

BELA BARTÓK'S POLYMODAL CHROMATICISM IN CHICK COREA'S CHILDREN SONG NO.5 AND NO.15

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ABSTRACT

This study focuses on the application of Bela Bartók's theory of polymodal chromaticism in Chick Corea's selected piano pieces from *Children's Songs, 1984*. The selected pieces of *Children Song No.5 and No.15* provide examples of the application of Bela Bartók's theory of polymodal chromaticism as a compositional device in jazz music. Despite the significance of these pieces, there exists a scarcity of musical analyses examining the use of polymodal chromaticism, indicating a need for further research in this area. This study reveals the compositional method, style, and tool that Corea uses in applying the theory of polymodal chromaticism. Integration of polymodal chromaticism with functional harmonic progression and unique combinations of modal and compound scales that Corea employs to achieve polymodal chromaticism is revealed in this study. Qualitative method of music analysis and quasi-Schenkerian music analysis were applied to highlight modal and compound scales, ostinatos, harmonic progression, and compositional techniques Corea used in developing polymodal chromaticism in the selected pieces. The study led to detailed insights into the compositional techniques used to achieve polymodal chromaticism, as well as the discovery of unique compound scales and combinations of scales that led to chromaticism. The methods of applying polymodal chromaticism are detailed in this study, allowing further exploration of the theory in other areas of jazz and contemporary music.

Keywords: Bartok, chromaticism, jazz, polymodality, music theory.

INTRODUCTION

Bela Bartók's influence in Chick Corea's works is very evident through substantial research and musical analysis (Gillies, 2007; Gularnupong, 2018). The striking resemblance of style and form in Bartók's *Mikrokosmos*, a collection of piano studies written for pedagogical purposes, is adapted by Corea into his own piano studies called the *Children's Songs* (Lynch, 2012). Although there are multiple studies that connect both the works of these composers, previous research was not specifically analyzed through the theory of polymodal chromaticism, a key component of Bartók's pursuit in expanding tonality beyond the major and minor keys.

In 1934, Bartók gave lectures at Harvard University, and he explained in one of his lectures that his works were based on a combination of chromatic melodic lines and chord structures superimposed with modal and folk modes. He named the concept ‘polymodal chromaticism’ and it allows two different modes to combine and share a tonic, which results in a compound scale of more than seven notes or up to 12-notes (chromatic) which expands tonality (see Fig.1), (Cooper, 1998; Kim, 2009; Walker, 1996).

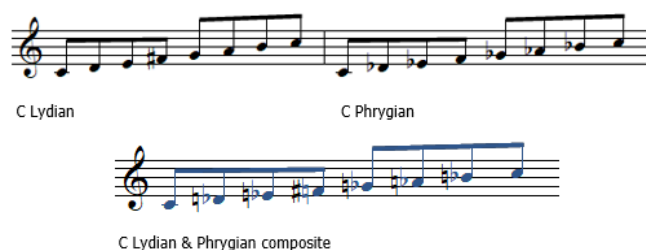


Figure 1 Polymodal Composite Scale

The application of polymodal chromaticism in Chick Corea’s works has been hinted through the detailed written exegesis of the piece ‘Sometime Ago’ by Daniel Alan Duke in his thesis *‘The Piano Improvisation of Chick Corea: An Analytical Study’*. With the primary key of the piece in A minor, there are sections of the pieces (mm.77-80), where the left-hand part moves in fifths starting from A - F# - C# - G# - C#, while the right-hand melody clearly changes modes according to the left hand. This sudden change in harmonic and melodic aspect indicates a loss of tonality and the existence of polymodality. In another section that shows polymodality, Duke hints again by stating a ‘wandering’ passage over a tonic pedal point (mm.92-101). With an A minor root pedal throughout most of the sections, there were sudden change of mode from minor to major in the variations analyzed by Duke (mm.189-204) and abruptly going from major to minor, *vice versa* (mm.205-232) establishing the use of multiple modes. A notion of complex polymodal chromaticism from Duke’s research is evident in the coda section of the piece. *“The coda (mm. 287-323) is divided into two parts. The first part dwells on the Y motive, until it finally loses supporting tonic or even functional harmony and dissolves,”* Daniel Alan Duke (Duke, 1996).

Indication of polymodal chromaticism in Corea’s work is also pointed out by Jordan Michael Lynch in his thesis: *Where have I know this piece before? An exploration of harmony and voice leading in the compositions of Chick Corea*. An 8-measure example (0:00-1:02) of the use of a dissonant melody over a pedal point in the recording of ‘Return to Forever’ by Chick Corea is highlighted in Lynch’s thesis. Evidence of a mix-modal scale is visible in creating unusual intervals while the pedal holds a G root. However, the exact possible scales that were used to create the mix-mode was not discussed in the research in the analysis (Lynch, 2012: 56).

