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NON-IDENTITY AS A COMPOSITIONAL PRINCIPLE

Exploration of Multiplicities, Nonlinearity and Desiring-Machines

Einar Torfi Einarsson

A portfolio of compositions and commentary submitted to the
University of Huddersfield in partial fulfilment of the
requirements for the degree of Doctor of Philosophy (PhD)

August 2012

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Portfolio of Compositions:

Tendencies (2009), for oboe, bass clarinet, trumpet, trombone, violin and double bass
Premiered November 26, 2009: ELISION Ensemble, St. Paul's Hall, Huddersfield Contemporary Music Festival
(Commissioned by ELISION Ensemble)

Topiary (2009), for solo recorder
Unperformed

Objects (2010), for 26 musicians
Performed April 08, 2010 during the Ensemble Intercontemporain / IRCAM Reading Panel (in fulfilment for the TREMPLIN Commission Program)

Quanta (2010), for 12 musicians
Premiered February 05, 2011: Klangforum Wien, Helmut-list Halle, Graz, Austria, impuls festival
(Commissioned by impuls)

Negative Dynamics I(a/b) (2011) for a string player
Premiered April 05, 2011: Johnny Chang, Phipps Recital Hall, University of Huddersfield

Repetition of Repetition (2011) for orchestra
Premiered October 06, 2011: Iceland Symphony Orchestra, Harpa, Reykjavík, Iceland, Nordic Music Days
(Commissioned by Nordic Music Days)

Non-vanishing vacuum state (2011) for bass-flute, bass-clarinet, trumpet and cello
Premiered October 22, 2011: ELISION Ensemble, STUK, Leuven, Belgium, TRANSIT Festival
(Co-commissioned by TRANSIT, hcmf// and Dark Music Days)

Desiring-Machines (2012) for conductor and 24 musicians
(forthcoming) Premiere October 04, 2012: Ensemble Intercontemporain, Centre Pompidou, Paris
(Commissioned by Ensemble Intercontemporain and IRCAM)

CD contents (recordings):

1-9: Tendencies (performed by ELISION Ensemble)

10-15: Objects (performed by Ensemble Intercontemporain)

16: Quanta (performed by Klangforum Wien)

17: Repetition of Repetition (performed by Iceland Symphony Orchestra)

18: Non-vanishing vacuum state (performed by ELISION Ensemble)

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ABSTRACT

This thesis delineates the theoretical and conceptual background of the compositions that constitute the accompanying portfolio. Underlying principles regarding structure, materials and aesthetic decisions are outlined with special focus on their relationships with certain philosophical and scientific concepts. The thesis endeavours to demonstrate an active critique of identity and fixity within compositional practice and thought. It does this by defining and consequently applying the concept of non-identity – understood as continuous non-fixity structure – as a compositional principle. This involves a certain exploration of separation and inseparability, as well as instability and stability within and between these strata: structure, physicality and sound. The concept of non-identity is essentially accumulative, meaning it gradually incorporates more and more concepts (such as nonlinearity, pure movement/difference, desiring-machines, etc.), which consequently become active within the compositions. This means that the identity and fixity critique gradually gains strength and breadth as the thesis progresses and eventually affects all aspects of my compositional thought, i.e. each compositional element (ranging from instrumental material to form) becomes subjected to the nonlinear, de-territorial, non-fixed and continuous character of non-identity. This results in a new perspective on what structure in music can mean and a new definition of the relationships between conductor, score and performers, as well as their individual function. Each chapter corresponds to a year of research, thus the thesis follows the investigation according to its chronological development. Throughout the thesis, the discussions are mainly contextualized through the philosophy of Deleuze, Bergson and Laruelle, as well as with examples from contemporary music compositions.

Introduction

During the course of my research my compositional thought has undergone a change from what can be outlined in structural terms as an emphasis on a discrete multiplicity (chapter 1) to the emphasis on a continuous multiplicity (chapter 2 and 3).[1] How this is understood and how this affects various compositional elements, as well as the compositional technique, is the subject of this thesis. Further analysis of the 'continuous multiplicity' paradigm brings us to the concept of non-identity understood as, and affiliated with, non-fixity, nonlinearity, pure movement/difference and the 'occurrent'. This concept ultimately becomes a compositional principle in the sense that its properties gradually come to underline all structural, aesthetical and organisational aspects of my compositional method.

It is important to clarify a way of thinking regarding composition or the way I approach compositional thought in general. In the most general way it could be said that I primarily think in structures. However, I do not consider structure necessarily to be something of a musical nature (i.e. the structure of a piece: sections, proportions, ABA etc.) but of a philosophical or even scientific nature (like the structure of a concept or of a quantum phenomenon). Therefore, 'structure' is something that applies in all directions, horizontally and vertically, locally and globally, conceptually (theoretically) and empirically. Thus, 'structure' is here understood as behaviour or a specific activity: sound activity, physical activity, structural activity, conceptual activity, etc., put differently, how 'the many' reacts and behaves. In this regard, concepts are considered as 'structure potentials' or simply as structures and are applied to different aspects of music composition. Additionally, this way of thinking does not think in terms of elements such as pitch, harmony, timbre, texture, etc., but rather: high/low, solid/gaseous/liquid, gestural, horizontal/vertical, discrete/continuous, perspectives, objects, linearity/nonlinearity, identity/non-identity, etc. Accordingly, there is no pitch organisation or texture structure/form but instead factors such as sound complexes and typology (sound-objects) organisation, performers' physicality and conceptual strata interaction, which collectively aim to actualize some concepts as principles or structures (e.g. nonlinearity, non-identity, multiplicity, solidity, etc.) locally as well as globally. Furthermore, musical material is always treated collectively or as a constituent part of some behaviour (structure) that applies at any given moment, which means that instruments (or their materials) are never treated individually or independently but always in relation to the structure that applies to all active instruments at that time (although that can yield a highly individual material). In that regard, structure (in its complexity) becomes the single

[1] 'Multiplicity' is here understood the Deleuzian (and Bergsonian) way, i.e. in the substantive form, as *a* multiplicity (meaning complex structure that does not represent a prior unity, and is not a totality but open ended). "The multiple is no longer an adjective which is still subordinate to the One which divides or the Being which encompasses it. It has become noun, a multiplicity which constantly inhabits each thing". (Deleuze and Parnet, 2006)

element or the basic compositional concern. This will become apparent in different ways throughout the thesis, for example chapter 1 discusses compositions that demonstrate a collection of discrete sound-objects, all different but all in compliance with a certain vertical and a certain horizontal structure, while chapter 2 and 3 discuss compositions that demonstrate a structure that applies both vertically as well as horizontally, viz. the structure of non-identity. Furthermore, the compositional act is understood as an activity of sensory and conceptual imagination – as well as an intellectual creativity – and follows logics proper to them, or 'the logic of sensation', which favours superimposition and interpenetration rather than a purely coherent, argumentative and rational logic. The sensory/imaginary (and poetic) encounter, either within the conceptual development or the actual compositional act, is therefore an important aspect towards the aim of creating (and imagining) compositions as perceptions/sensations as well as engaging in a more philosophical commentaries to the compositions. In this regard, the thesis develops the concept of non-identity (as structure), which is designed to incorporate or superimpose many concepts (such as nonlinearity, non-fixity, the continuous, pure movement/difference/effort, continuous multiplicity, the infinite, etc.) and as such becomes a multidimensional concept/structure applying to all areas of composition, ranging from score to performer to audience. However, this will only be fully realized and demonstrated in chapter 3.

For the involved conceptual development I rely heavily on the philosophy of Deleuze & Guattari, Bergson, Laruelle and other related thinkers such as Brian Massumi, Manuel Delanda and John Mullarkey. The context of my research is therefore generally linked to these thinkers, i.e. most of my compositional innovations stem from an encounter with their philosophy, apprehended in the proclivity to explore their philosophy compositionally, to compositionally realize or perform, and superpose, some of their main concepts. However, my engagement does not aim to problematize these thinkers but instead employ aspects of their work in order to support, pragmatically, my own endeavour to compositionally and structurally engage with certain concepts. Furthermore, my relationship with these thinkers, and particularly Deleuze, relates to Deleuze's general understanding of concepts: "concepts *must* be creative or active rather than merely representative, descriptive or simplifying"[2], this involves "putting concepts to work in new ways" (e.g. within composition) and an interest "in relating variables according to new concepts so as to create productive connections".[3] In that regard, Deleuze's creative approach towards concepts is explored through the act of composition. However, there is also the context of composers such as Ferneyhough, Lachenmann, Sciarrino and others, which forms an important background perspective, particularly regarding the

[2] Parr (ed.) (2005), *The Deleuze Dictionary*, 51 (italics in the original)
[3] Ibid., 50

initial compositional approach and materials, and certain performance/physicality aspects which constitute, throughout, a thread in the development.

The thesis as a whole encompasses a route towards non-identity, or the route towards non-identity as a compositional principle, meaning that the thesis, along with the compositions, gradually progresses towards that principle, where compositional materials and methods are transformed in pursuance of pure movement/difference or the asymptotic approximation to a continuous multiplicity (as non-identity).

Overview

This thesis delineates the theoretical and conceptual background of the compositions that constitute the accompanying portfolio, as well as their philosophical and aesthetic engagement. The overall discourse is chronological, it maps out the research, the development, and the compositions in the order they appeared. Thus, each chapter marks a certain phase as a consequence of the previous phase, but within each phase the discourse is more flexible, meaning that the path taken is not necessarily chronological (or even linear). Because each year of research formed a distinctive approach and considerations, I divided the research into three phases, which consequently form the three main chapters.

Chapter 1 – phase 1 – initiates the thesis and describes the issues encountered at the beginning of the research, techniques developed during that phase and the concepts behind the compositional approach. Within this chapter the compositions – *Tendencies, Topiary, Objects* and *Quanta* – are not treated individually in detail as such, but the overall approach (or tendency) present during that phase is defined. This is because chapter 1 does not fully belong to the main argument of the thesis (i.e. non-identity), its function is to demonstrate methods that led to a revision of my compositional thought, and as such works as a sort of context for the remainder of the thesis. Chapter 1 demonstrates a specific focus on a vertical sound interweaving method (sound-relationships) and the heterogeneous model of juxtaposing sound-objects as a means towards a discrete multiplicity (Bergson/Deleuze). A theoretical framework is then constructed, which references these fixed sound-objects and their horizontal interactions and treatments. The chapter concludes by evaluating the implications of this working method and proposes a possible extension of the local, vertical structure, to the global horizontal structure, as well as looking at some relevant precursors. Chapter/phase 1 demonstrates a problem in approach and concept, which marks a certain turning point. Accordingly, the compositional approach is radically revised at the beginning of phase 2, which together with phase 3 forms the main body of the thesis.

Chapter 2 delineates a revised compositional approach by examining temporality issues and by considering a certain rotation and ‘eversion’ of chapter 1 tendencies, thereby aiming to define the

concept of non-identity and to explore 'vertical time' in conjunction with horizontal-vertical multiplicity or a *continuous* multiplicity – the exploration of a stable instability. It then continues the discussion by demonstrating solutions to the problems encountered during phase 1 by exploring, demonstrating and analysing the phase 2 compositions – *Non-vanishing vacuum state, Negative Dynamics I(a/b)* and *Repetition of Repetition*. This chapter also initiates a more thorough engagement with philosophy, namely that of Bergson, Deleuze, and Laruelle, i.e. Bergson's 'second way of knowing' (pure movement), Deleuze's 'difference in itself' (pure difference), and Laruelle's 'being-separated' (pure struggle). Likewise, chapter 2 demonstrates how these concepts are actively employed within the compositions. Furthermore, these concepts are explored in relation to the compositional techniques developed during phase 2 as well as to other aspects such as physicality, notation and the properties of nonlinear dynamical systems and quantum vacuum (quantum field theory). Importantly, phase 2 introduces the concept of non-identity, which becomes my most critical compositional axiom. During chapter 3 the concept of non-identity is more elaborately employed and developed.

Chapter 3 details the final phase of the research and revolves around a single composition – *Desiring-Machines* – which, among other things, radically transforms the conductor/performer relationship. The chapter also develops further aspects encountered in phase 2, especially the applications of the non-identity concept, and progresses by applying non-identity as non-fixity to as many musical parameters, strata and elements as possible. At this stage my compositional approach is heavily engaged with the concept of non-identity and endeavours to employ – or perform and compose – non-identity as non-fixity unremittingly within a creative project. Furthermore, it aims to depict the work as pure movement or relation-as-such ('pure relationality'). There, fractal nature, nonlinear dynamics and contingency structure are explored. This approach stems mainly from my engagement with Deleuze's philosophy, which summarizes as an active critique of identity (identity understood as a static, finite phenomenon, a fixity) through destabilization and deterritorialization. Similarly, I summarize my research within those very terms: the application of non-identity as an active critique of identity within music composition.

Chapter 4 (Conclusions) concludes and reflects the thesis by proposing how the direction taken may be considered as a 'Deleuzian composition' and engages the aesthetics of immanence. It then further delineates what that might indicate or suggest, as well as briefly outlines possible future developments of selected issues encountered within the thesis.

1. Phase 1 – Preparing for Non-Identity (initial investigation)

[Phase 1 compositions: *Tendencies, Topiary, Objects, Quanta*]

My research begins by contemplating two concepts in relation to my compositions: heterogeneity and conjunctions. These concepts originally relate to the compositional method I was engaged with before starting the research, namely compositions of multiple movements or miniature collections. The first composition in the portfolio (*Tendencies*) comes directly from that approach. Basically, this approach endeavoured to establish specific vertical connections between instruments through a certain shared sound base or sound type (similarity in sound) while each new movement or miniature would demonstrate a contrasting difference both in character and in sound types used. This approach therefore marks my point of departure. These two principles at work (similarity and difference) relate to the above concepts (heterogeneity and conjunctions) and are understood in relation to the vertical and the horizontal dimension. The most prominent structural dimensions of music composition are the vertical and the horizontal dimension and the first chapter treats these two dimensions in a rigid or discrete way, meaning structurally the vertical is strictly vertical and the horizontal is strictly horizontal. This allows me to apply different structures or principles to each of them. The structure of heterogeneity and difference is thus applied to the horizontal while conformity and similarity is applied to the vertical. Consequently, these concepts (heterogeneity/difference, conformity/similarity) become structures or underlying principles of

compositional organisation. Furthermore, the vertical is here treated as the most local aspect while the horizontal is treated as the global aspect. In that regard, a vertical moment becomes a unit (but a unit of many sizes), which means that no matter how many instruments are involved in a vertical moment, that moment is thought of and treated as a unit, called nano-object. Moreover, these units or nano-objects can be considered metaphorically as functioning similarly as pitch and the ensemble constituting them as a solo instrument. Thus, horizontally they render 'melodies', only the nano-object is rather a specific sound type complex, which as a unit shares the characteristic of being only a foreground (as a single pitch does). In this sense, background layers are not present nor aimed for, which engages an exploration of a particular 2-dimensionality and binary interactions or operations. This, together with a certain 'thinking in objects and states' (explored later on), questions certain structural elements such as linearity and development. Furthermore, chapter/phase 1 is concerned with issues related to the concept of object and identity, discreteness (separation, difference), manifolds, perspectives and, importantly, with a sound-based compositional thought. Sound-based composition takes sound or types of sound, and especially sound situations and sound contexts, as its starting point in the sense that sound types (air, multiphonic, gestural figures, etc.) and sound complexes become structurally more important than pitch, harmony, texture, timbre, etc.

The following are the descriptions that affected the line of thought during phase 1 and therefore do only apply to the phase 1 compositions. These compositions are not discussed individually but instead specific aspects of the underlying ideas will be contextualized by examples from those compositions. In that respect, the general compositional approach during phase 1 is presented. These methods and endeavours outlined here eventually resulted in a turning point and a revision of my compositional technique by considering the local vertical structure/behaviour globally and horizontally, which becomes the subject of chapter 2 and 3.

1.1 Heterogeneity and Conjunctions

Heterogeneity is defined here as a global feature of a piece. More precisely, it is a system, object, sculpture or a space which comprises many different distinct parts, or rather many different sculptures/objects, which are different from each other 'internally' and 'externally'. These differences are actual (as in a discrete multiplicity) structural differences as well as differences between musical materials, which amounts to differences in shape and identity. This immediately brings up several sub-issues, namely the respective details/concerns and the materials of each object as well as of each moment, which are investigated through: difference, separation, identity, and more concretely, sound-relationships, sound-objects, physicality, tension, repetition, instrumental

techniques[4], structure, macro-micro-nano, along with transformation and development. These will all be given a little space of discussion. The emphasis is put on the method of situating contrasting discrete objects together, which, by the fact of being together discretely and because of their differences, a heterogeneity (or multiplicity) is established on the whole. It should be noted that here 'heterogeneity' is conceived of as an element of the global horizontal dimension. Hence, I speak of a discrete heterogeneity when referring to global and horizontal attributes (collage-like arrangement of sound-objects) but a continuous heterogeneity for the most local and vertical attribute or the nano-object (multi-sourced sounds with obscured sources).

The concept of *conjunctions* relates, firstly, to connections of the objects (which form the discrete heterogeneity), meaning the horizontal meeting point of any two objects, their interactions (influences) and the connections within each object. This concept is also concerned with openings and closures (beginnings and endings) as well as the so-called separation density. Secondly, it engages with a particular vertical interweaving method, or coupling, between sounds and instruments, which I will refer to as sound-relationships and the degree of symmetry. One can say that 'conjunctions' is the order of things, i.e. horizontal order (temporal) and vertical order (local, the moment, static-image).

1.2 Sound-Relationships and the Degree of Symmetry

The most important technique developed and employed during phase 1 is the so-called sound-relationship technique. It is a local and vertical feature of the conjunction concept. Sound-relationships deal with connections between instruments and their sounds at any given moment and as such apply locally at all times within all these phase 1 compositions, meaning the active instruments at each moment are joined by the sound-relationship method. It is a method of uniting sounds in order to interlock, weave and solidify greater sounds, a whole that becomes greater than the sum of its parts. To establish such sound-relationships the involved, or chosen, sounds should demonstrate high resemblance and yet together should form something different from each individual sound. This can be seen as a simultaneous repetition/echo[5] of a specific sound *type* or quality (air-based, multiphonic-based, gestural, etc.); a vertical repetition or vertical multiple-sound conformity, as if a sound type is conformed to by the involved instruments. It could be said further that this is in some sense a homophonic method yielding a certain micro/nano-polyphony within the resultant sound, where miniscule differences wrap up and fold into each other. This is usually

[4] See appendix 1a

[5] This could be further delineated as super fast back and forth nano-scaled repetitions/echoes, resulting perceptually (or on sound level) as simultaneity.

accomplished by the sounds themselves (i.e. the sound-qualities should overlap), but sometimes micro-polyphony rhythms are indeed employed to further this quality. The main aesthetic aim of this technique is the interweaving of several similar sources in order to hide or confuse the perception of these sources; to refuse any single source to dominate, and thus to direct the perception away from independent sound sources in order to establish an inability of perception to identify those sources. This is similar to a dense forest viewed from a distance where a single leaf cannot be traced to a specific tree trunk. For instance, Figure 1.1a demonstrates a varied simultaneous repetition of a serrated air-based sound type, which consequently translates into double-tongued air tones for the woodwinds, 'whooshing' vowel changes for the brass, and flageolet touched col legno arpeggios for the strings. This means that each instrument 'repeats' the imagined sound type in its own unique way whilst having overlapping sound qualities with the others involved. Towards this end I endeavoured to find multiple ways for instruments to simultaneously 'repeat' a given sound type whilst always remaining true to the idea of not granting anyone a perceptual dominance. This becomes a certain balancing act, which attempts, on the most local level, to render the structure of a continuous or obscure heterogeneity, the heterogeneity without discreteness.

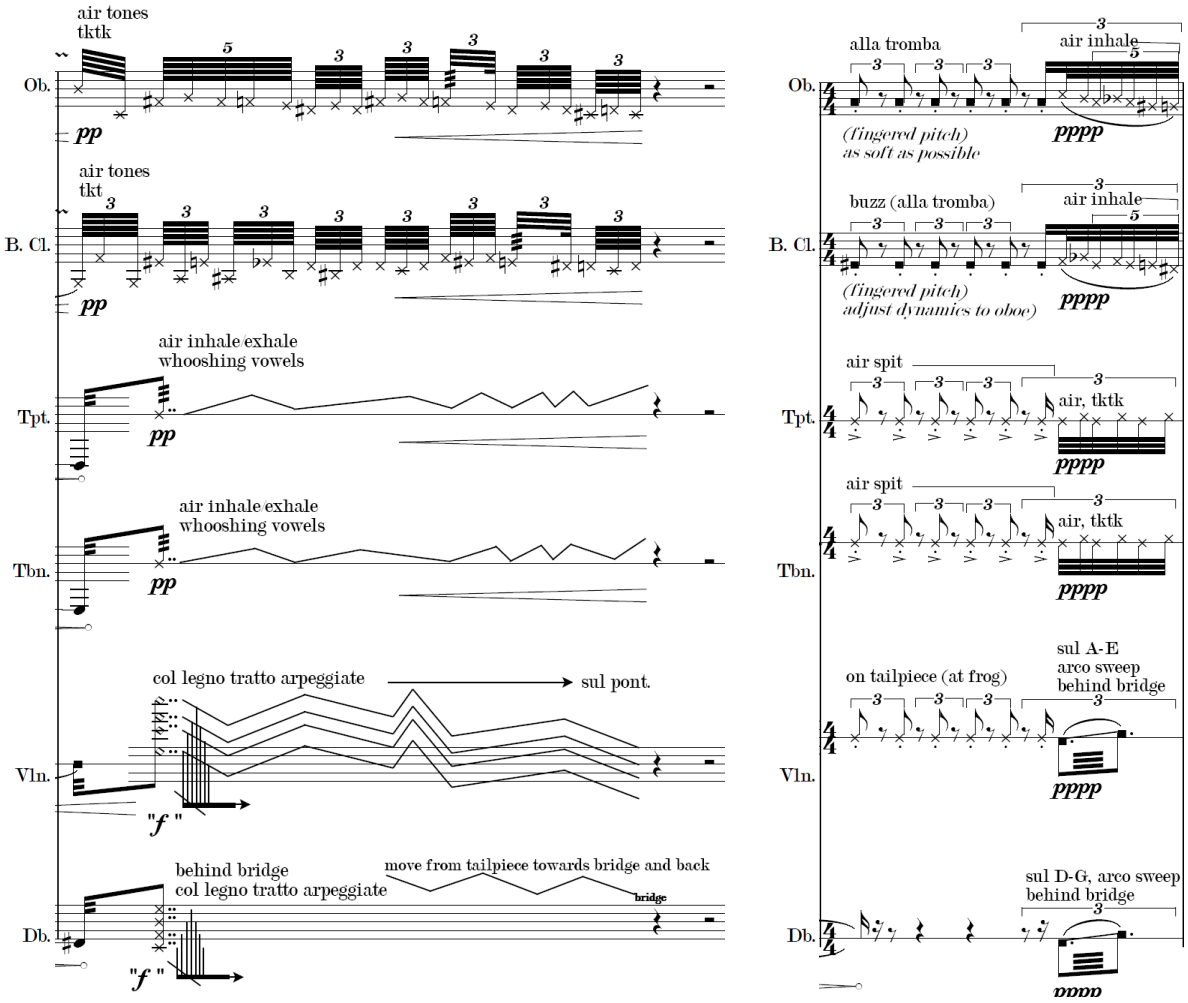


Figure 1.1: Sound-relationships in *Tendencies*. Fragments, (a) mov.3 bar 8 (left), (b) mov.6 bar 10

Furthermore, the sound-relationships method can be extended in order to have connections with physicality. In that case sounds are treated as physical actions that are responsible for the production of a sound, and that physical factor (as a type) can accordingly be 'repeated/echoed' between players, forming a simultaneous-*physicality*-repetition. A simple example of this would be a transposition of a flutter-tongue or double-tongue from a wind instrumentalist into the hand of a cellist from which several possibilities arise: tremolo or sweep (right hand repetition/echo), trill or vibrato (left hand repetition/echo) – or indeed all of these. See Figure 1.1b for a double-tongue (winds) into sweep (strings) physicality 'repetition' – the jiggling movement of the double-tongue technique is repeated as a type. This relates to unities in the sense that by employing this technique – taking the sound aspect as well as the physicality aspect into account – I create a One which is a different One, namely the One which is many and "…composed not of unities but of dimensions, or rather direction in motion", a multiplicity.[6] The simultaneity is vital as it is never an option for this technique to think in terms of an echo or repetition as an act of noticeable imitation of any sort. It is a technique of the simultaneous, of the vertical, aiming to constitute intensive sound-objects (nano-objects). One further description is necessary: these unities (actions/sounds) are united through an intensive property that takes hold of a body like a temperature or speed, which affect all parts, and the ensemble is this body at that moment. This is because the similarities of sounds and actions weave and fold each other, and as such do not 'add up' discretely but interpenetrate each other and seek balance much like temperatures (2°+3°=2.5°). In that regard, that object has the *perspective* of an intensive property. The simultaneous repetition is also a special type of consistency, the one that can yield many consistencies (liquid, solid, gas) based on the underlying sound type. It is the atomic ordering (repeating) of similarity, of series simultaneously existing in order to form an identity/object. It has always multiple sources, a multiplicity[7], "packs in masses and masses in packs".[8]

Further development of the sound-relationship concept produced the concept of degrees of symmetries. The *degree of symmetry* terminology was intended to make the concept of sound-relationships more dynamical. To explore this concept consider a state/moment where sound-relationships among a group of instruments is established as an object through the above descriptions. Then I visualize this group as a circle. The smoothness, or the closeness of sound-relationships – of this instrument-group-sound-circle – will then determine the degree of symmetry. A completely smooth circle (highest degree) does not change with *any* amount of rotation (2D in this

[6] Deleuze (2004), ATP, p.23
[7] "Multiplicity is the affirmation of unity" – Deleuze, NP (2006)
[8] Deleuze&Guattari (2004), ATP, p.38

example); it remains highly symmetrical.[9] If I now alter the 'surface' (circumference) of the circle, e.g. by wrinkling it, I change the degree of symmetry and therefore initiate a transformation of the object. This was partly the approach in *Quanta*[10], see for instance Figure 1.2 for transformation from 'smooth' to 'bifurcated' (symmetry degree alteration). There, three instances of an air-based object are shown, which gradually, throughout the piece, appears with increasingly independent material (the wrinkling), whilst keeping the air-based sound type active. An useful analogy for the continuation of this process would be an increase in temperature to the point of bifurcation within the group/body, similar to what happens with water at boiling point (many temperatures and states (liquid/steam)) or the human body when having chills (cold yet feverish). This transformation can be subtle or extreme, slow or fast, up to the point of total symmetry breaking, which would, as a result, trigger a formation of differences within the object (a sort of individuation), or formation of new groups/objects within the original group/body which formed the object. In this way an object gains dynamics, possibilities and life (and reproduction). It can also be said that within the framework of these phase 1 compositions, this bifurcation – or tinkering with the degree of symmetry – is a form of horizontal tendency manifested in the vertical dimension. This means that within these pieces the horizontal tendency, described as a juxtaposition of different/contrasting objects (discrete difference applied to the horizontal dimension, i.e. the heterogeneity), forms a series of different objects: [∞≠◊дΘ]. Similarly, this series could be rotated and applied, as a tendency or structure, to the vertical dimension where it becomes a row of synchronous individuated identities, a certain morphogenesis. This was in fact experimented with in *Quanta.*

In *Quanta* there is such an object that is an object comprising other objects (the object of objects) not horizontally but vertically (Figure 1.3a). This is an object that demonstrates the disruption of objects through intensifying the identities within an object to the point of rupture (difference, individuation), resulting in vertical differences (multiples) and simultaneously floating objects (in other words, counter-object instead of counterpoint). 'Difference' is thus applied to the vertical dimension and through the repetition – this object is 'locked' in repetition – the 'similarity' is applied to the horizontal dimension. This is the rotation of a general tendency; the horizontal tendency becomes the vertical tendency (see Figure 1.4). This is because the sound-relationships, as the vertical tendency, focused on similarity in sound while the horizontal dimension emphasised juxtaposition (series) of contrasting sound-objects. Furthermore, the 'degree of symmetry' trajectory is applied to this 'object of objects' in reverse from previous examples, meaning that it endeavours to go from bifurcation towards smoothness. See Figure 1.3 (a to b), where an object first appears as

[9] Mathematically a sphere has more symmetry than the cube relative to e.g. the rotation function. (Delanda, 2005)

[10] *Quanta* (2010), for 12 musicians

fully 'bifurcated' (a), in fact containing six structure models[11], and at the end appears 'smooth' (b) or with only one structure model, which all parts conform to. In this regard, the piece *Quanta* explores the 'degree of symmetry' concept in two directions, or as two tendencies, simultaneously (smooth to bifurcation and vice versa).

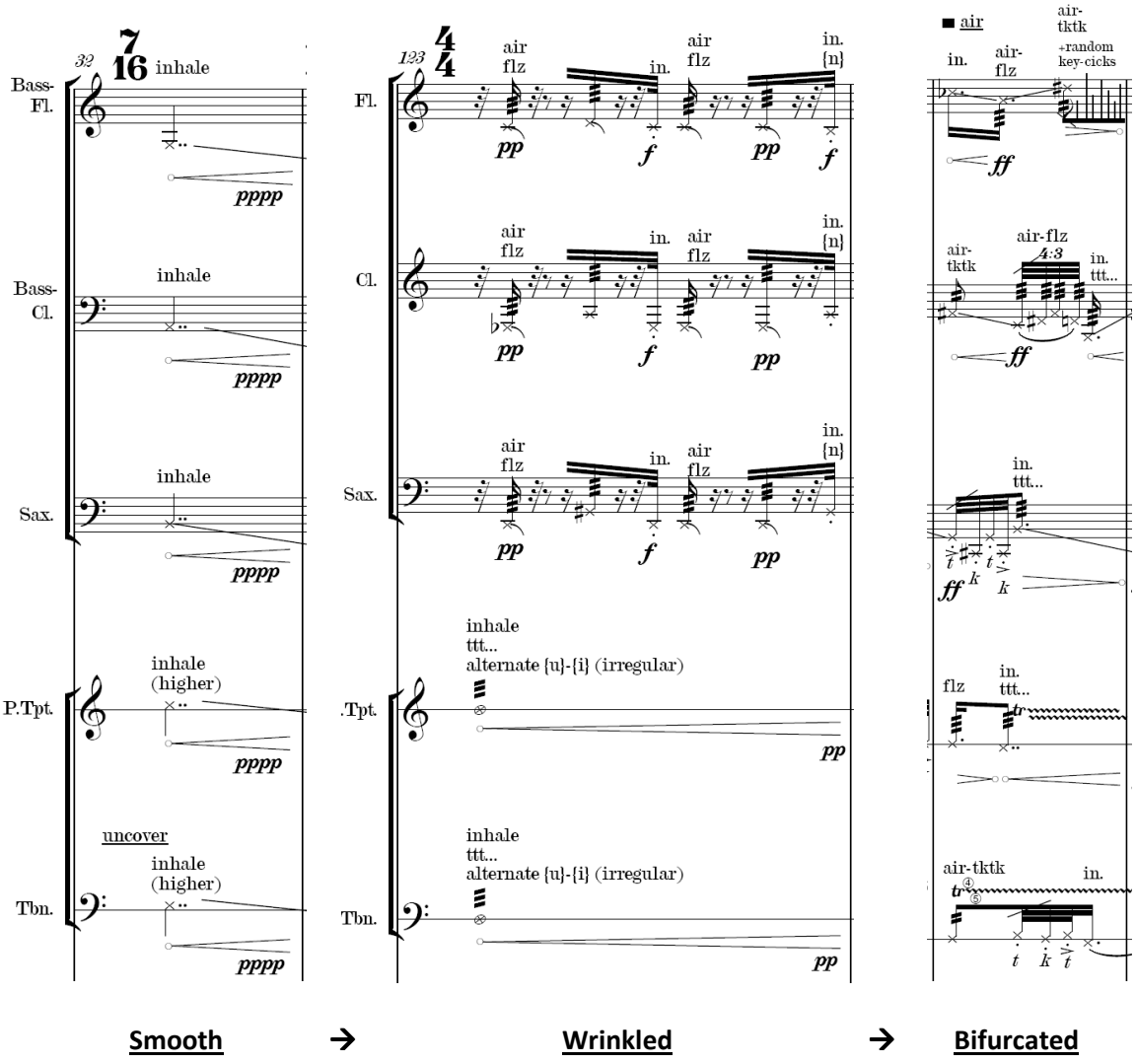


Figure 1.2: Degrees of symmetry in *Quanta* (smooth—wrinkled—bifurcated).

Fragments (left to right): bar 32, bar 123, bar 203.

[11] These models are easily identified when considering these pairs: fl.+cl., sax+acc., tpt.+tbn., perc., vln.+vla., vlc.+db.

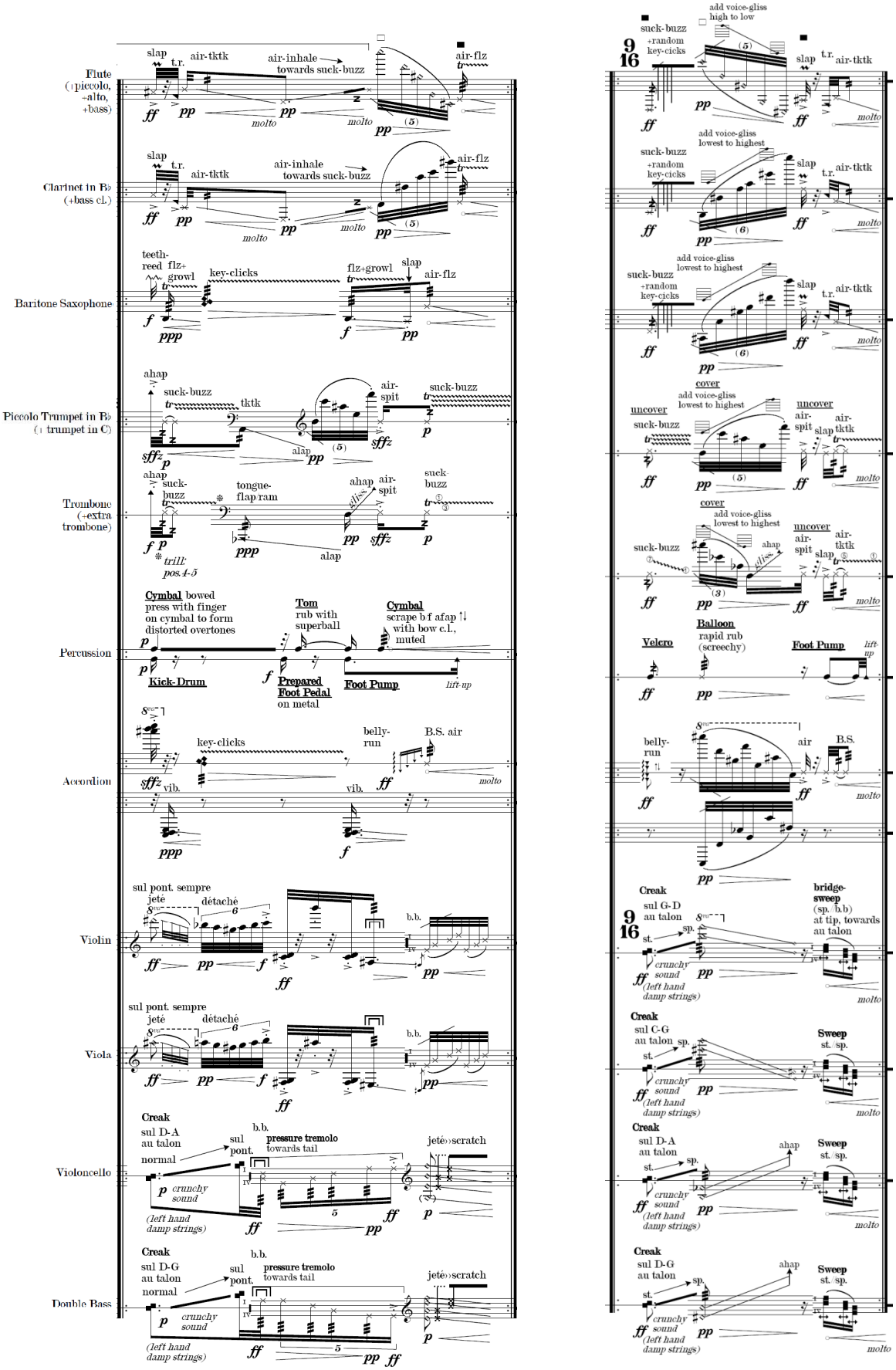


Figure 1.3: *Quanta*, the 'object of objects'. 'Bifurcation' towards 'smooth', a) left (beginning), 6 structure models, to b) right (end), 1 structure model.

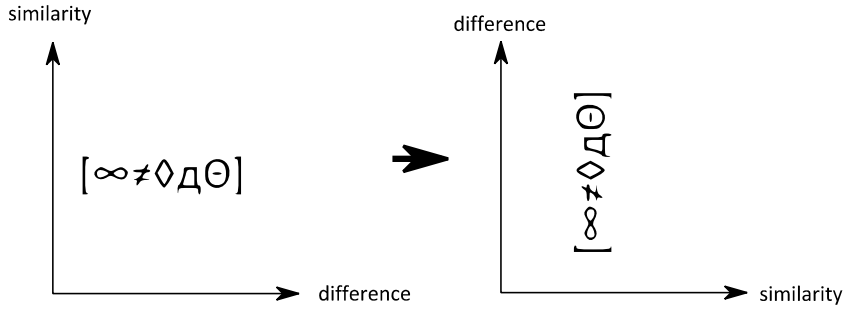


Figure 1.4: Visualization of the rotation of the general tendency: horizontal tendency becomes vertical tendency (whole becomes a moment)).

1.3 Objects (sound identity)

The term 'object' during phase 1 is understood in three different ways. First, the nano-object, constituted by the sound-relationship method, which is the smallest identity at any given time, and therefore durationally short. The nano-object does not concern itself with anything else than itself, it is purely locally (micro-)structured according to the sound-relationship method. Many different nano-objects are constructed based on several contrasting but interconnected notions such as: air-based, multiphonic-based, register placement (high/middle/low), dynamics (soft/loud), gestural (ascending/descending), solid/liquid, static/active, etc., see Figure 1.5 for examples. When these short nano-objects are extended or, as is the usual, juxtaposed against contrasting nano-objects (thereby, forming horizontal differences/contrasts), the second understanding of 'object' appears, the micro-object. This is the object that used to be a movement/miniature – this is what the title refers to in the piece *Objects.*[12] These micro-objects deal with proportional display of contrasting nano-objects, often in binary mode (involving two contrasting nano-objects);[13] they are thus concerned with the arrangement of nano-objects, both proportionally and contrastingly. Third, the macro-object, which forms in fact a sound sculpture (the whole piece) encompassing the micro-objects. There is also one other object related to the 'nano' type, but not constituted in full by the sound-relationship method, which is the 'object of objects' (Figure 1.3). This 'object of objects' is constituted by vertical difference/contrast (Figure 1.4) or multiple sound-relationships; it does not establish discrete horizontal contrasts but ongoing vertical contrasts. Moreover, an object is in general conceived as having a certain level of sound identity. This identity is established by means of solidification and a limitation (focus) of material for any duration, meaning a combination of specific sounds that unite through similarity, repetition and interaction.[14]

[12] *Objects* (2010), for 26 musicians (this piece exemplifies best the 'micro-object', as it is a collection of them)
[13] This binary 2-dimensionality is especially the case in *Objects.*
[14] See object T from *Objects*, where the identity is established through the repetition of the nano-object.

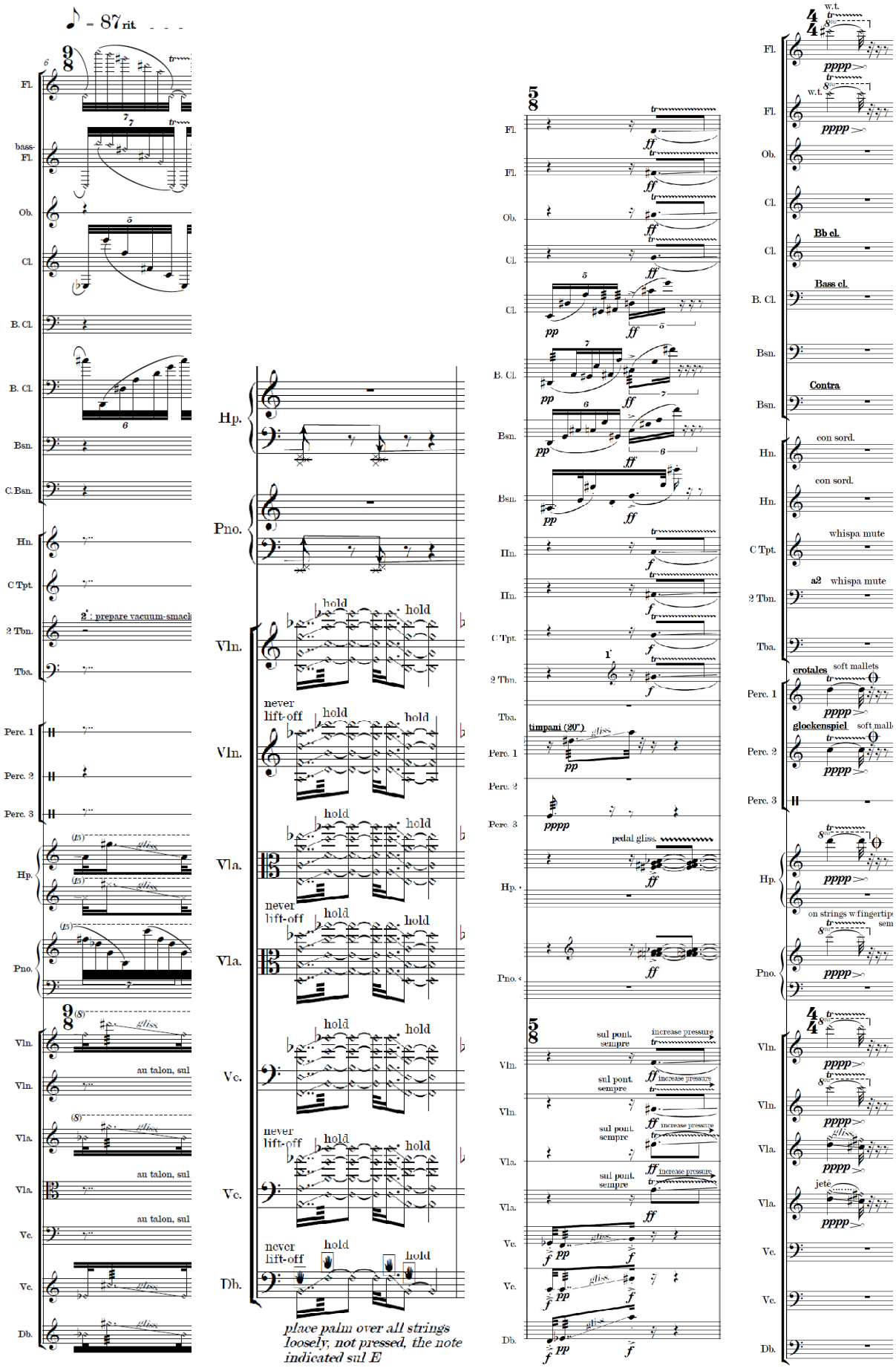


Figure 1.5: Examples of nano-objecs in *Objects* (from left to right): a) from object T bar 6, b) from object M bar 16, c) two clashing nano-objects from object M b.5, d) from object L bar 1.

Objects also gain identity through difference, i.e. the context of differences within themselves and the context of other surrounding objects (which are different). But importantly objects acquire their object-hood because they are treated as separated, discrete blocks of identities. To sum up, each moment is and should be an object and a series of such moments an object as well. Thus, an object becomes a way of thinking and thereby the fundamental material and the desirable result (sculpture). In that regard, I imagine a space filled with objects side by side, sometimes interpenetrating and sometimes 'clashing', on a small and large scale. For example see bars 236-245 in *Quanta* where many of the objects clash against each other 'interruptingly' (see also bar 5 as well as bar 11-12 in *Quanta* for similar interruptions).

The 'object' thought developed from the separated multiple movement/miniature form (as in *Tendencies*[15]), which I had been working with for some time. When the movements/miniatures became shorter, more precise and limited (focused), as in *Topiary*[16], and therefore gaining more identity and tangibility, I adopted the term '*object'* instead of 'movement' and sought to articulate what that meant. To think in objects provokes reconsiderations of linearity, order, beginnings and endings. This is because in order to gain more identity as an object, as a *physical* object – and thus related to the spatial perception of objects as solid non-gradual entities – it becomes necessary to minimize the significance of linearity, development and order of events. Why? Because to grant a sound complex an object-quality one cannot put importance or emphasis on the beginning of an object, for then it ceases to be an object. A physical object does not have a beginning or an end, more precisely, objects do not have a *particular* beginning/end (openings/closures). One can enter them from any angle, which makes them more related to *states* rather than stages. Moreover, they certainly do not convey linearity or graduality as they can always be viewed wholly; they can, however, have different perspectives. Accordingly, in order to move closer to qualities proper to real physical objects one needs to seriously reconsider these elements, which are basically elements of temporal origin.

Therefore the question becomes: how to spatialize time? This was the question *Topiary* and *Objects* were partly involved with, meaning they were engaged with eliminating beginnings and ends. To this end, *Topiary* employed a method which involved a particular 'physical' treatment of sound-objects, hence the title (which means clipping/shaping shrubs). Each (micro-)object was treated, over the course of the piece, with a very straightforward 'cut off', their 'beginnings' or 'ends' or both clipped off in order to emphasize their object-hood (e.g. R, R1, R2 in *Topiary*).[17] There, I was not concerned with durations but trying to convey an object that could be treated in a 'topiary' manner.

