Conceptual Simplification:

an Empirical Investigation of a New Method for Analysis, Learning and Memorisation of Post-Tonal Piano Music

(Volume II)

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Appendix A: Summary of Conceptual Simplification as in Farré Rozada (2018)

This appendix provides a summary of the first prototype of Conceptual Simplification resulting from my Master's thesis Farré Rozada (2018). This version of the method was the result of a self-case study based on my personal experience of learning and memorising the 35-minute work *Makrokosmos I* (1972) by George Crumb. The five main strategies identified were:

1) Simplifying Complex Chords
2) Identifying Interval Relationships
3) Simplifying Layers of Complexity
4) Switch Conceptualisation
5) Structural Dynamic Map

These strategies provide tools for simplifying complexity in different ways. After selecting a particular passage, the first step is to identify what layers of complexity can be found and take one at a time, until the essential information is reached.[1] Then, the next step is to encode the resulting patterns, after which the removed layers are restored, one at a time, to be progressively chunked and encoded. Therefore, Conceptual Simplification stands for simplifying, understanding the logic and encoding the information conceptually, relying on pre-existent knowledge when possible. The strategies listed above are now summarised.

Simplifying Complex Chords: This consists in identifying the underlying patterns behind a sequence of chords. To do so, various kinds of analyses are completed to identify which tonal, post-tonal or mathematical patterns (e.g., symmetry) can be found and used to summarise the content. When necessary, extended techniques are temporarily removed, to focus first on the resulting pitches on keys.

Identifying Interval Relationships: Following a similar approach as in Simplifying Complex Chords, this strategy aims to establish patterns related to intervals by applying tonal music theory. Employing interval patterns to encode music can be helpful since these are independent of the musical genre and can be used as unities to build up new patterns.

Simplifying Layers of Complexity: This strategy consists in identifying the different layers of an excerpt, so that the ones playing an ornamental role can be temporarily removed to focus on the basics. Also, the same process can be applied to each layer with the same purpose, which will provide additional sublayers. The essential information is encoded and integrated layer by layer, until obtaining the original passage. Among the strategies presented so far, this is the most novel, since it proposes to stratify the music into layers and encode these separately, and then in progressive combinations. This procedure allows to diminish the

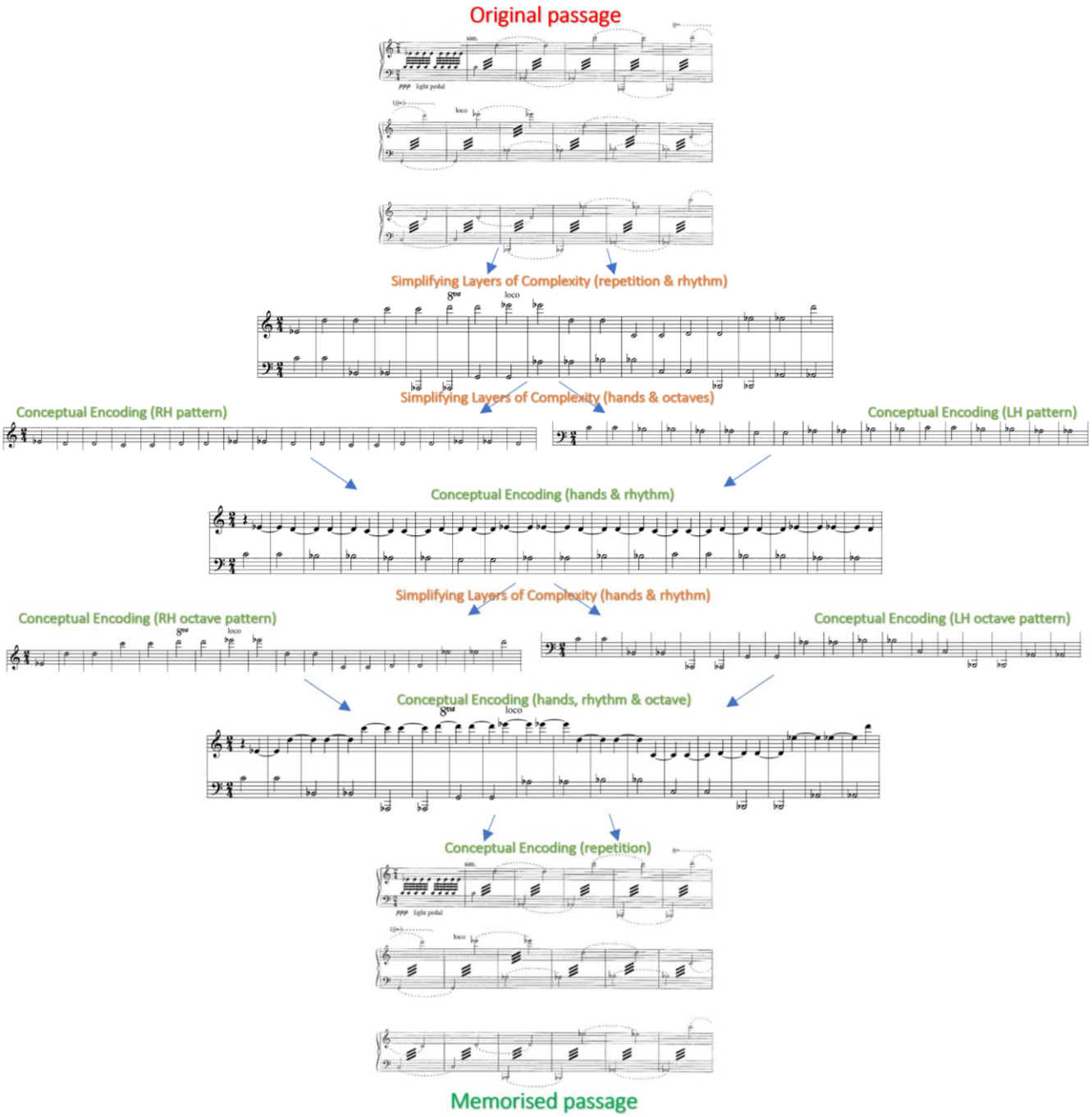
[1] A layer of complexity could be the range of octaves in which a single melody is displayed, the extended techniques involved in a piece, a repetitive pattern or figuration that cyphers a chord or progression, or any other secondary information that contributes to the complexity of the music, without being the primary source.

complexity without the need of using structural segmentation. One of the most common layers of complexity to be removed with this strategy are extended techniques.

Switch Conceptualisation: This strategy aims to tackle and delimit switches, particularly in musical contexts that present thematical uniformity or self-referencing, and in which the previous strategies presented are not effective. Accordingly, segmentation is used to establish the beginning and end of each switch. The resulting parts are labelled, and once this general map is clear, a specific label is assigned to every different cell. This allows to considerably simplify the information and avoids confusion when performing. Therefore, this strategy is focused on identifying the elemental cells that form a larger chain of information, and segment it accordingly. Each fragment is labelled with a tag that creates an association with that bit of information. After establishing this relationship, the tag can be used to trigger the associated cell. Having done this with the entire chain, a coherent structure can be disguised grouping the labels accordingly. Also, Switch Conceptualisation can be helpful in revealing patterns of how these cells interact with each other.

Structural Dynamic Map: The last strategy presented focuses on the development of a conceptual map of dynamics related to the formal structure of the piece. This enhances memorisation, since along with pitches, dynamics are also memorised and combined with the rest of information. As a result, stronger connections and cues can also be developed.

Appendix B: Higher-Resolution Version of Example 3.1



Appendix C: Interviewees' Professional Biographies

Hayk Melikyan has built an international reputation for being one of the most versatile and imaginative performers of post-tonal music. He performs regularly in Europe, Asia and America; and has commissioned and world-premiered several works from recent composers, including György Kurtág, Peteris Vasks, Tigran Mansurian, Jonathan Harvey, Krzysztof Penderecki and Arvo Pärt. He has also launched the 1900+ and 2000+ World Piano Music Concert Series for promoting the repertoire from the 20th and 21st centuries from different nations in Armenia. Along with his career as a performer, he has written piano solo, chamber, instrumental, vocal and symphonic music.

Ermis Theodorakis has established himself as an outstanding post-tonal music performer for his exceptional musical memory and his rapid comprehension of complex and challenging contemporary compositions. He has extensively performed in Europe, America and Africa; and he is particularly known for his highly regarded performances of the music by Iannis Xenakis, Brian Ferneyhough, Mark Andre, Frank Cox, Claus-Steffen Mahnkopf and the Second Viennese School. Apart from having been recognised as a reference for Greek contemporary music, he has world-premiered works by several living composers. He has also written solo and chamber music, which has been performed in Europe and South America. Ermis has been a guest lecturer at universities in Germany, Greece, the UK, Brazil, Chile and Canada; and since 2017 he is an adjunct professor for Contemporary Performance Practice at the University of Music and Theater Leipzig. Finally, he is also a co-author of the influential study on atonal piano music Tsintzou and Theodorakis (2008).

Jason Hardink has been described as a fearless interpreter of large-scale piano works. His repertoire is widely diverse, ranging from modern to historical, which he always performs from memory. He is known for his performances of Michael Hersch, Olivier Messiaen, Brian Ferneyhough, Franz Liszt, Pierre Boulez, Wolfgang Rihm and Andrew Norman. He has commissioned music from Thomas Osborne, Bruce Quaglia, Inés Thiebaut, Jason Eckardt and Steve Roens; and has also premiered works by Gerald Barry. Some musical partners include Augustin Hadelich, Nicola Benedetti, Tor Johan Bøen and Phillip Setzer. His Doctoral thesis *Messiaen and Plainchant* explores the varying levels of influence that Gregorian Chant exerted on the music of Olivier Messiaen. He holds the position of Principal Keyboard with the Utah Symphony and has been the Artistic Director of the NOVA Chamber Music Series.

Appendix D: Composers' Professional Biographies

Ofer Ben-Amots (b.1955) was born in Haifa (Israel) and gave his first piano concert at age nine and at age sixteen was awarded first prize in the Chet Piano Competition. Later, following composition studies with Joseph Dorfman at Tel Aviv University, he was invited to study at the Conservatoire de Musique in Geneva, Switzerland. There he studied with Pierre Wismer and privately with Alberto Ginastera. Ben-Amots is an alumnus of the Hochschule für Musik in Detmold, Germany, where he studied with Martin C. Redel and Dietrich Manicke and graduated with degrees in composition, music theory, and piano. Upon his arrival in the United States in 1987, Ben-Amots studied with George Crumb at the University of Pennsylvania where he received his Ph.D. in music composition. Currently Chair of the Music Department at Colorado College, Dr. Ben-Amots teaches composition, music theory, and a wide variety of liberal arts subjects.

Ofer Ben-Amots' compositions are performed regularly in concert halls and festivals Worldwide. His music has been performed by such orchestras as the Zürich Philharmonic, Munich Philharmonic, the Austrian Radio Orchestra, Bruckner Orchestra, Moscow Camerata, Heidelberg, Erfurt, Brandenburg, the Filarmonici di Sicili, Milano Chamber Orchestra, Brooklyn Philharmonic, the Concerto Soloists of Philadelphia, North/South Consonance in NY, Portland Chamber Orchestra, and the Colorado Springs Philharmonic among others. His compositions have been professionally recorded by the Gewandhaus Orchestra of Leipzig, the Munich Chamber Orchestra, the Barcelona Symphony, Odessa Philharmonic, the BBC Singers, and the renowned Czech choirs Permonik and Jitro. Ben-Amots has received commissions and grants from the MacArthur Foundation, Fulbright Foundation, Amado Foundation, Schleswig-Holstein Musikfestival, Fuji International Music Festival in Japan, Delta Ensemble from Amsterdam, Assisi Musiche Festival, the Geneva Camerata, the Montage Music Society, and many others.

Ofer Ben-Amots is the winner of the 1994 Vienna International Competition for Composers. His chamber opera, Fool's Paradise, was premiered in Vienna during the 1994 festival Wien modern and has become subsequently part of the 1994/95 season of Opernhaus Zürich. He is recipient of the 1988 Kavannagh Prize for his Fanfare for Orchestra and the Gold Award at South Africa's 1993 Roodepoort International Competition for Choral Composition. His Avis Urbanus for amplified flute was awarded First Prize at the 1991 Kobe International Competition for Flute Composition in Japan. In 1999, Ben-Amots was awarded the Aaron Copland Award and the Music Composition Artist Fellowship by the Colorado Council on the Arts. In 2004 he won the Festiladino, an international contest for Judeo-Spanish songs, a part of the Israel Festival in Jerusalem. In 2015, Ben-Amots won the First Prize at the 4th Smareglia International Composers Competition in Udine, Italy. His innovative multimedia opera, The Dybbuk, has been produced in over ten different productions in the US, Germany, and Israel. The opera has been described as "a uniquely beautiful and powerful new work" and its production as "a service to music and to what is best in our humanity" (Listen for Life Reviews, by Donna Stoering, September 30, 2016.)

Ofer Ben-Amots' works have been repeatedly recognized for their emotional and highly personal expression. The interweaving of folk elements with contemporary textures, along with his unique imaginative orchestration, creates the haunting dynamic tension that permeates and defines Ben-Amots' musical language. His music can be heard on Naxos, Vantage, Plæne, Stylton, and the Milken Archive of Jewish Music. More information can be found on the website: www.oferbenamots.com

Feliu Gasull i Altisent (b.1959) is a "note finder", as he likes to call himself. Born in Barcelona, he is undoubtedly one of the Catalan guitarists and musical creators with most international exposure. He declares himself in love with the sea, a love that becomes the Mediterranean freshness and luminosity that identify his creations, always original and surprising. He studied guitar at the Conservatoire de Musique de Genève (Switzerland) and, later, composition at Indiana University (Bloomington, Indiana, USA). He has created music for all kinds of formations, both instrumental and choral, symphonic and chamber pieces, and stage music for theater, dance and film, which, among other mentions, have earned him the Carmichael Competition prize for choral music (USA, 1988), and the City of Barcelona Award, 1991. He has performed around the world as a soloist, premiering his own works, and has taught at several higher education institutions in both North and South America. He currently combines performance and composition with teaching at the Escola Superior de Música de Catalunya (Catalonia College of Music). He has recorded more than 15 LPs/CDs with his own work and has collaborated in more than 25 recordings as an accompanying performer for other artists. His music is strongly influenced by Catalan folklore and flamenco, as well as the music of Manuel de Falla and Heitor Villalobos.

Appendix E: Group Y's Summary of Instructions by Excerpts

EXCERPT 1

Simplifying Layers of Complexity:

Layers of Complexity in Excerpt 1:

1) Lower register.
2) Inversion of chords.
3) Chords in both hands.

Conceptual Encoding:

Conceptual Encoding in Excerpt 1:

Chords:

1) RH: Chromatic sequence of minor triads from Fm to Bm.
2) LH: Chromatic sequence of minor triads from Bm to Fm.

Inversions:

1) RH and LH: (Root position – 1st inversion – 2nd inversion) x2 + Root position

Strategies to follow in Excerpt 1:

1) Transpose the chords into the middle register.
2) Switch the chords into root position.
3) Identify the pattern behind the sequence of chords (includes chunking according to music theory).
4) Learn the sequence of chords in root position for each hand separately.
5) Switch the chords into their original inversions.
6) Identify the pattern behind the inversions of the chords.
7) Learn the sequence of chords in their original inversions for each hand separately.

8) Combine both hands in root position.

9) Combine both hands in the original inversions.

10) Transpose the chords into the original register.

EXCERPT 2

Simplifying Layers of Complexity:

Layers of Complexity in Excerpt 2:

1) Repetition.

2) Octave transposition.

3) Different patterns in both hands.

Conceptual Encoding:

Conceptual Encoding in Excerpt 2:

Patterns:

1) RH: (Eb-D-C-D) x2 + (Eb-D) = Turn on D.

2) LH: C-Bb-Ab-G-Ab-Bb-C-Bb-Ab = Oscillation on Cm, in the range of G-C.

Strategies to follow in Excerpt 2:

1) Ignore the repetition.

2) For each hand, transpose all notes into the same octave.

3) For each hand, identify the pattern behind each sequence of notes (includes chunking according to music theory).

4) Learn the sequence of notes for each hand separately.

5) Combine both hands, incorporating the main rhythmical interaction (not the repetition).

6) Transpose all notes back into their original octaves. Learn the sequence of notes for each hand, separately.
7) Combine both hands, incorporating the main rhythmical interaction (not the repetition).
8) Add the repetition.

EXCERPT 3

Simplifying Layers of Complexity:

Layers of Complexity in Excerpt 3:

1) Ostinato.
2) Octave transposition.
3) Pitch organisation.
4) Rhythm.

Conceptual Encoding:

Conceptual Encoding in Excerpt 3:

Patterns:

1) The Eb ostinato is a horizontal axis of symmetry.
2) The pitch framework is ruled by this symmetry:

B♭-B-C-C♯-D-E♭-E-F-F♯-G-A♭

Left hand Right hand

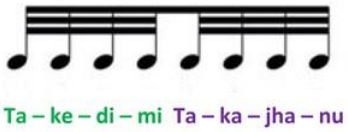
3) This provides the following symmetrical relationships between the pitches:

B♭ ~ A♭ / B ~ G / C ~ F♯ / C♯ ~ F / D ~ E

4) Each time a note appears, it is followed by its symmetrical. This also happens with double notes.

5) All double notes are perfect fourths.

6) Word patterns can be developed for the rhythm, assigning one syllable to each 32nd note. Karnatic music's syllables 'ta-ke-di-mi, ta-ka-jha-nu', also known as *solkattu*, are suggested in the instructions.[1]



Strategies to follow in Excerpt 3:

1) Ignore the E♭ ostinato, which functions as a horizontal axis of symmetry.

2) Bars 1-7: For each hand, transpose all notes into the same octave.

3) Identify the pattern behind the resulting sequence of notes. This gives the following symmetrical relationships: B♭ – A♭, B – G, C – F♯, C♯ – F and D – E.

4) Memorise these relationships in the order they appear for bars 1-7.

5) **Main Study only:** Using the *solkattu* syllables or others of your choice for the 32nd notes, assign to each note the corresponding syllable according to its rhythmical value.

6) **Main Study only:** Using the syllables, memorise the excerpt transposed into the middle register, and without the ostinato.

7) Transpose all notes back into their original octaves. Memorise the excerpt without the ostinato.

8) Add the E♭ ostinato.

[1] This strategy for memorising rhythm was only suggested in the instructions for the Main Study, as a result of the feedback from the participants from the Pilot Study.

EXCERPT 4

Simplifying Layers of Complexity:

Layers of Complexity in Excerpt 4:

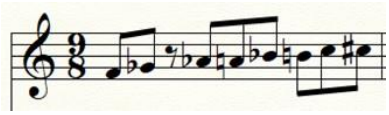
1) Pitch organisation.
2) Independent cells.

Conceptual Encoding:

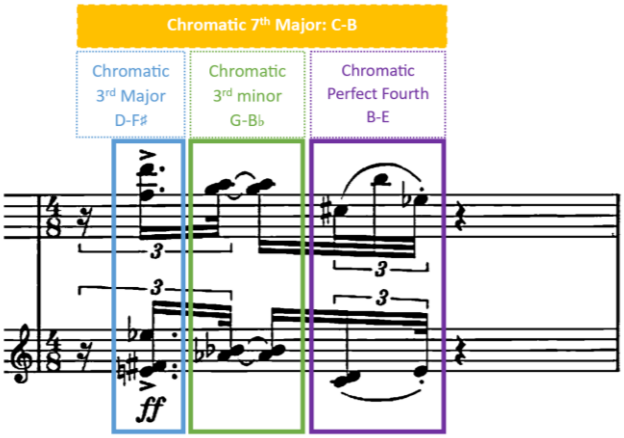
Conceptual Encoding in Excerpt 4:

Patterns:

1) Bar 1 can be fitted within the 6th minor F-C♯ (G excluded).



2) Bar 2 can be subdivided into three groups:

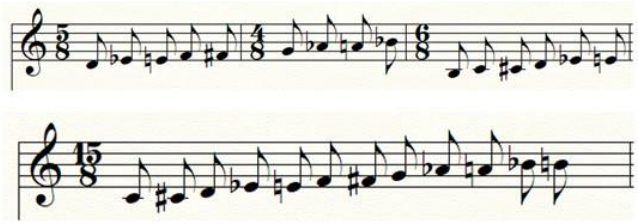


3) Each group can be fitted into the following chromatic structures. Altogether can be collated as the 7th Major C-B:

   i. 3rd Major D-F♯

   ii. 3rd minor G-B♭

   iii. Perfect 4th B-E



Strategies to follow in Excerpt 4:

1) Segment the excerpt according to the independent cells. There are two cells: one for bar 1 and another for bar 2.
2) Identify and memorise the pattern for bar 1. This can be fitted into the 6th minor F-C♯ (G excluded).
3) Identify and memorise the pattern for bar 2, which can be subdivided into three chromatic structures: the 3rd Major D-F♯, the 3rd minor G-B♭ and the Perfect 4th B-E. These can also be collated as the 7th Major C-B.
4) Use backwards motion to connect both bars and practice it from memory.

Appendix F: Interviews. List of Questions

1. Overview of memory

1.1. What is your general approach to memorising music? Do you find it easy or difficult? Why?

1.2. Do you always perform from memory? Is there a particular repertoire that you perform from the score? Why?

1.3. What do you focus on when memorising? In your experience, what can be the main challenges during this process?

1.4. Are there any particular strategies that you use to memorise? Do these differ in the repertoire?

2. Parameters that influence memorisation

2.1. What parameters do you think that influence your memorisation practice?

2.2. Do you feel confident at sight-reading? Do you think this influences your memorisation ability?

2.3. Do you experience synaesthesia?

If YES: Do you think this influences your memory?

2.4. Do you have absolute pitch?

If YES: Do you feel that is an advantage when memorising?

2.5. Do you consciously use your emotions to memorise?

3. Practice

3.1. What is the role of memory in your practice? Do you memorise during the process of learning a new piece or is it a separate stage? Does this vary depending on the repertoire?

3.2. How do you structure your practice to memorise a piece? Do you have any particular strategies? **If YES:** Can you give further details of these?

3.3. Have you identified any particular processes you need to go through to securely memorise a piece of music?

3.4. Once you have memorised a piece of music, how confident do you feel about your memory? Are there any particular strategies that help you securing it further?

3.5. Do you use mental practice? **If YES:** How?

3.6. Do you use sleep, such as regular naps, as part of your practice routine? Have you ever experienced an improvement in your memory after sleeping?

4. Performance Anxiety

4.1. Do you suffer performance anxiety?

If YES: In your experience, what are the key factors that trigger it for you?

If NO: Do you use any strategies that help you in preventing it?

4.2. Does performing from memory or from the score condition that?

5. Performance

5.1. What impact has performing from memory on your own performance?

5.2. How do you think your performance would change if you played from the score?

5.3. How do you feel more confident, performing from memory or with the score?

5.4. Do you have any strategies for dealing with memory lapses?

6. Audience

6.1. Do you think that the audience engages or perceives the performance differently if you perform from memory or with the score?

6.2. How do you think that this relates to other performing arts such as dance and theatre?

7. Education and Training

7.1. When you were still a student, do you recall receiving specific training on how to memorise music? **If YES:** Can you describe what consisted of that training?

If NO: Can you describe how did you come up with your own strategies?

8. Personal Strategy

8.1. Could you explain the strategies that you used to memorise a specific piece of music from the 20th and 21st centuries that you think describes better your approach?

Appendix G: Consent Form and Participant Information Sheet

CONSENT FORM

Full title of Project: **Simplifying the Complex: Developing a New Method for Memorising Post-Tonal Piano Music**

Name, position and contact address of Researcher: **Laura Farré Rozada, Doctoral researcher,** laura.farrerozada@mail.bcu.ac.uk

Please tick box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. ☐
3. I agree to take part in the above study. ☐

Please tick box

		Yes	No
4.	I agree to be audio recorded when performing and answering the researcher's questions.	☐	☐
5.	I agree that the software Otter is used for transcription purposes.	☐	☐
6.	I understand that all my data will be anonymised.	☐	☐
7.	I agree to the use of anonymised quotes in publications.	☐	☐
8.	I agree that my data gathered may be used for future research.	☐	☐

Name of Participant _____ Date _____ Signature _____

Laura Farré Rozada

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Participant Information

Title of Project: Simplifying the Complex: Developing a New Method for Memorising Post-Tonal Piano Music

Name of Researcher: Laura Farré Rozada

Locality: Birmingham (via Microsoft Teams)

You are invited to take part in a study on identifying successful strategies for memorising post-tonal piano music. Whether or not you take part is your choice. If you do not want to take part, you do not have to give a reason, and it will not affect your status or connection with the Royal Birmingham Conservatoire. If you do want to take part now, but change your mind later, you can pull out of the study at any time.

This Participant Information Sheet will help you decide if you would like to take part. It sets out why the study is being undertaken, what your participation would involve, what the benefits and risks to you might be, and what would happen after the study ends. You do not have to decide straight away whether or not you will participate in this study and you are welcome to contact the researcher if you have any questions. Before you decide you may also want to talk about the study with other people. Feel free to do this.

This document is 3 pages long, and there is a separate Consent Form. Please make sure you have read and understood all the pages.

If you agree to take part in this study, you will be asked to tick the appropriate boxes on the attached Consent Form, sign it (an electronic signature will be accepted) and return it to the researcher by email. You will then be advised to retain a copy of the Participant Information Sheet and Consent Form for your records.

WHAT IS THE PURPOSE OF THE STUDY?

This study shall be part of the data collection for the doctoral research 'Simplifying the Complex: Developing a New Method for Memorising Post-Tonal Piano Music'. This is carried out by Laura Farré Rozada, who is a Midlands4Cities-funded PhD candidate at Royal Birmingham Conservatoire in the UK.

With this project the researcher aims to identify and compare different memorisation strategies used by advanced piano students at the Royal Birmingham Conservatoire, and refine a method for memorising post-tonal piano music.

WHAT WILL MY PARTICIPATION IN THE STUDY INVOLVE?

You have been invited to participate in this study because you have been identified as an outstanding piano student at the Conservatoire.

As part of this study, you will be asked to fill an anonymous questionnaire (c.a. 20 min) that requests information regarding your musical education training and experience with performing and memorising music; a logical reasoning test (c.a. 18 min) and complete a memorisation test, in which you will be given a series of instructions for memorising a total of three brief excerpts of post-tonal piano music. It is important that you carry out this at a sensible time of the day. For your overall participation in this study, you will be required for 3h and 30 minutes, to be distributed among two consecutive days: 3h on the first day and 30 minutes on the following day. During this study you will also be briefly interviewed and audio-recorded by the researcher on Microsoft Teams; and you will need to provide audio-recordings of your performances of the excerpts. You do not need to prepare in advance and the dates and times will be scheduled by mutual convenience. All you need is a piano; a computer/iPad to complete the tasks and connect on Microsoft Teams; a good recording device, a timer (it can be your cell phone) and a printer (if you want to print out the excerpts). The whole study will be carried online, and you can do it in a setting of your choice. The researcher shall also request permission to use the software Otter to transcribe the recording of the interview. This is voluntary (see Consent Form). The interview setting shall guarantee a piano at your disposal, should you want to use it to demonstrate and/or illustrate some points.

WHAT ARE THE POSSIBLE BENEFITS AND RISKS OF THIS STUDY?

The goals of this study are to identify and compare different memorisation strategies that are used by advanced piano students. Once the study is completed, the researcher shall share with you the outcomes of the research, from which you can gain new tools, such as memorisation strategies, for your own performance practice.

You will be able to indicate your preferences on how your data is going to be collected in the Consent Form. You may also update these preferences at any time by contacting the researcher directly at the email address above.

Interviews shall be carried in English. Whether any issues arise, you can decide whether you want to withdraw or want to have some data excluded from the study.

All your data will be anonymised and the status 'off the record' shall be clarified at the beginning of the interview. The researcher shall contact you to verify the transcription of the interview and request your permission to include transcriptions of your quotes, if relevant to the doctoral thesis (see Consent Form).

Recordings of interviews will be transcribed either by the researcher or through the help of the software "Otter", which involves uploading the recording to a cloud. You can indicate your preference on the Consent Form.

Data will be stored securely and confidentially on an encrypted, password-protected hard drive. Only the analysis and the subsequent outcome shall be shared publicly. The outcomes of this research will be published and disseminated. Additionally, results might be used for advertising post-doctoral study.

WHO PAYS FOR THE STUDY?

This study forms part of a doctoral research hosted at the Royal Birmingham Conservatoire and funded by Midlands4Cities and the Arts and Humanities Research Council in the UK.

WHAT ARE MY RIGHTS?

Your participation is voluntary. You can change your mind on your participation to this study at any time. Due to the nature of the project, however, withdrawal of the data will not be possible 6 months after data collection. This is to allow the completion of the doctoral research.

You have the right to access information about your data collected as part of the study. Your privacy and confidentiality are a primary concern of the researcher. In fact, all necessary steps and precautions will be taken to ensure that, your contribution is

anonymised at the collection stage, in order to avoid accidental dissemination. All interview transcripts and recordings will be collected and stored in digital format, in a password-protected hard drive storage system. Data will only be accessed by the researcher and the researcher's supervisors.

WHAT HAPPENS AFTER THE STUDY?

The findings of this study will be used to inform future research and may be disseminated where opportunities arise (i.e. written reports, presentations). On completion (expected in August 2023), you will be entitled to receive an electronic copy of the Thesis.

WHO DO I CONTACT FOR MORE INFORMATION OR IF I HAVE CONCERNS?

If you have any questions, concerns or complaints about the study at any stage, you can contact the researcher Laura Farré Rozada (laura.farrerozada@mail.bcu.ac.uk). Alternatively, you could also contact Laura's supervisors: Prof Christopher Dingle (Christopher.Dingle@bcu.ac.uk) and Dr Motje Wolf (mwolf@dmu.ac.uk).

Appendix H: Study with Participants. Questionnaire

QUESTIONNAIRE

Age:

Gender:

Nationality:

Email:

Program and year of study:

Previous education:

Most challenging works written during 1700-1920 that you have studied/performed:

Most challenging works written during 1920-2020 that you have studied/performed:

What pieces or composers do you feel more at home at?

1. Overview of memory

1.1. What is your general approach to memorising music? Do you find it easy or difficult? Why?

1.2. Do you always perform from memory? Is there a particular repertoire that you perform from the score? Why?

1.3. What do you focus on when memorising? In your experience, what can be the main challenges during this process?

1.4. Are there any particular strategies that you use to memorise? Do these differ in the repertoire?

2. Parameters that influence memorisation

2.1. What parameters do you think that influence your memorisation practice?

2.2. Do you feel confident at sight-reading? Do you think this influences your memorisation ability?

2.3. Do you experience synaesthesia? (e.g. experiencing a colour as a sound.)

If YES: Do you think this influences your memory?

2.4. Do you have absolute/perfect pitch? (e.g. the ability to identify exactly the pitch of a note without comparing it to another.)

If YES: Do you feel that is an advantage when memorising?

2.5. Do you consciously use your emotions to memorise?

3. Practice

3.1. What is your process for learning a piece? Do you memorise during the process of learning a new piece or is it a separate stage? Does this vary depending on the repertoire?

3.2. What is the role of memory in your practice?

3.3. How do you structure your practice to memorise a piece? Do you have any particular strategies? **If YES:** Can you give further details of these?

3.4. Have you identified any particular processes you need to go through to securely memorise a piece of music?

3.5. Once you have memorised a piece of music, how confident do you feel about your memory? Are there any particular strategies that help you securing it further?

3.6. Do you use mental practice? **If YES:** How?

3.7. Do you use sleep, such as regular naps, as part of your practice routine? Have you ever experienced an improvement in your memory after sleeping?

4. Performance

4.1. How do you feel more confident, performing from memory or with the score?

4.2. Do you think that the audience engages or perceives the performance differently if you perform from memory or with the score?

5. Education and Training

5.1. Do you recall receiving specific training on how to memorise music?

If YES: Can you describe what consisted of that training?

If NO: Can you describe how did you come up with your own strategies?

6. Personal Strategy

6.1. Could you explain the strategies that you used to memorise a specific piece of music (preferably from the 20th and 21st centuries) that you think describes better your approach?

Appendix I: Study with Participants. Semi-Structured Interview

List of questions for the researcher

Immediately after the participant has recorded the excerpts for the first time, the researcher engages in dialogue with the participant that is audio-recorded following:

- Gibbs' (1988) reflective cycle:

  i. Describe the practice session and strategies used with each excerpt.

  ii. Describe your experience while performing them.

  iii. How did you feel during the practice session and when performing.

  iv. Evaluate how was the experience for you.

  v. Analyse the experience and how do you think you reacted to it.

  vi. Conclude about what you learned and what do you think you could have done differently.

  vii. If you were given the excerpts again, how would you approach it.

Performance Anxiety

Do you suffer performance anxiety?

If YES: In your experience, what are the key factors that trigger it for you?

If NO: Do you use any strategies that help you in preventing it?

Does performing from memory or from the score condition that?

Performance

What impact has to perform from memory on your own performance?

How do you think your performance would change if you played from the score?

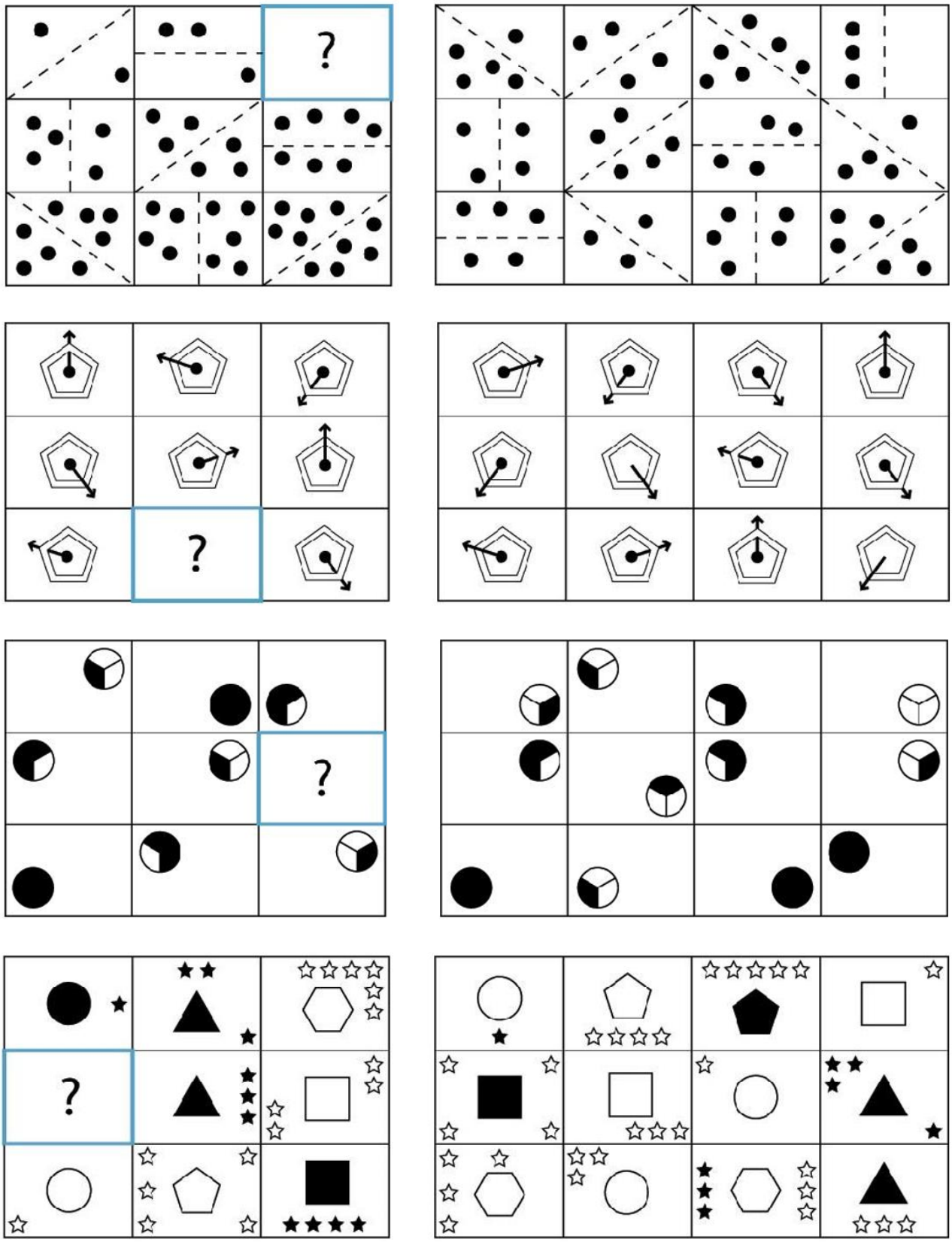
How do you feel more confident, performing from memory or with the score?

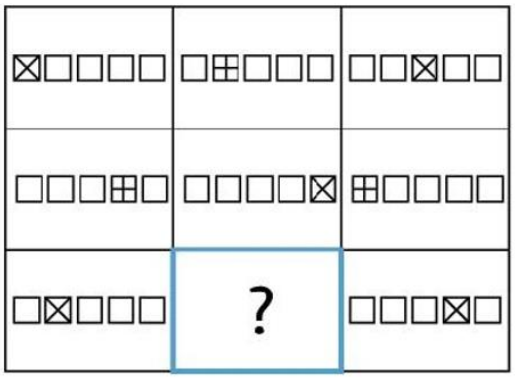
Do you have any strategies for dealing with memory lapses?

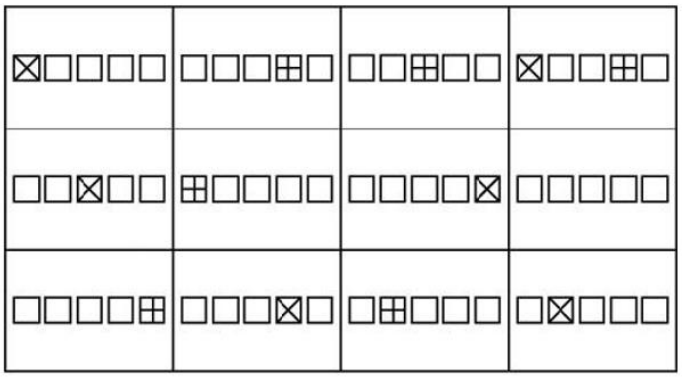
After a 12-hour interval, Participant x recalls again all excerpts while being audio-recorded. Immediately after, the researcher shall engage in a dialogue with the participant to catch up. This shall be audio-recorded.

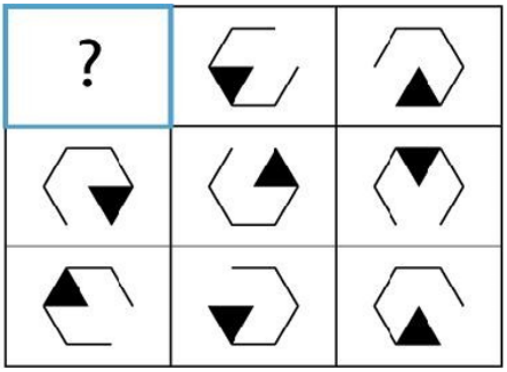
Participant x shall sleep for an 8-hour period. After an interval that included sleep (the following day), Participant x recalls the excerpts while being audio-recorded. Immediately after, the researcher shall engage in a dialogue with the participant to catch up. This shall be audio-recorded.