The selected works for this study, which are Children’s Song No.5 and No.15 provide examples of the application of Bartók’s theory of polymodal chromaticism as a compositional device in jazz music. Despite the significance of these pieces in jazz music, there is a lack of musical analyses examining the use of polymodal chromaticism, suggesting a need for further research in this area.

Polymodal chromaticism offers smooth melodic maneuverability over superimposing keys which is appealing to jazz composers. For instance, this can be heard in the piece *Point on*

Jazz by Dave Brubeck where superimposition of keys is evident in creating chromaticism (Zhang, 2022). Similarly, the song *The Dawntreader* by Joni Mitchell applies layers of modal scales to achieve polymodality (Whitesell, 2002). However, implementation of polymodal chromaticism requires an ostinato, pedal point, or root note to build up superimposed keys that form a chromatic scale. The ostinato, pedal point, or root-note often remains in tonic position. The use of functional harmonic progression to build polymodal chromaticism in the works of Chick Corea remains underexplored.

Ostinatos, pedal points, and chromaticism in Corea's compositions was discussed in Jordan Michael Lynch's thesis *'Where have I known this before? An investigation of harmony and voice leading in the compositions of Chick Corea'*. However, the possible mixed modal scales used to construct melodies upon ostinatos and pedal points were not discussed in the analysis (Lynch, 2012), leaving another important component that builds chromaticism in Chick Corea's pieces unexplored.

Therefore, the primary goal of this study is to analyze Corea's methods in integrating the theory of polymodal chromaticism in Children's Song No.5 and No.15, given Corea's unique style and harmonic approaches as a jazz composer in these pieces. Secondly, polymodal chromaticism is often built up with an ostinato and superimposed with modal scales. This study analyses the methods used to apply the theory over harmonic progressions that are found in Children Song No.5 and No.15. This research also uncovers the unique compound scales that Corea uses in these selected pieces to achieve polymodal chromaticism.

METHODS

The focus of this research is an analysis on application of Bela Bartok's theory of polymodal chromaticism in Chick Corea's selected pieces and to achieve this objective, a qualitative theoretical framework is applied. A combination of music analysis method and Schenkerian music analysis method were used to analyze sections of selected pieces by Chick Corea that highlights the use of Bela Bartok's theory of polymodal chromaticism.

The research starts with a specific selection of songs by Chick Corea that are chosen to highlight the use of Bartok's theory of polymodal chromaticism through musical analysis. The chosen songs are: (1) Children Song No.5, 1984, and (2) Children's Song No.15, 1984. The selected pieces are then digitalized as per the selected recordings and a melodic analysis of the transcription is conducted using the Schenkerian music analysis method to uncover the modal scales being used in the pieces. The Schenkerian analysis on modal scales is done on both the treble and bass clefs separately to identify the scales that are applied. The findings of the scales on both the clefs are then merged on a keyboard graph to reveal the polymodal compound scales that are created. The compound scales are then measured from a scale of seven (diatonic) to 12 (chromatic) notes. Each unique combination of scales is analyzed in this manner to reveal the individual type of scale being used and the level of polymodality achieved through compounding the scales.

A second Schenkerian musical analysis is done to identify the existence of key building blocks for polymodal chromaticism such as ostinatos, harmonic progressions, and compositional techniques. Ostinatos are identified in both the clefs, and the analysis primarily targets the type and function of ostinatos that are being used to create polymodal chromaticism. The ostinato is analyzed to determine whether it is a harmonic, melodic or rhythmic ostinato, and if it affects the process of constructing polymodal chromaticism. Compositional techniques used to create polymodal chromaticism are analyzed to highlight arranging techniques involving harmony and voicings, types of motivic development and stylistic influences. As part

of the analysis, harmonic progressions that occur specifically in Children Song No.5 and No.15 are analyzed to determine the arranging and compositional method used to integrate harmonic progression with polymodality. The identified harmonic progressions are indicated in the score using Roman numerals. A table of summary of polymodal chromaticism is written at the end of every analysis of each piece indicating types of modal scales used, number of composite scale notes derived, and type of tonality (tonal, polymodal or chromatic) applied at specific score section and measure number.

RESULTS

As with all the pieces in Children Songs, Corea does not indicate any key signature at the beginning of the piece. Although it could be identified as a piece in C major, it is clear through the accidentals forming the modal scales that Corea intends to keep the key unconfined. The piece is written in cut-time or 2/2 throughout. Polymodal chromaticism analysis of Chick Corea's Children Song No.5 is shown below (see Fig.2).

