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Exploring Pianistic Challenges and Intercultural Markers in Petra Symphonic Poem Using a Comprehensive Analytical Framework

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Abstract

Objectives: This article analyzes the piano part in Haitham Sukkarieh's Petra Symphonic Poem to uncover its unique technical challenges and intercultural features. It also introduces a comprehensive analytical framework that categorizes technical demands in piano compositions, aiming to support pedagogy, composition, and performance research across styles and genres.

Methods: The study builds on original research and incorporates an in-depth review of ABRSM piano syllabi to develop a systematic approach. Technical demands are classified across twenty-three parameters to assess the piece's complexity in a structured manner.

Results: The analysis identifies significant technical challenges in hand coordination, articulation techniques, and rapid repetitive motion. Petra Symphonic Poem exhibits late intermediate to advanced-level difficulties, especially in multitasking, articulation coordination, and execution speed.

Conclusions: Sukkarieh's blending of Arabic and Western musical traditions—evident in maqam-inspired ornamentation, percussive writing, and mixed textures—enhances the work's intercultural character. The proposed analytical method offers a valuable tool for understanding pianistic demands in contemporary repertoire and can benefit music education and scholarship more broadly.

Keywords: Piano; performance; technique; education; analysis; Arabic music.

استكشاف التحدِّيات التقنيَّة في جزء البيانو والعلامات الثقافيَّة المتبادلة في قصيد البتراء السيمفوني باستخدام إطار تحليلي شامل

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ملخّص

الأهداف: يقدم هذا البحث تحليلاً لجزء البيانو في قصيد البتراء السيمفوني للمؤلف هيثم سكريَّة، بهدف تحديد خصائصه الفريدة وإثبات جدوى الإطار المبتكر والشامل للتحليل التكنيكي. يسهّل هذا الإطار التصنيف الممنهج للمتطلبات التقنية وتحديات الأداء اللازمة لأي عمل موسيقي يُعزف على البيانو، بغض النظر عن الأسلوب أو النوع الموسيقي، وقد صُمِّم ليكون قابلاً للتطبيق في سياقات مختلفة، مما يجعله أداة فاعلة في مجالات مثل علم تعليم البيانو، والتأليف الموسيقي، ودراسات الموسيقى.

المنهجيَّة: تتوسع المنهجية المتبعة انطلاقًا من بحث أصيل أجراه المؤلف، يشمل دراسة معمقة لمناهج البيانو الخاصة بالمجلس المشترك للمدارس الملكية للموسيقى (ABRSM) لضمان اتباع نهج مهيكل ومنظم في التقييم التقني، وقد جرى تصنيف المتطلبات التقنية وفقًا لثلاثة وعشرين معيارًا محددًا؛ مما يسهم في تحقيق تقييم دقيق وشامل .يكشف التحليل عن تحديات تكنيكية بارزة مثل التناسق بين اليدين، وتقنيات النطق، وتنفيذ الحركات التكرارية السريعة.

النتائج: أظهرت النتائج أن قصيد البتراء السيمفوني يطرح تحديات تقنية تتراوح بين المستوى المتوسط الأقرب للمتقدّم والمستوى المتقدّم، ولا سيما في تعدد المهام، والتنسيق النطقي، وأداء الحركات السريعة.

الخلاصة: يتجلى أسلوب سكرية في دمج التقاليد الموسيقية العربية والغربية عبر الأنسجة المونوفونية والهوموفونية، والزخرفة المستوحاة من المقامات، والكتابة الإيقاعية لآلة البيانو؛ مما يعزز هُويَّة هذا العمل المتداخل الثقافات .يظهر هذا التحليل المنهجي كيف يمكن استخدام طريقة متكاملة للتحليل التكنيكي في الدراسات الأدائية، بما يسهم في تعزيز فهم التحديات التي تواجه عازفي البيانو على نطاق أوسع.

الكلمات الدالَّة: البيانو، الأداء، التقنيَّة، التعليم، التحليل، موسيقى عربيَّة.

Introduction

Haitham Sukkarieh's *Petra Symphonic Poem (PSP)* was composed in 2008 and commemorates Petra's designation as one of the New Seven Wonders of the World on July 7, 2007. Situated in southern Jordan, Petra holds immense historical significance because it served as the capital of the ancient Nabatean civilization and is renowned for its intricate architecture, which is carved into the red sandstone cliffs. Like Sukkarieh's other orchestral works, this composition integrates the piano both as a solo and ensemble instrument, reflecting its dynamic role in modern classical music and allowing for the display of technical prowess. Additionally, the piano part reflects cultural influences, echoing the tonal qualities and technical complexity of Middle Eastern instruments like the *qanun*, thus bridging traditional and modern musical aesthetics.

Primarily, this composition has been selected for analysis due to the broad range of pianistic techniques it encompasses, making it an ideal candidate to demonstrate the viability of the proposed analytical framework (Momani, 2021). Sukkarieh's work also represents a significant turning point in the Jordanian musical landscape in its integration of Arabic music into large-scale works, such as the symphonic poem, and its unconventional use of the piano as part of the orchestral texture. This provides a rich opportunity for examining the specific performance techniques employed in such compositions. Although substantial scholarship exists on Sukkarieh's oeuvre (Jubraeel, 2010; Albadawi, 2019), little attention has been devoted to the technical aspects of piano performance in his works.

While the fields of music performance, education, pedagogy, and musicology are rich with extensive literature about piano technique, it is uncommon to find attempts at codifying pianistic techniques within a single well-defined framework. While piano technique can be complex and multi-faceted, most existing sources identify techniques in rather broad and non-specified manner. For example, Liu (2013), Chang (2016), and Tsai (2017) have presented analyses of Taiwanese piano music that are generally useful for students, teachers, and performers. However, their analyses are limited in terms of targeting narrow skill levels and generalised technical descriptions. Other researchers like Abeyaratne (2001) and Orduz (2010) offer broader frameworks that incorporate a wider range of different categories such as rhythmic coordination, syncopation, repeated notes, hand leaps, etc. However, these are also somewhat limited in terms of lacking technical detail in each of these categories. Some sources refer to piano techniques as being dynamic and fluid in nature, reflecting the ever-changing nature of musical aesthetics and the evolution of instruments. For example, Haiyang (2023) examined pieces and identified their building blocks in broad groups such as chords, phrasing, and fingers agility. More recent research explores specific extended piano techniques, such as clusters, inside-the-piano-string playing, sympathetic vibrations, and many more (Yun, 2023). In summary, existing sources offer some useful methodologies for analysing pianistic technique but tend to be limited to generalised technical categories and analyses. The analytical framework presented in the paper attempts to address this gap in the literature by providing a more complete analytical tool that can serve a wide range of functions, including pedagogy, composition, and music scholarship.

Cultural Context

Haitham Sukkarieh (b. 1966) is an eminent Jordanian composer, conductor, and educator. His leadership of the National Music Conservatory Orchestra in Jordan—particularly in high-profile projects like the *Red Bull Symphonic* collaboration in 2022, which fused classical orchestration with contemporary music—exemplifies his expertise and versatility as a musician. He has been recognized regionally and internationally for such compositions as *Sunrise at Wadi Rum*, *Violin Concerto in C Minor*, *Habaitek Amman*, and the *Hashemite Kingdom of Jordan Symphony*. He has also composed several works for solo piano, including *Three Fugues for Piano* as well as chamber works like *Oriental Dance*, a trio written for clarinet, piano, and double bass. His contributions demonstrate a skilful integration of Jordanian cultural heritage with classical symphonic traditions, highlighting his commitment to national identity through music and making his work a valuable subject of study in contemporary musicology.

For centuries, Arabic music was predominantly centred around vocal performances, with purely instrumental music often condemned as sinful by religious authorities (Maalouf, 2002; Harden, 2006). Consequently, vocal music was considered the most acceptable form of musical expression, with instruments used primarily to support the vocal line. This

being said, traditional Arabic instruments are diverse and numerous, with the primary chamber ensemble (*al-takht*) consisting of the qanun, oud, nay**,** violin, and riqq. The first three instruments, which are melodic, are capable of producing microtonal music, contributing to their widespread use and popularity. The piano is unable to produce intervals of three-quarters of a tone which are required in Arabic musical traditions, unless it is tuned in an appropriate way, as Kamīl Šanbīr and Abdallah Chahine have done. For this reason, the integration of piano in Arabic music is rather recent; it was introduced to ensembles at the beginning 20th century only. It came along with a wider trend towards westernization, and owning and playing a piano became an omnipresent attribute of affluent and elite Egyptian households. In other words, the piano was a symbol of class and modern sophistication (Farraj and Abu Shumays, 2019, p. 260; Oostrum, 2012, p. 137). This trend towards the integration of Western music is evidenced by the 1932 Cairo International Music Conference, which included prominent invitees like Bela Bartok, Paul Hindemith, and Robert Lachmann (Danielson, 1997). Despite the piano's improbable integration with Arabic music (due to its equally tempered system juxtaposed with Arabic microtonal maqamat[1] (Tyseer, et al., 2014, Sukkarieh et al., 2014), the popularity of this instrument only continued to grow. Since then, many important artists have used the piano in their works, including Abdul Wahab, Zakiyya Hamdan, Um Kulthum, Solhi Al-Wardi, and Dia Succari to mention a few (Molina, 2021).

Nowadays it is unlikely to find a modern Arabic composer who does not have works including piano in their oeuvre. In such works, it is common for composers to emulate the sound, technique, and feel of the qanun. As interestingly described by Molina (2021, p. 22), qanun is "the closest cousin to the piano in the Arabic world" which makes it sound coherent and, therefore, blend well with the whole composition. This is due to its aggressive attack (with a metal strap and a turtle shell tip worn on the index finger), which makes it sound dry with a quick decay. This tempts the performer to repeat notes (*tremolo)* and heavily add ornaments to elongate the notes (Molina, 2021). However, this perspective is subject to debate, as many scholars consider the santur to be the closest relative of the piano from an organological standpoint. This association is primarily due to the percussive mechanism used to produce sound in both instruments.. Some specific ornaments and configurations are easily imitated and produced by the piano, which enables the piano to fit natively to the Arabic ensembles. Arabic music is monophonic at its core (Sukkarieh, 2014; Fathallah, 1971) and therefore prioritises the melody—i.e. the maqams and their modulations, alongside complex rhythmic structures—more than Western Classical music, which emphasises harmony, counterpoint, and orchestration. Traditional Arabic musicians very seldomly play (or sing) one same melody twice in an exact way, which makes ornamentation and improvisation central to any performance (Molina, 2021; Farraj & Abu Shumays, 2019).[2] The term *Taqsim* (pl. *Taqasim*; literally translates as 'to divide') from Arabic language, is used to indicate instrumental improvisation. According to Farraj and Abu Shumays (2019), taqasim improvisations mirror the flow of a story, beginning with an introduction of characters or moods, culminating to a peak and then resolving with a final cadence (Ibid.). The performance of taqasim is described by the Egyptian music historian Mahmud Kamil as a test of a musician's skill, especially in demonstrating their dexterity and ability to modulate between various maqamat (Kamil, 1975).

Objectives

- To analyze the pianistic challenges in *Petra Symphonic Poem* using a systematic technical framework.
- To explore the integration of Western classical and Arabic musical elements in the piano part.
- To demonstrate the framework's applicability in piano pedagogy, performance, and composition.