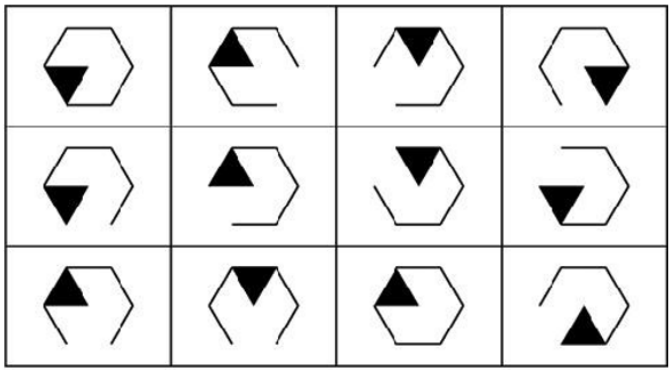
Appendix J: Study with Participants. Logical Reasoning Test

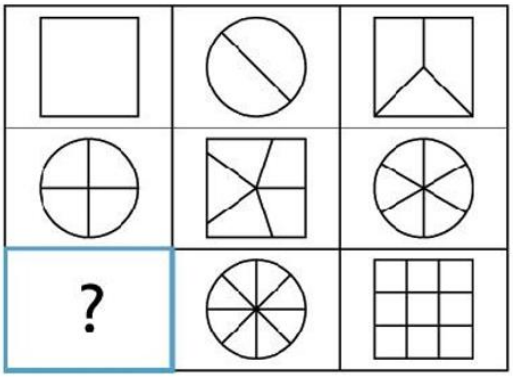


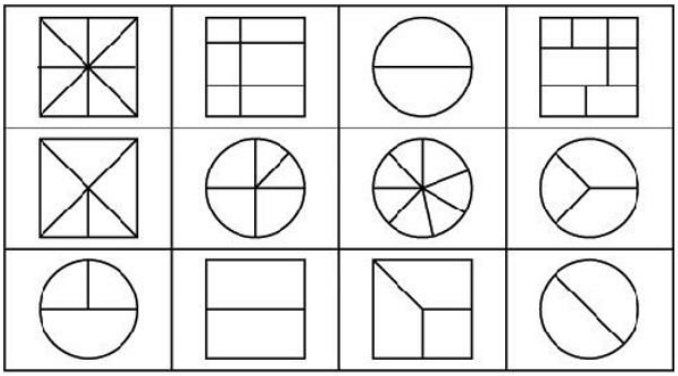


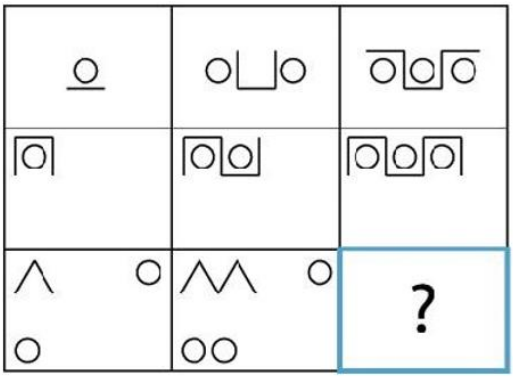


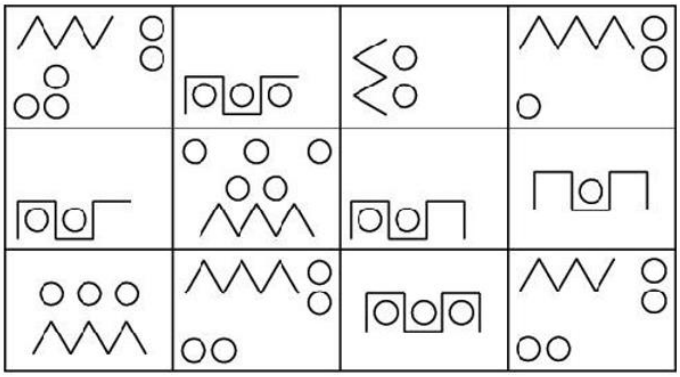


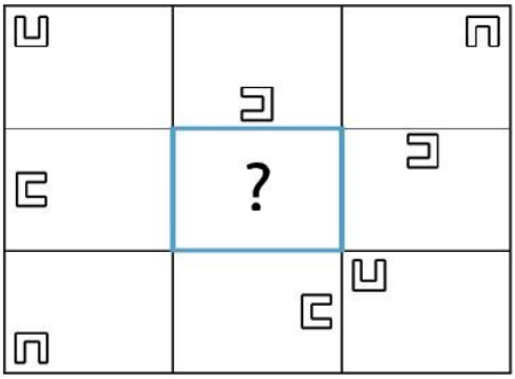


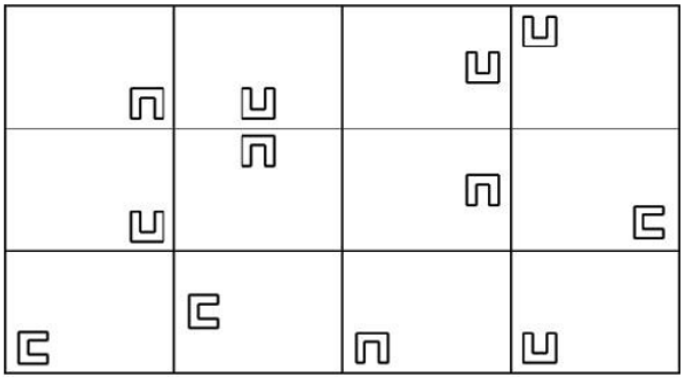


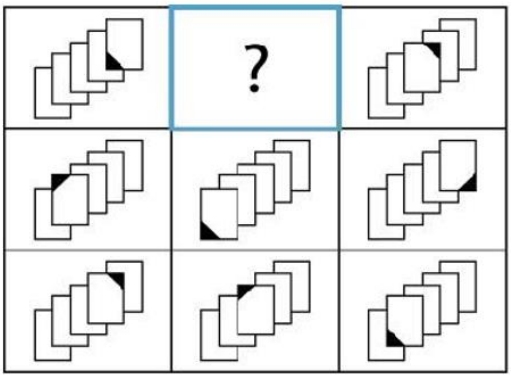


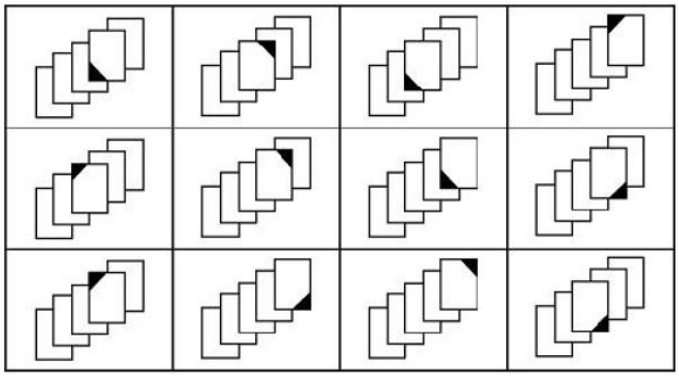


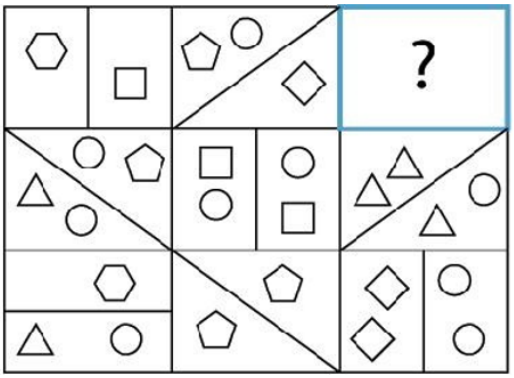


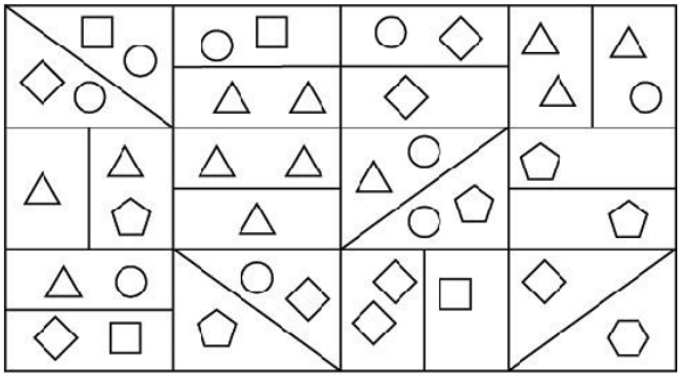


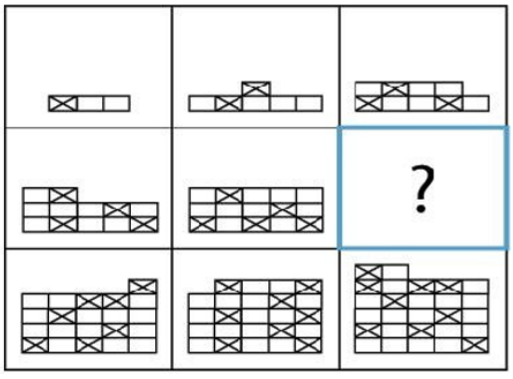


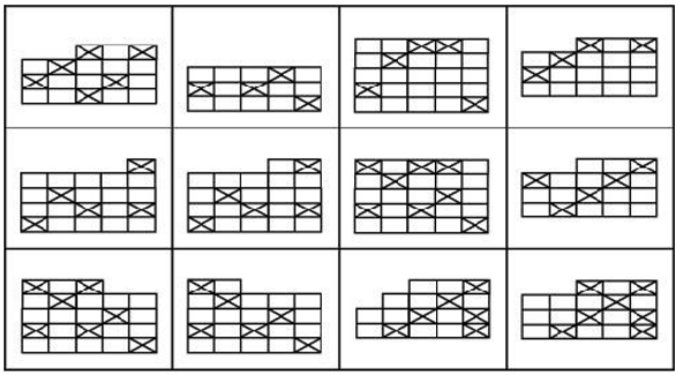


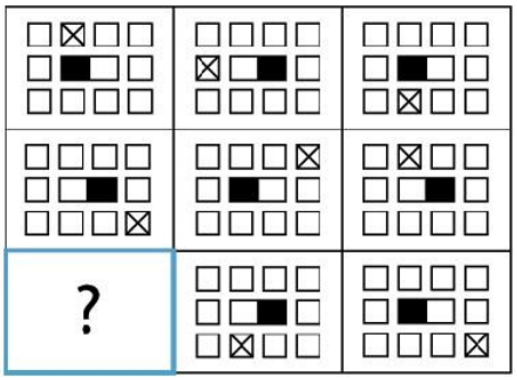


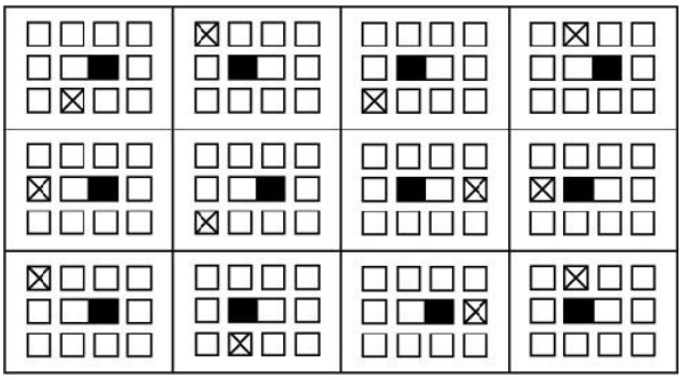


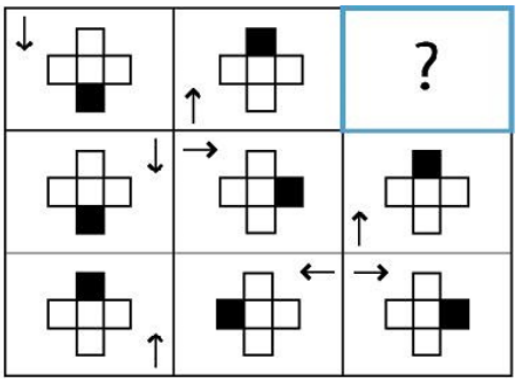


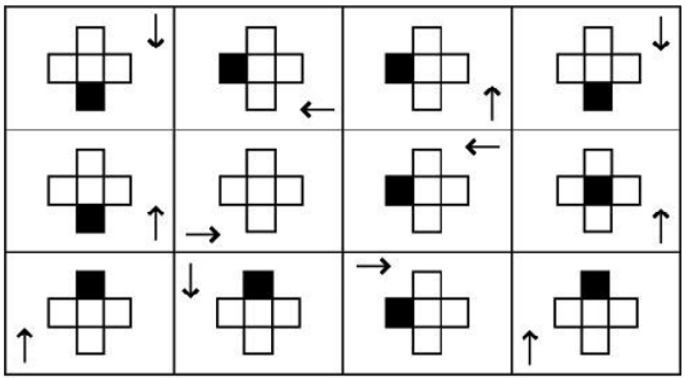


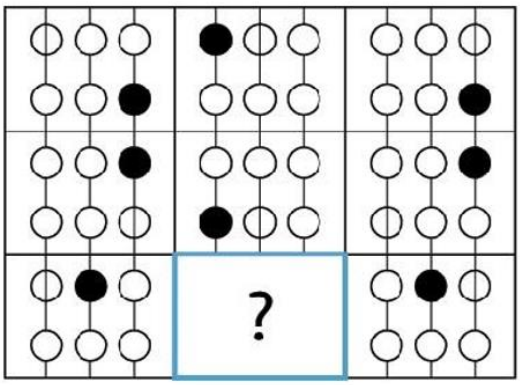


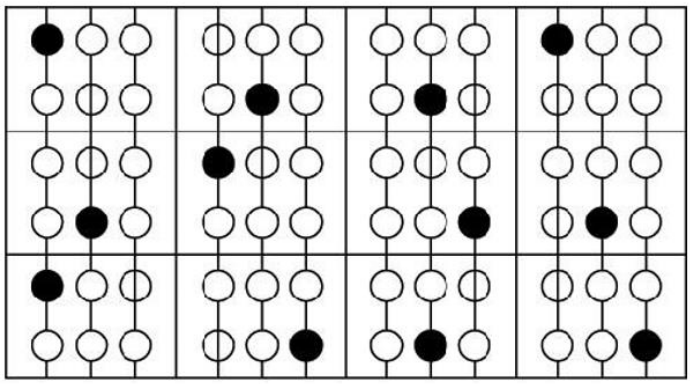




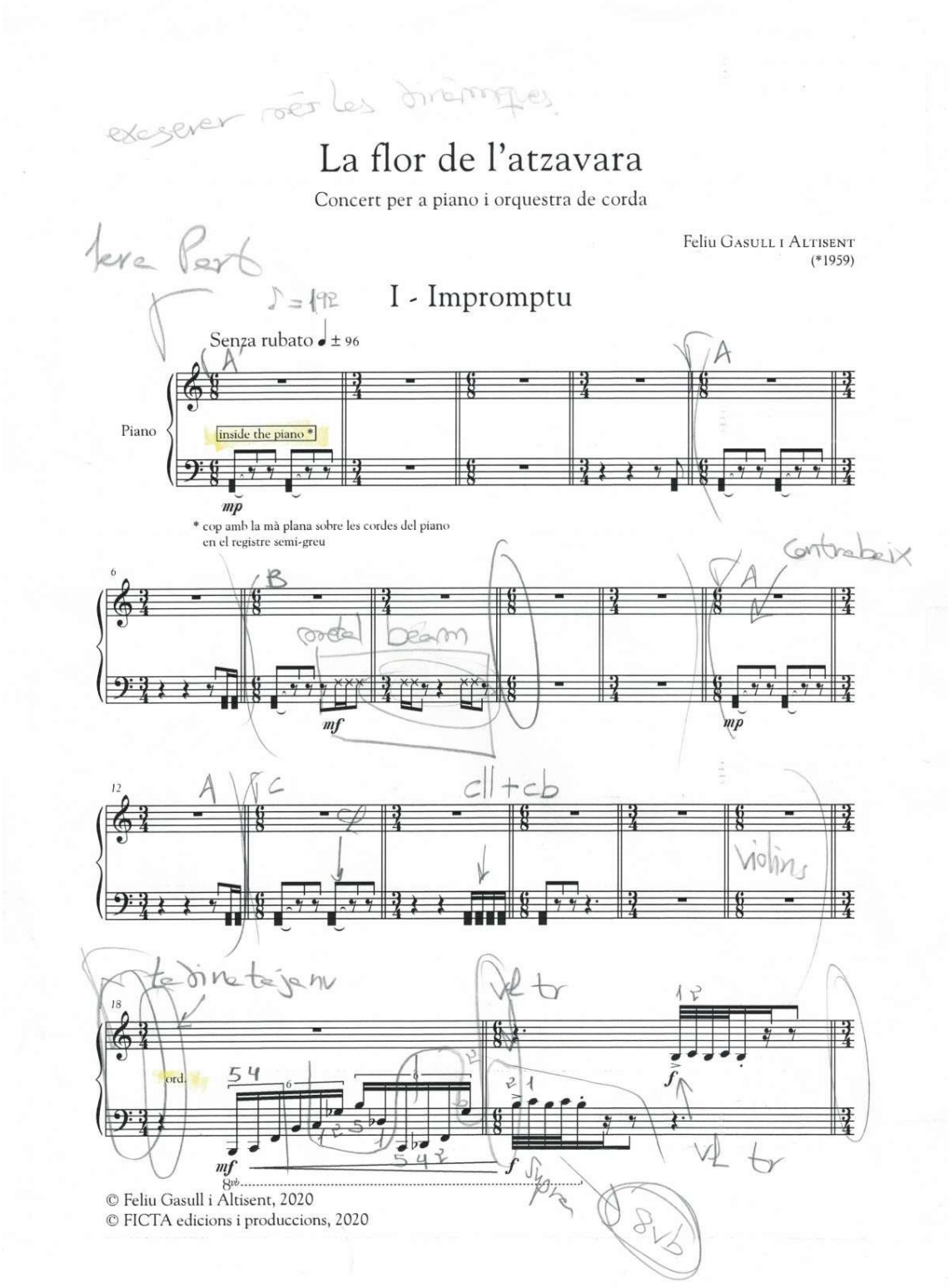








Appendix K: Scores of the Commissioned Works



La flor de l'atzavara

Concert per a piano i orquestra de corda

Feliu GASULL i ALTISENT
(*1959)

I - Impromptu

Senza rubato ♩ ± 96

Piano

inside the piano *

mp

* cop amb la mà plana sobre les cordes del piano en el registre semi-greu

mf

mp

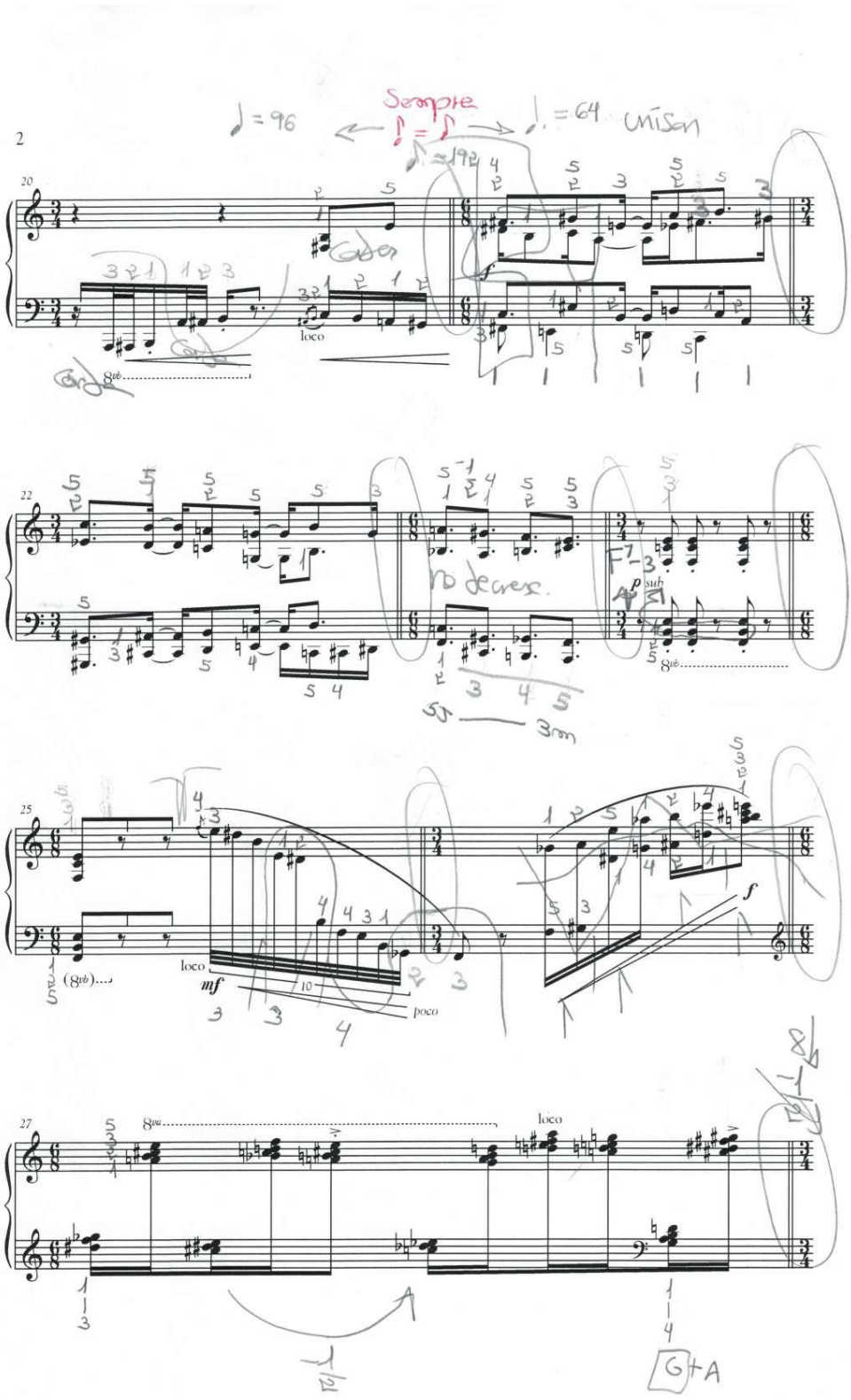
ord.

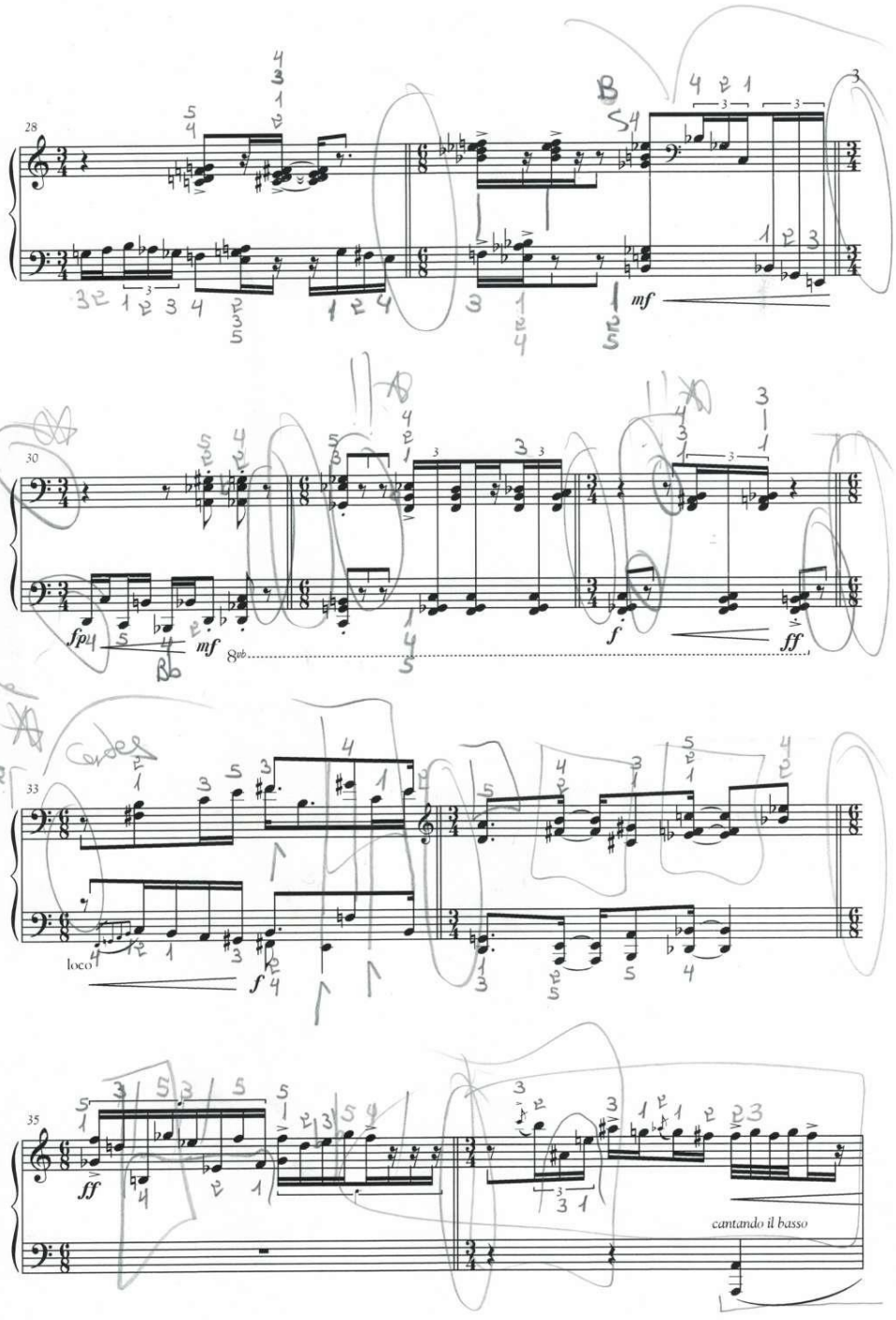
mf

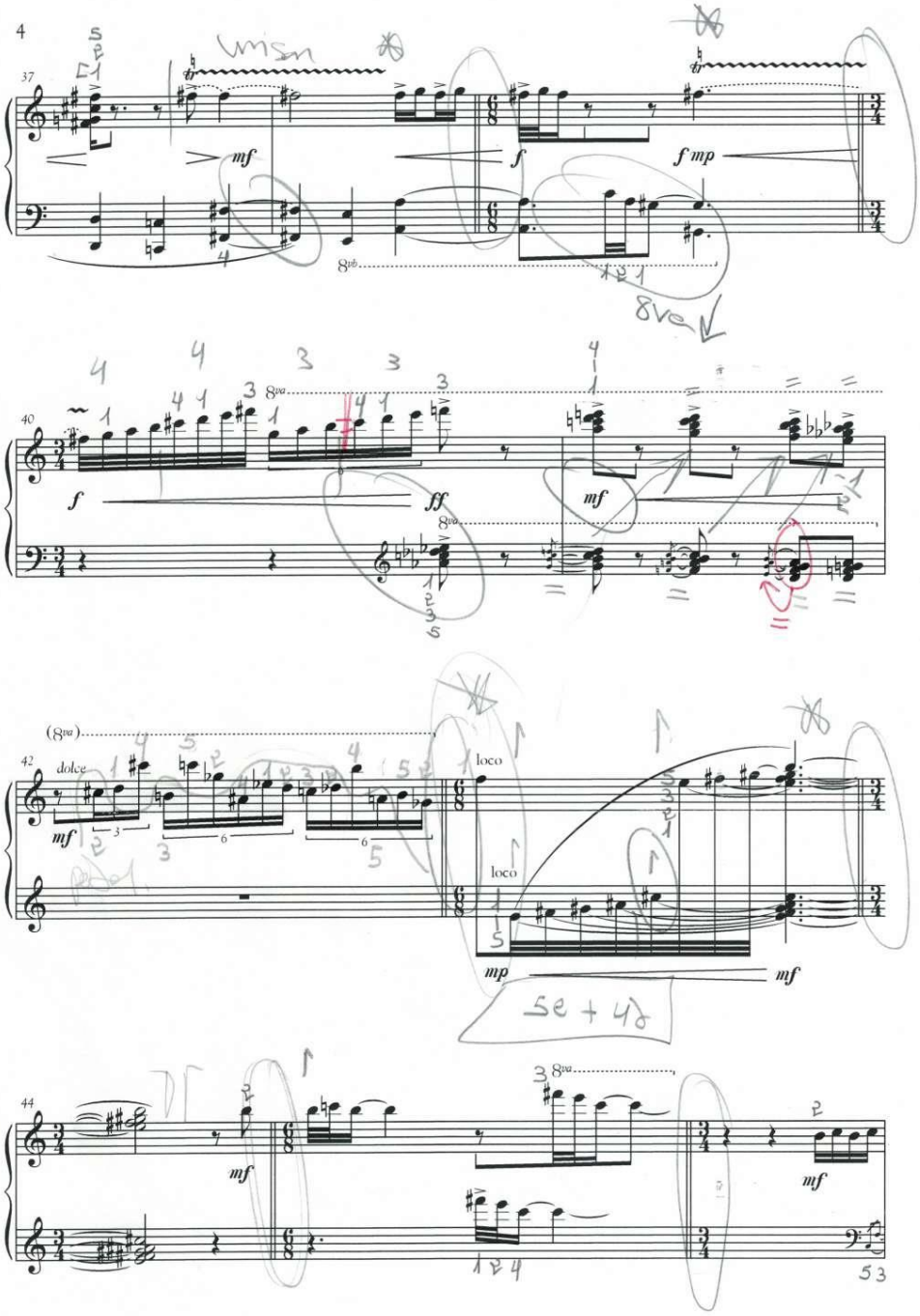
f

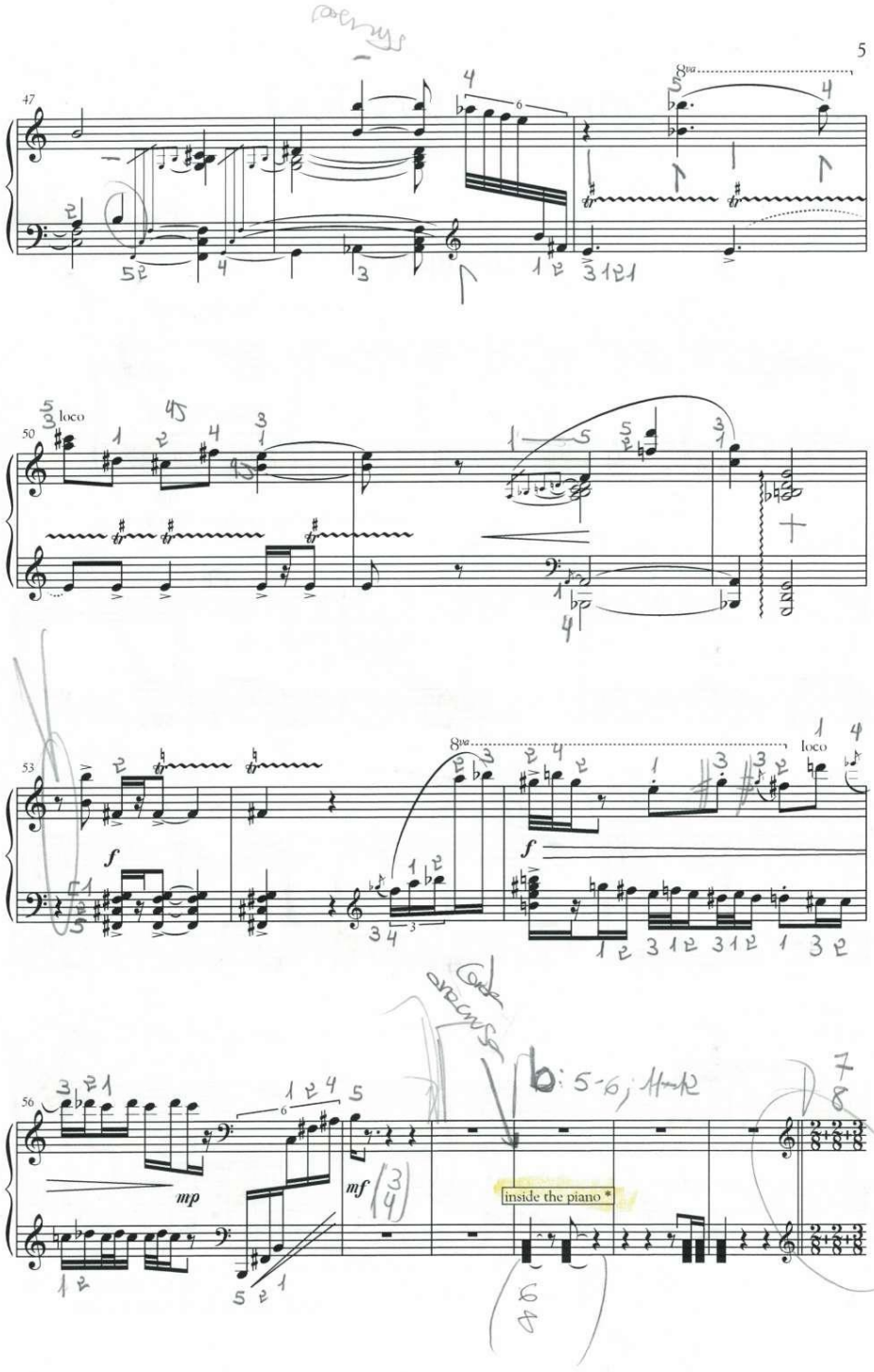
8vb

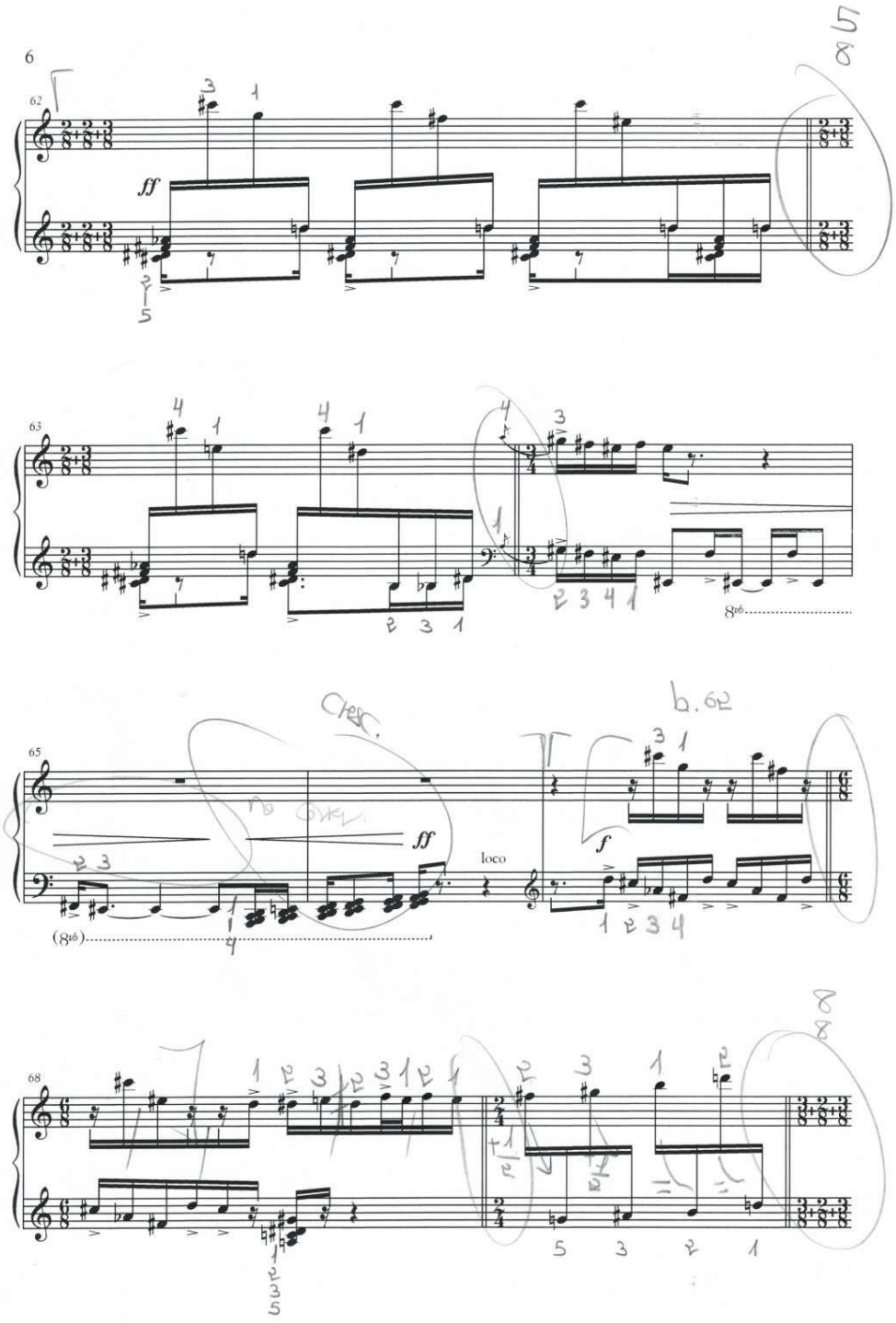
© Feliu Gasull i Altisent, 2020
© FICTA edicions i produccions, 2020