Children's Song No.5

Chick Corea

$\text{♩} = 76$

A

C# Locrian Alt.

Piano *mf*

A Aeolian

5

C# Locrian Alt.

Pi. *mf*

A Aeolian

F# Aeolian

B

9

C# Locrian Alt.

F# Dorian

Pi. *mf*

F# Aeolian

C# Aeolian

13

F# Aeolian

G Whole-tone

Pi. *mf*

C# Aeolian

17

G Whole-tone

Pi. *mf*

C# Aeolian

The image displays a musical score for 'Children's Song No.5' by Chick Corea. It is written in cut-time (2/2) with a tempo of quarter note = 76. The score is divided into two systems, A and B. System A (measures 1-5) features a piano part with a melody and a piano accompaniment. System B (measures 6-17) continues the piece with similar parts. Modal scale annotations are provided for various sections: C# Locrian Alt. (measures 1-4, 6-7), A Aeolian (measures 1-4, 6-7), F# Aeolian (measures 8-9, 13-14), F# Dorian (measures 10-11), C# Aeolian (measures 10-11, 15-16), and G Whole-tone (measures 12-13, 17-18). The score includes dynamic markings of *mf* and is written for Piano (Piano) and Piano Accompaniment (Pi.).

Figure 2 Polymodal Chromaticism Analysis of Chick Corea’s Children Song No.5.

Section A of the piece has an interesting 4-part writing and a parallel harmony on the right hand and this technique is utilized throughout the section. Bars 1-6 establishes a strong ostinato played with both hands and it is resolved with another ostinato on the left hand from bars 7-10, almost like a ‘call and response’ or an antiphony. Section A is repeated to set up the main theme of the piece. On the right-hand part from bars 1-6, a C# Locrian Altered is used as part of the parallel harmony and the combination of notes on the left-hand ostinato results in an A Aeolian. The composite of these two modal scales is shown below (see Fig.3).

● = C# Locrian Alt
▲ = A Aeolian

Figure 3 Composite modal scales of C# Locrian Alt. and A Aeolian

The combination of these scales results in a total of 10 notes, a mere 2 notes shy of achieving total chromaticism. In bars 7-10, the C# Locrian Alt modal scale on the right hand remains but the left-hand changes into F# Aeolian from A Aeolian. The composite of these scales is as shown below (see Fig.4).

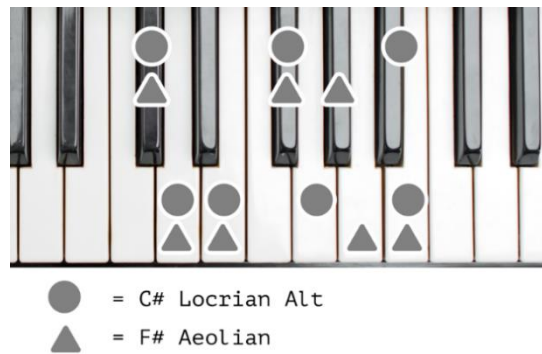


Figure 4 Composite modal scales of C# Locrian Altered and F# Aeolian

The modal scales in bars 7-10 combine into 9 individual notes a reduction of one note from bars 1-6. Although the reduction is small, combined with an ostinato change in the left hand and a sparse right hand holding long chords, the changes create a milder mood, resulting in a clear antiphony.

Although there is an apparent C natural in the right-hand part of bars 2, 4, and 6, this note is considered a passing note given the movement of the note from B-C-C#. The C natural is also positioned on a weak beat to solidify this notion. A very strong and chromatic approach by Corea in section A of this piece creates a main theme which consists of a ‘question and answer’ that is contrasting.

Section B of the piece starts with an ostinato like bar 9 on the left hand while the right hand is introduced to a new theme. The left hand uses C# Aeolian scale throughout section B. However, the right hand goes through multiple changes in modal scale. To begin with, the first 2 bars use F# Dorian on the right hand combined with C# Aeolian on the left. The notes for both the scales are identical and this makes a temporary tonal center with a minor mode (see Fig.5)

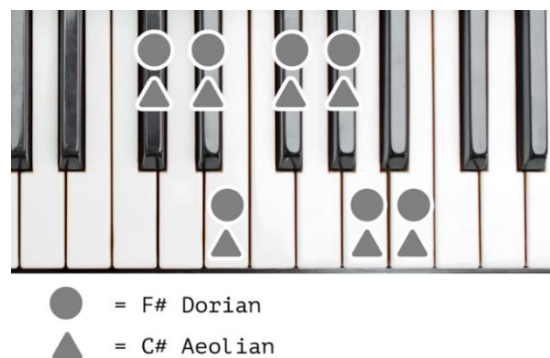


Figure 5 Composite modal scales of F# Dorian and C# Aeolian

This changes quickly with the right-hand mode on bars 13-14 converts to F# Aeolian and the left hand remains C# Aeolian. The composite of both the scales are as shown below (see Fig.6).