[1]As perfectly escribed by Scott (1992), "each maqam is a part of a fabric, that includes all the maqamat (or at least a large number of neighbouring maqamat).

[2] The greatest vocal masters such as Um Kulthum and Abdel Wahab learnt the art of vocal improvisation from the practice of *Tajweed*, chanting Holly *Quran a cappella.* This intricate and highly sophisticated way of *Quran* recitation heavily relies on ornamentation and *ajnas* modulations for its melodic and improvisatory foundation (Danielson, 1997).

Methodology

The technical analysis of the piano part in *PSP* will utilise a framework derived from original research by the author (Momani, 2021) which seeks to offer a more systematic and comprehensive approach than those previously available in the literature. This framework is comprised of twenty-three categories informed by an in-depth analysis of pieces across all available grades in the ABRSM system that each focus on a particular area of attention for pianists when preparing to play a composition.[3] The analytical framework and piano technique categorization used in this dissertation were developed through a structured and systematic approach. The methodology behind the framework is explicitly outlined in Chapter 4, where the techniques were extracted and analyzed from the ABRSM practical piano exam syllabi (2011–2018). This rigorous analysis formed the foundation of the framework and ensured its comprehensiveness and applicability. Additionally, Chapter 5 details how this framework was implemented in the creation of the Momani-Skrypnik Piano Curriculum (MSPC), developed in collaboration with a professional composer. The framework's validity is further reinforced through an evaluative study in Chapter 6, where its impact on students' motivation and technical development was assessed.

The analysis will observe significant examples in each category, the technical level of these examples (e.g. the easiest and most challenging instances), and the way each category was implemented within the score.

The utilised framework contains the following technical categories:

1) ***Dyads and Chords:*** the range of dyads (from minor seconds to over an octave) and various chords. Chords are classified by the number of notes, the maximum interval span, and the fingers used. Other considered factors include hand usage, the sequence of chords, articulation, direction (ascending, descending, repetitive), and whether notes are tied or repeated. Additionally, it is useful to analyse how these chords and dyads interact, focusing on the difficulty of playing them in different combinations and the emphasis on specific voices within a chord or dyad.
2) ***Ornamentation:*** includes trills, mordents, grace notes, acciaccaturas, appoggiaturas, turns and grace notes, as well as their releases, which affect the level of difficulty.
3) ***Articulation:*** encompasses how a note or group of notes is played, affecting sound length, key attack, timbre, and character. This includes styles like legato, staccato, accents, and marcato, and explores variations like legato-staccato combinations, and complex patterns involving dyads and octaves. Additionally, this category covers layered articulations, such as combining an accent with staccato or tenuto on the same note.

a) *Coordination of Articulation:* explores how articulation differs between and within hands. For example, it includes legato in one hand and staccato in the other, or a two-voice structure with legato in the top voice and staccato in the lower voice (within the same hand). It also considers the frequency of articulation changes, such as switching from legato to staccato multiple times in a piece or a particular passage.

4) ***Dynamics:*** the degree of loudness or softness in music, ranging from *pianississimo (pppp)* to *fortississimo (ffff*). This category assesses the use of different dynamic levels, the frequency and types of changes, and their relationship to tempo. For example, playing four-note chords is generally easier in *forte* or *mezzo forte* than in *pianissimo*.
    a) *Coordination of Dynamics:* examines simultaneous dynamic combinations, such as *forte* in one hand and *piano* in the other, or varying dynamics within the same hand in a polyphonic structure, where one voice is more prominent than another.
    b) *Gradual Dynamics:* slow changes in sound intensity, including *crescendos* and *diminuendos*, their variations, and how they interact with tempo. For example, a two-bar *crescendo* from *piano* to *forte* is different from an eight-bar one from *pianissimo* to *fortissimo*. A *diminuendo* with *ritardando* is easier than with *accelerando*, so phrase length is key for controlling sound.
5) ***Jumps:*** reaching distant notes without stretching due to large intervals or specific articulation. They include single

[3] The currently used version of the framework has been revised from the original version (Momani, 2021); it has been further consolidated for the sake of concision and clarity.

notes, octaves, dyads, and cross-handed jumps, with attention to finger use and span. For example, a three-octave jump is more challenging than a fifth interval, and jumping between chords is harder than between single notes.

6) ***Coordination of Movement:*** a challenging aspect of keyboard playing, focuses on hand movements like ascending, descending, and contrary motion, as well as techniques like unison playing and *Alberti* bass. It includes both hands or fingers on the same hand, such as hand rotation and backward rotation. It also addresses hand coordination for phrases with misaligned start/end points and the scale of coordination needed, from single notes to dyads, chords, or octaves.
7) ***Change of Texture:*** the evolution of musical layers in a piece, such as transitions from polyphony to homophony and back. It includes interactions between hands or within a single hand, and considers elements like voice conversation, imitation, melody, accompaniment, and polyphony. It also covers how textures are achieved, for example, emphasizing a top legato voice in two-voice polyphony while the lower voice has a different articulation.
8) ***Polyphony:*** the technical management of multiple sound layers, whether distributed between hands or within a single hand. It involves distinguishing voices with contrary stems and considers which voices are held longer, which remain static, and which are dynamic, in various combinations.
9) ***Finger Changes:*** the fingering used for playing sequential notes, such as using the first and fourth fingers for a major second interval. It also includes techniques like repeating the same note with different fingers for accuracy. This category considers the sequence of fingers, the frequency of changes, tempo, and note values. For instance, repeating a quaver with two fingers at a *moderato* tempo is easier than repeating a semiquaver with four fingers at an *allegro* tempo.
10) ***Phrasing:*** the length and shape of musical phrases. Simpler extracts have short, basic phrases, while advanced ones feature longer, more complex ones, often with smaller phrases nested within larger ones. Advanced phrasing may also include transitions between hands.
11) ***Hand Stretching:*** stretches used for exact intervals. This also covers how often a particular stretch occurs in a piece.
12) ***Transition between Hands:*** the smooth transition of a melody or musical line from one hand to the other. This can involve continuing a melodic line seamlessly between hands or emphasizing a melody within a texture like a fugue or homophony without necessarily passing it as a single unit. This type of transition requires adjusting hand weight and finger shape to bring out the melody. Transitions can involve longer melodic lines, arpeggios, or scales where one hand begins and the other continues without a gap.
13) ***Hands Overlapping:*** the action of hands crossing into each other's space. This category includes noting the distance of the overlap, which can range from small, with hands playing close together, to large, with a gap of several octaves. The frequency of overlapping in a piece and the scale of the overlap—whether involving single notes, octaves, dyads, or chords—are also key factors in determining the piece's difficulty.
14) ***Rapid/ Repetitive Movement:*** techniques requiring quick finger actions over close keys, such as scales and trills at fast tempos, or playing short notes like semiquavers. These movements demand specific practice methods, like dotted rhythms and accented patterns, to ensure accuracy and precision. The role of the other hand is also noted, such as holding a sustained note or playing repetitive chords while the right hand executes rapid movements. The tempo is mentioned to gauge the increasing difficulty across different levels.
15) ***Rhythm:*** prevalent patterns and combinations, specifying note values, syncopation, stylistic figures, tuplets, and intervals. This category also includes polyphonic contexts and whether the other hand assists in counting. Rests are emphasized, especially in early grades (levels of study), as they are crucial to certain rhythms.
16) ***Tempo Changes:*** the different tempi and the number of changes, including metronome markings and composer instructions like *meno mosso* or *accelerando*. The location of these changes is important; slowing down at the end is easier than making multiple changes and returning to the original tempo.
17) ***Time Signature:*** time signatures used and their changes throughout a piece. Some pieces shift signatures every measure, such as rotating between 4/4 and 3/4, while others vary more widely (e.g. 4/4, 5/4, 2/4, 6/4), demanding

advanced meter and pulse adaptation skills.

18) ***Key Signature:*** the number of flats and sharps in the key, as well as the maximum accidentals in a bar. This helps gauge the performer's ability to handle accidentals and key changes at different levels.
19) ***Pedalling:*** covers various aspects, including whether pedalling is indicated or discretionary, the exact points of depression and release, the number of changes per measure, timing (on the note or late), and whether sustain (*tre corde*), soft *(una corda*), or both pedals are involved.
20) ***Change of Clefs:*** use of non-standard clefs and the number of clef changes in a piece. Naturally, many changes demand more focus.
21) ***Keyboard Range:*** the register and span of keys used in a piece. This category indicates when both hands play in the same clef, the presence of extreme high or low notes, hand crossings, the use of rests or long notes for positioning and re-positioning, and the frequency of large gaps between notes, which can add difficulty if they occur often.
22) ***Musical Expressions:*** encompass all French, Italian, and German terms in the score related to touch (*e.g. leggiero, cantabile*) and mood (e.g. morendo, giocoso), as well as terms linked to tempo (*e.g. poco piu mosso*) and dynamics (*e.g. molto crescendo*).
23) ***Multitasking:*** the number of simultaneous tasks or elements in a piece, which may span multiple categories. For example, a section might require managing a *crescendo*, accents, complex rhythms, and chords simultaneously. It also applies to polyphonic structures with different voices in the same hand. The interaction of tasks, like combining a *crescendo* with either an *accelerando* or a *ritardando*, is also considered.

Analysis of *Petra Symphonic Poem*

Dyads and Chords

This piece is noted for its extensive usage of large chords, some are repetitive, such as in sections A (mm. 25–44), section B (mm. 45–64), also mm.128–143, and section G (mm. 135–154), section J (mm. 205–225), and mm. 251–260. It also heavily relies on a skilled and accomplished use of octaves in the left hand (LH) for long passages with jumps and changed positions such as in section A (mm. 25–44), section B (mm. 26–62), section J (mm. 206–239). Other chords are more challenging for being non-repetitive and require a quick shift of hand position due to different note positions (without tied or repeated notes from a previous chord), such as in the opening (mm. 1–24) and also in mm. 108–109 (Fig. 1).
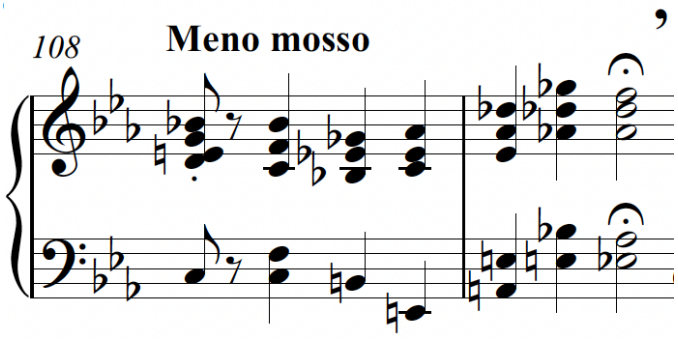


Figure 1: mm. 108–109
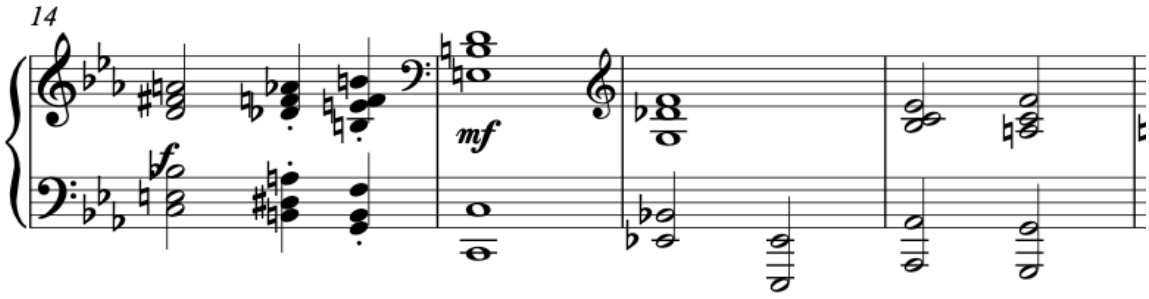


Figure 2: mm. 14–17

The smallest and easiest chord used in *PSP* is a three-note chord spanning over a fourth interval in the right hand (RH) (m. 17; see Fig. 2) using comfortable fingers (1, 2, 4), and accompanied by an octave (black keys) in the LH, in a moderate tempo in minims (one crotchet=110). The largest chord found is a four-note chord of all white keys spanning over an octave (m. 14, see Fig. 2), using comfortable fingers (1, 2, 3, 5), and accompanied by a three-note chord in the LH, with a required jump of crotchets in a moderate tempo (one crotchet=110).