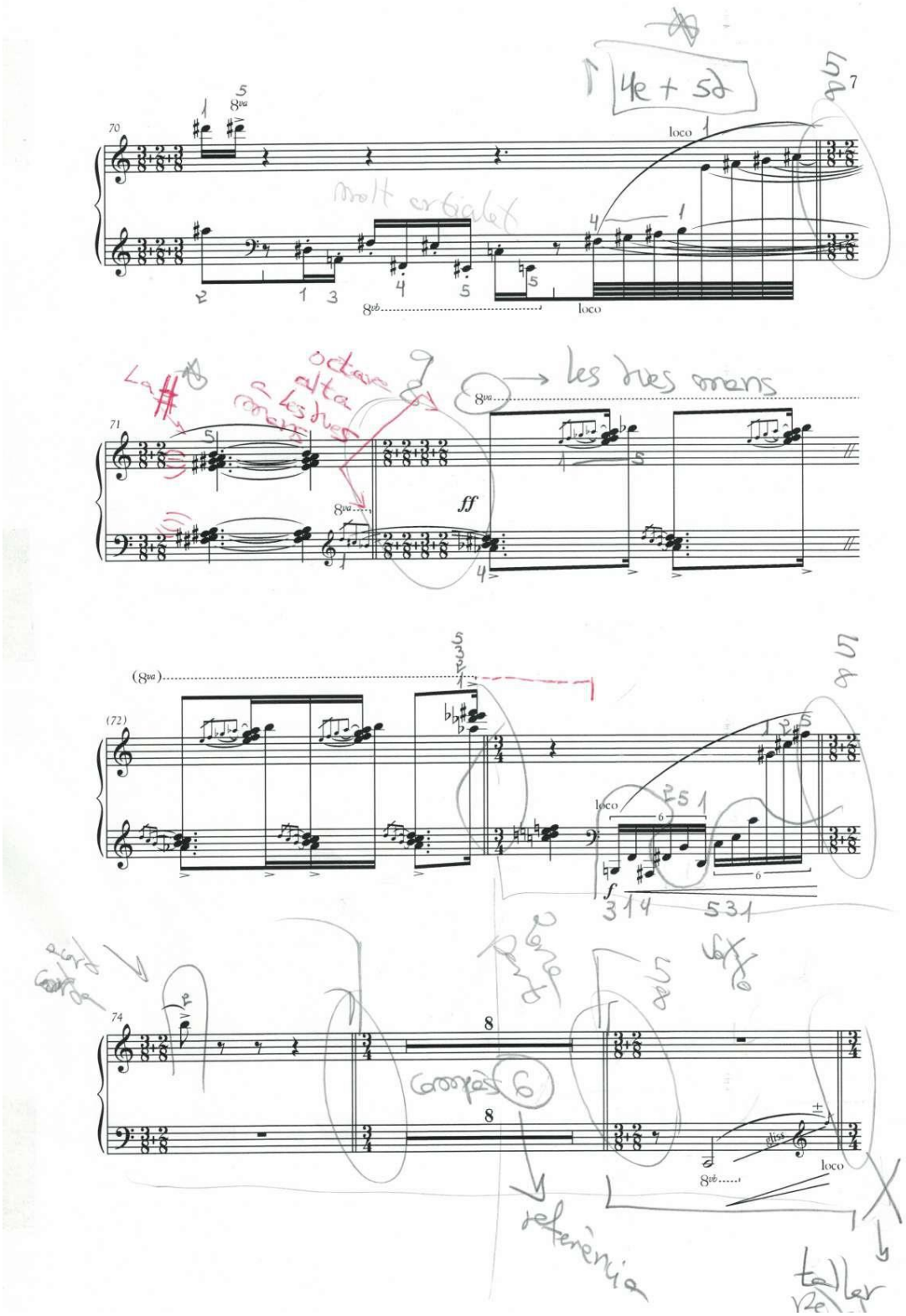

2
Sempre
unison
loco
8vb
no decresc.
p sub
mf
poco
f
8va
G+A


28
B
mf
30
fp
mf
8va
f
ff
33
loco
f
35
ff
cantando il basso

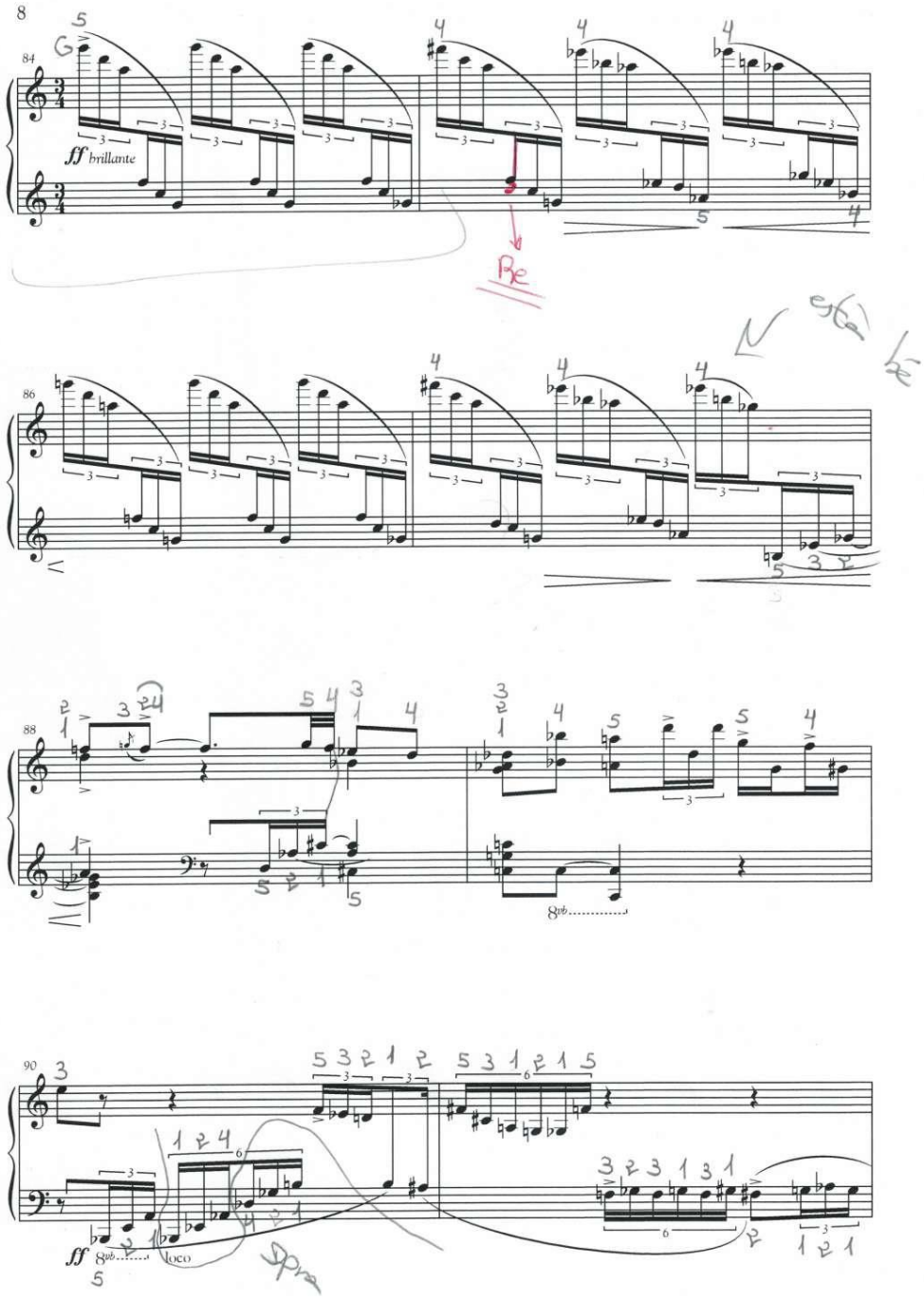

4
37
mf
f
f mp
8va
40
f
ff
mf
8va
42
dolce
mf
loco
loco
mp
mf
44
mf
mf

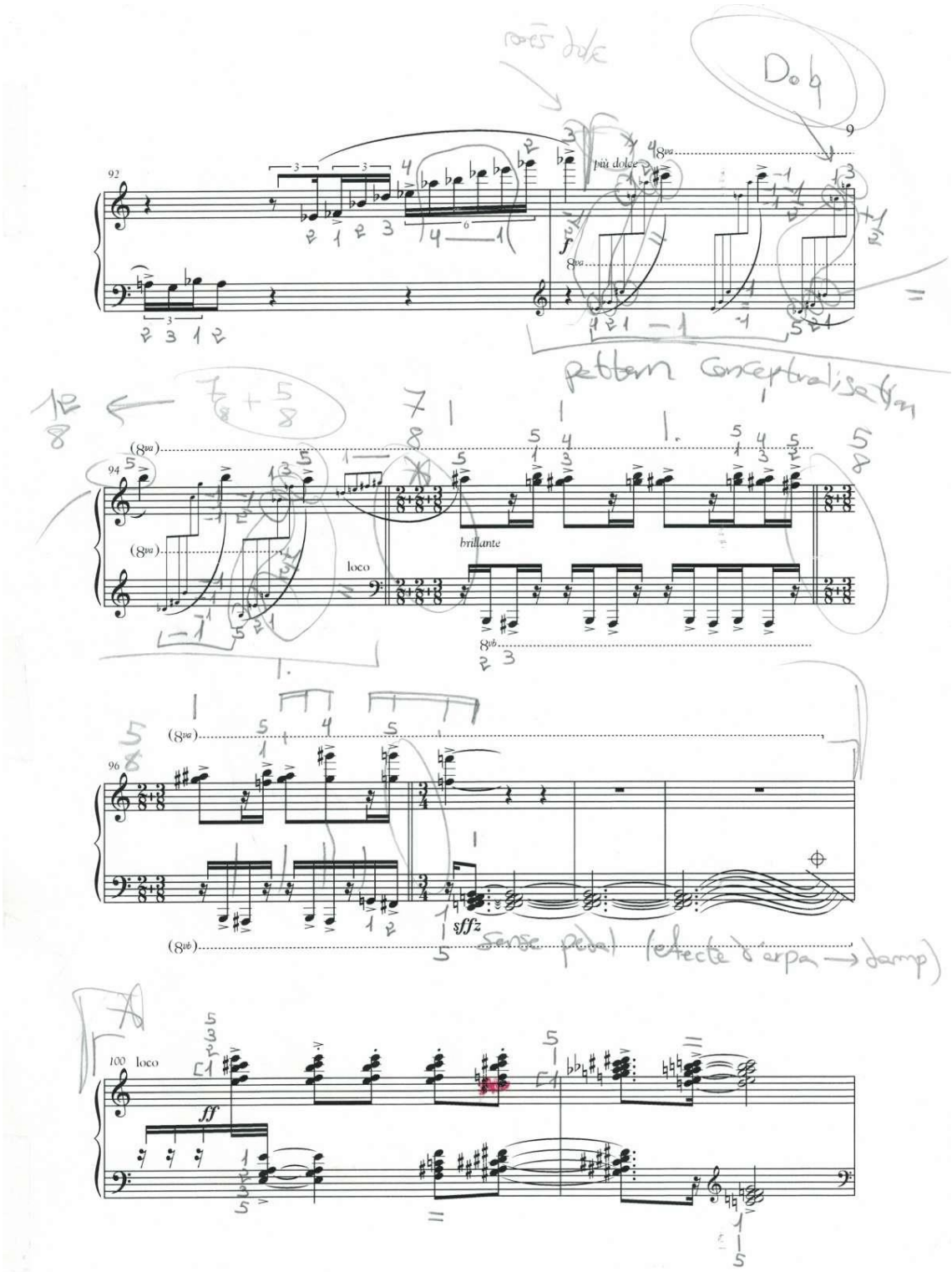

47
8va
50
loco
53
8va
loco
f
56
mp
mf
inside the piano *

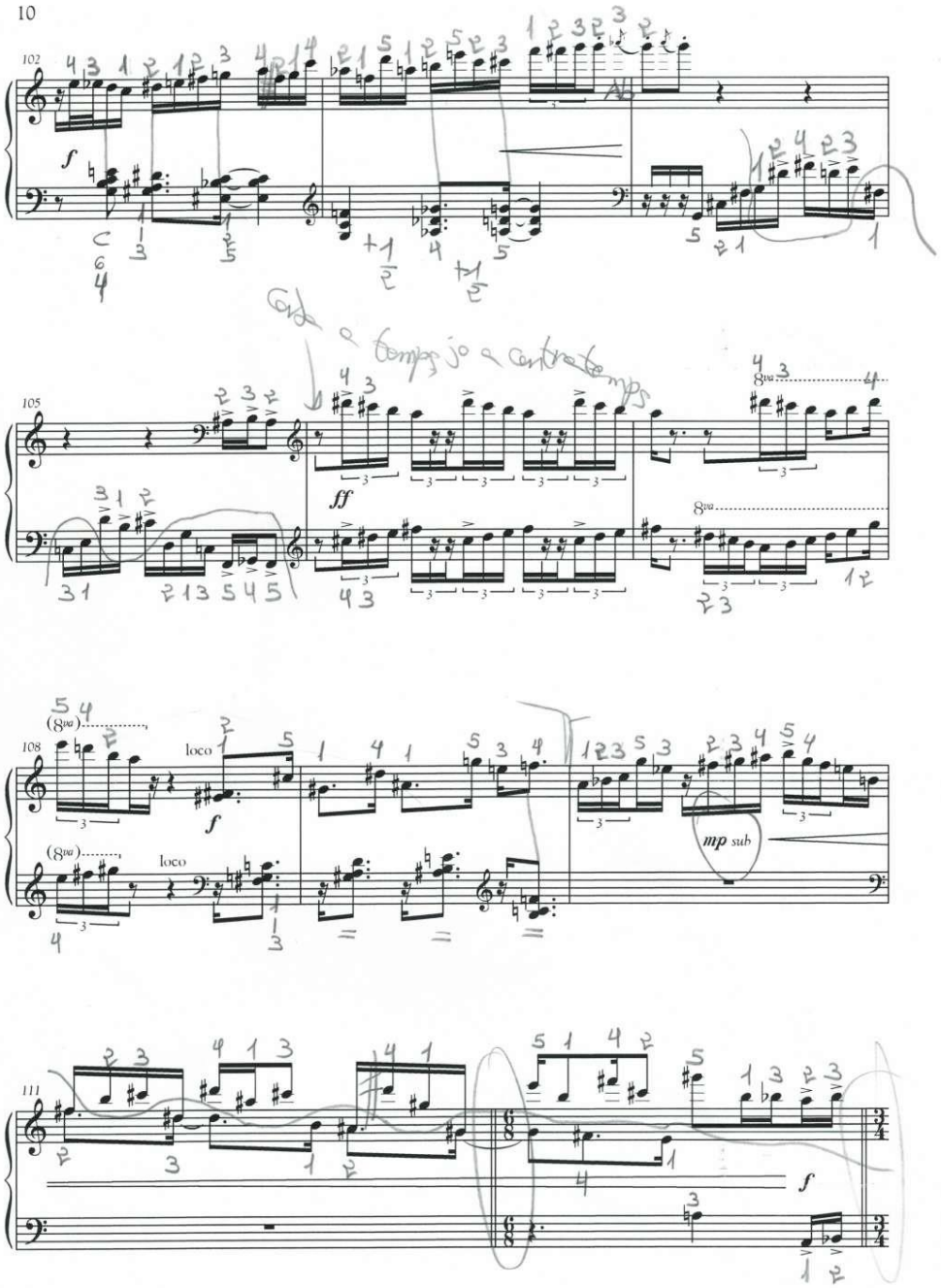

6
62
ff
63
65
ff
loco
f
68

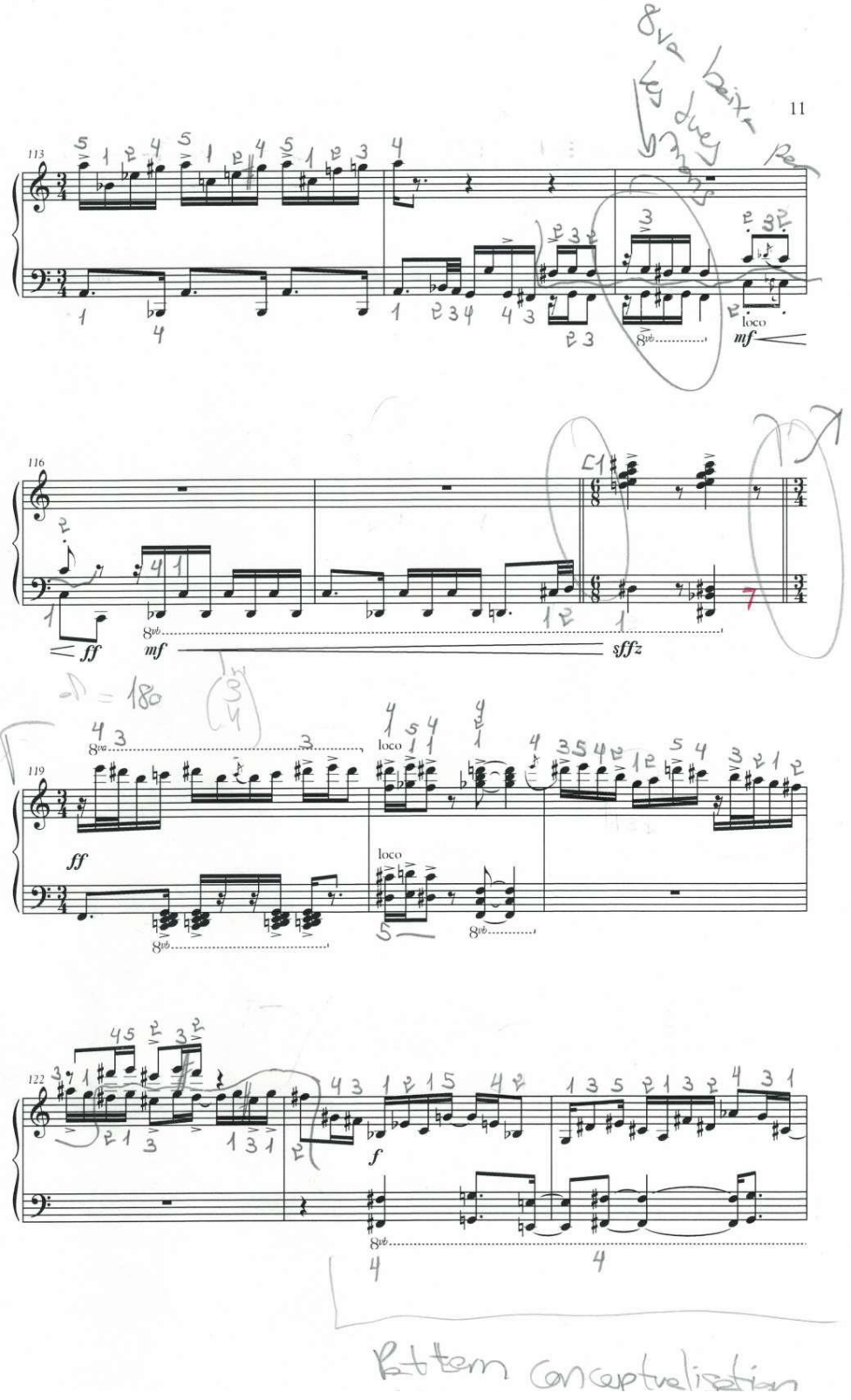


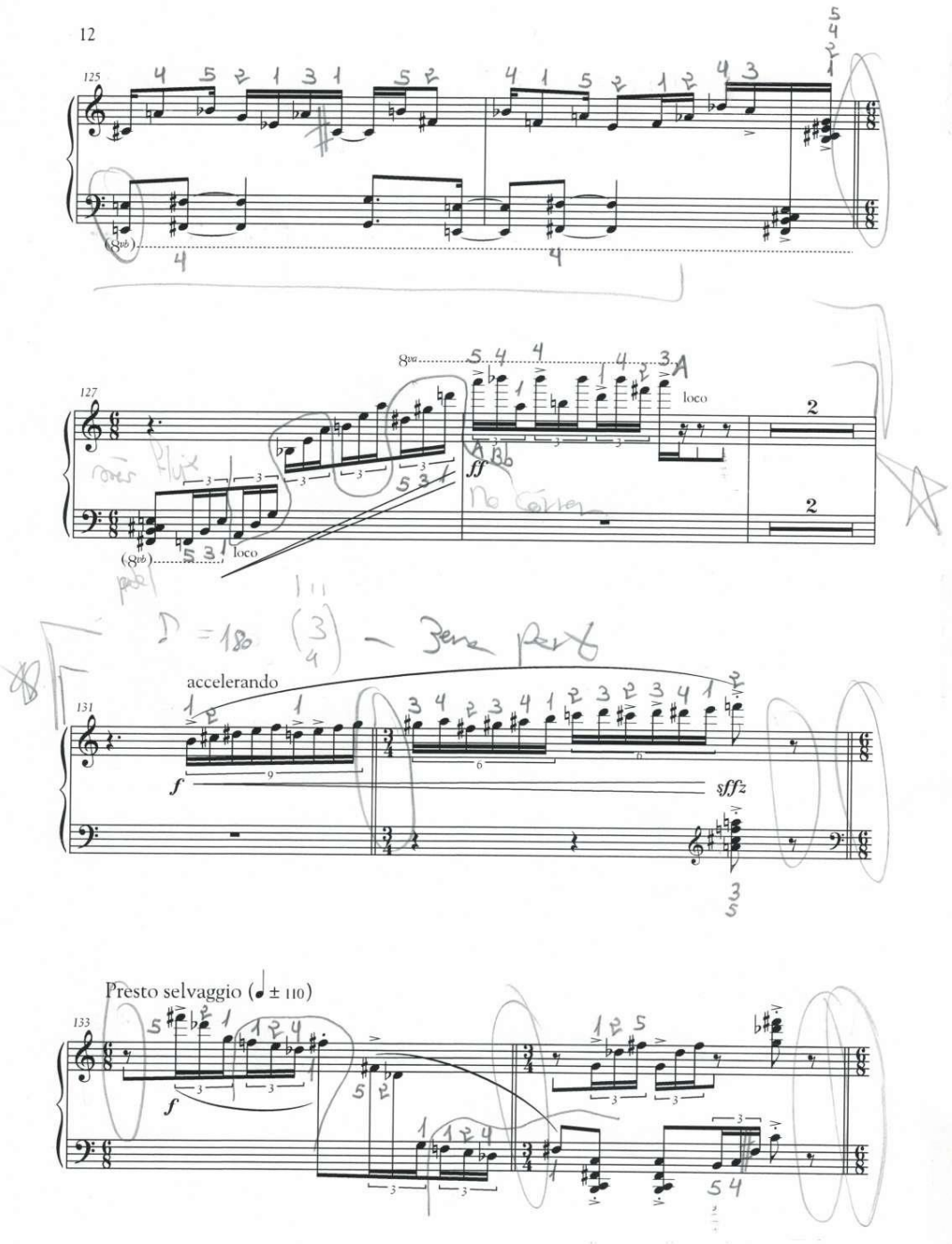
4e + 5d
molt articulat
loco
octave alta a les dues mans
les dues mans
ff
compàs 6
referència
taller

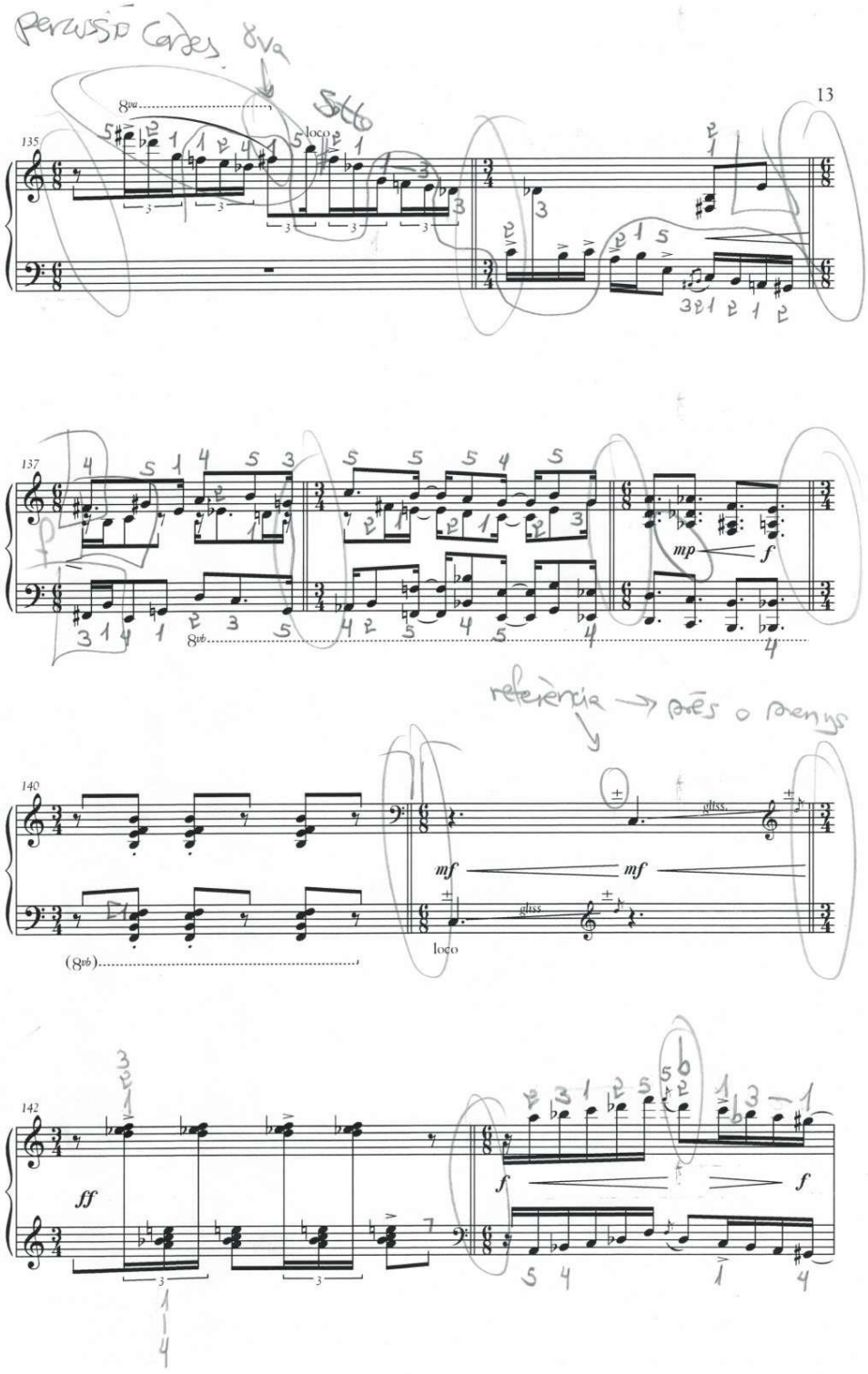

8
84
ff brillante
Re
86
88
8va
90
ff
8va
loco

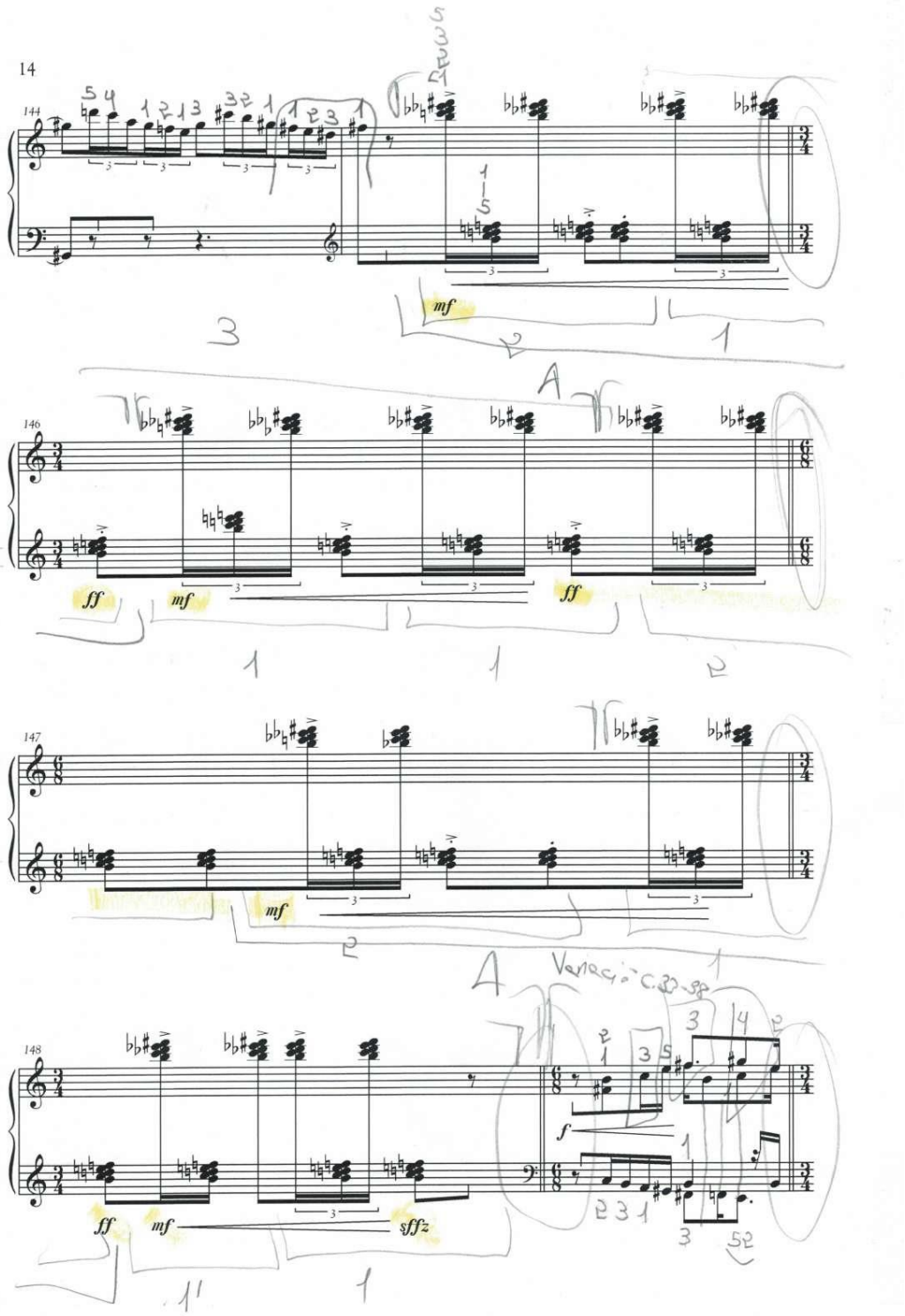

92
più dolce
94
brillante
loco
96
sffz
100 loco
ff

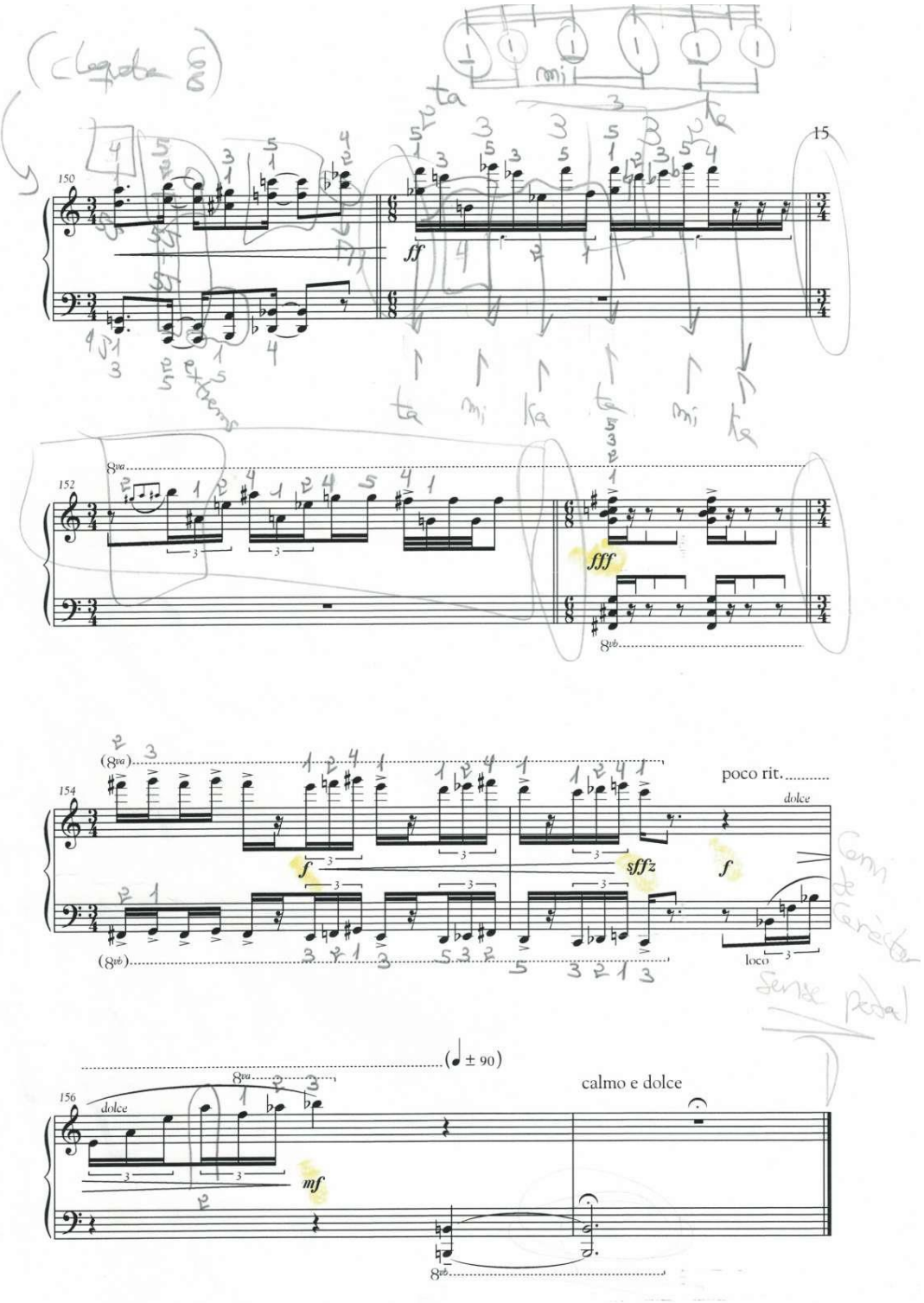

10
102
f
105
ff
8va
108
loco
f
mp sub
111
f


11
113
loco
mf
116
ff
mf
sffz
119
ff
loco
122
f
Pattern conceptualisation

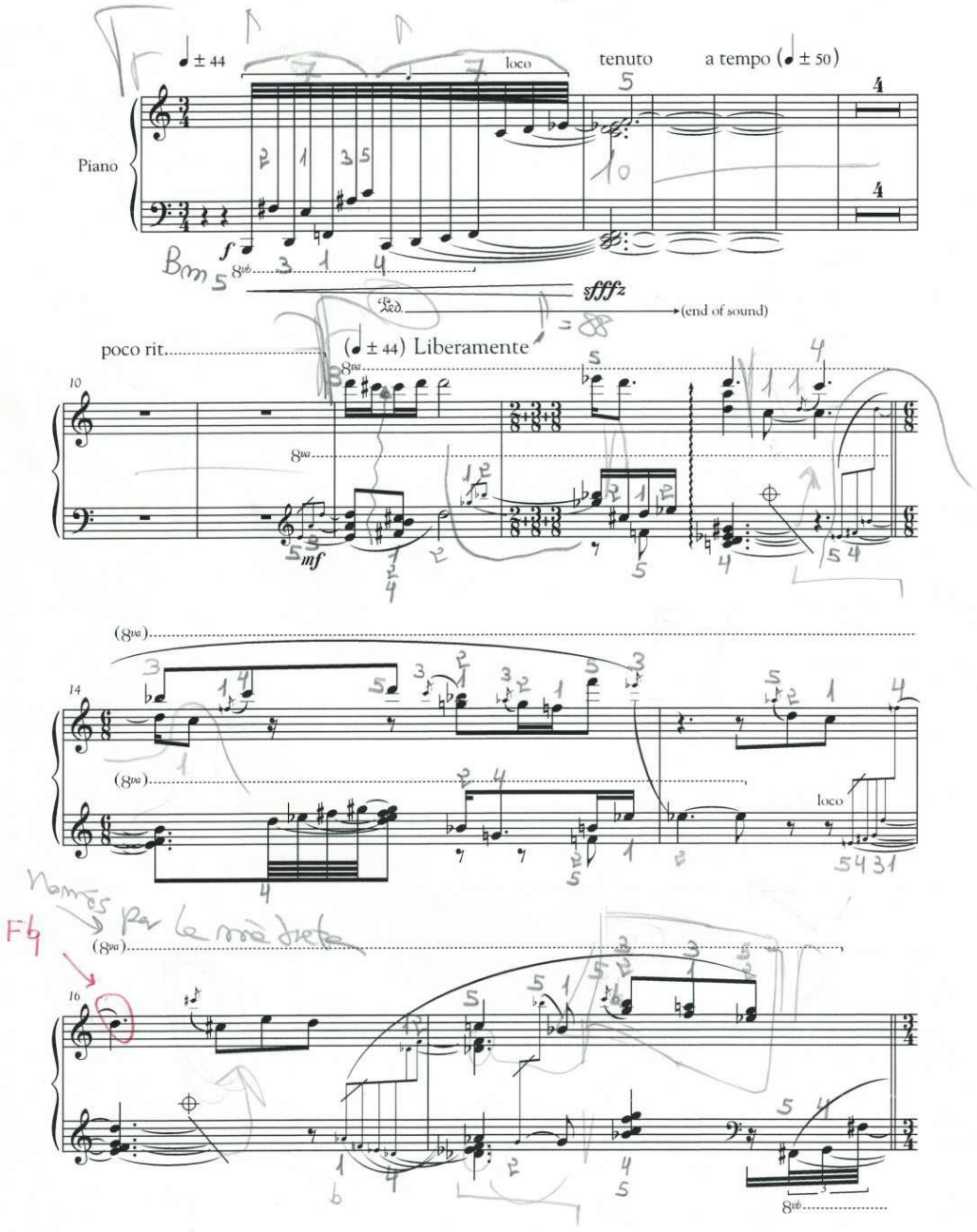

12
125
127
loco
ff
131
accelerando
f
sffz
Presto selvaggio (♩ ± 110)
133
f

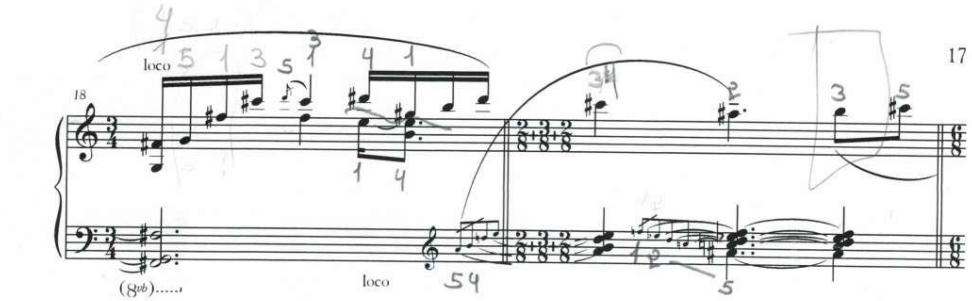

13
135
8va
loco
137
mp
f
8vb
140
mf
mf
gliss.
gliss
loco
(8vb)
142
ff
f
f

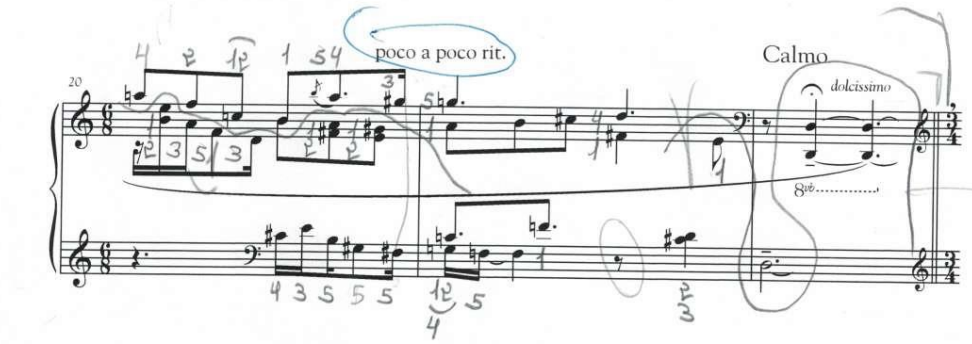

14
144
mf
146
ff
mf
ff
147
mf
148
ff
mf
sffz
f

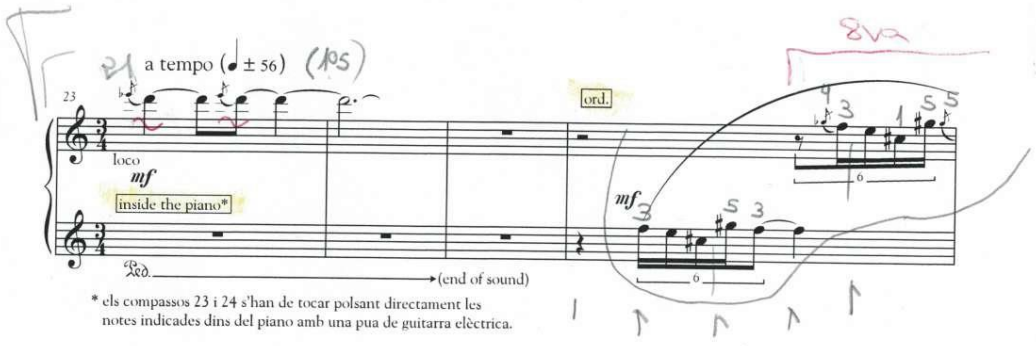

15
150
ff
152
8va
fff
8vb
154
(8va)
poco rit.
dolce
f
sffz
f
(8vb)
loco
(♩ ± 90)
156
dolce
8va
mf
calmo e dolce
8vb

II - Passeig

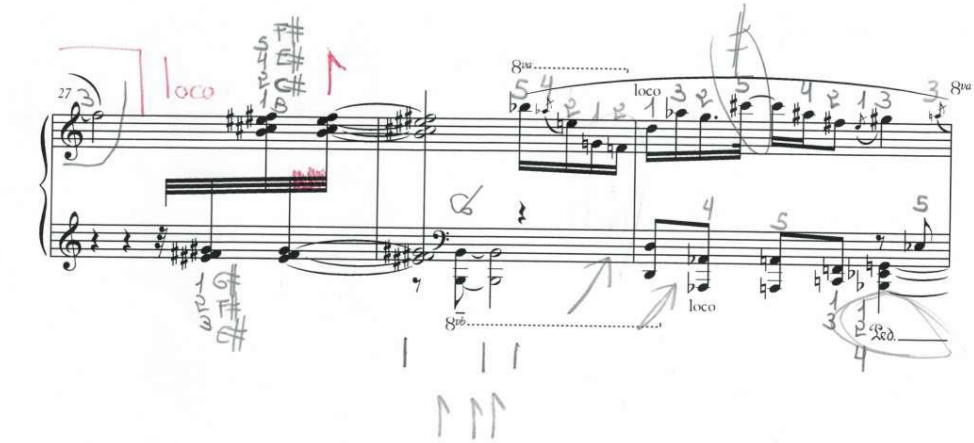

Piano
± 44
loco
tenuto
a tempo (± 50)
sfffz
(end of sound)
poco rit.
(± 44) Liberamente
mf
(8va)
loco

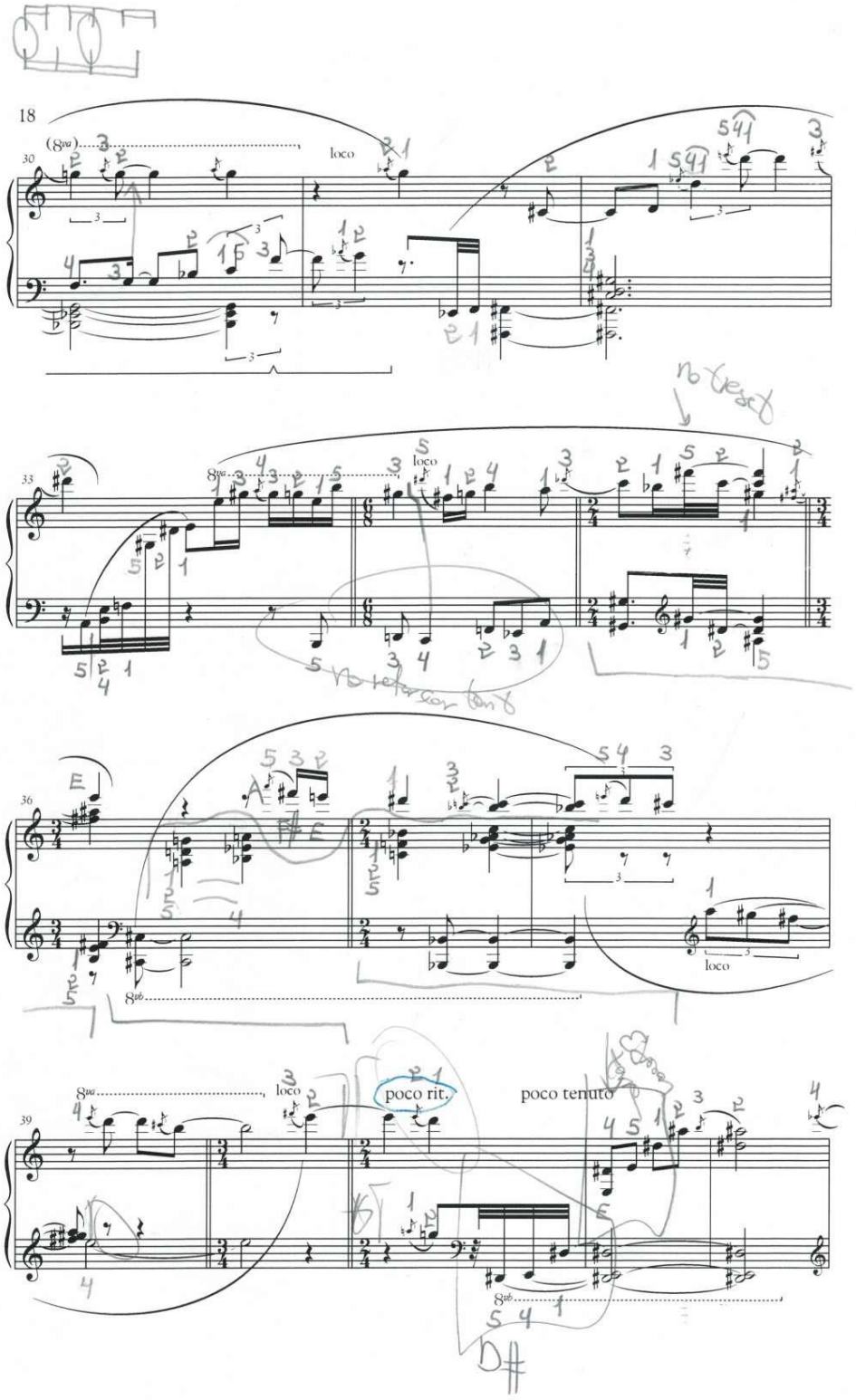


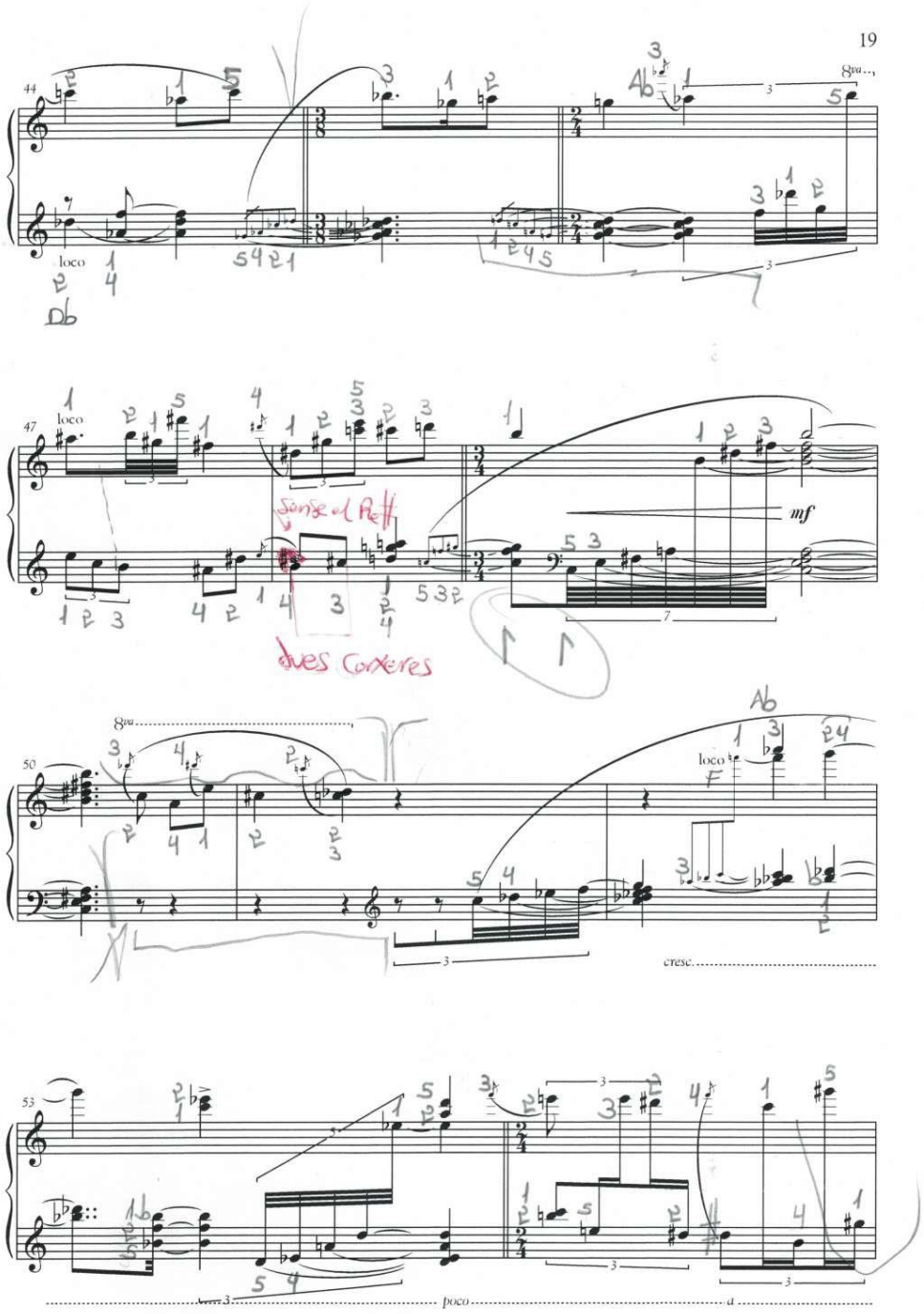


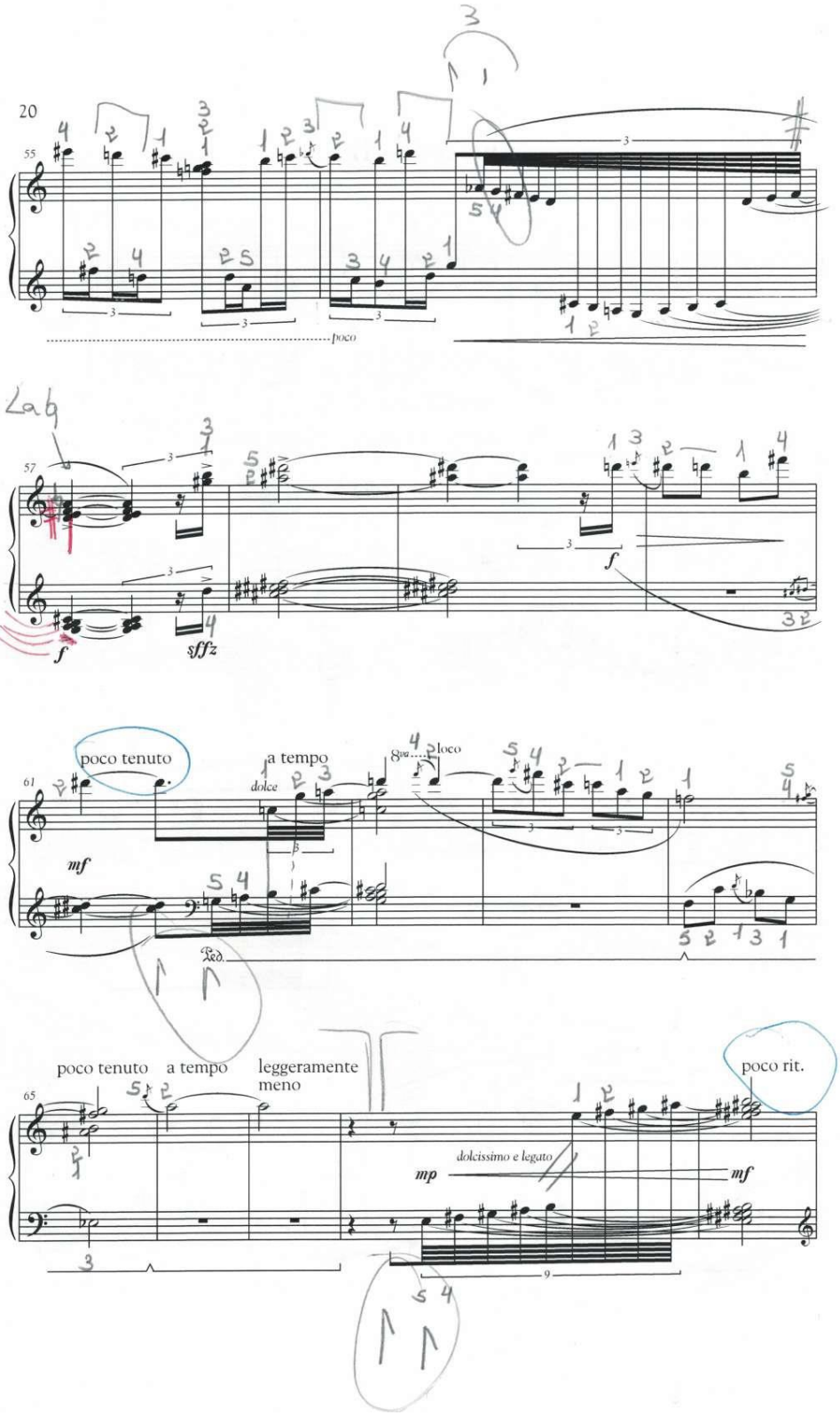


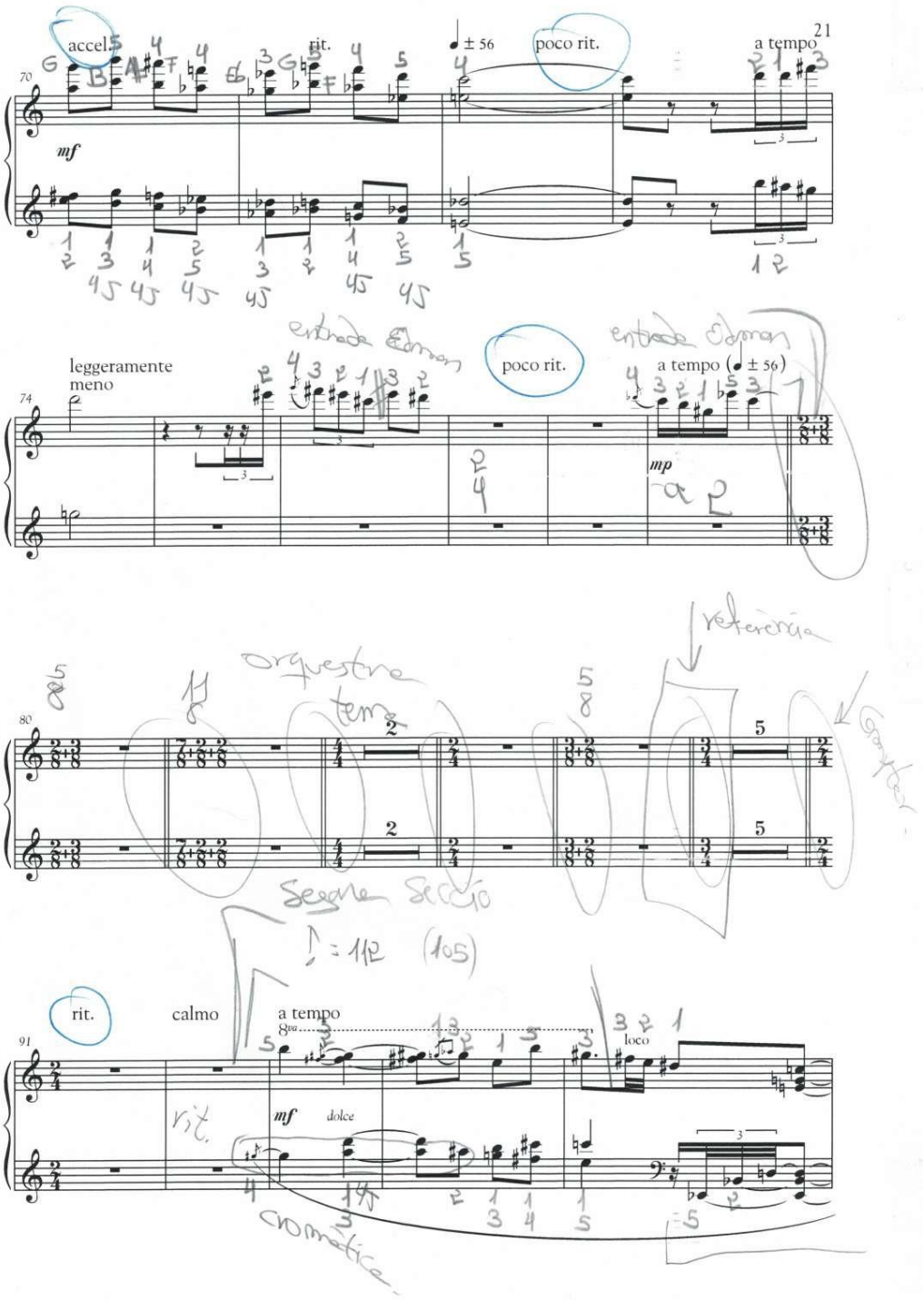
* els compassos 23 i 24 s'han de tocar polsant directament les notes indicades dins del piano amb una pua de guitarra elèctrica.