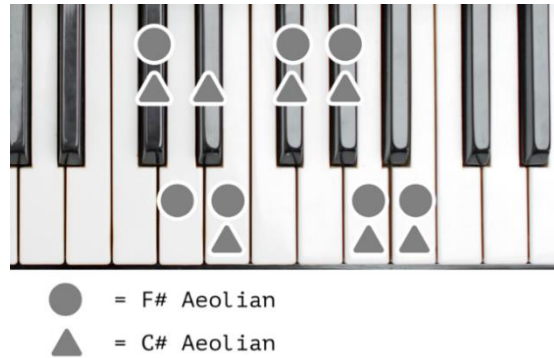


Figure 6 Composite modal scales of F# Aeolian and C# Aeolian

The change from bars 11-12 to 13-14 is very little as there is only one added note which is a D natural. Even though the expansion is minor, this prepares for a sudden tonal change from bars 17-20. While the left hand holds C# Aeolian mode, the right hand moves into a G whole-tone scale. The combinations are as shown below (see Fig.7).

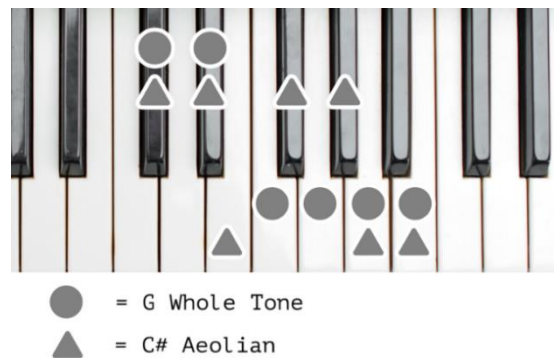


Figure 7 Composite modal scales of G Whole Tone and C# Aeolian

The scale composite in bars 17-20 uses 9 notes in total and creates a drastic mode away from tonality that was created from bars 11-14. Section C, which is the final part of the piece, drastically moves away from the 4-part writing from the previous sections into a single-line melody on the right hand while the left hand repeats an ostinato in the modal scale of C# Dorian. In bars 21-23 of section C, modal scale of E Dorian is applied on the right hand. The combination of E Dorian and C# Dorian from bars 21-23 resulted in a 10-note composite (see Fig.8). The piece resolves and ends with a 2-bar recapitulation of the main theme which contains a 10-note combination of C# Locrian Altered and A Aeolian.

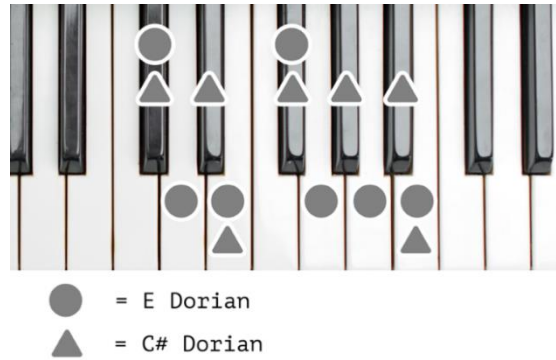


Figure 8 Composite modal scales of E Dorian and C# Dorian.

In Children Song No.5, Corea integrates the polymodal chromaticism theory into a 4-part writing technique with a combination of a single-line ostinato on the left hand and triad chords on the right hand, written in parallel voicing. This results in an array of compound chords throughout section A and B of the piece. The harmonic analysis from bars 1-4 of Children Song No.5 and it is evident that the technique used by Corea creates an ‘open’ tonality, as the chord progression does not resolve into a root key (see Fig.9).

Figure 9 Chord analysis of Children Song No.5, Bars 1-4.

The usage of compound chords or slash chords are common in jazz music. However, the construction of the compound chords through polymodal scales gives the piece an expanded tonality. The chord analysis also reveals that through the parallel voicing technique, the left hand establishes a diatonic harmonic progression of (I-VI-VII-V) in the key of A minor which is the equivalent of A Aeolian (natural minor). This allows an expansion of tonality through the right-hand triads that are made of notes from C# Locrian altered.