[15] *Tendencies* (2009) for for oboe, bass clarinet, trumpet, trombone, violin and double bass

[16] *Topiary* (2009), for solo recorder

[17] See Appendix 1b for object R, R1 and R2 in *Topiary*

There was another significant concern regarding the objects in *Topiary*, which considered all these (micro-)objects (i.e., the whole set) somehow arranged within a space and where and when a certain perspective is taken within this space some *parts* of the objects go out of view (the 'cut-off') because another object blocks the line of sight, a phenomenon called parallax. Hence, when dealing with objects one deals with perspectives. This parallax method was later developed further in *Objects (L)*, but then *within* a single micro-object (meaning parallax of nano-objects), gaining therefore a more accurate and vivid, and perhaps more successful, engagement with the phenomenon because of the continuity or the active parallax treatment (I will return to this (1.6 and Fig. 1.10)). Furthermore, in *Objects* the object as a state was explored, which meant that beginnings and ends were eliminated in another way. For to enter a state is to enter it directly, not through development – not gradually bringing the state about – but to fall, to appear, to materialize within it. Beginnings and endings should then become mere starts and stops and should, ideally, be completely as indicative of the state as any other time-point within. A more open-ended approach was therefore aimed at, which was a definite step forward regarding these considerations since *Tendencies* (which has very clear openings and closures). Successful or not, these were attempts to realize the full significance of, or the possibility of, sound as an object, and helped clear a way for further investigation.

1.4 Separation density and the tendency/structure of the material

Separation density refers to the amount of separation between objects. Highest density would then mean a new movement (or even a new piece). This is the case with most of my pieces from phase 1: the pieces have multiple movements (see *Tendencies, Topiary* and *Objects*), or multiple micro-objects, which are understood less and less as movements (containing beginnings/ends) but more and more as objects (or states). Lowest density, however, would mean immediate attachment to another object, without either of them losing their identity. The spectrum between these extremes is an area of exploration in the piece *Quanta,* where these lower density regions are explored: the piece does not have multiple movements, but instead uses 'charged silence' as the basic material for a simple separation, which could be either real silence, meaning no activity, or so-called 'silent objects', which contain activities bordering on silence. In this respect, there are silences that have a local and/or global function (within an object or between objects).[18]

One of the reasons for dropping the multi-movement approach came through considerations regarding the material I was using, or more precisely, the sounds I was investigating. The sounds I

[18] See e.g. in *Quanta,* bar 52, for a 'real silence' separating objects (global function) and bar 23-30 for a 'silent object' which also includes within itself local functions of real silences (bars 27 and 29).

had been working with were usually of a rather fragile nature or indeed very unstable (especially in *Topiary*), due to complicated micro adjustments in approaching the instrument, both with fingers and mouth. This instability of sounds had been 'locked' within a stable and rigid structure and therefore I endeavoured to destabilize that structure, a certain instability extension – to think within and from the structure of the sounds. The first step towards that aim was thus to drop the multi-movement form, along with the binary interactions, since that was the most stable aspect of previous pieces. Consequently, the possibility for interaction between larger amounts of different objects became greater, which was another aim that, however, originated from a different source.

This other source was in *Objects*, in the last bars of object L (see Figure 1.6), where a certain 'forcing together' of objects is encountered, a separation density below zero, which emphasises the objects involved as surfaces or the surface of a larger object, and *there* some sort of counterpoint or polyphony appears, but it is not exactly a counterpoint/polyphony phenomenon. A more accurate description would be 'pulsating surfaces', which I define as surfaces that refuse to take a background, middle-ground or foreground function – thus in effect depthless – partly because their identities are kept intact and partly because they had previously been established as an object.[19] Consequently, it is not fitting to speak of depth (as would be the case in counterpoint/polyphony) in this context, but instead to speak of surface instability extension since the involved objects/surfaces clash within the 'surface-space'. I wanted to explore this further, which meant increasing the possibilities for interaction of objects and their surfaces; ergo, a single movement form was needed.

These two sources of instability extension mentioned (extending the instability of the sounds to the structure and increasing the surface instability (tension/pulsation)) are explored in *Quanta.* However, in *Quanta* I encountered a clash of ideas, which resulted in something else than was desired. By attempting a single-movement composition I encountered problems in regard to linearity and development that clashed with both the instability extension and with the object as a phenomenon without beginning and end. This was caused by the degree of symmetry concept (the transformation from smooth to bifurcated or from topological to geometrical state and vice versa), which created the linearity as development or as a destiny for objects. Thus the attempted focus got sort of 'swallowed' by temporality problems/issues. This became a source for serious reconsideration of my compositional approach in general and of the discrete heterogeneity/multiplicity in particular, as will becomes apparent in the transition to phase 2.

[19] In Figure 1.6 notice the three objects in bars 23-24 which constitute the 'pulsating surfaces': 1) the staccato figures, 2) the crescendo air-flutter and 3) the jeté-gliss (vln.+vla.)

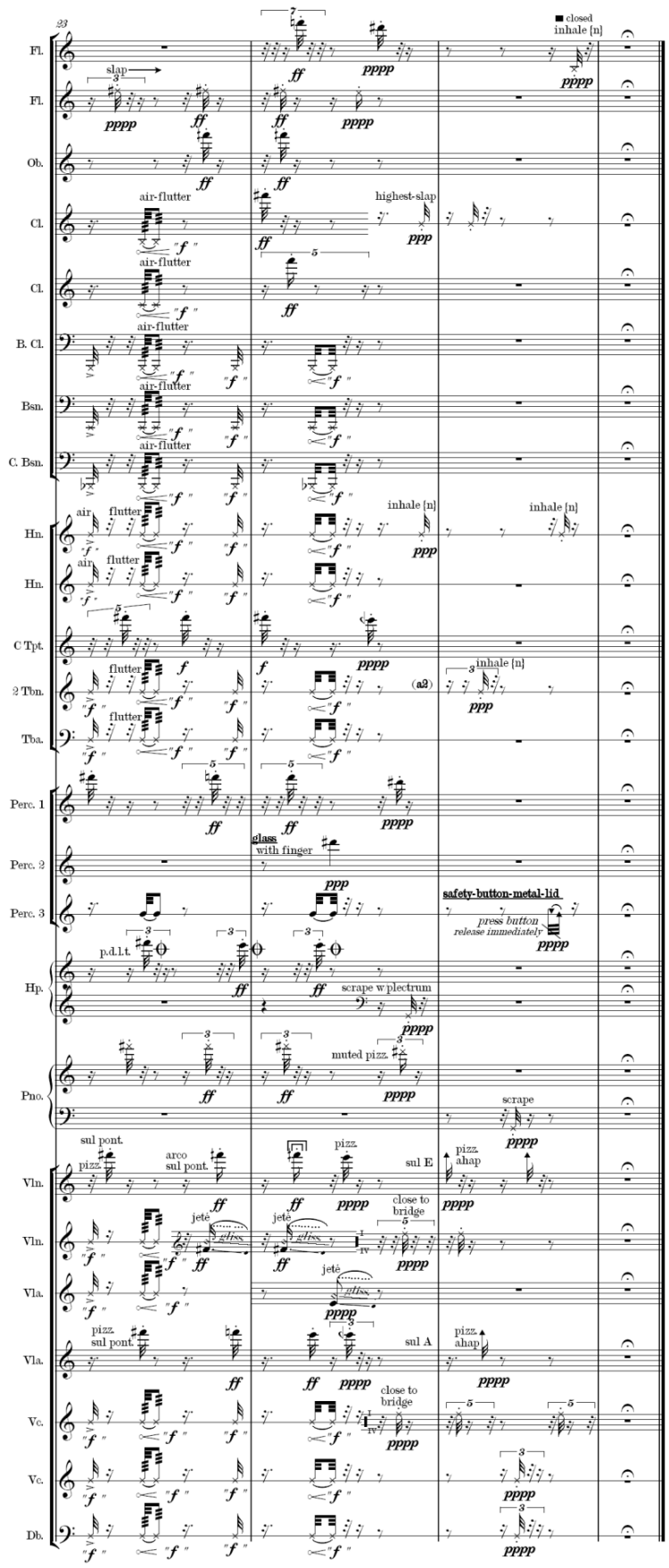


Figure 1.6: Pulsating surfaces in *Objects* (object L, bar 23-26)

1.5 Objects and Surfaces (theory-speculation of objects 1)

I mentioned earlier that objects become surfaces when back, middle, and foreground cease to function as such, meaning that when only foreground prevails, depth formation is eliminated and thus foreground becomes a surface. This in fact applies to all nano-objects – and therefore to any collection or series of them – as there are no layers aiming to function as middle or background, only as front. But, what then is the dimensionality of a sound-identity, of a nano-object, when depth dimension is gone? A nano-object can be considered as an object's surface and "surface is a space in itself"[20], therefore, mathematically, a surface can be understood as having any number of dimensions (i.e. surface of a circle = 1-dimension, surface of sphere = 2-dimension, surface of a hyper-sphere = 3-dimensions, etc.). Hence, I propose that the nano-objects (as surfaces), or in fact a series of nano-objects, can be said to 'plot' the n+1 dimension of the micro-object (or even the macro-object), meaning that these nano-objects *as surfaces* attempt to reveal a higher dimensionality through time. As a simplified analogy, this can be compared to wrapping a (2-D) paper around a globe, which then reveals a 3-dimensional object/shape. But my surfaces are closer to a broken paper or paper fragments of varying sizes which are then gradually 'wrapped' around a 'globe'. However, and importantly, a musical fragment thought of as surface can never be pinpointed as having two or any fixed amount of dimensions, but I can say that by trying to eliminate the depth dimension it is possible to 'squeeze' dimensions into the front or the foreground (a true nano-dimensionality). Furthermore, surface does not have to be considered as a surface *of* an object, meaning its exterior/front. It can also be thought of as – and this relates in general how I think about these objects (or palpate them) – having analogous workings of Deleuze's quasi-causal operator, of the slicing or sectioning operation, the "…nonsense of the surface and the quasi cause".[21] This is described by Delanda as "…recovering a full multiplicity from a partial spatio-temporal actualization".[22] I would like to invert that description as an equal analogy, i.e. recovering spatio-temporal actualization from a full multiplicity. Deleuze sometimes uses a geometrical characterization of this operation, where a slice of a 3-D object is a 2-D surface (Figure 1.7[23]), and the 3-D object itself a slice/surface of a 4-D object, etc.[24] This is the encounter of a manifold with another manifold of +1 dimension (simplified in Figure 1.8[25]). In this way my surfaces (former nano-objects) are, ideally, sections, slices, or even samplings, of a n+1 dimensional object (or of a full multiplicity) –

[20] Kline (1990), 882
[21] Deleuze, LOS (2004), 190
[22] Delanda (2005), 130
[23] Subias, J.L., http://www.didyf.unizar.es/info/jlsubias/IntrChao.htm [accessed 11.06.2011]
[24] Delanda (2005), 130
[25] Figure taken from: http://rose.bris.ac.uk/handle/1983/950 [accessed 11.07.2011]

but they are never of a fixed dimensionality and should (as a collective) as well, ideally, be dimensionally heterogeneous.

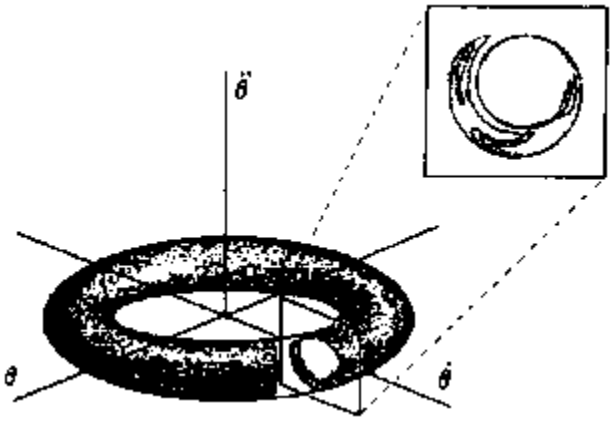


Figure 1.7: The slicing operation (2D slice of a 3D object).[23]

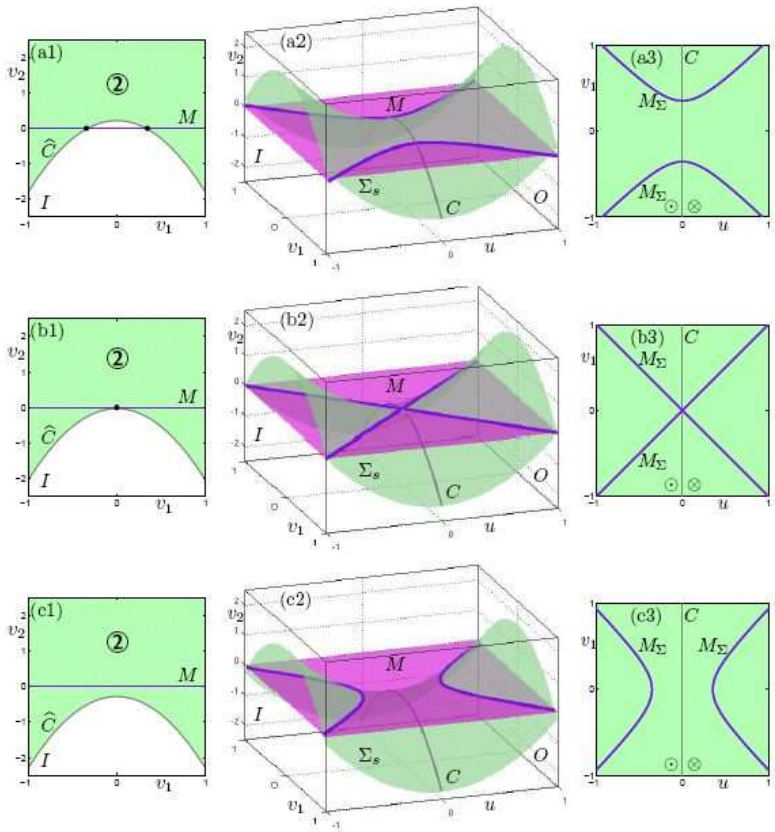


Figure 1.8: Manifold moving through a manifold of +1 dimension.[25]

Another surface concern relates to the senses, or surface as the realm of the hands: surface is what is encountered by tangibility. In the piece *Quanta* the use and the thinking method of the term object has been transformed, in a way, to that of surface or surfaces of imagined objects. Therefore, the music does not intentionally establish depth. The counterpoint and the polyphony involved render something else, or rather there is no counterpoint or polyphony (in the sense of

independence). This can be considered a shift (or rotation) in thinking from the optical (distance/depth/background) to the haptic (nearness/closeness/contiguity). Furthermore, a distinction between the sensual and the perceptual is necessary: “Perception is a secondary rational organization of a primary, non-rational dimension of sensation”.[26] Perception is in this respect responsible or required for the formation of depth, and perception is a conceptual abstraction, the abstraction of the sensual. This has been recorded by Marius von Senden in the case of blind people who were given sight by operation and experienced confusion of visual *sensations* within which they could distinguish neither shapes nor space. A patient "had no idea of depth, confusing it with roundness".[27] It is in *this* realm of sensations, i.e. prior to the perceptions, which informs how I consider these surfaces. I call it the decoupling of the perception/sensation nexus.

There is another important conceptual decoupling involved, which is the decoupling between the senses themselves, between ear and hand, hand and eye, taste and ear, etc., without hierarchy. This decoupling has formal consequences in my music and affected how I thought about form in *Quanta*, as each sense brings its own kind of tension. Whereas the music moves or shifts between surfaces and objects it can also be said to shift between senses, without perceptions, who encounter these surfaces in ‘their’ way. However, each sense is always imagined through another sense (a sort of modulation). One sense becoming the other: “…sight discovers in itself a specific function of touch that is uniquely its own, distinct from its optical function”.[28] In this respect, I endeavoured to render a haptic (or olfactory) encounter of the ear, the hand gaining an ear or vice versa: the imaginative touch-sound.[29] This relates to the non-depth approach mentioned earlier: the hand as a depthless instrument of sensation. Moreover, if the microscopic and telescopic possibilities of the visual are transferred to haptic space, then it is possible to speak about hands/fingers that are tiny and hands/fingers that are gigantic. Palpating with these differently sized ‘ear-fingers’ stimulates the imagination, one gains a different perspective *through* other senses. I could for instance imagine the olfaction features as if they were the tangible ones and engage in ‘listening’ to that.

This affects the imagination/thoughts as the above becomes the encounter/generator point of the imagination between, or engaged with, two directions, a fold – perhaps analogous to the critical point between liquid and solid (melting and freezing) or Deleuze’s “…a simultaneous too-late and too-early” [30], a point of pure becoming, a singularity. Because this idea must also invert or fold the function of the sensor, the sensor becomes a generator as well as a stimulator for the imagination.

[26] Straus (1935)
[27] Senden (1960)
[28] Deleuze, FB (2003), p.109
[29] Ibid.
[30] Deleuze&Guattari, ATP (2004), p.289

Thus, this decoupling and data-transference of the human sensory-system enables the imagination to encounter new sensations and simultaneously generate new ones.

1.6 Repetition and Perspectives (parallax, anamorphosis) (theory-speculation of objects 2)

Repetition as such confirms that nothing is alone. It is an active element of the multiple perspectives. There are two types of repetition: vertical and horizontal, often cooperating. Vertical repetition is what is here called a simultaneous-repetition; it is spatial, and has a strong relation to sound and physicality (see sound-relationships). Horizontal repetition is temporal and has a strong relation to difference; it can, however, function in a similar way as the vertical repetition, such as loops and cycles (habits). But, that which is being repeated horizontally are eventually events which are different: "it is only the strange which is familiar and only difference which is repeated".[31] In that respect difference has been applied to the horizontal dimension globally (or on a rough scale). There is also a further distinction between horizontal and vertical repetition, which has to do with properties. Horizontal repetition has extensive properties – that resonates with Bergson and Deleuze when they say that extensive properties are: "...divisible, unifiable, totalizable, organisable..."[32] – while vertical repetition has intensive properties. Deleuze says of intensive properties that they: "...do not divide without changing in nature".[33] That means that vertical repetition repeats an intensive property. In other words it increases the intensity, such as density, pressure or concentration, without 'countability', as opposed to extensity where an increase/decrease in size or volume is quantitative and therefore with 'countability'.

A form of repetition that makes use of, or engages, both types is what I call a perspective-repetition. Object L[34] from *Objects* is a good example of this. There, simultaneous-repetition (intensities) or intensive nano-objects are repeated horizontally with minor adjustments (extensity variance). These adjustments or modifications, both vertically and horizontally, collaborate in order to convey a moving viewpoint, as if another perspective on an object was slowly taking place (a moveable observer, or a moveable object). It is the same object, but it is another side or part which comes into or goes out of "view". (This relates to surface (manifold encounter Figure 1.8).) This subtle difference is useful as it creates suggestion, put differently, it suggests – as discussed earlier (1.5), it suggests higher dimensionality as well as different locations/perspectives. Furthermore, It could be said that this perspective-repetition suggest a virtual external object, where the encountered surface (that moment in the piece or surface-of-actuality) becomes the actuality within a lower dimensionality. Imaginary rotation/movement/displacement of that external-object, or if it

[31] Deleuze (2004), DR, p. 134
[32] Deleuze&Guattari (2004), ATP, p.37
[33] Ibid.
[34] See Appendix 1c for the first page of Object L from *Objects*

slides out of the surface-of-actuality, would then render difference on that surface-of-actuality (similar to Figure 1.8). This higher dimensionality is suggested in two ways, first by the intensity interweaving of the sound-relationships (as a vertical slice, interior fragment of the external object) and secondly by the subtle horizontal treatment (horizontal slice or the movement of the external object). Moreover, this suggestiveness is comparable to olfactory behaviour/function/sensation. One cannot smell a form or shape, only structure or ingredients[35], and moreover, one acquires it in bits and pieces, meaning bits are only as long as one can inhale (exhaling interrupts). Similarly, one cannot see a form if it is too big (e.g. the universe), one will have to collect all the bits – the same goes for the somatosensory system (touch). I imagine thus a blind observer who nevertheless has perspectives. As a result, these meeting points of different scales have a suggestive form, which is partly hidden.

The perspective-repetition, when seen more globally, can be compared to parallax (as mentioned earlier in 1.3), where objects appear differently (or even disappear) from different viewpoints because of their observer's or their own distance, placement or movements (Fig. 1.10[36]). Additionally, the perspective change can yield further difference as in this fascinating sketch (Fig. 1.9) by the artist Otto Beckmann, who also worked with the concept of 3-D shadows, i.e. a 4-D object generating a 3-D shadow[37], which relates to my ideas regarding a hidden/suggestive form or the external object.

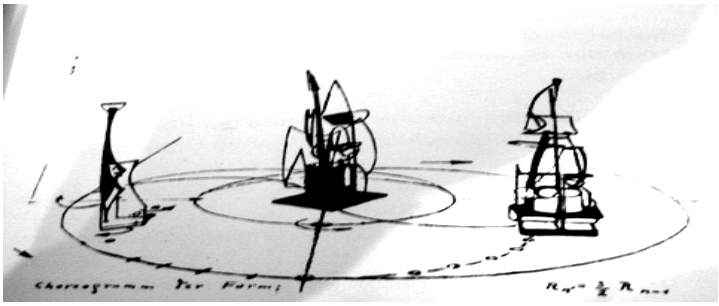


Figure 1.9: Object seen from three different viewpoints. (Peer (2008))

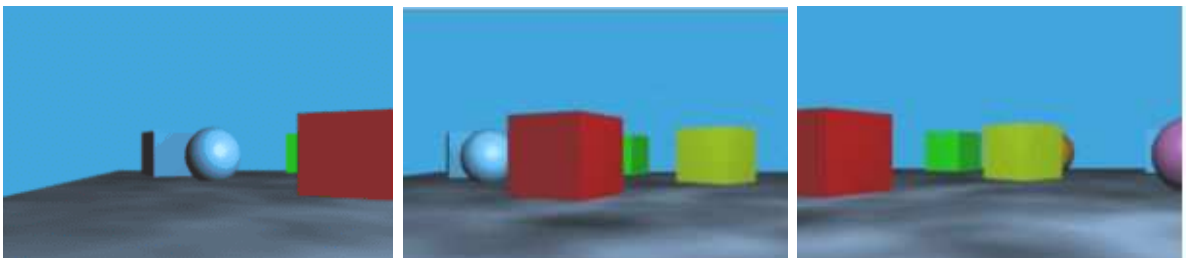


Figure 1.10: Example of parallax phenomenon (moving perspectives).[36]

[35] E.g. the structure of baking, i.e. gradually getting ready until it is burning. What is being baked can be registered by the olfactics, but not the shape or the form of the baked object.
[36] Image licensed under the Creative Commons Attribution 3.0 Unported license.
[37] Peer (2008), *Otto Beckmann: Zwischen Mystik und Kalkül*

To further my delineation of how these phase 1 compositions were imagined it is useful to picture a space with several objects placed on different locations with varying distances between them in all directions. Then take a viewpoint, a perspective, and extract the distance from that perspective (non-depth), from the viewer, creating a 2-D image of that view. Next, I move the viewpoint gradually or abruptly (depending on how globally we are) and observe the changes. In addition I grant this moveable viewpoint the possibility of a 'tunable' (i.e. size-tunable) laser-like scanning/sampling/slicing function, which creates internal slices of these objects (of different sizes) as well as transfers depth to the horizontal dimension, meaning that distance becomes a juxtaposition in time, a through-movement. Thus, what is imagined is a movement through the objects, along them and by viewing them from the distance. This is the attempt, or rather the approach. Furthermore, I like to consider this event in conjunction with anamorphosis.

Anamorphosis (meaning backward shaping) originated in the 15-16th century and deals with distorting the perspective (exaggerating visual angles), for instance an image will appear contorted from the front but from the right perspective (e.g. from the side) the real image will appear. This gives the image its own viewpoint (its peephole) and unless you find it you can never see the image without distortion. This can also be imagined in three dimensions where the right perspective is in the 4th. This is what happens with the tunable laser-like scanner/sampler/slicer on the parallax surface, meaning all the objects/surfaces have their own perspectives which are, in my case, not findable. Consequently, they remain contorted from all viewpoints available. Another analogy includes findable viewpoints, but since the viewpoints are multiple, there can never be a single viewpoint which observes all the objects correctly, meaning that while having the right perspective on a single object/surface all the others are contorted. Furthermore – for both cases applicable – there is the possibility to expand the contortion, this means taking the *right* viewpoint and expand it over greater area, i.e. including more objects in that view (tuning the laser accordingly). Then, when anamorphic viewpoint is taken, the contortion applies, or happens, to more objects (Figure 1.11[38]). The other direction is also fascinating, i.e. contracting the contortion – a *single* object contorted in multiple ways at multiple points/places, which can *never* be "seen" as a whole, or the whole it is supposed to be, from a single viewpoint (the object in Fig. 1.3a could be considered in this way).

[38] Heumann, Andrew: http://heumanndesigntech.wordpress.com/2010/03/23/anamorphosis-in-gh/ [accessed 10.07.2010]

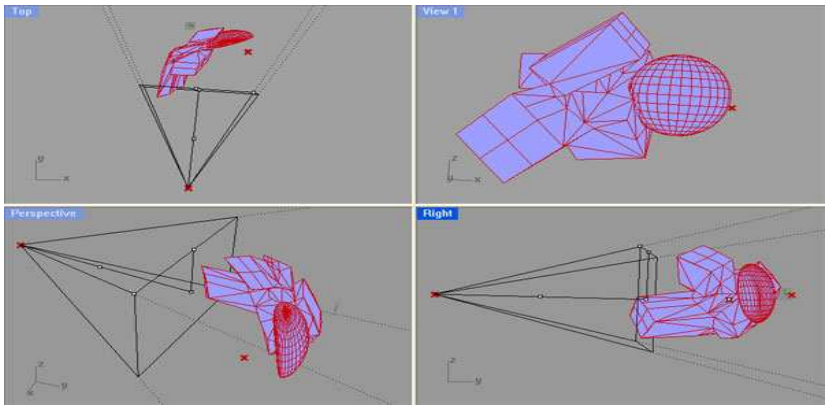


Figure 1.11: Anamorphic treatments of several objects. (Heumann)[38]

1.7 Precursors – brief outline of relevant composers

At the onset of my research my compositional thought, although influenced by many composers, was mostly focused upon three composers: Salvatore Sciarrino, Helmut Lachenmann and Brian Ferneyhough. Their impact can be accounted for in different ways and specific elements of their aesthetics will become further articulated or adopted for development during the compositions discussed in chapter 2 and 3. The following is a brief outline of their relevance to phase 1 and how these composers have stimulated me, or rather how certain general aspects of their compositional approach have influenced me.

First I should mention Sciarrino and Lachenmann and discuss how some general aspects of their compositions relate to the first phase, i.e. their impact on the domain of the sound-based composition, as opposed to pitch-based, timbre-based, etc. By pitch-based I mean compositions that use pitch as an important structural device and where pitch relationships are important; by timbre-based I mean where timbre has formal consequences, both the simple way such as strings vs. winds sections (or pizzicato vs. arco, etc.), as well as the more complex spectral aspects and timbre analysis. I understand thus a sound-based composition whereas pitch and timbre are not granted functional roles as such. Rather, sound complexes are prioritized, which can incorporate many different instrumental (extended) techniques and timbres (and occasionally pitches) in order to create a different sound experience. Moreover, this has connections with Lachenmann's idea of *musique concrète instrumentale* in the sense that sounds are the direct result of interacting materiality and physical actions and that those factors become equally or "at least as important as the resultant acoustic qualities themselves".[39] In that regard, the *encounter* between the performer and the instrument becomes a musical material: fingers/bow on strings, air through a mouthpiece, etc., and as such, musical materials become highly individualized or instrument based (idiosyncratic). This is

[39] Lachenmann interview with Gene Coleman (http://slought.org/content/11401/)

evidently the case in *Objects,* object M[40], where the string players disengage their bow and their only material is based on fingers sweeping over the strings, which is a certain focus on the skin encounter with the string.

In both Sciarrino and Lachenmann there is the urge to discover new sounds and new instrumental techniques[41], but more importantly, new sound *situations* or sound contexts. Accordingly, what stands out for me is the context or the situation the sounds are in, vertically as well as horizontally – that is the phase 1 catalyst for the search of new sounds/techniques. This can be said to have influenced the sound-relationship method in its approach to situate sounds together (vertically) in order to create a new *perception* of sound: "With conventional or unconventional sounds, the question is how to create a new, authentic musical situation. The problem is not to search for new sounds, but for a new way of listening, of perception".[42] In this regard, I understand sound-objects and put emphasis on the multiplicity that constitutes them, meaning that each sound-object should situate multitudes of sounds together in order to provoke a new perception of those sounds.

Furthermore, in Sciarrino's music in general, but especially in *Quaderno di Strada*[43] (for me, his most influential piece), I find occasions that may be denoted as sound-objects in isolation as well as sound identities, sound tendencies and certain obsessive gesture behaviours. This impact can be noticed in *Tendencies* where obsessive and repetitive gesture behaviour can be found throughout the piece.[44] The Sciarrino 'method' can be characterized by a long, repetitive, obsessive, thin and static passage, which suddenly is interrupted by something larger, a more complex but short sound phenomenon (see Figure 1.12). This interrupting sound complex left me with the impression of a sound-object, both because of its horizontal situation (short, interrupting contrast) and because of its vertical situation (multi-layered, multi-sourced). This becomes a structural aspect where the 'simple sound' is long and static while the 'complex sound' is short and dynamic. This structural consideration can be noticed in *Tendencies,* for example the first page of movement I and the third movement as a whole. Most importantly, this impact made me explore the meeting points of different and contrasting sound complexes, which resulted in me considering them as objects and exploring the possibilities of that idea. Thus, in later pieces such as *Objects* and *Quanta* the long/simple vs. short/complex aspect disappears and only the aspect of juxtaposing different and contrasting sound complexes as objects is what remains of the Sciarrino encounter.

[40] See appendix 1e for the first page of object M in *Objects*.
[41] See appendix 1a for instrumental techniques I developed during my research.
[42] Steenhuisen, Paul (2004), 'Interview with Helmut Lachenmann--Toronto, 2003', *Contemporary Music Review*, 23: 3, 9 — 14
[43] Sciarrino, *Quaderno di Strada* (2003), Ricordi
[44] Each movement has these features, see e.g. Appendix 1c for the first page of movement III, which demonstrates an obsessive and repetitive sound gestures.

Although I do not consider the pitch and rhythm organisational aspects of Ferneyhough's music influential I nevertheless must mention a particular passage that was influential in regard to the sound-object perspective. In the last bars of *Etude Transcendantales* I find something that may be said to constitute such an object property or a sound-object quality. There, increasingly shorter blocks are isolated by increasingly longer silences, whose results somehow emphasise or frame the object potential of a sound complex (Figure 1.13).

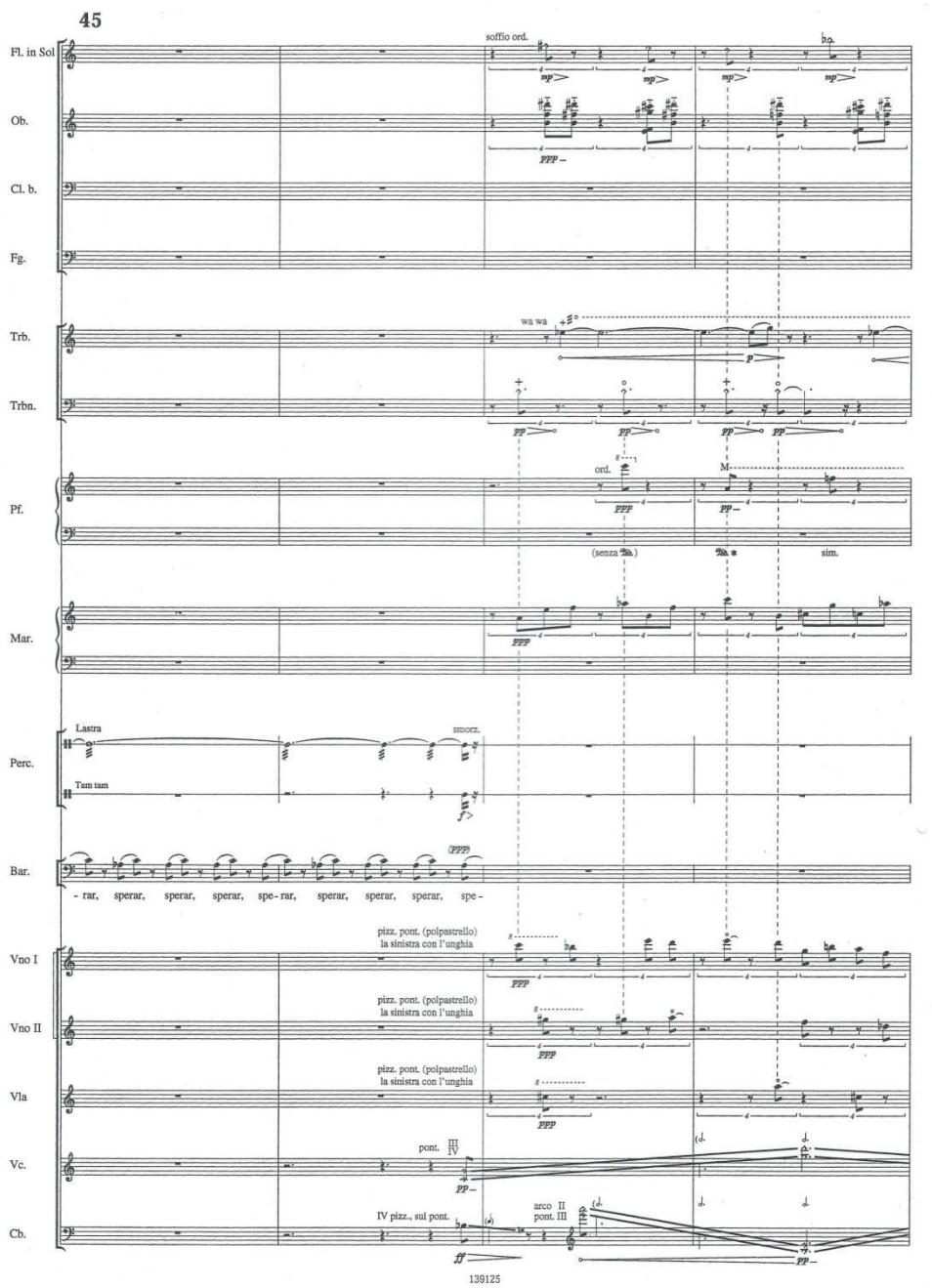


Figure 1.12: Sciarrino, *Quaderno di Strada* (2003), movement 5, bars 45-48.

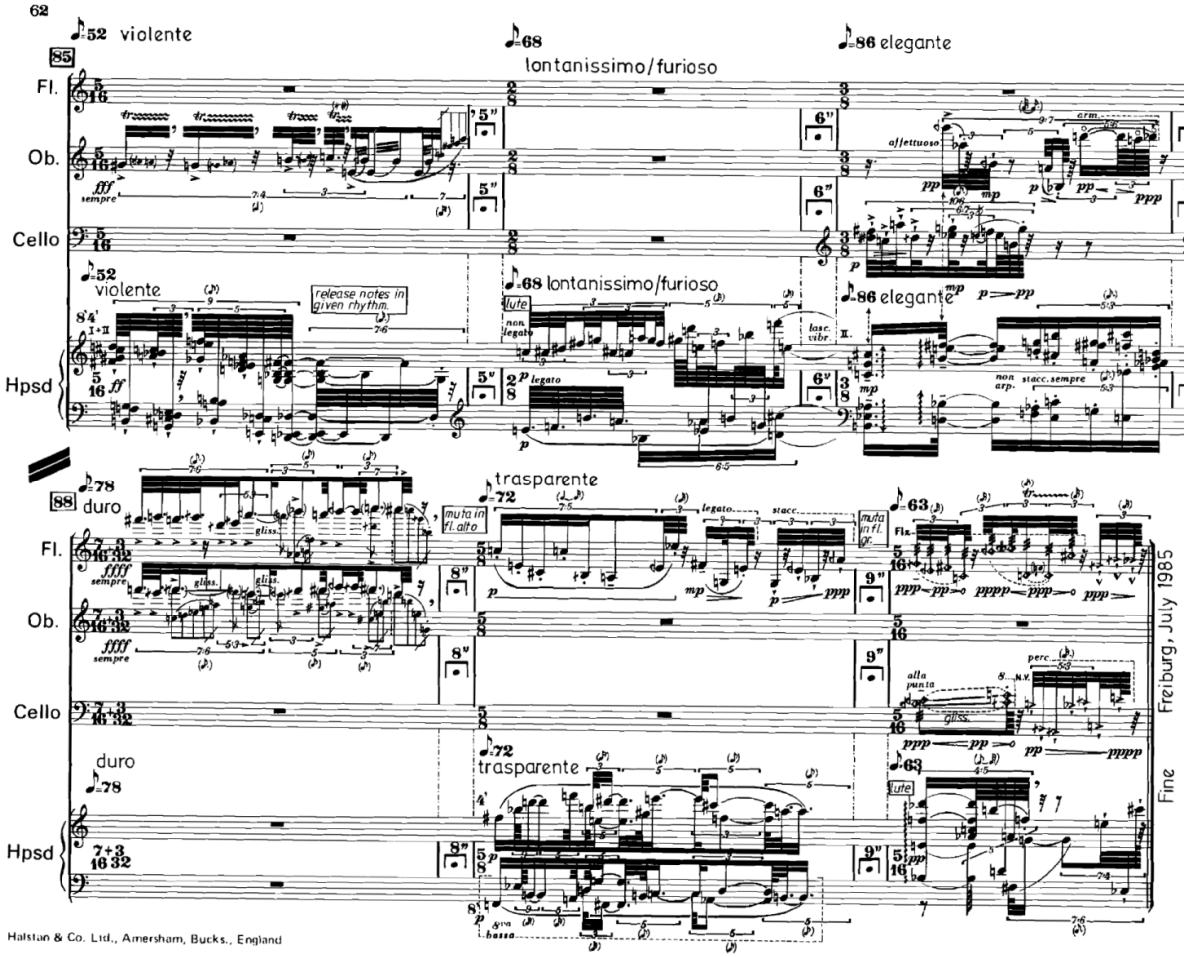


Figure 1.13: Ferneyhough, *Etudes Transcendantales*, movement 9, bars 85-90

Moreover, it can be said that in this fragment (Fig. 1.13) the complex multi-layering and the compactness of Ferneyhough's music is discretely presented in small isolated units, which nevertheless retain this complexity and compactness as if they were only a glimpsing surface of a multidimensional object. In that regard, this passage had an impact on the idea of the manifold encounter, that is, the encounter of the n+1 dimensionality discussed in 1.5. However, Ferneyhough's impact is definitely more in the domain of physicality and struggle, meaning the technical demand put on the performers (see later in this subchapter). These events or situations (snapshots) may be considered partially responsible for initiating the sound-object-quality focus prominently evident during phase 1.

Considering Lachenmann again, then there is another relevant important aspect which is hinted at during phase 1. That aspect is the physical aspect of performance, both the physicality of the performer and the physical 'data' of the instrument:

> "While musicmaking involves a generally very discrete effort in the production of a sound in the desired manner . . . I would like to attempt a reversal of this causal relationship: allowing the tone to sound in order to create an awareness of the underlying effort involved, both on the part of the performer and the instrument—that is, something like a deduction of the cause from the effect, which is in fact taken for granted with any everyday sound, and—this particularly appeals to me—is not dependent on how musical or educated one is. In this sense a form of *musique concrète*, with the fundamental difference that such music strives to integrate everyday sounds into musical listening, whereas I want to profane, to demusicalise whatever sound I might choose as a direct or indirect result of mechanical actions and procedures, in order thus to move toward a new understanding. Sound as an acoustic record of a highly specific expenditure of energy under highly specific conditions".[45]

This Lachenmann-ian idea becomes an important concern for the compositions discussed in chapters two and three, where the consideration of the mechanical actions behind sounds and the effort or the physicality of performance gains more foreground. But this idea is also partly present during the first phase. For instance, consider this string fragment in *Quanta* (Figure 1.14) where each performer is faced with rapid changes between different ways of applying the bow (i.e. down-bow (crosswise), sweep (lengthwise), twist, col legno and arco, etc.). This speed of change involves great physicality or physical effort and simultaneously focuses on the preconditions of sound as well as materiality (bow hair vs. strings) or the physical data of the tools involved (instrument and bow). Similar approach is found within the wind section, where rapid changes between air-flow (in/out), tongue activity (double-tongue or flutter, etc.) and other specific techniques such as sucking sounds, spitting and slapping are employed in order to focus on the physicality, technical mastery and materiality.

[45] Ruzicka, Peter (2004), 'Toward a New Aesthetic Quality. On Helmut Lachenmann's Aesthetics of Material', *Contemporary Music Review*, 23: 3, 97 — 102

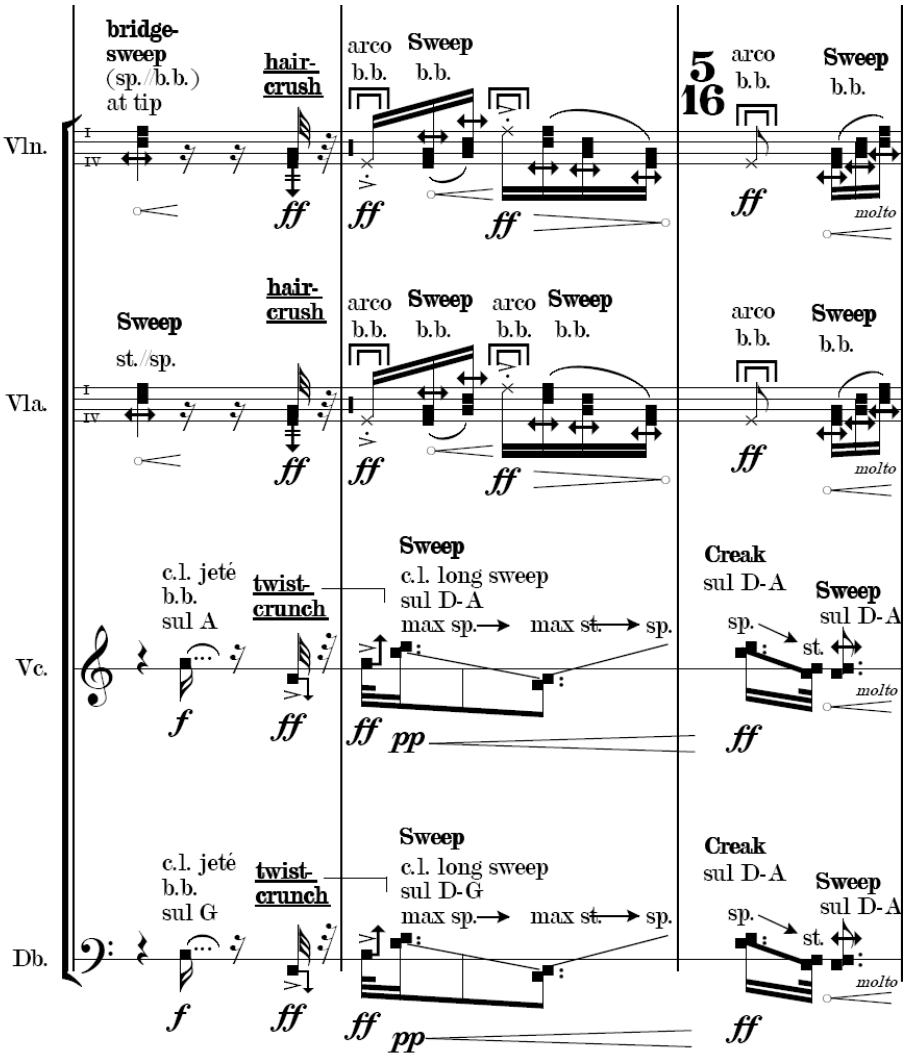


Figure 1.14: *Quanta*, bars 263-265 (strings only)

Another intriguing aspect appears when I connect Ferneyhough to the Lachenmann-ian concern, as his aesthetics certainly relate to the physicality of performance as well, but in a slightly different orientation and articulation. I consider Ferneyhough influential in the sense that he introduces a physicality that strives to construct struggle and intentional difficulty/complexity for intensification purposes, and on top of employing muscular/visceral physicality and technical demands, the aspect of the brain-physicality, the cerebral/concentrational aspect of performance, is investigated in his music. Ferneyhough's approach can thus be said to defamiliarize and intensify the performer with extremities of data and demand:

> "What is unfamiliar is, firstly, the unusual rapidity with which these elements unfold and succeed one another; secondly, the high level of informational density in notational terms;

and, thirdly, the extreme demands made throughout on the performer's technique and powers of concentration".[46]

This aspect has definitely been active during phase 1 especially in *Quanta* (e.g. the rapidity and the technical demands in Fig. 1.14) but will during the following chapters gain more weight. Furthermore, in terms of impact, what I find important in Ferneyhough's music is the exploration of rhythmic structures containing 'irrational' durational values (10th and 12th notes etc.). Those ideas will play a role in the development of a new fluctuating ('ungrounding') metric structure (developed for *Non-vanishing vacuum state* (2.3)) and relevant notation developed during phase 2.

1.8 Phase 1 Summary, problems encountered, transition to phase 2, precursors

During the first phase, my investigation has been sound-based. My compositional thoughts were rooted in sound, or motivated by sound types and sound complexes. Hence, sound has been my main source regarding organization, structure and form – the horizontal and the vertical. Sounds were used to create objects, sound-objects, and eventually sounds provoked a change in structural focus, i.e. the instability of certain sounds was considered extendible structurally, aiming to destabilize form and structure. But sounds also point towards the physical, the physicality of performance, and sounds as objects suggest different structural properties or qualities which have to do with temporality. Hence, my sound-based approach has gradually introduced three main trajectories and tendencies I wanted to explore further: the destabilization of structure, the structure/form which accommodates or approaches an object-quality (a quality without linearity, without opening-closure (beginning/end) properties), and lastly, the physicality background of sound.

The concept of 'extendible structures' is perhaps the most important one: the structure of sound can be extendible to that which organizes the sounds, viz. form. Similarly, I now wonder if a local vertical structure – the properties of the sound-relationships – can be extendible to a horizontal structure, or rotated in some sense and thus changing in nature. This would mean that the horizontal structure would gain an intensive property. When analyzing a sound-object (nano-object) constituted by the sound-relationship method I noticed that within that object, perceptually, one has difficulty identifying the amount of sources involved, and this was the very aim of that technique: to render something heterogeneously interweaving, intensive, folding and fluctuating, which would confuse the direct perception of its sources, amounting to a 'molecular' multiplicity both continuous and

[46] Ferneyhough/Boros, 'Shattering the Vessels of Received Wisdom', *Perspectives of New Music*, Vol. 28, No. 2 (Summer, 1990), pp. 6-50

heterogeneous (this could be considered the inkling of non-identity). This property or quality was only considered vertically (locally) but at the end of phase 1 I contemplated a possible horizontal interpretation, which would indeed somehow extend this structure horizontally, proposing a heterogeneously interweaving and fluctuating rhythmic structure and thereby activating something I call the 'eversion of objects' or the non-identity object. This instigates the exploration of a continuous multiplicity as opposed to the discrete multiplicity focus during phase 1.