Arpeggiated four-notes chords were used in both hands simultaneously over a span of one octave maximum (see mm. 110, 111, 114–117, 120–123), some were repeated one octave higher each time played (see mm. 115, 121, 197, 198–202). Quick repositioning is required as jumps occurred in an ascending motion one octave higher in both hands over a moderate tempo with no rests between crotchet-length chords.

Octaves in LH were used extensively in this piece over prolonged passages such as in mm. 25–65 and 206–242. The longest passage of consecutive octaves was presented in mm. 25–65 where they are marked in staccato with syncopated accents on the first, fourth, and seventh quavers (beats). Mixed black and white keys were used in the octaves where the maximum jumps occur over a span of 9th interval in an ascending motion between G and A flat (mm. 43–44). Quaver rests were used before jumps, so there is a preparatory time to land correctly.

Ornamentation

Acciaccaturas and trills are noted in the taqasim section (mm. 187–193) in the RH only. The acciaccaturas appear extensively on each note in the run (18 quaver notes in a row) with staccato. This is unusual for a Western Classical piano, and it imitates qanun technique (mm. 187–188).

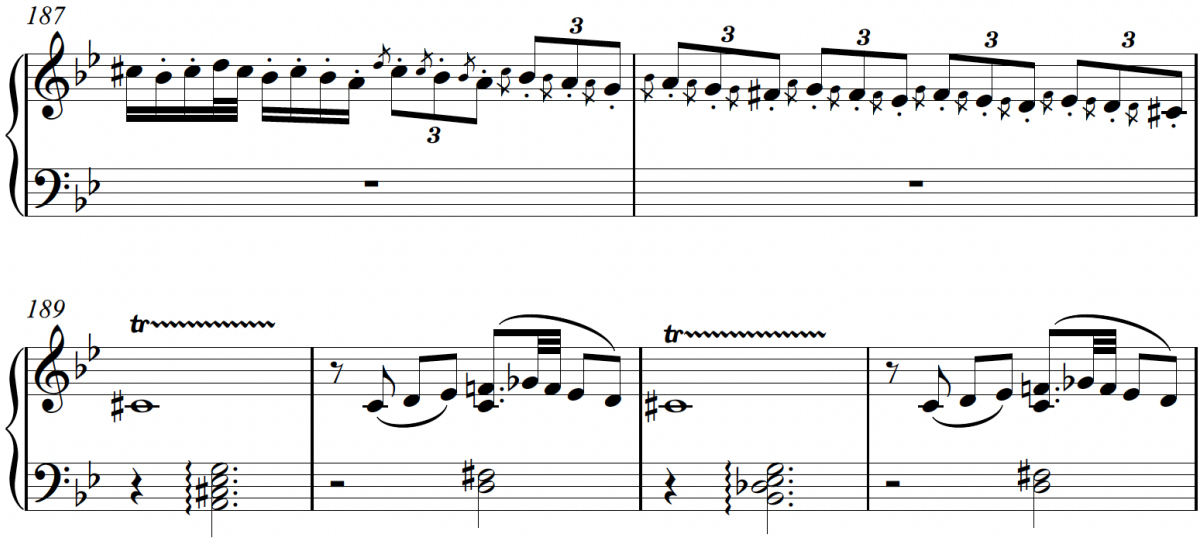


Figure 3: mm. 187–193

Trills appear without markings of realisation which gives the performer more freedom to adapt necessary endings. Trills use two notes only without holding other notes as a second layer, which makes it simple and monophonic.

Articulation and Coordination in Articulation

Staccato is widely used in *PSP*, particularly on chords (see mm. 2, 5) and octaves (see mm. 25–44). The articulation used in these chords mostly legato and staccato, where it matches between hands, therefore no coordination in articulation is required (see mm.1–6) as an example. The staccato chords however make the jumps more challenging, specially where the tempo is quite lively. It is also used on single notes in quick semiquaver and demisemiquaver passages (mm.186, 187). Staccato is mostly used with no coordination between hands, as both play the same articulation (mm. 2, 5 and 77, 132–134)). However, in some places (mm. 25–44), the LH plays staccato octaves in quavers while the RH accompanies with normal (*non-legato*) chords crotchets and quavers, which requires the player to lift the LH faster than the RH.

Staccato is used in combination with accents (marcato), mostly in syncopated passages to accentuate the first, fourth, and seventh beats (mm.25–44). A particularly interesting combination of staccato and acciaccaturas can be seen in mm. 187–188 (see Fig. 3), where each quaver of the run is marked staccato (to imitate the qanun). Staccato is also used on very short notes in passages such as in mm. 186–187 where each semiquaver is marked and played in a free-tempo style as it is a part of the improvisational section (taqsim).

Legato is used to group notes such as in mm. 101–105, where both hands share the same articulation, and start and end the mini-phrase at the same points, which require no coordination between hands. Legato (although unspecified in the score) is used to group octaves as well (see mm.112, 118), where it is impossible to execute without leaving the fingers off the keys, but it is rather used mentally and with the help of sustaining pedal (although not specified in the score).

Dynamics, Gradual Dynamics, and Coordination of Dynamics

The dynamic range of PSP spans from *piano* to *fortissimo*. Sudden dynamic changes from *piano (p)* to *forte (f)* can be observed in mm. 1–14. The piano part contains no instances where careful preparation for dynamic stretching is necessary as the passages over which *crescendi* or *diminuendi* occur are relatively short—e.g. a *crescendo* from *p* to *f* over a two-bar phrase (mm. 77–78). Furthermore, there is no coordination in dynamics noted in this piece as both hands generally play at the same dynamic level (except any parts where a melody should implicitly be heard more prominently than the accompaniment, as understood from the context).

Jumps

Jumps were used in both hands using single as well as clustered notes and occur frequently throughout the piece without any ritardando or tempo flexibility, increasing the level of difficulty. In mm. 45 and 78, the same four-note chord in the RH is played an octave higher each time while the LH plays one octave for the duration of the bar, so the main focus should be on the RH to land on the correct chord. In mm. 14–15 (see Fig. 2), more challenging jumps occur in both hands simultaneously where they move in similar motion (descending) using two chords in the RH and a chord jumping to an octave in the LH. The overall span of jumps does not exceed a 6^{th} interval in the RH and a 14^{th} interval in the LH (mm. 179–180). In m. 180, despite requiring a three-octave jump in the LH, the challenge is mitigated by the long chords (dotted minim) in m. 179, which can be sustained with pedal support.

Jumps occur in long passages (up to 40 consecutive bars) using octaves in the LH (mm. 25–65). The span here covers a maximum interval of 9^{th} (m. 43–44), using quavers in *staccato*, without rests, accompanied by four-notes chords in the RH (no jumps required as two common notes are used in the chords). Less challenging jumps include single notes in quavers in the LH (mm. 73–74) where the span is a 10^{th} interval and happens between the 5^{th} and 1^{st} fingers. Jumps on semiquaver notes happen in fast runs (no rests) in both hands simultaneously, not exceeding a sixth intervals in similar motion (ascendingly), such as in mm. 101–105. All jumps occur in relatively fast tempo (one crotchet=110).

Coordination of Movement

Coordination between hands is not a particularly challenging aspect of this piece. The direction of hands in many places is managed relatively easily. For example, while the LH jumps in octaves continuously over long passages, the RH plays the same chords, which allows more focus on the challenging hand (mm. 25–44). Motion in unison is used a lot, especially when playing scales in both hands, one octave apart (mm.100–105). The phrasing is helpful for coordinating the hands, as the start and end points line up between the hands, making them weigh equally (see also mm. 155–162). Hand rotations were primarily utilized in the left hand (mm. 67–75), where fingers 1 and 2 alternate to navigate between groups of quavers. This is easily accomplished due to the moderate tempo and the relatively long note values (quavers).

Chordal movement in both hands happens mostly in an ascending direction, with both hands playing arpeggiated chords one octave apart (mm.115, 121, 196, 197–203). Contrary motion was also used in chords (m.14) but the jump span is small (a third maximum), which makes it easily controlled. In places where the LH has big jumps (over one octave) using octave dyads (mm. 60–61), the change of the chords in the RH is easy because it has two common notes (D and F), so a big jump is not required, allowing for LH focus.

Change of Texture

The piano part of *PSP* serves primarily as an accompaniment (part of the orchestral work), even though there are solo parts (mm. 174–196). Therefore, when the piano has the melody, it is usually voiced by other instruments too.

The textures used in the piano part throughout the piece primarily include simultaneous chords in both hands that double the melody in the orchestra (mm. 1–24), octaves in the LH as a melody double and same repeated chord in the RH (mm. 25–44), melody in single voice in the LH accompanied by changing chords in the RH (mm. 67–75), melody in both hands played in unison one octave apart (mm.100–106), chords in both hands simultaneously as accompaniment to the orchestra (mm. 128–154). In the piano solo section (taqasim), the melody passes from the octaves in the RH to the octaves and chords in the LH (mm. 174–179). There are also quick runs of semiquavers and demisemiquavers (m.180, 186) in the RH accompanied by long non-changing octaves in the LH and a few monophonic sections where quick runs in the RH are not accompanied by the LH (mm. 187, 188, 194–196).

Polyphony

No contrapuntal polyphony is present in this piece, neither between the hands nor within the same hand.

Finger changes

Fingering was not assigned by the composer and was left to the player's discretion. Sequential notes can be played using the most logical fingers, with no major challenges observed. When playing scales passages (e.g. mm. 101–105), a change from the first to fourth fingers in the RH, where the white key is played by the first and the black key is played by the fourth finger, is appropriate. The interval stretch is a major second (C to B flat in m. 101).

The same fingers move backwards in the LH (from G flat to F in m. 101) on a stretch of a minor second. No repetitions were observed in single notes in this piece.

Phrasing

Phrasing is mostly not specified by the composer and is left to the player's discretion. However, it is rather simple and logical, following the natural flow of music. No overlapped phrases were used (the start and end points align) and no nested smaller phrases were found within a bigger phrase. The only place where phrasing is specified is a pattern of scales runs in both hands, where the start and end points match (mm. 101–105, and mm. 190, 192). Phrases that transition from one hand to the other were not observed.