Another interesting find is how polymodality is used to expand tonality itself towards total chromaticism and how it shapes the mood of the overall piece. The number of composite scales indicates the level of chromaticism based on the modal scale combination (see Table.1). Seven notes indicate heptatonic modal scale (tonal), and 12 notes a chromatic scale (atonal). The piece starts with a 10-note composite scale and decreases towards the middle of the piece into a 7-note modal scale. The composite scale number increases again towards the end and finishes the piece with a 10-note composite scale. The movement shows how polymodality allows the composition to move or expand beyond tonality and towards chromaticism or atonality.

Table 1 Summary of polymodal chromaticism in Children Song No.5.

Section	Bars	Modal Scales	No. of composite scales notes	Tonality
A	1-6	C# Locrian Alt + A Aeolian	10	Polymodal
A	7-10	C# Locrian Alt + F# Aeolian	9	Polymodal
B	11-12	F# Dorian + C# Aeolian	7	Modal
B	13--14	F# Aeolian + C# Aeolian	8	Polymodal
B	15-20	G Whole Tone + C# Aeolian	9	Polymodal
C	21-30	E Dorian + C# Dorian	10	Polymodal
C	31-32	C# Locrian Alt + A Aeolian	10	Polymodal

Children Song No.15 has a $\frac{3}{4}$ time signature and doesn't have a key signature, which shows Chick Corea's intent to keep the notion of key and tonality open for this piece. The complete analysis can be seen below (see Fig.10).

Children's Song No.15

Chick Corea

$\text{♩} = 168$

A

Piano

G Mixolydian

5

Pn.

G Mixolydian

B

9

Pn.

A Lydian Augmented

G Mixolydian

13

Pn.

A Lydian Augmented

Leading-note

G Mixolydian

The musical score is divided into sections C through H, each with specific modal and chromatic annotations:

- Section C (Measures 17-20):** Labeled **G Mixolydian**. The bass line features a rhythmic pattern of quarter notes.
- Section D (Measures 21-24):** Labeled **E \flat Phrygian**. The bass line features a **Chromatic Ascend** pattern, with circled numbers 1, 2, 3, and 4 indicating specific notes.
- Section E (Measures 25-33):** Labeled **G Ionian**. It features **Descending Motive** patterns in the right hand across measures 25-27, 30-32, and 33.
- Section F (Measures 34-37):** Labeled **G Ionian**. The bass line features chords labeled **I**, **VI**, **III**, and **VI**.
- Section G (Measures 38-41):** Labeled **G Ionian**. The right hand features **B Super-Locrian** (measures 38-39) and **B \flat Aeolian** (measures 40-41). The bass line features chords labeled **I**, **VI**, **III**, and **VI**.
- Section H (Measures 42-45):** Labeled **G Ionian**. The right hand features **E \flat Aeolian** (measures 42-43) and **A \flat Super-Locrian** (measures 44-45). The bass line features chords labeled **III** and **VI**.
- Section I (Measures 46-49):** Labeled **A Lydian Augmented**. The right hand features **E \flat Aeolian** (measures 46-47) and **A \flat Super-Locrian** (measures 48-49). The bass line features chords labeled **III** and **VI**.
- Section J (Measures 50-54):** Labeled **A Lydian Augmented**. The right hand features **A \flat Super-Locrian** (measures 50-53) and **H** (measure 54). The bass line features chords labeled **III** and **VI**. A **Chromatic Descend** pattern is noted in the right hand.
- Section K (Measures 55-58):** Labeled **A Lydian Augmented**. The right hand features **A Lydian Augmented** (measures 55-57) and **RESOLVED** (measure 58). The bass line features chords labeled **III** and **VI**. A circled number 4 is present in the right hand.

Figure 10 Polymodal Chromaticism Analysis of Chick Corea’s Children Song No.15.

The intro of the piece starts with an eight-bar ostinato on the left hand establishing a G Mixolydian modal color with a prominent G note on the first beat of each bar. The melody on the right hand begins on section B of the piece with the ostinato continuing the left hand. The melody is built on an A Lydian augmented(b7) scale while the left hand remains G Mixolydian. The use of expanded modal scales such as Lydian augmented(b7) is a clear indication of Corea's jazz influences while using the polymodal chromaticism technique. The combination of these scales is shown below (see Fig.11).

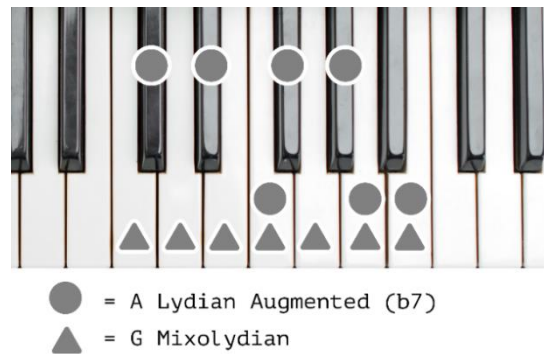


Figure 11 Composite modal scales of A Lydian Augmented (b7) and G Mixolydian, (Bars 9-16)

The compound scale of A Lydian Augmented (b7) and G Mixolydian in section B produces an 11-note scale. An anomaly occurs on the left-hand part of bar 15 which is indicated by ① sign. The E_b note indicated does not belong to the G Mixolydian scale. However, it is a 'leading note' or a chromatic approach to the D note on the ostinato of the next bar.