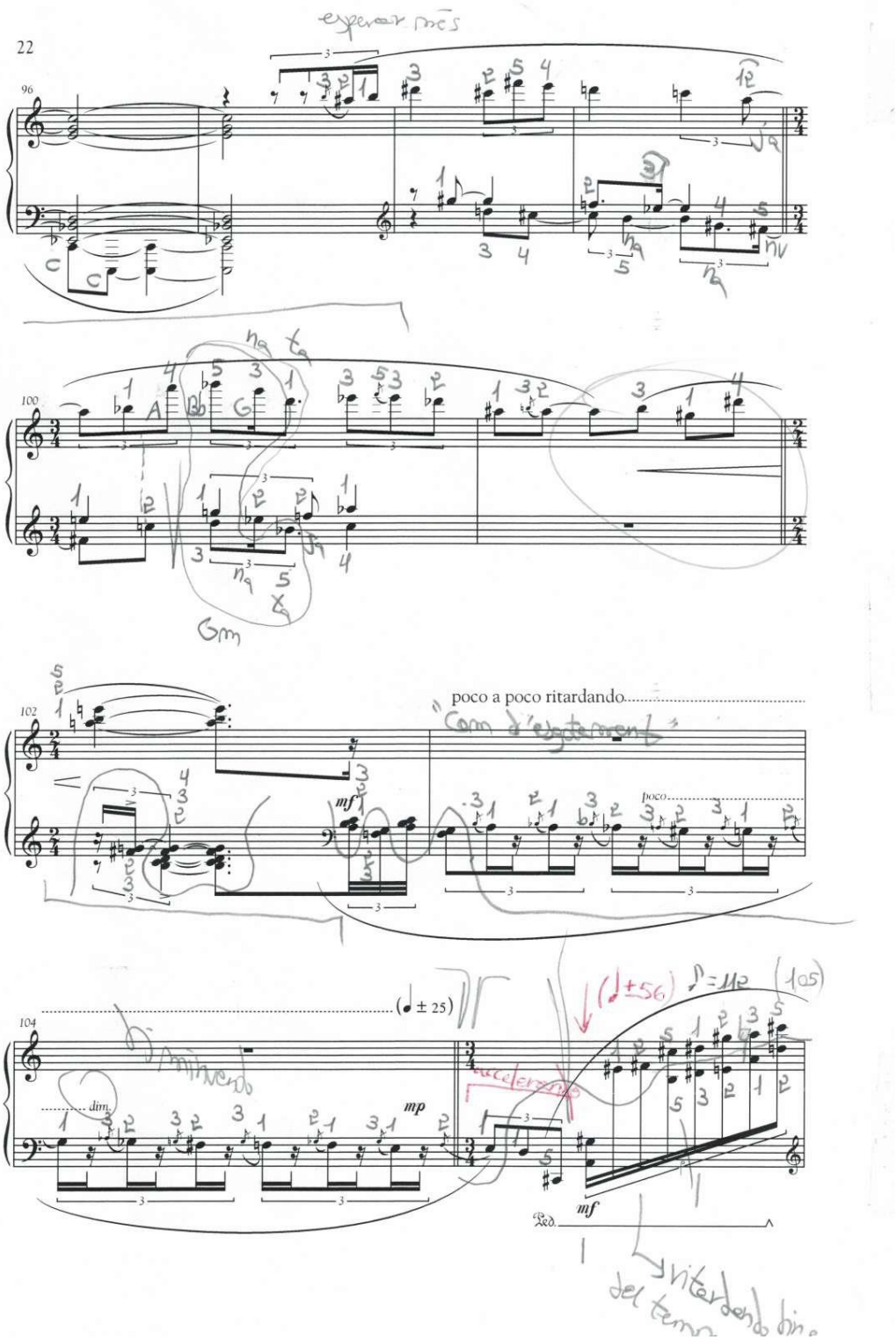


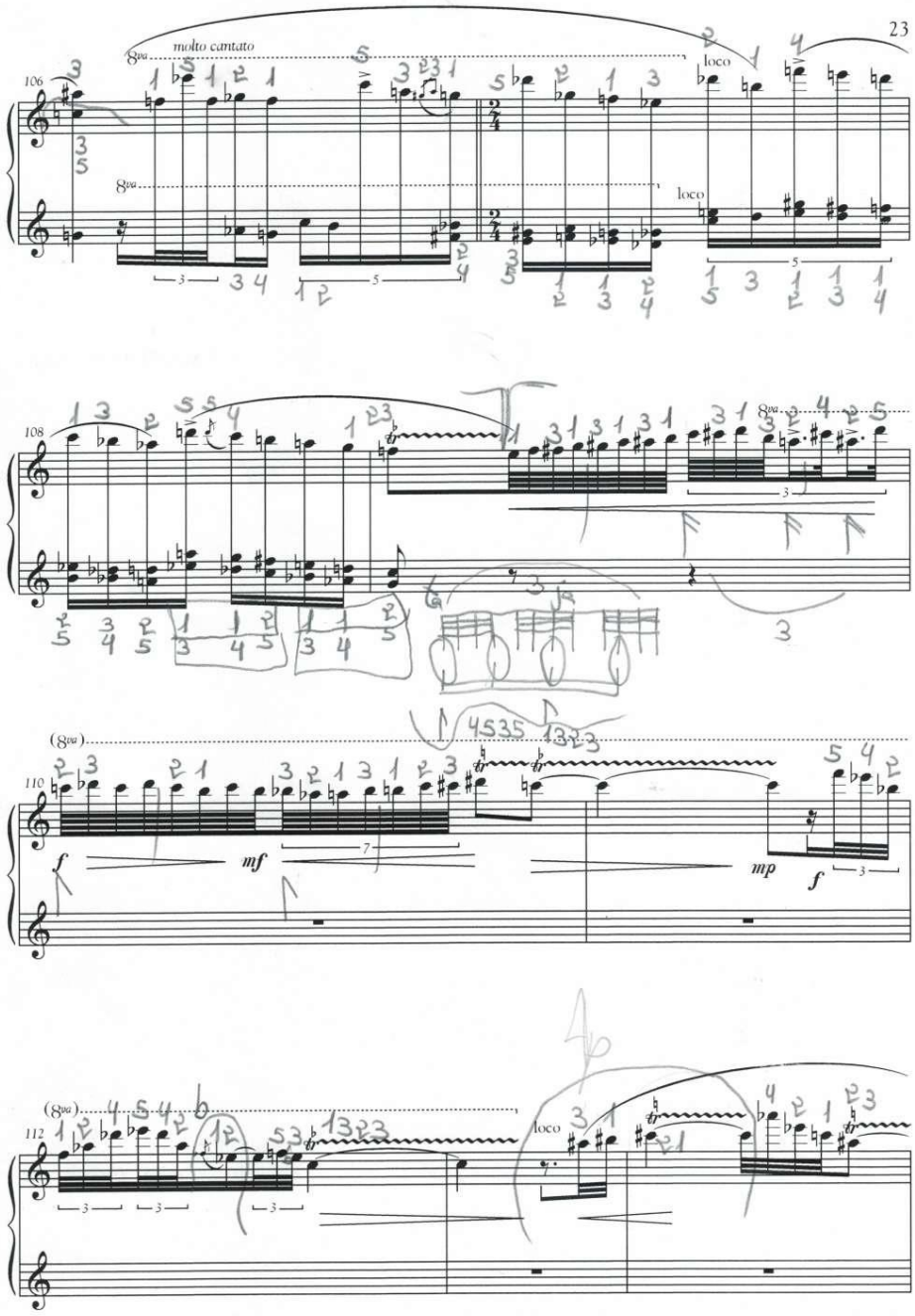

18
30
(8va)
loco
33
8va
loco
36
8vb
loco
39
8va
loco
poco rit.
poco tenuto
8vb

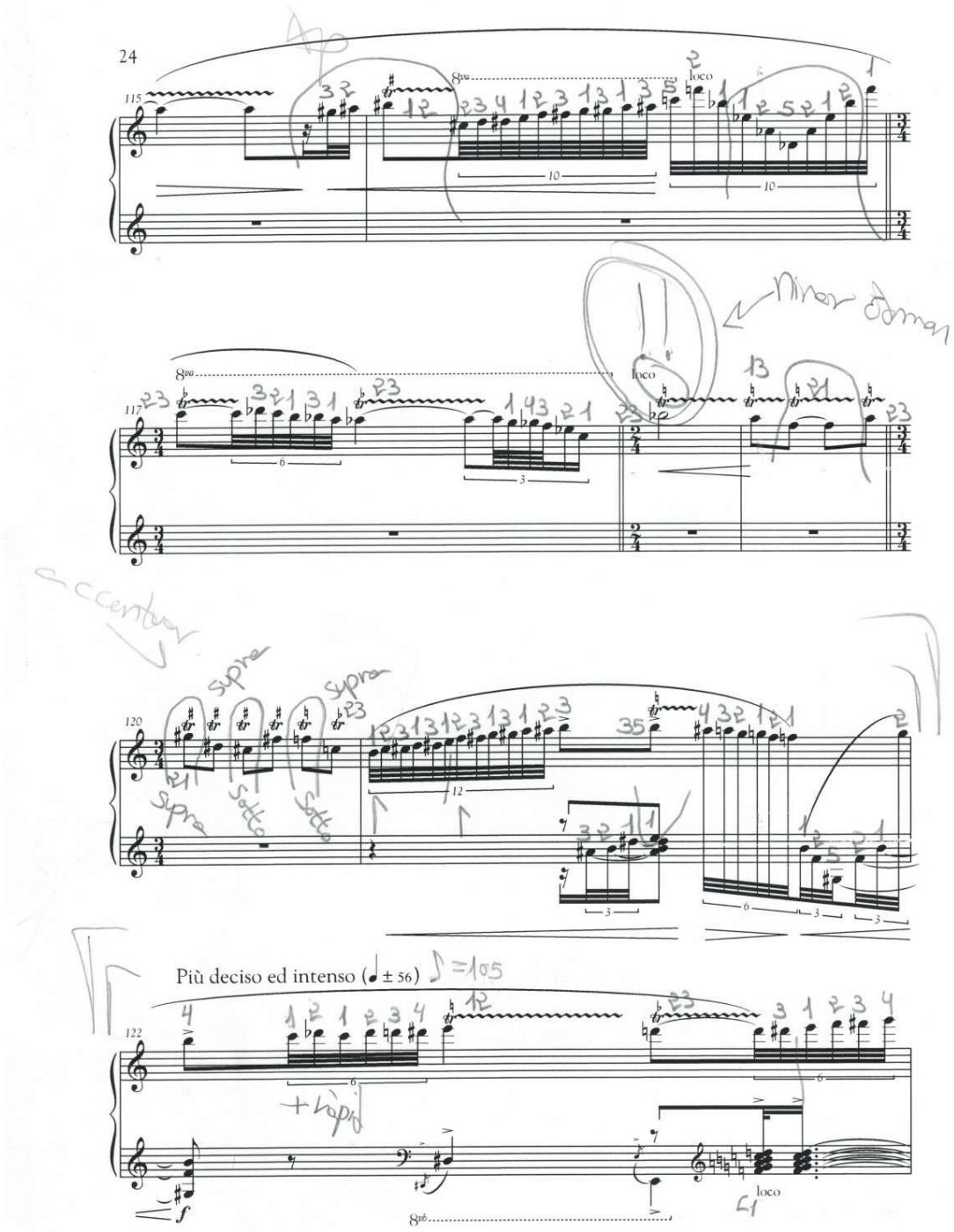

loco
Db
Ab
8va
loco
mf
Sense el Reff
dues Corxeres
8va
loco
F
Ab
cresc.
poco
a

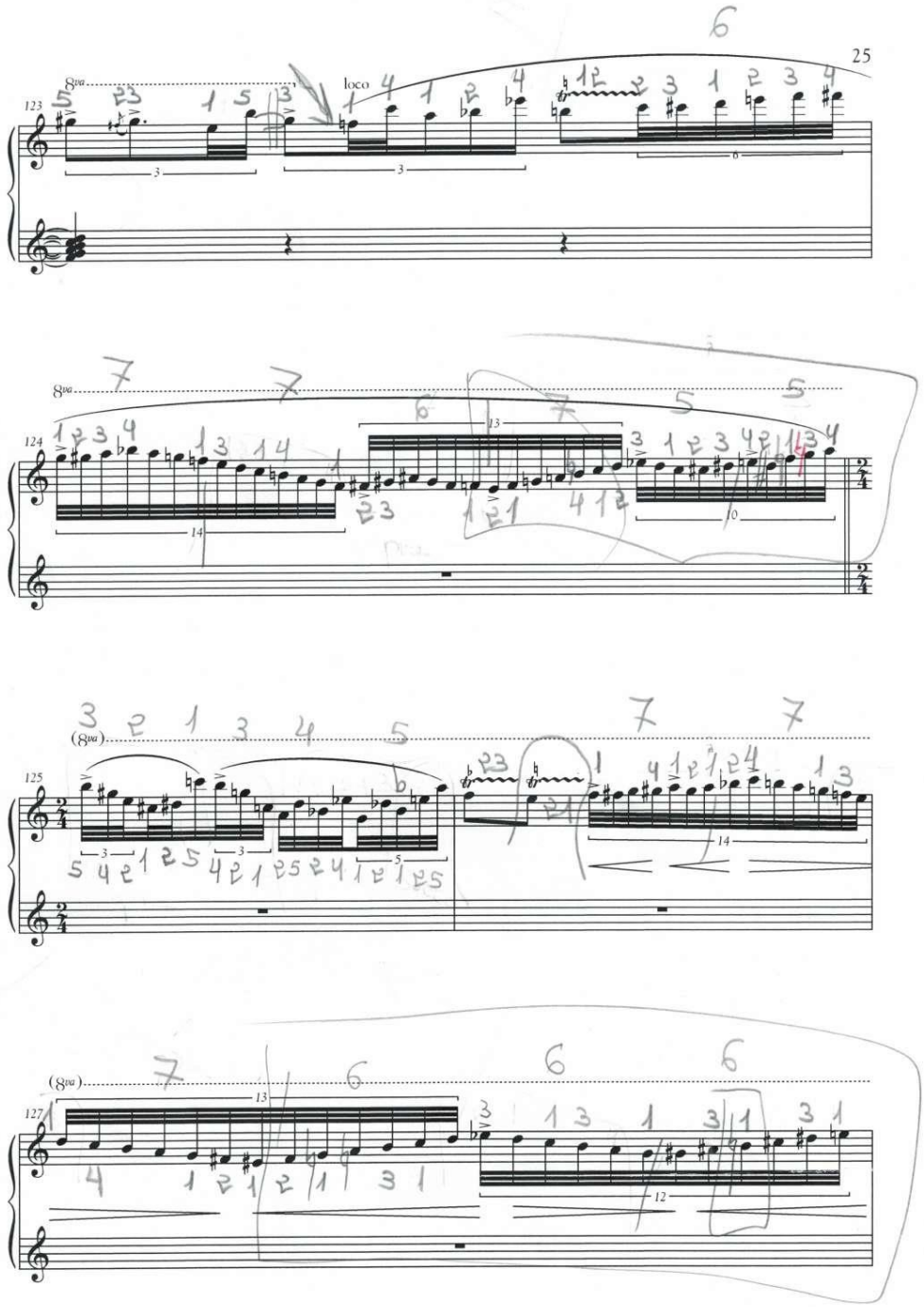

20
poco
Lab
f
sffz
poco tenuto
a tempo
dolce
8va
loco
mf
Ped.
poco tenuto
a tempo
leggeramente
meno
poco rit.
dolcissimo e legato
mp
mf

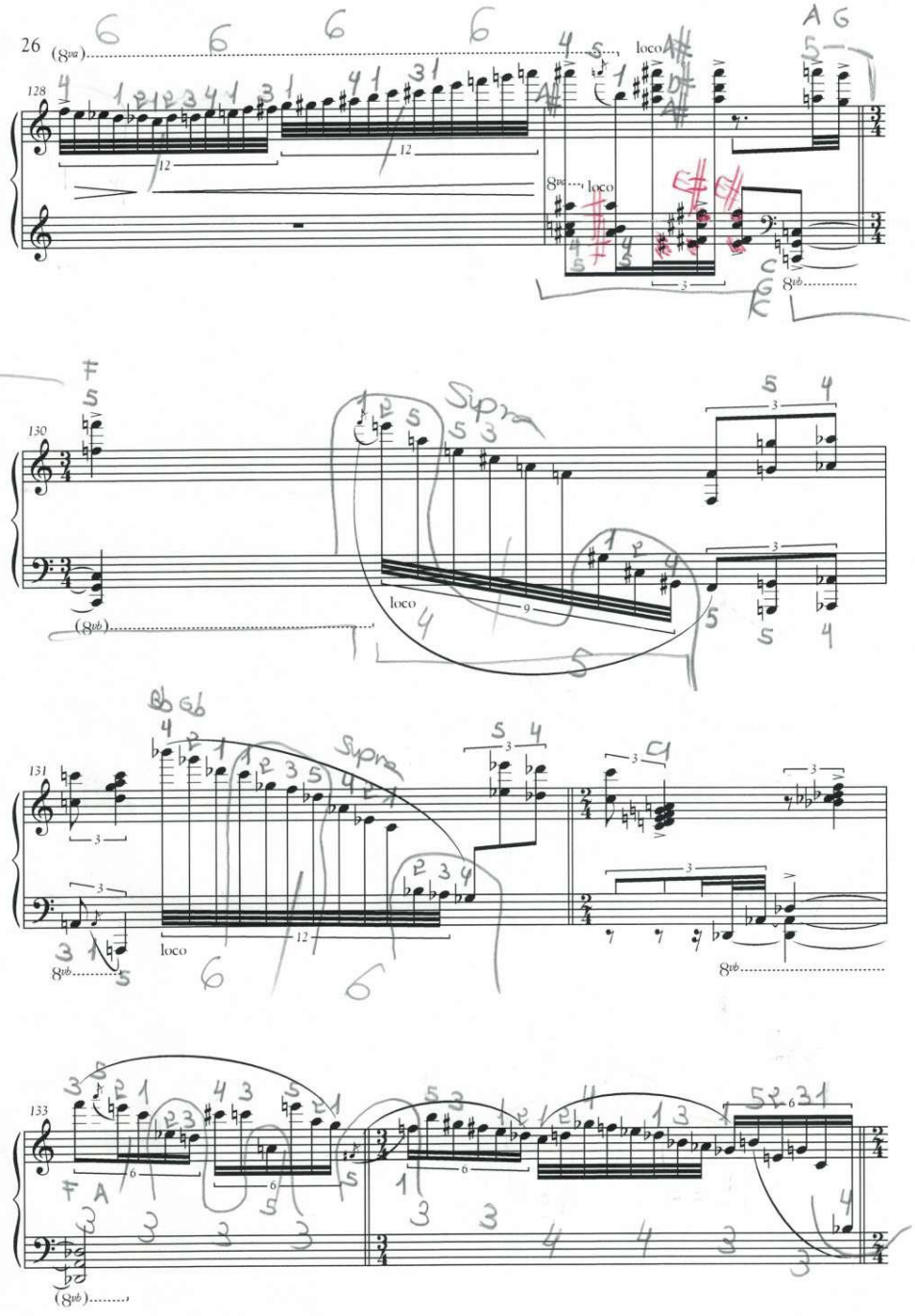

21
accel.
rit.
♩ ± 56
poco rit.
a tempo
mf
leggeramente
meno
poco rit.
a tempo (♩ ± 56)
mp
rit.
calmo
a tempo
8va
loco
mf
dolce

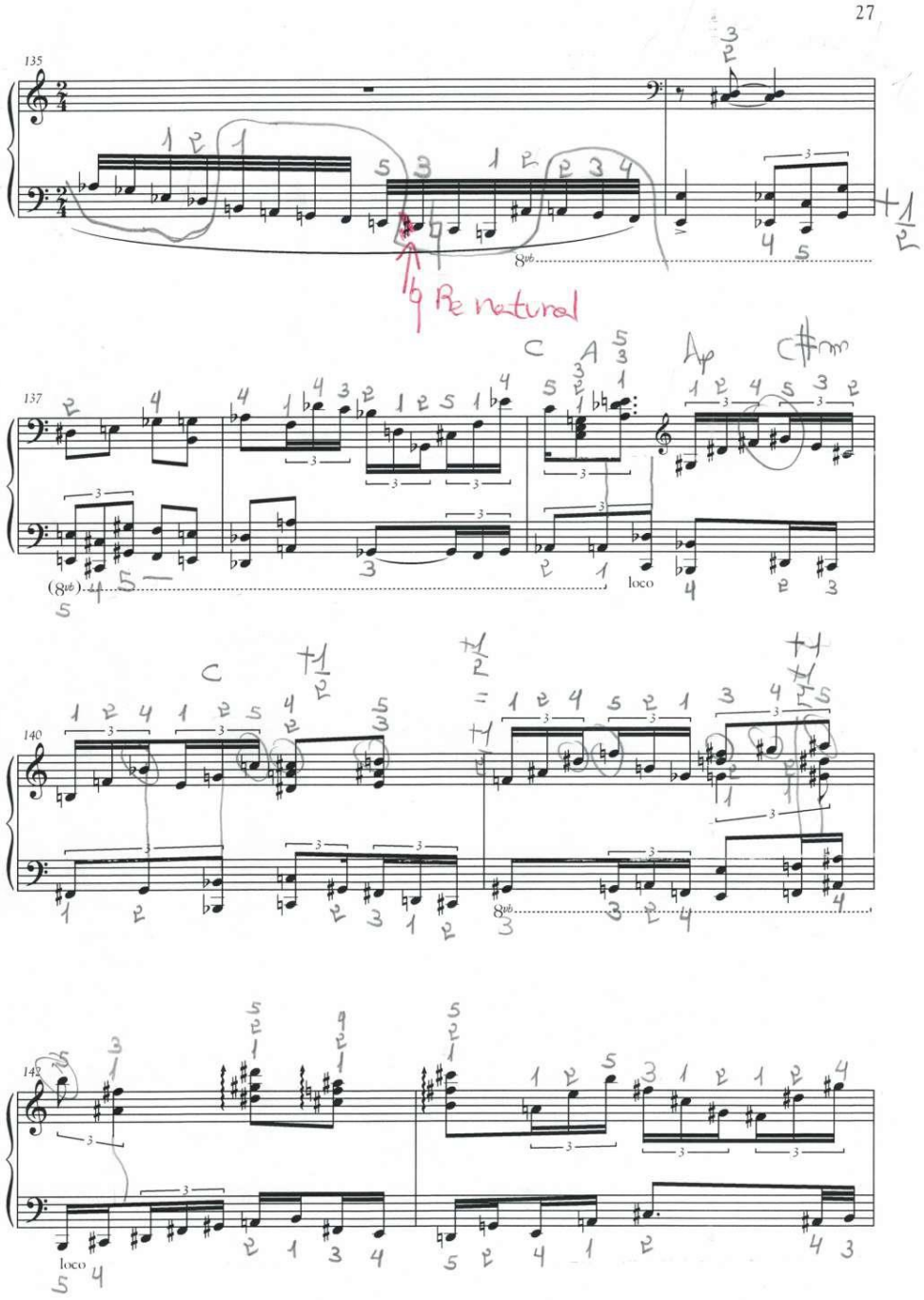

22
96
100
102
poco a poco ritardando
mf
poco
104
(♩ ± 25)
dim.
mp
mf
Ped.

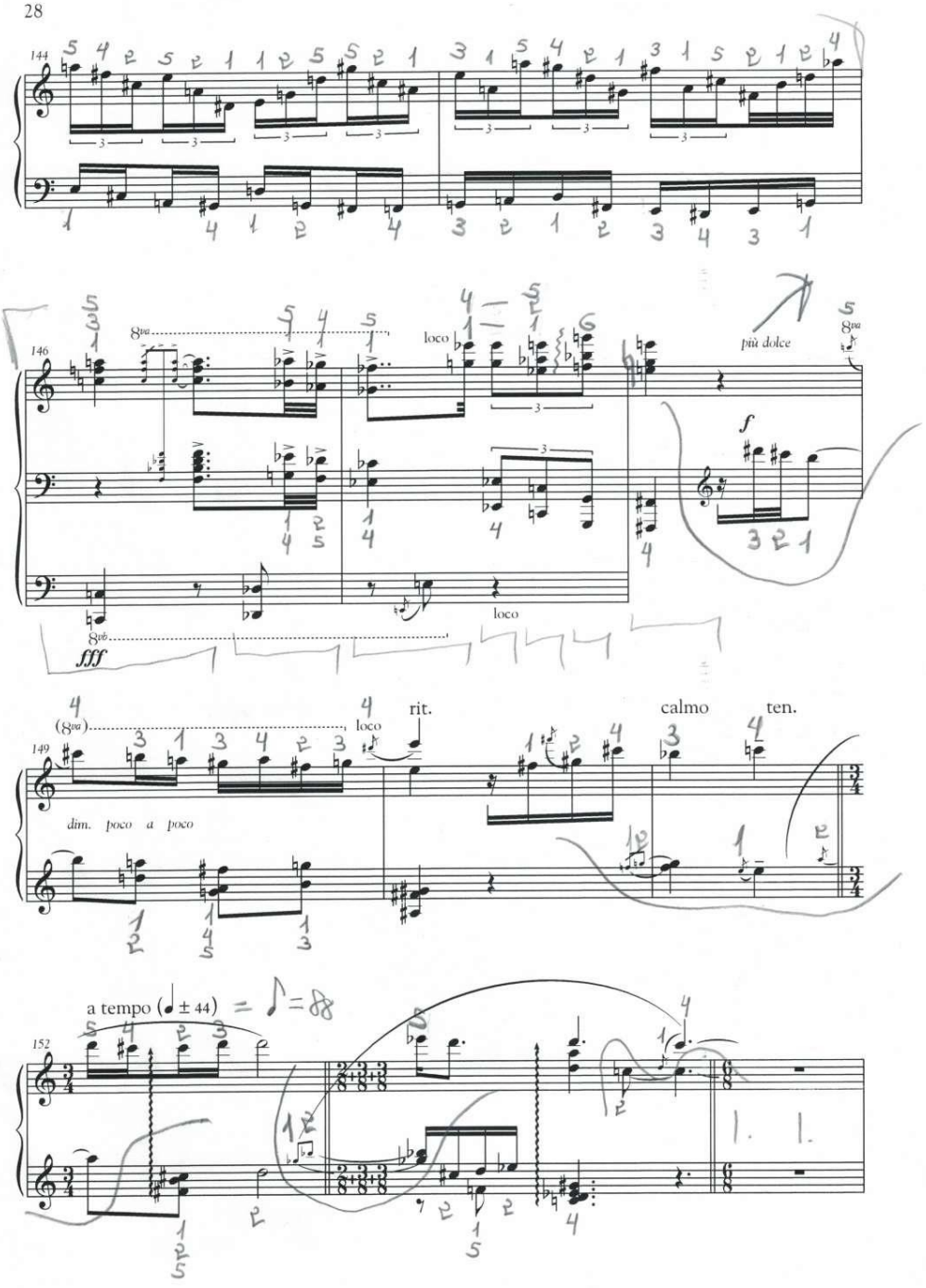

23
molto cantato
8va
loco
106
108
110
112
f
mf
mp
f


24
115
8va
loco
117
120
Più deciso ed intenso (♩ ± 56)
122
8vb
loco


25
8va
loco
123
124
125
(8va)
127


26
128
loco
130
Supra
loco
131
Supra
loco
133

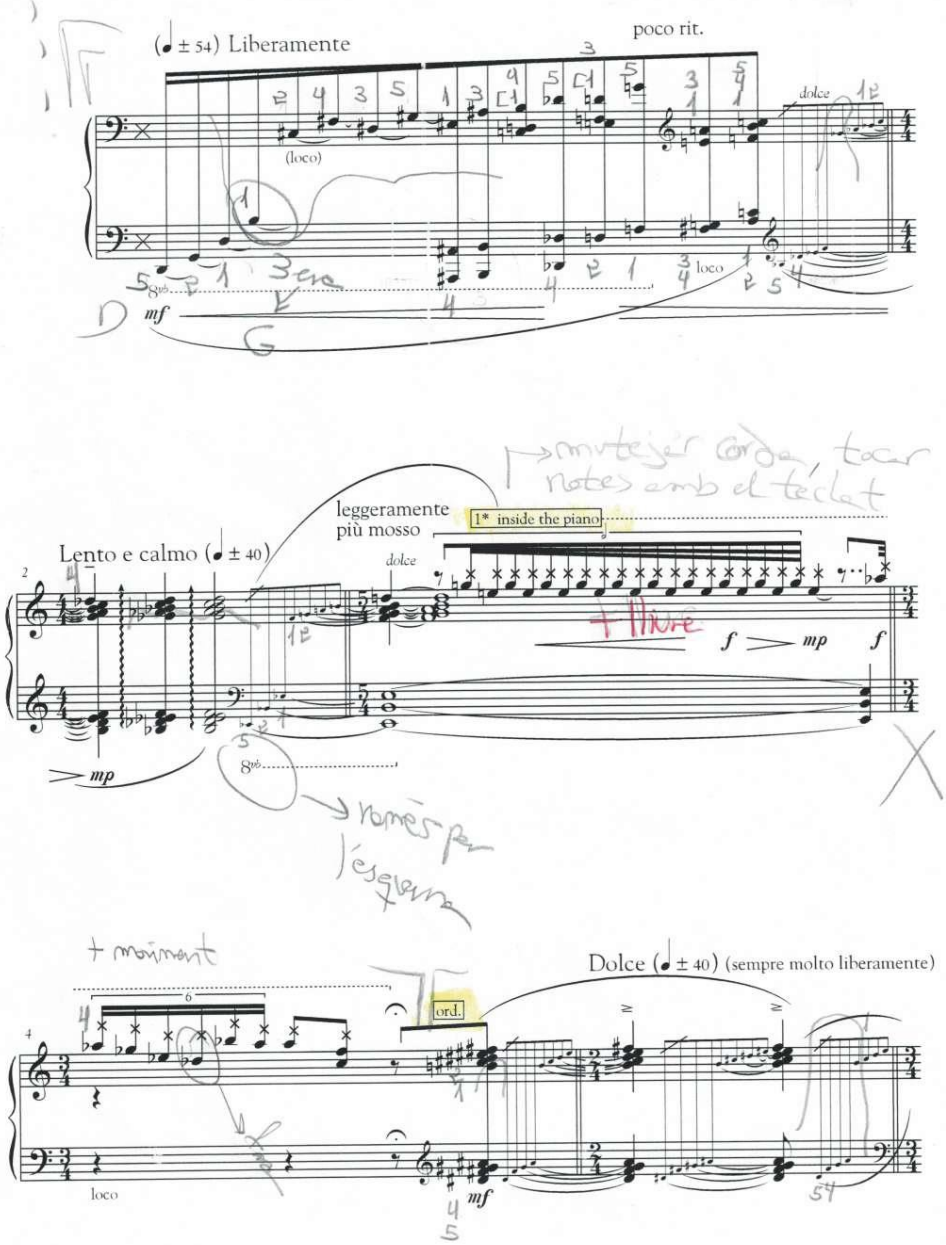

135
Re natural
137
loco
140
142
loco

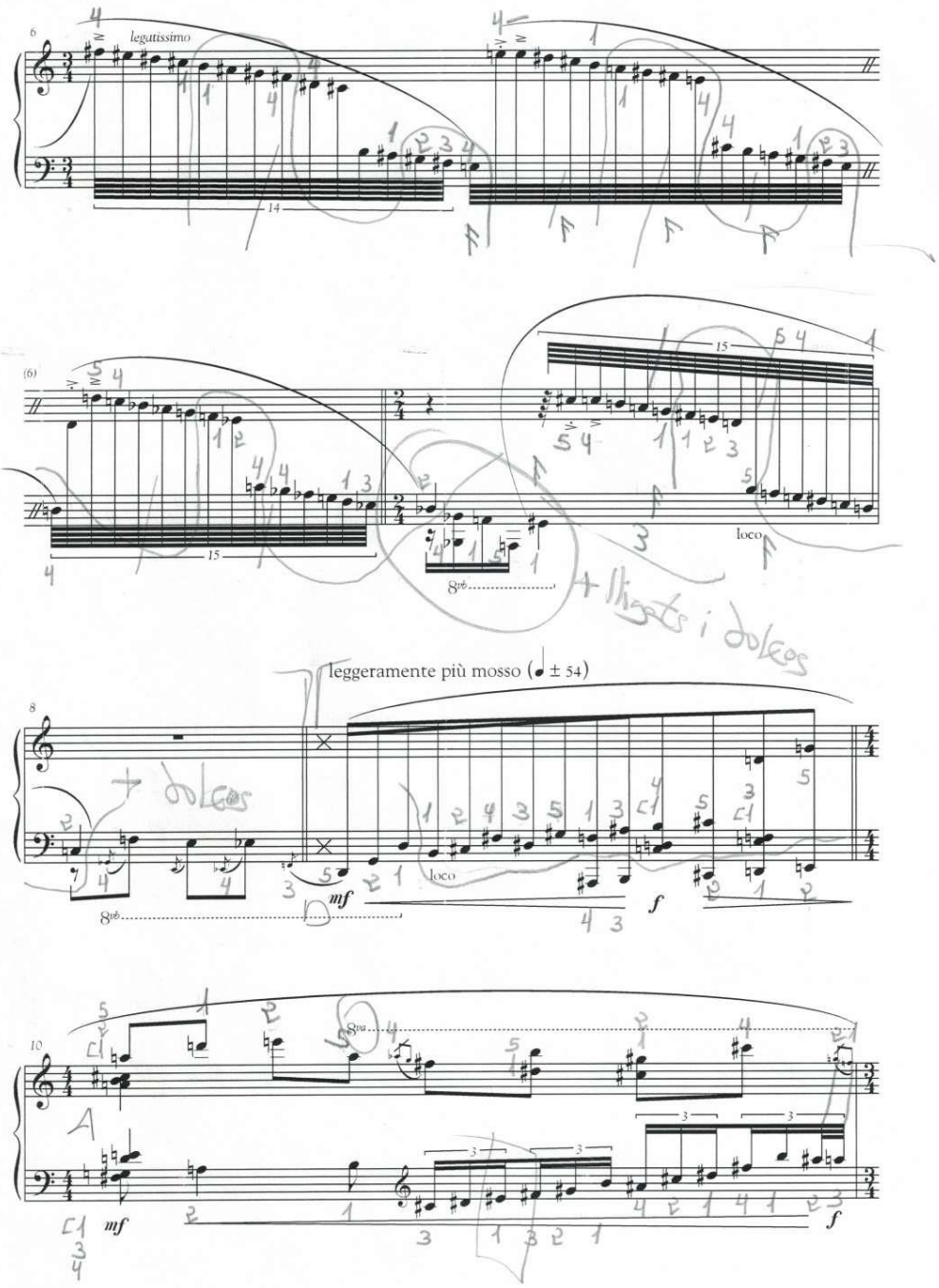

144
146
loco
più dolce
fff
loco
149
rit.
calmo
ten.
dim. poco a poco
a tempo (♩ ± 44)
152

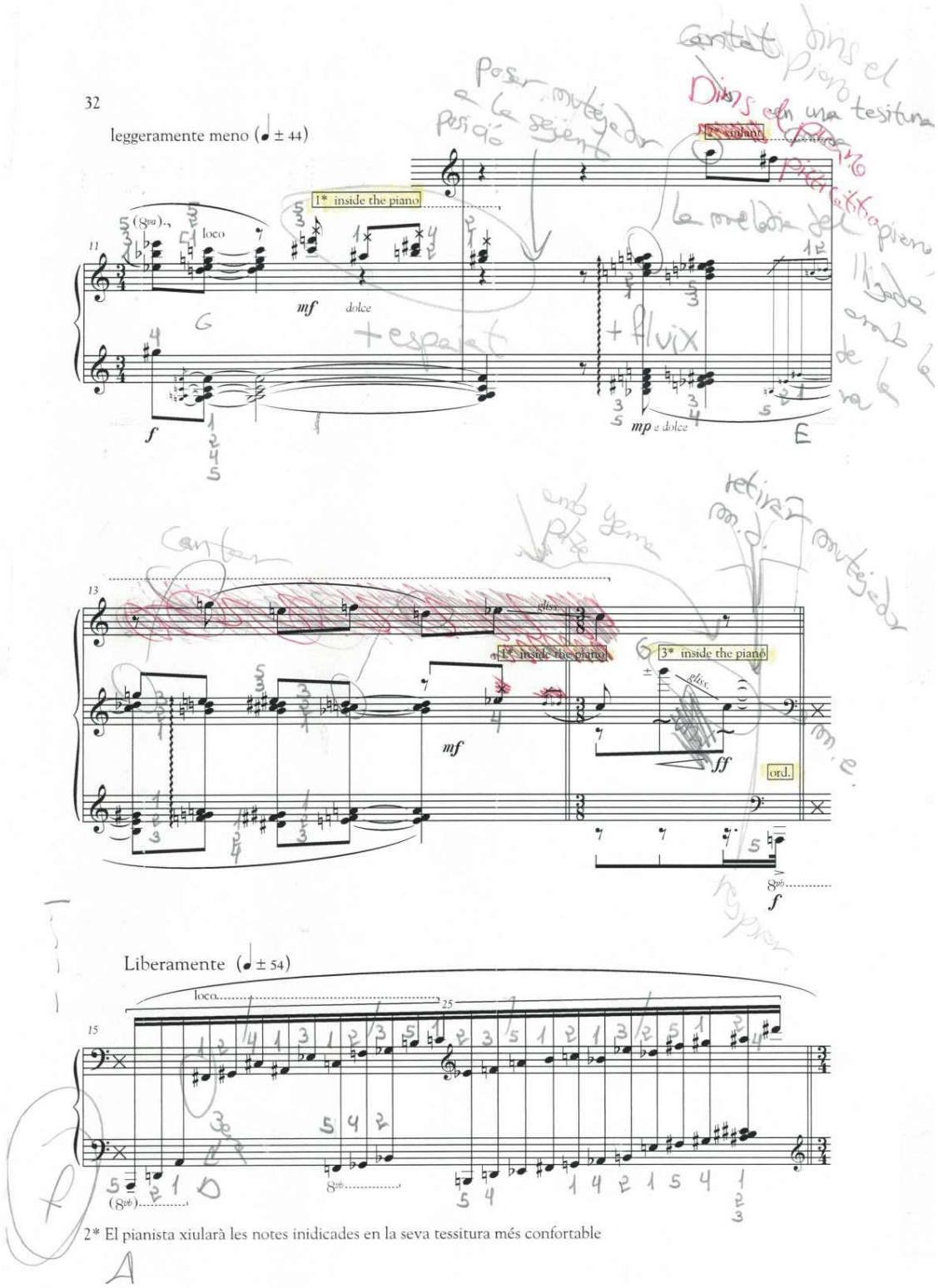
1* Cop amb el palmell de la mà sobre les cordes del registre més greu del piano.

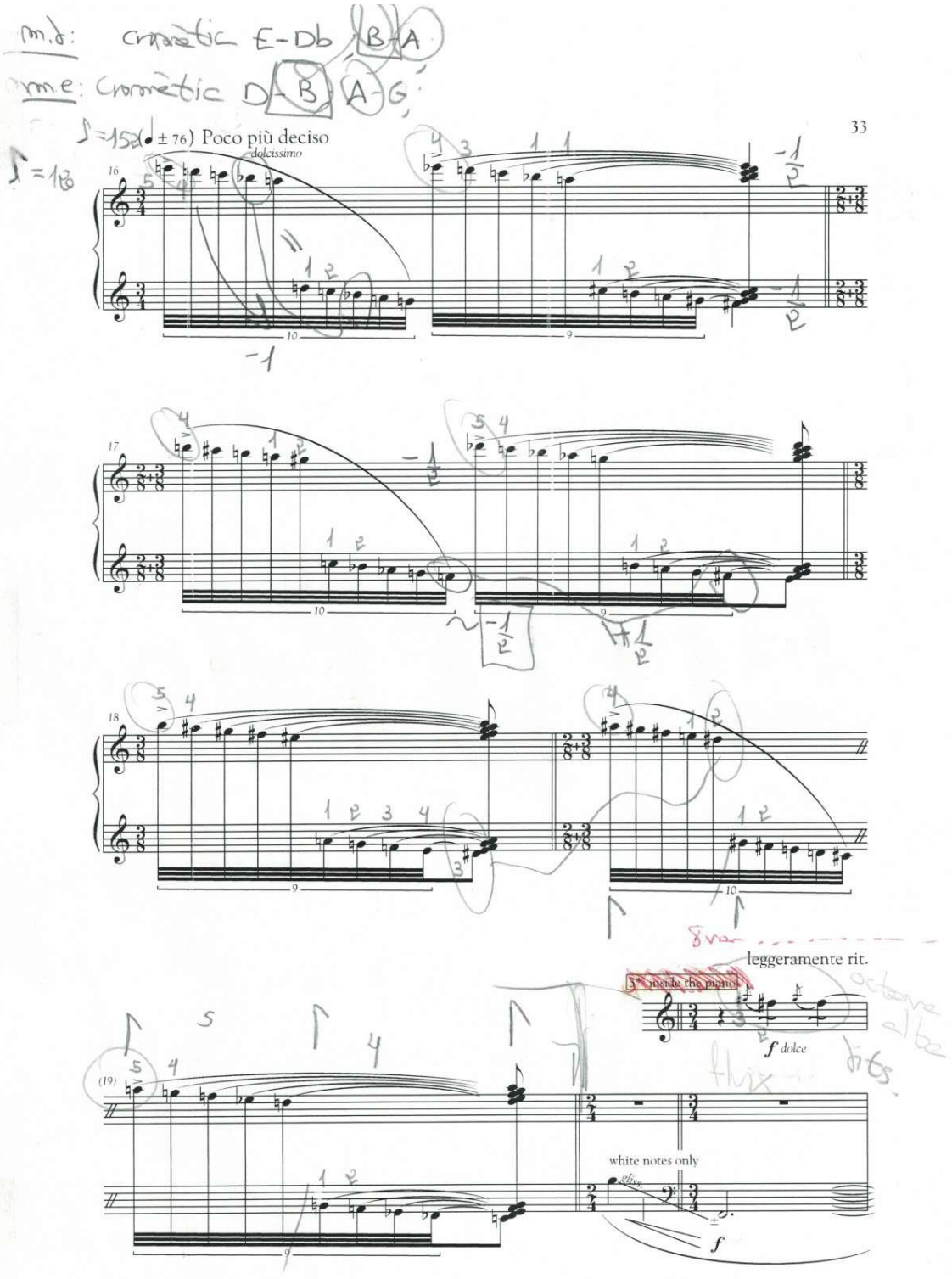
2* *Glissando* produït amb l'ungla directament sobre les cordes del piano. Comença aproximadament en el La indicat fins al registre més agut.

