such as rhythm and melody. You can have music that is just rhythms, with no pitches at all. You can also have music that is just a single melody, or just a melody with rhythm accompaniment. This indicates that as soon as there is more than one pitch sounding at a time, you have harmony (Schmidt-Jones & Jones, 2007).

Considering Bach’s era, and the fact that he predominantly used triads, extended chords, altered chords, harmonic devices and non-harmonic tones to either develop new tonal centres or embellish the harmonic progression, we can assert that his harmonic vocabulary was complex. Bach explicitly explored both the major and minor triads using the doubling technique and the superimposition of thirds into extended chords. His predominant use of altered chords such as secondary dominant seventh and secondary diminished seventh chords depicts his mastery in harmonic principles and practices. Bach creatively utilized several non-harmonic tones such as passing tones, suspensions, retardations, neighbouring tones and others to embellish his harmonic progressions. With regards to tonality, Bach explored multiple tonal centres by stating an initial tonal centre and then modulates to either the dominant, subdominant or a relative minor. Of course, there were some abrupt modulations to distant keys using pivot chords and Picardy thirds. See illustrations below.

Example 11: Harmonic progression
In the extract above, there are two modulations; A minor and E minor. The former tonal centre is a distant key to G major whilst the latter is a relative minor of G major.

a. Harmony and Tonality of *Ermunter dich mein schwacher Geist*
Example 12: Harmonic progression of the first five bars

The circled area of the Example 12 above is a transient modulation to the dominant (D major) using the V7/V as a pivot chord (V7 of D major) to modulate to the tonic of D major. The progression may be read in D major as follows; D: IV – V7d – Ib – Ic – V7 – I.


Example 13: Harmonic progression

Even though the above harmonic scheme still considered G major as the key signature, the two circled indications represent two different tonal centres; A minor and E minor respectively.
It also means that the same scheme in the respective minor keys will be different from the one
given. For instance, the scheme for the A minor is as follows; a: I9c – V – I whilst that of the E
minor is, e: Ic – V7 – I.
The continuation of the progression from the pick-up of bar 9 to the end is in the initial key of G
major.

b. **Harmony and Tonality of O Herre Gott, dein gottlich Wort**
Just like the other chorales, Bach utilized triads, extended chords and altered chords in O Herre
Gott, dein gottlich Wort. The progression for the first five bars is as follows; G: I – vi – iii – IV –

![Example 14: Harmonic progression of the first five bars of O Herre Gott, dein gottlich Wort](image)

The continuation of the harmonic progression has a transient modulation in bar 8, an abrupt
modulation from the pick-up of bar 8 to the third beat of bar 10, and then back to the original key
of G major. The chord scheme is as follows; G: I – V – I – IV – V/Vb – V/vib – vi - D: ii – Vc –
Vb – IVb – IV7 – V – V7 – I. It is imperative to state that the progression V/vib – vi in G major is
considered Vb – I in E minor. See Example 15 for illustration.
Example 15: Harmonic progression with modulations

c. **Harmony and Tonality of *Herr Jesu Christ, du höchstes Gut***

d. Harmony and Tonality of Christus, der uns selig macht

Just like the Herr Jesu Christ, du höchstes Gut, Bach used the C major key signature and alternated between A minor and C major scales as his basis for the initial tonal centre, and then developed other tonal centres such as F major (with its relative minor) and G major. The chord scheme of the first four bars of the harmonic progression is as follows; C: V/vi – V/vi – vi – iiib – ii7 – V/vi – vi – V flat 3 – viio7/ii – V/iib – ii – vi – V/vi. It is worth noting that the progression V/vi – vi is a modulation to the relative minor (A minor). In other words, the progression V/vi – vi serves as V – I in A minor. See illustration.

Example 16: Harmonic progression and tonality of Herr Jesu Christ, du höchsten Gut
Example 17: Harmonic progression of the first four bars

Even though the two cadential points in the above illustration are both imperfect cadences (a: I - V) in A minor, the circled progression in bar 1 suggests a V – I progression in A minor.