The piece proceeds to section C with both hands using G Mixolydian creating a 4 bar of tonal or diatonic approach. The melody on the right hand of bars 21-24 uses notes from E_b Phrygian scale. On the left hand, the root note G is maintained on the first beat of each bar, but the inner notes marked ② indicate a chromatic ascend from the note B_b to C# (see Fig.12). This is a unique combination of modal scales and chromaticism while maintaining a root note.

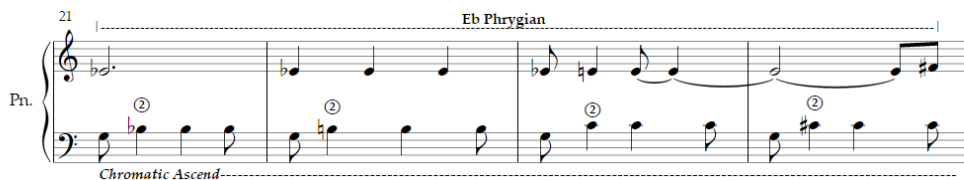


Figure 12 Chromatic Ascend

A similar chromatic approach is visible throughout section D of the piece. The left hand maintains the G root note. However, the inner notes are randomized mostly with a semitone or a tone interval leap. The right hand of section D does not indicate any use of a particular scale or mode. A chromatic descending pattern of perfect 4th interval occurs from bars 25 to 30 in the right-hand part (see Fig.13).

Figure 13 Chromatic Descending Motive

The left-hand ostinato changes its root notes in section E. Unlike previous sections maintaining the note G on every first beat, the root note moves, creating a diatonic harmonic movement. G Ionian modal scale is used to build this ostinato. The chord changes is shown below (see Fig.14).

Figure 14 Diatonic Harmonic Changes

The harmonic movement of I-VI-III-VI is evident from bars 34 to 37 due to the changes in the root notes of each bar. This ostinato pattern is then repeated in section F with melody lines on the right hand built using B super-Locrian, B \flat Aeolian and E \flat Aeolian (see Fig.15).

Figure 15 Diatonic Harmonic Changes and Ostinato with Polymodality

Corea uses the ostinato to create harmonic changes while combining modal scales on both hands. This multi-layered compositional technique allows successful use of polymodal chromaticism on a functional harmonic progression. Compound scales created in section F of this piece can be seen below (see Fig.16, 17 and 18).

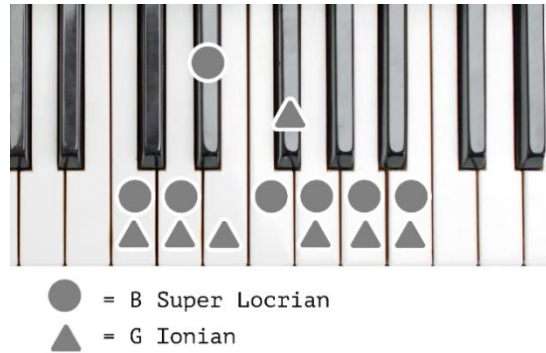


Figure 16 Composite modal scales of B Super Locrian and G Ionian (Bars 38-39)

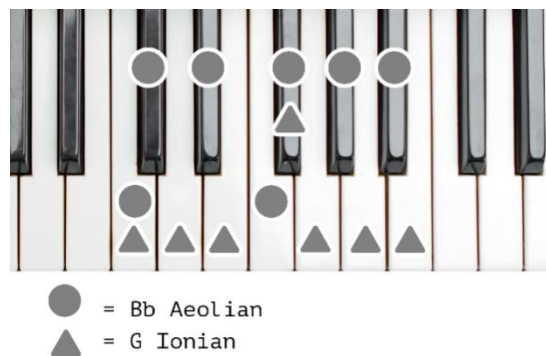


Figure 17 Composite modal scales of B \flat Aeolian and G Ionian (Bars 40-41)