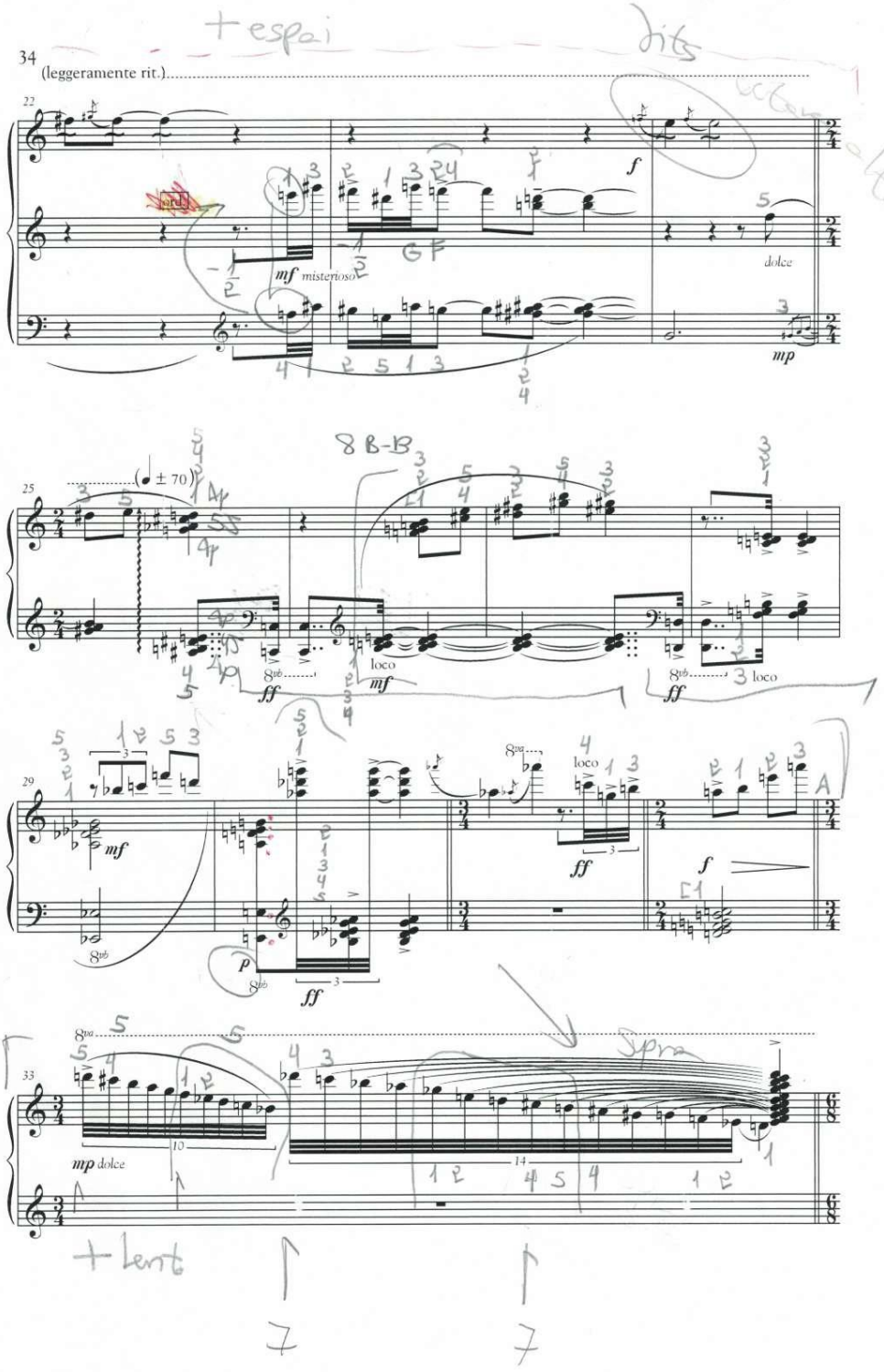
III - Racons

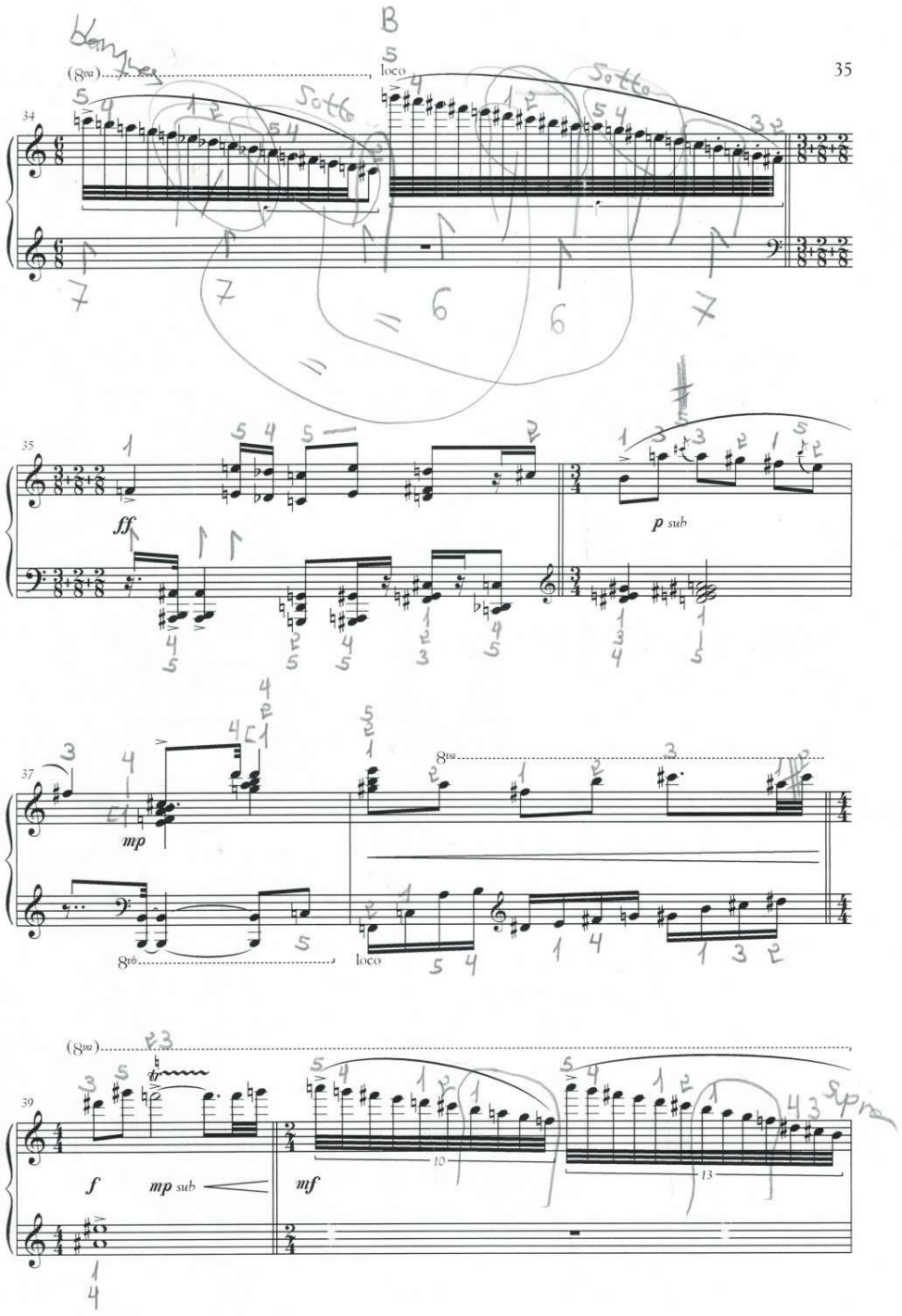

(♩ ± 54) Liberamente
poco rit.
(loco)
dolce
mf
loco
leggeramente
più mosso
1* inside the piano
Lento e calmo (♩ ± 40)
dolce
f
mp
f
mp
Dolce (♩ ± 40) (sempre molto liberamente)
ord.
mf
loco

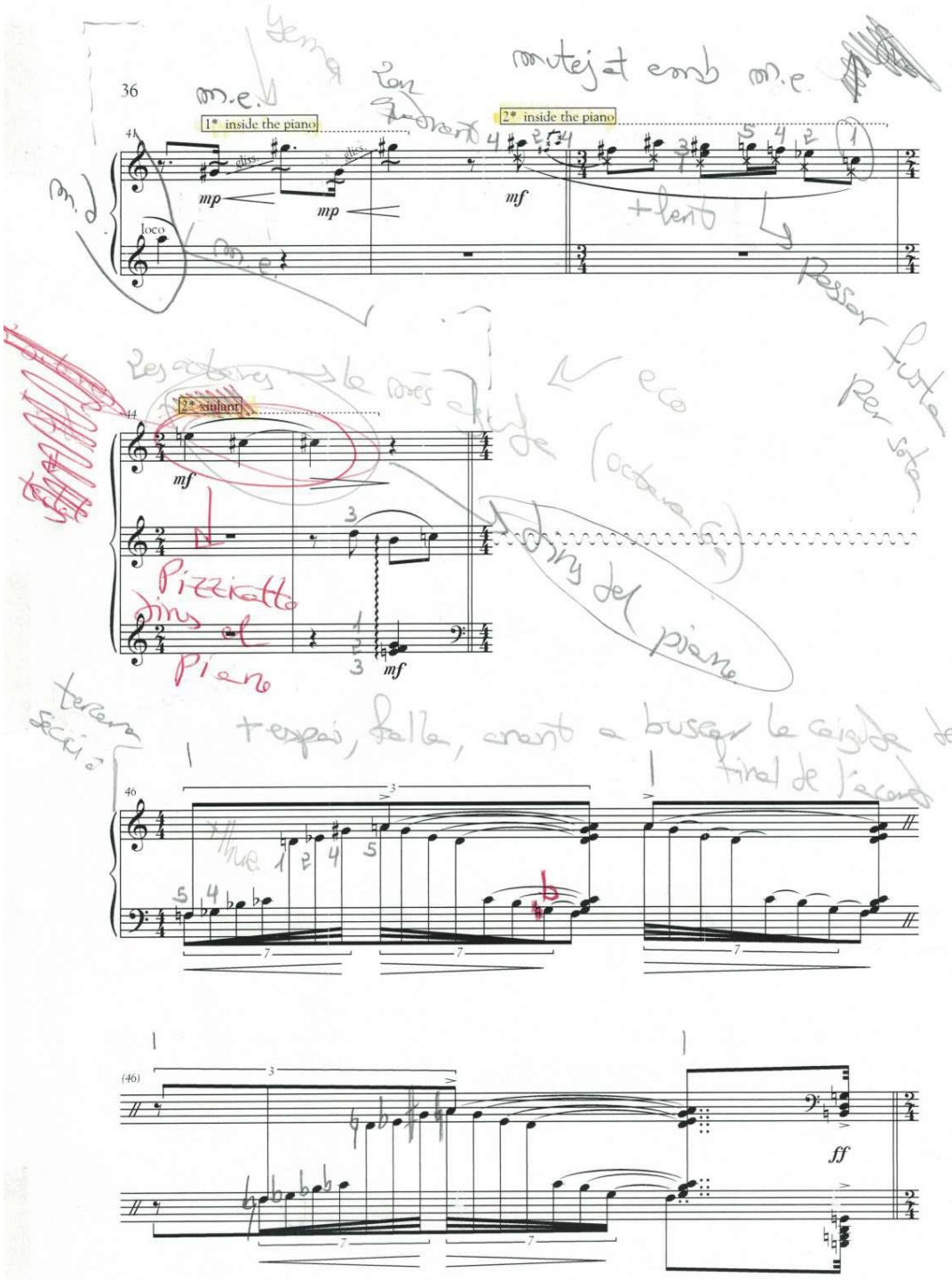

6
legatissimo
14
(6)
15
15
loco
8va
leggeramente più mosso (♩ ± 54)
8
mf
loco
f
10
A
mf
f

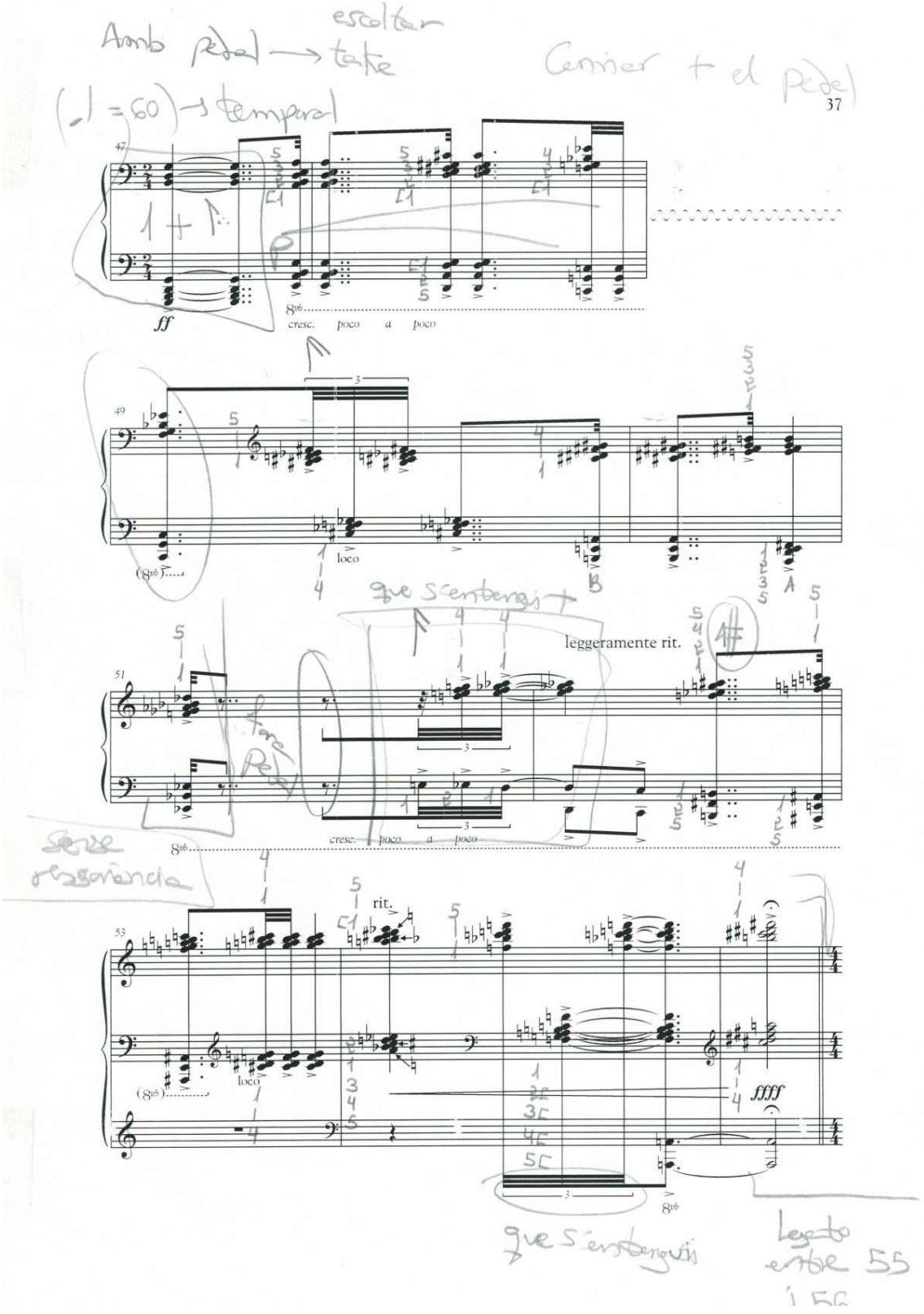

32
leggeramente meno (♩ ± 44)
1* inside the piano
2* xiulant
loco
mf
dolce
f
mp e dolce
gliss.
3* inside the piano
ff
ord.
Liberamente (♩ ± 54)
loco
2* El pianista xiularà les notes inidicades en la seva tessitura més confortable

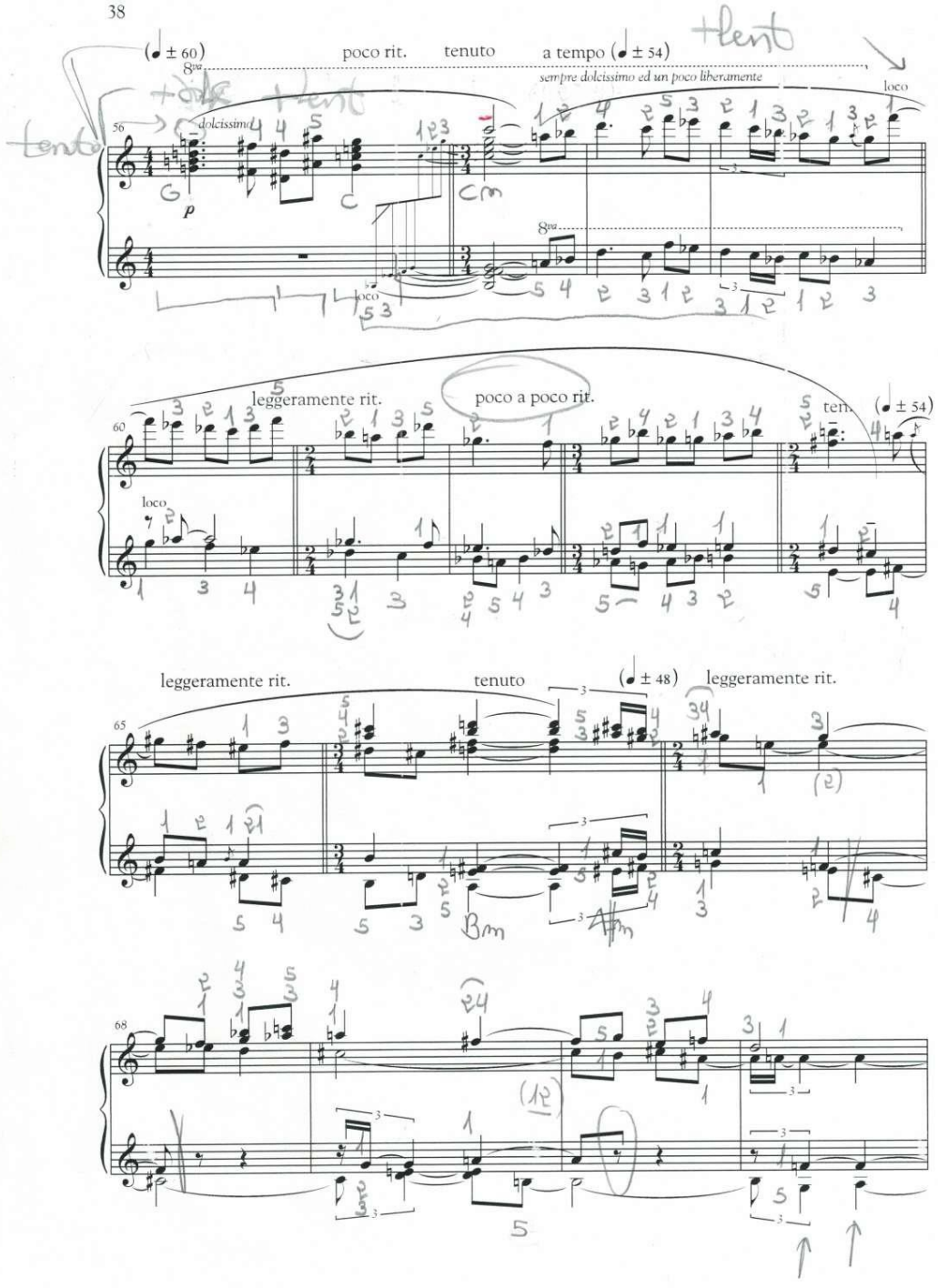

m.d.: cromatic E-Db B-A
m.e: Cromatic D-B A-G
33
(♩ ± 76) Poco più deciso
dolcissimo
leggeramente rit.
f dolce
white notes only
f

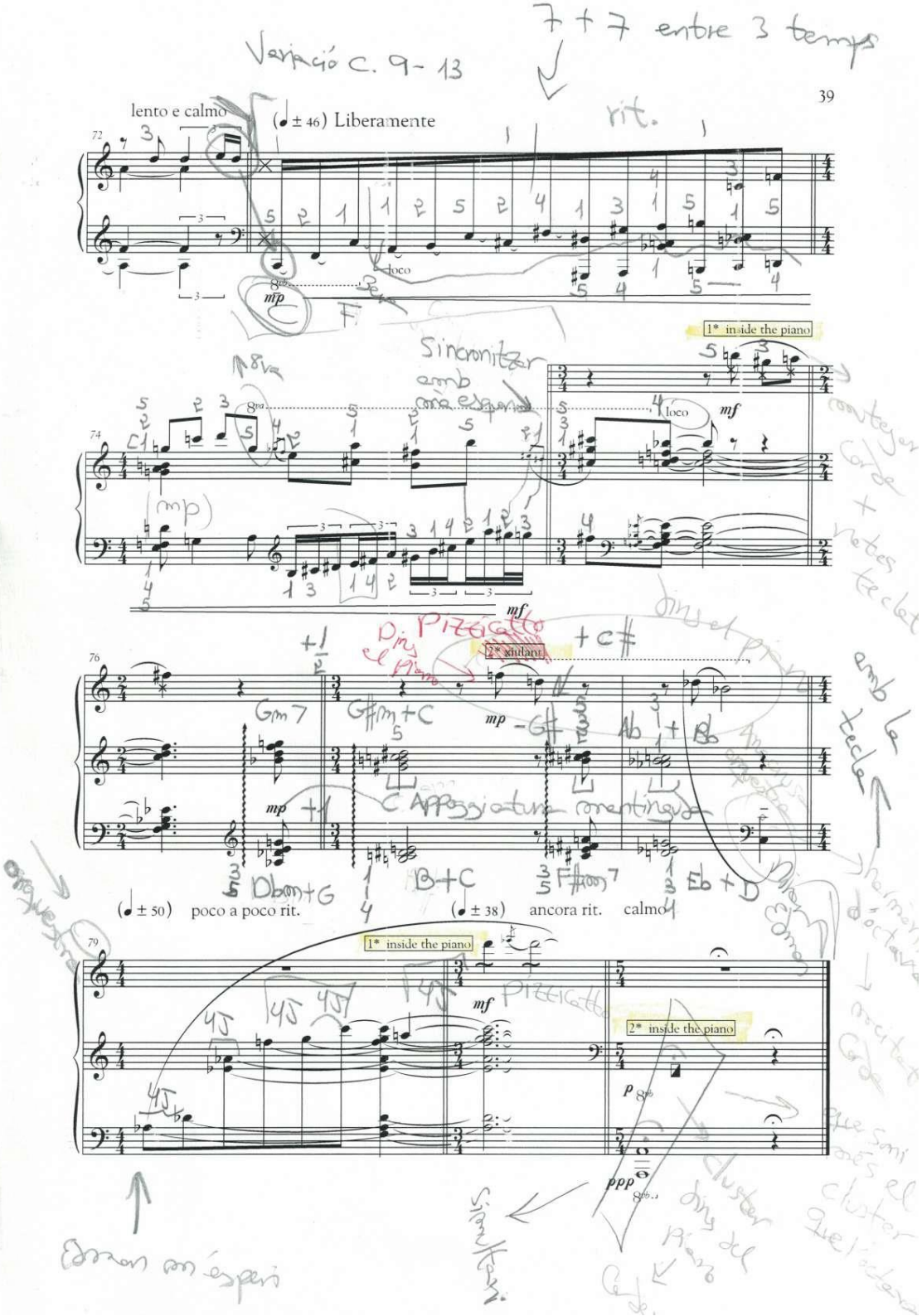

34
(leggeramente rit.)
22
mf misterioso
f
dolce
mp
25
(♩ ± 70)
8vb
ff
loco
mf
29
mf
8vb
p
ff
8va
loco
ff
f
33
8va
mp dolce
10
14


35
34
(8va)
loco
35
ff
p sub
37
mp
8va
8vb
loco
39
(8va)
f
mp sub
mf
10
13

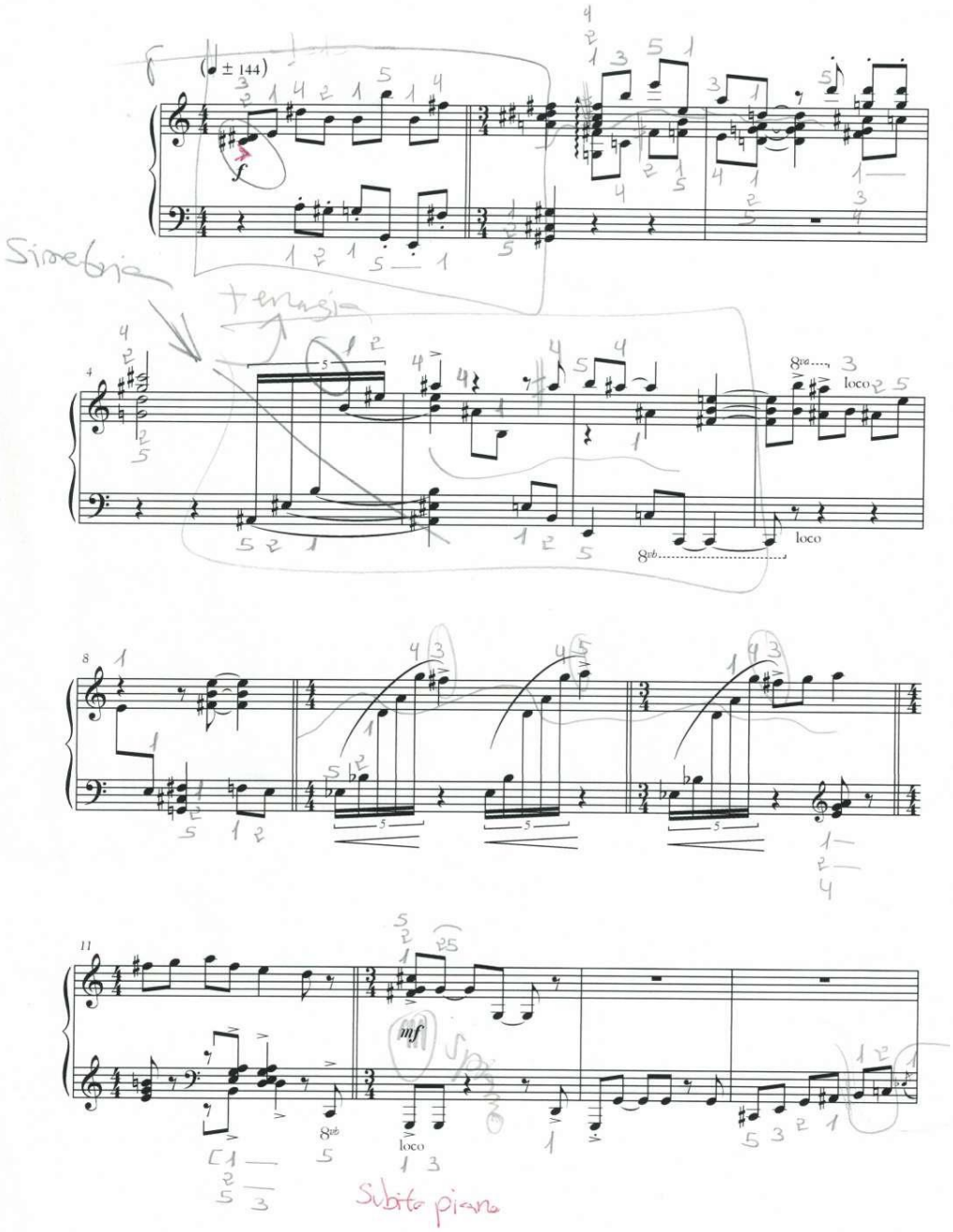

36
1* inside the piano
2* inside the piano
mp
mp
mf
loco
2* xiulant
mf
Pizzicato
mf
mf
ff

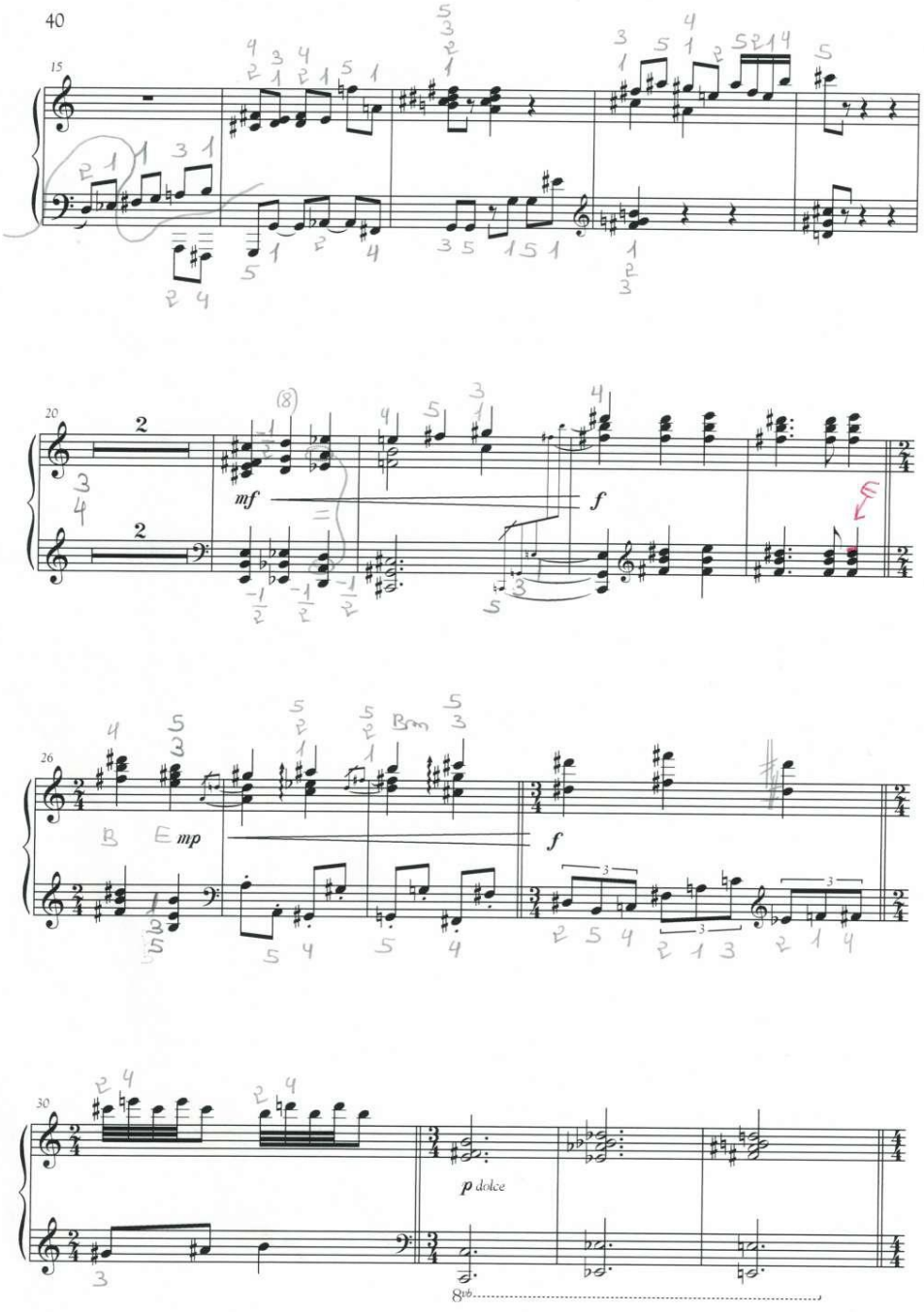

47
ff
cresc. poco a poco
8vb
49
loco
(8vb)
51
leggeramente rit.
cresc. poco a poco
8vb
53
rit.
loco
(8vb)
fffff
8vb

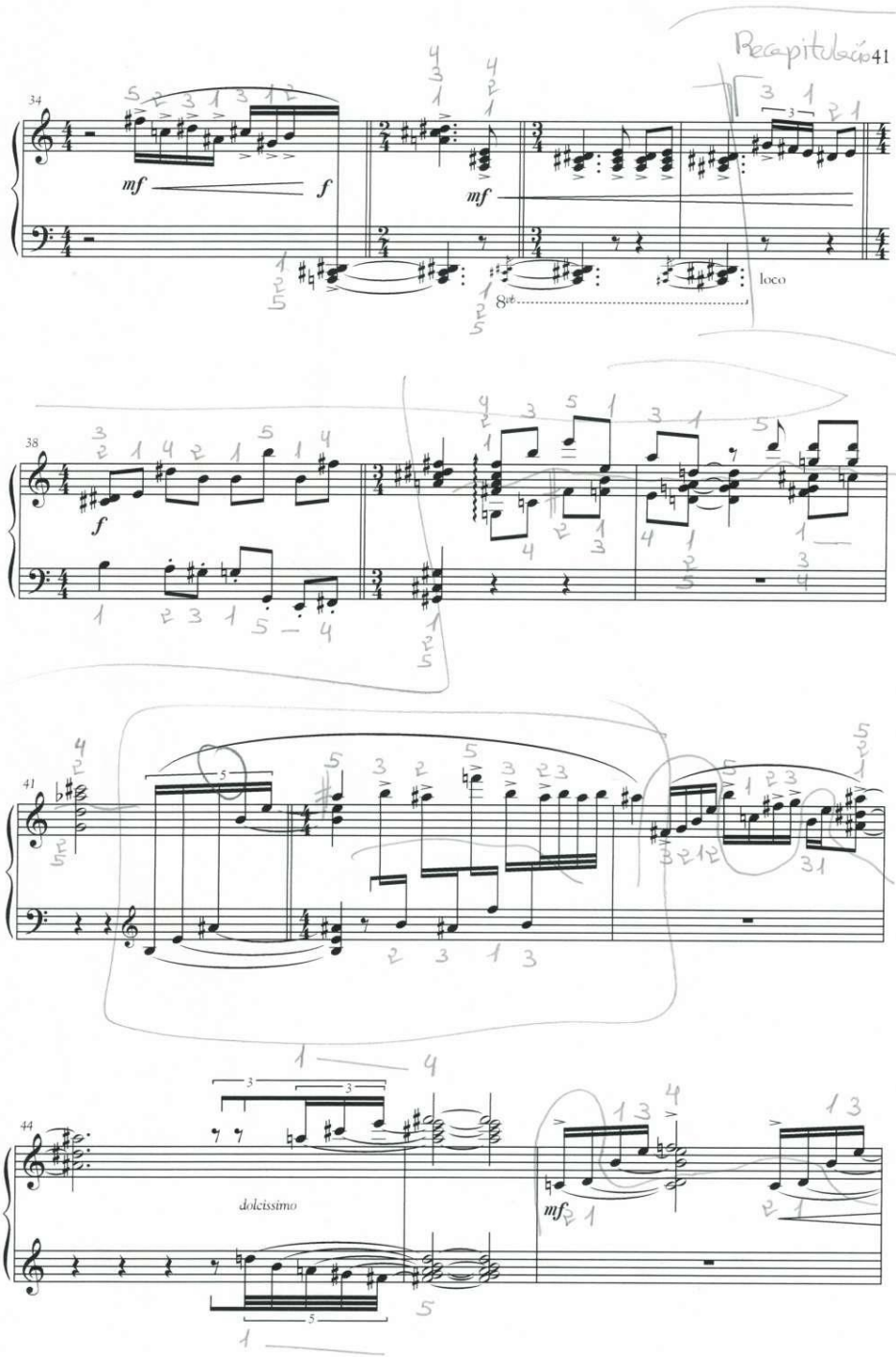

(♩ ± 60)
poco rit.
tenuto
a tempo (♩ ± 54)
8va
sempre dolcissimo ed un poco liberamente
loco
56
dolcissimo
p
leggeramente rit.
poco a poco rit.
ten.
(♩ ± 54)
60
leggeramente rit.
tenuto
(♩ ± 48)
leggeramente rit.
65
68

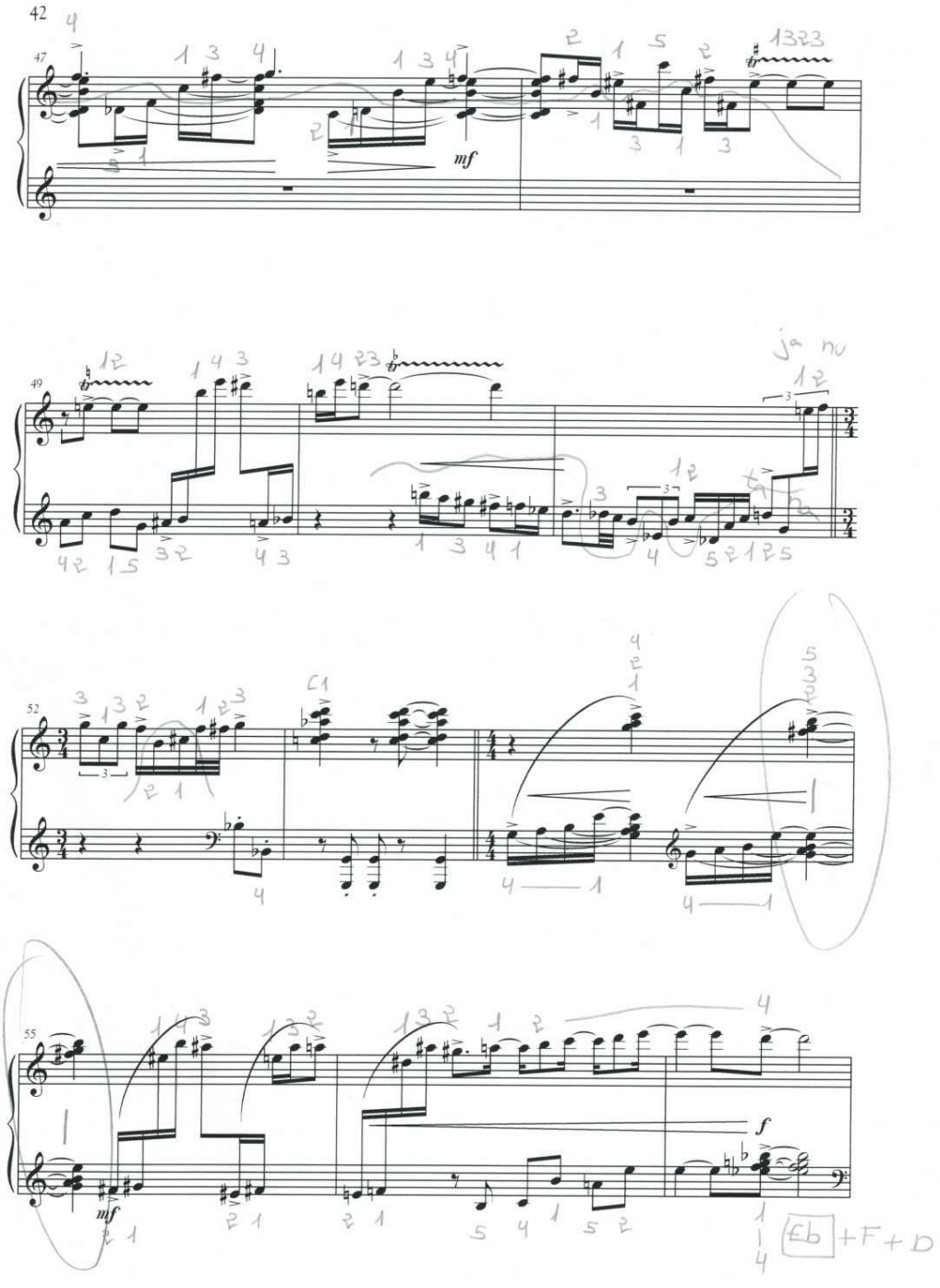

39
lento e calmo
(♩ ± 46) Liberamente
loco
1* inside the piano
2* violant
(♩ ± 50) poco a poco rit.
(♩ ± 38) ancora rit. calmo
1* inside the piano
2* inside the piano