Moreover, I came to notice that my object-treatment, or thinking in discrete objects (building objects as blocks and focusing on clear cuts, borders, juxtaposition, etc.) breaks this fluctuating quality of the vertical moment or what the sound-relationship method tries to convey, put differently, it takes the awareness away from the most local property, since it emphasizes the edges, the borders, juxtaposition and meeting points, rendering thus the 'objecthood'. This is the extensive quantity treatment (discretely extending) which yields a focus/awareness on the shifting of objects or extensive properties (as opposed to intensive properties), i.e. quantity, sizes and discreteness. After *Quanta* this kind of object focus/treatment – which is in fact an identity and fixity focus – is radically reconsidered. In short, phase 1 can be summarised as being against development/transformation (although confusingly engaged with them) but *for* identity and fixity[47], which resulted in some serious linearity and temporality problems on the macro level. Resultantly, I enter phase 2 with the mindset of revision – especially regarding the concepts of identity, fixity and linearity – and envision an exploration of a (global) *continuous* heterogeneity or a continuous multiplicity instead of a discrete one. After *Quanta* I therefore can speak of a turning point, a point of no return.

[47] The sound-relationships and the object-quality focus (objects as end/beginning-less) are essentially against development while the degree of symmetry acts as a confusing element; the objective treatment, or the juxtaposition of sound identities (working with clear block-like identities/objects/surfaces) exemplifies the fixity focus).

2. Phase 2 – Towards Non-Identity (after the point of no return)

[Phase 2 compositions:
Non-vanishing vacuum state, Negative Dynamics I(a/b), Repetition of Repetition]

2.1 Temporalities – problems and solutions

The problem I encountered at the end of the first phase in relation to the pieces made during that time was temporality. I had shifted from a multi-movement form to a single-movement form, exploring heterogeneity in the horizontal dimension, and developed a theory of objects in relation to this horizontal collection of object-identities and surfaces. The first phase can be summarized by the piece *Quanta,* as the result of the single-movement attempt. The problem encountered was thus related to the heterogeneous horizontal collection of objects/surfaces, and how they, the objects, interacted temporally, or rather how their temporalities (time-qualities) interacted and/or inhibited each other in different ways. Some of these problems were purely material (i.e. related to simple factors such as dynamics), others to their position, and still others to their character, activity or behaviour. Simply stated, some objects 'drowned' because they demanded something that was not

provided temporally – their lifespan was confused, meaning a proper duration was not provided – or because they were swallowed by a gravity field of another object. For a simple example, a ***pppp*** object next to ***fff*** object coupled with a too short duration for the ***pppp*** object 'drowned' that object perceptually.[48] Therefore, I started the second phase trying to solve this problem somehow, but the problem remained (at least in my mind) as long as I had any need for this *particular* heterogeneous horizontality. This is because the problem of temporality in general – and in particular this collection of objects I was working with – is also the problem of implication, functionality, development, hierarchies, of the return, the return of the similar, or simply the *noticeable* return, and therefore of past/future projections (through re-cognition of elements) – the macro-temporality. It is by depending on the previous which implies the subsequent. This was something I had tried to move away from initially with the multi-movement form but became an issue in *Quanta* because of the amount of returning material during the course of the piece. It was the problem of linearity, of narrative and eventually of chronology/timeline that I now wanted to question. Narrative or development in time, no matter how scattered or nonlinear in approach (as in *Quanta*), can always be identified.[49] It is the condition of the human brain to automatically 'storify', which is or has become – through this automatism – a sort of authority function or inertia of the human mind. One activity of art (and perhaps the only) is an insurrection against this sort of authority, to destabilize and inject a certain perturbation and intoxication into the world, "…to exult in … burning perplexities as a resource of becoming, overcoming, triumph, the great libidinal oscillations that break up stabilized systems and intoxicate on intensity".[50] "The effect of the work of art is to excite the state that creates art – intoxication".[51] Therefore we must (constantly) seek solutions.

A possible solution to the temporality problem above appeared during these wonderings in a realization that a single piece has to become, consist of, and envelope only a single object. A notion much related to Kramer's concept of vertical time where "a single present [is] stretched out into an enormous duration, a potentially infinite "now" which nonetheless feels like an instant" ... "the moment becomes the piece".[52] This, however, creates a new world of problems, the most intriguing one being the question: what is this new object? It is definitely not the same as any of the objects I had defined and worked with previously, but how does this second-phase object relate to these first-phase objects? Moreover, why is it a solution to the temporality problem?

[48] This perhaps is similar to the adaptation time needed for the eyes when entering pitch darkness after having been exposed to considerable brightness. The ears need this adaptation as well.
[49] See nonlinear linearity in Kramer (1981), 'New Temporalities in Music' *Critical Inquiry*, Vol. 7, No. 3, 554
[50] Land (2011), *Art as an insurrection*, 167
[51] Nietzsche (1968), *The Will to Power*, 434
[52] Kramer (1981), 'New Temporalities in Music' *Critical Inquiry*, Vol. 7, No. 3, 549

2.2 Two ways of knowing, the in-itself, The Singular(ity) Object (everted interior)

> "The point is that in the last resort *infinite representation does not free itself from the principle of identity as a presupposition of representation*".[53]

In Bergson's *Introduction to Metaphysics* he speaks of two ways of knowing a thing. First, the relative or the analytic way, the symbolic way, which depends on a viewpoint taken *outside* an object.[54] This way constitutes the phenomenon of perspectives, parallax, extension, juxtaposition and other 'outsiders'. Its temporality is divisible, sequential, arrowed and horizontal. The other way is "taken from no viewpoint", it is the within of an object, "inside it, in what it is in itself".[55] This second way is called intuition and Bergson applies the term 'absolute movement' to it. This absolute is far from static. It is pure flux or movement in itself. And pure movement/duration equals infinity, and "pure duration excludes all idea of juxtaposition, reciprocal exteriority and extension".[56] Its temporality is indivisible and vertical, it is the 'being of temporality'. These two ways of knowing relate as well to the concept of multiplicities; the discrete or quantitative multiplicity (first way), characterized by juxtaposition, and the continuous or qualitative multiplicity (second way), characterized by fusion and interpenetration.[57]

These two ways resonate very well with my project. The first way describes perfectly the first phase, and the second way became my approach during phase 2. In the first phase I dealt with perspectives and objects 'sensed' from outside themselves, establishing a multiplicity of objects (discrete multiplicity) with different qualities, juxtaposed in the landscape of interconnected multisensory perspectives. This 'relative' approach greatly influenced each object and how they were composed. Basically they were rather static as such (fixities), but they were also supposed to be that way since the movement/change was added separately, or resulted from juxtaposition, instead of being integral to them. These objects were snapshots, point of views, surfaces (although not necessarily flat), engaging the 'analytic way' as an approach to the infinite: "analysis multiplies endlessly the points of view in order to complete the ever incomplete representation".[58] They had a type 1 identity, firmly grounded. Now, the second phase has an altogether different approach to the infinite, namely through the exploration of pure movement and a continuous multiplicity. If I take an object from phase 1 it follows that in order to move it into phase two (the 'transition') I would have to go inside it, but not only that, I have to try to bring about the *in-itself* quality of an object, its pure

[53] Deleuze (2004), D&R, 60 (italics in original)
[54] Bergson (1992), *Introduction to Metaphysics*
[55] Ibid.
[56] Ibid.
[57] Bergson (2008),Time and Free Will, 121-128
[58] Ibid.

movement/duration, its intensity. (This sort of 'transition' is almost directly attempted in *Repetition of Repetition,* 2.5). This is not an easy objective (and perhaps unattainable). Nevertheless an attempt has to be made. I developed different approaches to this endeavour, namely three actual pieces – *Non-vanishing vacuum state, Negative Dynamics I(a/b) and Repetition of Repetition* – each accompanied with different conceptual/theoretical frameworks, which all more or less support and build on this 'second way of knowing' according to Bergson. Before moving on to these pieces I have to address how the second way/phase deals with, or obliterates, the temporality problem.

Take a single (nano-)object from phase 1 and make a piece out of it. This would result in a very short piece and would indeed solve some elements of the problem. However, it would remain a snapshot, although free from past/future projections and implications perhaps, and even narrative, but not necessarily linearity. This approach has been developed (and I dare say perfected) and demonstrated wondrously by Kunsu Shim in his *chamber pieces I-III*, where a successful dip into pure movement/duration is accomplished.[59] But, although my phase 1 objects could perhaps be adjusted to reach a similar effect, I wanted to try a different, more dynamical, approach. A solution, or a proposition, to the temporality problem could be formulated thus: *perpetuate a continuous, uninterrupted flow or movement whilst keeping direct contact between beginning and end* (which annihilates these concepts, "…none of them do begin or end; they all dove-tail into one another"[60]) *and effectuate a change, or difference, to each moment without losing identity*. This resolves any implications, functionality and hierarchies as there is no space which opens up for projection. The undividable continuity never breaks and therefore fixities or 'discretenesses' (triggers of projection, memory, implications, etc.) are not formed, but an active and occurrent sensation is perpetuated throughout. Each moment should be different but somehow the same at all times, containing all previous moments, a stream without instants, annihilating (distinct and discrete) pasts and futures, a chain of ands (and…and…and…) without pointing, a pure 'and'.

The last part of the above proposition (*without losing identity*) is a tricky one as it involves the concept of identity. But, what kind of identity does this second-phase object constitute and what is this identity I should not lose? It is in fact *non-identity*, the identity (and object) that cannot be represented, as it is not static, discrete fixity. Deleuze heavily criticized the traditional concept of identity for the reason that it creates an image (fixed, static, ground) which is used for representation, and for this representation to take place something must be identified, and what is more, something is re-presented (presented again) as just another instance of some original. But, for Deleuze "representations do not correspond to anything in reality" because "all things are …

[59] These pieces take only a moment (or ca. 3'') and each element is within motion, e.g. glissandi, without fixed starting or end point, which forms this 'pure movement dip' effect in my opinion. Shim (1994), *Chamber Pieces* (Nr. 1, 2 und 3) for ensemble.

[60] Bergson (1992), *Introduction to Metaphysics*

unidentifiable processes of becoming".[61] Furthermore, "the world of representation is characterized by its inability to conceive of difference in itself".[62] Difference-in-itself opposes any original and places all things as un-grounded in difference, "it makes us party to a universal *ungrounding*".[63] Therefore, the 'in-itself' of any object is difference-in-itself, or equally, pure movement: "difference is internal to the Idea, it unfolds as pure movement".[64] Thus, to speak of identity may seem out of place as Deleuze insists, but "it is not that difference, too, must have an identity, but rather that density is the identity of difference, and nothing besides".[65] I call this non-identity; it renders the singular(ity) object (black hole) or the everted object.

The solution to the temporality problem necessarily becomes about pure movement/duration (pure difference), or rather, "it is a question of making movement itself a work, without interposition".[66] I nullify moments (and discreteness), as moments are fixities, type 1 identities, and thus I can now reformulate Kramer's description of vertical time, "the moment becomes the piece", like this: 'the *movement* becomes the piece', or 'the difference becomes the piece'.[67] However, Kramer's vertical time is structurally relevant as well, especially concerning 'nonteleology', namely the "absence of implication, hierarchy and contrast", where "expectation, cause, effect, antecedents and consequents do not exist", rendering a "form [which] consists of relationships between ever-present layers of dense sound worlds".[68] This, in conjunction with Bergson's pure movement/duration and Deleuze's difference-in-itself, I will use as my splitting backbone, an important ingredient, a stimulator, in my attempt to approximate a continuous multiplicity. "The elements of this second kind of multiplicity are particles; their relations are distances; their movements are Brownian; their quantities are intensities, differences in intensity".[69]

2.3 Non-vanishing Vacuum State[70]

In this piece, as in all others, I make a multi-stratum theoretical framework, a synthesis of conceptualizations. I then scan, sample and slice that concoction-theory arbitrarily as well as continuously while I act and parallel to my actions, intoxicated by it. With force I thrust these actions

[61] Parr (ed.) (2005), *The Deleuze Dictionary*, 125
[62] Deleuze, D&R (2004), 174
[63] Ibid., 80
[64] Ibid., 26-27
[65] Land (2011), 277
[66] Deleuze, D&R (2004), 9
[67] I am not aiming here to compare Deleuze's difference with Kramer's vertical time, but simply to focus the choice of words from 'moments' to 'movements', in order to point to a different starting point.
[68] Kramer (1981), 'New Temporalities in Music' *Critical Inquiry*, Vol. 7, No. 3, 550-551
[69] Deleuze&Guattari (2004), TP, 37
[70] Non-vanishing vacuum state (2011), for bass-flute, bass-clarinet, trumpet and cello

in between science and philosophy. “The poet makes himself a visionary by a long, immense and rational deregulation of all the senses”.[71]

2.3.1 Two vacuums, two rhythmic grounds

I start with the vacuum. In classical physics the vacuum is the ground state, it has zero energy and contains nothing (no particles). However, the *quantum* vacuum, the modern vacuum, explored through the Quantum Field Theories, is an active state and far from empty (although without particles as well) and ‘expresses’ uncommonly complex ground “for even in the ground state there is some motion, there are ‘jigglings’ in the x coordinate – called zero point vibrations, or zero point oscillations”.[72] It has an instability structure. I would like to compare these two conceptions of the vacuum with the philosophical concepts of identity and difference as similarly two different ground states. Identity is then analogous to the stable zero ground (classical vacuum) and difference (the one which interests me) analogous to the unstable non-zero ground (quantum vacuum). Furthermore, the quantum vacuum is considered as a field “executing random fluctuations”[73], a system capable of “virtual states”, meaning it is “‘virtually’ in any of the states”, and “having some kind of ‘potentiality’”.[74] This capacity, or property, amounts to pure movement/duration, and effectively dismantles the temporality problem.

This structure (behaviour) is simulated, or employed, in the piece *Non-vanishing vacuum state* by the twofold rhythmic structure. On the one hand the structured multiple-circulation of material – the so-called cogwheel-plexus – and on the other the structure of the ‘rhythmic ground’. As I have discussed, there are two types of identities and vacuums, and similarly I propose that there are two types of ‘rhythmic grounds’. The first one, the traditional and metric, rests on a stable and fixed ground; the second, non-metric, rests on an unstable, unsettled, non-euclidean, nomadic and undecidable ground – the ‘ungrounding’ (Figure 2.1).

[71] Rimbaud (1986), *Collected Poems*, 10
[72] I.J.R Aitchison, ‘Nothing‘s plenty - The vacuum in modern quantum field theory’ *Contemporary Physics* vol.50. No.1 (2009), 261-319.
[73] Ibid.
[74] Ibid.

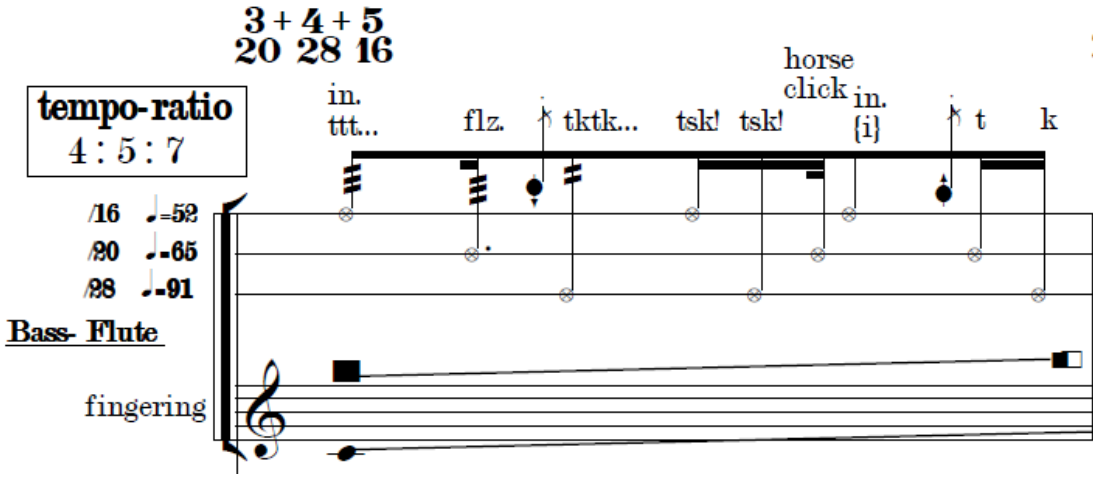


Figure 2.1: Non-metric or 'ungrounded' rhythmic ground.

Now, because of practicality, I have only managed to construct a *semi*-ungrounded rhythmic ground, meaning that my ground has in fact three fixed grounds or three tempi *simultaneously* (see Fig. 2.1, upper staff containing three lines, each with its own tempo with the ratio of 4:5:7, resulting in a ground based on 16th, 20th, and 28th notes). It renders therefore, on paper, merely an approximation to 'ungrounding'. But, as a whole, and in effect, it is unstable. On this ground I place the rhythmic material which then warps accordingly. I use the term non-metric in the sense that measures/bars become only containers of durational values not stipulating any order of durational values, thus there is no metre or common beat attached to the time-signature (as in 1,2,3, etc.), the values can appear in any order and there is no underlying 1st or 2nd beat fixities etc. (the 'non' can be best understood as in non-euclidean). This also eliminates tuplets and any *even* distribution patterns.[75] Furthermore, I need to emulate the 'virtual states' function, i.e. being partly in each of the states. This is done by the cogwheel-plexus, Figure 2.2:

a1-b1-c1-a2-b2-c2-a3-a4-b3-c3-b4-a5-b5-b1-c4-c5-b2-a1
a3-a4-b2-c2-b3-a5-b4-b5-c3-c4-b1-a1-a2-b2-c5-a3-b3-c1
a4-b3-b4-c4-c5-b5-a5-a1-b1-c1-a2-b2-c2-a3-a2-b3-c3-b4
c5-b5-a4-a5-b1-c1-a1-b2-c2-a2-a3-b3-c3-b4-a4-b5-b1-c4

Figure 2.2: The cogwheel-plexus (first cycle), demonstrating that each state is present at different times. (The colours map out some of the paths: a1 & a5, b2 & b3, c1 & c5)

The same basic material (a1-5, b1-5, c1-5, each consisting of 3 bars, thus a1-5 = 15 bars[76]) is differently split into four different stripes or rows (one for each instrument) as seen in Figure 2.2, which effectuate a constant vertical-horizontal repetition of the material, simulating the Bergsonian

[75] It is "impossible" (although interesting) to put a triplet (even distribution in 3) over a whole such bar, as we would end up with truly irrational durational values, i.e. transcendental numbers such as π.
[76] See Appendix 2a for the 'raw' version of this basic material.

structure of "…none of them do begin or end; they all dove-tail into one another"[77], meaning the same materials are continuously shifting between instruments, thereby rendering a certain interpenetration and a continuous unique alteration (difference) to the present state. Figure 2.2 shows the first section/cycle of the piece and how the materials are constantly shifted between parts, continuously fluctuating. Later in the piece, during section 3, this first section is twisted, compressed, and stretched per part and as a whole (I will come back to that in 2.3.4). This constitutes the ungrounded pure-movement stratum or the non-identity as instability approach.

2.3.2 Instability, physicality, separation, non-relation and pure effort/struggle

Another important stratum is the instability-physicality function. I endeavour to stretch the instability of the rhythmic structure, or rather instability itself, through and through, into the physical, the tactile, and even beyond, into the biological or physiological, the proprioceptive area. This is done by assigning to the rhythms specific physical instabilities, which are developed through schizoanalysis or disjunctive physicality. I separate and then separate again, and again… I make a function out of separation and instability: f(x)=intensify/destabilize/'ungroundify'. I then loop it, or better, *fractalize* it. In this respect, I dismantle (ideally without end): the mouth, the tongue, the fingers, right & left, in & out, tendons and joints ("always decode, chatters schizoanalysis; believe nothing, and extinguish all nostalgia for belonging").[78] "Occidental ontology is threatened by a *violent movement of scission*, and one that does not come from the subject, but from the body".[79] All strata must become saturated in this manner. This is the theory; the practice struggles to keep up. However, the score/notation demonstrates this separation-function by separating staves, individualizing fingers, making a multiplicity out of the mouth and its airstreams (in/out), and by a twofold time-space, i.e. the non-metric 'space' (mouth) and the graphical 'space' (fingers), which are *forced together by separation and struggle, or pure effort*. This needs further explanation. First it should be noted that by employing a non-flat, non-euclidean or the triple split rhythmic ground (the threefold tempo staff) it consequently becomes necessary to separate the rhythmic information from any other information since the rhythm cannot be superimposed onto another staff (as is usually the case with the 5-lined pitch staff, etc.). Thus, this forces me to use another staff/space for the finger material, namely the graphic 'space'. But the graphic 'space' is attached to the non-metric 'space' through scission not unity, their relation is complex, or non-relational, not straight or clear but confused. They form a "being-separated", a separation that does not form two, a "unilateral duality ... a *being-separated* without which there would have been a sectarian operation … but radical or immanent, a Separated-

[77] Bergon (1992), *Introduction to Metaphysics*
[78] Land (2011), 264
[79] Ibid. (my emphasis)

by-immanence".[80] Furthermore, the graphics are occasionally non-affecting, i.e. they manifest actions in a non-affecting, non-resultant, non-relational manner (indirect), a certain in-itself-ness, the silent intensity. This means that their actions are not intended to affect the sonic-result, or be sonically based, but instead intensifying-based. In Figure 2.3 this is demonstrated; see for instance the trills along with the gradual opening (lowest line) which continues through the silenced mouth (the '8th' silence) and the half-opening (3rd finger) at the end of the bar during the '20th' silence:

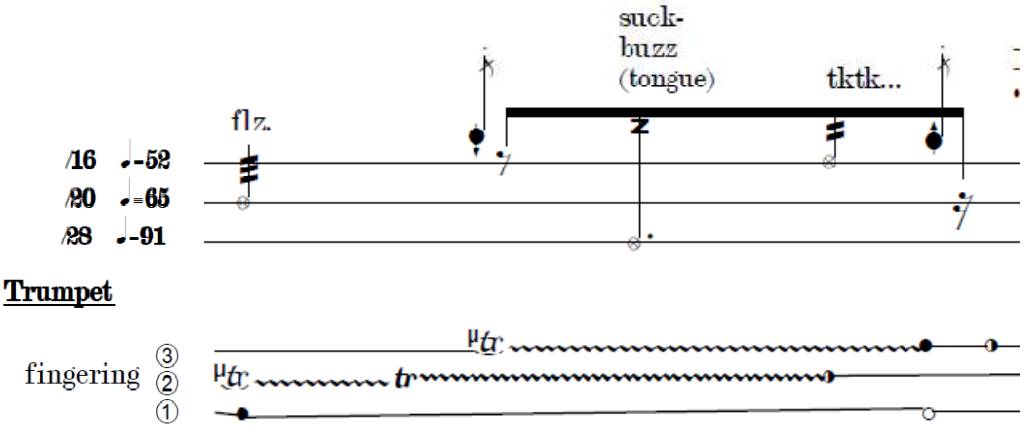


Figure 2.3: Non-affecting, non-resultant, non-relational aspect of the graphic space (fingers) with regard to the rhythm space (mouth). (Trumpet fragment bar 17)

The graphics also occasionally manifest 'outsiders' movements, movements according to the first way of knowing (Bergson, 1992), movements which do begin and end (or at least try) or movements between two points (e.g. in Fig. 2.3 the 1st finger from closed to open) – molar properties, modes of being rather than becomings (Deleuze). However, these molar-movements are captured and enveloped in their non-relation with the non-metric 'space', which warps these movements and/or injects an effort of destabilization or schizoanalysis into them. In this regard, in some portion of the channel of their indirect relation, an effort forms to fix or stabilize the ungrounded (non-metric) and at the same time destabilize the grounded (graphics) (Bergson's 'second way' (intuition) meets the 'first way' (analytic) and vice versa). This performs the non-identity of schism or "the Identity-without-unity"[81], and demonstrates the eversion of elements, the multi-everted object.

Moreover, this 'system' demonstrates a certain pure-form isolations: difference without 'between', effort without 'towards' and struggle without 'for' – bound but unbound, immobilized mobility or 'catatonic' instability. I think of Giacometti in his attempt to isolate movement as a stable instability, where the surface squirms and the movement is catatonic, distanced, locked yet unlocked in the figure: "From mere space Giacometti therefore had to fashion a man, to inscribe movement in

[80] Laruelle (2010)
[81] Laruelle (2010)

total immobility, unity in infinite multiplicity, the absolute in pure relativity, the future in the eternal present, the loquacity of signs in the tenacious silence of things".[82] There is no better medium for movement than sculpture. All this is a matter of intensification: "intensities presuppose and express only differential relations"[83], and "intensities are at once clear and confused. They are clear insofar as they are enveloping and confused insofar as they are enveloped".[84] Similarly, and conclusively, I can simply say that this relation between the non-metric-space and the graphic-space is intensive. Lastly, I compare this structure/phenomenon with a dream I had where an image was fixed upon my eyes; what I was seeing was non-changing, and even though I opened and closed my eyes, moved my head, and moved about, there was nothing that would change the image or the perspective I had on it. It is this instance, a non-relational, non-resultant instance, of moving one's head/position without renewing the visual information, which constitutes a dynamic, intense stable-instability.

2.3.3 Effort space and attractors

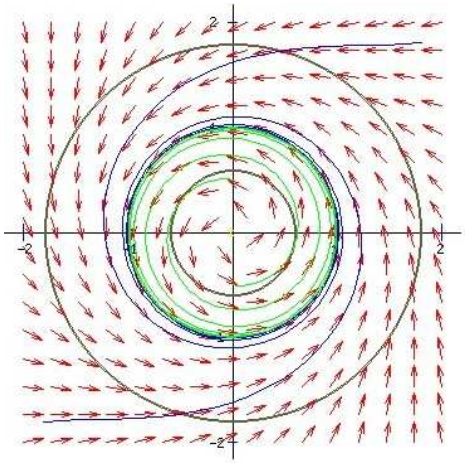
In the work of Evan Johnson there is something similar to the isolation of effort mentioned earlier. Johnson says that his "work finds its place in the juxtaposition of extremities of effort; physical, interpretive and cognitive – for the performer, listener and composer". Furthermore, he speaks about "distorting the relationship between effort and result".[85] This is what he calls the 'waste of energy'[86], because a large portion of this effort does not result in actually being received (non-resultant): "I am much more interested in situations where there is an insuperable gap between what the performer sees, experiences, and projects and what the audience receives".[87] This has connections to the non-affecting material of the graphic-space mentioned earlier and necessarily emphasizes a different ideal notation. Thus, I concur with Johnson when he states that "the ideal notation, for me, is not the most 'transparent', the most recuperable by an ideally perceptive audience".[88] This 'permits' the often impossible/ambiguous and suggestive notation, and here the reason is namely the isolation of effort, i.e. the effort without 'towards', and in order to achieve this isolation on this performer stratum these notational difficulties or (near) impossibilities are needed, or equally some non-affecting material that does (only) affect and interact with this 'effort space', therefore affecting the performer in an *intensifying* way. Moreover, I employ another related method used by Evan Johnson, which is his treatment of dynamics, where a dynamic pull (or gravity) is established for an entire piece or a large section of a piece (see e.g. *Apostrophe 2 (2009)*). There,

[82] Sartre (1993)
[83] Deleuze (2004), D&R
[84] Brassier (2010), 172
[85] Evan Johnson (2010), Lecture at University of Huddersfield, November 17, 2010
[86] Ibid.
[87] Evan Johnson (2010), Interview with Tim Rutherford-Johnson
[88] Ibid.

instead of using absolute dynamic levels a dynamic attractor is engaged. This results in 'dynamic curves' within the effort space, since *each* performative task is pulled towards this prevailing dynamic level/attractor. This brings us to the terminology of nonlinear dynamics.

2.3.4 Nonlinear dynamical systems

The piece *Non-vanishing vacuum state* is divided into three sections. These sections are imagined as different areas/regions within a nonlinear dynamical system.[89] "In a nonlinear problem of any complexity, there will usually be a multiplicity of competing attractors, and a number of repellors and saddles".[90] First I will focus on two main attractors in the dynamic stratum. The first and second section make use of a stable dynamic attractor (the ***ppppp***-pull), which render instabilities as differentiated difficulties arise in the effort to 'achieve' the vicinity of the attractor. This attractor can be considered as a stable limit cycle, "…namely a steady closed oscillation that attracts all adjacent motions. To get a single stable limit cycle it is necessary to ensure that the origin (0,0) is unstable so that trajectories of small amplitude move outwards, while ensuring at the same time that trajectories of large amplitude move inwards" (Figure 2.4).



[91]

Figure 2.4: Limit cycle, an attractor with unstable origin (0,0), where small amplitudes move outwards while large ones move inwards.

[89] Here 'dynamical system' refers to the mathematics/physics of dynamical systems
[90] Thompson & Steward (1991), *Nonlinear Dynamics and Chaos*, 68-69
[91] Figure taken from: http://www.egwald.ca/nonlineardynamics/limitcycles.php

Many paths are thus possible around this attractor, depending on the nature of the active sounds/techniques (i.e. if they are naturally soft or loud). The third section employs an unstable dynamic attractor that envelopes all other information/movements and renders instabilities often of an opposite kind from the previous one: difficulties/efforts in the pull of a gentle/soft natured sound to ***fff***. Furthermore, this attractor is a multiplicity, a strange/chaotic attractor, as exemplified by the strings of dynamics (***pffppfpfpffpfpffppfp***), which by their instability 'multi-split' a single sound/gesture, a 'movement of scission'. This second attractor (Figure 2.5) separates, stretches and folds all trajectories *ad infinitum* (in theory): "the repeated formation of beaks which stretch to form wings and fold back onto the core causes mixing of trajectories ... in principle, the attractor contains an infinite succession of layers within layers ... as a result of the infinitely repeated stretching and folding of the bundle of trajectories, the chaotic attractor must have a *fractal* structure".[92]

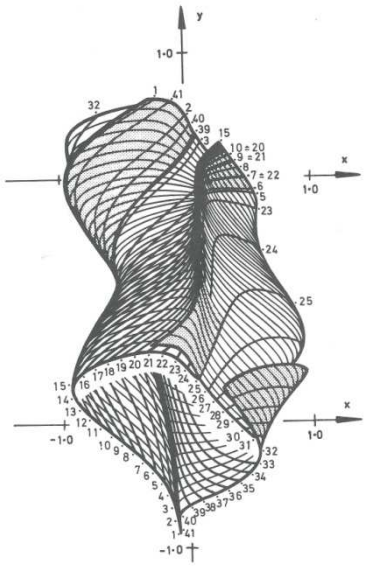


Figure 6.7 Trajectories of the forced Van der Pol equations (6.7) are mixed by stretching and folding on the attractor [93]

Figure 2.5: Strange/chaotic attractor, used in the third section of the piece. (A fragment of the torus (Fig. 2.6) after being seized by a strange/chaotic attractor)

[92] Thompson & Steward (1991), *Nonlinear Dynamics and Chaos*, 94 (italics in original)
[93] Thompson & Steward (1991), *Nonlinear Dynamics and Chaos*, 90

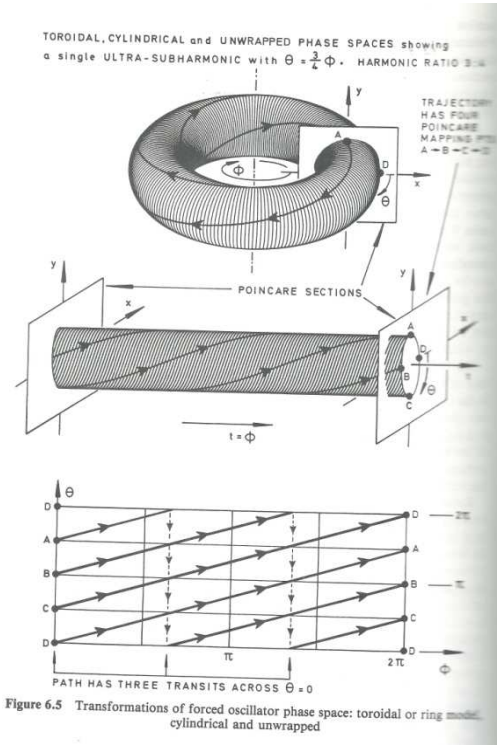


Figure 6.5 Transformations of forced oscillator phase space: toroidal or ring model, cylindrical and unwrapped [94]

Figure 2.6: Torus attractor, similarity with the cogwheel-plexus method.

The rhythmic structure – viz. the cogwheel-plexus mentioned earlier – can also be considered in the context of nonlinear dynamics (dynamical systems). As I said earlier, the cogwheel-plexus splits the same basic material into four different rows and repeats them, or circulates them, vertically and horizontally (Fig. 2.2). Another characteristic of a strange/chaotic attractor is that the same 'cycle' is never repeated – the initial state is never reached again. This characteristic is used structurally in the first and third section of the piece. However, a different attractor is used in the third section, namely a chaotic attractor, which results in separations, stretching and folding of the material from section one. This corresponds to the attractor used for the dynamic layer in that section. The first section, however, functions as a semi-torus attractor, where the material follows similar tendencies as seen in Figure 2.6 (although not so simple), namely movements of a horizontal and vertical nature, forming a complex cycle which is always different although repetitive. Now, the third section simulates the strange attractor which seizes this semi-torus (section 1) and performs the mixing of trajectories on it, whose results can be seen in Figure 2.5. This is done 1) rhythmically, by manipulating certain bars, stretching partially certain durational values while compressing others (see Figure 2.7 for a simple example of stretched values) and by rotating values in the sense that values within the top line (16th notes) shift to the lowest line (28th notes), the lowest line to the middle, etc., and by a simultaneous backward and forward iteration of the first cycle's material

[94] Thompson & Steward (1991), *Nonlinear Dynamics and Chaos*, 92

(section 1), which results in overlapping and fusion of elements within that first cycle – the cogwheel-plexus table (Fig. 2.2) thus transformed in the line of Figure 2.8; and 2) dynamically (as seen before), with multi-scaled unstable dynamics (forte/piano changes vary from 2-3 to 20-30 per bar), i.e. the whole third section is 'attacked' by an unstable fractal dynamic force operating as the strange/chaotic attractor (see Fig. 2.7, bar 94 demonstrates this 'fractality' in the dynamic layer).

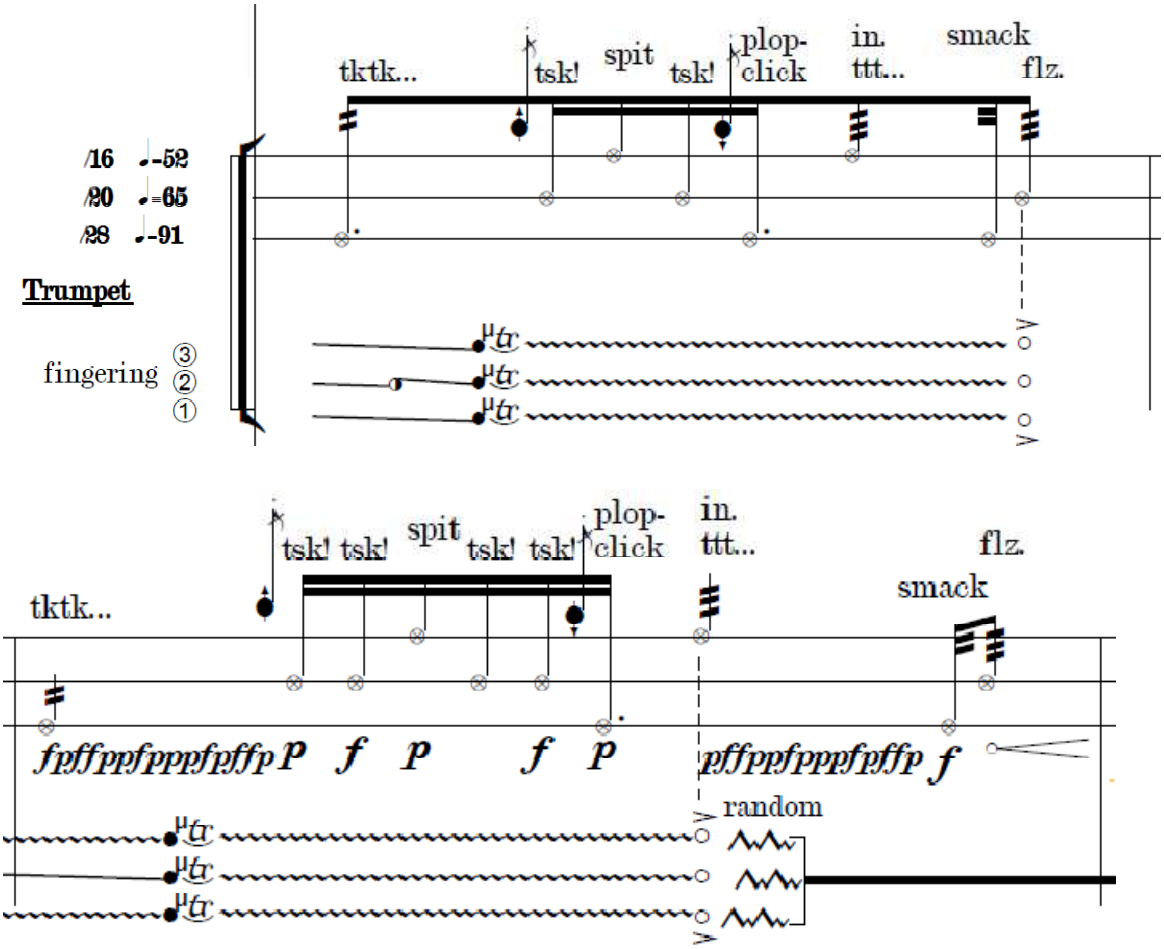


Figure 2.7: Trumpet, bar 94 (below) is a 'stretched' version of bar 45 (above), notice 16th note stretch (3 becomes 5), 20th note stretch (4 becomes 5) and 28th note stretch (5 becomes 6).

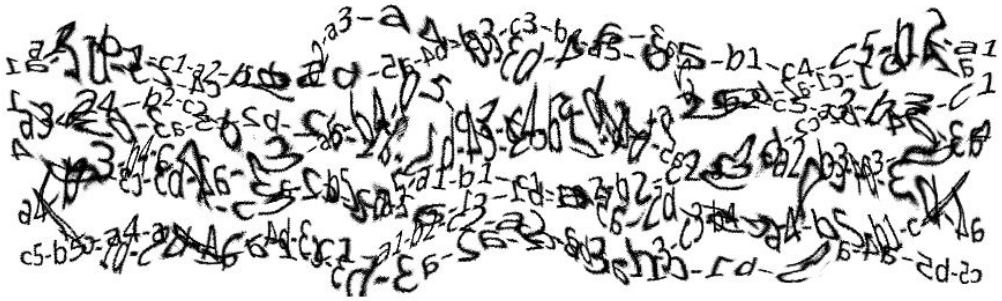


Figure 2.8: Visual representation of the cogwheel-plexus (section 1) transformation during section 3.

This leaves the second section, which engages behaviour of a different kind, namely attractors of a simpler kind, cycle-attractors. In a simple cycle-attractor trajectories are repeated continuously in the same manner. Here each instrument enters such a state, however each instrument has cycles of different sizes, thus forming a multi-limit-cycle attractor system. This can also be seen as a simple multi-limit-cycle area within the overall nonlinear structure of the piece. To summarize, the piece as a system establishes three dynamic states: 1) a (semi-)torus attractor state, 2) a multi-limit-cycle attractor state and 3) a chaotic/strange attractor state. [See Appendix 2b, 2c and 2d for examples of each state]

2.3.5 Reflection

A problem appears immediately with the global structure, namely because of the *order* of events. Even though each section demonstrates a nonlinear behaviour, the fact that the piece moves from a state to another state brings about this specific order of events which might be considered linear precisely for the reason that the order can be identified, meaning that sections might be identifiable and in fact, consequently, perceptually sectioned (bringing us back to the temporality problem (projections/implications)). Therefore, as there is a global linearity in this sense, this piece might be considered a failure according to the main objective – a solution to the temporality problem – but looking at each section on its own I have at least approximately succeeded in some positive way, both regarding nonlinearity and non-identity. That having been said, after the performance I was left with the feeling that between sections 1 and 2 there was not a sufficient degree of change in order for them to acquire the status of being identifiable as sections. This is because there is a certain continuity regarding the material and behaviour, which does not establish a clear border between them; however a border was certainly present between the second and third section.

2.4 Negative Dynamics I(a/b)[95]

This piece explores several theoretical strata involving a specific approach to the performer's physicality. It invents possibly a new dimension in music/notation and proposes a certain rotation/inversion or even an eversion regarding performance (the body without an image). Also, a complex relation between linearity and nonlinearity is explored. Furthermore, I will discuss possible lines of flight and possible 'becomings' of the piece, or rather what the ideas/theories related to the piece can possibly become through further development.
[See Appendix 2e for the score of this piece (single page)]

[95] Negative Dynamics I(a/b) (2011), for a string player

2.4.1 Movement of silence, the positive negativity, instability-silence

In the development of silent-objects during the first phase I explored physical/performance activities that would result in extremities of dynamics: from the very soft to the point of imperceptibility.[96] My experience regarding these investigations was that performers somehow took the wrong approach to these activities, or at least made me realize that I possibly meant something else by them. They wanted to deliver the sound instead of delivering the silence. But it was also I who took a wrong approach, namely because I too was delivering sounds; I had a sound in mind, I was sound-based and my notation confirmed that. This called for a deregulation of senses (Rimbaud).[97] Now, this became a difficult situation: how is it possible to have a *performed* silence, an intensified silence, and importantly, without any theatricality and other gimmicks. Moreover, how can there be an action *not* moving towards sound, i.e. not sound based (as an end result), but instead a movement towards silence, or better, movement *of* silence rather than of sound, where sound has an altogether different position and function. For me, this necessarily stipulates different means of arriving, or a different path of reaching out (or in), a different aim/effort in the performance *control* of the sound/silence couple that is opposite from usual (silence-production instead of sound-production). (This has connections to the effort-space mentioned in 2.3.2 and 2.3.3). This is what constitutes the concept of negative dynamics. An eversion, so that silences slide into sounds rather than sounds disappear into silence, or better, something of an opposite movement towards the zero. This radically changes our notion of dynamics, of the loud and soft, crescendo and diminuendo – thus I introduce the negative parameter, my catalyst, the $-\boldsymbol{f}$. But, what does this parameter stand for, what does it communicate? Foremost, it has a strong relation to physicality and that is my first conclusion: I am now quite firmly physicality-based: as sounds fall below zero one clearly falls into the physical. So, what, in terms of physicality, does this parameter signify? It communicates several things. First it must be noted that this 'negative' is not a mere opposition or negation, it is a "positive negativity [which] simultaneously suspends and incises, rather than cancels and preserves, every form of synthetic unity".[98] Second, it communicates a certain 'over-attention' regarding normal instrumental/bodily activities, e.g. the depression/release actions. In the realm of negative dynamics these actions are equally important; they equally require great effort to remain silent. In the case of this piece for violin (but it can also apply to other instruments) this applies for both hands, i.e. for the left hand as fingers make contact with, and disconnect from, strings, and for the bow as it makes contact/disconnection with strings. Because of the 'over-attention' the space between the string's

[96] See e.g. string section in object M in *Objects* (appendix 1e), and bars 23-40 strings (frozen-bow technique) in *Quanta*.
[97] Rimbaud (1986), *Collected Poems*
[98] Brassier (2010), 147

contact point and the full-depression point opens up, receives degrees, becomes bi-directional, and becomes equally important as the fingerboard space. Furthermore, the actions will, at some point, reach a critical point where silence is most vulnerable, when the possibility for emerging sound is high. And logically sounds do emerge, but as a secondary consequence, because of the instability of the silence and not because a sound should present itself at that moment. Consequently, the sounds that appear are unintentional, unplanned or accidental sounds. The notation emphasizes this point as it does not notate sounds, instead it notates physical actions ideally within movement of silence.

2.4.2 Microscopic movements, stipulation/isolation of effort, the body without an image

The materials of the piece are the physical movements as they encounter the instrument. Thus, the micro-movements of the fingers contacting the strings (as well as the vicinity of the string) and depressing the string (as well as the release action) are treated within a particular movement space or frame, meaning they are granted a similar frame as a glissandi is granted a pitch frame (with upper/lower limits). Here, the amount of time to release the string is of equivalent importance as it is to depress it. Figure 2.9 demonstrates these frames for the left-hand fingers, where the lower limit indicates the fully depressed string while the upper limit indicates the contact point of the string.