Hand Stretching

In chordal clusters such as in m.2, a stretch of a fourth interval (both white keys) occurs between the third and fifth fingers in the RH. In m. 14, the same interval is played using the same fingers, but the upper note is on a black key. Another stretch in the LH covers a span of a fifth interval taken by the fifth and second fingers in mm. 2, 137 and mm. 67, 73; where 73 uses both black keys). The same interval span is observed in the LH using the third and first fingers (m. 22) where the lower note is black (D sharp). Another interesting stretch happens in the RH between the second and third fingers over the span of a fourth interval where both keys are black and are part of a four-note chord (m. 84).

Octaves are played with convenient fingers: either 1 and 4, or 1 and 5 in both hands (mm. 25–44, 112, 113, 118, 119, 157). No stretches over an octave are observed, whether played together as a dyad (m. 25) or a stretch between two single notes (mm. 157, 175). While the maximum stretch found is one octave, the level of challenge is increased when octaves are filled with other notes, such as in mm. 2, 14, 94.

Transition between Hands

There are no transitions of a melody within a single texture. The piece is mainly comprised of sections with clear distinction between melody and accompaniment. However, in the solo section, the melody transfers from octaves in the RH to the octave and chords in the LH seamlessly (mm.173–179). In the same section (mm. 194–196), the scale passage of semiquavers has sextuplets, which are better performed with the LH. This requires a smooth and quick transition from the RH to the LH and then back to the RH (nonuplets in m. 195).

Hands overlapping

No hands overlapping is observed in this piece.

Rapid/Repetitive Movement

Five different types of rapid/repetitive movement are notably used:

1. Quick runs in semiquavers (similar to a broken chord) that are repeated four times an octave higher (mm. 66, 79, 99, 226).
2. Arpeggiated chords that resemble the runs on the qanun (mm. 110–123), where both chords start from the bottom note and are played in both hands simultaneously. This requires a very quick shift of fingers to the next note and the note values are achieved through holding the pedal.
3. Tremolo is played in the RH over a span of an octave (mm. 112–113).
4. Scales in semiquavers in unison (mm. 100–105) one octave apart.
5. In the solo section (mm. 174–195), quick runs of semiquavers and demisemiquavers are used in the RH only while the LH has rests or is holding long notes. The challenge lies in the accuracy required to play these notes in *staccato* (mm. 186–188) while also playing *acciaccaturas*. Different rhythms were used in mm. 195 where the semiquavers are grouped in tetrads, quintuplets, sextuplets, and nonuplets.

Repetitive chords are used in four ways. The first two categories use octaves in the LH as the main melodic line with jumps while the latter two use three-notes chords with one common note:

1. Each chord is repeated for the duration of a whole bar (three times in a row), then changed to a different one and repeated for the same duration (see mm. 37–44, 54–64, 213–223).
2. Passages containing the same chord repeated for 36 times in a row (mm. 25–36, 46–53, 206–213). This requires hand relaxation to avoid stiffness and relatively small chords facilitate this repetitive movement (four-note chords spanning over an interval of a fifth in the RH).
3. Quick shifts between two chords using one common tone that occurs either—e.g. in the middle of a three-note chord (mm. 130–132) or at the top (mm. 251–257).
4. Quaver four-notes chords that change once per bar (i.e. two groups of chords that are repeated within the same bar),

each repeated between 3–5 times—e.g. in a pattern of repeating the first chord three times and the second one five times (8 chords total per bar; see mm. 135–142 and mm. 145–152). The changes of positions and the jumps are relatively easy in those passages, however the syncopated accents on the first, fourth and seventh note (all accompanied by chords in the LH to emphasize the accents) make it more challenging.

Rhythm

PSP's piano part features dotted rhythms, particularly dotted quavers followed by semiquavers in chords, which occur multiple times (e.g. mm. 45, 65). These rhythms are accompanied by the LH, which sustains an octave for the entire duration of each bar. Syncopation is widely observed in multiple sections such as in mm. 25–44, where the first, fourth, and seventh beats in the LH are emphasized by accents.

Triplets are used in m. 112, where the RH plays triplets in octaves while the LH sustains a single chord for the entire bar. This simplifies the execution, as no polyrhythms are created. Triplets are also employed in single notes, as seen in mm. 187–188. However, the challenge is heightened by the fact that each note is played *staccato* and is preceded by an *acciaccatura*.

Another interesting use of rhythms is showcased in mm. 194–196, where in the quick run of semiquavers there is a sequence of four notes followed by a quintuplet, then a sextuplet, then a nonuplet, demanding precise rhythmic calculation. This complexity is mitigated by the absence of an accompanying part in the LH, thereby avoiding the creation of polyrhythms.

Tempo Changes

The tempo is marked as *Allegro* (♩ = 110). Aside from this, no additional metronome markings are provided, with the exception of a *meno mosso* indication in mm. 108 and 261. The latter, occurring at the end of the piece, contributes to a reduction in difficulty during the final passages.

Time signature

The time signature remains 4/4 throughout the entire piece with no changes.

Key Signature

PSP is written in C minor (*Nahawand* is the corresponding Arabic maqam), with three changes in short sections: D major (twice) and G minor (from the solo section till the end). The use of accidentals is prevalent in this piece, as seen in m. 14, with the highest concentration occurring in m. 121, where there are sixteen accidentals within a single bar.

Pedalling

Pedalling is not indicated by the composer and is left to the performer's discretion. Nevertheless, its application is relatively straightforward, predominantly involving delayed pedalling (i.e. activated after the note is played) and adjusted in accordance with the harmonic structure.

Change of Clefs

There are forty clef changes throughout the piece, with the maximum number of four changes in a single bar (mm. 199–202).

Keyboard Range

This piece utilizes a broad keyboard range, spanning from D7 in the RH (m. 45) to D1 in the LH (m. 180), covering seven octaves.

Musical Expressions

This piece does not include many explicit musical expressions related to mood or playing style in the score. Instead, the overall feel of the piece conveys these elements. The only Italian term used in the score is *meno mosso*.

Multitasking

This piece requires significant multitasking, integrating various technical demands simultaneously. In mm. 14–15, a dense chordal structure with wide hand spans is paired with simultaneous jumps in both hands, alongside shifts in articulation from legato to staccato and dynamic changes from *forte* to *mezzo-forte*. All these transitions occur within just two bars, heightening the complexity. Similarly, in mm. 25–44 and 206–237, syncopated rhythms are combined with chordal passages in the RH, quick octave jumps in the LH, *staccato* articulation, and accented strong beats. Coordination in articulation between the hands is noted, as the RH maintains *legato* while the LH plays *staccato* octaves.

Discussion & Conclusion

The result of this analysis provides detailed information about the level of challenge presented by the piano part in *PSP*. Generally, implementations within each of these technical categories range from late intermediate to advanced levels. The most challenging aspects are described in the Multitasking category and in the discussion about the proper combination of articulations (e.g. *staccato* notes with *acciaccaturas* in mm. 186–188). However, challenge is mitigated by the balancing of difficult aspects with simpler complementary aspects, such as long jumps in the LH combined with longer notes in the RH (m. 179). Another example is in mm. 194–196, where challenging rhythmic passages in the RH are not further complicated by LH material.

This analysis has also served to reveal some compositional choices that support the apparent desire of Sukkarieh to blend Arabic and Western Classical styles. While the piece does not use quarter tones and therefore polyphonic textures could have been used more prominently, the exclusive use of monophonic and homophonic textures helps to mimic Arabic styles. Furthermore, the piano part has a coloristic and percussive quality that mimics the *qanun*, such as the arpeggiated runs in mm. 110–123 and the *acciaccaturas* and trills found in mm. 187–193 (see Fig. 3). The free-sounding rhythms in this section imitate the improvisatory style of the *taqasim*.
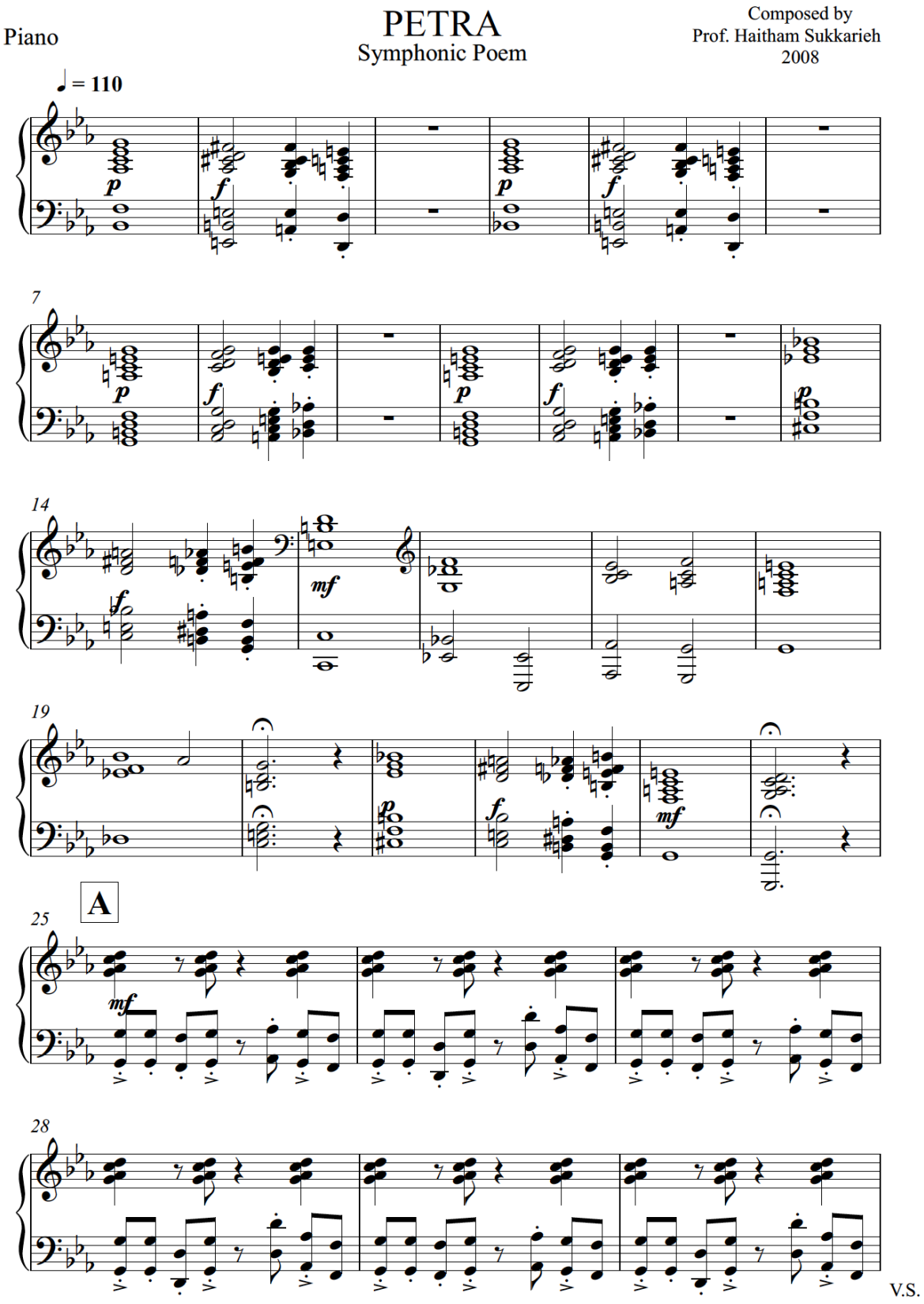
Lastly, this analysis demonstrates the utility of the novel framework used. By systematically analysing the piano part in each of these categories, observations like those mentioned above are more readily and clearly made apparent. It also helps to understand how deeply each category is considered and implemented as well as how categories are intertwined to form a united and coherent piece—e.g. how the execution of dyads and chords are affected by tempo. This method of technical analysis is perhaps most immediately valuable for learners and performers. To elaborate, being able to analyse a piece from a technical perspective helps piano learners with their choice of repertoire, so they can be precise and more careful with their choices, especially if they have weak areas to target and develop. For instance, being able to analyse how chords are structured from fingers' perspective and how it affects its level of difficulty helps them to know the limit to which they should stretch. It is also very useful to performers in selecting repertoire, especially if they want it to be versatile from a technical perspective—particularly, when they prepare for competitions and public exams. Teachers can benefit from this framework as it helps them see the extent to which each category is stretching their students' abilities, which directly affects their choice of repertoire and helps to assemble one that targets different areas that need improvements. This framework can also be helpful for composers to assess how each technique affects the level of difficulty of a piece—especially if they compose pieces with educational purposes that target a specific level of advancement. Certain techniques are not suitable for beginners as they demand a lot of control and fluency, which requires long years of practice. Furthermore, some techniques are not suitable for beginners' level as children with smaller hands simply cannot execute them. Lastly, a framework of pianistic techniques serves educators who assemble curricula for specific grades. It provides detailed information on each technical category in a piece and how it is incorporated within the body of all other technical aspects such as the tempo and multitasking and coordination of different techniques. This new analytical approach builds on