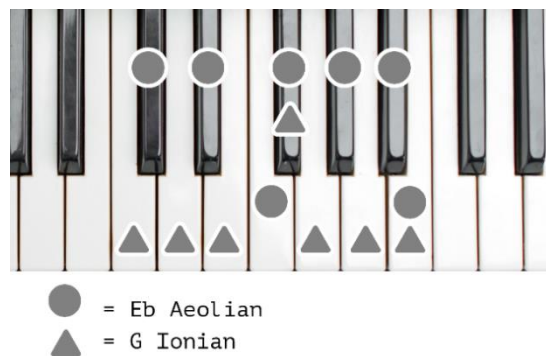


Figure 18 Composite modal scales of E \flat Aeolian and G Ionian (Bars 42-45)

The combination of B super Locrian and G Ionian on bars 38 and 39 resulted in a 9-note compound scale. The combination of B \flat Aeolian and G Ionian on bars 40 and 41, and E \flat Aeolian with G Ionian on bars 42 and 45 both resulted in a total-chromatic compound scales, making them an exceptional example of polymodal chromaticism applied on a harmonic progression. In bar 46 of section G, the right hand remains on E \flat Aeolian while the left hand changes into an A diminished scale ostinato. The composite of these scales is as shown below (see Fig.19).

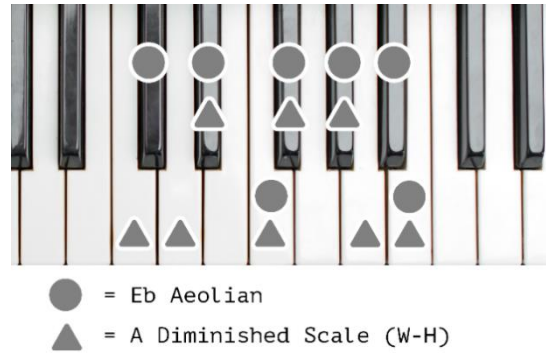


Figure 19 Composite modal scales of E \flat Aeolian and A Diminished Scale (W-H)
(Bar 46)

The combination of E \flat Aeolian and A diminished scale (whole-half/tone-semitone) resulted in a ten-note compound scale. Bars 47 to 49 have a combination of A \flat super Locrian on the right hand and A diminished scale on the left. The compound of both these scales resulted in a nine-note scale (see Fig.20).

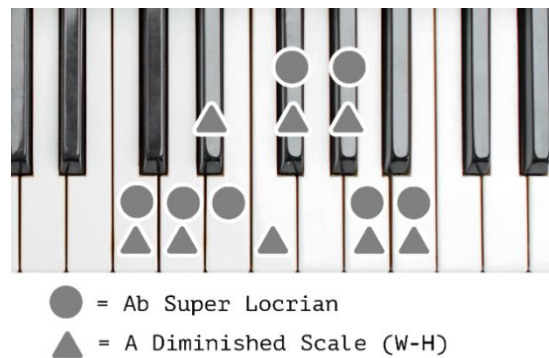


Figure 20 Composite modal scales of A \flat Super Locrian and A Diminished Scale (W-H)
(Bars 47 to 49)

On bars 50 to 54, the left-hand section does not indicate use of any specific scale or mode. However, a descending chromatic root note from D \flat to A is visible on the score. The notes are indicated with a ③ sign (see Fig.21).

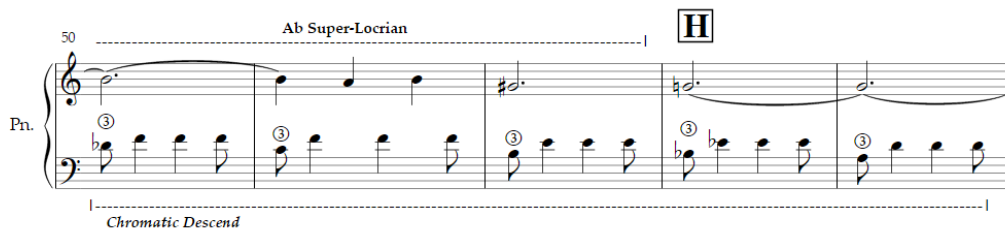


Figure 21. Chromatic Descend of Root Note.

The A \flat super Locrian right-hand melody from bar 47 to 50 ends with a long G natural note throughout section H (bars 53 to 58). The ostinato on the left hand continues along bar 55 to 58

with an A Lydian augmented mode and both hands resolve on the note A at the last bar (indicated with a ④ sign). The musical analysis of Children Song No.15 reveals the use of polymodal chromaticism through mix-modal scales, ostinatos, and functional harmonic progression. The combination of mix-modal scales and polymodality used in the piece is shown in Table 2.

Table 2 Summary of polymodal chromaticism in Children Song No.15.