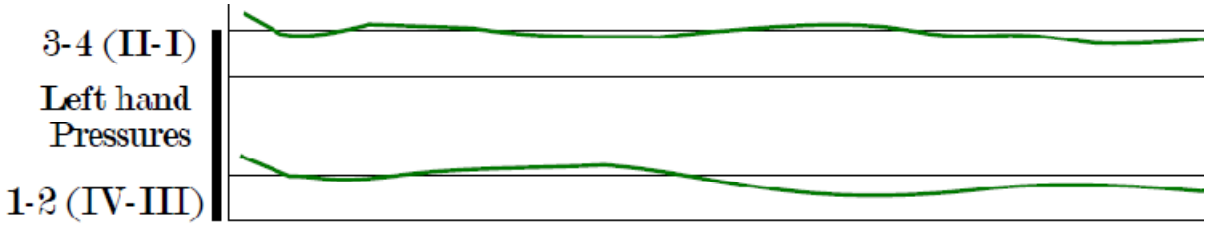


Figure 2.9: Left-hand finger frames in *Negative Dynamics I(a/b)*

The bow movements are treated in a similar microscopic way but as they are the main source of friction (and therefore a high risk sound generator) the effort to remain silent increases, particularly when the bow-hairs are pressed further down upon the strings while other movements (lengthwise or crosswise) are active. This forces a certain continuous adjustment of speed in regard to different movements (depress/release & lengthwise/crosswise) as they aim for the initial instruction: 'as slow as silent'. This means that the performer's 'freedom' or interpretation in regard to the score consists of slowing down certain movements when appropriate. Here I must come back to the idea of isolation of effort (see 2.3.2). The piece exists in the effort or the struggle to remain silent despite the actions which are to be executed, a stipulation which is doomed to fail at some point, but nevertheless, where violation is futile and forbidden. Hence, rather a stipulation/isolation of struggle,

or a certain "being-separated"[99], and a notational/performance effort having traces of Evan Johnson's notational impossibilities. Furthermore, this effort receives different intensity levels in relation to speed, as actions in all 3-dimensional directions (up/down, in/out, left/right) are put differently under the stress of duration, both within the piece and between the two versions of the piece (version *a* is 30 seconds while version *b* is 30 minutes, both following the same score). Likewise, actions are forced towards the extremities of slowness/smallness in order to maintain the aforementioned stipulation (the attractor: silence), but simultaneously forced towards acceleration to fulfil or comply with the durational restrictions (the repellor: movement). Here I spot again behaviour of nonlinear dynamics: an unstable attractor-origin that both attracts (slowness) and repels (acceleration); thus creating a limit cycle (as in Fig. 2.4). This nonlinear behaviour, which the performer is engaged with, forms a strange relationship with the linearity of the global physical movements, which are very linear indeed, i.e. the linear lengthwise movements from the outer limits of the instrument to the middle. They modulate each other. But this linearity is only perceived visually and does not trigger forward implications/projections because of the instability of the silence/sound and because of the nonlinearity of the silence/sound/physicality effort-space. As a result, the heaviest impact of the performance is physical, but of a physical-complex kind where physical effort is, perceptually and executively, the most identifiable factor. But, I must stress one point regarding this physicality, because just as I evert the sound/silence direction I invert the physical energy momentum as well, meaning that I activate an intensive physicality instead of an extensive one. More precisely, although the physical movements extend into space or onto an instrument, here they are folded in on themselves because of their infinitesimally small/slow movements/adjustments, which capsize their direction. Resultantly, they move inwards (or the focus of the performer does so), become intensive, and what is more, they perform a shift from the tactile (outside the body) into the physiological/flesh (inside the body), entering the realm of sensory receptors found in muscles, tendons and ligaments – the proprioceptive area. The performer is thus forced into the realm of what Brian Massumi calls "the body without an image".

> "…the body without an image can be understood even more immediately as an effect of *proprioception*, defined as the sensibility proper to the muscles and ligaments as opposed to tactile sensibility (which is "exteroceptive") and visceral sensibility (which is "interoceptive")" ... "Proprioception folds tactility into the body, envelopes the skin's contact with the external world in a dimension of medium depth: between epidermis and viscera … As infolding, the

[99] Laruelle (2010)

faculty of proprioception operates as a corporeal transformer of tactility into quasi corporeality … Its vectors are perspectives of the flesh".[100]

It is this 'medium depth' space that opens up in this kind of physicality and where the strange relations between linearity and nonlinearity endure, or rather "the realm of pure relationality".[101] This is an opening of a rim where connections are made and as such a meeting-point-space, which is "asubjective ... non-objective ... where the infolded limits of the body meet the mind's externalized responses and where both rejoin the quasi corporeal and the event".[102] Its temporality is one of suspense and contingency.

2.4.3 Influences

I will now consider some predecessors as well as possible future developments of this project. Starting with the physicality, I divide the physicality 'tradition' in two. Call them 'the gentle' and 'the violent'. The former tends to favour quietness and slow to average speeds, a kind of inhibition or a certain holding-back-ness (e.g. Evan Johnson, Vadim Karassikov, Ben Isaacs). The latter usually exposes an extended augmentation of physical gestures and muscle work favouring high speed and loudness (Ferneyhough, Barrett, Cassidy, McCormack). Of course we can find traces of both in each of them. My favourite example of the 'gentle' type, and a definite influence, is a piece by Ben Isaacs, *All the things inside me are doing what they need to be doing* (2010), for solo piano.

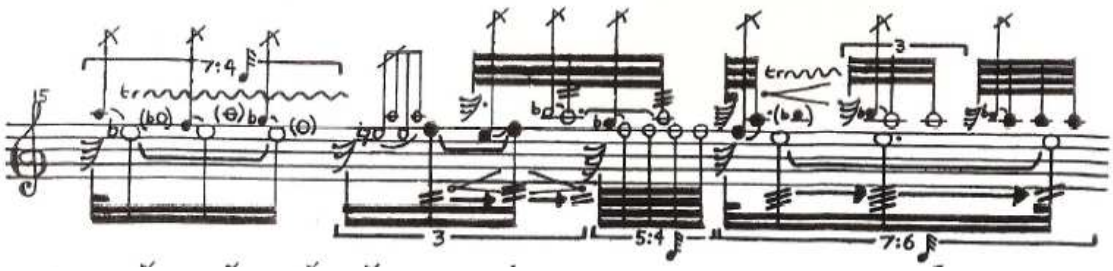


Figure 2.10: Isaacs, *All the things inside me are doing what they need to be doing*, (page 4, system 1).

In this piece, the threshold or the relation between physical actions and sound is explored. The physicality of the piece becomes evident through the actions that are inhibited to *not* make sound (in Figure 2.10, the open note-heads), or as described in the performance notes: "infinitesimally quiet notes, produced in a way that involves a significant and perceptible risk of the note not sounding".[103] I was interested in this layer of the piece and how/if it would be possible to radicalize that part, to

[100] Massumi (2002), 58-59
[101] Ibid., 60
[102] Ibid., 59
[103] Isaacs (2010)

open it up further. The context here is interesting and similar to *Negative Dynamics I(a/b)*: meetings of two directions or movements (sound/silence or sound/action) and insecurity. However, here one remains within the insecurity of the sound rather than of the silence/action – and the notation bears witness to that. Isaacs does not notate physical actions per se; his notation does not *separate the physical*. This was my second objective regarding the radicalization (as outlined above): to provoke the insecurity/instability of the silence/physical-actions *notationally* as well as conceptually. This puts great importance on notation in a similar vein as, once more, Evan Johnson. Moreover, the second type, the violent one, inspired me to consider its opposites, the opposites of extension, high speed and loudness, while keeping the violent factor somewhat nearby or redirected, intensified and without outburst. Other influences are the Russians Karassikov, in his dense physicality at the threshold of silence, and Kourliandski, in his treatment of the instrument and performer as an object with a set of physical restrictions attached. The "main concern was not so much to control the accuracy of the sound result as to "survive" under the conditions I imposed on them ... what I am interested in are the conditions that make sounds appear: the natural physical date, that is to say the musician's physiology, the construction, the material and the physical characteristics of the instrument".[104]

2.4.4 Pure notation influences, theoretical composition

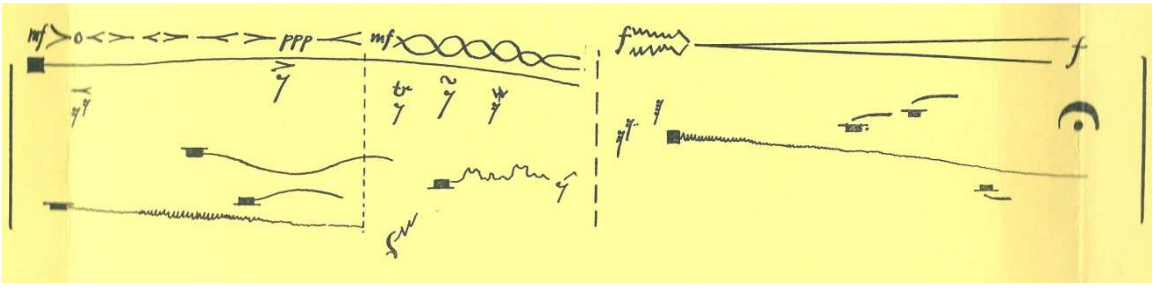


Figure 2.11: Schnebel (1969), *MO-NO*, fragment from *Umrisse I.*

With all this in view there is however another influential precursor of another type, which could be considered of an equal importance and provides equal potential regarding further explorations. These are the pure notational practices of Dieter Schnebel. And it could be said that the piece *Negative Dynamics I(a/b)* makes an effort, or ventures into the effort, to *perform* these silences in Schnebel's *Umrisse I* (Figure 2.11).[105] Glissandi of silences, and silences with accents and ornaments – this can only indicate intensities, a multidimensional space consisting of intensity vectors, or pure

[104] Kourliandski (2010)
[105] Schnebel (1969), *MO-NO Musik zum Lesen*

music, music without performers, as in pure movement (without 'between'). By starting a relationship with pure-notational works, by trying to perform them, I also trigger an engagement with pure notation. I have to consider the potentials of both. It is therefore a possible becoming of this project to venture further into the domain of pure music/notation as well as exploring performance possibilities of such works. From there I can consider whether the performer becomes necessary, dispensable, or indeed if new performance opportunities/possibilities arise. A separation may occur though; a dehumanization of music or music "stripped of 'faith in perception'".[106] A purely theoretical field within composition, composition for and in itself, or theoretical composition, as in theoretical physics – make non-music, but non- as in non-euclidean – where *theory is the practice* and has scores, materials and applications of its own. Moreover, it may be said that Schnebel's book *MO-NO* is, at least partially, a theoretical work that *potentially* has a relationship with performance, a somewhat similar relation as theoretical physics has with experimental physics. Thus, I can say that the piece *Negative Dynamics I(a/b)* tries to verify by experimentation the theories put forward by Schnebel. In this manner I can initiate a theoretical compositional practice that demonstrates a *potential future relation* with performance (albeit vague, ambiguous, or not at all). One way I envision venturing further into this field is to radicalize and spread the concept of negative dynamics by applying/injecting the 'negative-' prefix to more musical factors/parameters (which in turn, as we saw before, will change their qualities): negative tempo, negative rhythm, negative note-values, negative form, etc., and through this exploration a certain 'negative-music' might form. But, before I explore the basics of negative-music I must outline the most immediate risks and dangers that must be avoided by the activity called theoretical composition. Accordingly, a provisional set of restrictions and concerns is here put forward, which I will use as a point of departure into this future exploration.

1. Having lost its traditional communicativeness, music as the output from theoretical composition, i.e. its 'scores', must not become 'A Signifier of Music', nor must these 'scores' 'Evoke the Idea of Music' within its context, meaning they should never *refer* as such to music situations. Thus, these 'scores' must not enter the field of visual art (the visual impact should ideally remain approximately similar to 'normal' scores.)

2. Being music-outside-music, a definition of its territory in relation to music-as-we-know-it (performed music with audience) must be constructed.

3. These works should ideally demonstrate the capability to open up a space of their own, to be self-sufficient in their artistic, compositional, theoretical and aesthetic activity.

[106] Laruelle (2011), 96

4. The materials of theoretical composition should be of a musically communicative nature, meaning they should stimulate and expand the musical imagination, but without pointing directly to performed music (i.e. point 1) – but rather to non-performed music or not-yet-performable – and at the same time being able to tie these with extra musical and non-musical materials. All these materials are quantities/qualities that cannot exist *except* conceptually. Consequently, these works occur (or are 'performed') within the imagination/thought domain.[107]

2.5 Repetition of Repetition[108]

This piece explores a more direct approach to the objective set forth in 2.2, namely that of the "second way of knowing".[109] In this piece I demonstrate how to enter a static sound-object (nano-object) from phase 1 and bring about the *in-itself* quality of that object and therefore instigate an eversion of the original object, which thereby transforms in quality and loses its fixity. The sound-object originates from *Quanta* (Figure 2.12) and was extracted purely because of the potential of the material it contained. There, within *Quanta*, it was a static, discrete nano-object. But now, through the eversion concept, it becomes an active multidimensional, continuous non-fixity, a non-identity. The materials within this nano-object are therefore expanded 'labyrinthically' or stretched into a tangle and put into a structure that lets these materials interact and interpenetrate each other continuously differently.[110] In that regard, *Repetition of Repetition* considers this nano-object from *within itself* (or as difference-in-itself) and how it appeared within *Quanta* was just a certain lower dimensional surface perspective. Thus, it could be said that I am still dealing with the same object only zooming extremely in on it and opening/everting it, which is a microscopic investigative approach where 'molecular' properties override 'molar' properties. "[T]he molecular lines make fluxes of deterritorialization shoot between the segments, fluxes which no longer belong to one or to the other, but which constitute an asymmetrical becoming of the two".[111]

[107] I will not delineate or demonstrate further at this point the aspects/activities of theoretical composition in this paper, as it is still very much in development. Hopefully this suffices to indicate my direction/position regarding this subject. The following step is the theory-practice or the making of 'theory-pieces'.
[108] Repetition of Repetition (2011), for orchestra
[109] Bergson (1992), *Introduction to Metaphysics*
[110] See Appendix 2f for a miniature score of *Repetition of Repetition*
[111] Deleuze (1987), *Dialogues*, 131

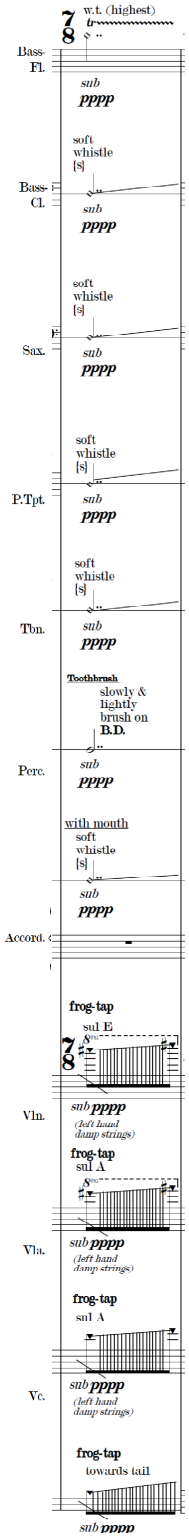


Figure 2.12: Nano-object from *Quanta* used for eversion for *Repetition of Repetition*. (*Quanta*, bar 250)

Another structural source should be mentioned as well, which is the 'object of objects' from within *Quanta*, where the structure of multiple repetitions of different sizes first appeared. There, that repetition-structure appeared only between three groups (Figure 2.13). In *Repetition of Repetition*, however, this structure/technique has been applied to the whole of the orchestra, enabling myriad

repetitions of different sizes to interact. Both within this example from *Quanta* and within *Repetition of Repetition* the conductor has to conduct in 1 (only indicating tempo) to avoid any confusion.

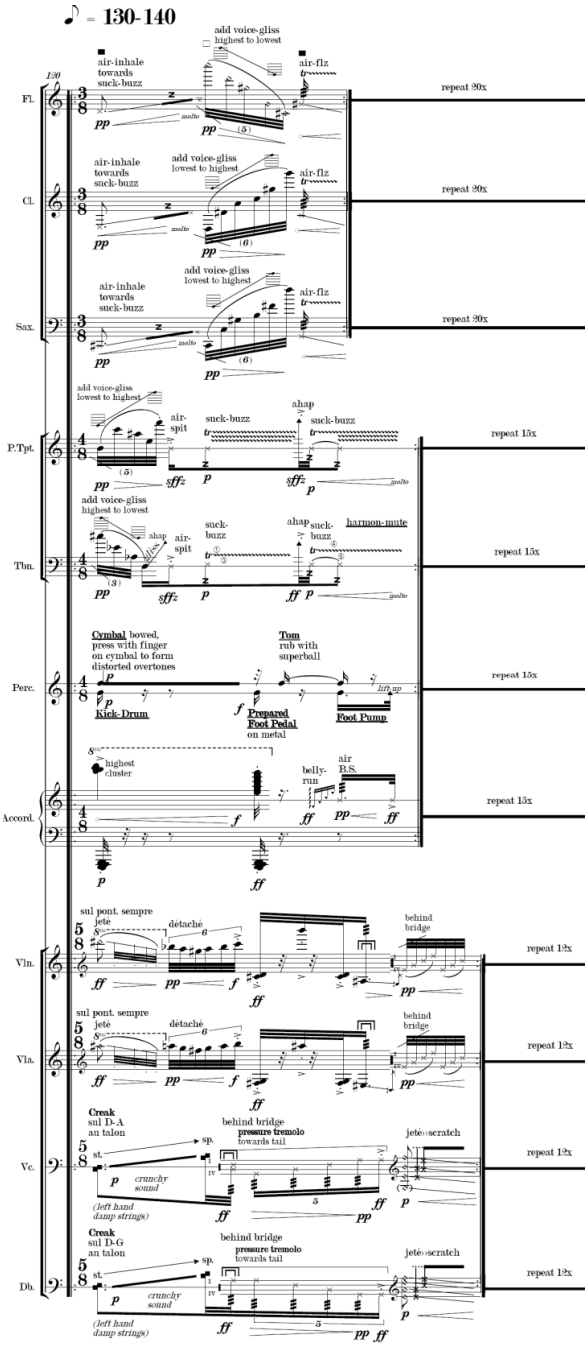


Figure 2.13: 'Object of objects' in *Quanta*, bar 120. Three groups repeating at different sizes.

Repetition of Repetition is a return to Bergson's second way of knowing or pure movement/duration. I took a simple approach where my tools were mainly repetitions and a continuous alterity as a by-product, caused by the multitude of different lengths of repetitions, and in accordance with the structure of "…none of them do begin or end; they all dove-tail into one

another".[112] I explore therefore a continuous multiplicity and vertical temporality – the movement becomes the piece – and the notion of "time out of joint" thus described by Deleuze:

> "It is as though time had abandoned all possible mnemic content…" … "It is as though it had unrolled, straightened itself and assumed the ultimate shape of the labyrinth, the straight-line labyrinth which is, as Borges says, "invisible, incessant". Time empty and out of joint…"[113]

Furthermore, I render the continuous alterity in a subtle manner through myriad repetitions of different sizes. Each 'voice' has its unique length which, through repetitions both global and local, enters into continuously different relationships with the other 'voices'. Even the conductor is 'out of joint' with the rest: his repetitive cycle is of a unique length as well. This forms the obscured repetition. In this manner I anticipate to repeat difference and to approach change itself, to 'verticalize' time so that each element is present at all times, a "synthesis of the 'before', 'during', and the 'after'"[114], but at the same time continuously different – a 'unilateralization' of sameness and difference. By this I hope to isolate movement itself and capture the singular(ity) object, the everted object (as described in 2.2). And by obscuring repetition I isolate repetition itself and bring about the structure of non-identity. This means that repetition is no longer bound by the requirements of representation because "what is repeated is no longer identity but a repetition that already harbours difference within itself"[115] and therefore the difference established:

> "…is not a difference between past, present, and future understood as the difference between an originary 'first instance' and its successive repetitions (1st, 2nd, 3rd …) in accordance with a relation of succession in representation, but rather a difference between the repetition that only repeats 'once and for all' and the repetition that repeats an infinity of times for every time".[116]

Moreover, the cooperation between the myriad-repetition structure, choice of materials and dynamics – whose resonances, on and between these three levels, dove-tail into, and fold, each other – forms a coupling between distinction and obscurity, as well as clarity and confusion, in terms of whole / part relation. If the whole is clear the parts become confused and if the parts are distinct the whole becomes obscure.

[112] Bergson (1992), *Introduction to Metaphysics*
[113] Deleuze (2004), D&R
[114] Brassier (2010), 183
[115] Brassier (2010), 183
[116] Brassier (2010), 183-184

> "Either we say that the apperception of the whole noise is clear but confused (not distinct) because the component little perceptions are themselves not clear but obscure; or we say that the little perceptions are themselves distinct and obscure (not clear): distinct because they grasp differential relations and singularities; obscure because they are not yet "distinguished", not yet differenciated".[117]

In this regard, there are, simultaneously, gases, fluids and solids (albeit distanced) while a double-natured ungrounded phenomenon is established, whose events (and natures) are synchronous.

2.6 Phase 2 Summary, transition to phase 3

The most immediate phase 2 conclusion is the eminent attack on the thought of identity and fixity. My compositional output during phase 2 struggled to eliminate the structure of identity within its scope and can therefore be said to gradually approach the philosophy of Deleuze in the sense that the fundamental aspect of Deleuze's philosophy is his criticism of identity. As a consequence the structure of 'ungrounding' or the ontology of difference-in-itself and pure movement, along with nonlinearity, is adopted as the desired structure (as outlined in 2.2) under the name of non-identity. This task now continues towards phase 3, which attempts to investigate a more thorough attack on identity and to demonstrate how non-identity can be assigned to all (or most) elements of composition which in turn effectuate a piece without identity. This is envisioned thus: attempt to establish a certain virtual rotation or flux of a piece, of its parts/elements, which when performed a possible actualization of this virtuality is triggered, the following performances triggering another possible instance. Of course this non-identity will mainly be structurally affected, but I foresee attempting 'ungrounding' on as many levels as possible. Part of this endeavour is to fuse together aspects from these three pieces covered in phase 2, so that I have the macro structure of *Repetition of Repetition* (only more elaborate) and the micro structure and the physicality of the *Non-vanishing vacuum state* and of *Negative Dynamics I(a/b)*.

Another conclusive element at this point is the fact that my compositions had now grown out of any sound-base functionality and increasingly became structurally-based and physicality-based (and possibly physiologically-based). What that means will also be discussed in the following chapter. Furthermore, the possibility for theoretical composition – that is the making of theory-pieces – has appeared, although that will remain a continuing exploration whose trajectory will not be followed during phase 3 and will only be part of my future research.

[117] Deleuze (2004), D&R

3. Phase 3 – Non-Identity Composition (desiring-machines)

[Phase 3 composition: *Desiring-Machines*]

3.1 Desiring-Machines

Desiring-Machines[118] is concerned with the following strata: the conductor/performer relationship, difference-repetition (obscured-repetition), non-identity structure, structurally-based composition, physicality, rhizomes, continuous multiplicity, temporality, the Score, abstract machines, destabilized form, fractalization, circuit interrupter and the destabilizer/separator (conductor as the abstract-machine), anti-hierarchy or heterarchy, the in-between as the 'surroundable' channel/field of the relation/interval, deterritorialization, part-whole similarity, contingency, in-built potentiality, ...

This piece incorporates issues, concepts and materials from phase 2 compositions in order to expand them in a greater (philosophical) context as well as refine and fuse them. Looking at the most local material it is evident that most of it arrives from *Non-vanishing vacuum state*, especially the mouth techniques (and in general the physicality aspects), which have now been applied to all wind and

[118] *Desiring-Machines* (2012), for conductor and 24 musicians

brass instruments. The string material derives also from that piece but has been simplified in order to limit the amount of information or how that information is communicated. The finger material (winds+brass), although very related, has however been developed further, i.e. more details are present and partially new notation is in use. Moreover, the finger material has been influenced by the piece *Negative Dynamics I(a/b)* in the sense that miniscule movements are extended for considerable durations. These influences, however, are mostly apparent within the cue-events[119] for winds, brass and strings. Miniscule movements appear also within the strings' main material: some strings (vln.2, vla.2 and vc.2) engage an extremely slow bowing technique (esb.), which is also partly under the aesthetic influence of *Negative Dynamics I(a/b)*. Considering the global structure then, evidently it has been greatly informed by the piece *Repetition of Repetition*. Multitudes of repetitions of different lengths are similarly at play here, but now they are not of fixed lengths, meaning each individual repetition is constantly changing its length. Also, how the conductor was treated in that piece (his/her repetitions did not correspond to any of those (fixed) lengths) has now been developed further, namely that the conductor gains his/her own part consisting of repetitive material in a constant flux. In short all the aspects from phase 2 have been expanded, intensified and worked out more elaborately. Thus, previous discourse resonates relevantly into *Desiring-Machines*.

Furthermore, preceding investigations (phase 2) have attempted to eliminate the structure of identity/fixity within music (as well as the identification and appearance of fixities and the 'identical') by favouring non-fixity, nonlinearity, vertical time, 'ungrounding', avoiding discreteness, sections, borders, etc., all in accordance with the non-identity outline in chapter 2.2 or 'the movement/difference becomes the piece'. *Desiring-Machines* continues this exploration in order to radicalize non-identity as a compositional principle and to extend the research according to Deleuze's critique of identity. In that regard Deleuze's (pure) Difference and (pure) Repetition become fundamental. "Returning is thus the only identity, but identity as a secondary power; the identity of difference, the identical which belongs to the different, or turns around the different. Such an identity, produced by difference, is determined as 'repetition'".[120] "When the identity of things dissolves, being escapes to attain univocity, and begins to revolve around the different. That which is or returns has no prior constituted identity: things are reduced to the difference which fragments them, and to all the differences which are implicated in it and through which they pass".[121]

I will employ non-identity as a function to as many strata as possible, meaning active or dynamic multidimensional nonlinearity, continuity, non-fixity, etc., and importantly incorporate the

[119] How cue-events operate is explained later on in 3.5. (Also see Appendix 3b for cue-events)
[120] Deleuze (2004), D&R, 51
[121] Deleuze (2004), D&R, 80

concept of desiring-machines. To see how this is attempted in various ways within different stratum I will, throughout, shift between generalities and particulars, whole and part, music and philosophy.

The piece *Desiring-Machines* relates strongly to the concept bearing the same title, best delineated by Deleuze & Guattari:

> "Desiring-machines are the following: formative machines, whose very misfiring are functional, and whose functioning is indiscernible from their formation; chronogeneous machines engaged in their own assembly, operating by nonlocalizable intercommunications and dispersed localizations, bringing into play processes of temporalization, fragmented formations, and detached parts, with a surplus value of code, and where the whole is itself produced alongside the parts, as a part apart or, as [Samuel] Butler would say, "in another department" that fits the whole over the other parts; machines in the strict sense because they proceed by breaks and flows, associated waves and particles, associative flows and partial objects, inducing – always at a distance – transverse connections, thereby producing selections, detachments, and remainders, with a transference of individuality, in a generalized schizogenesis whose elements are the schizzes-flow".[122]

Here I find most of my structural material as well as a guide to my approach. I will continuously come back to this quote (actually or in resonance), as fragments within it become very applicable in different contexts.

3.2 Relation-of-nonrelation, indefinite prolongation of sensation, the indefinite (auto-poesis)

> "It is not the elements or the sets which define the multiplicity. What defines it is the AND, as something which has its place between the elements or between the sets".[123]

I start by creating a set of limitations/restrictions, a set of possibilities and impossibilities, spaces of potentials such as: gradualness without linearity, repetition without resemblance, difference *within* repetition (and repetition *with* difference), multiplicity functions (conductor), destabilization functions (conductor, form), deterritoriality as a single-page score and a "process of production without beginning or end (beyond teleology, without goals or direction) of itself through the infinity of its attributes".[124] I insist on eliminating linearity and identity, but embrace change and difference, but not the 'change of representation' nor the 'difference of between', but make change *itself* the (un)ground on which I lay my materials, thereby creating many of the desirable conditions – but for

[122] Deleuze&Guattari (2004), *Anti-Oedipus*, 315
[123] Deleuze (2006), *Dialogues II*, 26
[124] Montag (1997), *The New Spinoza,* xvii

this to succeed radically I needed to break with many conventions. One of those breaks – and perhaps the most important aspect of this piece – is the treatment of the conductor/performer relationship.

Before analysing or philosophizing this relationship it is necessary to observe and understand what is happening and how it is happening. The most important fact is that the conductor does not conduct the performers according to their material, but instead conducts his/her own material, meaning that there is no common tempo, common bar or time signature present. The conductor only indicates pulses or tempi that each performer has to adjust to independently.

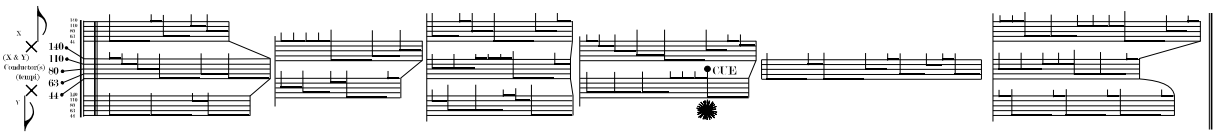


Figure 3.1: The conductor's part

Figure 3.1 shows the conductor's part, which is repeated continuously but never in the same way and regardless of the performers' parts.[125] This means that each performer has to adjust his/her material according to the conductor's pulse indication at each moment. Furthermore, to ascertain that a specific conductor's moment/tempo or a specific succession of tempi cannot be anticipated by any performer with regard to his/her part – i.e. never knowing where a certain tempo will coincide with one's part – and that this 'adjusting demand' (non-fixity) remains continuously fresh, I construct, for all performers and conductor, a special repetition which incorporates difference within itself: the difference-repetition. This is the repetition in which every repetition is unique in length and content enabling a continuous multiplicity to form. Consider Figure 3.2, which is a fragment that demonstrates how this 'difference-repetition' operates. This example shows a fragment of the conductor's part along with two instrumental parts (also fragments). All are repeating and all are of different lengths. Accordingly, they will 'scan each other's moments' (similar to a polymeter where the '1' will coincide at different places) whilst repeating, but they will do so continuously differently, since the three conductor staves – the so-called possibility-paths – are options, meaning that at each new repetition (or junction when considering Fig.3.1) a choice has to be made which option, which staff, is taken, consequently changing the length and content. The same applies for the performers; that is, they too have these sorts of options. Take for instance the contrabassoon fragment in Figure 3.2: at every repetition a decision has to be made between the top part (9 beats) or bottom part (8

[125] Each 5-lined staff represents five tempi, proportionally indicated by horizontal durational lines. Vertical lines indicate new beat.

beats), while the middle part remains. Thus, individually every repetition is different but taken together – that is, each performer's part as it is continuously affected by the modulating conductor (tempo ceaselessly different) – that difference is further differentiated (second order difference or difference within difference). This is the complexity of the difference-repetition. The possible interactions of this difference-repetition grow exponentially when considering all performers in full length and scale as this example is just a fragment. It must be taken into account that performers and conductor go through many such choice moments (options) within a single repetition (as in Fig.3.1). But this demonstrates the 'ever-fresh' *adjusting demand* put on the performers.

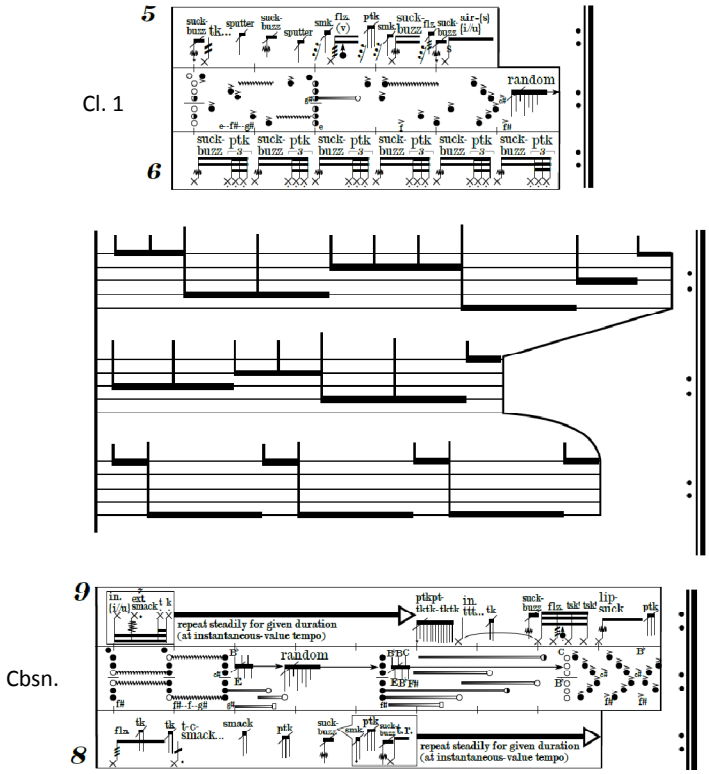


Figure 3.2: conductor/performer relationship

The conductor/performer relationship can thus be said to have been 'opened up', intensified and destabilized, or rather that the conductor and the performer have been placed *within* their own relation ('horizontalized'). This is because the 'adjusting demand' situates them as 'a betwixt', in the 'middle of things', without any fixity to hold on to, with no common grounds. In order to better understand what I mean by that, consider the conductor as being conducted by an imaginary-conductor, and similarly the performer being performed by an imaginary-performer, which consequently renders the conductor and the performer as secondary effects, unconnected meta-fields. But then I connect them *unilaterally*, which stipulates my performer to follow my conductor,

who can be considered to be elsewhere or rather nowhere as I remove the imaginary (meta-)fields altogether, but the conductor nevertheless must now communicate to these performers. Another analogy might suggest that the conductor conducts an imaginary-performer, but in the middle of this relation I place the performer 'horizontally' (Figure 3.3). I use 'horizontally' to emphasise that the performer is within the relation (within the flow, like a wire conducting electricity), but not at the 'end' of it, and therefore cannot anticipate the conducting tempo (constituting the 'adjusting demand'). This is like throwing a ball from A to B and the performer is put on the ball, or better *in it*, as it moves through the air (not knowing where it is heading) – the ball then represents relation (of A and B), or more precisely, the ball's movement does so. This relates to Bergson's second way of knowing (pure movement)[126], as the performer ceases to have 'outsiders' perspectives (i.e. viewpoints from outside), but instead is 'trapped' within pure movement/relation (see 2.2). In any case, it is endeavoured to isolate relation, to exemplify that they (conductor and performer) are indeed here situated within relation or within the conductor/performer relation as such. In this sense, relation is considered as a domain with multidimensional properties.

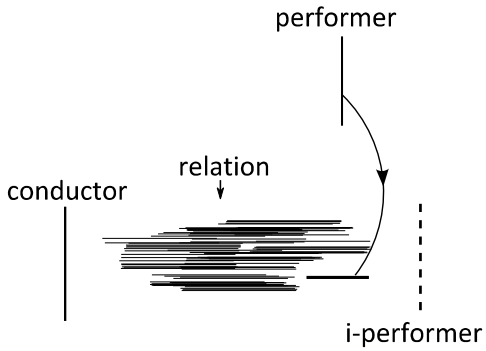


Figure 3.3: Placing the performer within relation or *relation as such* - through the conductor and the imaginary performer (i).

This means that their (conventional) *channel* of relation, as an (imaginary) dynamic field, is here utilized for enveloping themselves, in other words: surrounding them, 'nature-ing' them, or con/in-fusing them, with the nature/potential of their relation. Consequently, different engagements become effective. Accordingly, I propose that they (conductor/performer) have become, or are becoming, their relation, or more precisely *relation as such*, but by that, transforming into a "relation-of-nonrelation".[127] A 'unilateral duality' forms, which is a dynamic 'in-between-ness'; temporal flows and forces, or pure becoming: "a becoming is always in the middle ... a becoming is

[126] Bergson (1992), *Introduction to Metaphysics*
[127] Massumi (2011), 23

neither one or two, nor the relation of the two; it is the in-between".[128] "In a multiplicity, the terms or elements are less important than what is "between", the *between*, a group of relationships inseparable from one another. Every multiplicity grows from the middle, like grass or a rhizome".[129] This builds on previous pieces/investigations where a certain focus on the "realm of pure relationality"[130] emerged (2.4.2). Following that trajectory this piece can be said to exist or to place itself within or indeed inhabit the space-of-relation, the realm of the in-between, and this is evident in the conductor/performer relationship stratum. Here, perception-of-perception and the 'reality of abstraction' is investigated structurally.

> "It is the direct perception of what happens between the senses, in no one mode. All and only in their relation. Purely nonsensuous. Abstract".[131]

> "But nothing completely coincides, and everything intermingles, or crosses over. This is because the differences are not objective ... differentials of speed, delays and accelerations, changes in orientation, continuous variations".[132]

Considering another perspective (superimposed) it can be said that I have semi-separated the conductor from the ensemble/score/performer, with the result that the conductor, by acquiring his/her own part, thereby becomes quasi-indifferent to others' parts. Furthermore, the conductor can be said to be a semi-independent 'performer' and yet he/she is *the* indicator of tempo, albeit his/her own, the only tempo-source for performers. All these 'quasi modes' put a considerable strain on the conductor (as well as performers) who must somehow indicate or communicate – despite the unpredictability of his beating/conducting from a performer's perspective – the 'speed' of the following beat. A conducting technique is thus suggested that breaks away from any conventional beating patterns. It makes no sense to beat in 2,3,4,5, etc., since none would share this at the same time – in fact it would create utter confusion. Therefore it is only possible to only indicate tempo and beat in 'ones'.[133] However, some effort should be made to indicate the speed/tempo of the following beat, to signal in some way the anticipated change in tempo. And this is the conductor's unilateral connection with the performers, meaning he/she is not communicating what is expected but what is unexpected to all. There are 5 tempi, and by assigning to each tempo/pulse a fixed plane in the conducted space and each plane/tempo a different height – i.e. slowest pulse (44) on the lowest plane and fastest pulse (140) on the highest plane – the speed and the *direction* of the arc would

[128] Deleuze&Guattari (2004), TP, 323
[129] Deleuze (2007), Two Regimes of Madness, 310 (italics in original)
[130] Massumi (2002), 60
[131] Massumi (2011), 110
[132] Deleuze&Guattari (2004), TP, 324
[133] 'Ones' is here the plural of one, meaning one after one after one, etc. Eliminating patterns in 2,3,4,5 etc.

then give some indication of what to expect (Figure 3.4).[134] But importantly, the conducting remains ceaselessly adapting.

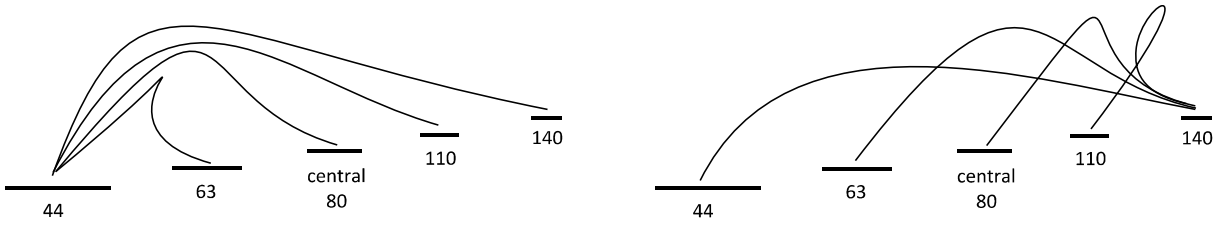


Figure 3.4: Conducting techniques suggested for *Desiring-Machines.*

By separating the conductor I have in fact *actively* connected him/her with each performer uniquely, meaning that *each* performer has now a renewed relationship with the conductor, and a renewed responsibility. Thereby the conductor/performer relationship has been dispersed, shattered, schizo-analysed, 'multidimensionalized', and the conducting-moment becomes nonlocalizable (or at all locations), which means that it becomes impossible to anticipate any specific (prefixed) locality both in the sense of the score and the piece (as well as tempo, configurations, verticality, horizontality, etc.). Thus, the conducting-moment becomes the conducting-*movement* (movement overrides moment). Figure 3.5 shows on the left side a conventional relation, where each moment is localizable as it fully corresponds with the score (symbolized by the cross and 'x=x'). This gives the structure of the common bar number or the bar that unites performers and conductor (i.e. all are knowingly playing the same bar number; they have the same locality within the piece). On the right side, however, is the relation-of-nonrelation, which is a nonlocalizable and non-corresponding relation. Moments (vertical instances) cannot be referred to in the score, only movements (symbolized by 'x=?' and the 'mess'). Here, there is no bar number which all share. This second relation is not established 'through the score', or more precisely, the score does not set up a corresponding relation for the conductor and the performer.

[134] It should be noted that this is only a suggestive conducting method – a conductor might as well design his/her own technique (and in fact that is encouraged).

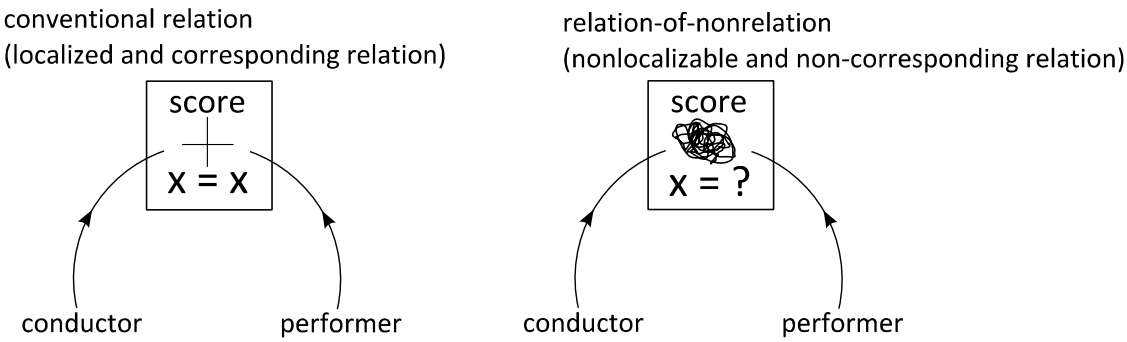


Figure 3.5: conductor/performer relationship in regard to the score, conventional relation (left) and the one here advocated for (right).

Hence, compared to the conventional relation between conductor, score and performers the piece *Desiring-Machines* performs a relation which is the relation-of-nonrelation: "the concept of relation-of-nonrelation is that of nonlocality of relation" ... "The notion of non-connective relation encapsulated in the phrase relation-of-nonrelation changes the meaning of 'participation'. While at first sight participation may seem to have evaporated, it has actually redoubled".[135] In other words, the participation has now intensified, been put on the edge, but unleashed from a unified stable moment in time. The 'non-connective' aspect is a coming/holding together without direct connection. It removes the reference point, or rather the reference point is now unstable, deterritorialized, in motion, active. This is why I assert that the conductor now conducts movements instead of moments ('horizontalities' instead of 'verticalities'). The 'nonlocality' relation is constituted by the fact that performers (including the conductor) are continuously in a new position towards each other, they *cannot know* the location/moment/position of the 'other' (nor the score), and indeed no one can.

> "RHIZOME. One of the essential characteristics of the dream of multiplicity is that each element ceaselessly varies and alters its distance in relation to the others".[136]

> "Becoming is a rhizome ... Becoming is certainly not imitating, or identifying with something, neither is it regressing-progressing; neither is it corresponding, establishing corresponding relations".[137]

Self-morphing repetitions of different sizes/lengths are fed through the unstable non-correspondent conductor – forming thus the difference-repetition – who might as well be oblivious of the fact of their 'coming together' and yet must communicate movements of tempi. It is this non-connective,

[135] Massumi (2011), 22-23
[136] Deleuze&Guattari (2004), TP, 34
[137] Deleuze&Guattari (2004), TP, 263

non-corresponding communication that performers are faced with at all times which is a factor in the production of flows and proceeding "by breaks and flows"[138], forming the sensation/physical/effort-participation stratum. The performers (including the conductor) are always 'coming and going' from all perspectives, in the state of phase-shifting. Their *movements* are emphasized.

As I force the moment (fixity) into movement (non-identity), without interruption or a space opening for projection (identity fixities, barriers, borders, closures of any kind, pasts/futures, triggers of memory, 'perception in the light of', etc.), I force the performer into a movement of constant/continuous 'updating' or verification of tempo. In this way I impel the performer out of any 'taken-for-granted-ness' (any assumptions), meaning I eliminate the fixity base that usually becomes projected by the performer, such as knowing the tempo ahead, bar numbers, events, etc., simultaneously denying them the use of memory and forcing them to rely entirely on 'reading' or rather 'sensing' the conductor. "*Becoming is an antimemory*".[139] This is an event of *indefinite prolongation of sensation* (indeterminately), an active continuous defamiliarization, production of sensation (*within* performance), flow production, desiring-machines. This is the physicality proper to 'assiduity-sensation', prepared yet unprepared – an action which is both, and at the same time, ad-lib and controlled/planned, synchronously anticipated and extemporaneous ("it is only the strange which is familiar"[140]). With this I aim to escape the recognition (identifying) agency and hold on to making a capricious moving percept.

This 'indefinite prolongation of sensation' was previously experimented with within the audience (experience) ←→ sonic-result field (e.g. in the piece *Repetition of Repetition*), i.e. the 'indefinite prolongation of sensation' was 'meant' for the audience/aural. The 'ear', in combination with 'antimemory', was thereby forced into a 'single event' experience – understood as the inability to establish, perceptually, any fixity, any discreteness or sections, within the piece (and thus avoiding the formation of event no.1, no.2, etc.). But now, this 'outside-aspect' of a piece has been moved or transferred within the piece itself, more precisely, into the performance act, into the conductor/performer (non)relations, and there what used to function aurally is now operating by sight, i.e. hearing becomes seeing. This is a process of shifting and merging aspects of music (aspects within the composer/score/performer/audience chain) without any regard for its original function or location, a radical abstraction process entirely heterarchical. Separating or decoupling an outside-aspect (sonic) and folding and re-coupling it as an inside-aspect (performance regardless of sound) is what I call a multidimensional eversion technique. In this case it is aimed at intensifying the 'reality of performance' (I will come back to this concept in 3.6).

[138] Deleuze&Guattari(2004), *Anti-Oedipus*, 315
[139] Deleuze&Guattari (2004), TP, 324 (italics in the original)
[140] Deleuze (2004), D&R, 134

Another useful perspective on the conductor/performer relation is to view it in the sense that the tempo as such has been separated/extracted from the performer. He (the performer) now stands without tempo; the tempo has been extracted from him and his material and what is left are relative durations only. Thus the material is presented on an equally divided grid, which is open for *any* tempo and any amounts of tempi, since *each* performer has now open 'tempo-inputs'. Accordingly, the conductor does not simply confirm the tempo included in the performer's material – which in this case is impossible since it is not included – but instead he/she takes on the form of an active/dynamic outside tempo agency, with destabilization (and aberration) assigned to its operation. In that regard, I have opened up a channel (tempo-inputs), a crack, a space of possibilities. The conductor can also be seen as being the extractor/separator, or rather the imaginary-conductor is the extractor who extracts through the conductor, the actual conducting thus within the extraction process itself, a process of separation, "a Separated-by-immanence".[141] In this sense the conductor is 'trapped' within another type of (pure) movement. Accordingly, they cannot be viewed nor branded as identities (Conductor & Performer) but instead as 'con-forming' and 'per-ducting' activities, as forces and flows, a processual activity demonstrating heterogeneous continuity.