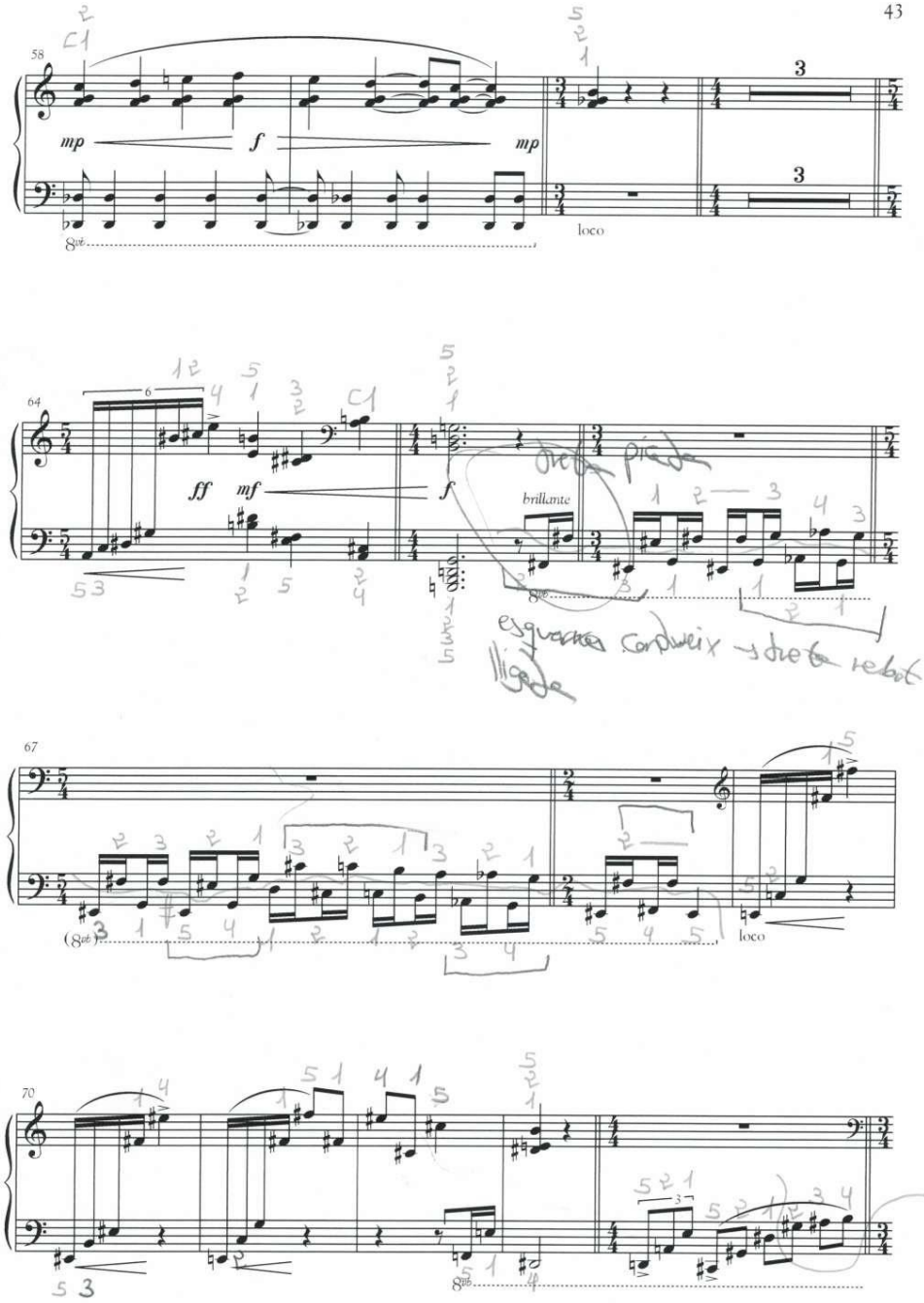
IV - Postludi

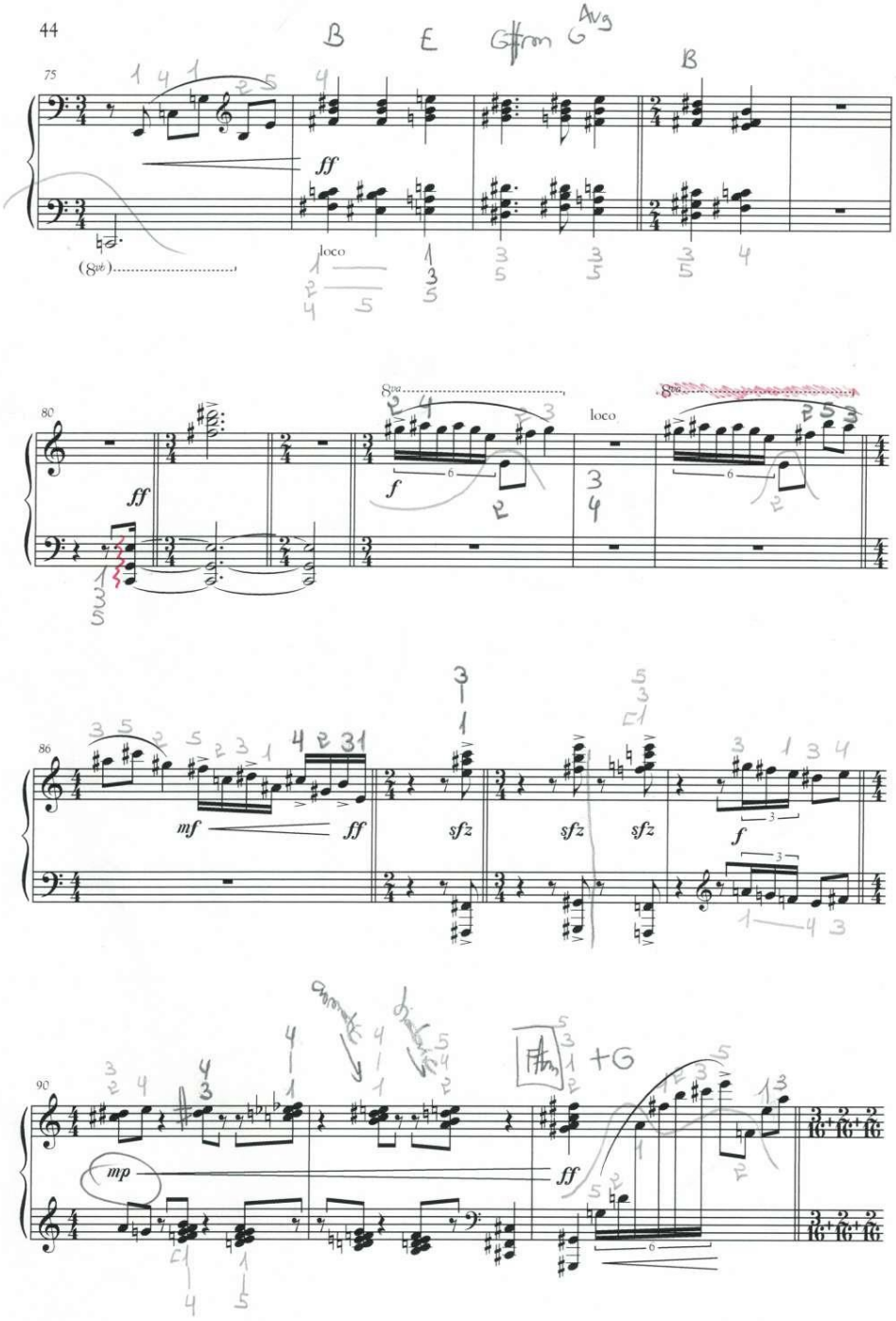


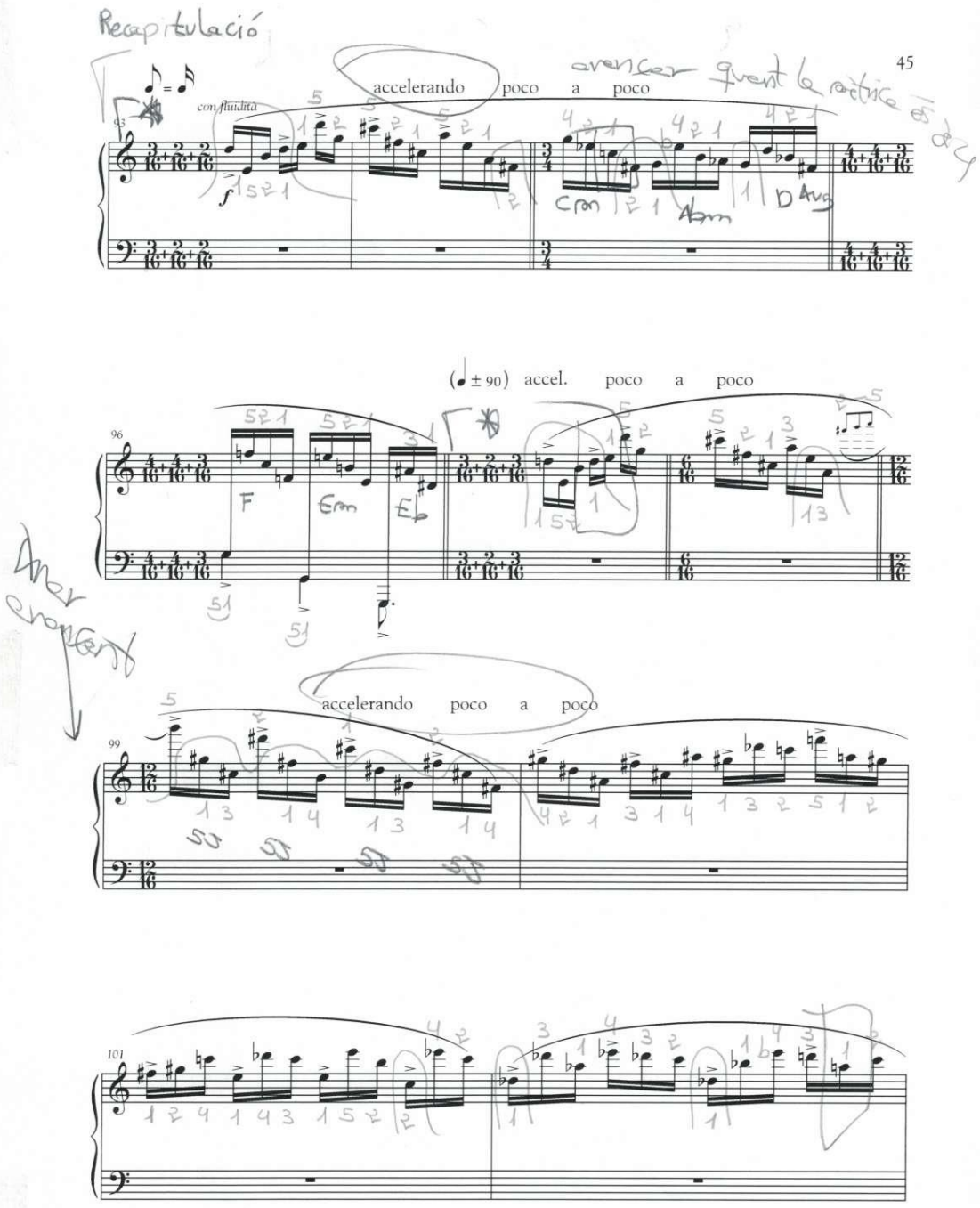

15
20
mf
f
26
B
E
mp
Bm
f
30
p dolce
8vb

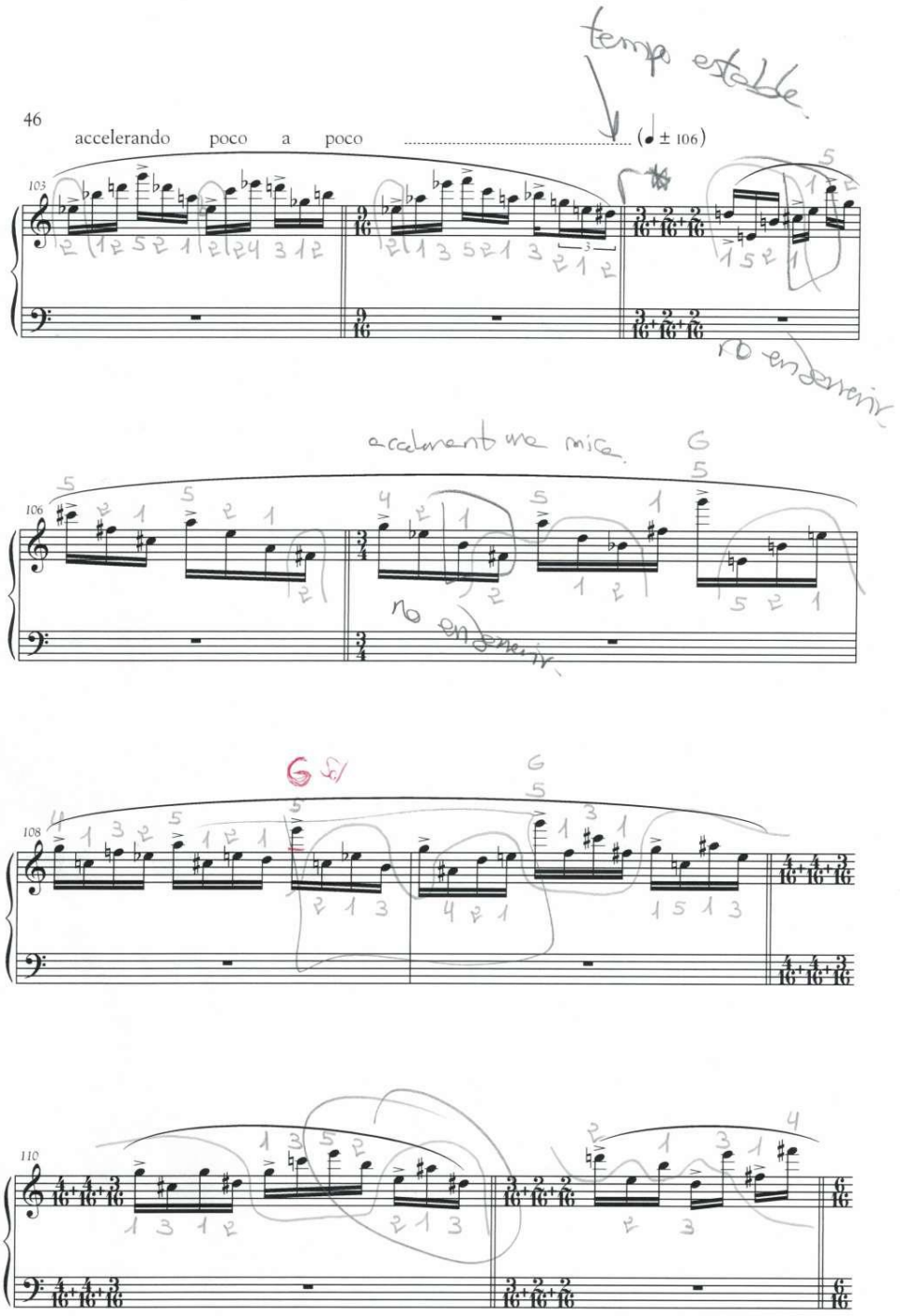

Recapitulación 41
34
mf
f
mf
8va
loco
38
f
41
dolcissimo
mf
44

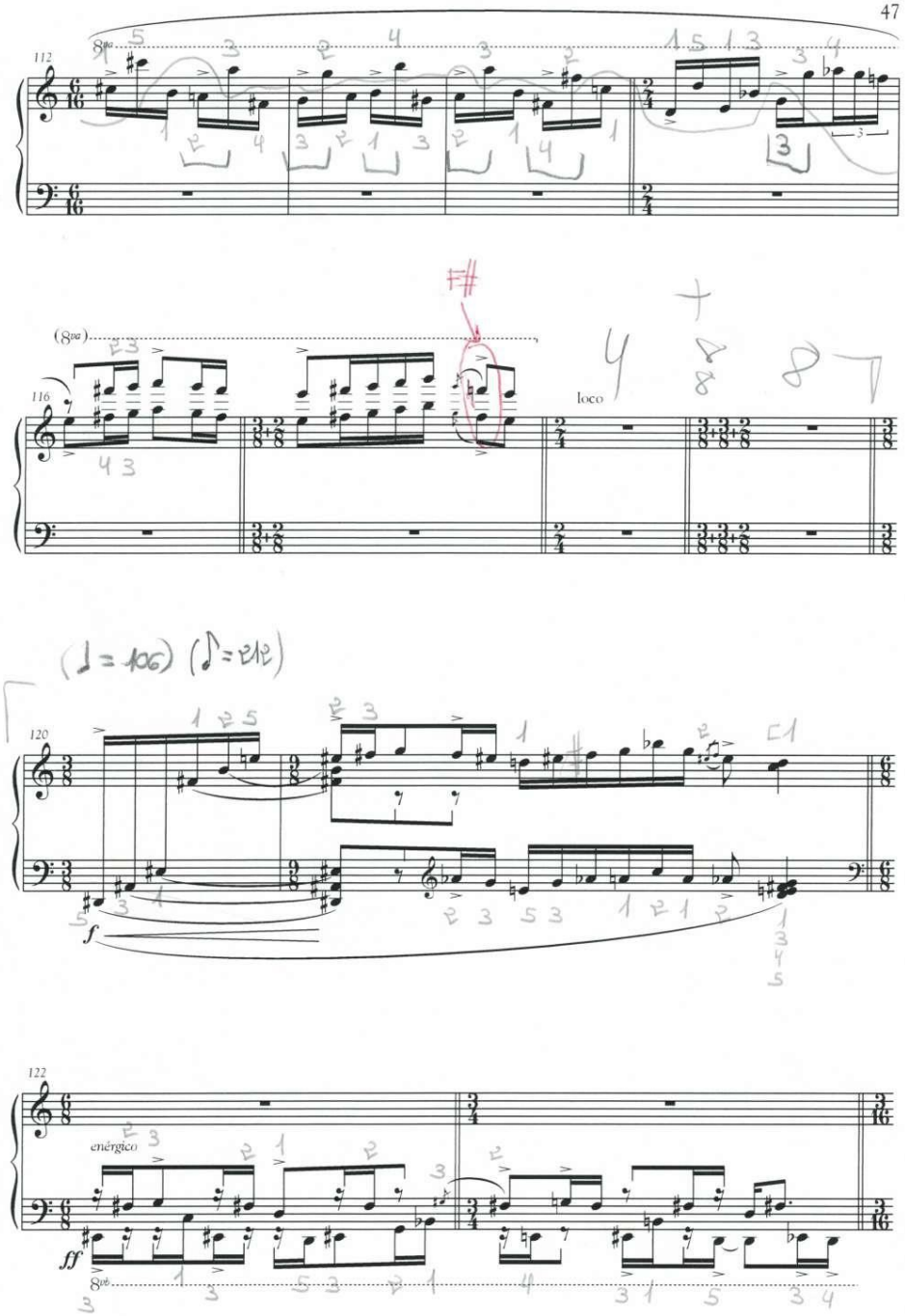

42
47
mf
49
ja nu
52
55
mf
f
Eb +F+D

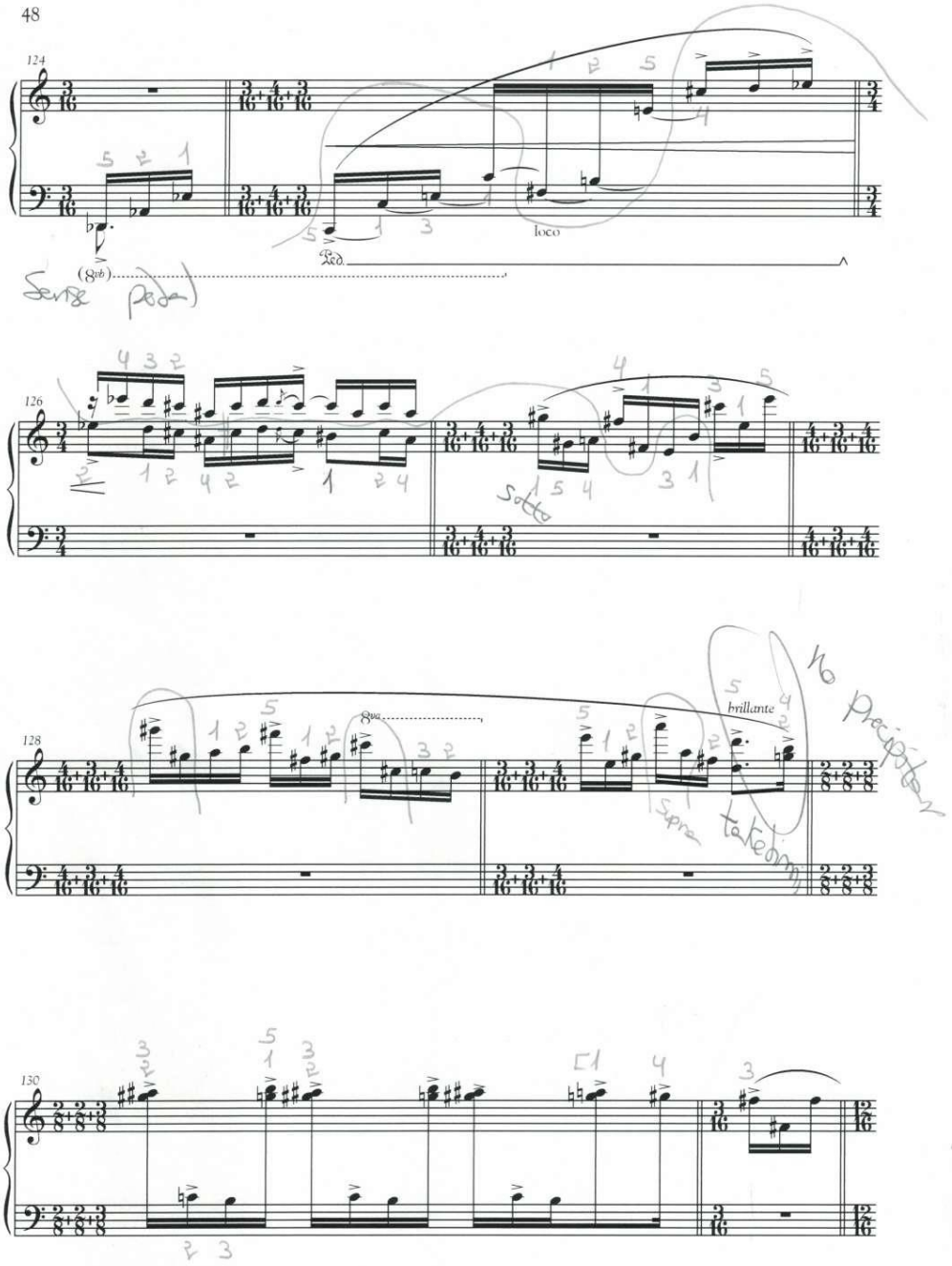

58
mp
f
mp
loco
64
ff
mf
f
brillante
67
loco
70

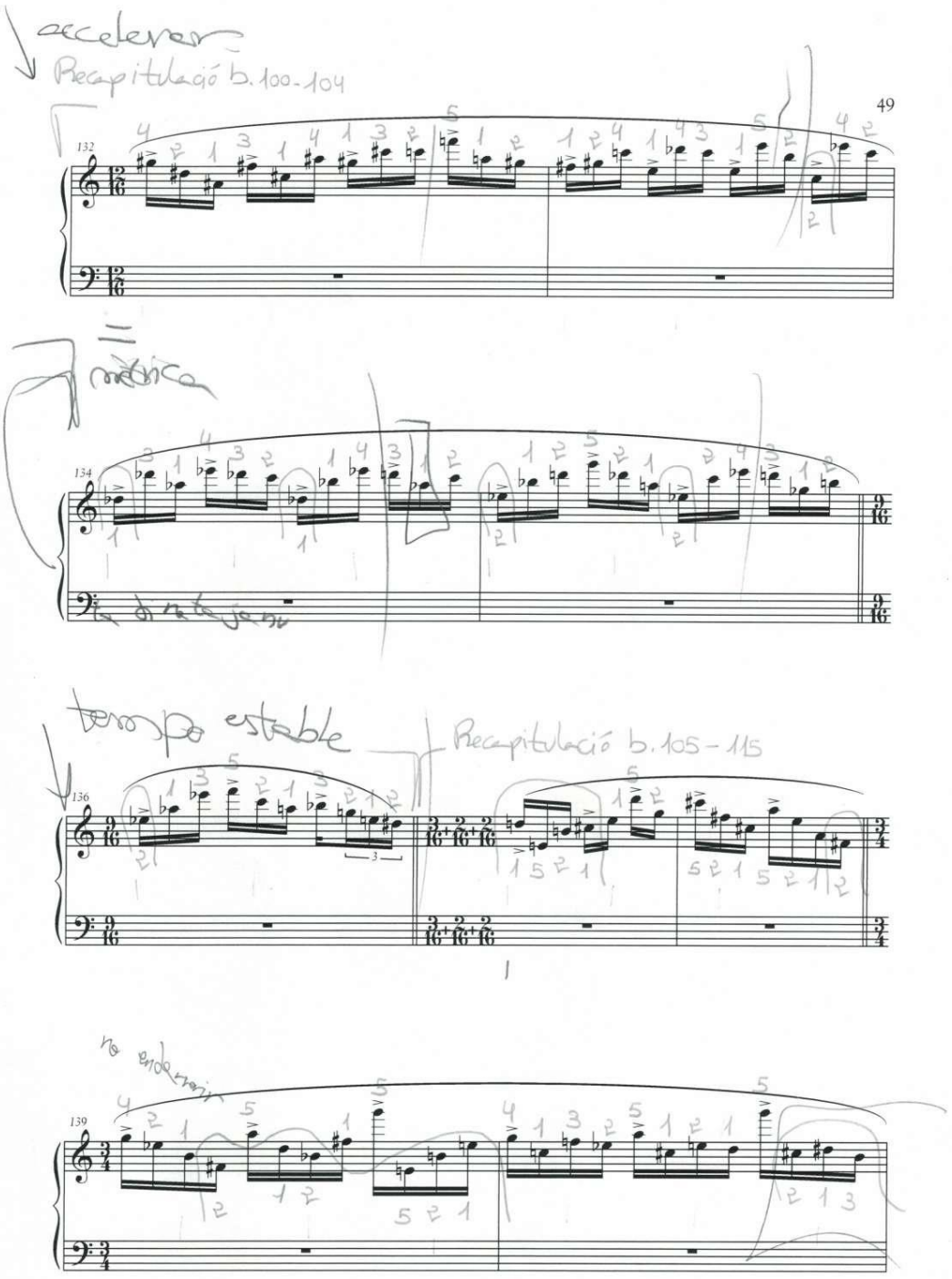

44
75
ff
loco
80
ff
f
loco
86
mf
ff
sfz
sfz
sfz
f
90
mp
ff

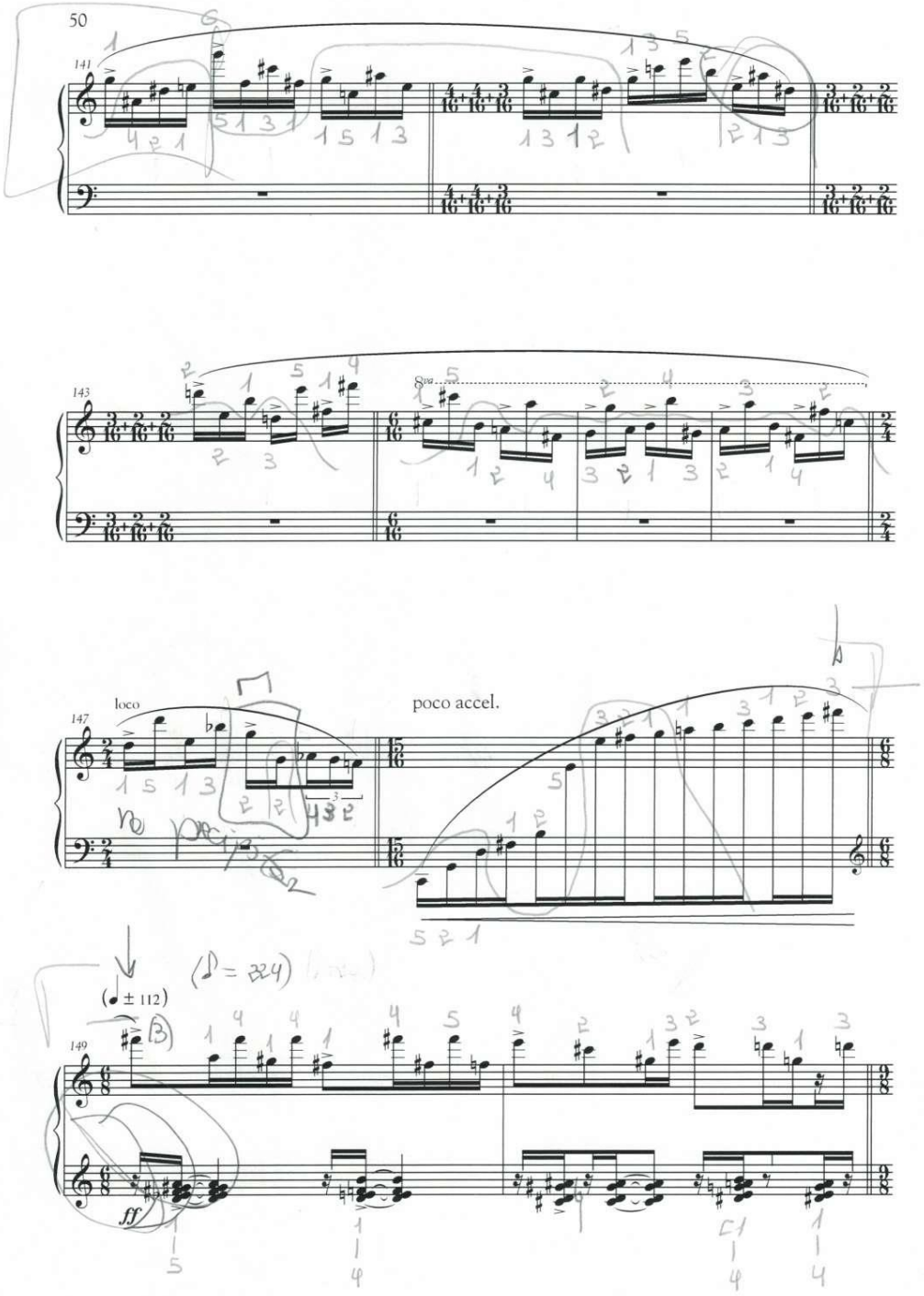

Reapitulació
45
accelerando poco a poco
con fluidita
93
(♩ ± 90) accel. poco a poco
96
F
Em
E♭
accelerando poco a poco
99
101

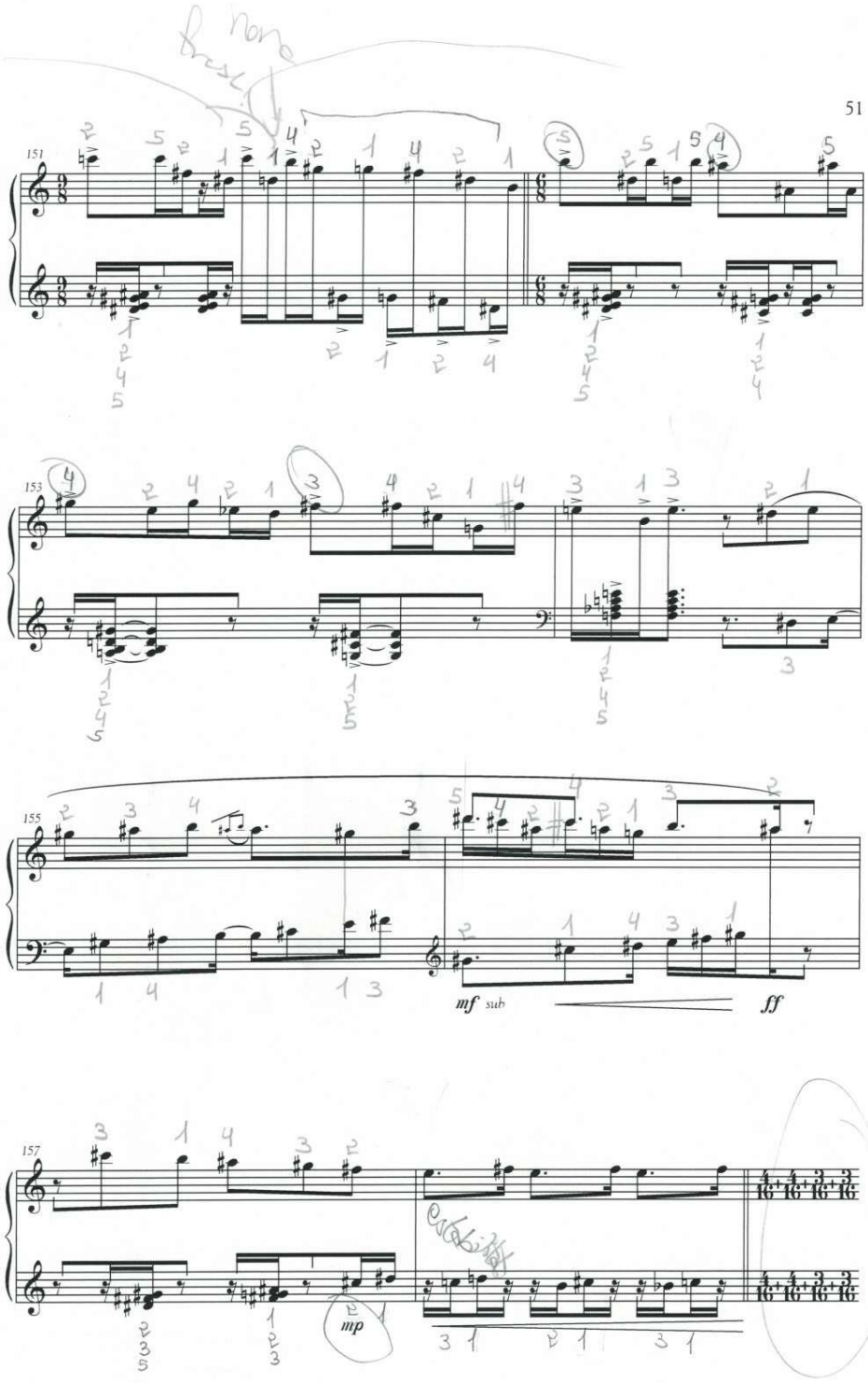

46
accelerando poco a poco
(♩ ± 106)
103
106
108
110

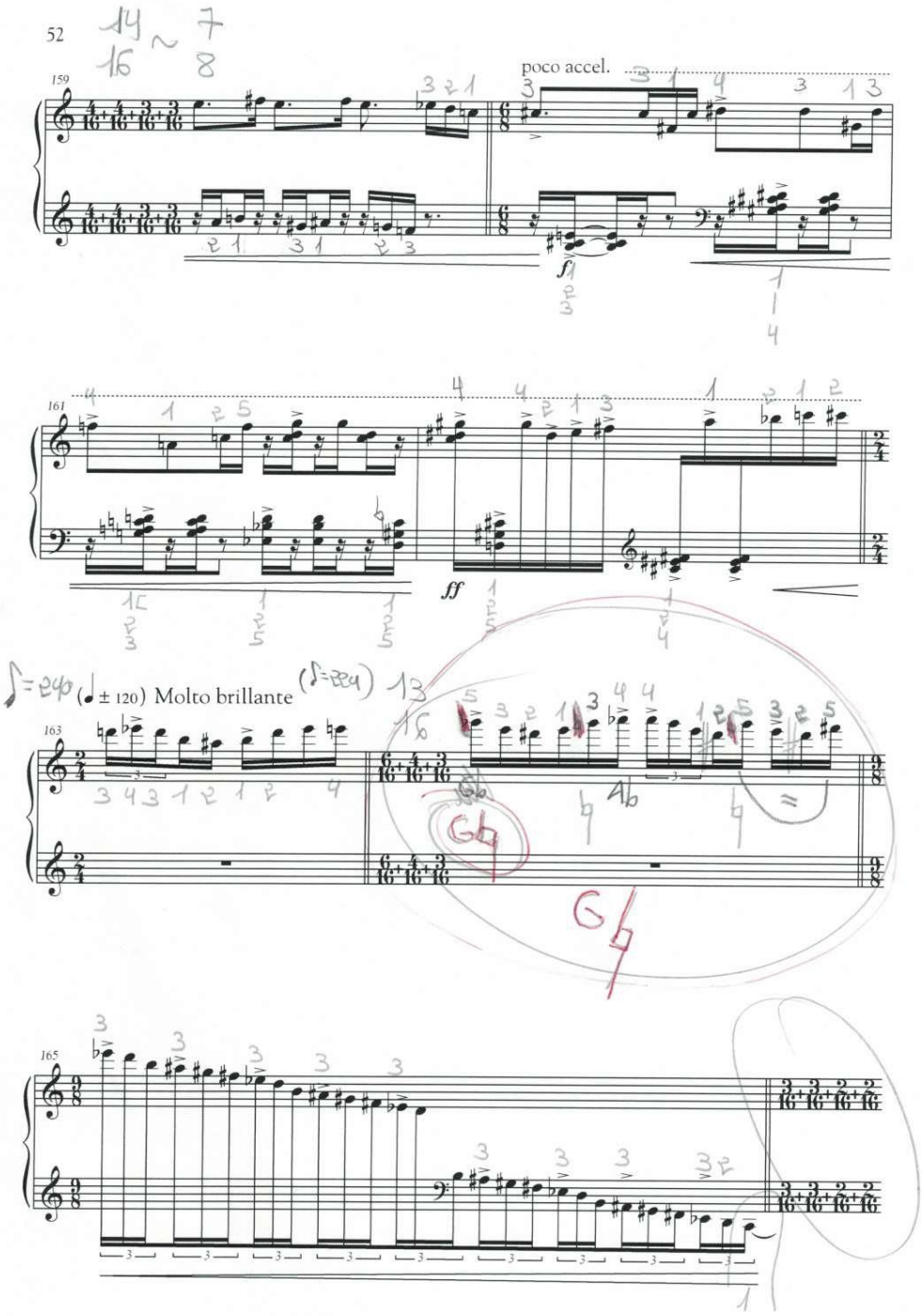

112
116
loco
120
f
122
enérgico
ff

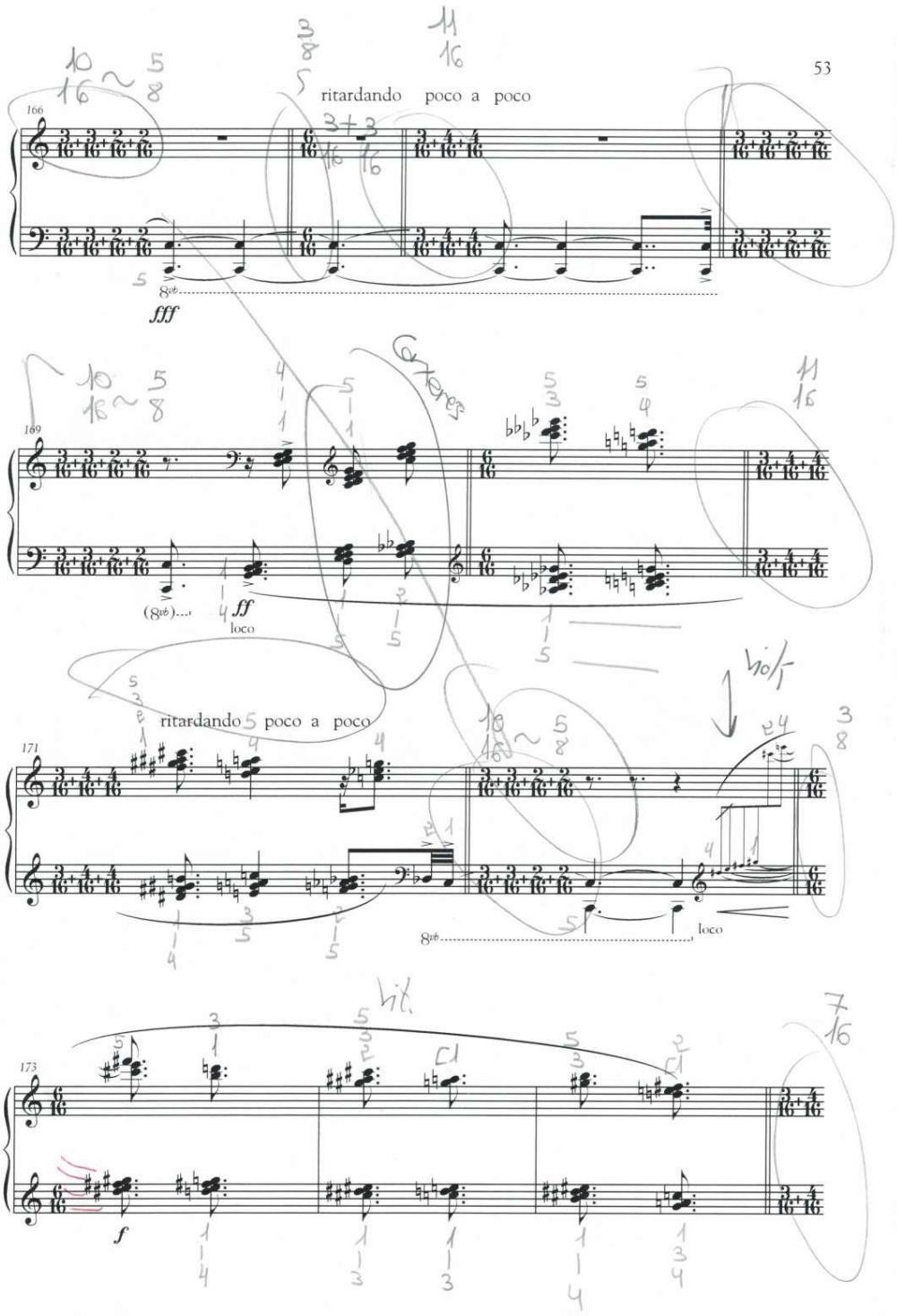

124
(8vb)
Ped
loco
126
sotto
128
8va
brillante
130

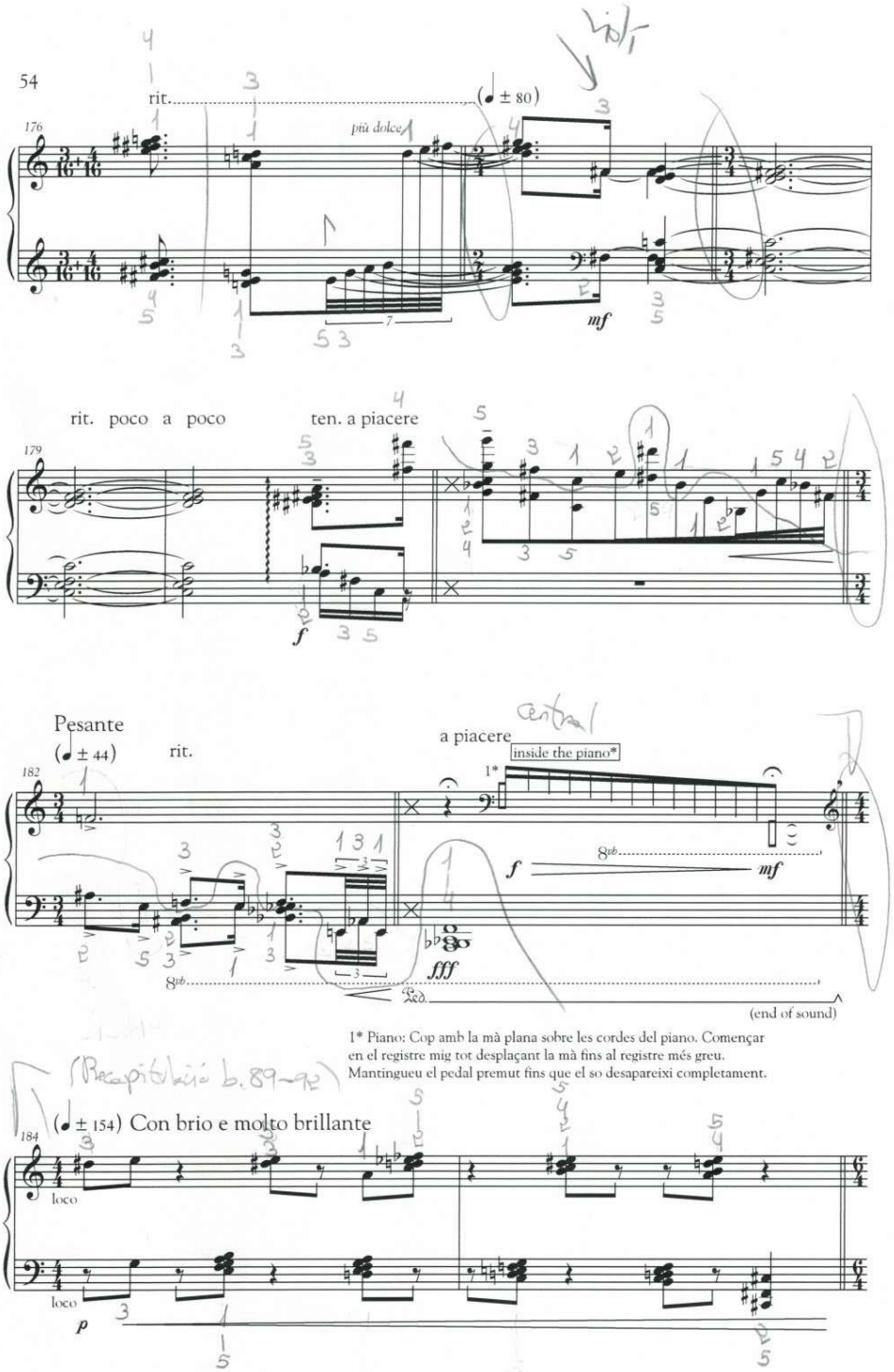

accelerar
Recapitulació b. 100-104
49
132
134
tempo estable
Recapitulació b. 105-115
136
139