Section	Bars	Modal Scales	No. of composite scales notes	Tonality
B	9-16	A Lydian Augmented (b7) + G Mixolydian	11	Polymodal
F	38-39	B Super Locrian + G Ionian	9	Polymodal
F	40-41	B _b Aeolian + G Ionian	12	Polymodal (Chromatic)
F	42-45	E _b Aeolian + G Ionian	12	Polymodal (Chromatic)
G	46	E _b Aeolian + A Diminished (W-H)	10	Polymodal
G	47-49	A _b Super Locrian + A Diminished (W-H)	9	Polymodal

FINDINGS AND DISCUSSION

Compositional Style and Technique

Corea uses a wide array of compositional techniques in integrating polymodal chromaticism into Children's Songs No.5, and 15. In Children Song No.5, Corea applies a 4-part writing technique with parallel harmony while both hands are built using individual modal scales. Parallel voicings are commonly used in jazz music and the combination of both these techniques results in a distinctive sound.

The use of ostinatos is extensive in Children's Songs. In Children Song No.5, ostinatos from both hands were used as part of an antiphony section while both hands are in a different modal scale. Ostinatos are also widely used in Children Song No.10 combined with a rapid change of polymodal scales that change almost every bar. The rhythm of the ostinato is retained while the notes change according to the mode or scale. Ostinatos are also used in Children Song No.15 with an established root note that does not change throughout most of the piece. However, the inner voicing used on top of the root note changes according to the scale applied. The length of compound scale changes does affect the overall texture and harmony of the pieces. In Children Song No.5, the changes are far apart, at least 4 bars, creating a sparse feel or movement. The polymodal scales are applied as a melody and/or harmony in Children's Songs. The use of parallel voicings and chords built using modal scales in Children Song No.5 are frequently stacked upon each other creating compound chords.

Polymodal Chromaticism in Harmonic Progressions

In Children Song No.5, the first four bars were constructed using a four-part writing technique. The bass line made using an A Aeolian scale allows a harmonic progression to be established while the right hand goes through a series of parallel triad voicing in C[#] Locrian. The use of four-part writing with polymodal scales allows the bass note to form a sense of key and technically enabling more layers to be added on top of each other.

The findings through the analysis of Children Song No.15 reveal how Corea applies polymodal chromaticism on a harmonic progression. Using a specific scale, in this case a G Ionian/major, an ostinato pattern is established on the left-hand part creating a sense of key. Every first beat of the bar acts as the root note. The note then changes diatonically based on the scale creating a harmonic progression while maintaining the ostinato rhythm. The right-hand melody with B super-Locrian and B_b Aeolian two bars each is stacked on top of the ostinato to create polymodal chromaticism on a diatonic harmonic pattern.

The use of ostinato with changing root note allows compound modal scales to be stacked with an endless possible combination of modes or scales. This also means that apart from polymodal scales, chords or harmonies built using modal scales and polychords can also be used using this method.

Unique Scale Combinations

In Bartók's polymodal chromaticism works, the scale combinations are often derived from Greek modes, church modes, Hungarian and eastern European folk modes, and oriental scales. These combinations made Bartók's works unique and distinct. In Children Song no.5, and 15, Corea uses a wide variety of scales and modes. The common scales that were used were major and minor scales, Greek modes, and pentatonic scales. Corea also uses scales that are often used in modern jazz music in creating polymodal scales. These unique scales are:

- a) Diminished Scale (Whole – Half)
- b) Locrian Altered
- c) Super-Locrian
- d) Lydian Augmented (b7)

Below are the compound scales used by Corea that result in a polymodal chromatic scale (12-note).

- a) B_b Aeolian + G Ionian
- b) E_b Aeolian + G Ionian

Below are the compound scales containing modern jazz scales that are unique to Corea:

- a) A Lydian Augmented (b7) + G Mixolydian
- b) B Super Locrian + G Ionian
- c) E_b Aeolian + A Diminished (Whole – Half)
- d) A_b Super Locrian + A Diminished (Whole – Half)
- e) C# Locrian Alt. + A Aeolian

CONCLUSION

Musical analysis on contemporary pieces focused on polymodal chromaticism is still a vastly under-researched topic. This includes the rest of the 'Children's Songs' pieces that were not selected for an analysis in this research. Corea has performed variations of these pieces throughout his career that are under-researched due to the lack of transcriptions available. This includes versions with improvisations that could hold more keys to the adaptability and application of polymodal chromaticism.

The focused music analysis done in this research reveals how polymodal chromaticism could be adapted into new compositions through the findings of compositional techniques, method of adapting the theory on a harmonic progression and possible compound scales creation. The flexibility of the polymodal chromaticism theory can be seen through the analysis in this study on how it adapts to the style of an individual or sections of a piece. The findings in this research allow further exploration of polymodal chromaticism in jazz and contemporary music in the future.

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