I can now return to the change-as-(un)ground, because what the above discussions describe – both the structural delineation of relation-of-nonrelation as well as the physical/sensation participation outline – is indeed change itself:

> "Heterogeneous continuity – Bergson's proper name for *durée* – is a continuity of change, not of anything, but only of itself – *auto-poesis*. There is creation at all points along the continuum and it is precisely this that makes it a continuity: each point is *similarly* new in some way".[142]

This is my non-hierarchical (heterarchical) (un)ground where I lay my materials, a multidimensional field which infiltrates everything and in all directions. To simplify: I am trying to realize, on as many levels as possible, that every present or moment as well as every function and action "is by nature a smudged becoming, not a point-state"[143]. "[B]ecoming is the movement by which the line frees itself from the point, and renders points indiscernible"[144], the multiplicity and the becoming of the present, or rather that "time is always full of *presents* plural".[145] Here I touch upon temporality once again and I might add that the piece as such exists as what Erin Manning calls the interval: "the interval creates a schism in linear time, preserving the future in the present ... the interval never marks a passage: it creates the potential for a passage that will have come to be. This duration is

[141] Laruelle (2010)
[142] Mullarkey (2006), 29
[143] Massumi (2002), 200
[144] Deleuze&Guattari (2004), TP, 324
[145] Mullarkey (2006), 32

defined less by succession than by coexistence, virtually".[146] As I move away from discrete states/functions towards continuous states/functions, I also move away from finite states towards infinite states. Thus, I assert that this piece's character approximates the behaviour of the infinite rather than the finite. However, this infinite should be understood in the Bergsonian way: "the actual infinite for Bergson is understood as indefinite, as ongoing, as creation, as more-making ... to say that it is indefinite is to *leave it open,* to let it be beyond the finite or infinite as states or things"[147] – "rhizome, the opposite of arborescence, breaks away from arborescence".[148] This I apply to the temporality but also to all structural elements because the indefinite, understood as an open-ended dynamic function of ongoing activity in all directions within all activities (all thoughts), defines both the piece (insides/outsides) as well as my compositional attitude. On all imaginable levels, strata, scales, etc., I endeavour to carry out 'layering', destabilizing, 'perspective-ing', shattering, intensifying, everting, opening cracks, filling cracks with abstract machines – "become clandestine, make rhizomes everywhere"[149] – and always assume *and* make sure that there is never "one abstract machine, but many assemblages stratifying each other, not one molecular level and one molar level, but many that are both, depending on relative non-quantifiable *scales*".[150]

3.3 Regarding the conductor's influences

Desiring-Machines has several influential factors that relate to the treatment of the conductor. First, I should mention Schnebel's *visible music II* for solo conductor.[151] This piece is influential and important because it separates the conductor from any performer and treats the conductor independently with its own score/part. It therefore provokes a different way of thinking about the conductor. I wanted to explore this independence of the conductor further but somehow maintain his function to the performers. By keeping the conductor partly connected brings a certain active tension and makes the conductor/performer situation much more dynamical and intensive as it joins together separation and inseparability (the stable and the unstable). In that regard, the conductor's function is destabilized.

[146] Manning (2009), *Relationscapes*, 24
[147] Mullarkey (2006), 34 (italics in the original)
[148] Deleuze&Guattari (2004), TP, 324
[149] Deleuze&Guattari (2004), TP, 211
[150] Mullarkey (2006), 35 (italics in the original)
[151] Schnebel, Nostalgie (visible music II) (Schott, 1962)

Another influential source comes from Cassidy's *And the scream, Bacon's scream, is the operation through which the entire body escapes through the mouth (or, Three Studies for Figures at the Base of a Crucifixion)*[152] where this tempo staff is present (Figure 3.6):

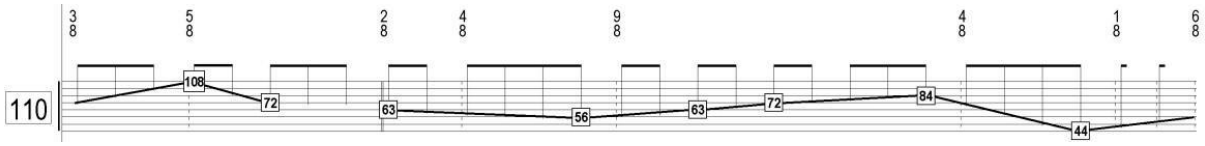


Figure 3.6: Tempo staff from Aaron Cassidy's *And the scream…* (bar 110)

This tempo-staff hints at a separated conductor as it destabilizes and engages the conductor almost in an independent way. I say 'almost' because this is not yet a fully independent conductor's part since it is still attached to the time signatures and the bar structure belonging to the performers, thus it is fully corresponding (i.e. there is always a clear bar number and a clear downbeat, clear locality, etc.). It could therefore be argued that the conductor is there still functioning conventionally in the sense that he/she conducts in order to join. And that is exactly what I wanted to reverse, namely to give the conductor the function of disjoining or separating. This last thing relates to the third source, which is Stelarc's 'Split Body'. The 'Split Body' is part of the performance art project by Stelarc where the body is connected to a multiple-muscle stimulator making involuntary physical movements possible.

> "Technology now allows you to be physically moved by another mind. A computer interfaced MULTIPLE-MUSCLE STIMULATOR makes possible the complex programming of involuntary movements either in a local place or in a remote location. Part of your body would be moving, you've neither willed it to move, nor are you internally contracting your muscles to produce that movement … There would be new interactive possibilities between bodies".[153]

It is this act of disjoining, splitting and separating the body that interests me, and similarly to Stelarc's involuntarily moved body I consider the conductor/performers as a body that acquires 'involuntary' movements by the separation of the conductor from that body. The conductor operates then in a similar way as the multiple-muscle stimulator in the sense that movements/stimulations (beats/tempi) cannot be anticipated, only their range or spectrum – it is like being controlled by 'another mind'.

The last source is Cornelius Cardew's *Autumn 60.*[154] This piece is structurally important as it is engaged in a very specific relationship between the conductor and performer, namely that the

[152] Cassidy (2009)
[153] From 'Stelarc Psycho Cyber' Documentary (Gruchy, 1996)
[154] Cardew (1967)

conductor and performers do not know, to a certain extent, what a beat will result in; both the tempo and the contents of a 'beat' are unknown until actually performed, caused by a range of possibilities. Moreover, responsibilities regarding these possibilities are taken by the performers in the form of decisions. These are elements that have certainly been influential and are present in *Desiring-Machines*, but in my approach I wanted to employ these aspects and at the same time include slightly more control in order to 'place' the actions at the threshold between the known and the unknown or between the controlled and the uncontrolled, to activate both, which is in fact a third state (synchronously anticipated and extemporaneous; the stable instability). Additionally, I found it important to bring the decisive element into the performance act itself while keeping it somewhat restraint and not only include it as a preparatory element. In this sense, I argue that in *Autumn 60* the conductor has too much freedom/improvisation; there are not enough details or restrictions within the freedom; the conductor is not independent enough; his/her actions are too synchronized with performers; there is not enough tension between the conductor and performers. Therefore, I explored the solution to extract the conductor and grant her/him a part, which establishes the friction and intensity (instability) within the conductor/performer relationship I was after.

3.4 Partial-objects (and the monad), double-conductor mode, on the fractal nature

Within the piece are two groups (placed under and above the conductor's staff). Group A (under) is thoroughly conductor-dependent, meaning they follow the conductor at all times, while the other, group B (above), is only semi-conductor-dependent, meaning that performers within group B only occasionally enter into contact with the conductor and at other times possess their own unique tempo, their 'eigen-tempo' (these performers are equipped with a metronome). See for example the bass-clarinet part in Figure 3.7, where the middle frame is conductor-dependent while the other two are performed according to the bass-clarinet's eigen-tempo (90 bpm).

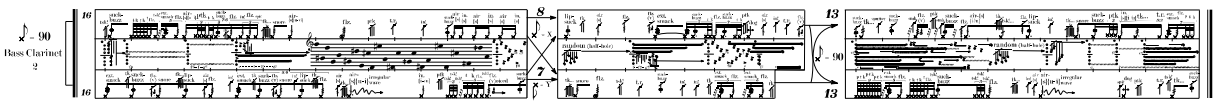


Figure 3.7: Semi-conductor dependent Group B part (bass-clarinet). Middle frame follows conductor while the others follow the eigen-tempo (90).

Furthermore, these occasional conductor-contacts within group B are of different magnitude, which means that some performers have more or less (longer/shorter) of these 'occasions' all the way down to nil occasions, which is the fully separated and 'windowless' monad (the non-affected and

tempo-less percussion 3, which continuously repeats in writing Deleuze&Guattari's quote regarding desiring-machines quoted at the beginning of this chapter). The reasons for this group B particularity – their unique tempi, their on and off relationship with the conductor and that each performer does so differently – are twofold. Firstly, to establish a break or interruption within the conductor/performer stratum – a certain partial involvement – and being already destabilized, i.e. the conductor/performer couple has already met with instability functions, I embed breaks within breaks or second-order instability (instability within that which is being destabilized) and form "*partial objects*, inducing – always at a distance – transverse connections, thereby producing selections, detachments, and remainders".[155] Secondly, I needed a layer that could squeeze itself in between group-A's conductor-dependent stratum, a certain 'bleeding', or rather inverse bleeding, in order to make sure that any rigidity and/or regularity which might form is vaporized. Here I might add that it would have been an option to include two conductors[156] for this very reason of 'bleeding', in order to fully render the 'continuous', since even if the conductor is constantly fluctuating his beats are 'markers', and although the movement is jerky/unstable they (the conductor and those conducted) nevertheless unite in that movement, which would, if all performers were conductor-dependent, be a sort of stepwise, discrete movement instead of a continuous one. Thus, in order to fully fragmentize and destabilize the conductor/performer affair at least two conductors are needed – the conductor phenomenon itself then dispersed (multiplicity tempi stratification) – along with an integration of specific behaviour functions into the possibility-paths, which would shift performers from conductor to conductor (the upper most and lower most staves in each part then corresponding to separate conductors, and therefore possibility-paths junctions, allowing the option of shifting between conductors).[157] The conductors would then together better approximate the 'continuous' as their beats would 'scan' the 'in-between' of each other's beats, and thereby destabilize further the conductor material itself, resulting in a continuous phase-shift or a truer multiplicity within the conductor stratum. And as they would spiral each other within their possibility-paths, an unstable double helix tempi source would form. In fact the piece is very easily upgradable to a double-conductor mode, but for now that remains a potential for future investigation.

This potential of the double-conductor mode as well as the inclusion of the partial objects – along with all other second-order operations (second-order instability, second-order difference, rhizomes within rhizomes, etc.) – is indicative of the fractal nature of the piece, its self-similarity. Thus, it could be said that I am approaching, at least partially, fractal aesthetics.

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[155] Deleuze&Guattari (2004), *Anti-Oedipus*, 315 (my emphasis)
[156] This was my intention but alas was not accepted by the commissioning party (EIC).
[157] The possibility-paths are explained in 3.2 and further in 3.5 (see Fig. 3.11)

> "A fractal aesthetic must be able to respond to the questions: how to simultaneously produce change (produce it systematically, not just receive it) and control it? How to engender chaos and master it in the same gesture?" … "To resolve it demands a philosophy, or an artistic practice sufficiently 'broad' to be the equivalent of a philosophy".[158]

The fractal quality of the piece within the material itself appears for two reasons. First, because of the overall iteration activity each gesture/action is warped or gradually presented at all scales/sizes (all tempi) as a consequent of the modulating conductor (the difference-repetition). This could be denoted as horizontal fractality. Second reason appears because of the sharable material between performers, especially between members of the same family (e.g. members of the woodwinds), which operates more as a vertical iteration; therefore can be denoted as vertical fractality. The latter needs further explanation. The sharing of materials means that not only is the material of a similar nature – sharing similar techniques, sounds, efforts, engagements, etc. – it is also interchangeable, meaning that in fact they could literally shift into one another without great problems (for example flute playing the contrabassoon part[159]). This in fact is the case in the strings, where in group-A strings the violin and the viola share a material frame, and for group-B strings, all three share a conductor-dependent frame (Figure 3.8).

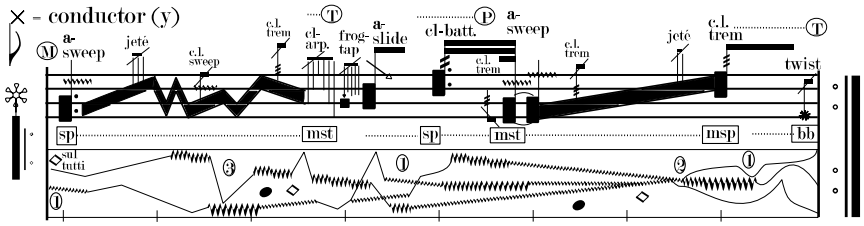

Figure 3.8: String material frame shared by all Group-B strings (vl.2, vla.2, vlc.2)

A special case of interchangeability is between the strings and trombones, where the graphics for the strings' left hand movements (the fingerboard space) are literally 'taken up' by the trombones' sliding movements (the slide position space) (Figure 3.9). Interestingly, the 'when' (the location) of these vertical iterations are unknown as are their scales/speeds, or rather they are continuously at all times and on all scales, uncontrolled, or more accurately, controlled by themselves. Thus, the answer to the above question (Laruelle quote: "How to engender chaos and master it in the same gesture?"): the controlling *is* the production, chaos *is* the master, it cannot be separated. Moreover, the distinction between the 'vertical' and the 'horizontal' becomes less clear, indeed they become (con)fused or spherical, meaning there is no fixed vertical or horizontal configuration – it is hardly

[158] Laruelle (2011), CoN-P, 131
[159] This does not actually happen, but the possibility/potential is there because the material focuses on the physical factors (mouth activity and finger movements)

possible to identify the differences in structural terms as both are ceaselessly jiggling, the 'when' becomes applicable for verticality as 'simultaneity' becomes applicable for horizontality (caused by the difference-repetition).

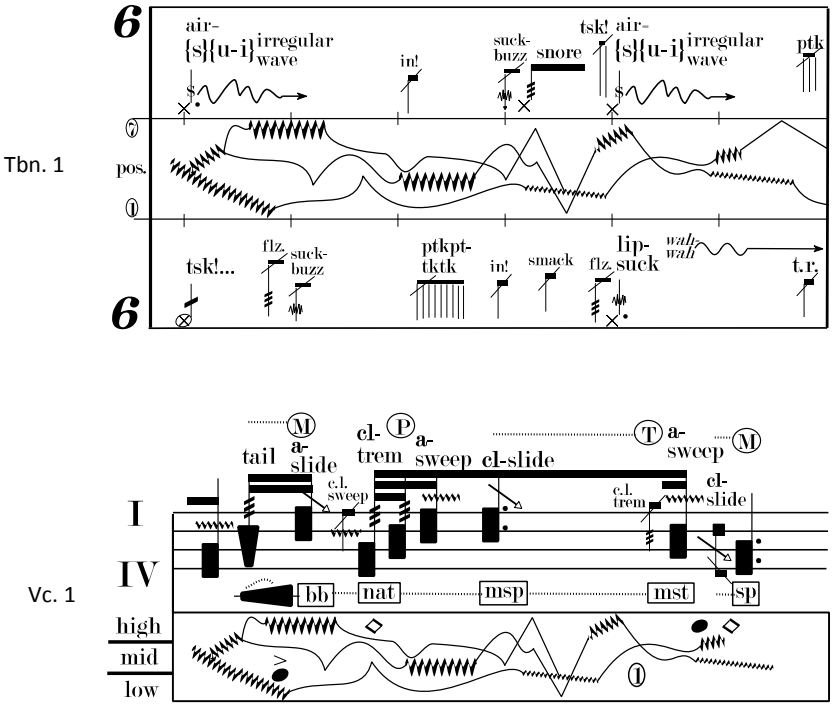

Figure 3.9: Material shared by Violoncello 1 (left hand staff) and Trombone 1 (slide position staff) (at unknown locations and scales). (Where lines intersect a new path can be taken)

Furthermore, it can be said that the material in its most abstract form (i.e. as it exists as an idea) is captured or seized by an instability/separation/fractal function which *is* the ensemble, a multiplicity-machine. The performers, individually, 'attack' the material in a similar vein or with similar behaviour as the whole set of structures affecting them. And, to further the explanation of the fractal nature of the piece, what happens between groups and between individual parts (the endless phase-shifting, non/dis-locations, the active defamiliarization, the ceaseless alterations, etc.) occurs as well *within* an individual part (between the separated frames within frames, the mouth material vs. finger material, the bow material vs. hand material, etc.). This means that each performer is engaged with something that appears on larger and larger and smaller and smaller scales, but transforming qualitatively, indefinitely, without any hierarchy, which is the very definition of fractality. "Thus self-similarity is the property in which the structure of the whole is contained in its parts".[160] In a Pollock painting this is visually demonstrated as similar patterns appear on different

[160] Cederberg (2005), 344

scales, which is also indicative of the nonlocality at hand as one cannot know where one is within the painting, whether given the whole or a small partial frame to analyse (see Figure 3.10).

Figure 3.10: Fractal nature in Pollock Number 32 (1950) – seen at four different scales: whole (top left), part (top right), smaller part (bottom right), smallest part (bottom left).

Although not identical, whole and part demonstrate 'identical statistics' (whole becomes the part). However, I must stress that the dimensionality of my fractal approach is indefinite (as we have seen) and is active on many different levels, i.e. a certain fractal-force is at play in any/all directions within all possible dimensions the piece-activity proposes (sonic, physicality, structure, conceptual, etc.). Thus, the multifariousness involved must not be ignored and fractality must be understood in a broader sense, or as a "dynamic process, against its geometrical and static conception" (i.e. against its pattern repetition/recognition and such notions often associated) and as one which can rather be associated with

> "various proximate notions: intensity (an intensive and implosive fractality, as if 'gathered up' or compressed in its own immanence); to speed (self-similar changes are endowed with increasing speed); the struggle for existence (the fractal process must 'insist' to impose itself and trace its path in the real); and finally force and pulsion (there is a force of irregularity, but there is above all an 'irregularity-force')".[161]

[161] Laruelle (2011), CoN-P, 132

And in addition I will concur with Laruelle when he concludes that there is no master except chaos or that fractality within a creative project is only possible "on condition that fractality is put at the immediate disposal of a fractalization-force and that the latter finds its cause not in 'Being' or in transcendence, which is the element of philosophy, but in a type of reality that the latter hardly even suspects".[162]

3.5 Destabilizing form, the cue-function, molars turning molecular, probability, contingency

> "The rhizome is an antigenealogy. It is a short-term memory, or antimemory. The rhizome operates by variation, expansion, conquest, capture, offshoots. Unlike the graphic arts, drawing, or photography, unlike tracings, the rhizome pertains to a map that must be produced, constructed, a map that is always detachable, connectable, reversible, modifiable, and has multiple entryways and exits and its own lines of flight. It is tracings that must be put on the map, not the opposite. In contrast to centered (even polycentric) systems with hierarchical modes of communication and preestablished paths, the rhizome is an acentered, nonhierarchical, non-signifying system without a General and without an organizing memory or central automaton, defined solely by a circulation of states".[163]

Each performer (including the conductor) 'travels' through his/her unique set of frames or possibility-paths. Nowhere is the same set to be found and whereas each frame includes several possible options a decision has to be made at every junction (indicated by the arrows). This can be seen in Figure 3.11: the upper part (Alto flute part) consists of a set of four frames where each frame is divided into three parts (two finger parts and one mouth part). Only two of these three parts (always one finger part and one mouth part) are played together. Thus at every junction a decision has to be made by the performer which two are played. Similarly, the conductor's set of frames sometimes contain three parts and therefore involves a decision between three options. This renders every repetition unique in length and content (the difference-repetition).

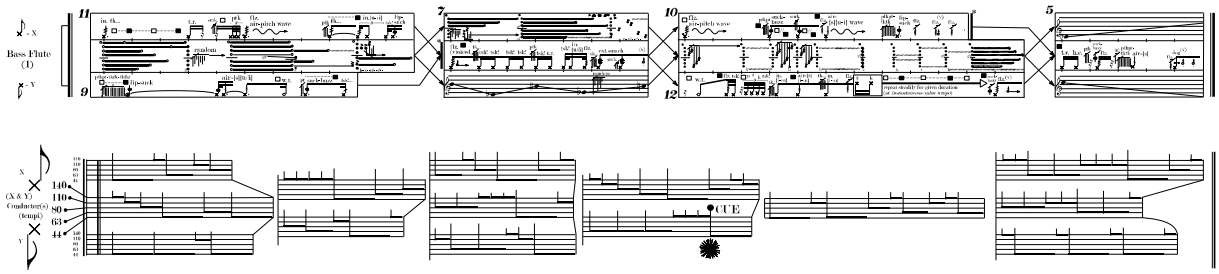

Figure 3.11: Possibility-paths. Alto Flute part, a set of four frames (each including 3 staves where only 2 can be chosen) (above); the conductor's part, a set of six frames (below).

[162] Laruelle (2011), CoN-P, 137
[163] Deleuze & Guattari (2004), TP, 23

The possibility-paths construct a multi-floored action space and together with the cue-function, and the cue-events, they constitute the destabilized form. The Cue (Fig. 3.11, within conductor's 4th frame) triggers individual cue-events, meaning that each performer has his own set, and order, of cue-events. These cue-events are formal elements, albeit individual isolated events ranging from silent activities (for various durations) to activated individual unstable dynamics (for various durations).[164] Additionally, to be at all affected by a Cue some performers have to be reading their lowest staff (their y-staff[165]), which can change at every junction, while others have to be within specific zones in their parts, and still others have simply to be following the conductor (i.e. group-B performers (Fig.3.7)).

Now, adding the theoretical computer science perspective, which would delineate the piece as a nondeterministic (automaton) system, namely a system which has no intention to terminate (not a movement towards anything, but pure movement), where there are multiple possible outcomes (exits) as there are multiple possible inputs (initial states or entryways)[166], that is, multiple possible starts and stops and multiple possible 'in-betweens'. "[A]t each point, a nondeterministic automaton may have several possible moves, so we can only predict a set of possible actions".[167] This is what defines the possibility-paths (decisions) that each performer (including the conductor) is confronted with – proceedings "by breaks and flows" – a network which establishes a certain potentiality and probability dimension (as well as intensifying the difference-repetition). "The variability, the polyvocality of directions, is an essential feature of smooth spaces of the rhizome type".[168] This construction is an essential part of the 'non-identity of the piece' operation. The engaged structures are of the active-rhizome/indefinite type and therefore cannot permit any *identical* 'run' (performance). Hence this type of structure ensures a 'becoming' between instances (performances) of the piece, and that function must be an integral part of the score/piece in order to render the piece's non-identity: "becoming is certainly not imitating, or identifying with something, neither is it regressing-progressing; neither is it corresponding".[169] Other functions are employed to further this quality or property of the piece. These are the aspects of form, which have been destabilized and made probability dependent.

I define form in general as something having molar properties (global attributes), which are usually fixities, and therefore easily forming identities, sections, borders, boundaries, et cetera. In order to turn these molars into the molecular ('molecularization'), or more precisely, to let them gain

[164] See Appendix 3b for cue-events
[165] The upper most staff within an instrumental part is called x-staff while the lowest most staff is called the y-staff, where within a performer 'qualifies' for a cue.
[166] The performance notes state that: Performers+conductor can start anywhere within their material.
[167] Linz (2000), 27
[168] Deleuze&Guattari (2004), TP, 422
[169] Deleuze&Guattari (2004), TP, 263

the molecular, in order to be both, it is necessary to shatter them, destabilize them, 'rhizomatize' and disperse them, let form become something that can happen to a region/individual at an unexpected moment, synchronously anticipated and extemporaneous. This is what the possibility-paths together with the cue-events constitute. Furthermore, in the line of the 'non-identity of the piece' operation, it is necessary to allow them (the formal elements) certain mobility or nonlocalization and unpredictability (by all), a certain 'partially there' without fixity, and construct some built-in functions which secure the non-identity of the piece through these destabilized form behaviours. In this regard, form drops its horizontal dimension, its fixity and linear aspect. Moreover, they (the formal elements) need to have the capability to insinuate themselves into the piece-activity, and that needs to operate on its own, without *fixed* decisions/locations. This is done by allotting to each performer his/her own detached formal elements (the cue-events), detached as in floating/waiting and virtual, which are then activated, *if* conditions are right, by a Cue. It is this '*if conditions are right*' that makes a Cue into a potentialized action within and *of* the piece. It is probabilistic in the sense that no one knows what it activates, who will be affected, and this is part of the second-order instability/non-identity as this secures, on top of previous insurances (previous non-identity functions), that the piece will always have different results, difference within difference. Each performer must satisfy particular conditions in order to be affected by a Cue (specific locations within one's part, the y-staff, etc.) and the qualifications or conditions are loaded with probability because of the possibility-paths. The likelihood of being cued is differently distributed among performers, which institutes a contingency and indeterminacy to the whole activity.

> "Indetermination, the unforeseeable, contingency, freedom – these all signify a certain independence with respect to causes: in this sense, Bergson honors the *élan vital* with *many* contingencies. What he means is that the thing is in a certain way *prior* to causes; we must begin with the thing because the causes come after. Indetermination, however, always only means that the thing or the action could have been otherwise" ... "What Bergson demands of himself is to make us understand why a thing is itself rather than something else. What explains the thing itself is difference, not the causes of the thing".[170]

This relates to the virtuality of the piece in the sense that there are virtual elements that are equally engaged or active as what is actual at every moment (i.e. they are equally real), which echoes my 'mission of pure difference' (or non-identity) and puts contingency in the right context. But it is interesting to consider causality as well. A Cue is always responsible as a cause, in the sense that a certain change can be traced back to it, but this cause is itself indirect and contingent, since it is only

[170] Deleuze (2004), *Desert Islands*, 51 (my emphasis)

partial, indifferent, unaware and might as well trigger nothing at all[171] – and as such not entirely responsible, but only partially so or semi-causal. As Massumi puts it: "it is uncaused, but highly conditioned: wholly dependent on the coming-together of its ingredient factors, just so".[172] Therefore a better term is nonlinear causality. Moreover, a Cue, as well as cue-events, is always dependent on conductor's and performers' decisions (possibility-paths) and in fact, potentially, a Cue might never happen at all.[173]

3.6 The Score as a map/diagram, infrastructure, aesthetics of the reality of performance

In *Desiring-Machines* the score can be said to depart from conventional scores in the sense that it no longer represents in any way an accurate description of moments. In fact it does not represent moments but movements. It is an active score, a continuous multiplicity event. It has discarded any fixity structure. Consequently, it does not serve the conventional purpose for the conductor and in fact the score, in a way, becomes unnecessary (for conventional consideration) since even the conductor has her/his own part. Furthermore, the linearity of the score per se has been extracted. Therefore, the score becomes not a chronological indicator of events but instead a nonlinear map/diagram[174] capable of seizing and shaping any material/content that comes its way, a machine, a dynamic system or function. Thus, I have imported qualities and properties of the structure of nonlinearity onto the score as such. In this respect, it also becomes important that the whole score be presented as a single schematic image/diagram, as a single page, increasing in size when necessary rather than in amounts of pages. This is because a second page would, graphically and conceptually, imply linearity, and therefore break the nonlinearity (and the specific continuity implied). I endeavour therefore to thoroughly engage nonlinearity and non-fixity both graphically, conceptually as well as actually (sonically). The score's alignment of parts is therefore centred instead of the conventional left-justified layout, which would imply a fixed beginning point and a left to right order of events. This also emphasizes the fact that performers can start anywhere within their material (as well as the elimination of moments).[175] This disposition puts considerable restraints on the notational activity as I have to fit all my material within the score's dimensions, but this approach affects the materials also in other ways.

[171] This would happen if all performers were not within their cue zones, locations, y-staff, etc., when cued.
[172] Massumi (2011), 149
[173] There is no ultimate rule which stipulates the conductor to read the staff where the Cue is located.
[174] A map does not presuppose any directionality: any direction is possible.
[175] See Appendix 3a (miniature score)).

When considering notation I like to think the initial notational act to be that of notating fluctuating structures. But 'fluctuating' does not quite capture what is going on. In fact we have to rethink the term 'structure' fundamentally, since structure implies fixity (and conventionally, linearity). When infusing non-identity (non-fixity) on a structural level I not only aim to liquefy or destroy fixity but intend to capture a dynamically active structure – active in itself – a certain multidimensional heterogeneous continuity (continuous multiplicity), an interweaving, twisting and folding activity, where they all *continuously* "dovetail into one another".[176] That is the 'structure' that I grant a prioritized aesthetic value. Moreover, this 'structure' relates to the strange/chaotic attractors encountered in *Non-vanishing vacuum state*, only here I believe to have managed to more elaborately and more thoroughly engage their properties (Figure 3.12). This strange/chaotic attractor is engaged on an infrastructural level (the unstable infrastructure), which inevitably establishes a contingent relationship with horizontal and vertical structures (as well as any fixed sound moments/locations etc. as described previously). In other words the piece performs non-identity; its sonic image is non-fixed.

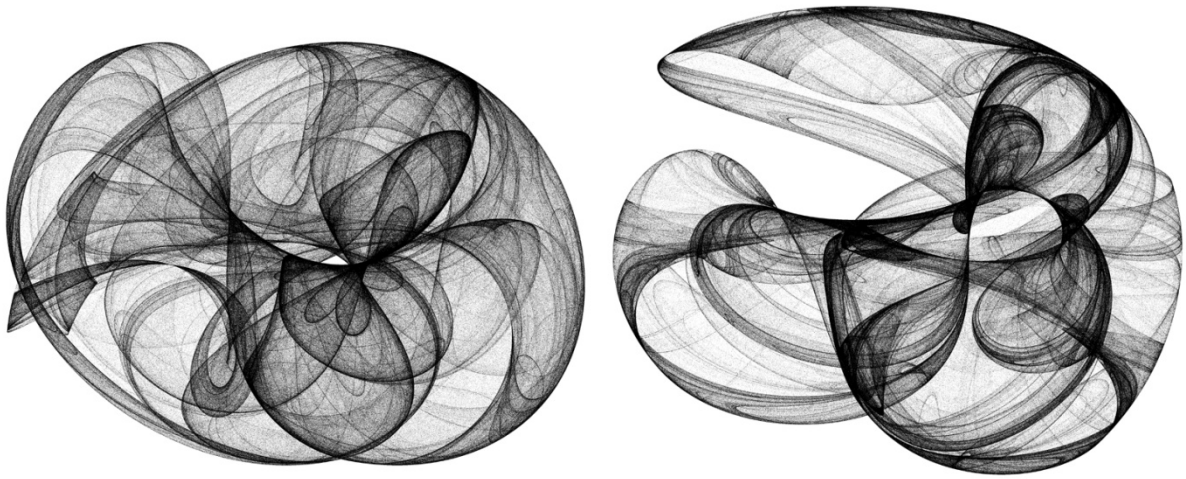

Figure 3.12: Two 'snapshots' of a Clifford attractor (strange/chaotic attractor). (Continuous interweaving, twisting, stretching, folding and 'dovetailing' activity.)
(©Paul Bourke: http://paulbourke.net/fractals/clifford/)

Thus, when activated (performance instance), this 'structure' dominates everything, it takes over. In *that* sense I assert that *Desiring-Machines* is a structurally-based composition. However, it should be noted that my choice of material/content takes this contingent fact into account, meaning that each detail, or each notated action/sound, within each part is considered as being possibly at all tempi and in all combinations with all other details of other parts. This fundamentally transforms the composing

[176] Bergson (1992), *Introduction to Metaphysics*

act. The chief point here is that I am not involved in any (fixed) horizontal or vertical organisation, or specific configurations of sounds/events, and therefore the composing/notating act becomes that of composing a 'structure' that is indifferent to verticality and horizontality in their conventional meaning. This invokes a few questions:

- What constitutes the infrastructure?
- What is the relationship between the infrastructure and the material/content, and the sonic result?
- What is the difference between a piece and a score?

In order to approach these questions the regional functioning within this transitional series needs to be understood: structures/material/notation/score/performance/sonic.

The unstable infrastructure is constituted by the following: the frame structures (e.g. the 3-part woodwind part (Fig. 3.11), 2-part string part, etc.), the possibility-paths, the different lengths of repetitions (and the fact that they are of different lengths within themselves, meaning each repetition is fluctuating and irregular in length), and importantly the conductor. Here, the conductor is seen as being an important part of the infrastructure, not the tempi as such (which are his/her material), but the structural fact that he/she is an independent unit which 'feeds' all conductor-dependent frames while being itself of a different and continuously fluctuating/irregular frame length. I end up with a complex cogwheel construction (cogwheels because of the repetitiveness), but where the cogwheels are sort of liquid-like and made of other cogwheels (i.e. the possibility-paths), and all are of different and continuously fluctuating sizes. Thus intersections are always different (both in sizes, location and quality) as can be seen in Figure 3.13, which also shows the fluctuating sizes of both the conductor (dotted circles) and performers (dotted boxes). In addition, there are the conductor-dependent parts and the semi-dependent parts (group-B), which bring several decoupling-switches in place within this infrastructure (the semi-dependent parts only occasionally engage with the conductor). That is the pure infrastructural activity, the unstable infrastructure, and by inserting the conductor's material (the fluctuating tempi) I intensify this dynamic complexity even further, exponentially – fluctuation of fluctuation (within fluctuation). At this stage I am already engaged with notation – even before any material – a notation of an active occurrent nonlinear structure. Now, when I insert material/content into this structure new structural dimensions emerge, which are the performers' activities and the sonic result. This is where the next aesthetic decisions are made and the notational activity transforms.

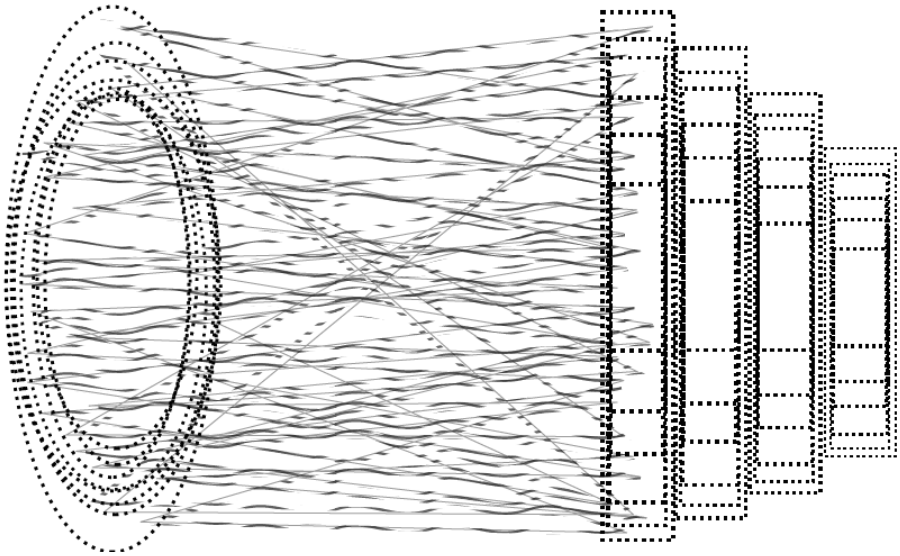

Figure 3.13: The liquid-like 'cogwheel complex'. Continuously altering intersections between conductor and performers caused by the fluctuating sizes here represented by dotted circles (conductor) and dotted boxes (performers).

I regard the reality of performance[177] (i.e. the physical/cerebral aspect of performance) as a separated space, which can be intensified by 'feeding' multitudes of continuously transformable information to the performers. This relates to the Ferneyhough and Lachenmann discussion in chapter one[178], as well as the Evan Johnson discussion in 2.3.3, namely the aesthetic concern regarding elements of physicality (notation based on physical data of performer and instrument rather than sound), information density (notation surplus) and concentration demands (notation of difficulties and near impossibilities) as a means to intensify the performer or to engage the performer on as many levels as possible. This is the statement that asserts that music is a physical/cerebral activity and should be challenged and explored accordingly. Thus, at this stage the notation is engaged with intensifying the individual performer, to challenge physically as well as cerebrally, to set in motion a separation from familiarity, to force the performer into creativity, a creativity understood as pure risk, effort and struggle *at* one's limits. This is the reason for exploring the notation of separated physical activities, which was initially explored in *Non-vanishing vacuum state* by separating the rhythmic material (threefold tempo staff, see 2.3). This also relates to similar explorations made by different composers such as Klaus K. Hübler, Richard Barrett, Aaron Cassidy, Timothy McCormack and others.[179] Figure 3.14 shows a fragment from Barrett's piece EARTH (1987),

[177] The 'reality of performance' is the consideration of performance separated from composing, audience, sonic, i.e. an isolation of the 'performer meets the score' event/space and the emphasis on the intensity, physicality and cerebral aspects of that event.
[178] See **1.7** for a relevant discussion about Ferneyhough and Lachenmann regarding physicality.
[179] Most notably Hübler's *Cercar* (1983) and his third string quartet „Dialektische Phantasie" (1984) and almost all of Cassidy's work for the past decade focuses on decoupling the physical movements and presenting the material on separated staves.

where the trombone's slide movements are presented on a separated staff, thereby focusing on the physicality of those movements both notationally as well as in terms of compositional material.

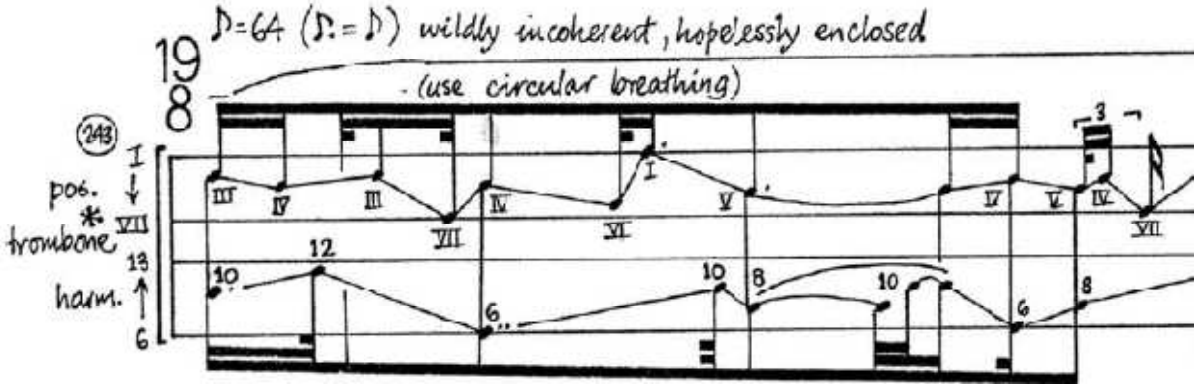

Figure 3.14: *EARTH* (Barrett, 1987), trombone part, bar 243.

However, for me, one of the most influential instances of this approach/technique goes all the way back to Luciano Berio's piece *Gesti* (1966) for solo recorder, where the mouth is treated separately while the fingers repeat particular patterns. Later on in the piece the fingers are individually treated within a certain pitch frame as can be seen in Figure 3.15. Both these examples engage in an unpredictability regarding the sounding result as the Berio's performance notes state: "Because of the frequent "contradictions" between the tension of the lips and the finger positions, and because of the speed of changing patterns, the resulting sound is unpredictable ... sometimes the instrument will produce no sound at all".[180]

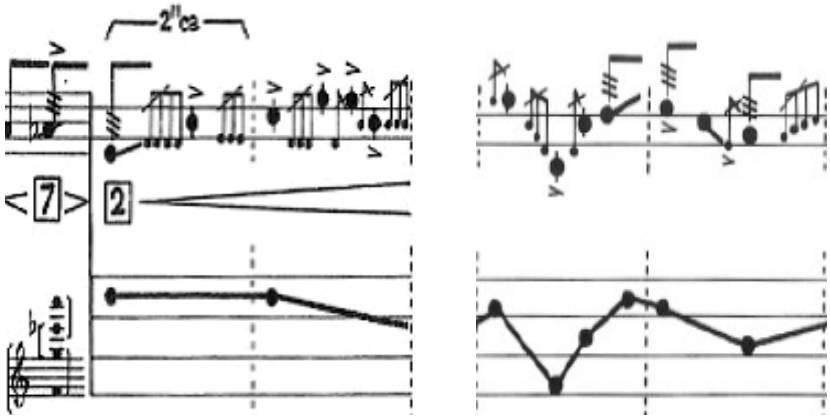

Figure 3.15: *Gesti* (Berio, 1966) for solo recorder, fragments from page 5 and 6.

Similarly, I employ a technique where hands (and fingers) and mouths are split and generate their own performance information/material regardless of each other, where the sonic result is often

[180] Berio (1966), *Gesti*

unpredictable and new vocabulary of techniques has to be explored and approached (continuously) afresh. Figure 3.16 demonstrates where the mouth material and finger material come separated and are independently active in *Desiring-Machines*.

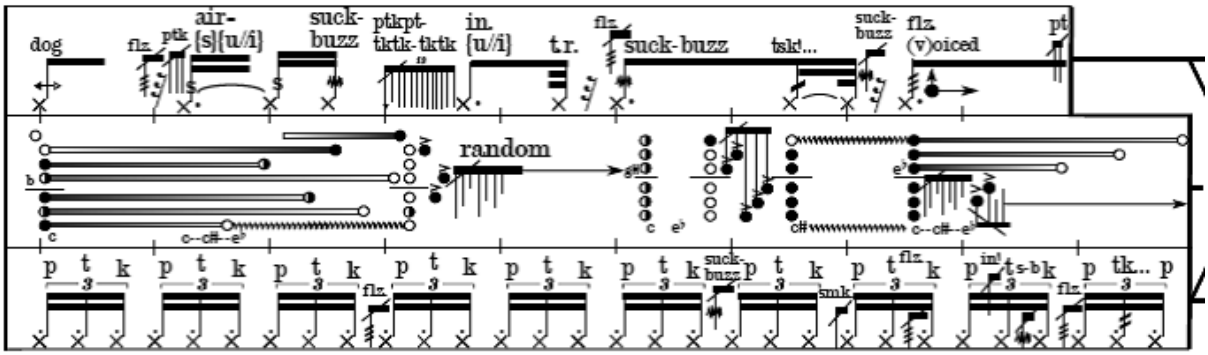

Figure 3.16: Oboe fragment demonstrating the separation and independence of the mouth (upper and lower frame) and fingers (center frame).

This directly relates to the non-identity operation in the sense that by separating these elements I am in fact destabilizing, 'deterritorializing' – this time on a very local level – and in a way dismantling the identities of the performer-instrument and his/her materials. In that regard, I "excite the state that creates art".[181]

Importantly, the unstable infrastructure supports, influences and amplifies this approach, as it situates the performers 'within itself', meaning it continuously transforms the information each performer has to deal with, increasing the concentration demand and impelling them into an ever-changeable, challenging and demanding situation (the adjusting demand). Thus, in combination with their difficult material (which is difficult to perform in itself) and the challenging unstable infrastructure, the performers – as well as their information/material – are intensified and pressurized on several levels at once. Here is the important point: the unstable infrastructure concurs with my aesthetic concerns regarding the reality of performance and it is communicated to the performers in order to intensify them, but *not* to be part of the sonic result ("formative machines, whose very misfiring are functional, and whose functioning is indiscernible from their formation"[182]). The unstable infrastructure acts on the information/material it contains by continuously stretching, twisting, folding and compressing it, which consequently acts on the performer as he/she has to adapt and adjust as the information continues to transform (ever-changing tempo, horizontal configurations, etc.). However, this must not directly influence the sonic result, but only indirectly. It should 'feed' the 'performer meets the score' space without *direct* causal relationship with the sonic.

[181] Nietzsche (1968), *The Will to Power*, 434
[182] Deleuze&Guattari (2004), *Anti-Oedipus*, 315

Why? For then the energy of the infrastructure is preserved in an intensifying way, a second-order intensification. Accordingly, there forms an intensity bubble/buffer which is the performing activity, or performance as 'intensity inflation'. And that is my stance that informs my choice of materials and the reason behind the self-similarity of the material and the self-occurring infinitesimal differencing, whose aim is to conceal the internal aspect, obscure the infrastructure and the reality of performance in order to let the sonic-result become an evaporation, a contingency, a side effect. In that regard the piece exists as a separation act, or the ongoing act of separating the sonic from any compositional prime concern, and as a gap between the audience and the performers. Moreover, the sonic does not represent the score or performance, which is part of the 'non-identity as non-representation' operation. This is why I mainly notate physical actions instead of sounds, since physical actions relate to, and occupy, the reality of performance and not the sonic reality per se. It is also possible to compare this to the first law of thermodynamics which states that heat and work are a form of energy transfer. The sonic is then comparable to the heat flowing from a system that maintains high temperature caused by some work. This heat flowing from hot to cold is the 'waste-energy', which is the energy not usable for 'work' (performing). Accordingly, I can speak in the line of Evan Johnson in that not all the energy that goes into performing is intended for the sonic result. Sounds become residual.

> "Acts of "waste and superfluity" can take the form of leaks in the composer-score-performer-listener chain, ruptures that irretrievably disperse the accumulated energies of one stage of the compositional/performative act in a way that leaves only traces at the margins of the next, so that the eventual sounding result is a residue-bearing core".[183]

Here I can summarise that the score/notation is the intensifier, intensifying the performer and itself (an intensity repetition), not involved as such with the sonic results but focusing on the score/performer communication-event/situation rather than some direct or 'transparent' communication between the performers and audience. That being said, the piece as it is received by an audience, establishes a certain indirect (non-)relation between the audience and the performers because of this focus. This forms a 'sense-heterarchy' in the reception of a performance, meaning that the ear (as the receiver of the sonic) does or should not gain the uppermost importance. Rather, the audience's senses become a sense that senses the 'presence of activity' – as the performers' engagement is more than what meets the ear – and in that sense (literally) the audience becomes a pressurizing unit, as they try to absorb this activity, which is a medium of a certain force working on the performers. Together (performers/audience) they form a technology of bi-directional pressure. The concert event is in this sense a social desiring-machine, which forms because of the indirectness

[183] Johnson (2011), 'On Waste and Superfluity' (unpublished article)

and ambiguity. Hence, audience/performers, score/performers, composer/score, etc., these couples and their constituent parts, and everywhere in-between them and within them, are desiring-machines – each conjunction is connected by the means of desiring-machines and what it connects is a desiring-machine.