Just as in the other chorales, the modulations in Christus, der uns selig macht were abruptly done. For instance, in bars 7 to 8, and bars 9 to 10 respectively, there are two abrupt modulations. The former in F major whilst the latter in G major. See illustration below.

Example 18: Abrupt modulations

As indicated with circles, the first circle is an abrupt modulation in F major even though it commences with chord vi and ends with V/vi. The circle on the other hand is also an abrupt modulation in G major, ending with an imperfect cadence.

Non-Chord Tones

A non-chord tone is a tone that does not belong to the prevailing harmony. It may be diatonic or chromatic. According to Ju et al. (2017), non-chord tones are elaborative notes, created by idiomatic stepwise melodic contours, which do not belong to the local structural harmony (p. 1). Non-chords are usually used as embellishments. In other words, they are used to decorate the principal chords.
In the four selected chorales, Bach utilized non-chord tones such as passing tones, neighbouring tones, suspensions, retardations, appoggiaturas, escape tones, anticipations. However, he predominantly used passing-tones. One fascinating thing about Bach’s choice of non-chord tones, especially the passing tones is the fact that they are members of the principal chord, even though he used them as embellishments. He mostly used the seventh of the chord to decorate the harmonic progression. Apart from the fact these non-chord tones were used embellishments, they also served as counterpoints to the melodic line. See Example 19 below for illustration.

Example 19: Non-chord tones

The circled indications in the extract above are all sevenths of the various chords. For instance, in bar 8, the circled G of the tenor is the seventh of the chord V7/V, even though it was used as a passing tone to link the chord to the V/vi chord.

Texture

Benward and Saker (2009) again defined texture the way the melodic, rhythmic, and harmonic materials are woven together in a composition. It is a general term that is often used rather loosely to describe the vertical aspects of music. Texture often describes how layers of sound within a piece of music interact in terms of density and range. It can be monophonic, homophonic, polyphonic and heterophonic.

The texture of the selected chorales can be described as predominantly polyphonic interspersed with homophony. The texture depicts Bach’s extensive and effective usage of counterpoints to weave his harmonic progressions. The contrapuntal nature of the composition makes the texture polyphonic. See illustration below.
Example 20: Polyphonic texture

Form

The term form refers to the way a musical composition is structured and organized. Although all musical dimensions contribute to our experience of form, in analyzing this aspect of music we are primarily concerned with the interaction of thematic and harmonic content – of melodies and the way they work together with harmonic functions and key structures. In tonal Western music, form is conceived as being hierarchical in nature, with small elements combining to create larger and larger units up to the level of an entire composition (Mount & Rothfarb, 2009).

The form of Bach’s chorales is the strophic form. According to Covach (1997, it occurs over a repeated, underlying harmonic progression but in which the text changes from verse to verse (cited in Ensign, 2015, p. 33). It is often described as a repeated single-theme musical composition. Fundamentally, the chorale is considered a hymn tune which can be set to several stanzas or verses. Similarly, the four selected chorales of this study are single-theme composition made up of some phrases that are developed into sentences. See illustration below.
Example 21: Strophic form

4. CONCLUSION
Johann Sebastian Bach is one of the iconic composers of the Baroque era who envisaged the principles of ultra-chromaticism in his time. His utilization of chromatic chords such as secondary dominant seventh and secondary diminished seventh chords to develop various tonal centres within the progression put him on a different pedestal amongst his contemporaries in terms of harmonic vocabulary. The uniqueness of his chorales in terms of combining polyphonic texture with rich harmony depicts an astounding mastery of harmony and counterpoint. It is also imperative to state that Bach’s harmonic progressions are associated with the usage of various non-chord tones as embellishments. The harmonized chorales of Johann Sebastian Bach are therefore good educational materials of harmony and counterpoint andragogy for music students at all levels of education since they demonstrate in practical terms the various concepts of the subject (harmony and counterpoint).

REFERENCES


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