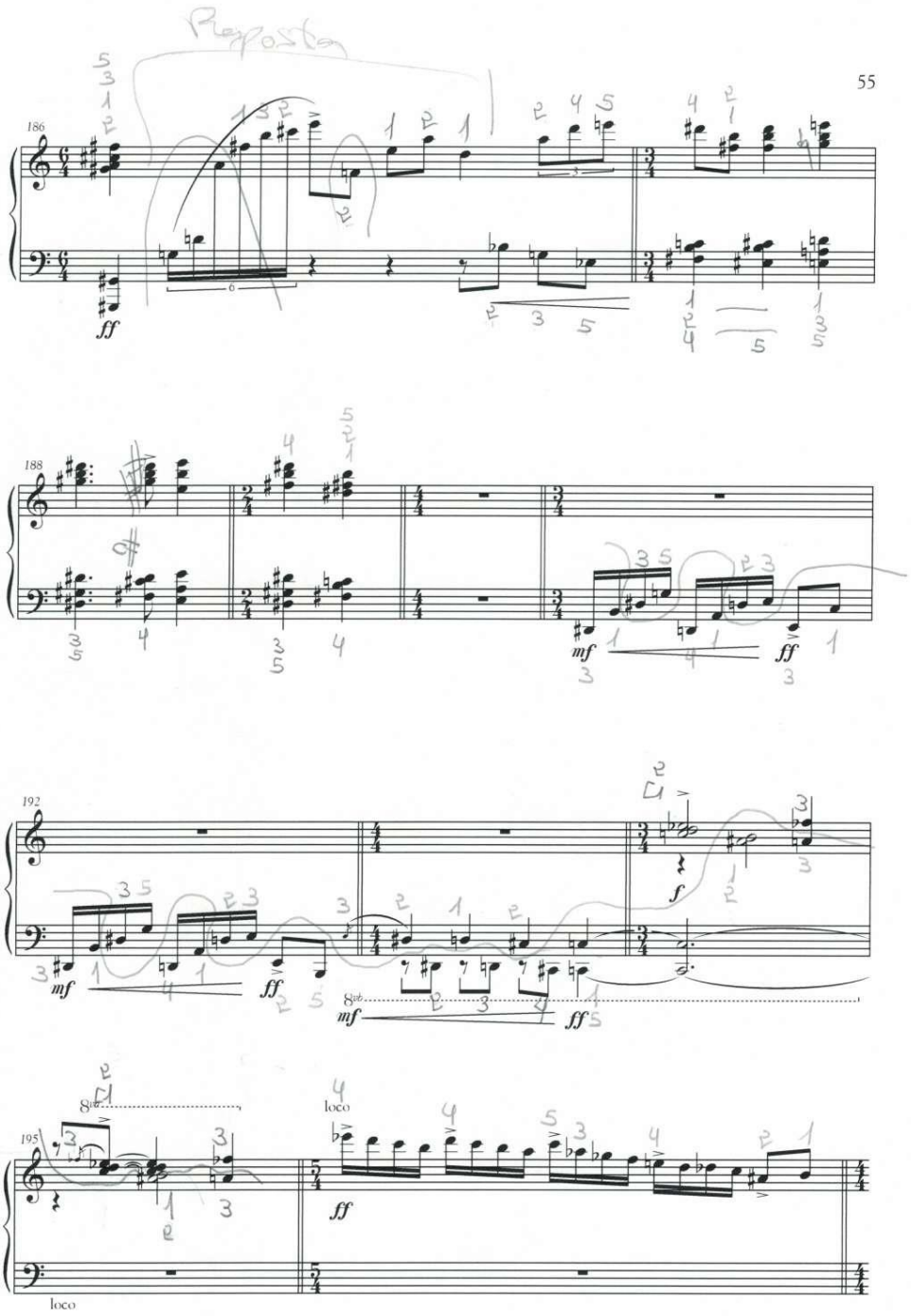

50
141
143
147
loco
poco accel.
149
ff

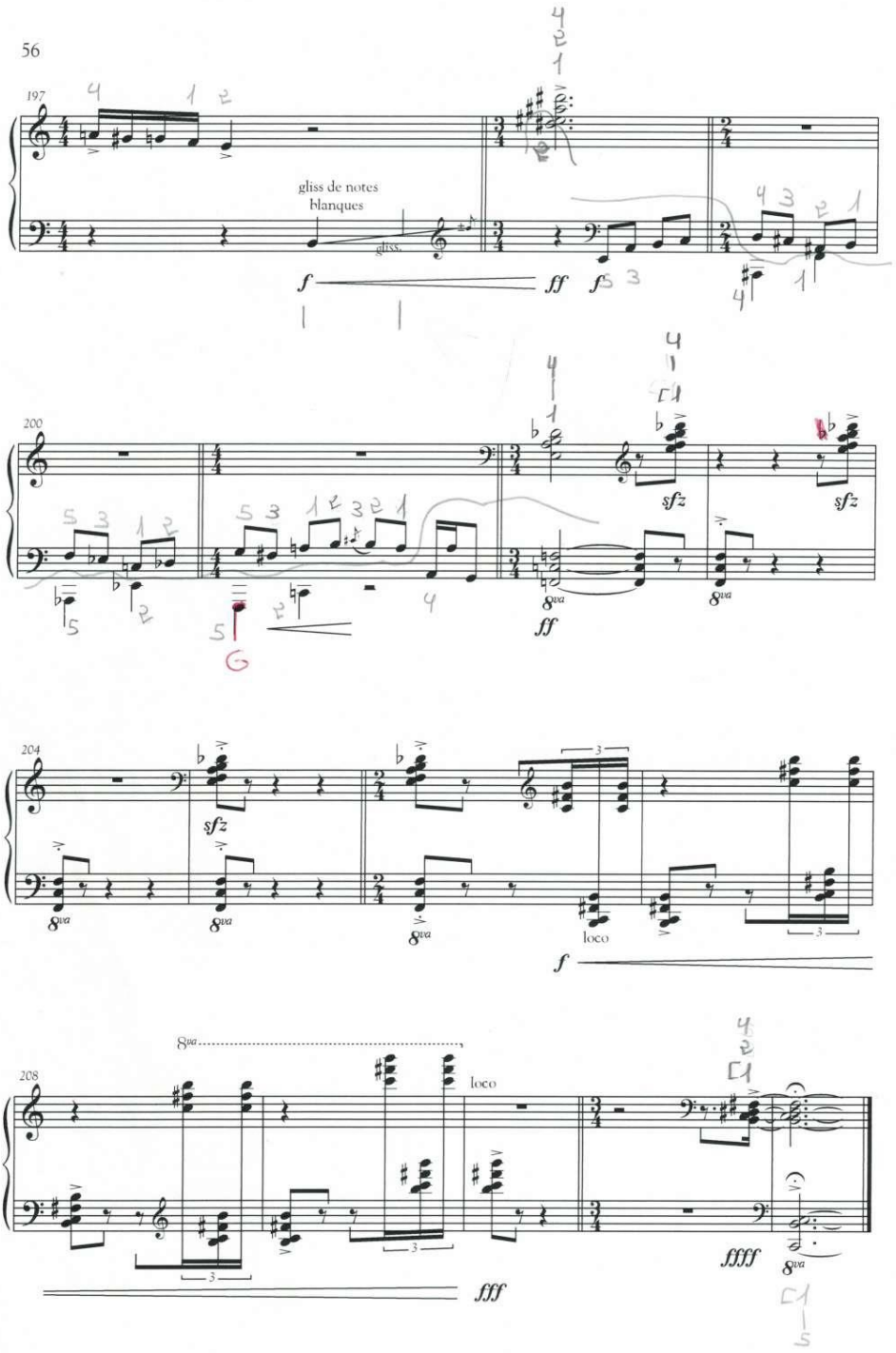

151
153
155
mf sub
ff
157
mp

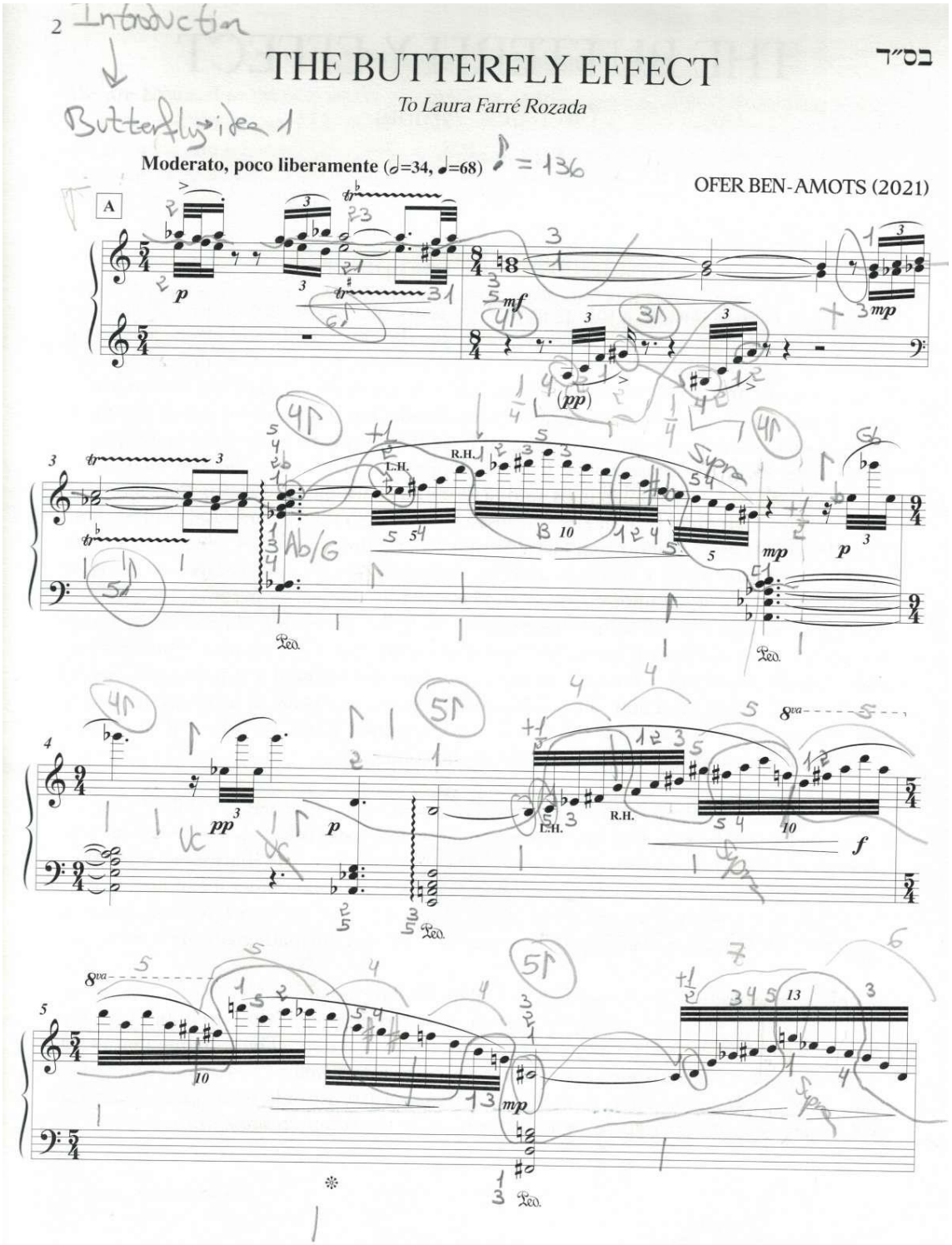

52
159
poco accel.
f
161
ff
(♩ ± 120) Molto brillante
163
Ab
Gb
165


166
ritardando poco a poco
fff
8va
169
ff
loco
(8va)...
171
ritardando poco a poco
8va
loco
173
f


54
rit.
(♩ ± 80)
176
più dolce
mf
rit. poco a poco
ten. a piacere
179
f
Pesante
(♩ ± 44)
rit.
a piacere
inside the piano*
182
1*
f
mf
fff
8vb
(end of sound)
1* Piano: Cop amb la mà plana sobre les cordes del piano. Començar en el registre mig tot desplaçant la mà fins al registre més greu. Mantingueu el pedal premut fins que el so desapareixi completament.
(♩ ± 154) Con brio e molto brillante
184
loco
loco
p


Reposta
186
ff
188
mf
ff
192
mf
ff
f
8va
mf
ff
195
8va
loco
ff
loco


197
gliss de notes blanques
gliss.
f
ff
fz
200
sfz
8va
ff
204
sfz
loco
f
208
8va
loco
fff
ffff



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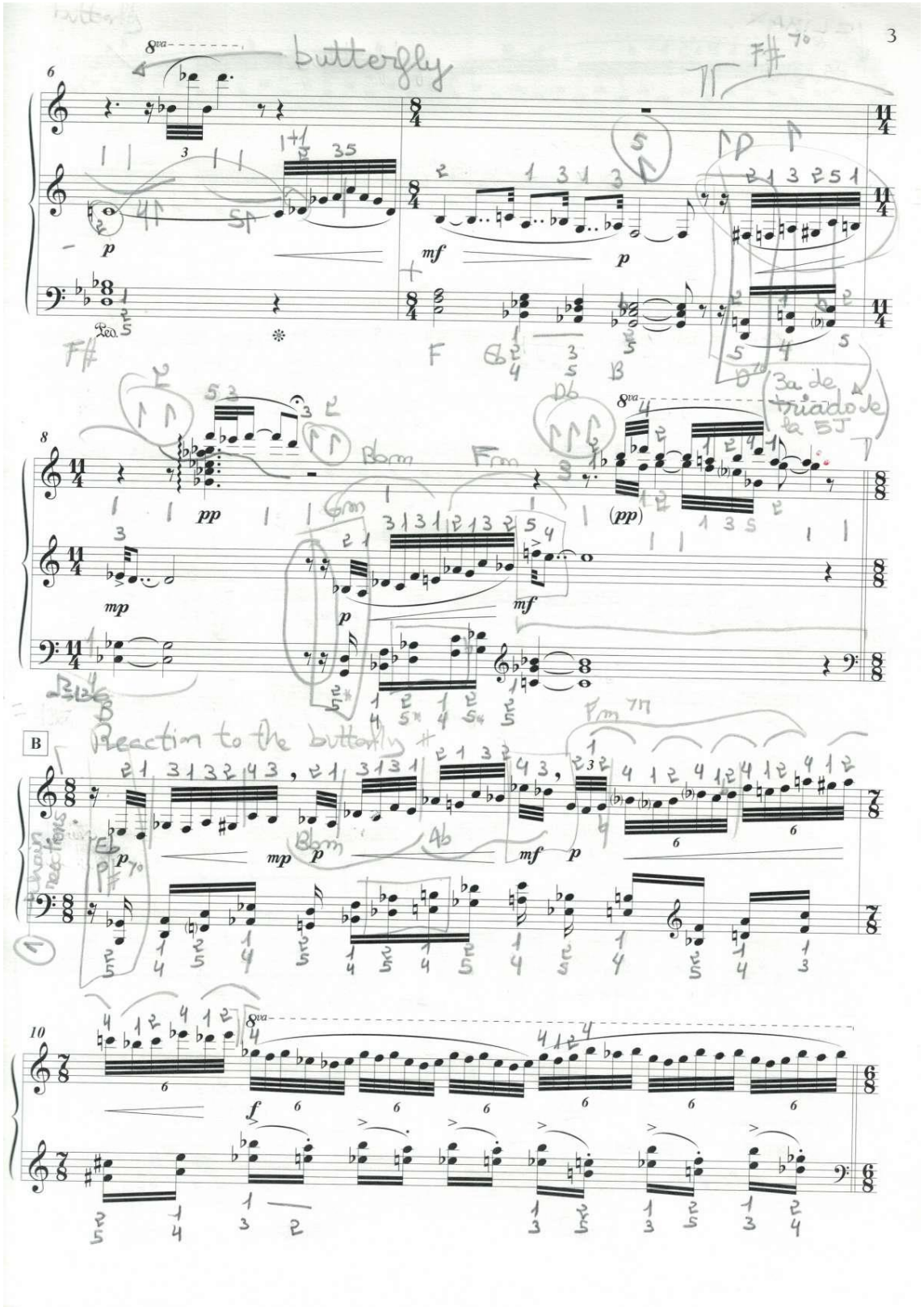
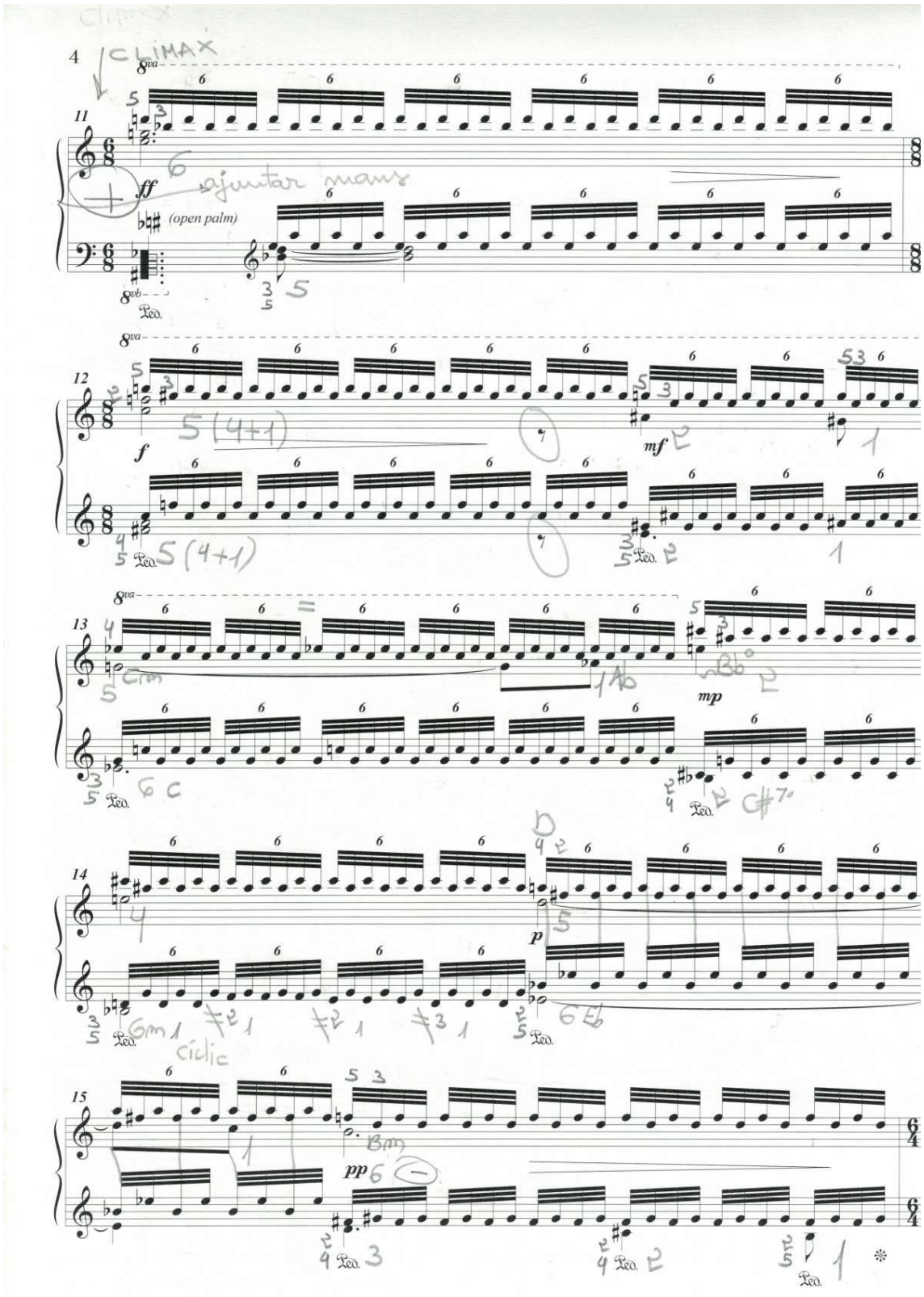
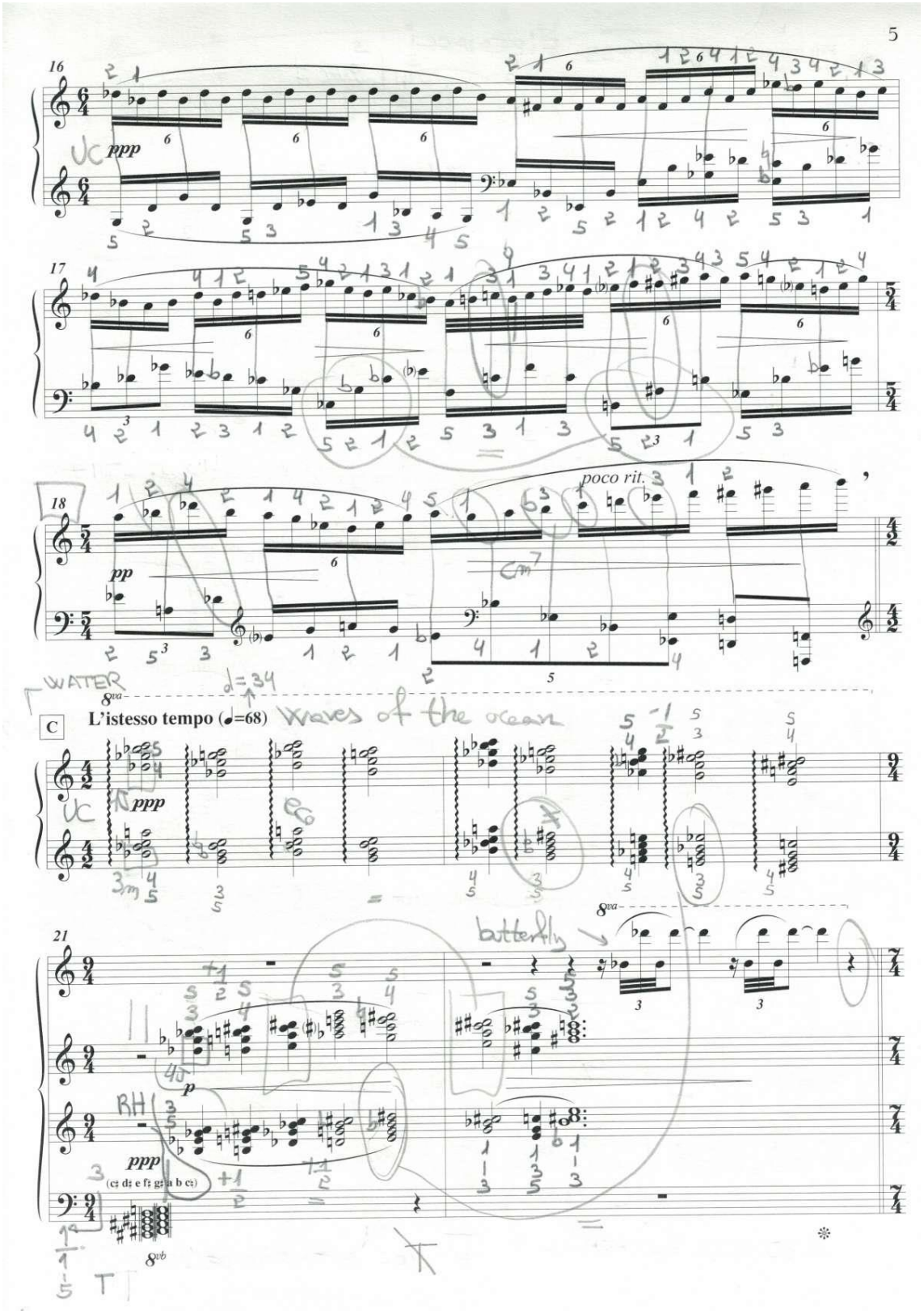
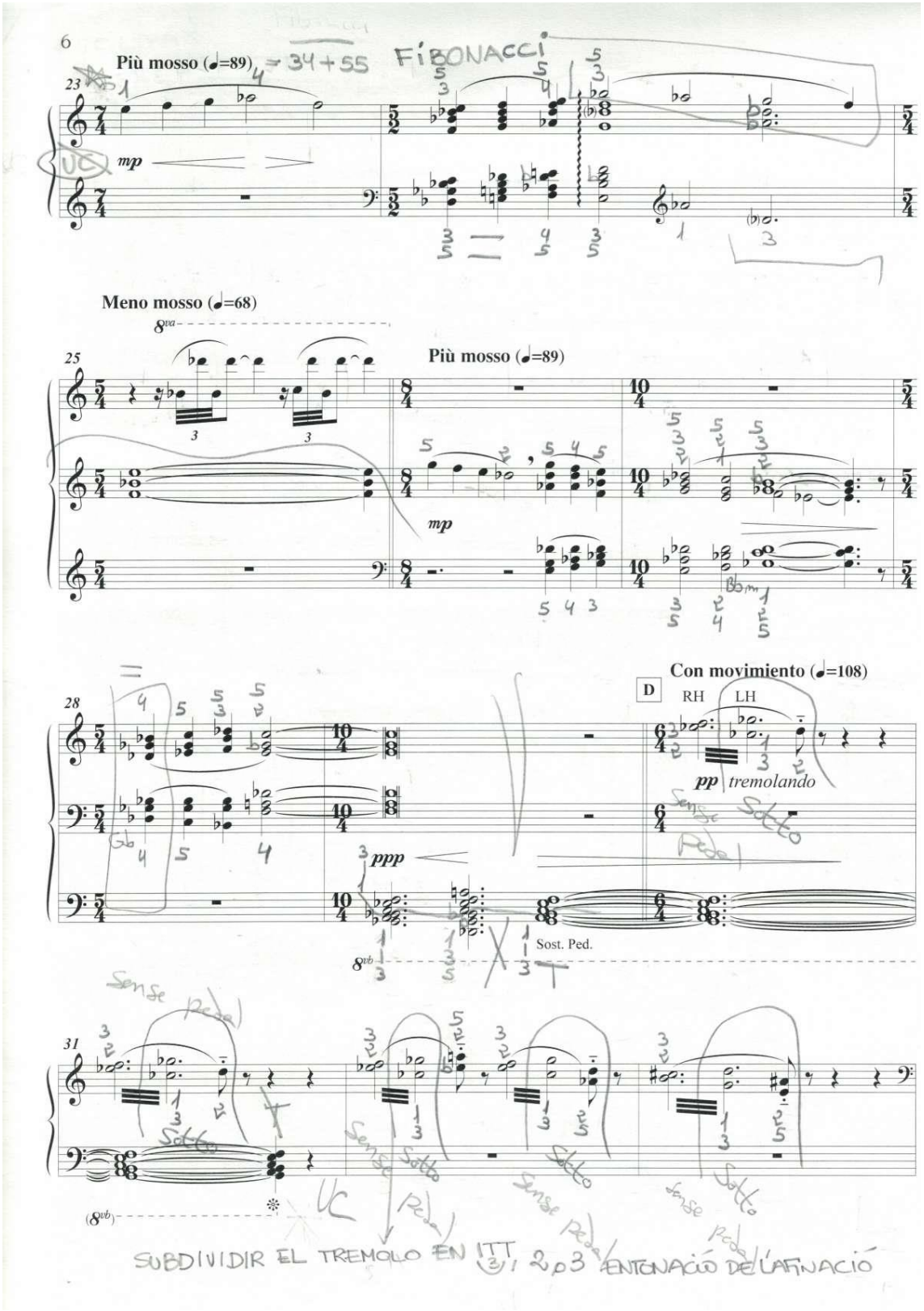
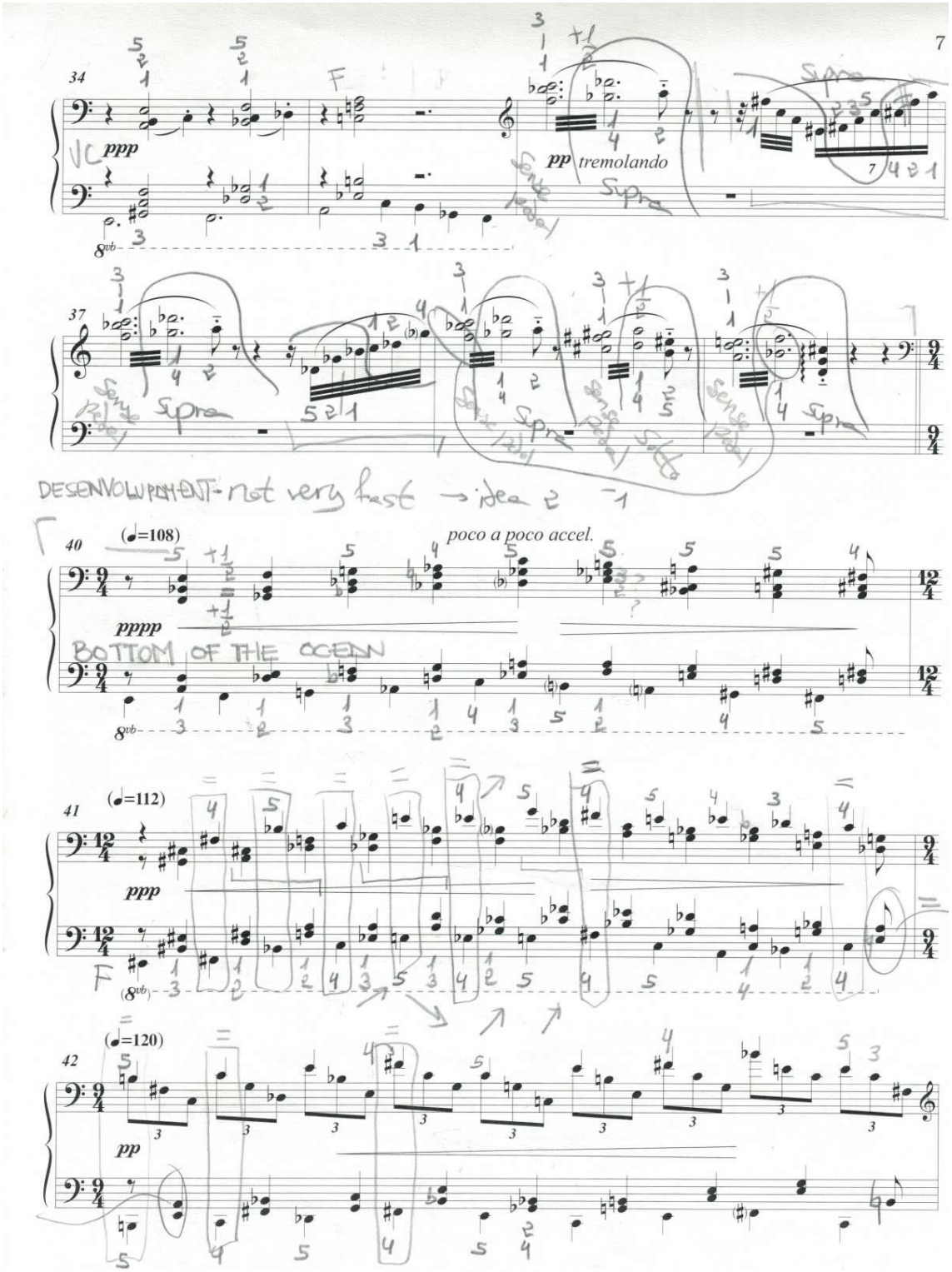
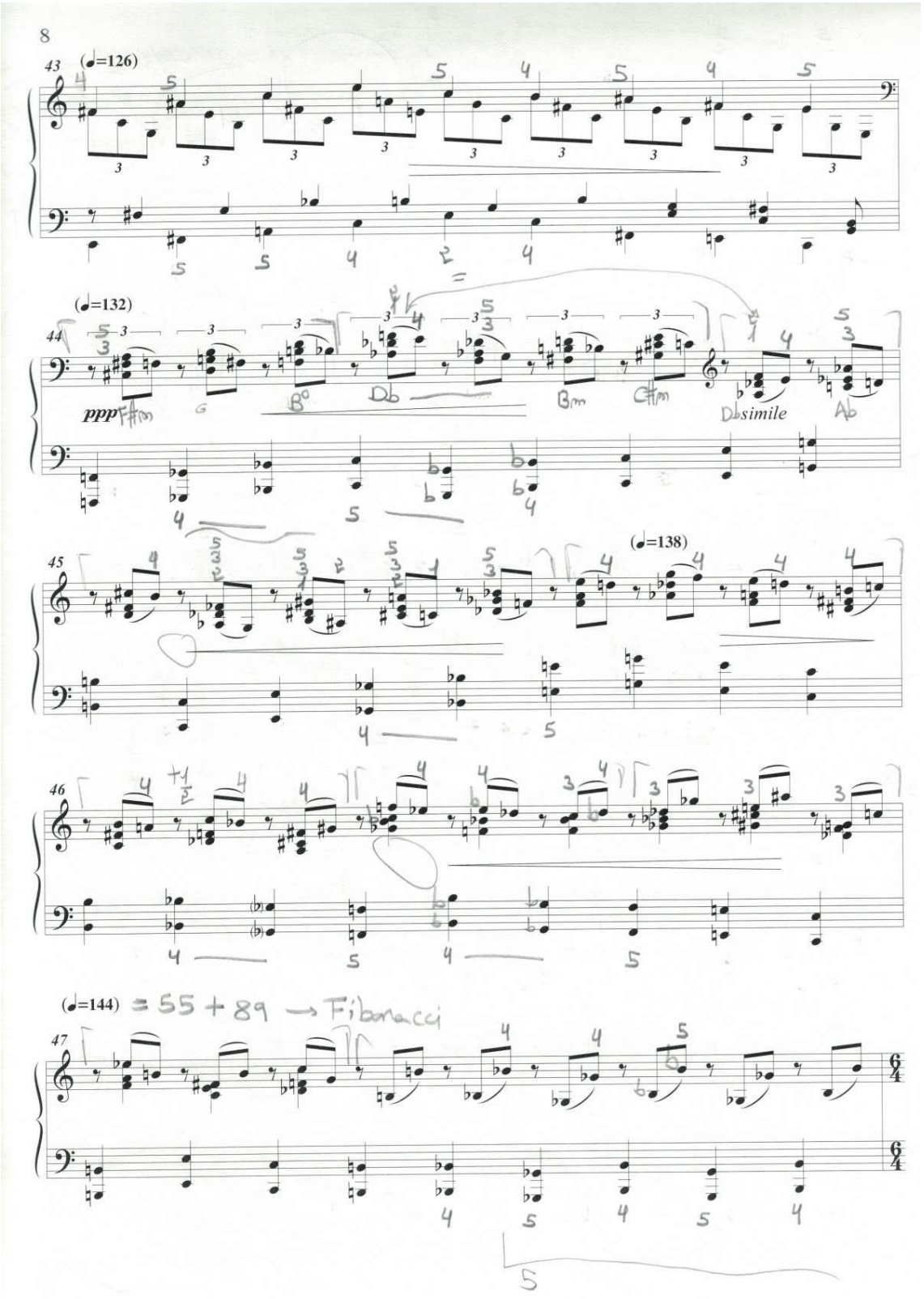

butterfly
3
B
Reactim to the butterfly

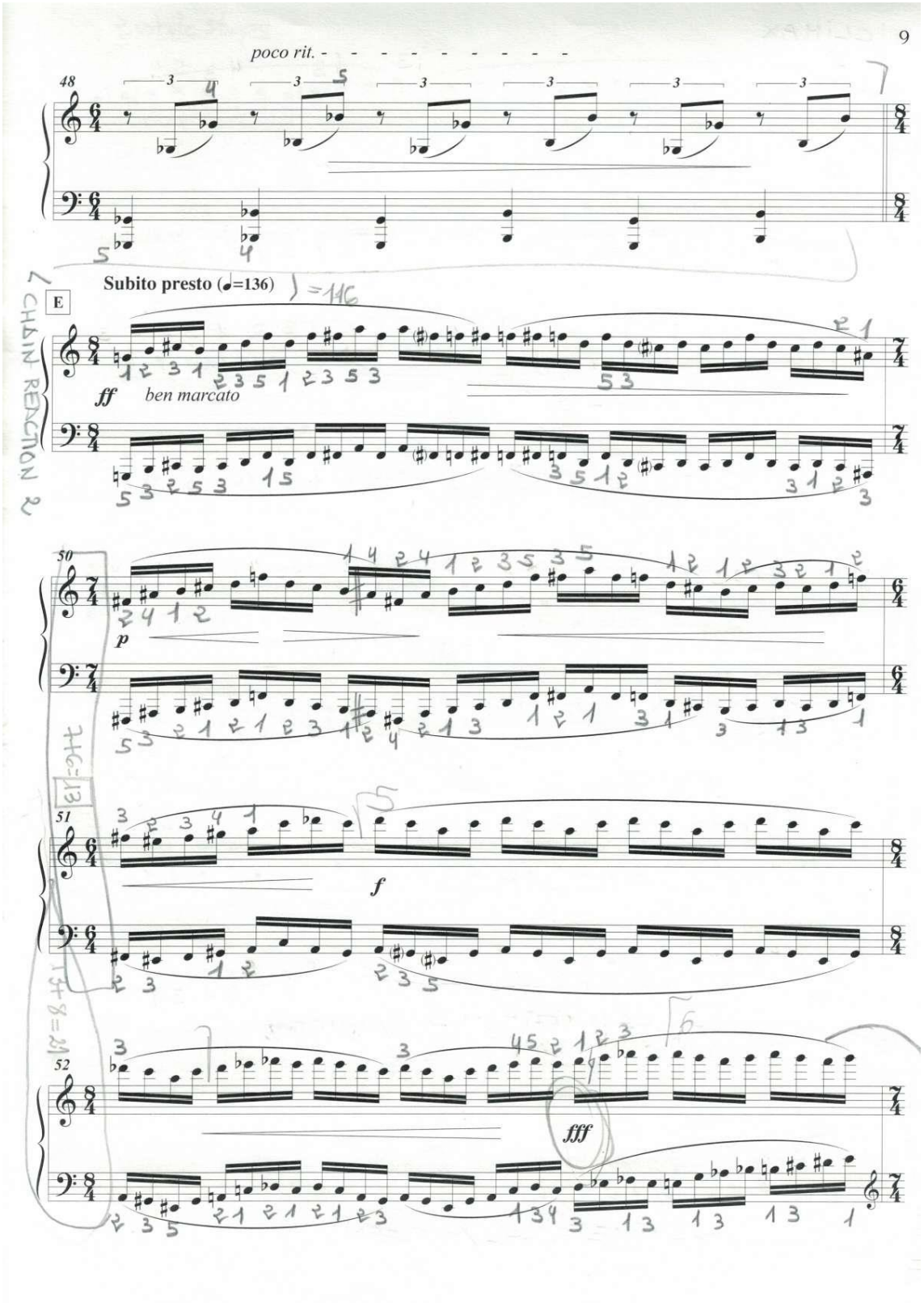

4
CLIMAX
ff
(open palm)
ajuntar mans
f
mf
mp
p
pp
Ped.

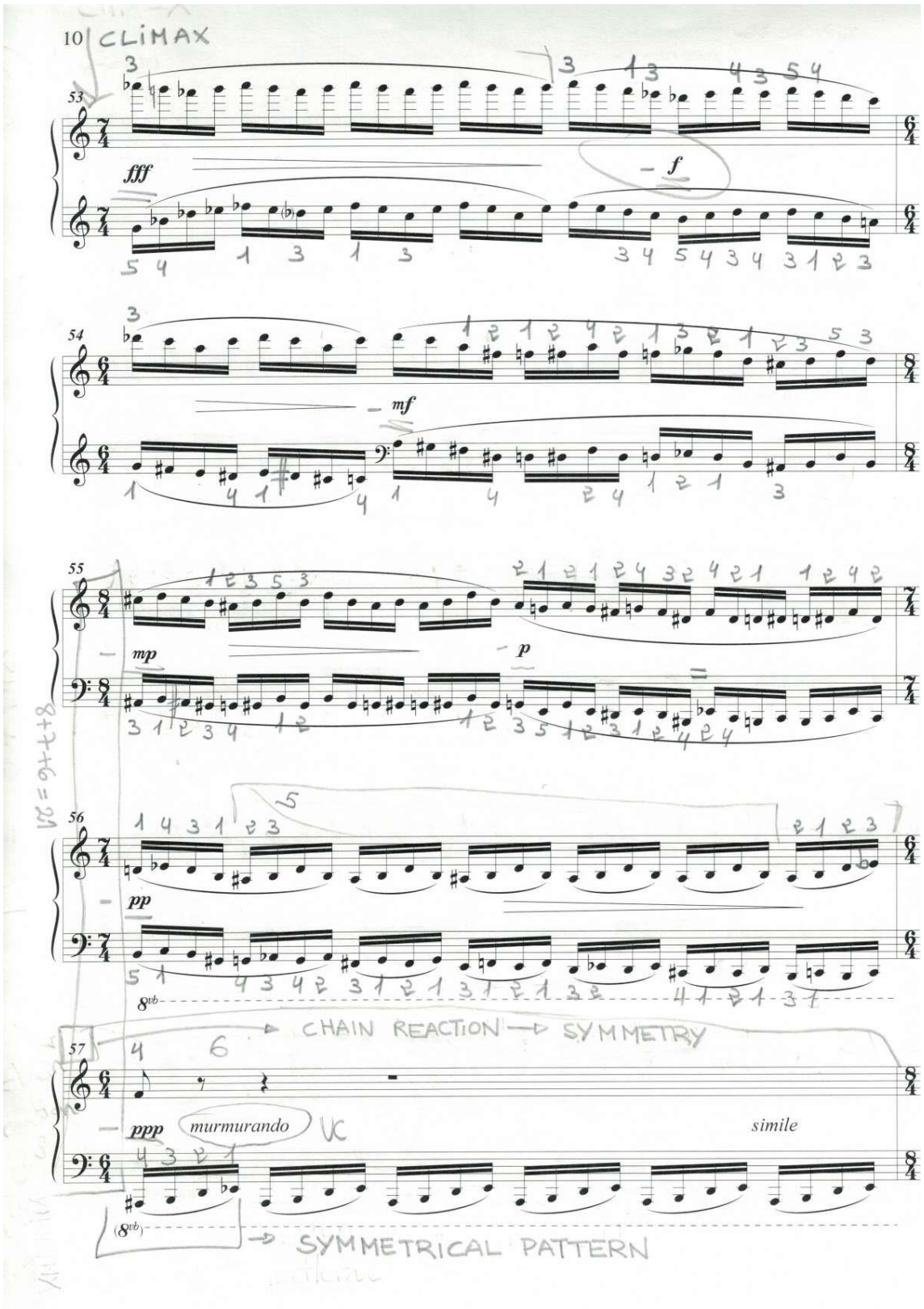

16
ppp
17
poco rit.
18
pp
WATER
8va
C
L'istesso tempo (♩=68)
Waves of the ocean
ppp
21
butterfly
8va
p
RH
ppp
8vb

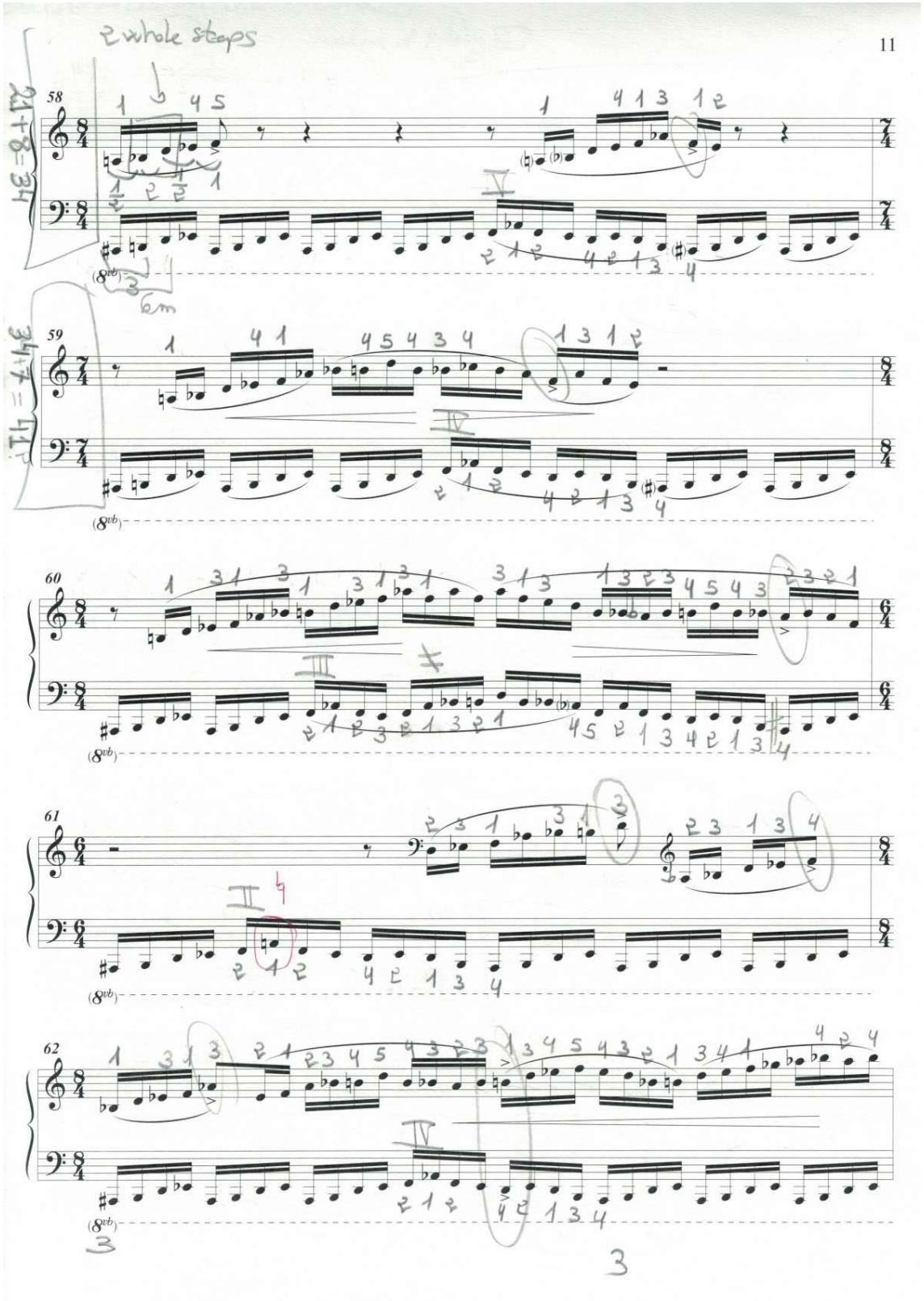

6
Più mosso (♩=89)
= 34+55
FIBONACCI
23
mp
Meno mosso (♩=68)
8va
25
Più mosso (♩=89)
mp
Con movimiento (♩=108)
D
RH
LH
28
pp
tremolando
ppp
Sost. Ped.
8vb
31
Sense Pedal
Sotto
(8vb)
SUBDIVIDIR EL TREMOLO EN ITT (3), 2 p 3 ENTONACIÓ DE L'AFINACIÓ

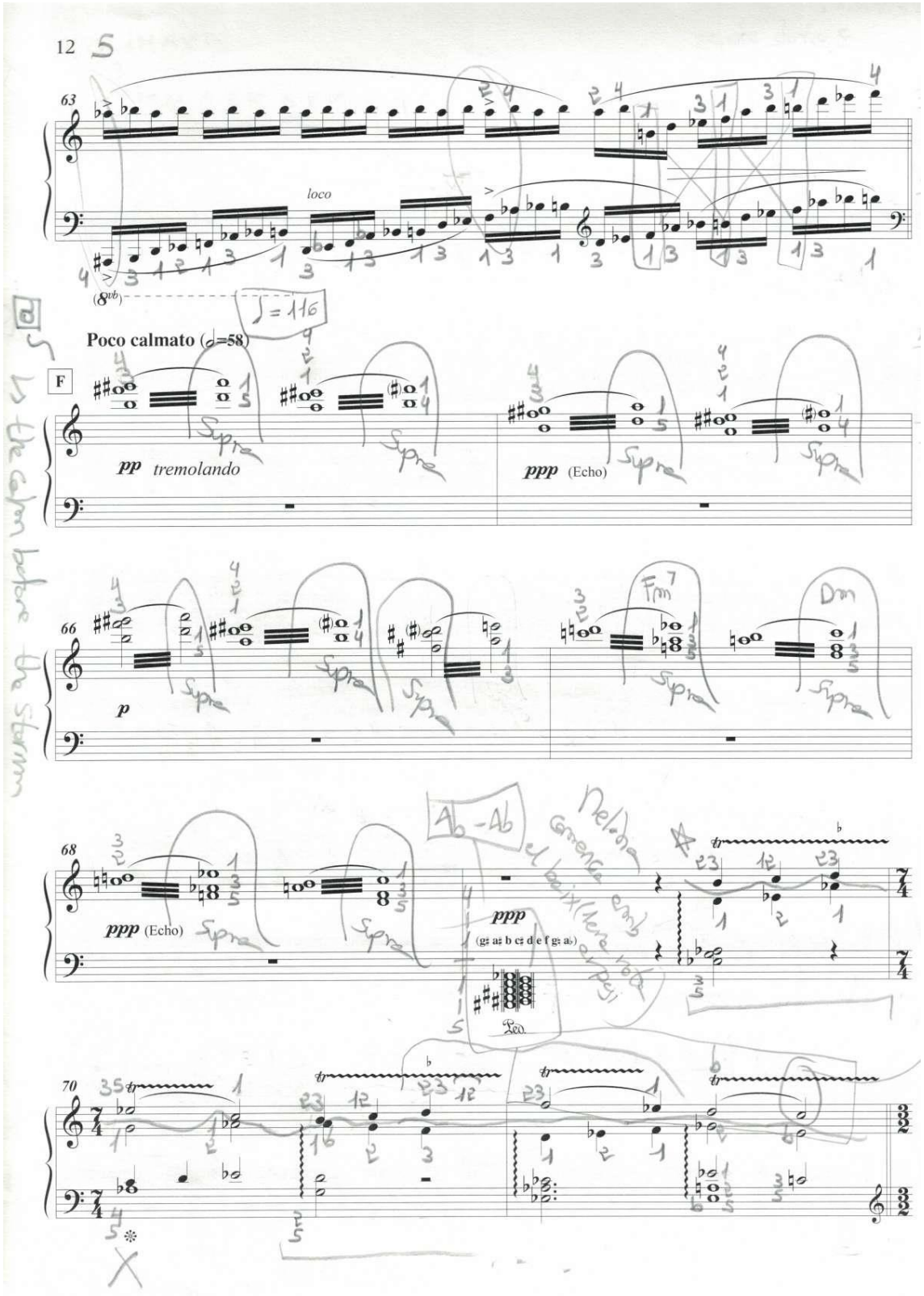

7
34
ppp
pp tremolando
37
DESENVOLVIMENT - not very fast → idea
40
(♩=108)
poco a poco accel.
pppp
BOTTOM OF THE OCEAN
41
(♩=112)
ppp
42
(♩=120)
pp