> "What defines desiring-machines is precisely their capacity for an unlimited number of connections, in every sense and in all directions. It is for this very reason that they are machines, crossing through and commanding several structures at the same time. For the machines possesses two characteristics or powers: the power of the continuum, the machinic phylum in which a given component connects with another" ... "but also the rupture in direction, the mutation such that each machine is an absolute break in relation to the one it replaces" ... "Two powers which are really only one, since the machine in itself is the break-flow process, the break being always adjacent to the continuity of a flow which it separates from the others by assigning it a code, by causing it to convey particular elements".[184]

3.7 Summary of non-identity as non-fixity within *Desiring-Machines*

What follows here is a short (simplified) overview of where non-identity as non-fixity – having attributes of nonlinearity, continuity, active/occurrent, pure movement/difference, rhizomes, continuous multiplicity and desiring-machines – has been established within *Desiring-Machines.*

- **Individual (local) Non-Identity:** Each instrumental part (performer) moves as non-fixity by 1) performer-instrument instability (separated physical material), 2) itself, i.e. through unique possibility-paths and ever different repetitions, 3) the separated non-fixity conductor (non-corresponding) which functions as a second-order non-fixity on each instrumental part, and thus forming 4) relation-of-nonrelation with the conductor and the score, establishing anti-memory and 'performance through/by sensation', where sensation is established as non-fixity through the *indefinite prolongation of sensation* (the continuous 'updating' of tempo or the adjusting demand).
- **Conductor's Non-Identity:** Conductor is independently non-fixed through his/her own part consisting of possibility-paths and fluctuating repetitions harvesting differences.
- **General Non-Identity:** The above combined forms the difference-repetition, a structure that performs non-fixity, where moments are non-fixed throughout and horizontal and vertical

[184] Guattari (2008), *Chaosophy*, 96

organisation as fixity no longer exists. Consequently, sonic-result (sound configurations) is non-fixed.

- **Destabilized Form as Non-Identity:** Form demonstrates non-fixity through the Cue-function which triggers dispersed independent events (cue-events), where the order of events as well as which events coincide (and which performers constitute the events) is a non-fixity operated by a probability dimension established by collective possibility-paths.
- **Global Non-Identity:** The piece as such can be said to have non-identity as non-fixity, where separated performances will become non-identical, but displaying a fractal similarity. This is caused by all the above factors as well as the multiple 'entryways' (performer+conductor can start wherever within their material) and 'exits' (the conductor can stop the piece after 31-47 conductor's cycles, which amounts to 17-27 minutes).

4. Conclusions

My compositional development has been outlined in the preceding chapters and it is now quite evident that my engagement with philosophy – particularly Deleuze and related thinkers – has over the course of this research gradually been increasing its impact on my thought and compositional approach. Moreover, this engagement has led to a fundamental critique on fixity and identity within music in general and composition in particular. Interestingly, at the beginning of my research my compositional thought was in some sense in opposition to the continuous non-fixity, as it was conceived of as a collection of discrete objects (identities), but *within* those very objects the inkling for pure movement was present through the phase 1 sound-relationship method – the vertical interweaving of sounds. Thus, it was through a critical and microscopic revision of one of my basic elements which propelled me away from any fixity/identity base and onwards to phase 2 where a certain eversion technique was realized, enabling non-identity exploration. But phase 1 also prepared what followed in another way, namely by considering the object as a phenomenon without beginning and end, and by the multiple perspective approach (coupled with the parallax/anamorphosis conception), where the infinite was approached by the discrete and the finite (as if one could count to infinity).

During phase 2 this tendency came to be realized in a more veracious manner where the 'infinite' was understood as a property of something simultaneous and without an end or boundary, and as a continuous nonlinear function. This was further delineated and put into effect through Bergson's 'second way of knowing' and Deleuze's 'difference in itself' at the beginning of phase 2, which was encapsulated as non-identity. This set the tone for the rest of the discourse. Phase 2

ventured towards non-identity with the question: how to compose and perform non-identity? This question brought forth several solutions that proved to be highly conducive to further development. But phase 2 was also engaged with performers physicality issues (*Non-vanishing vacuum state*), which led to specific 'physiological' explorations (*Negative Dynamics I(a/b)*) and notational reconsideration (i.e. the notation of physical actions and of pure notation). The latter instituted (as a spin-off) the theoretical composition trajectory which I intend to develop further during upcoming projects.

Phase 3, however, continued on the non-identity trajectory and worked out in elaborate detail how to apply the non-identity concept to as many elements as possible. Phase 3 demonstrated the application of non-identity within the performance itself and within the performer (through 'anti-memory' function), establishing a relation-of-nonrelation, or pure relation, between (or around) conductor, score and performer – and on a deeply infrastructural level, which rendered sound and form secondary. Moreover, it is now evident that the focus on separation or separating inseparable elements (such as conductor/performer, structure/sound, physicality/sound, etc.) renders a multidirectional and multidimensional instability, which is a resultant aspect of exploring non-identity. This results, conclusively, in a certain eradication of identity within music and composition, an activity much related to Deleuze's critique of identity and in that sense I could say that I practice a Deleuzian composition. A Deleuzian composition is thus the aesthetics or the principles of destabilization/deterritorialization and the elimination of fixity/identity within anything that can be regarded as musical material, therefore affecting composition, material production, performance, notation, perception/sensation, etc. Moreover, it is a force with the properties of the infinite. It aims for the immeasurable or towards no end, it is the "language of the infinite", as Laruelle describes Deleuze's philosophy.[185] Of course this 'ethos' has many paths and my path here outlined is but one, which is influenced by my own history as a composer and therefore the destabilization/deterritorialization was applied to that which I had come to consider my compositional language (materials, techniques, habits, focus, likes and dislikes, etc.). In effect, this ethos operates as a de-conditioning process of one's own approach, slowly eliminating the 'conventional composer' (the personal composer, who has *fixed* sound idea(l)s) in order to let the ethos itself, as a force, take over. Eventually, the composer then becomes something else, since his decisions will not form fixities, or rather the composer's decisions construct a 'composition of decisions' or 'composition of composition' (meta-composition), a space of relation-possibilities, a virtuality – a continuous problem with many solutions, is what results.

[185] Mullarkey (2006), 33

> "The virtual possesses the reality of a task to be performed or a problem to be solved: it is the problem which orientates, conditions and engenders solutions, but these do not resemble the conditions of the problem".[186]

This is the aesthetics of the philosophy of immanence, or simply the aesthetics of immanence, where "dualism is the enemy" and no interior/exterior definitions apply.[187] Nothing is outside the system, "but there is 'ultimately' or 'fundamentally' only one stuff, matter".[188] Accordingly, all has to be inherent, indeterminately, within the performance material or the score. Compositional factors such as sound, form, configurations of moments, variability, organization, etc., occur or emerge within the piece itself as a pervading immanent property. Therefore, this is the endeavour that "*performs* rather than represents the Real"[189], in order to resonate, intensify and continue the real. Thus, representation is eliminated at all levels, meaning a piece does not represent anything outside (programming) or inside itself (recapitulation, or associative echo of any type), the sonic does not represent the score, the performance not the composer, etc. Hence, only non-representational methods prevail. This, one might think, would render a highly arbitrary composition, but it simply redefines the activity and the effort or challenge of music and the composer, who now has to reinvent his function. This ultimately questions the idea and the identity of the author/composer (or the creator), and I envision (with the aid of technology) a composition where the scores themselves as well as the performers' physical movements appear amidst the performance, a certain reversal where the score becomes like a recording or a tracing document. Furthermore, the logic of the score (its pure linearity) has been challenged by *Desiring-Machines* and I aim to more elaborately explore that trajectory in the future.

Another explorative issue which I intend to develop further is the double-conductor mode (see 3.4), which will continue and extend the *Desiring-Machines'* approach to tempi-stratum destabilization along with extending the research into new (value or non-value based) rhythm notation in relation to the separated tempo source. Physicality aspects first explored by *Negative Dynamics I(a/b)* will also be developed further, there I envision a physicality beyond sound, i.e. to compose for a performer/instruments without their sound-source, e.g. violin or piano without strings, where the instrumental mechanism along with the physicality of performance is studied in isolation. Furthermore, as a step towards theoretical composition, I foresee a project for (humanly) un-performable instruments, such as a nano-guitar, which is unperformable for the reason of it being merely 10 microns long (by comparison, the diameter of a human hair is 200 microns). This will put

[186] Deleuze (2004), D&R, 264
[187] Mullarkey (2006), 7
[188] Ibid., 7
[189] Mullarkey (2006), 146 (italics in the original)

considerable weight on notation and what notation directed at a non-human performer/instrument means, which will help in the development of theoretical composition.

It is now quite apparent that my research is and will be an ongoing activity, as it has many possible future trajectories that can be developed in isolation or in combination, both theoretically and practically. Furthermore, my engagement with the field of philosophy will certainly continue and might extend itself into more text-based activity. But what has been delineated here will be invaluable as a set of principles for any future direction I might opt for, and therefore the non-identity concept developed and applied by this thesis will remain my fundamental approach to composition, as a point of no return.

APPENDICES

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Appendix 1b: Topiary: R, R1 and R2 (beginning/end 'cut offs')

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Appendix 2b: *Non-vanishing vacuum state*, section 1 example of torus attractor state

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Appendix 2e: *Negative Dynamics I(a/b)*

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Appendix 3a: *Desiring-Machines* (miniature score)

Appendix 3b: Cue-events within *Desiring-Machines*

Appendix 1a: Instrumental Techniques (extended techniques) (1/2)

Strings - Developed during *Quanta*:

Pressure tremolo = tremolo with sustained extra pressure, sort of hacking.

Frozen-bow = no bow movement is to be executed. The bow is to be pressed with force onto the strings indicated. Only the subtle sound of fingertips (left hand) moving over the strings is to be heard. These highly subtle sounds (airy-whooshing sounds) of fingertips moving over the strings are best produced by putting minimum pressure on the string by the finger, just enough to make contact.

Hair-crush = put such pressure on the bow that the hairs get crushed between wood and string(s).
In this position perform lengthwise motions (to and fro) with the ***wood*** *only*, resulting in the wood crushing the hairs up against the strings (squeaky sounds). The hairs keep their position on the string while the wood part is moved. Three stages are possible; 1) single-crush (quick *to* or *fro*), 2) tremolo-crush (to and fro repeatedly), 3) motionless=silence (keep pressure) (notated with rests). Left hand should always damp the strings.

(Frozen bow +) **Twist-crunch =** keeping bow-hairs in position, pressed on strings, quickly twist the bow to/fro, using the fixed position of the hairs as pivot. The hairs position does not change.

Frog-tap = gently tap with *edge* of frog on indicated places on the string, presto possibile but irregular. Left hand should always damp the strings.

Bridge-sweep = as normal sweep, i.e. lengthwise sweeping the strings, only the sweeping takes place at the bridge, crossing the bridge every time in each sweep (i.e. sweep from *behind-bridge* to *sp.*)

Strings - Developed during *Desiring-Machines*:

Left Hand

Movements are indicated on a fingerboard-space along with indications regarding finger pressure, i.e. flageolet-touch ◇ or natural-touch ●, as well as how stretched the fingers are from each other (indicated by circled numbers), i.e., 1=most compact and 3=most apart/stretched.
All of these indications (pressure and stretch) are always active until the next sign.
The wavy lines of different sizes indicate a range of lengthwise motion (small to big): vibrato-->vibrato molto-->rapid gliss up&down.
Group A strings: All fingers should always have contact with all strings (indicated by sul tutti).
Multiple paths are possible, the general instruction regarding these paths is the following: where paths intersect a new path can be taken. It is encouraged to explore these possibilities to full extend.

= Indicates a repeated as-fast-as-possible finger pattern at approximate location on indicated string. Always flageolet-touch.

= Indicates a "hammered" down on strings action.

Right Hand (bow)

Actions and rhythms are indicated on a string-staff with further indication regarding positions under and above the staff.
Bow position on instrument:

bb = behind bridge **msp** = molto sul ponticello **sp** = sul ponticello **nat** = natural position
st = sul tasto **mst** = molto sul tasto **bN** = behind Nut

Dotted line ( ) indicates gradual movement towards the next indication.
Arrowed line ( ) indicates that a position is stabalized for the duration of the line.
Bow part indication: = au talon = middle-bow = punta (remain active until next indication unless a dotted line is attached)
a-sweep, cl-sweep = arco or col legno sweep technique: rapid lengthwise movement (e.g. between st//sp).
a-slide, cl-slide = arco or col legno slide technique: lengthwise sliding for the duration of given note-value. Slide direction is indicated under the staff.
jeté = Always arco unless stated: cl-jeté, then col legno.
cl-batt = col legno battuto, single attacks.

= arco tremolo on the tail = arco slide on the tail (to or from bridge) = arco tremolo on the body (either side)

Twist = a rotation of the bow changing the angle between the bow/hairs and the strings. The hairs remain in position, only the angle changes.
Frog-tap = simply beyond the talon, with the *edge* of the frog, tap (and/or sweep/gliss) where indicated.
esb. = Extremely slow bowing: barely moving the hairs over the strings, with normal to very little pressure always maintain a soft, unstable creaky sound. Normal position is intended. When/if entering "Dynamic Instability" this technique transforms to extreme pressure sul ponticello.

Appendix 1a: Instrumental Techniques (extended techniques) (2/2)

Winds and brass dictionary developed during *Non-vanishing vacuum state* and *Desiring-Machines:*

ex. = normal exhaled air sound.

in {i}, {u}, {u//i}, {i→u} = Determines the pronunciation accompanying the inhaling air sound, either as fixed (u,i), alternating (u//i), or gradual (i→u).

in. ttt... = Inhale whilst chopping the air with as-fast-as-possible "t" Interruptions (much like a shaking-jaw caused by extreme cold). High muscle-tonus!

in! = Very rapid, staccato, inhale.

tktk... = Unmeasured, continuous, double tonguing (air). (as-fast-as-possible)

p t k = Specific, air-based plosives, measured attacks: **t**, **k**, or **p**.

Trr flz. = Flutter tongue with a strong initial "**T**" accent.

airless flz. = Flutter tongue without air from the lungs; simply a mouth cavity sound formed by forcing, with muscles, a rolling tongue.

tsk! = Dental click, sharp/short (high-pitched) squeaky sound made by sucking on the front teeth. (as in pitying: tut-tut!).

tsk!... = A continuous, as-fast-as-possible, repetition of tsk!

horse click = Squeaky sound, made by sucking on the molars on either side (or both sides) of the mouth. (e.g. to get a horse moving).

pop-click = Alveolar click, the tip of the tongue is pulled down abruptly (and forcefully) from the roof of the mouth, producing a hollow pop sound.

plop-click = Palatal click, similar as pop-click but made with a flat tongue and thus producing a softer pop sound.

lung in/out (dog) = The traditional dog-breathing involving the lungs, this should be done at a maximum possible speed.

muscle in/out (jaw open/closed) = Unlunged air sounds. Rapid back & forward movement of the tongue's back-muscle whilst pronouncing: {u}. Either with open jaw: air pressed in/out through the {u}; or closed jaw (teeth together): air is presses into cheeks *as well*, thus producing more air turbulence.

suck-buzz (tongue, lips) = Buzz sound by forced suction, 1) sucking the tip of tongue up against the hard palate, 2) sucking on lips pressed together. As high "pitched" as possible, unstable as well as multiphonic.

teeth-on-lip suction = High squeaky/unstable suction produced by putting the front teeth together and up against the lower lip. (best results with a little saliva on the lip, and keeping the lips in slow motion: loose→ pursed)

smack = A kissing like sound - should always be staccato.

slap = Air puffs with the tongue. Should always be air-based and as dry as possible.

spit = A very quick "t" like sound, although with more air.

t.r. = tongue-ram: sudden closure of mouth cavity involving the tongue reaching the hard palate and the back of the front teeth. (hT!)

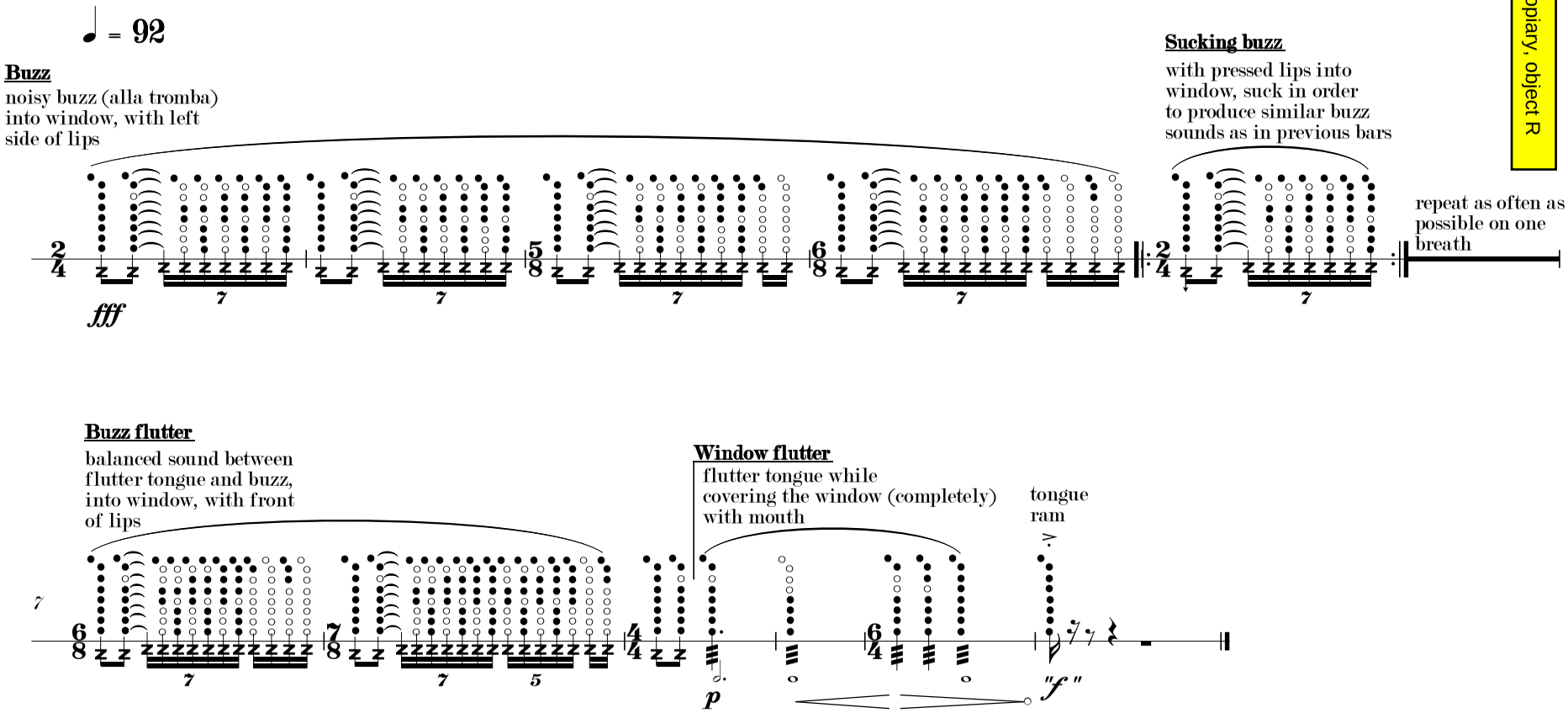
lip-suck = Unlunged forced suction. Produced by putting/pressing the upper front teeth over the lower lip and suck. High squeaky/unstable sound. (best results with a little saliva on the lip, and keeping the lips in motion (sidewise) under the teeth)

Ext.-smack = prolonged smack sound, i.e. a sustained sound produced by presssing the lips together with high pressure, while performing forceful suction. (always squeaky and as high 'pitched' as possible)

snore = Artificial snoring through instrument. Inhaling air while narrowing upper throat resulting in the vibration of the uvula.

t-c-smack = Repeated tongue and inside cheek smacking sounds, as in tasting food. Always as fast as possible.

R


♩ = 92
Buzz
noisy buzz (alla tromba) into window, with left side of lips
fff
Sucking buzz
with pressed lips into window, suck in order to produce similar buzz sounds as in previous bars
repeat as often as possible on one breath
Buzz flutter
balanced sound between flutter tongue and buzz, into window, with front of lips
Window flutter
flutter tongue while covering the window (completely) with mouth
tongue ram
p
"f"

R1

Change to soprano recorder

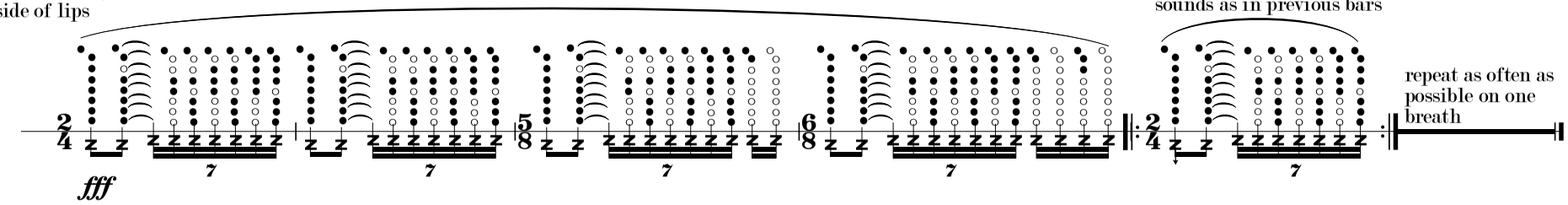
♩ = 92

Buzz

noisy buzz (alla tromba) into window, with left side of lips

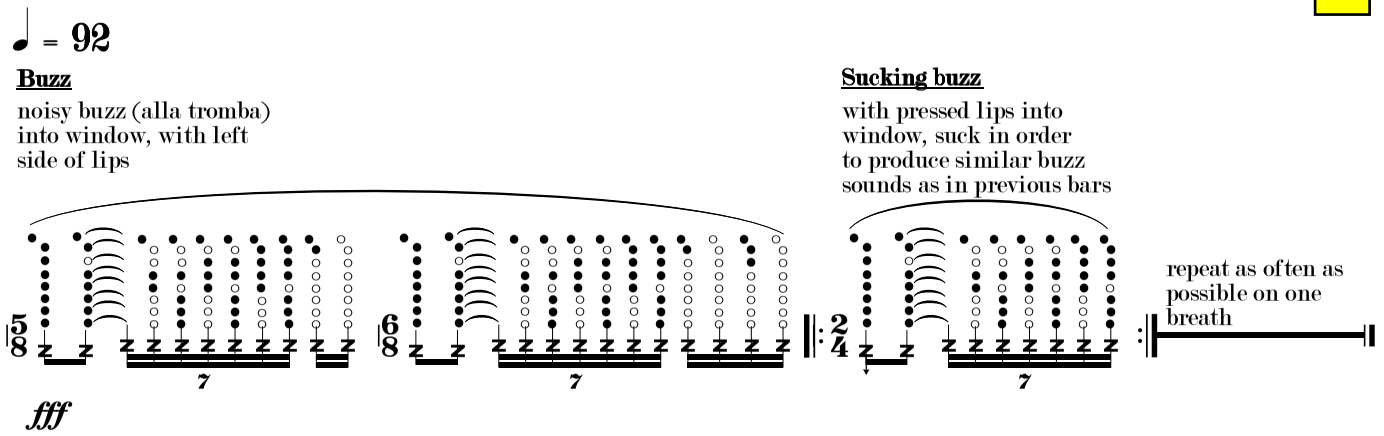
Sucking buzz

with pressed lips into window, suck in order to produce similar buzz sounds as in previous bars



repeat as often as possible on one breath

R2


♩ = 92
Buzz
noisy buzz (alla tromba)
into window, with left
side of lips
Sucking buzz
with pressed lips into
window, suck in order
to produce similar buzz
sounds as in previous bars
repeat as often as
possible on one
breath
fff

III

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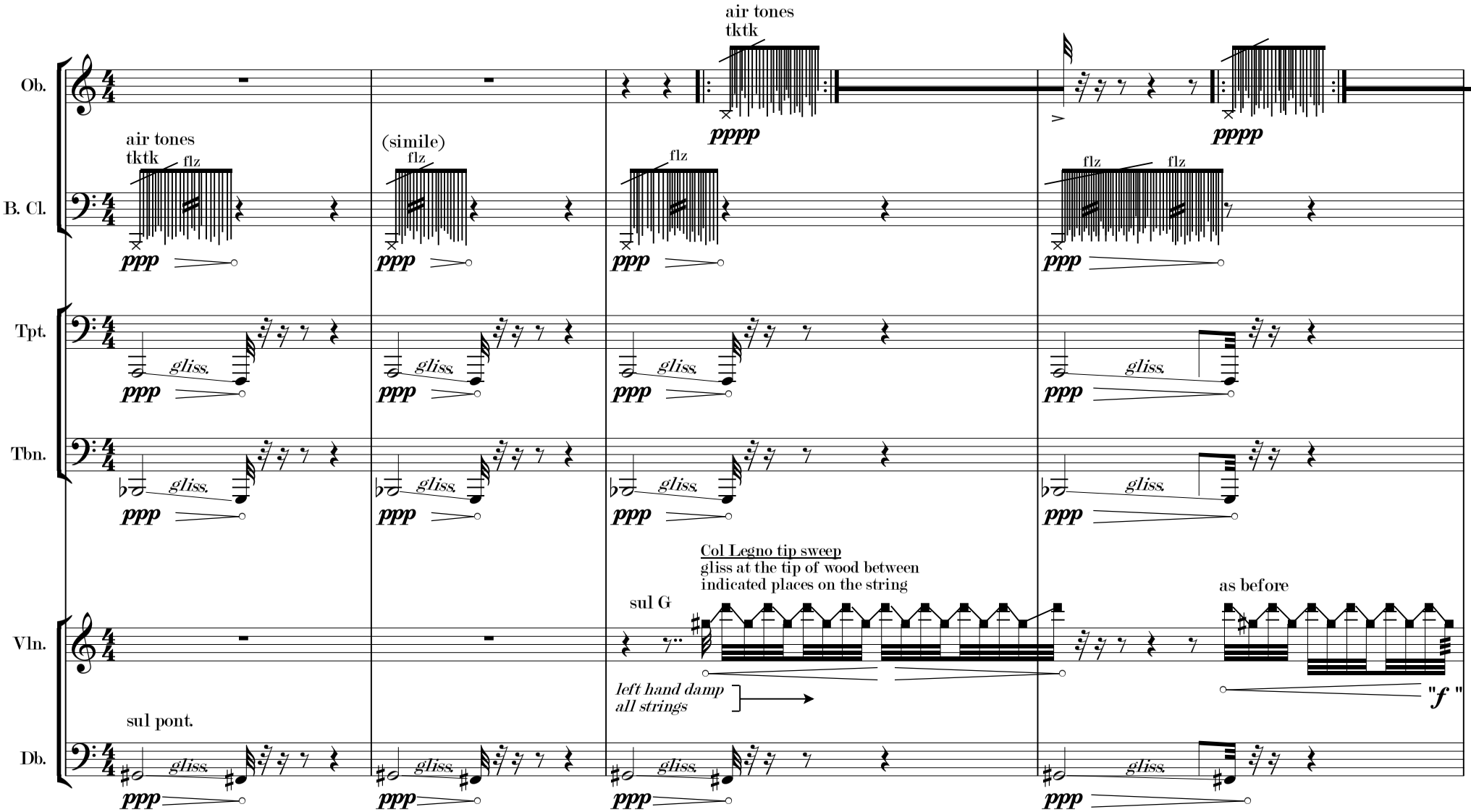
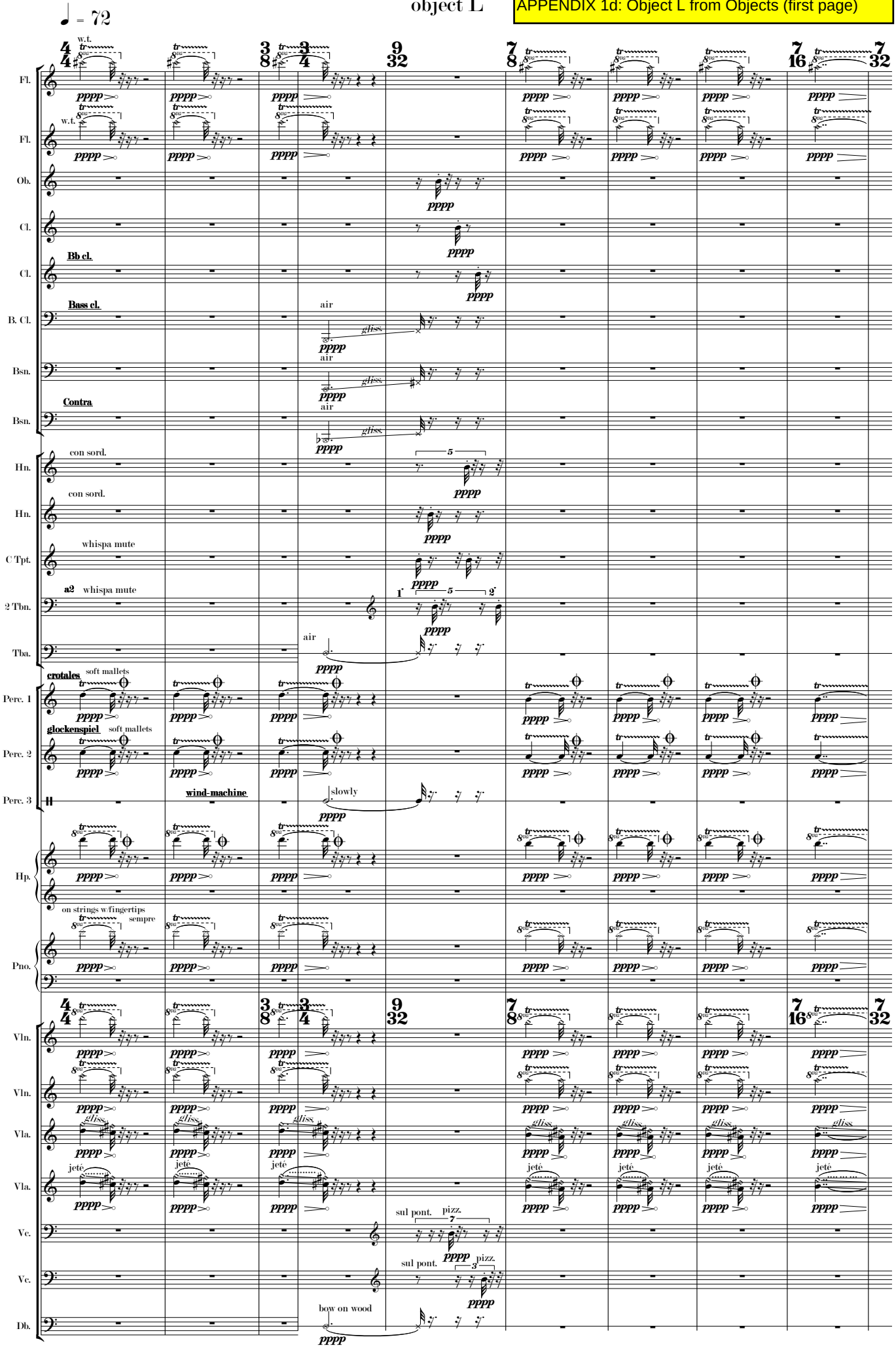
APPENDIX 1C: Tendencies, movement III (first page)

♩ = 40

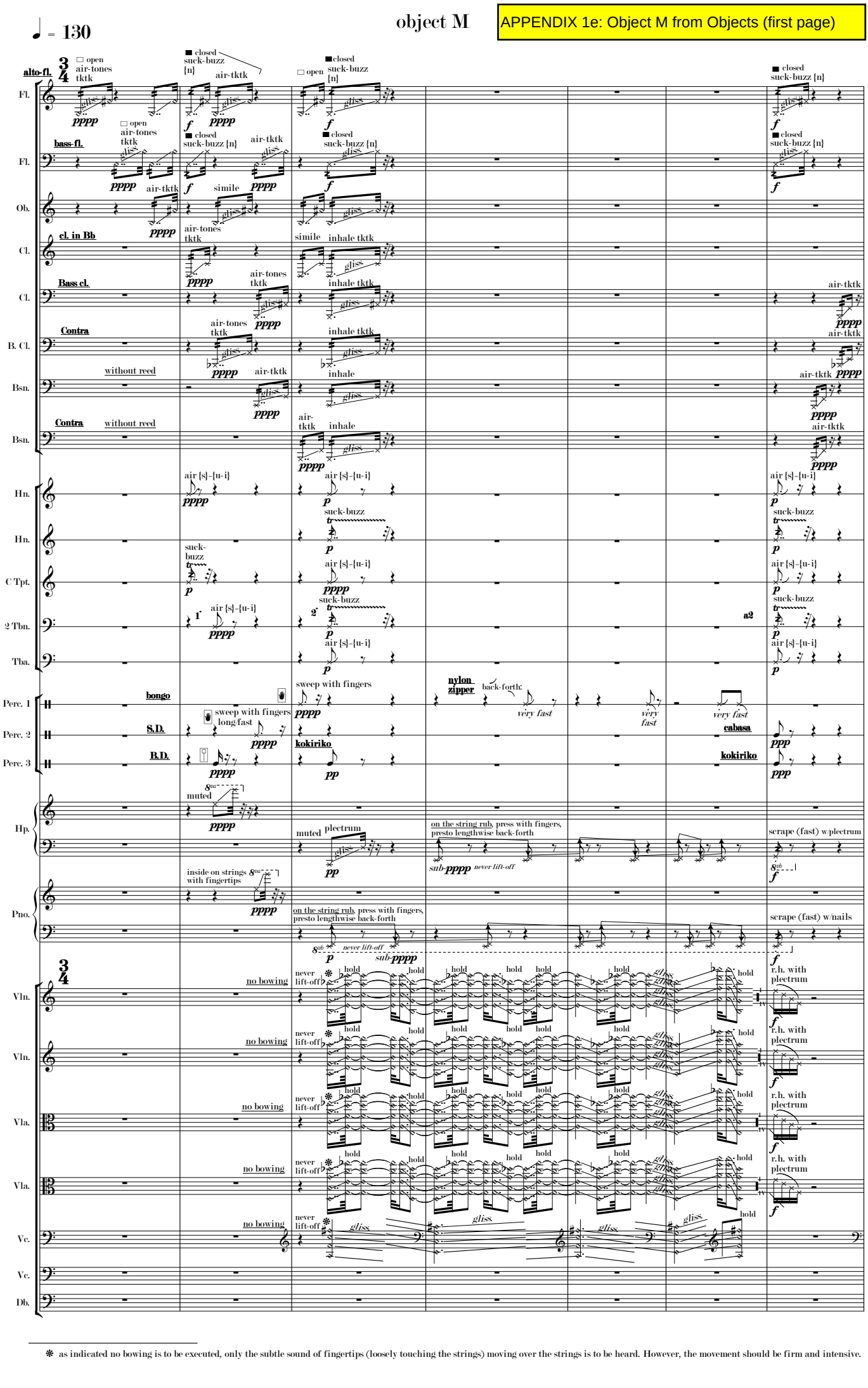


object L

APPENDIX 1d: Object L from Objects (first page)

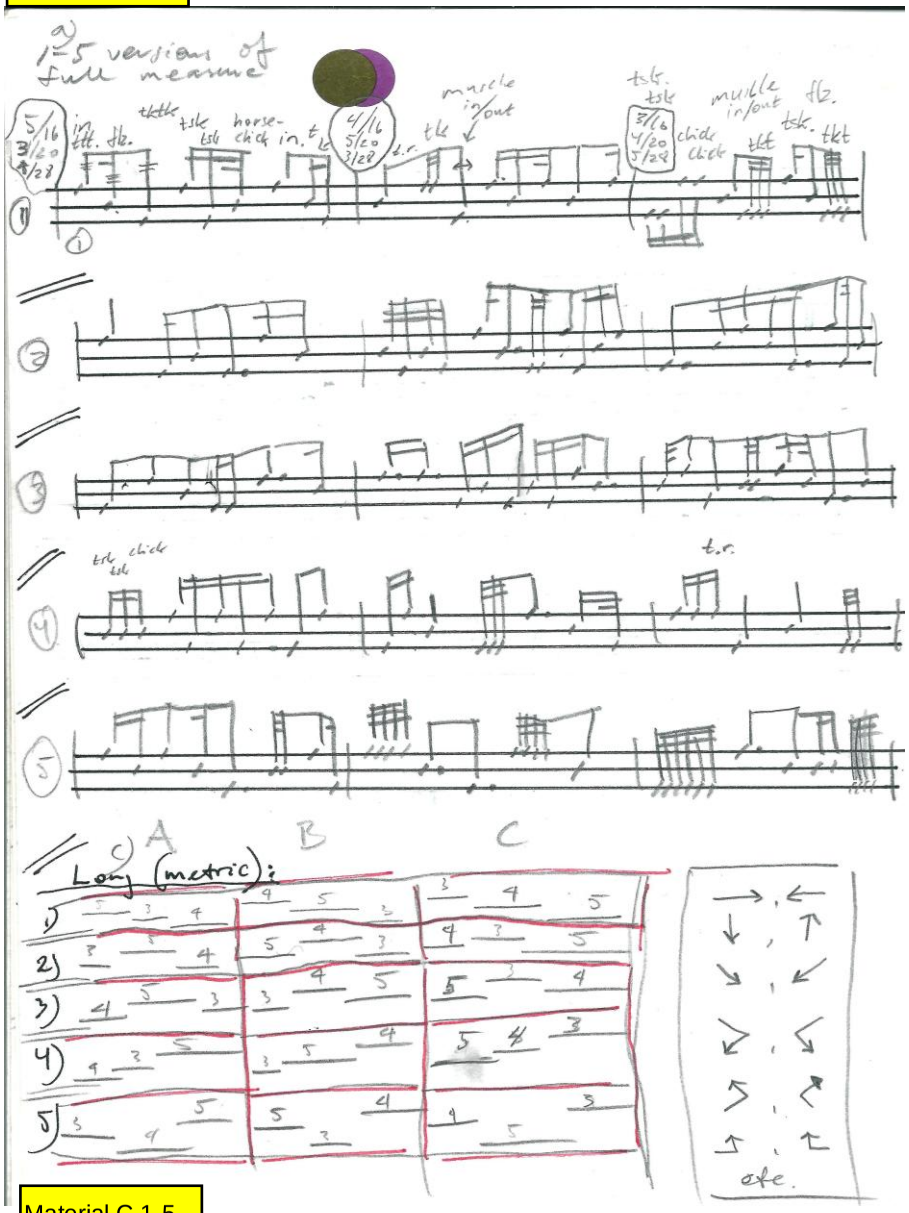


APPENDIX 1e: Object M from Objects (first page)



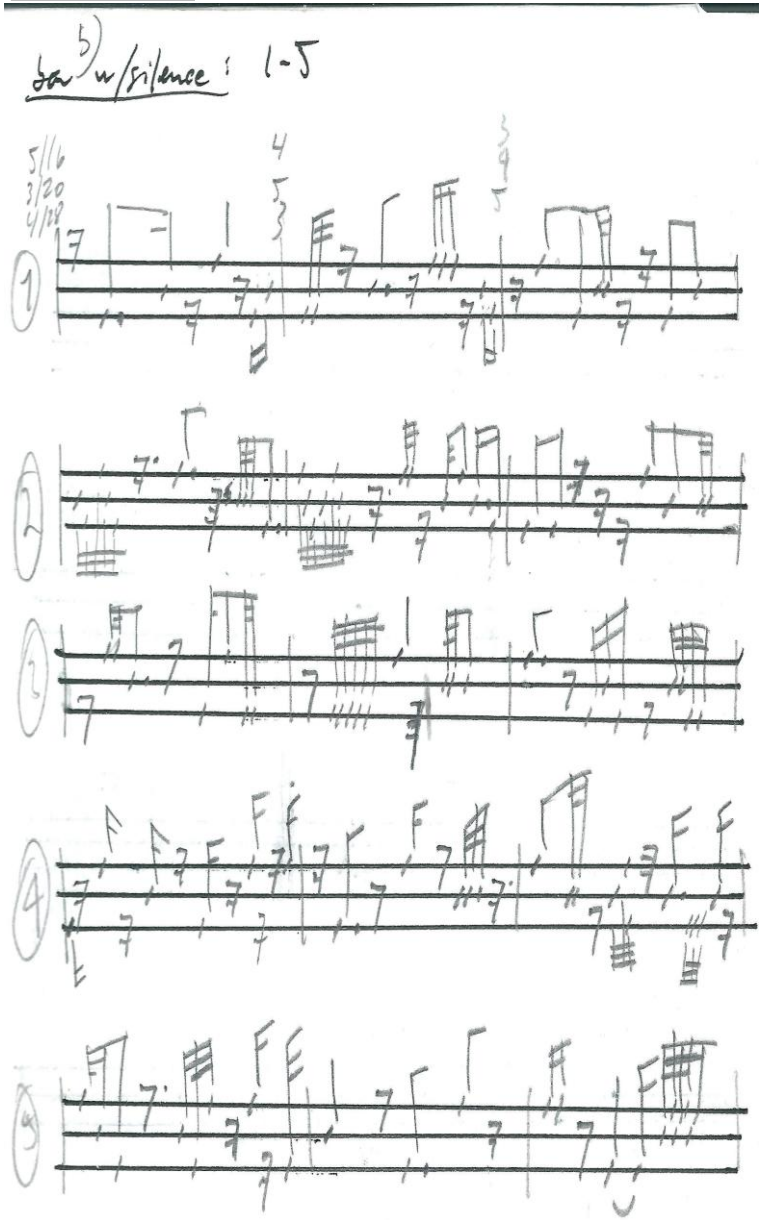
❋ as indicated no bowing is to be executed, only the subtle sound of fingertips (loosely touching the strings) moving over the strings is to be heard. However, the movement should be firm and intensive.

Material A 1-5



Material C 1-5

Material B 1-5



APPENDIX 2a: Basic Rhythmic Material: A1-5, B1-5 and C1-5 (corresponding to table 2.2)

APPENDIX - 2b: first section, semi-torus state.