existing literature in this field and constructs a comprehensive system for precise technical analysis.
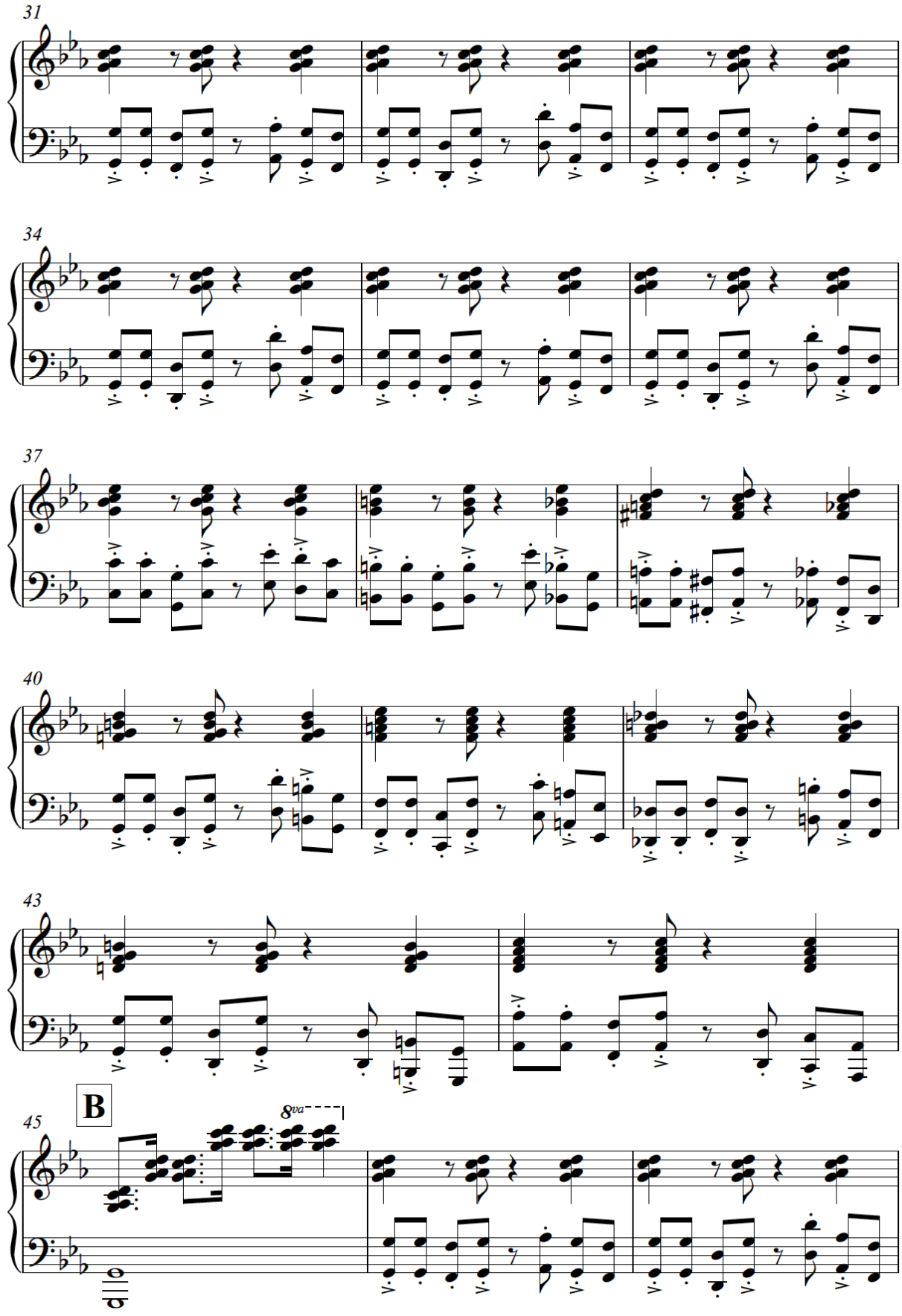
The scope of this analysis is intentionally limited to technical elements and challenges, and other more subjective factors such as the emotional perspective of interpretation have been omitted. Mastering a performance of a piece of piano music relies fundamentally on technical agility, which subsequently allows the performer to hone higher level aspects like artistic interpretation and style. This study is also intentionally limited in terms of cultural scope. This newly developed framework accounts for all possible techniques in a traditional Western Classical canon and does not include extended techniques (see Yun, 2023). Future research could expand this framework by incorporating techniques from a wider variety of musical compositions from different cultural contexts, further broadening the scope of this research. Future research should further explore the interpretative and musical aspects of such compositions, examining how these elements interact with and influence their technical demands. A more comprehensive analysis could investigate the relationship between phrasing, articulation, and expressive nuances in relation to the pianistic challenges presented in these works. Such studies would contribute to a deeper understanding of performance practice and inform pedagogical approaches tailored to repertoire that integrates diverse musical traditions. Additionally, piano pedagogues might further expand this framework by linking practical suggestions to each technique—either by suggesting existing etudes or developing new ones.
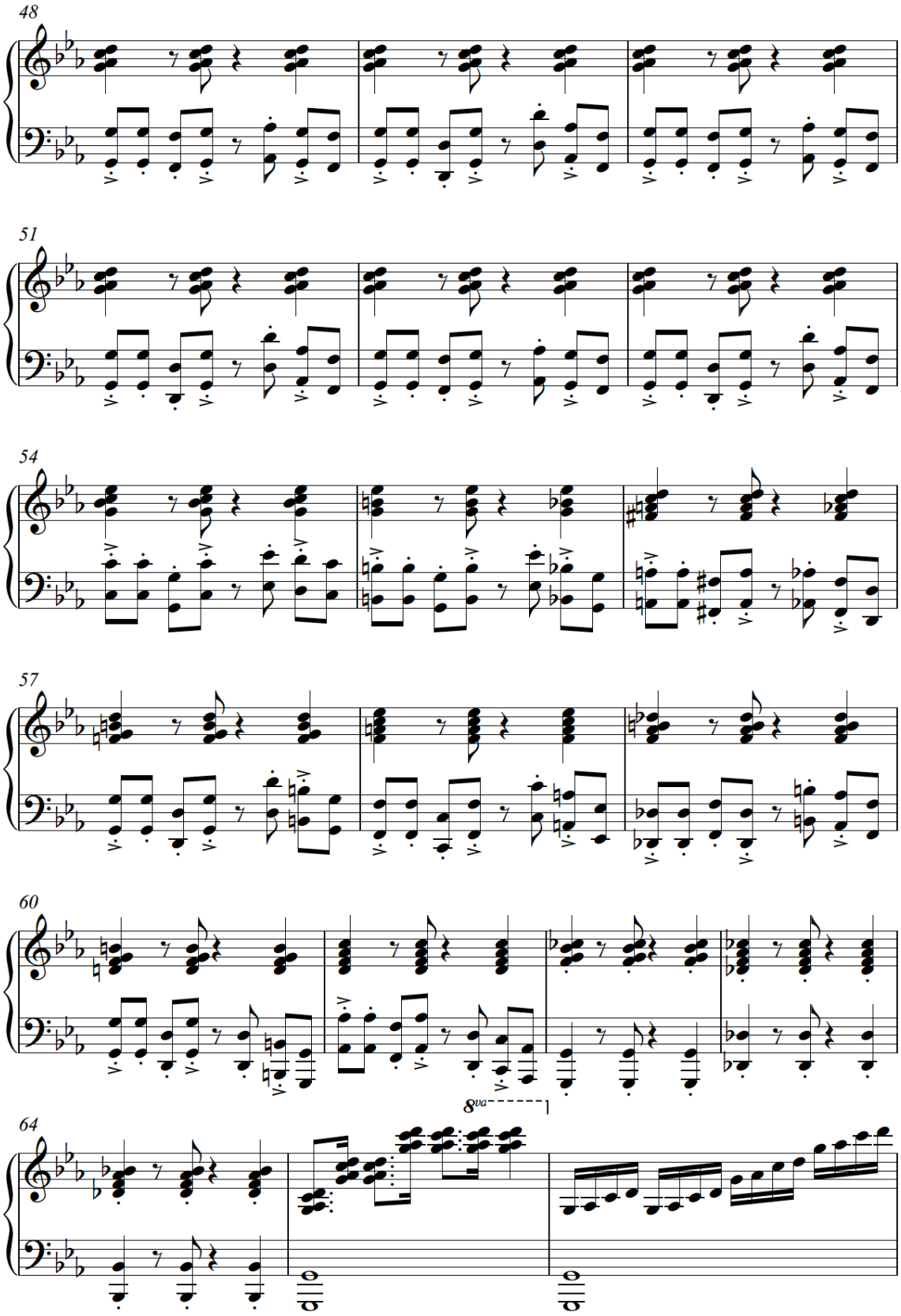
In summary, the comprehensive analysis of the piano part for Sukkarieh's *Petra Symphonic Poem* has revealed the unique pianistic challenges offered by this composition. The challenges, while significant in some areas, are distributed across different technical categories to ensure cohesion and yield a unified musical work. Additionally, the parsing of this piano part into different categories has helped to understand the manner in which this intercultural work uses specific techniques to successfully achieve a blend of Arabic and Western Classical styles. This analysis also demonstrates the utility and viability of the novel framework that has been refined from earlier work (Momani, 2021). This framework provides a systematic way to analyse a piano piece or a piano part in a multi-instrumental composition and understand its technical and pedagogical challenges. Each technical category focuses on a specific challenge to the learner/performer, and the framework as a whole acknowledges how these techniques interact and influence each other, which directly impacts the level of challenge it provides. This systematic method of analysis serves to improve understanding of pianistic challenges and is useful to a wide range of musical practitioners, including music teachers, learners, performers, education professionals, and composers.
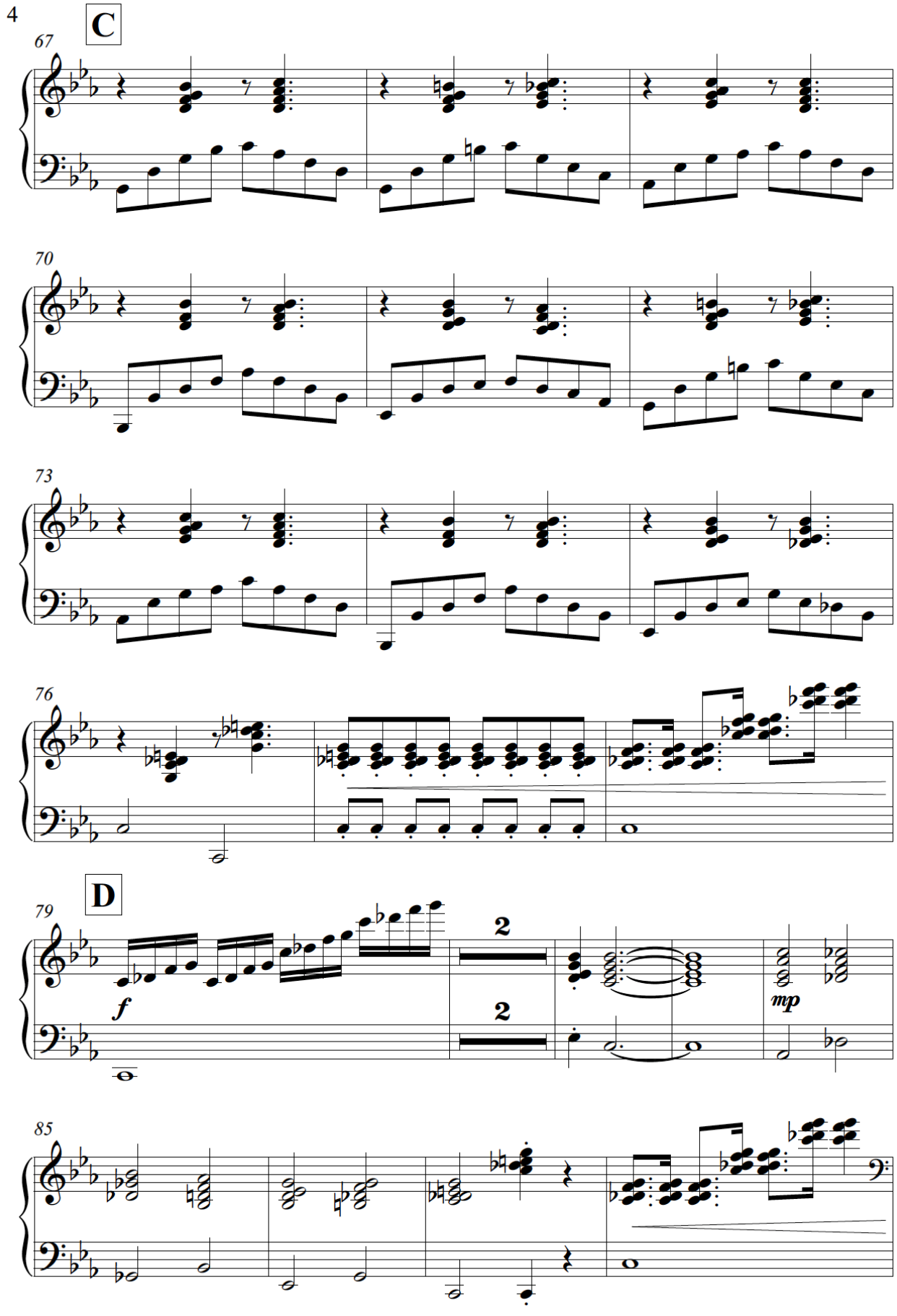
Appendix
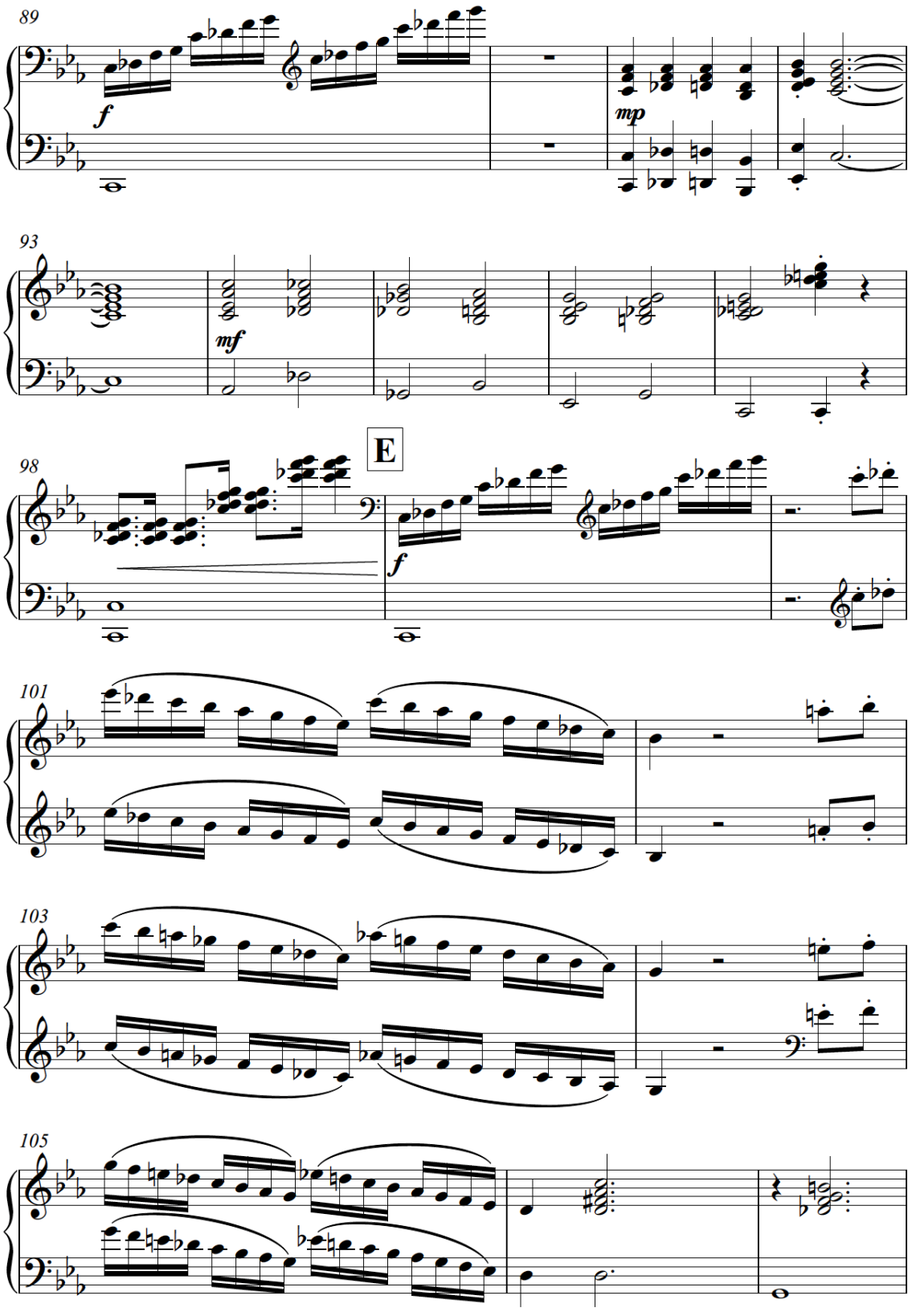