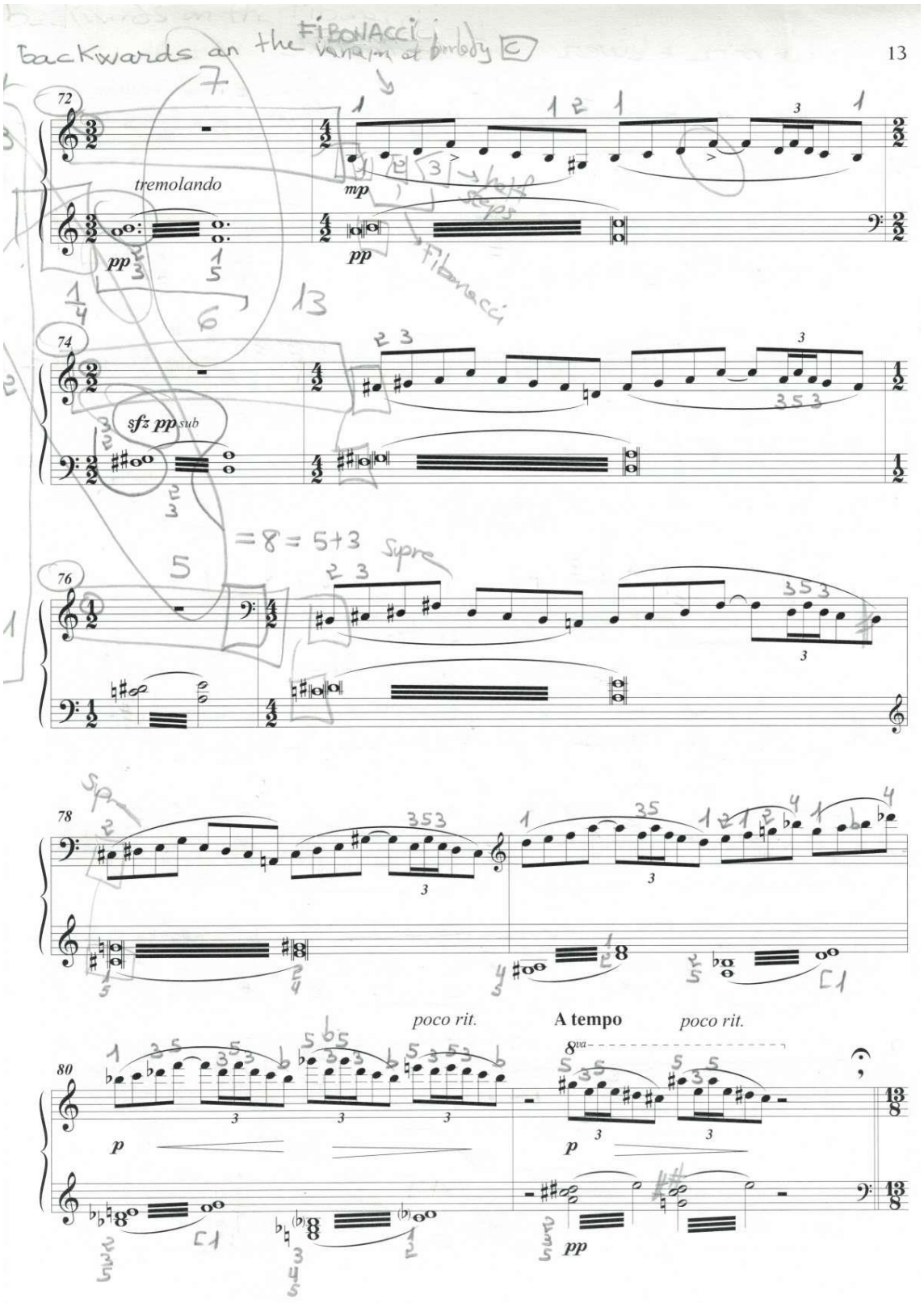

8
43
(♩=126)
(♩=132)
44
ppp
Db simile
Ab
45
(♩=138)
46
(♩=144) = 55 + 89 → Fibonacci
47

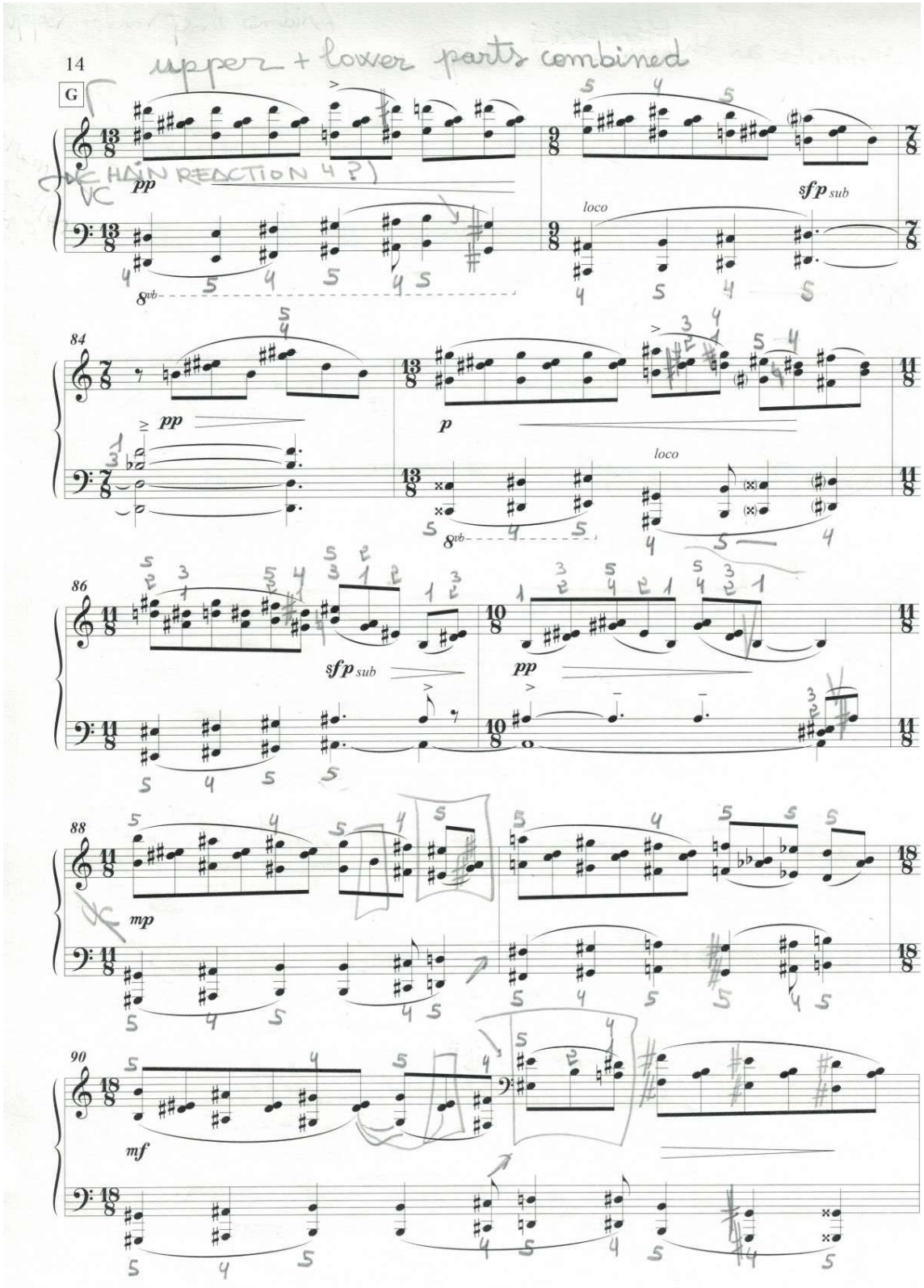

9
poco rit.
48
Subito presto (♩=136)
E
ff
ben marcato
50
p
51
f
52
fff

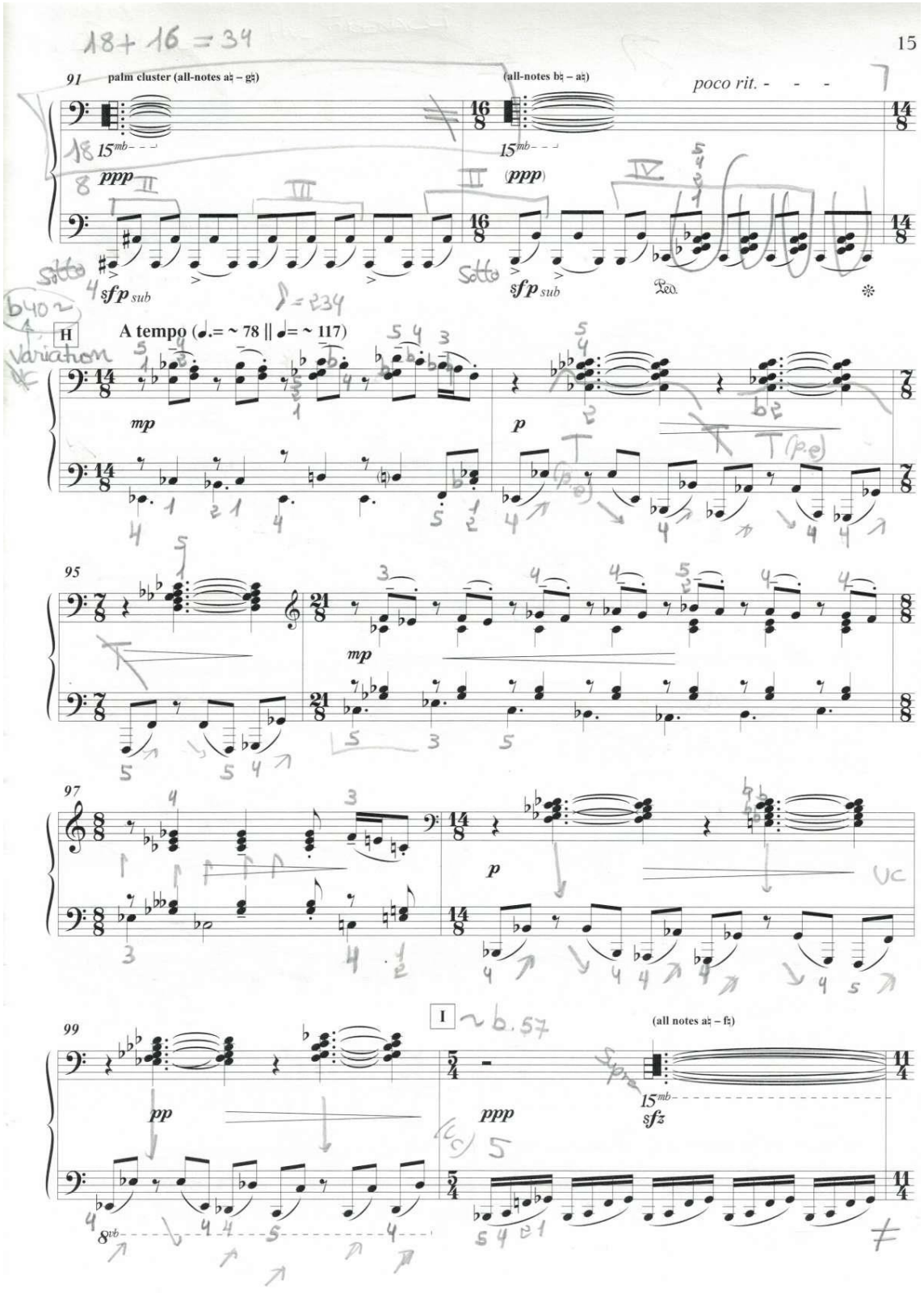

10 CLIMAX
53
fff
f
54
mf
55
mp
p
56
pp
8vb
CHAIN REACTION → SYMMETRY
57
ppp
murmurando
VC
simile
(8vb)
SYMMETRICAL PATTERN

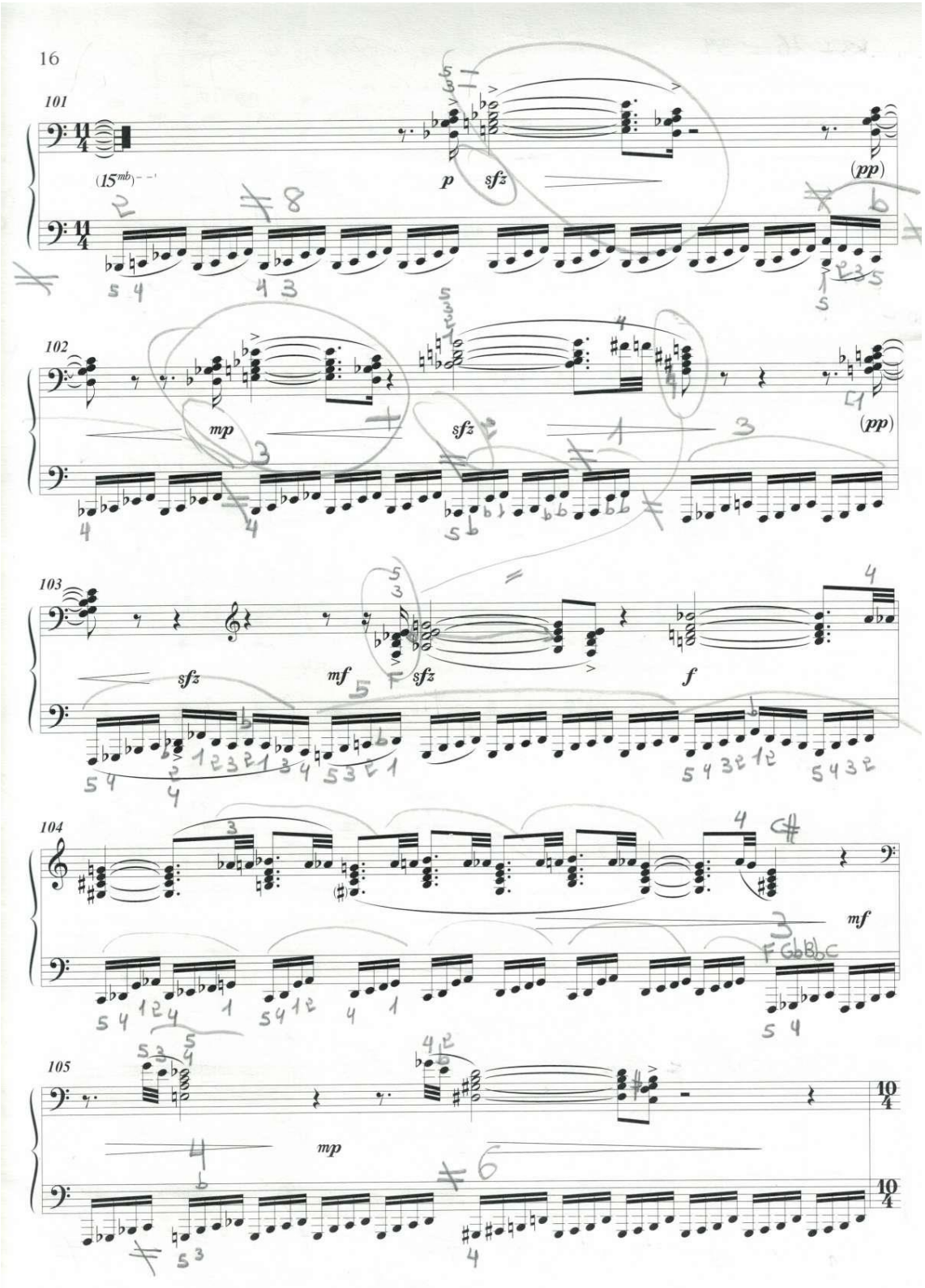

2 whole steps
58
59
60
61
62

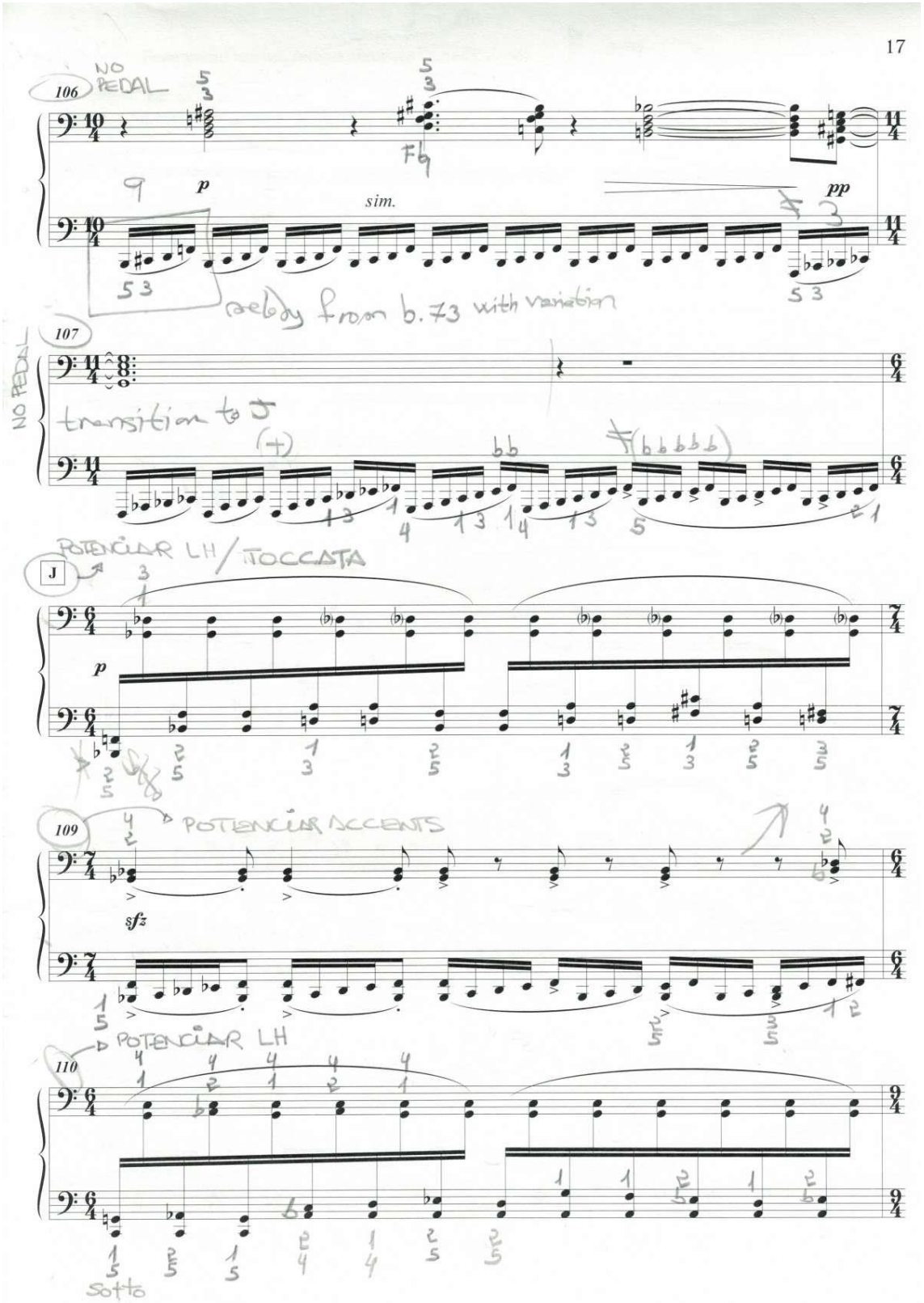

12
63
loco
(8vb)
♩= 116
Poco calmato (𝅗𝅥=58)
F
pp tremolando
ppp (Echo)
66
p
Fm7
Dm
68
ppp (Echo)
ppp
(g♯ a♯ b c♯ d♯ e f g♯ a♭)
Ped.
70

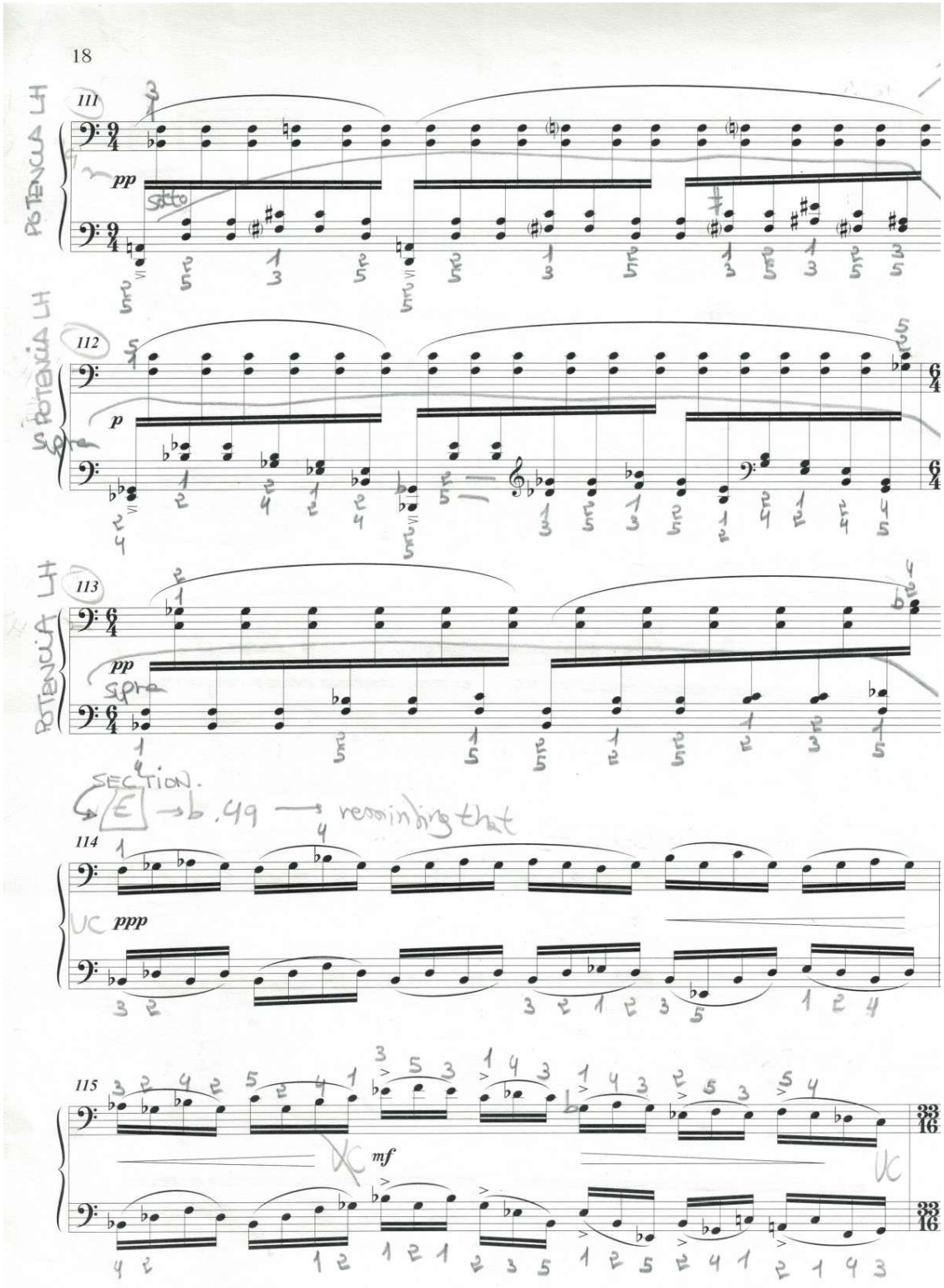

tremolando
mp
pp
sfz pp sub
poco rit.
A tempo
poco rit.
8va
p
pp

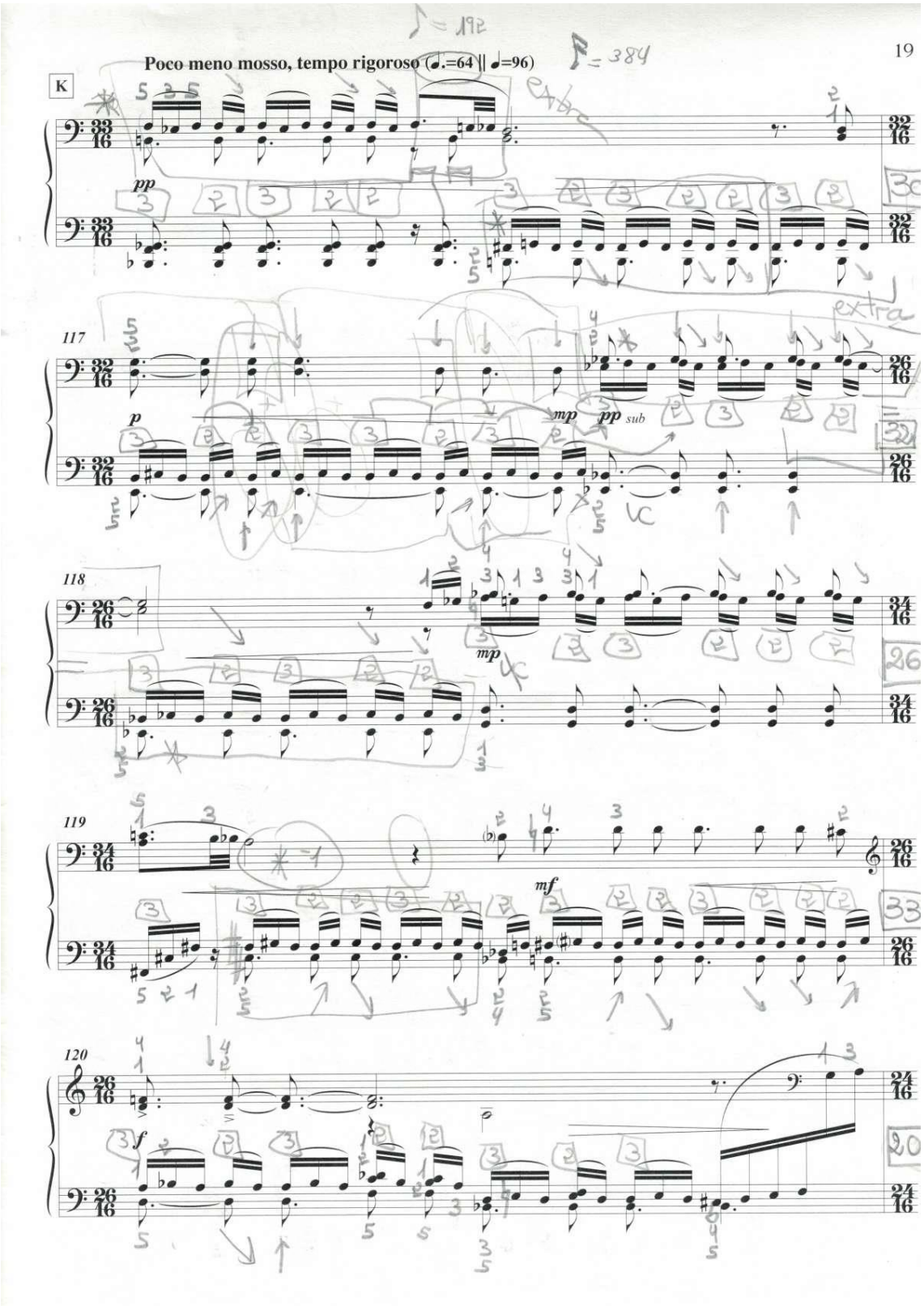

14
G
upper + lower parts combined
pp
sfp sub
loco
84
pp
p
loco
86
sfp sub
pp
88
mp
90
mf

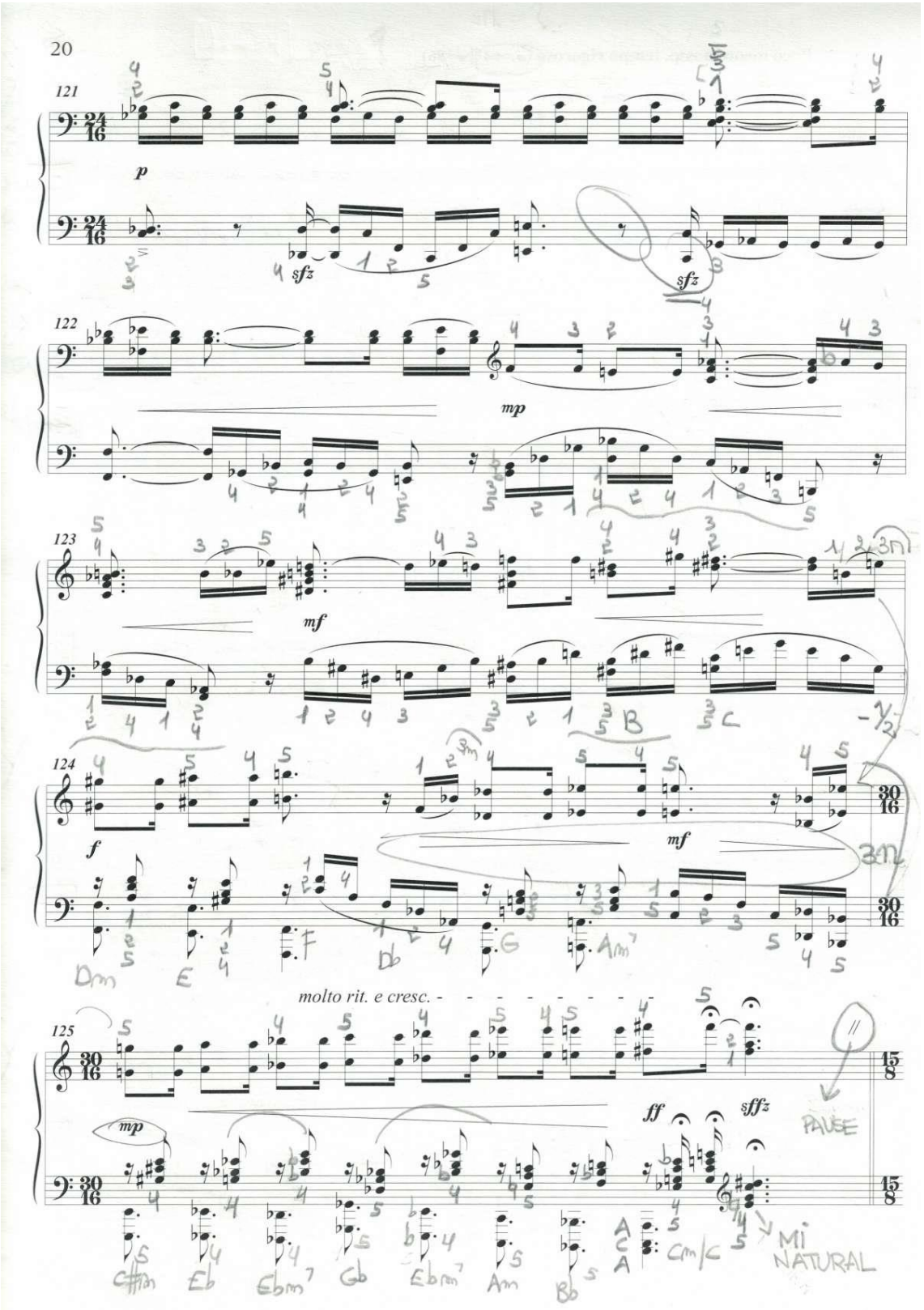

15
91
palm cluster (all-notes a♯ – g♯)
(all-notes b♯ – a♯)
poco rit.
ppp
(ppp)
sfp sub
sfp sub
H
A tempo (♩.= ~ 78 || ♩= ~ 117)
mp
p
95
mp
97
p
I
~ b. 57
(all notes a♯ – f♯)
99
pp
ppp
sfz
8vb

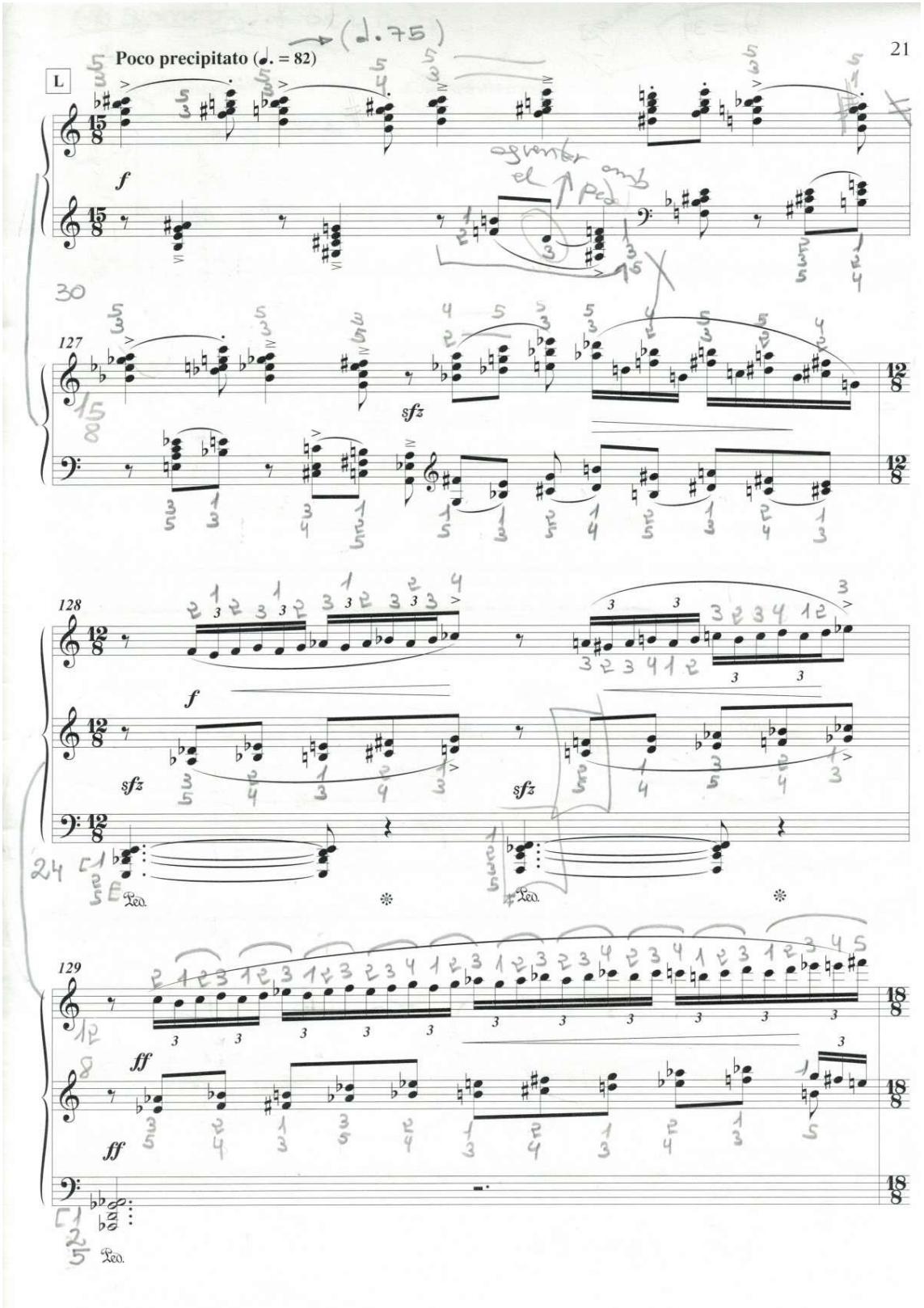

16
101
102
103
104
105
p
sfz
(pp)
mp
mf
f

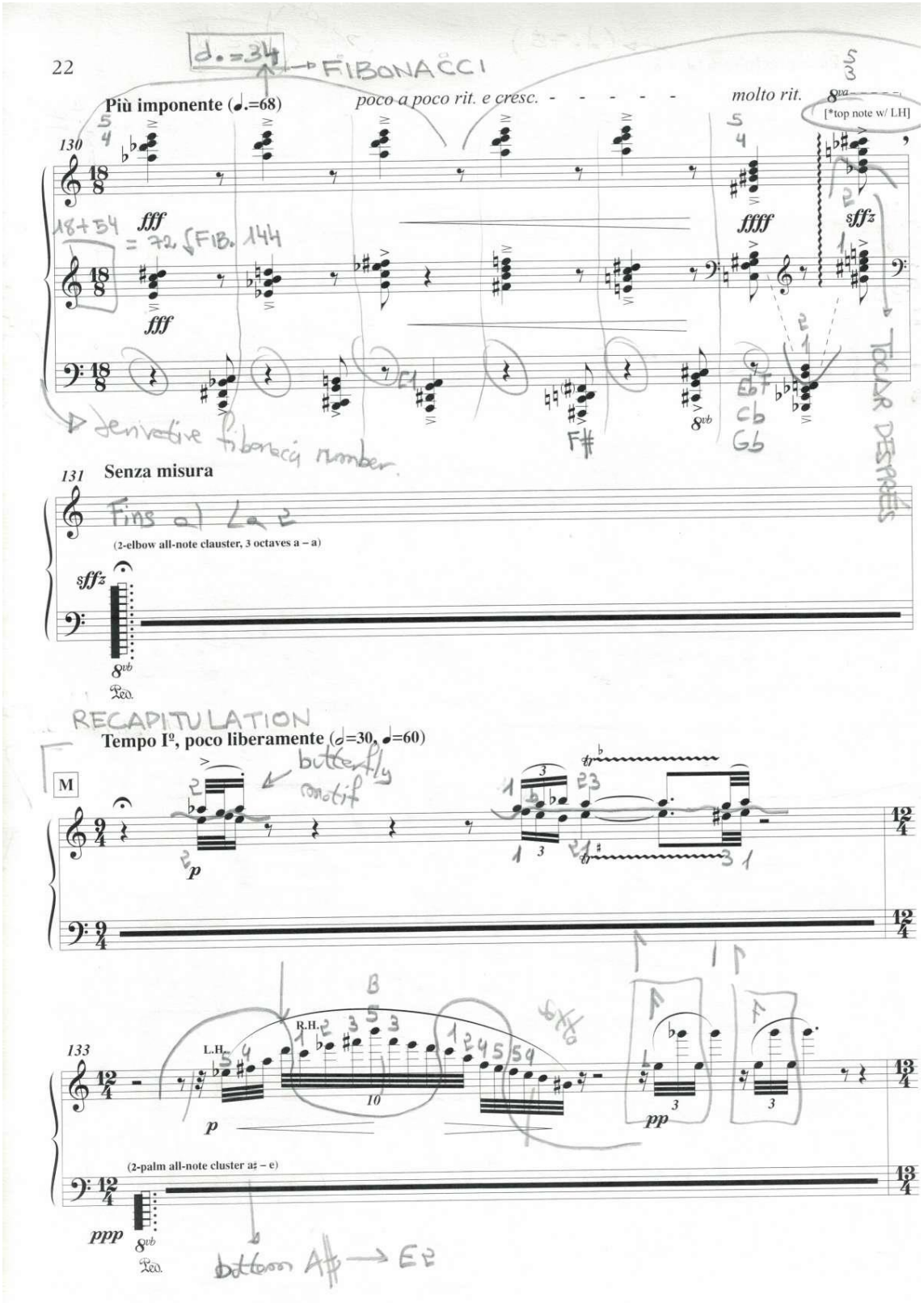

NO PEDAL
106
p
sim.
pp
delay from b. 73 with variation
107
NO PEDAL
transition to J
J
POTENCIAR LH / TOCCATA
109
POTENCIAR ACCENTS
sfz
POTENCIAR LH
110
sotto

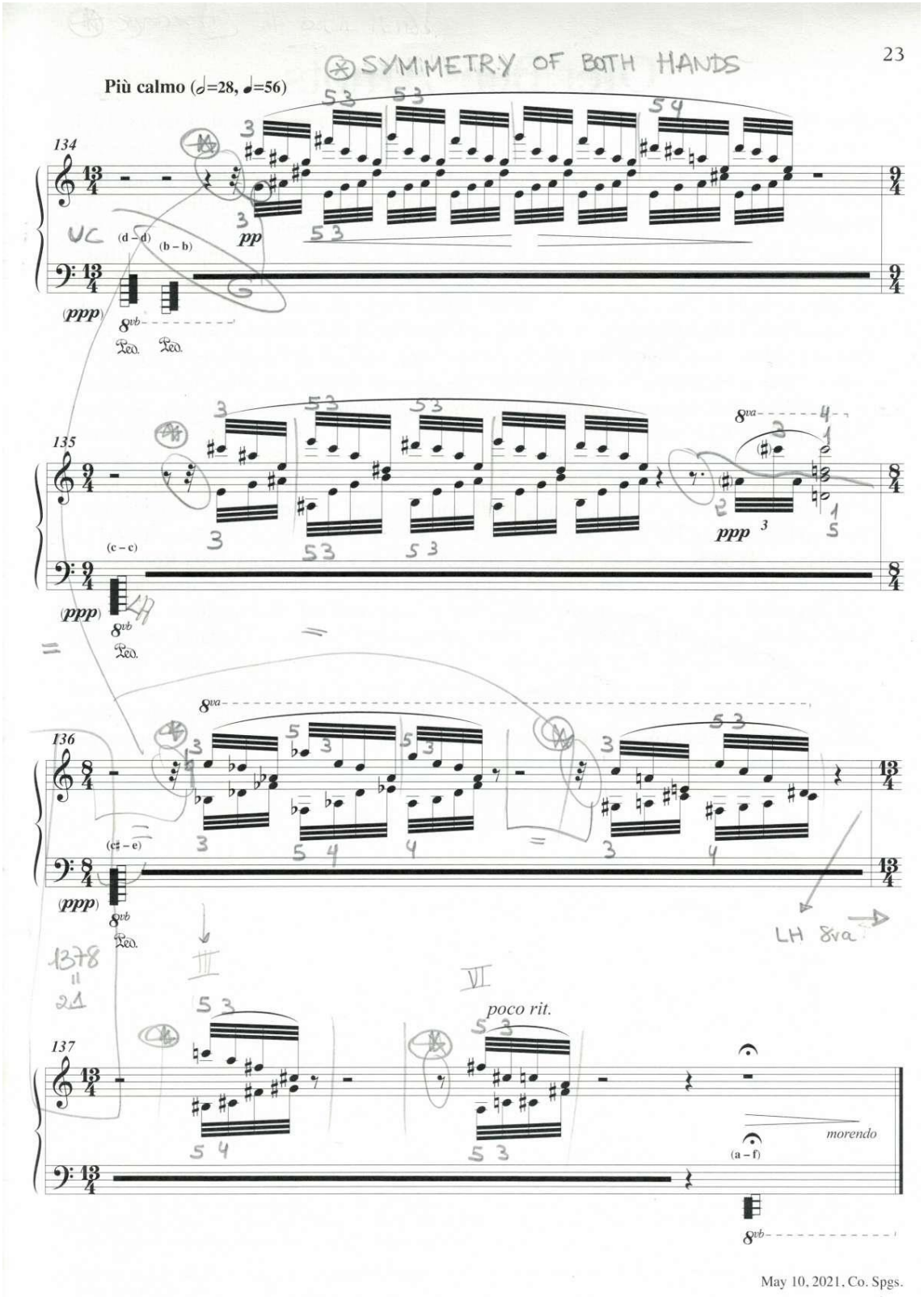

18
111
pp
112
p
113
pp
114
ppp
115
mf
POTENCIA LH
SECTION.
E → b. 49 → reminding that
UC


Poco meno mosso, tempo rigoroso (♩.=64 || ♩=96)
K
pp
117
p
mp
pp sub
118
mp
119
mf
120
f


20
121
p
sfz
sfz
122
mp
123
mf
124
f
mf
molto rit. e cresc.
125
mp
ff
sffz
PAUSE
MI NATURAL


21
L
Poco precipitato (♩. = 82)
f
127
sfz
128
f
sfz
sfz
Ped.
129
ff
ff
Ped.


22
Più imponente (♩.=68)
poco a poco rit. e cresc.
molto rit.
[*top note w/ LH]
130
fff
ffff
sffz
131
Senza misura
(2-elbow all-note clauster, 3 octaves a – a)
sffz
RECAPITULATION
Tempo Iº, poco liberamente (𝅗𝅥=30, ♩=60)
M
p
133
L.H.
R.H.
p
pp
(2-palm all-note cluster a♯ – e)
ppp


SYMMETRY OF BOTH HANDS
Più calmo (𝅗𝅥=28, ♩=56)
134
UC
(d – d)
(b – b)
pp
(ppp)
8vb
Ped. Ped.
135
(c – c)
ppp
(ppp)
LH
136
8va
(c♯ – e)
(ppp)
LH 8va
1378
11
21
III
VI
poco rit.
137
morendo
(a – f)
8vb
May 10, 2021, Co. Spgs.

Appendix L: Bibliography

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