Non-vanishing vacuum state

(and the visual data might not correspond to the movements of the head)

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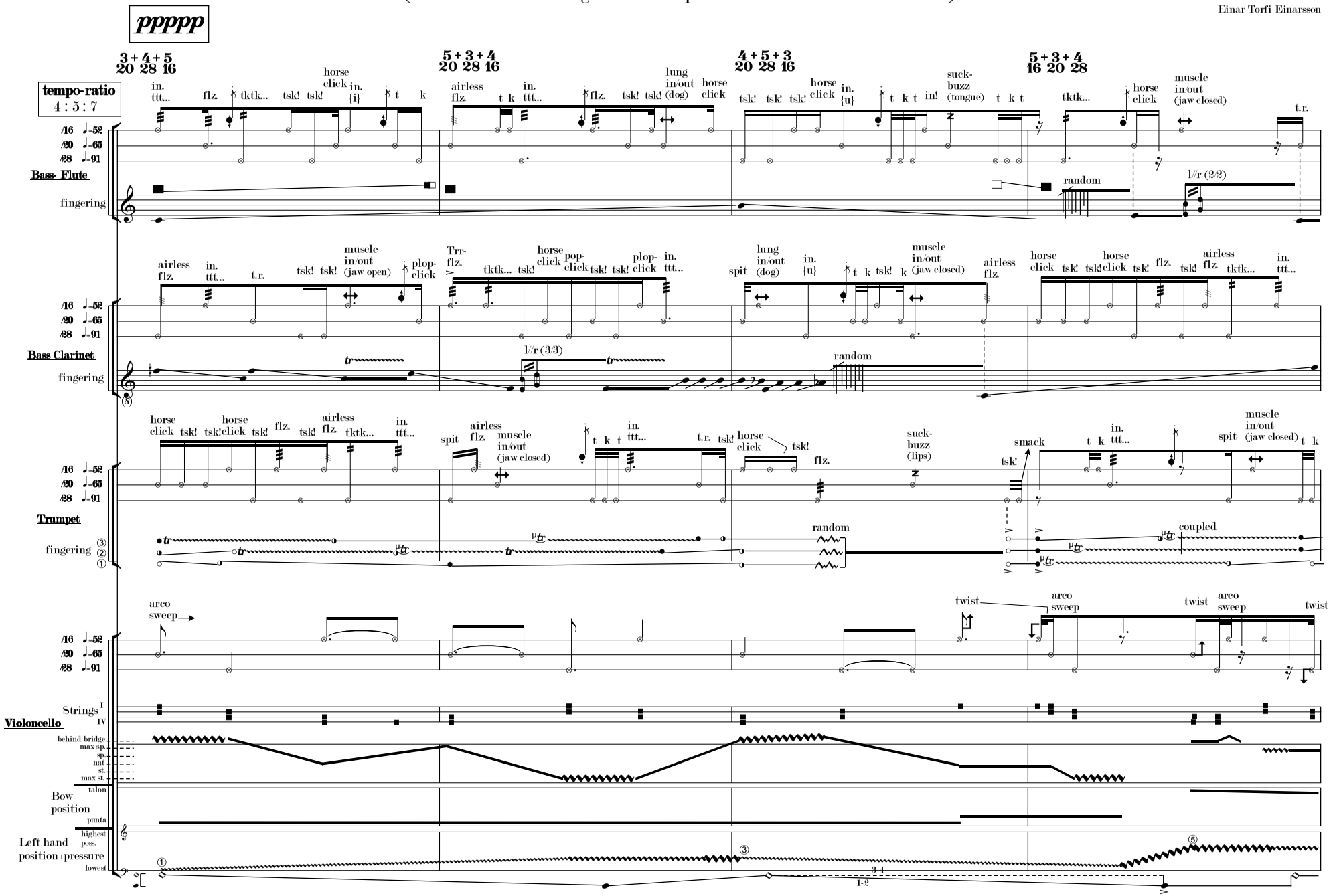
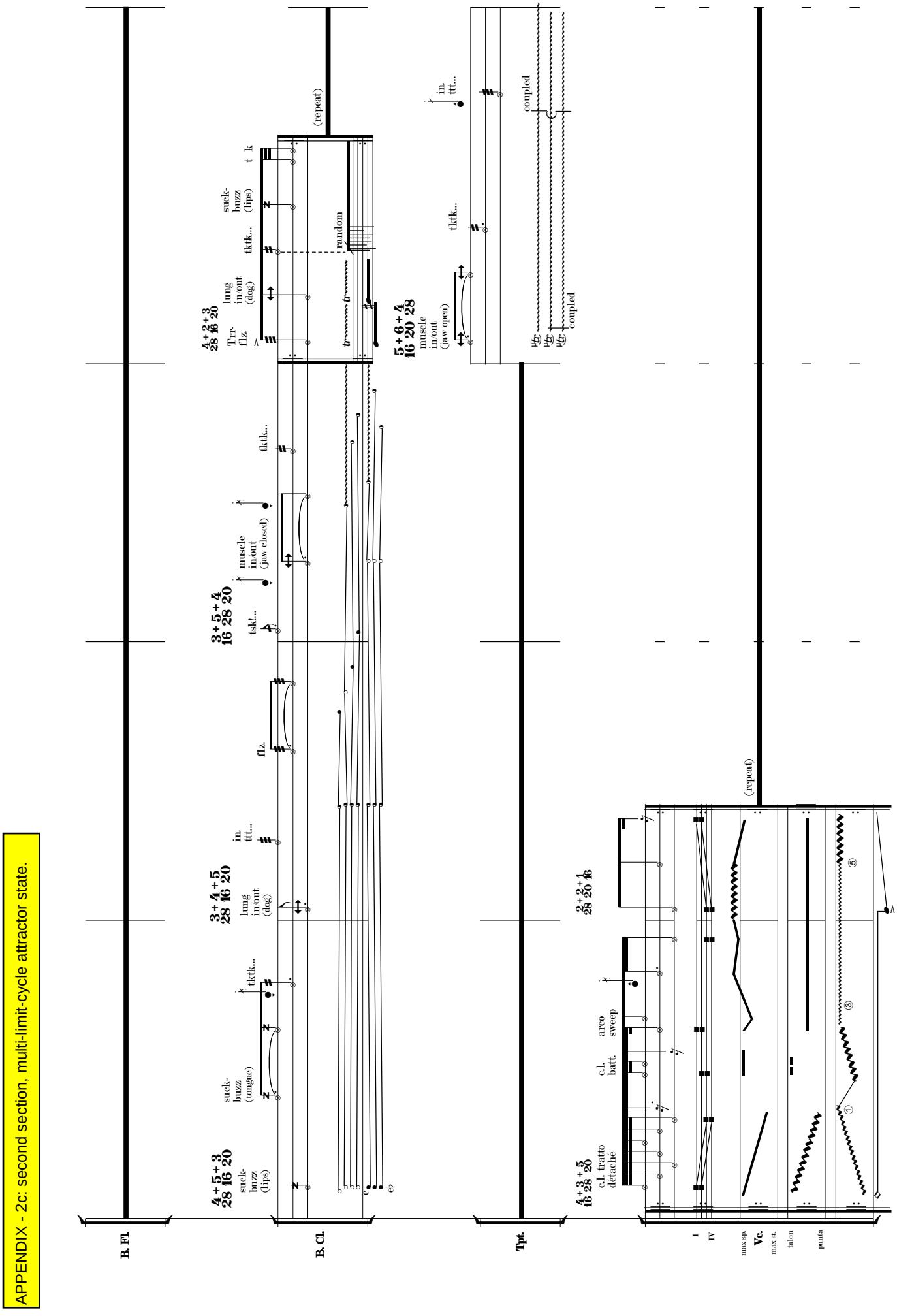


APPENDIX 2b: Non-vanishing vacuum state, section 1 example of (semi-) torus attractor state

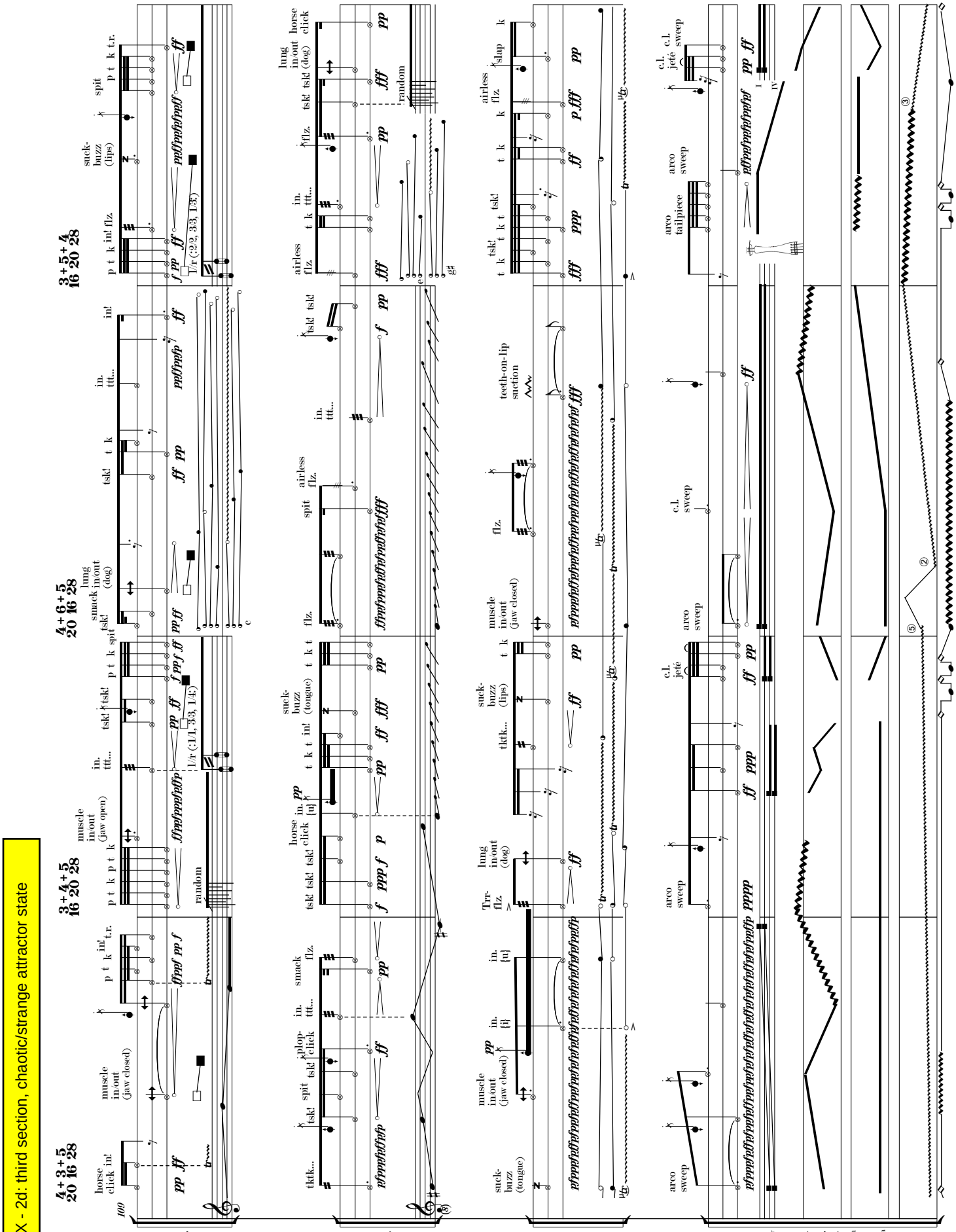
APPENDIX 2c: Non-vanishing vacuum state, section 2 example of multi-limit-cycle attractor state



APPENDIX - 2c: second section, multi-limit-cycle attractor state.

APPENDIX 2d: Non-vanishing vacuum state, section 3 example of chaotic/strange attractor state

APPENDIX - 2d: third section, chaotic/strange attractor state



APPENDIX - 2e

Negative Dynamics I(a/b)

for a string player

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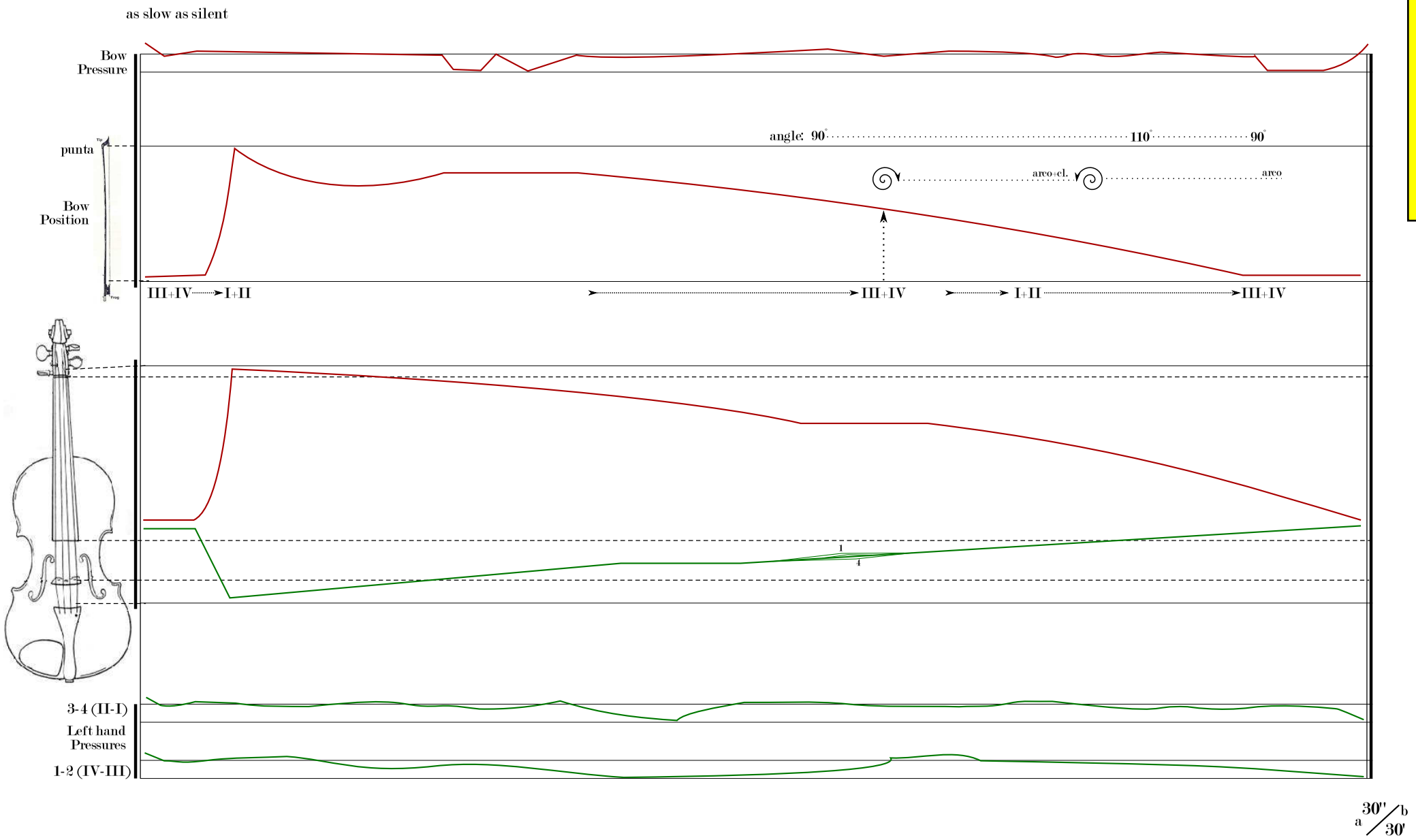
APPENDIX 2e: Negative Dynamics I(a/b)



a 30'' / 30' b

APPENDIX - 2f: Repetition of Repetition

Repetition of Repetition

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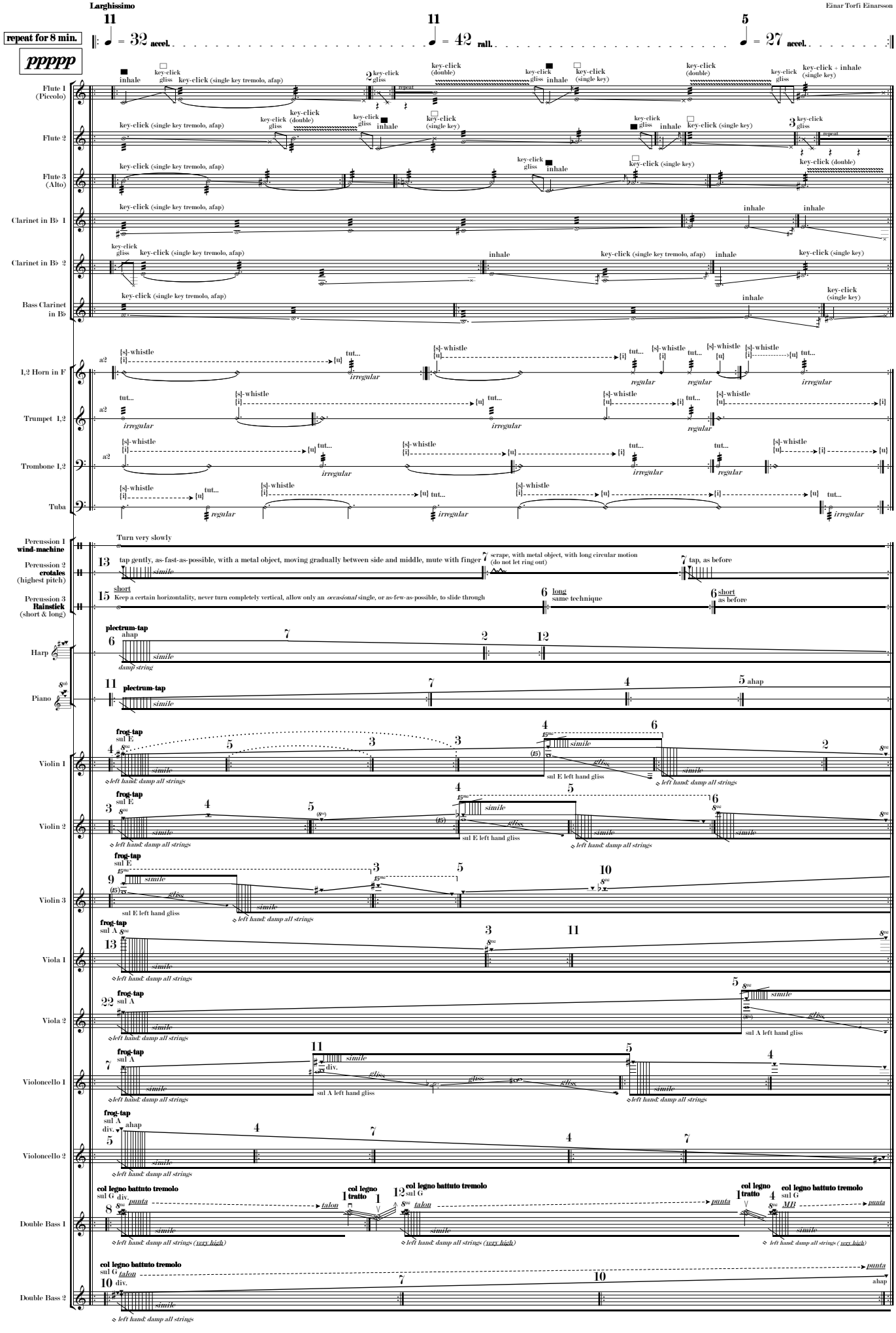

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APPENDIX - 3a: Desiring-Machines (miniature)

pppp

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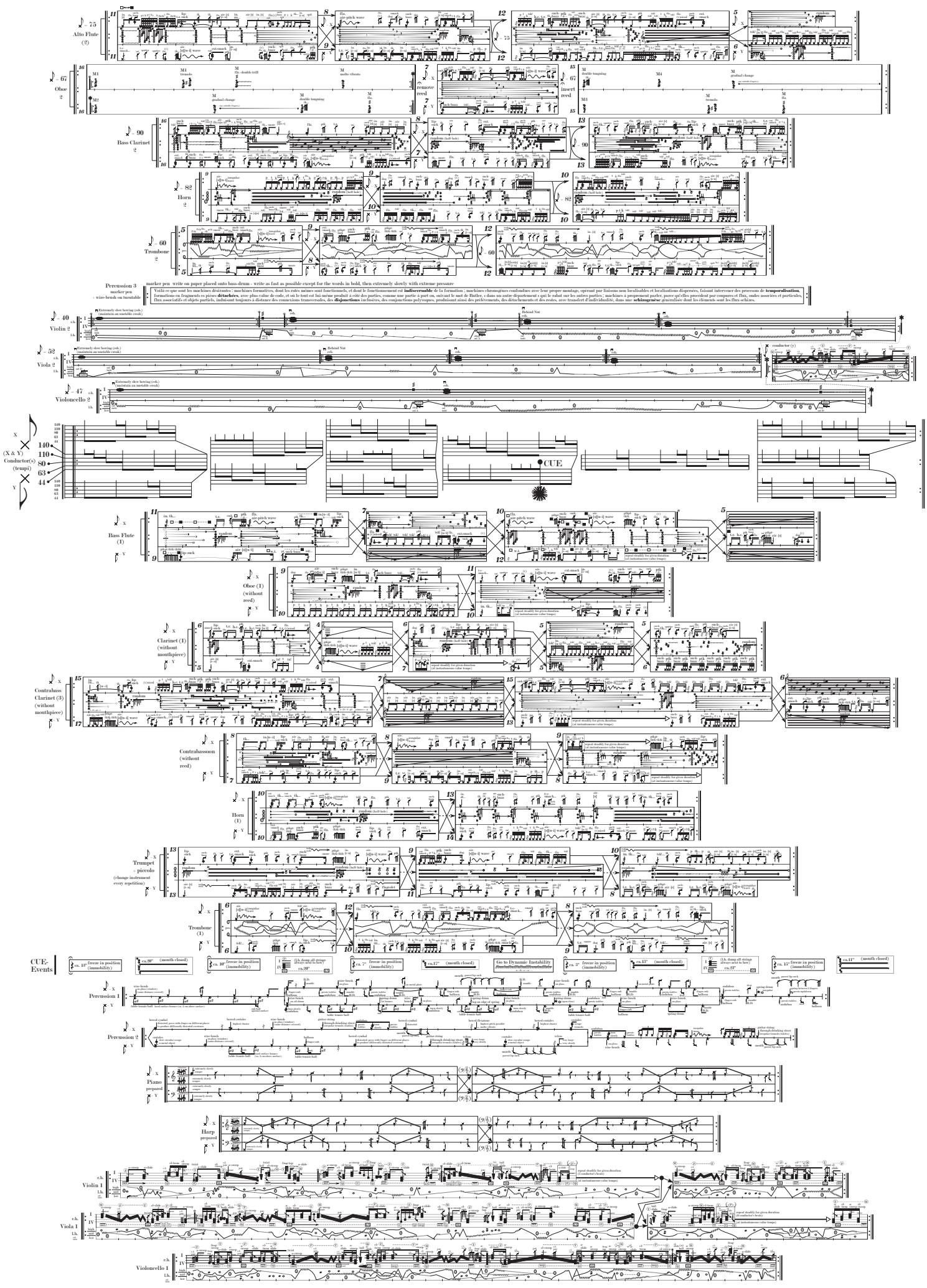

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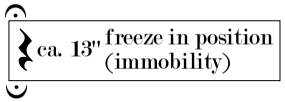
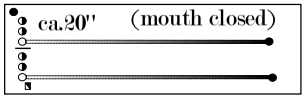
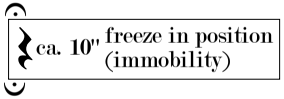
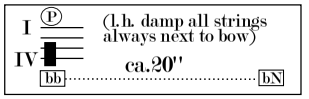
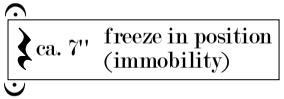
CUE-Events

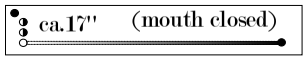

ca. 13"
freeze in position
(immobility)


ca.20"
(mouth closed)

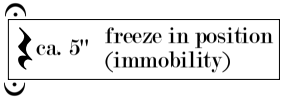

ca. 10"
freeze in position
(immobility)

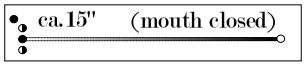

I
IV
P
(l.h. damp all strings
always next to bow)
ca.20"
bb
bN

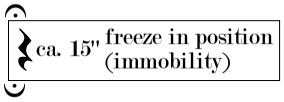

ca. 7"
freeze in position
(immobility)

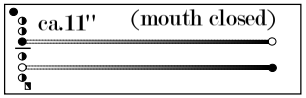

ca.17"
(mouth closed)

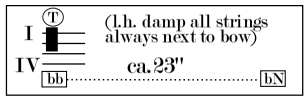
Go to Dynamic Instability
ffpppfppffppfffpffppfffffppppfppfffpfpp
a--›b--›c--›a . . .


ca. 5"
freeze in position
(immobility)


ca.15"
(mouth closed)


ca. 15"
freeze in position
(immobility)


ca.11"
(mouth closed)


I
IV
T
(l.h. damp all strings
always next to bow)
ca.23"
bb
bN

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Tendencies

for oboe, bass clarinet, trumpet, trombone, violin and double bass

Einar Torfi Einarsson

Tendencies

for oboe, bass clarinet, trumpet, trombone, violin and double bass

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http://einartorfieinarsson.co.cc/

ET012

Performance notes

- **The piece is in nine movements, there should be a grand pause between each movement**
- Dynamics are adjustable
- Trills are always half-tone (except if otherwise stated)
- Accidentals throughout bar
- Ahap= as high as possible
- Performance instructions (e.g. sul ponticello, con sord. etc.) are valid throughout each movement only

Oboe & Bass Clarinet:

M above the note means: any overtone-based Multiphonic on a given note (can also have trill and/or flutter), choose according to dynamics.
Tktk= double tonguing

All other instructions are within the score

Trumpet & Trombone:

Split tone (trumpet)= "lip multiphonic", a complex, distorted chord around the note given.
Air tones= Can be performed in different ways; inhaled or exhaled, sucking-pressure through teeth, and with changing vowels.
N.B. Keep pedal tones as soft as possible, "ghost" like.
Tktk = double tonguing

All other instructions are within the score

Violin & Double Bass:

= Extra pressure and distorted sound.
Sweep = Can be arco or col legno; a rapid, presto possibile, movement (or on given rhythm) between indicated locations on a string, e.g. between two pitches or between sul pont to sul tasto.

indicates a light touch (harmonic touch) on the string. Position the finger as notated normally.

All other instructions are within the score

This piece was written for ELISION Ensemble

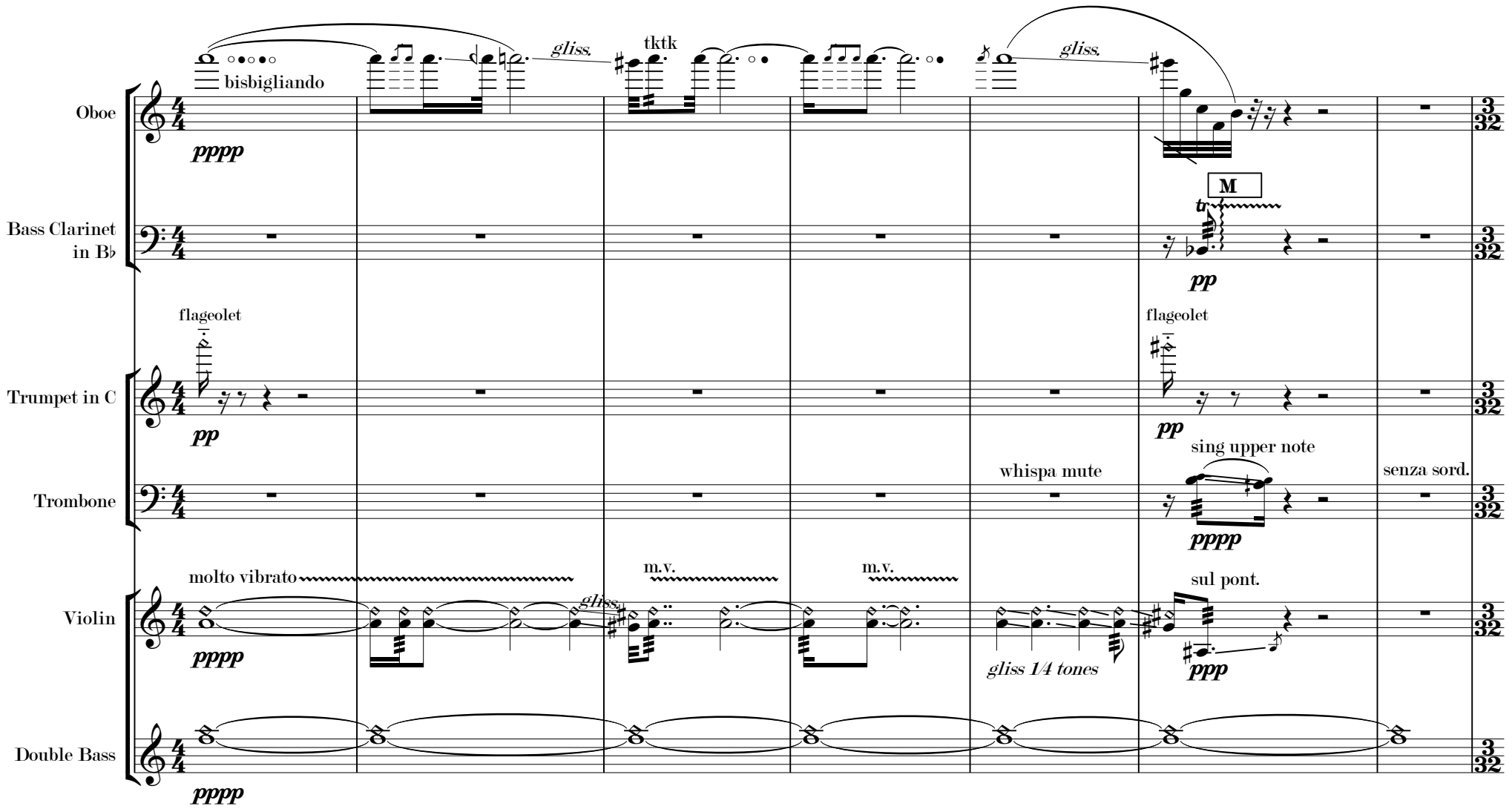
Duration ca. 9 min.

Tendencies

I

Einar Torfi Einarsson

♩ = 110



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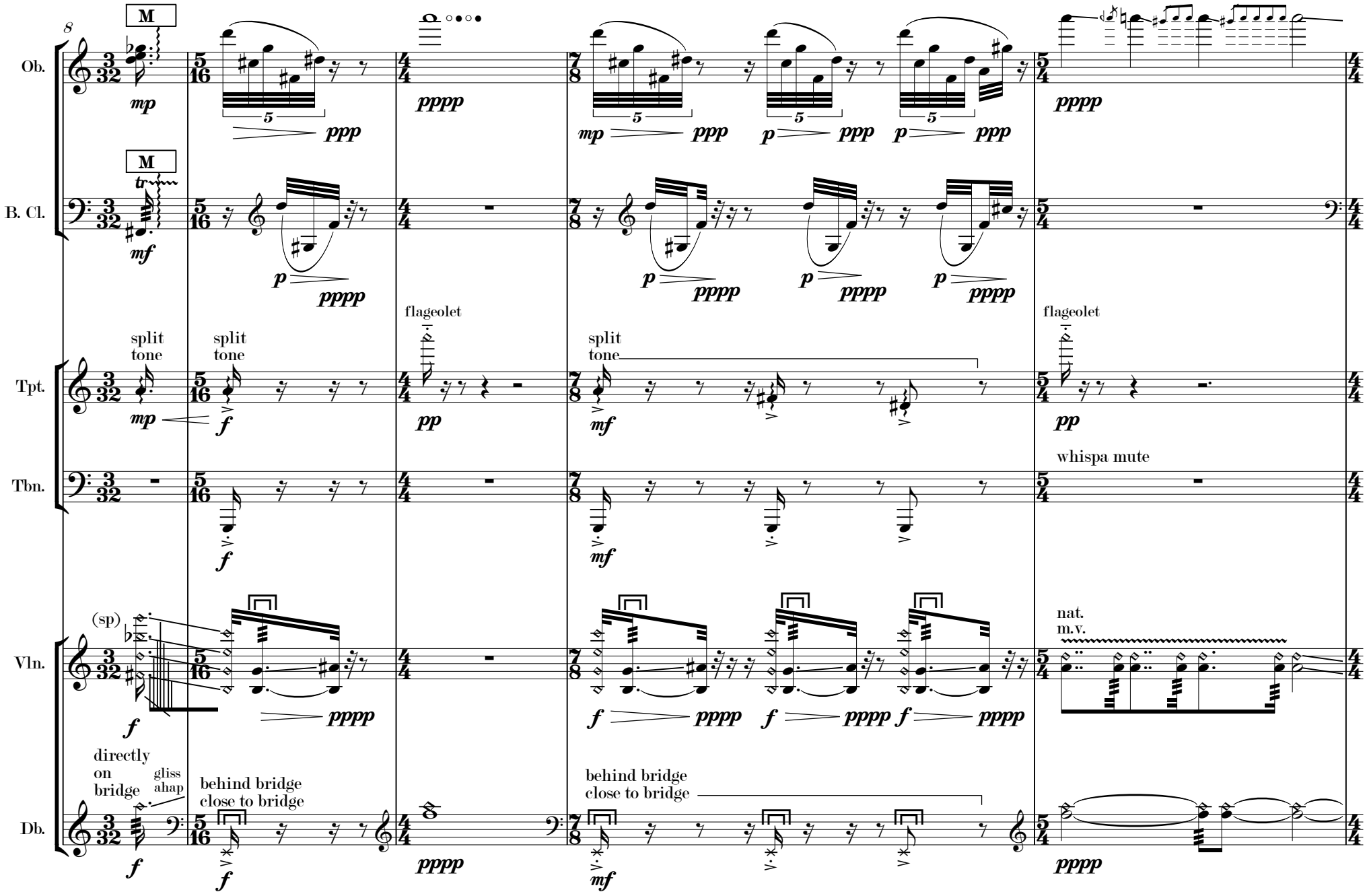
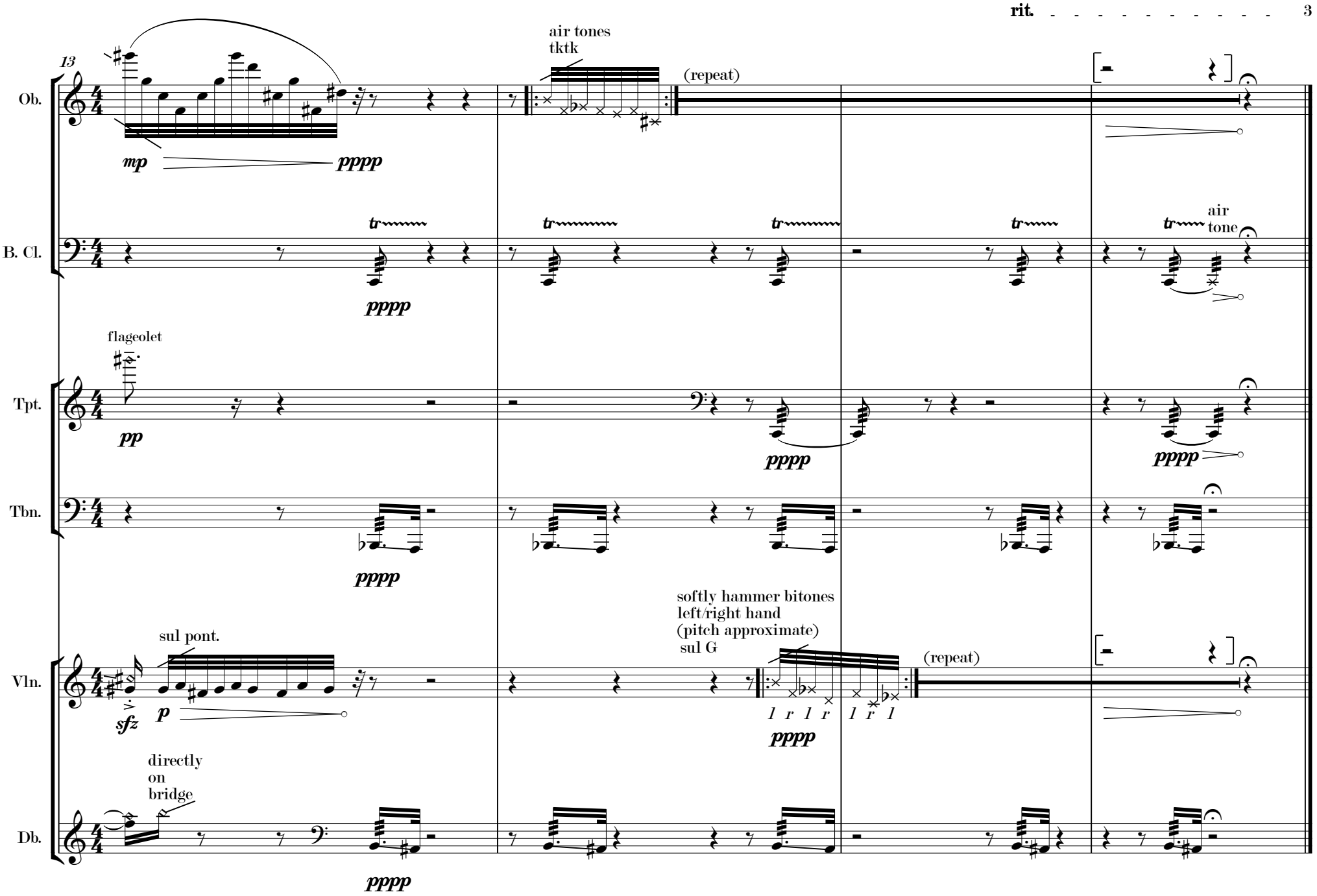
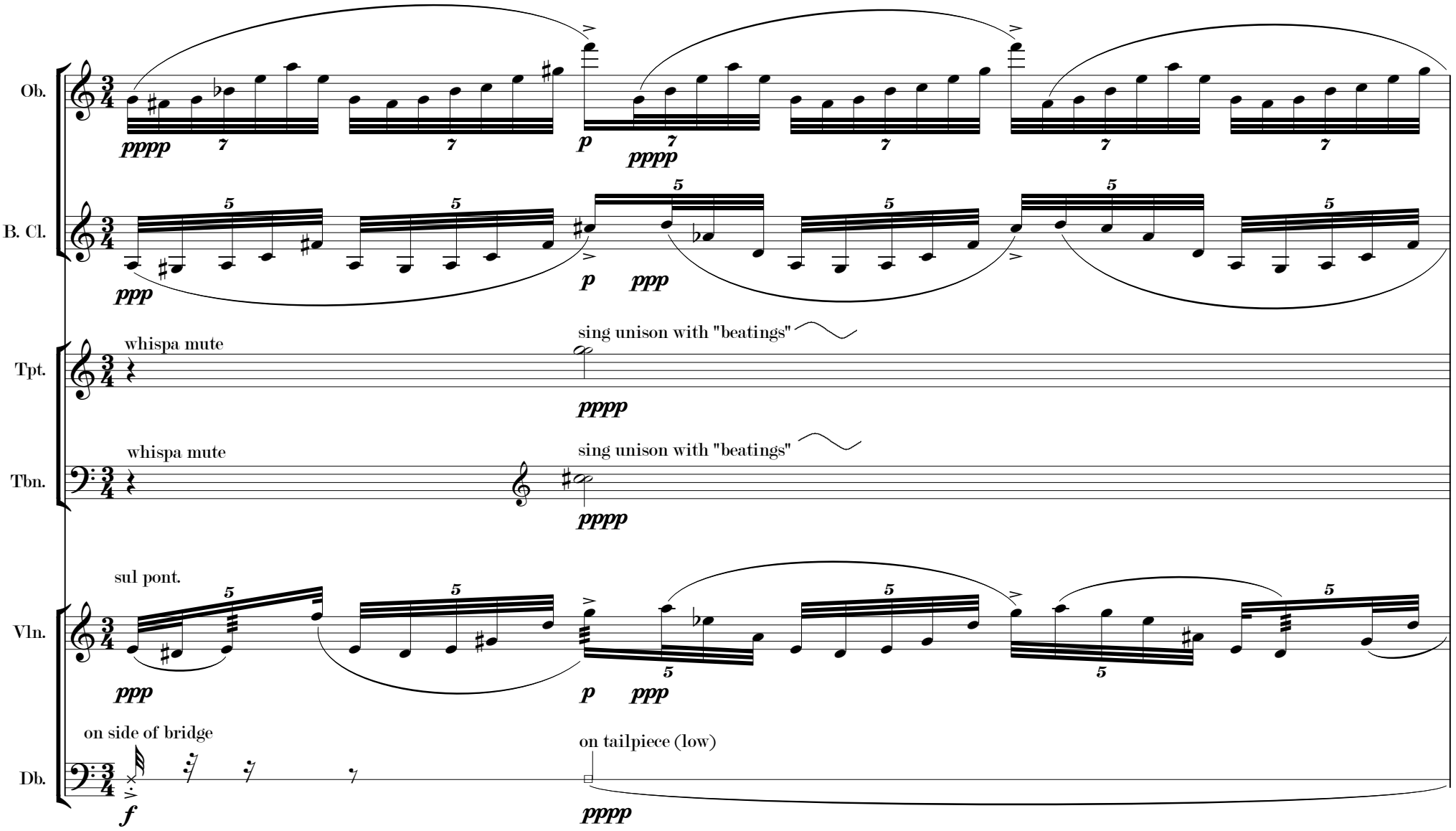

8
M
Ob.
mp
ppp
pppp
mp
ppp
p
ppp
p
ppp
pppp
M
tr
B. Cl.
mf
p
pppp
p
pppp
p
pppp
p
pppp
Tpt.
split tone
mp
f
flageolet
pp
split tone
mf
flageolet
pp
Tbn.
f
mf
whispa mute
Vln.
(sp)
f
pppp
f
pppp
f
pppp
f
pppp
nat.
m.v.
Db.
directly on bridge
gliss
ahap
f
behind bridge
close to bridge
f
pppp
behind bridge
close to bridge
mf
pppp

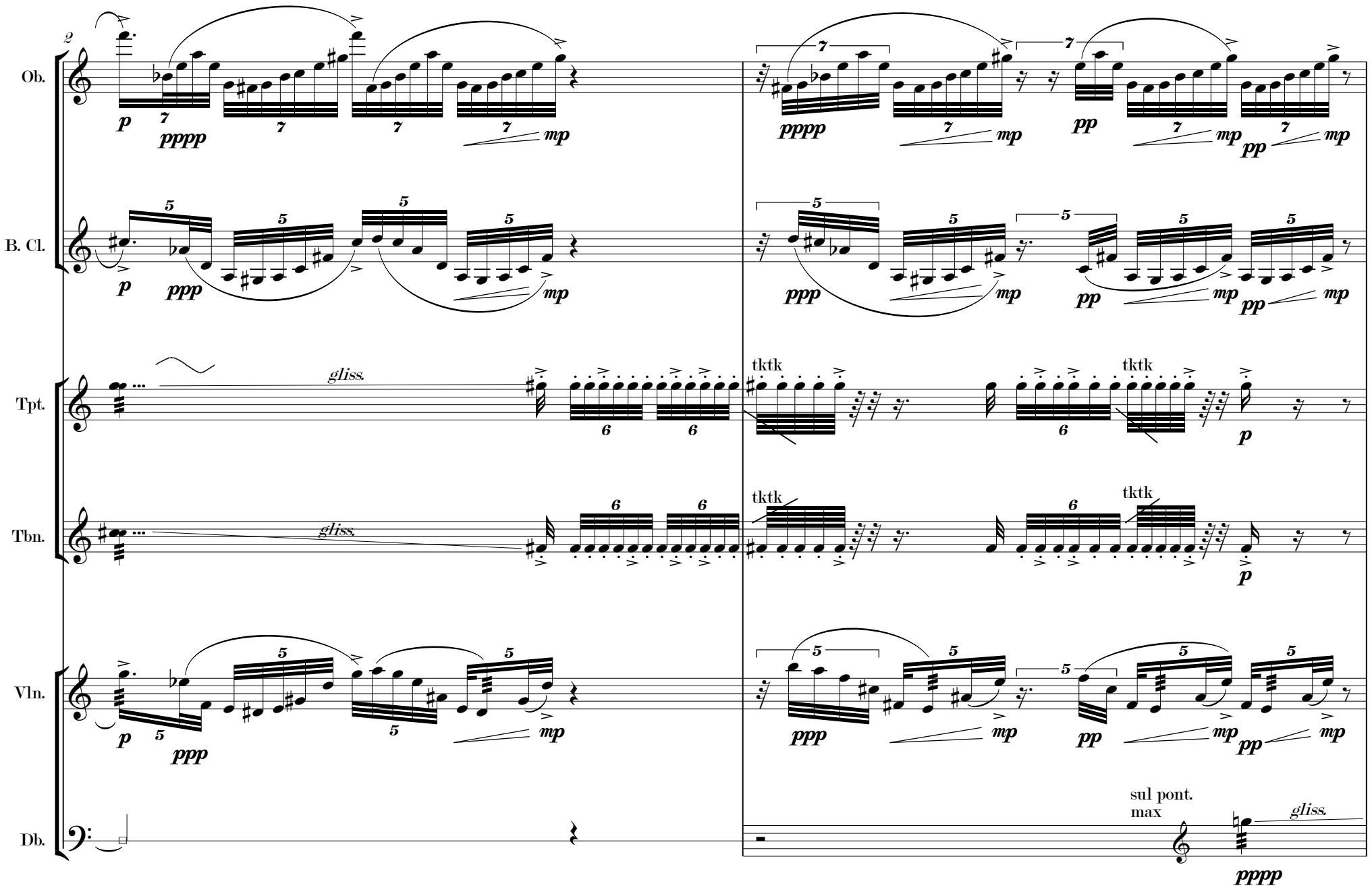

13
Ob.
mp
pppp
air tones
tktk
(repeat)
B. Cl.
tr
pppp
air
tone
flageolet
Tpt.
pp
Tbn.
sul pont.
Vln.
sfz
p
softly hammer bitones
left/right hand
(pitch approximate)
sul G
l r l r
l r l
directly
on
bridge
Db.