Piano
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Symphonic Poem
Composed by
Prof. Haitham Sukkarieh
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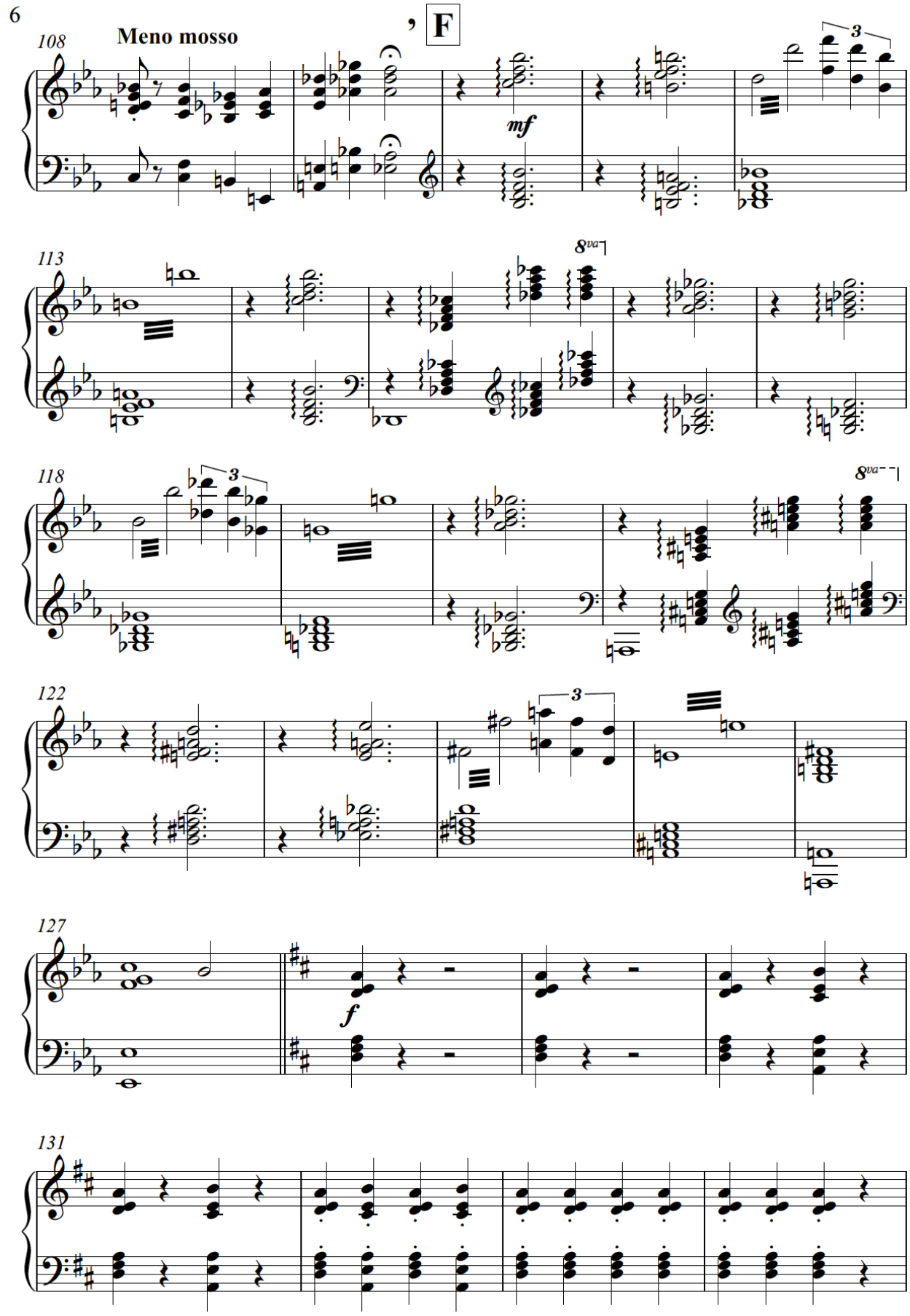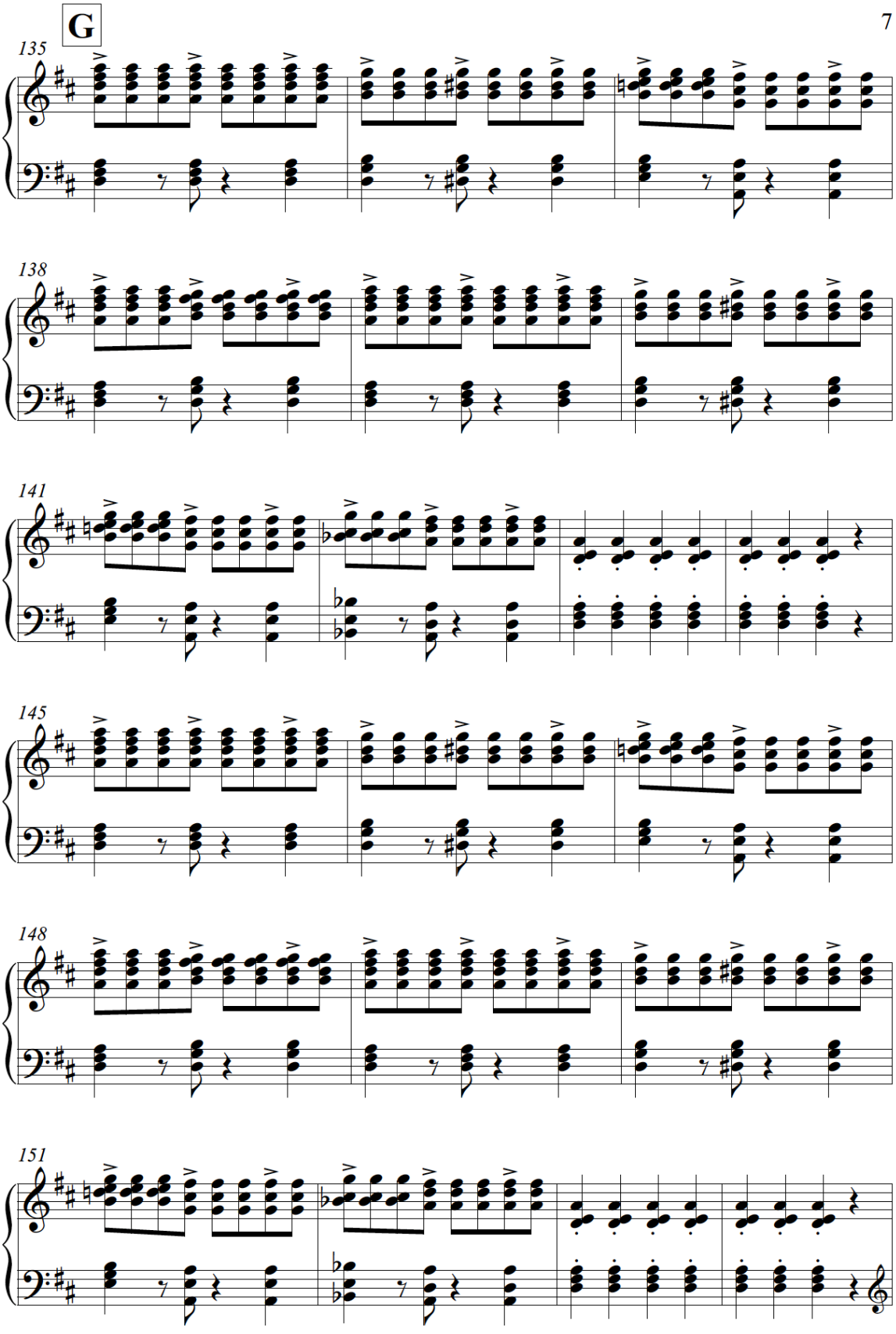



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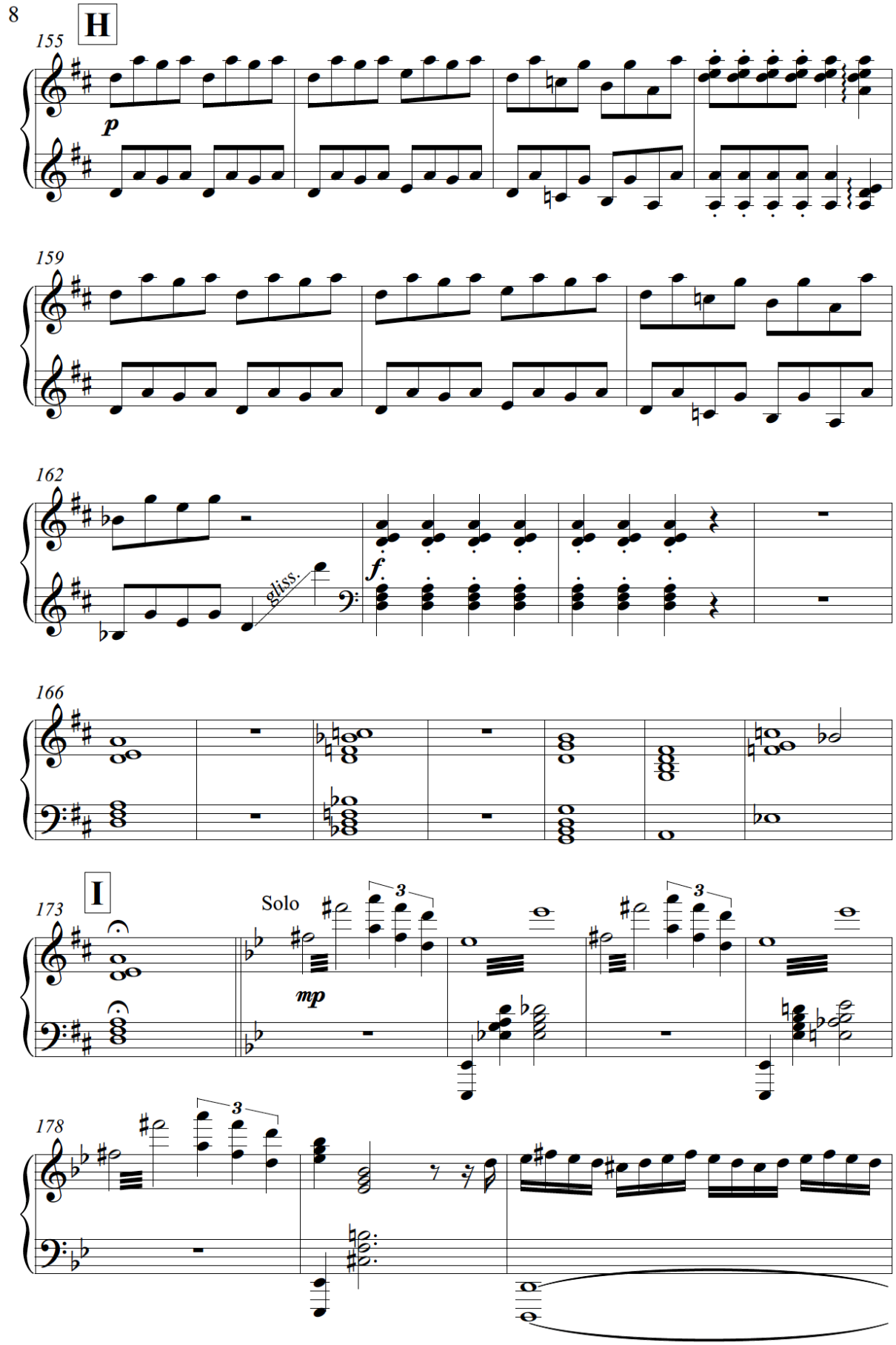

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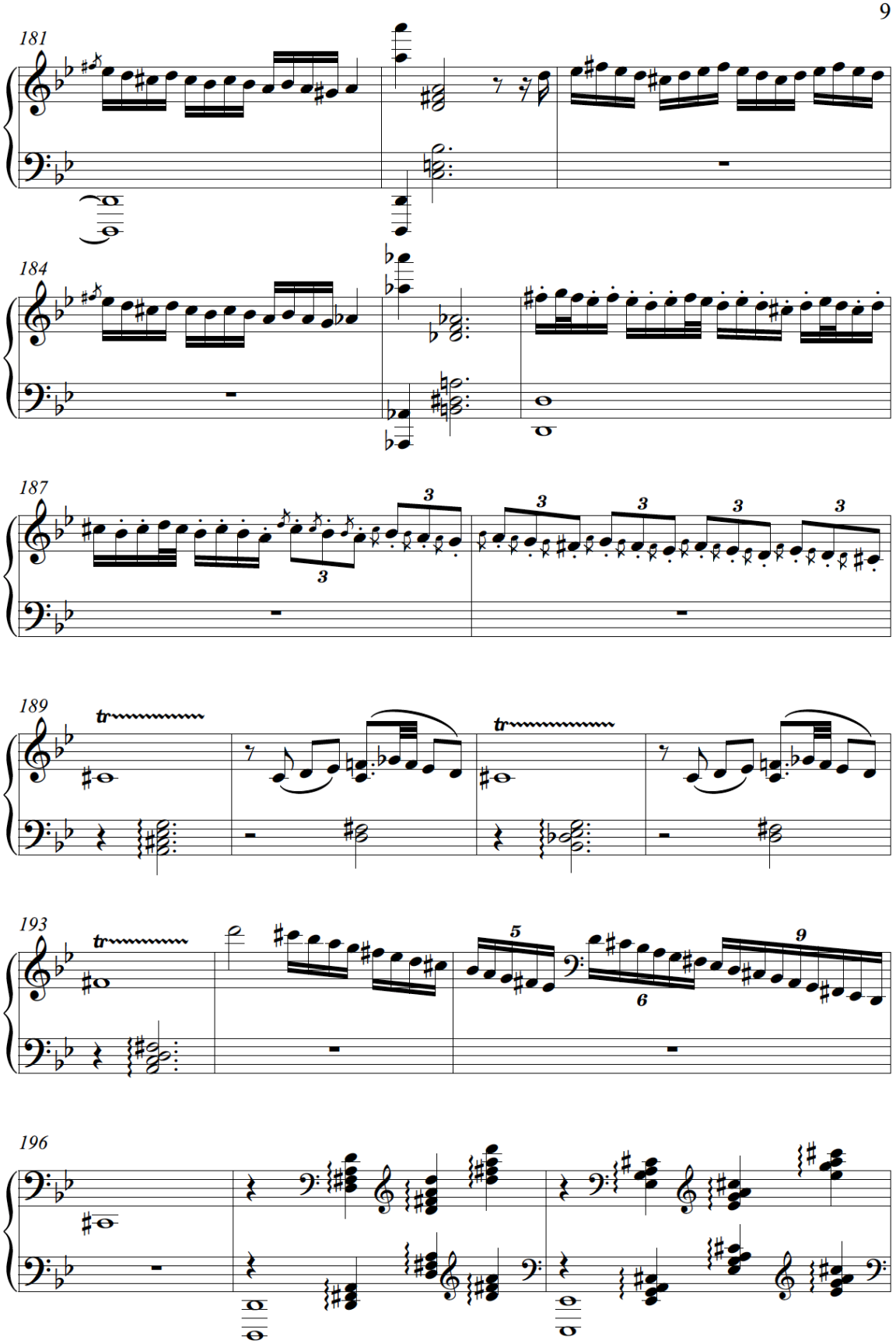


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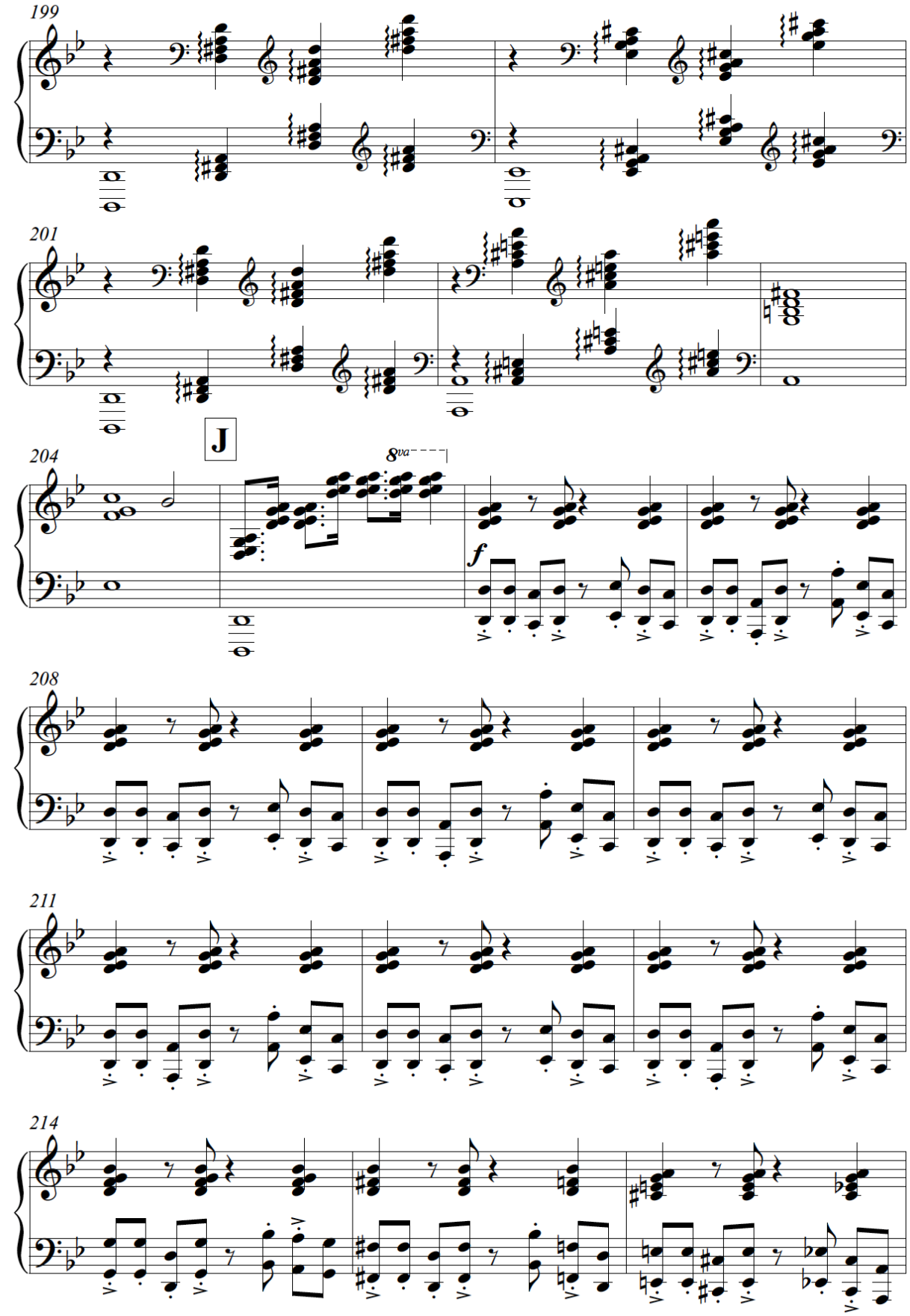

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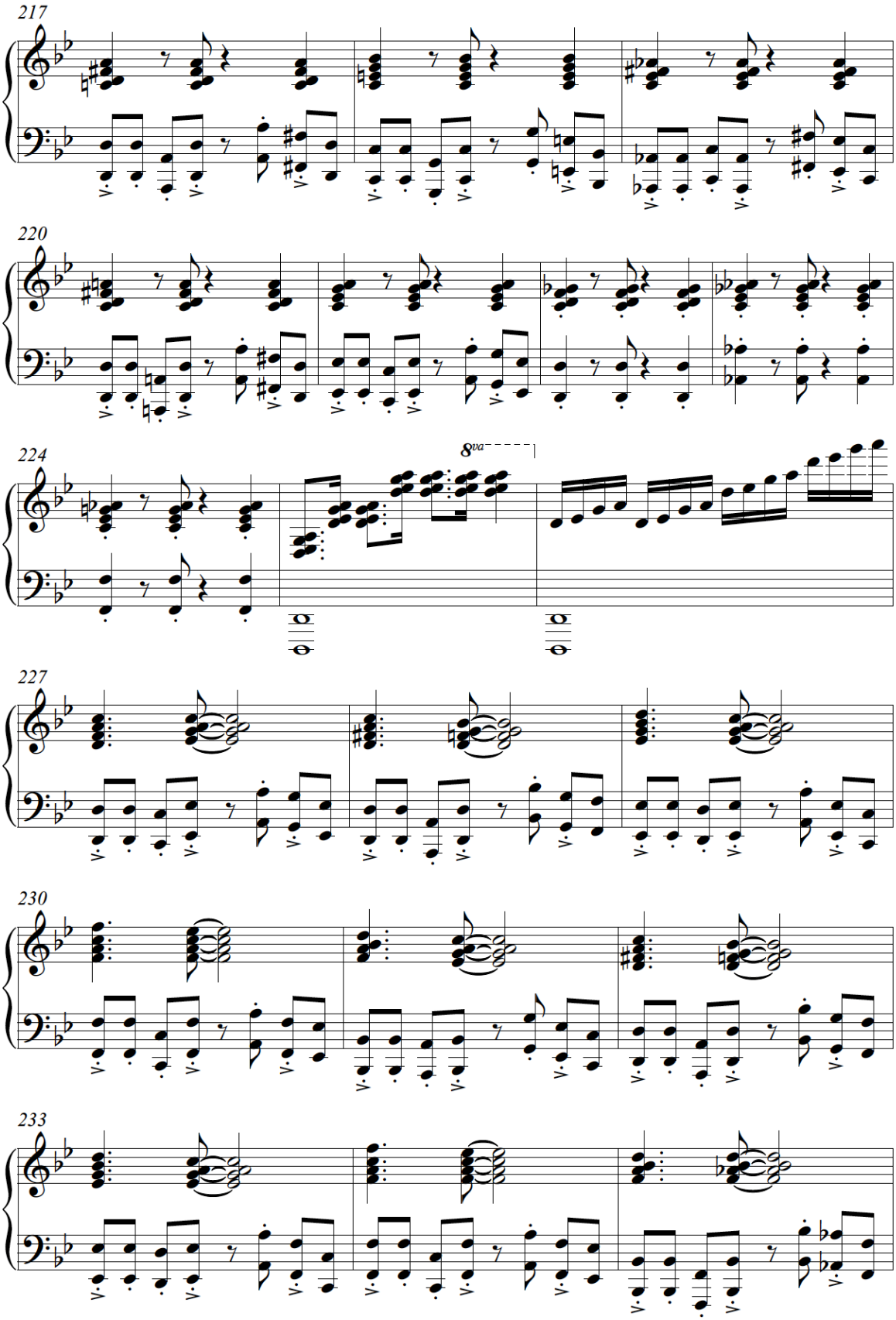

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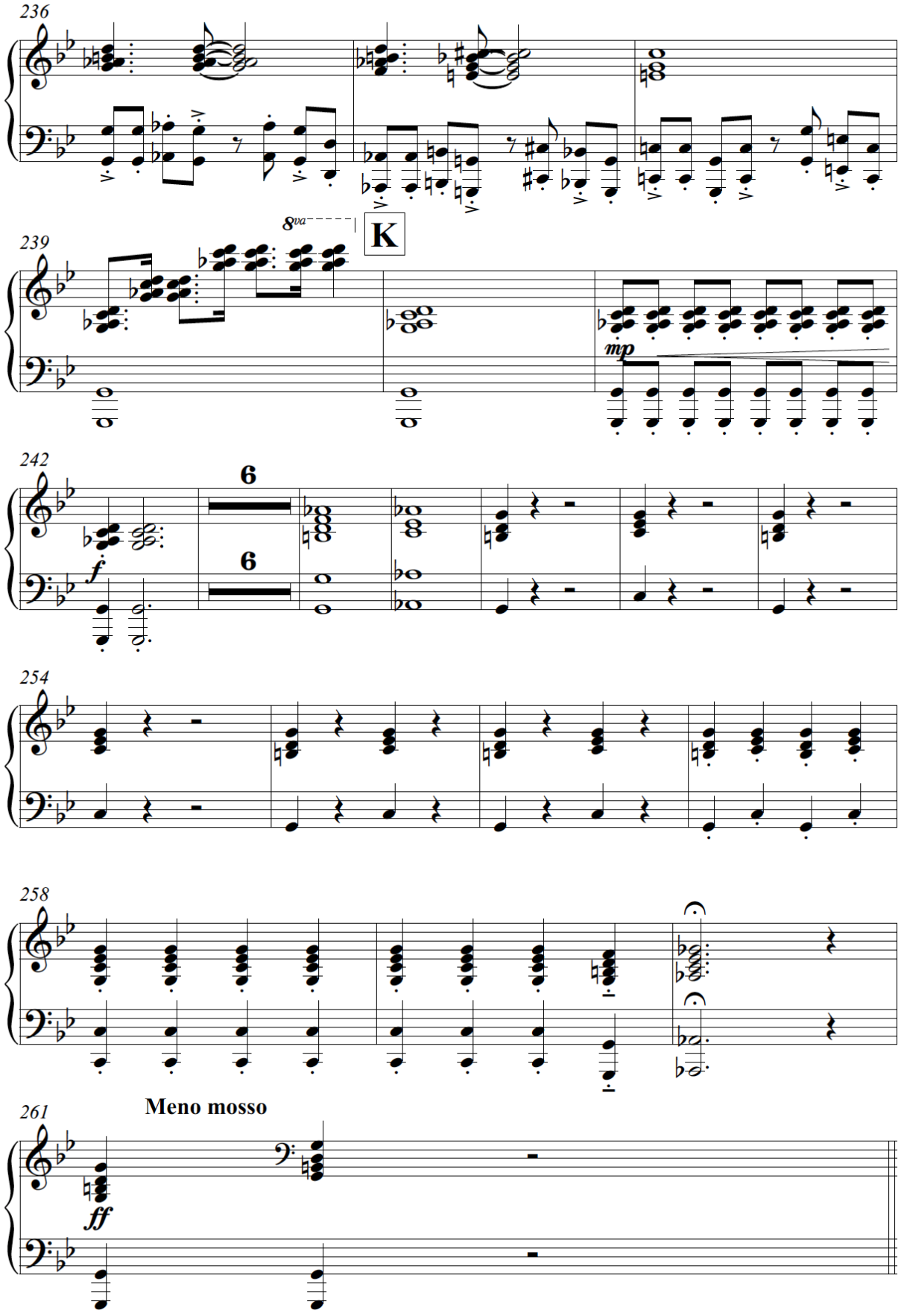
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V.S.

12



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