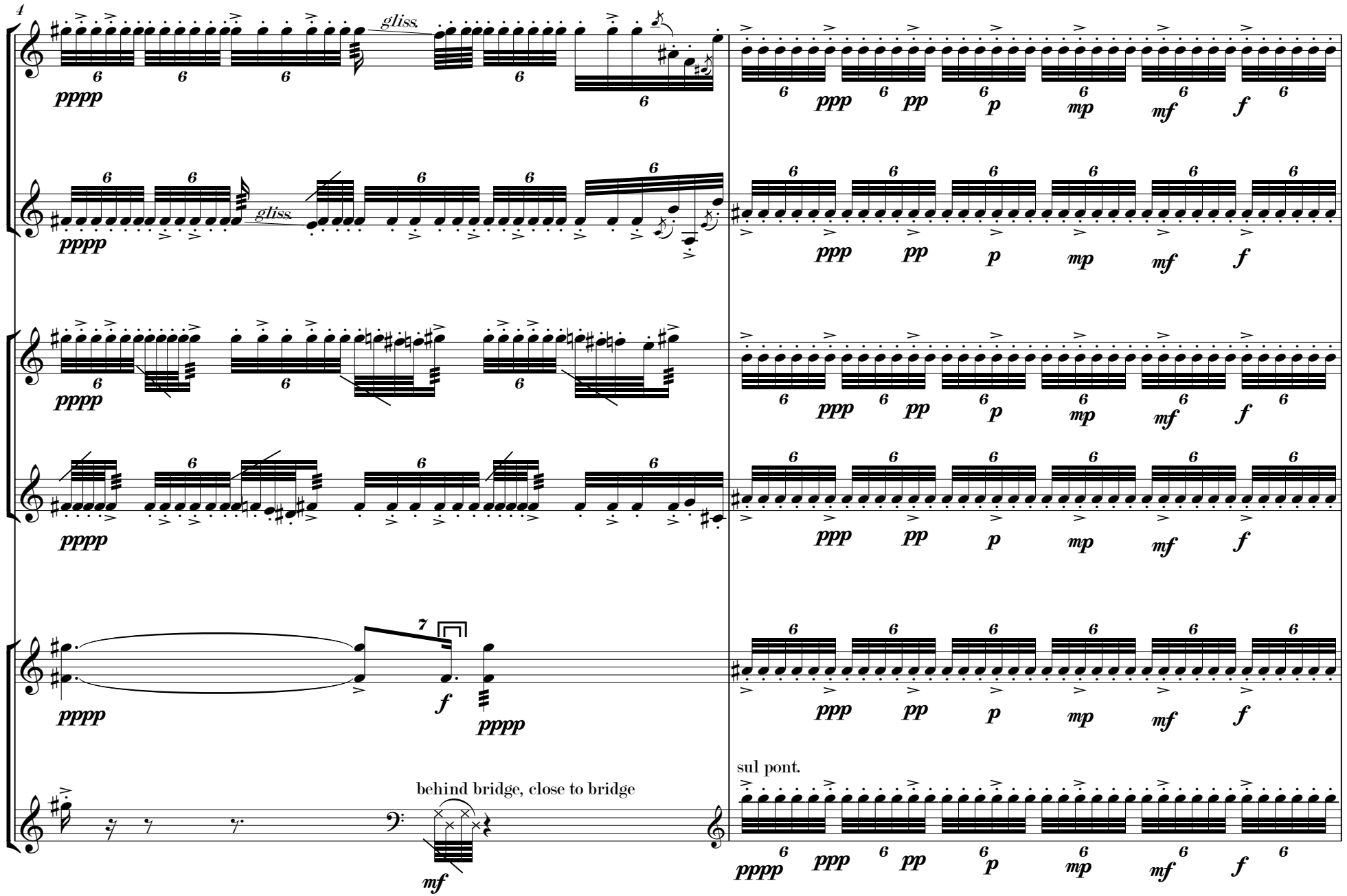
II

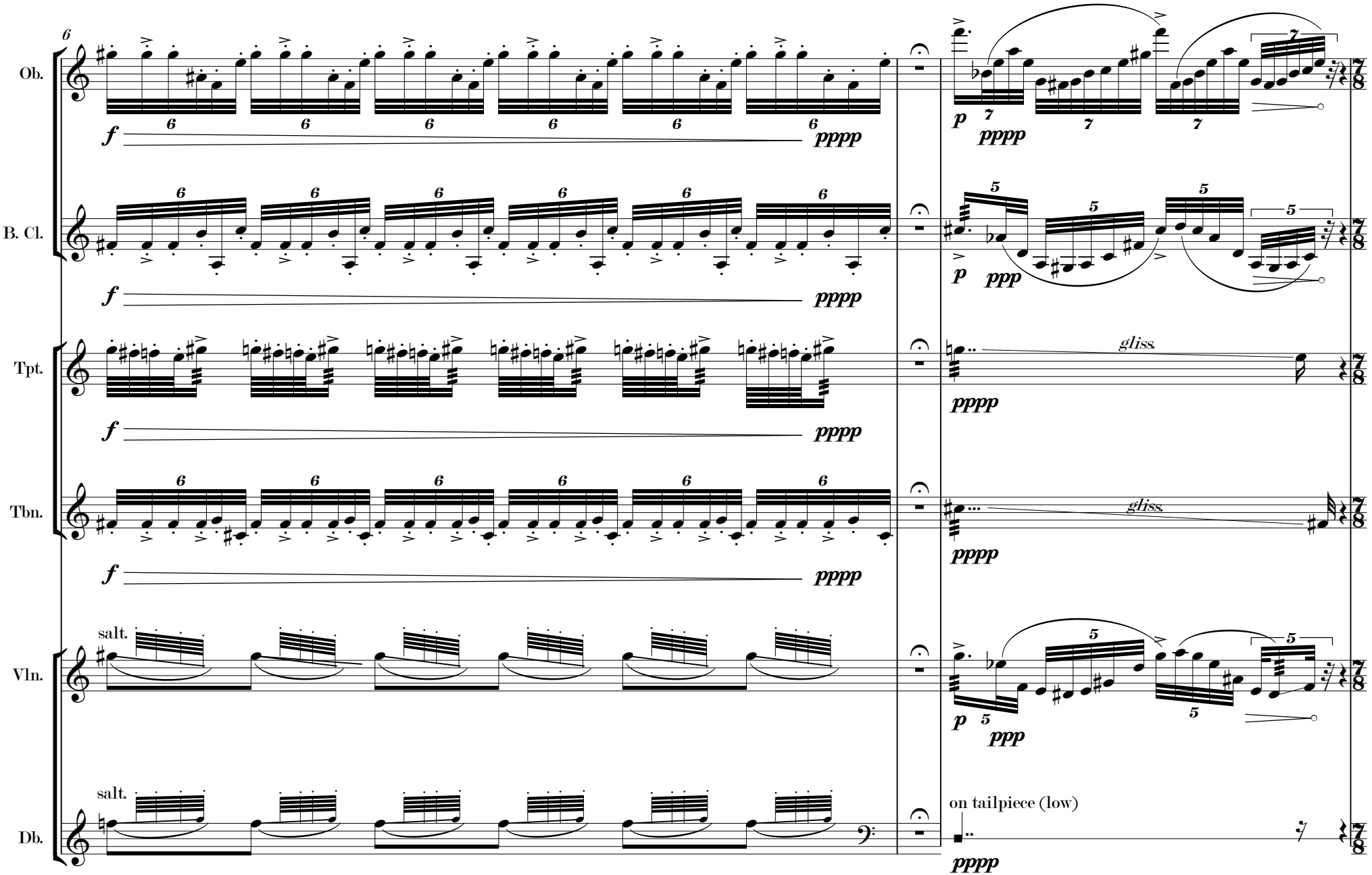
♩ = 55-60

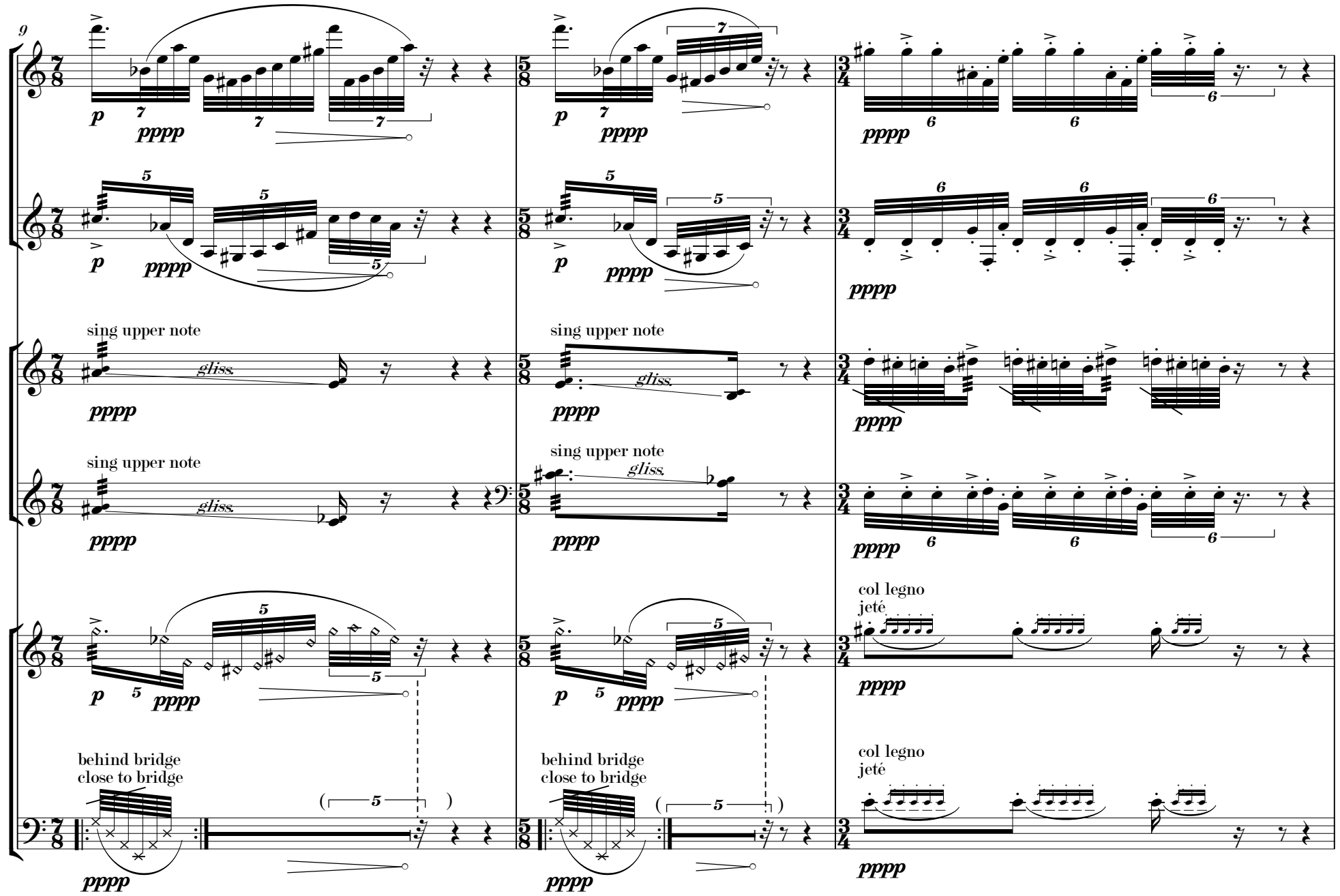
Einar Torfi Einarsson

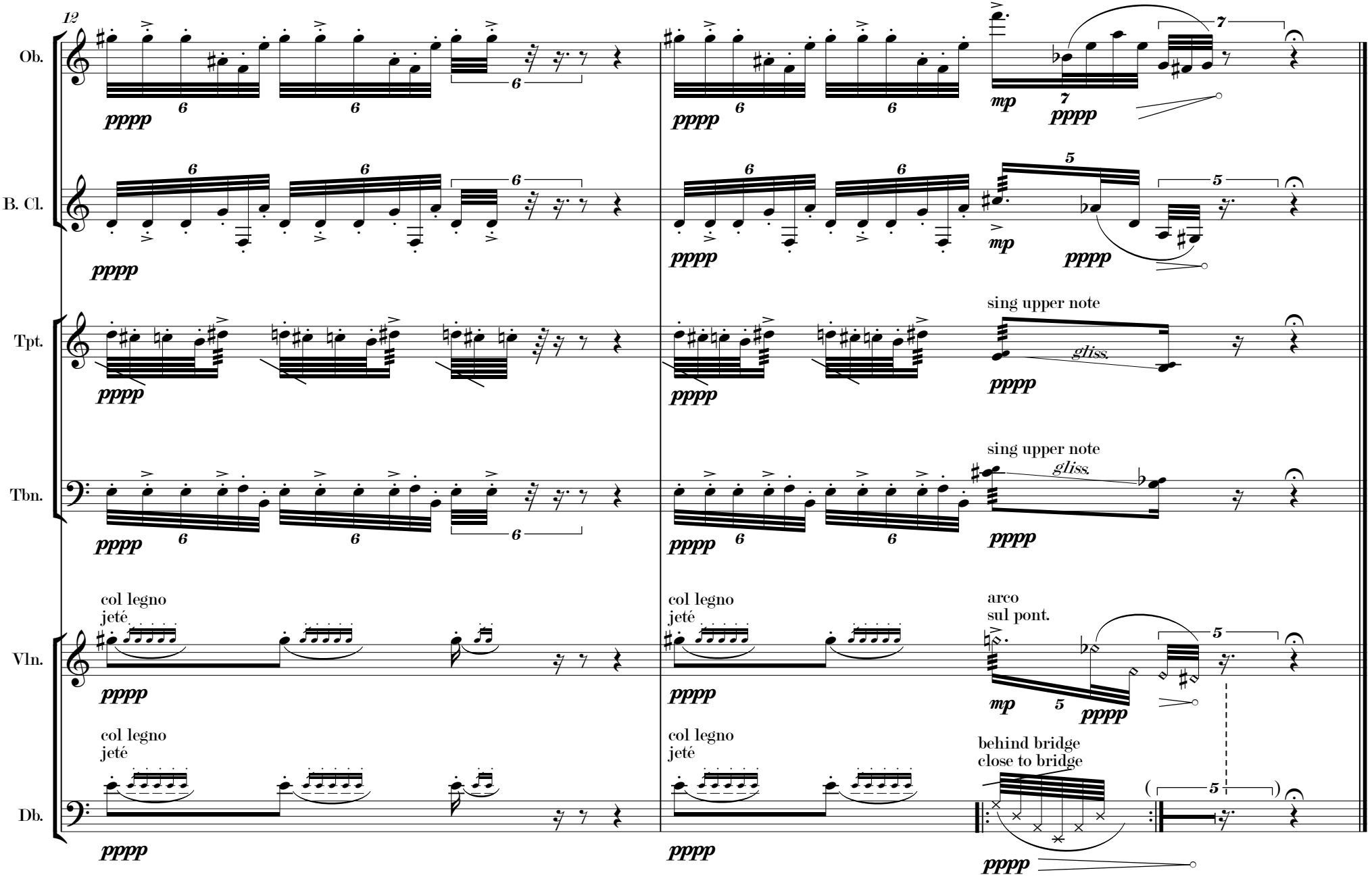



2
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
gliss.
tktk
sul pont.
max


4
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
gliss.
gliss.
pppp
ppp
pp
p
mp
mf
f
7
behind bridge, close to bridge
sul pont.

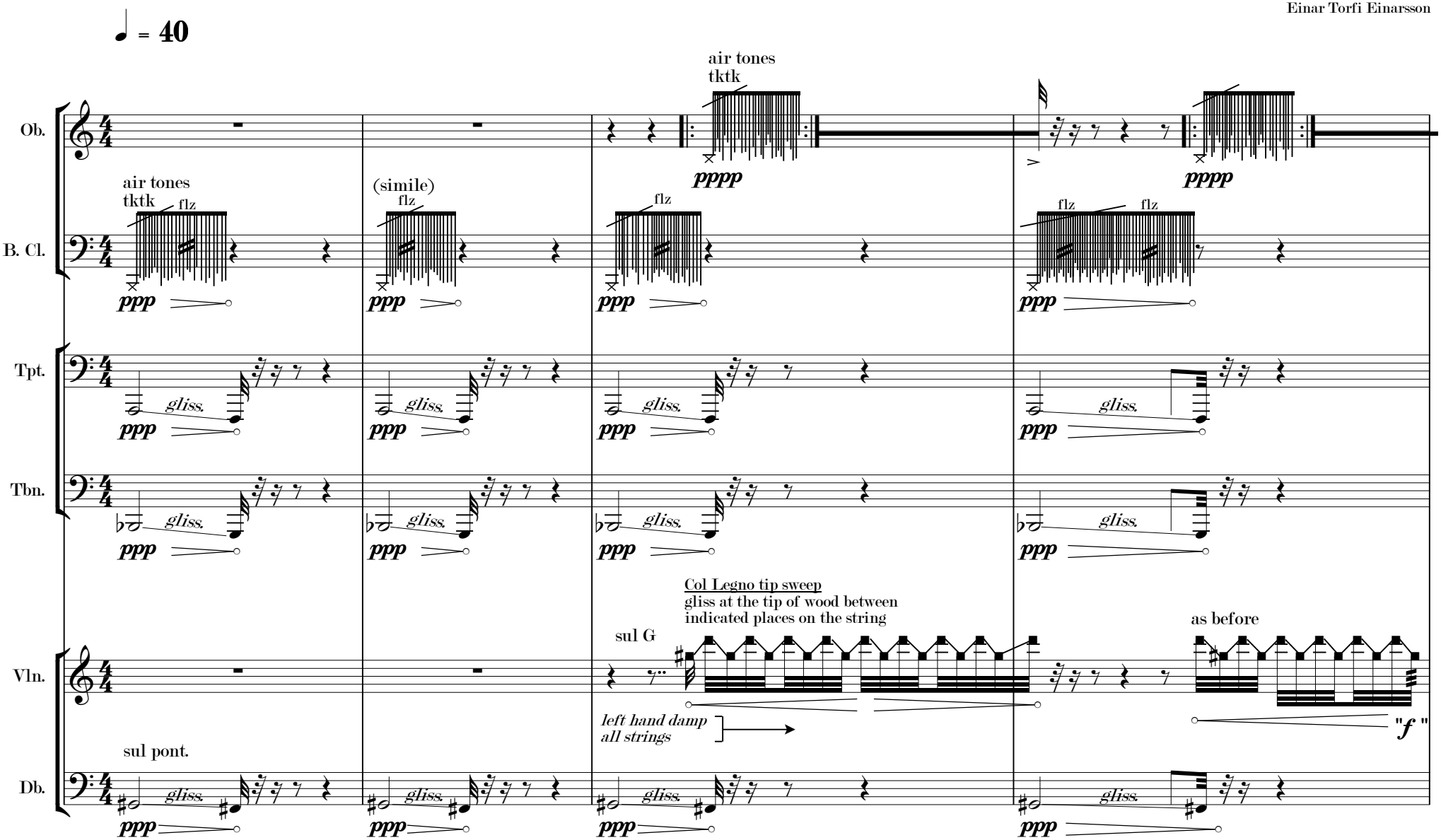

Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
f
pppp
p
ppp
gliss.
salt.
on tailpiece (low)

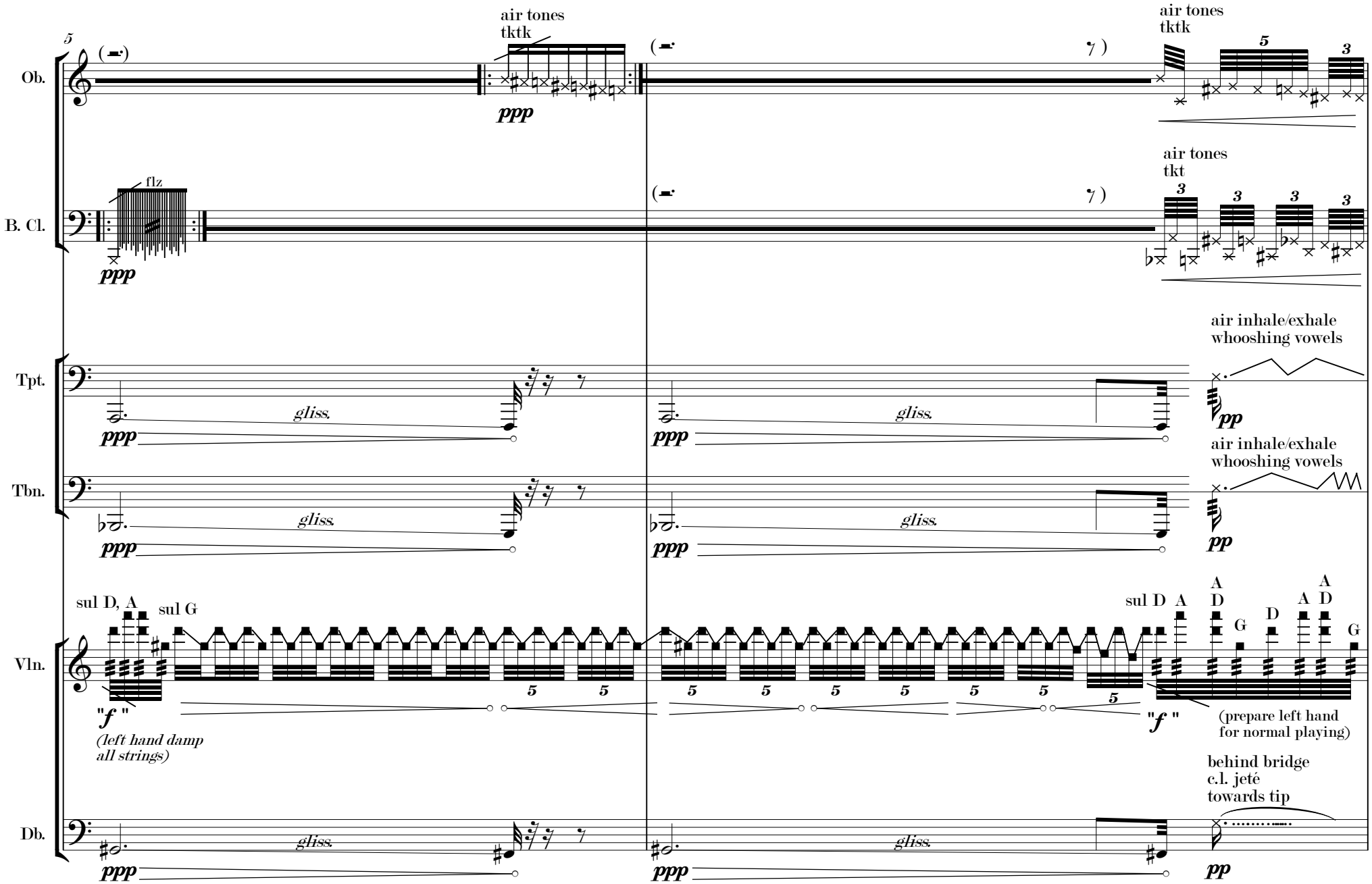

9
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
p
pppp
sing upper note
gliss.
behind bridge
close to bridge
col legno
jeté

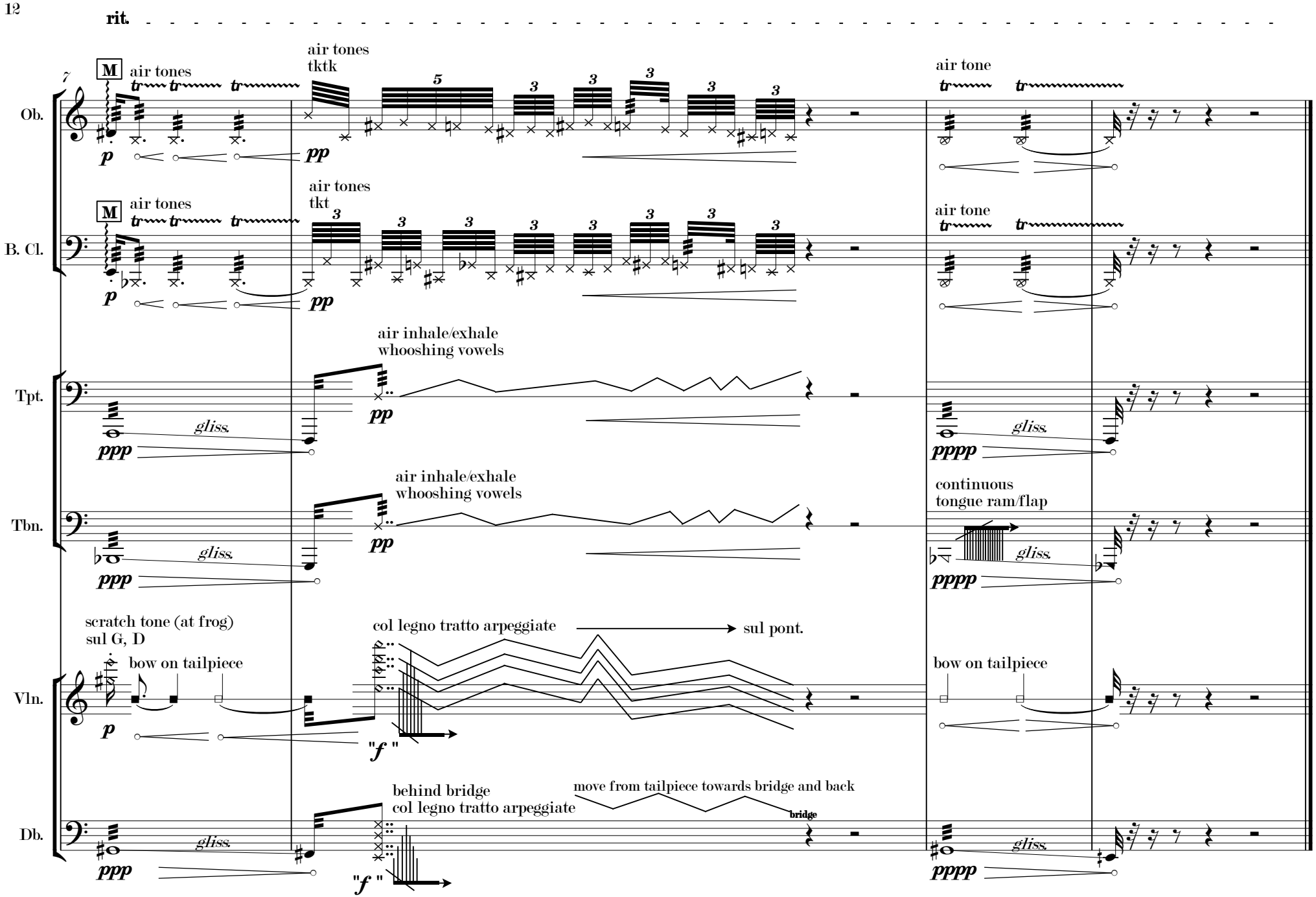

12
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp
mp
sing upper note
gliss.
col legno
jeté
arco
sul pont.
behind bridge
close to bridge

III

Einar Torfi Einarsson



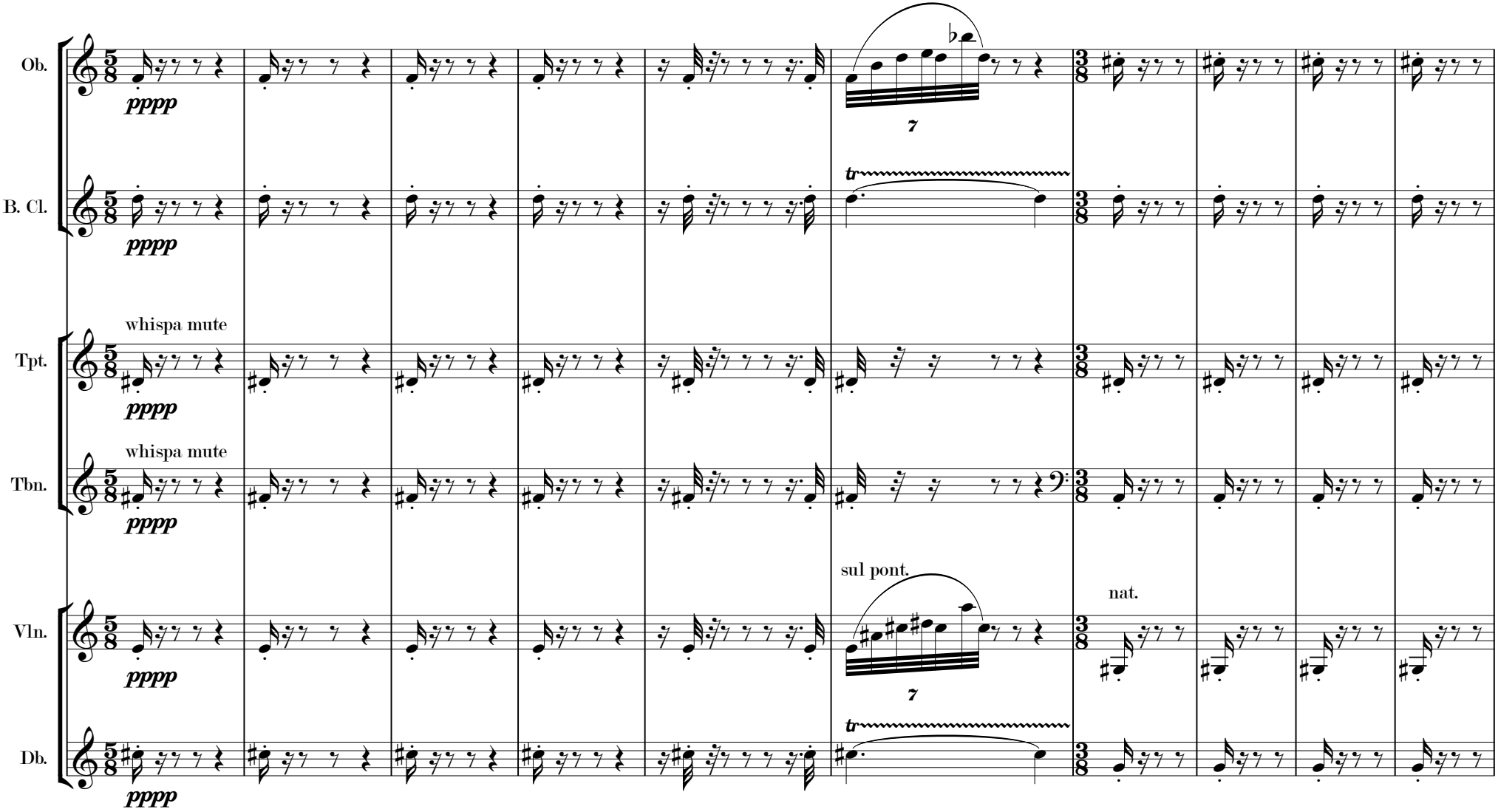

Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
air tones
tktk
ppp
flz
air tones
tkt
gliss.
air inhale/exhale
whooshing vowels
pp
sul D, A
sul G
"f"
(left hand damp
all strings)
sul D A
(prepare left hand
for normal playing)
behind bridge
c.l. jeté
towards tip

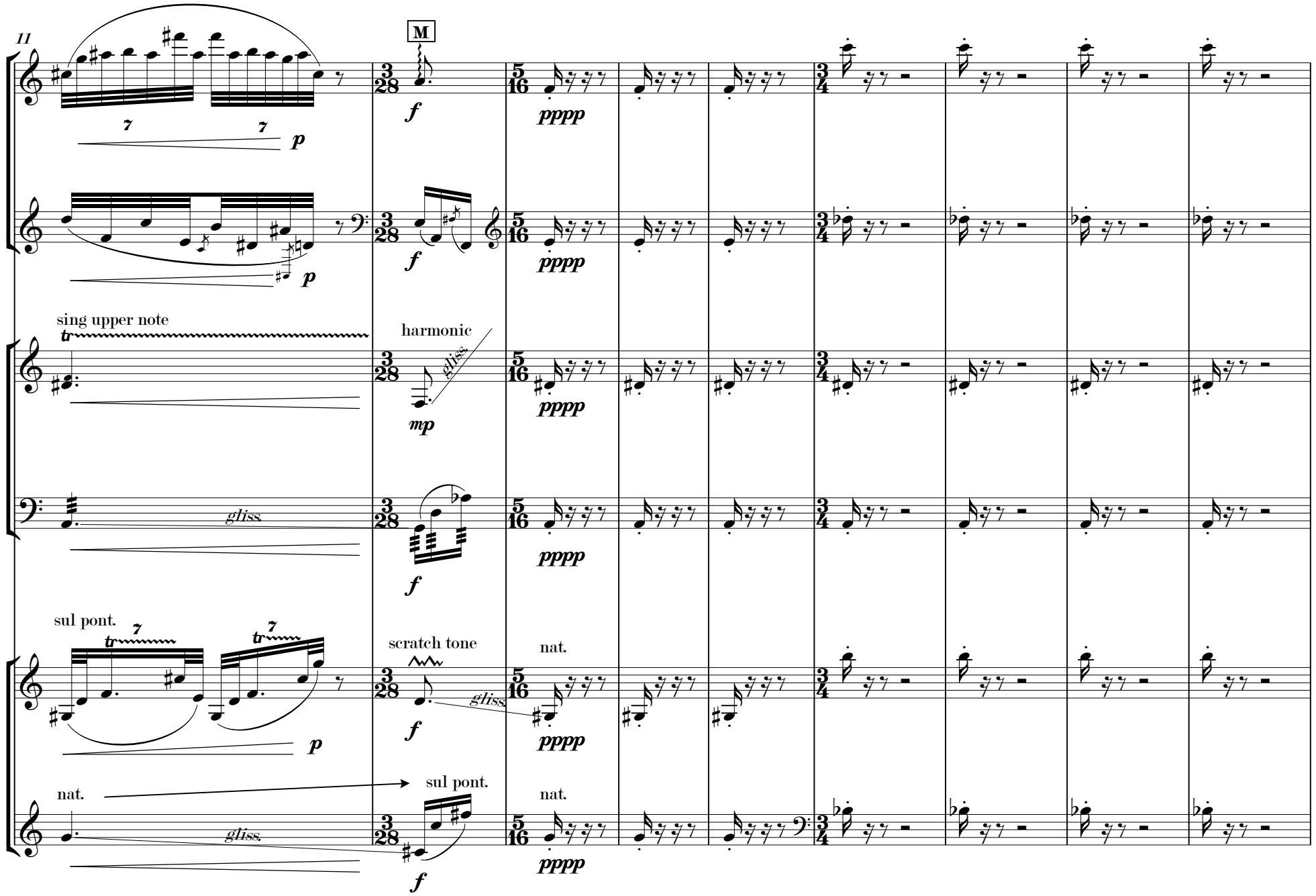

rit.
7
M
air tones
air tones
tktk
air tone
Ob.
p
pp
M
air tones
air tones
tkt
air tone
B. Cl.
p
pp
air inhale/exhale
whooshing vowels
Tpt.
gliss.
ppp
pp
gliss.
pppp
air inhale/exhale
whooshing vowels
continuous
tongue ram/flap
Tbn.
gliss.
ppp
pp
gliss.
pppp
scratch tone (at frog)
sul G, D
bow on tailpiece
col legno tratto arpeggiate
sul pont.
bow on tailpiece
Vln.
p
"f "
behind bridge
col legno tratto arpeggiate
move from tailpiece towards bridge and back
bridge
Db.
gliss.
ppp
"f "
gliss.
pppp

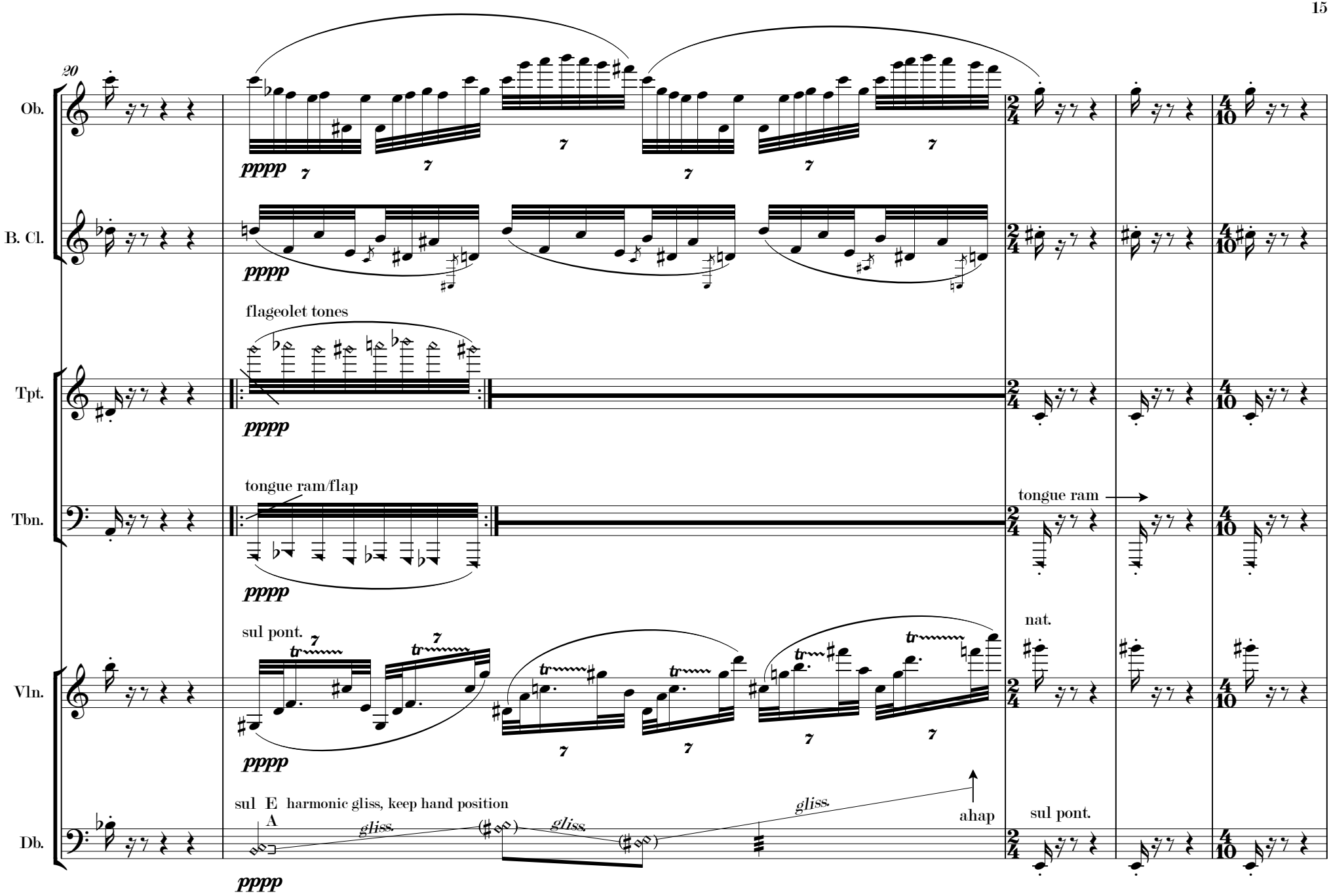
IV

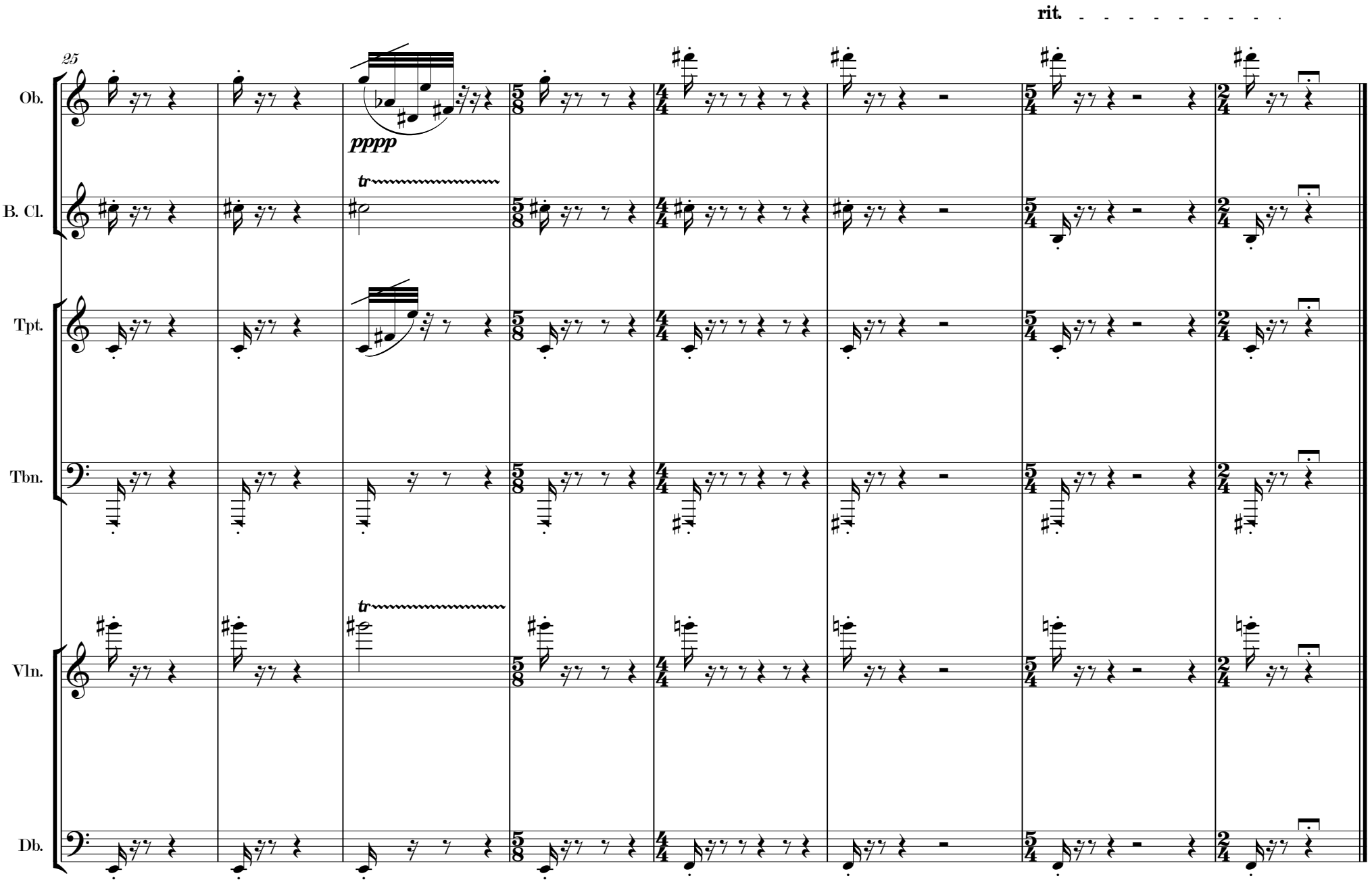
Einar Torfi Einarsson

♪ = 160




11
M
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
sing upper note
harmonic
sul pont.
scratch tone
nat.
sul pont.
nat.
nat.
gliss.
p
f
mp
pppp


20
Ob.
pppp
B. Cl.
pppp
flageolet tones
Tpt.
pppp
tongue ram/flap
Tbn.
pppp
tongue ram
sul pont.
Vln.
pppp
nat.
sul E
A
harmonic gliss, keep hand position
gliss.
gliss.
gliss.
ahap
Db.
pppp
sul pont.


rit.
25
Ob.
pppp
B. Cl.
tr
Tpt.
Tbn.
Vln.
tr
Db.

V

♩ = 127

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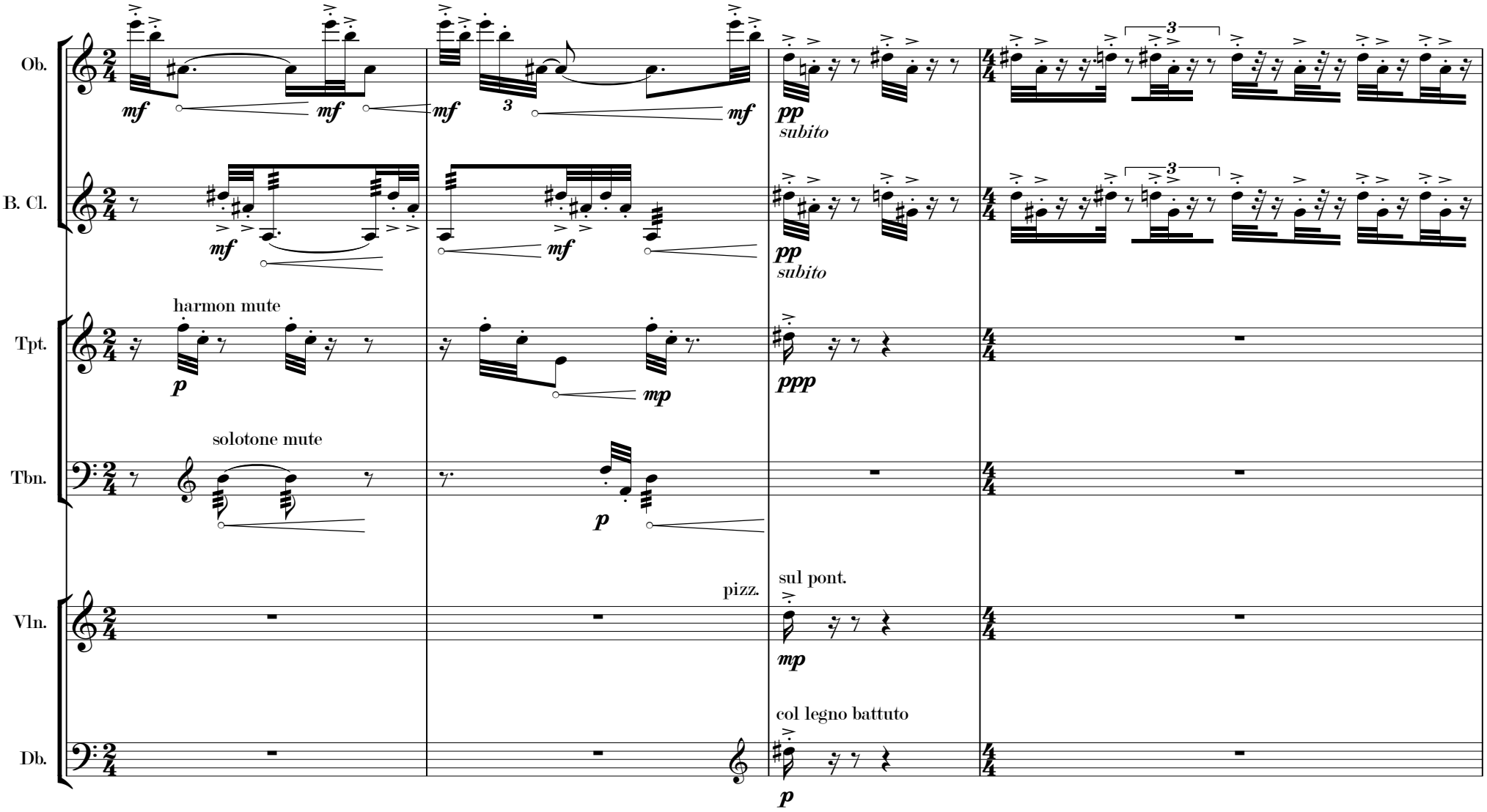
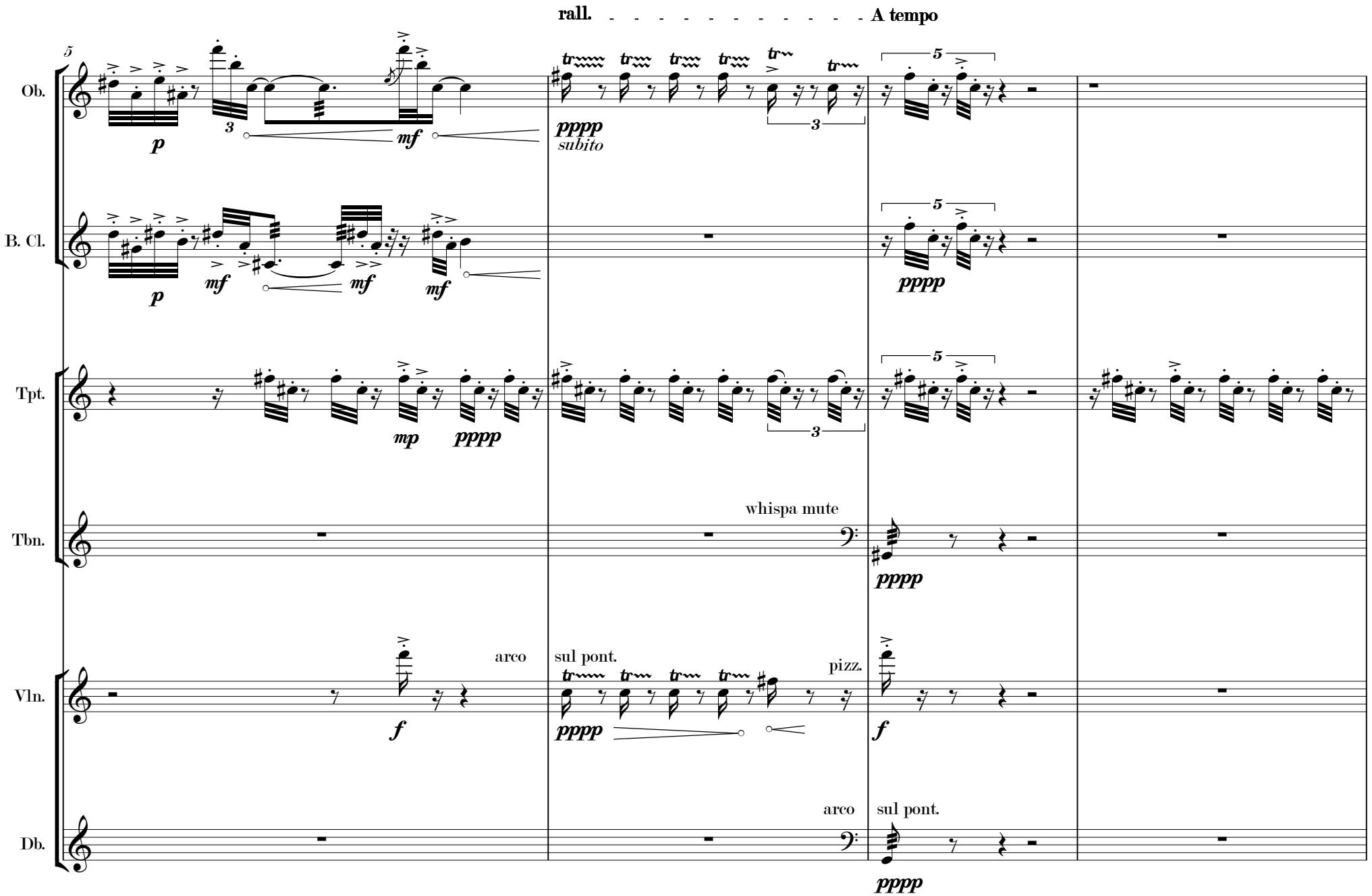
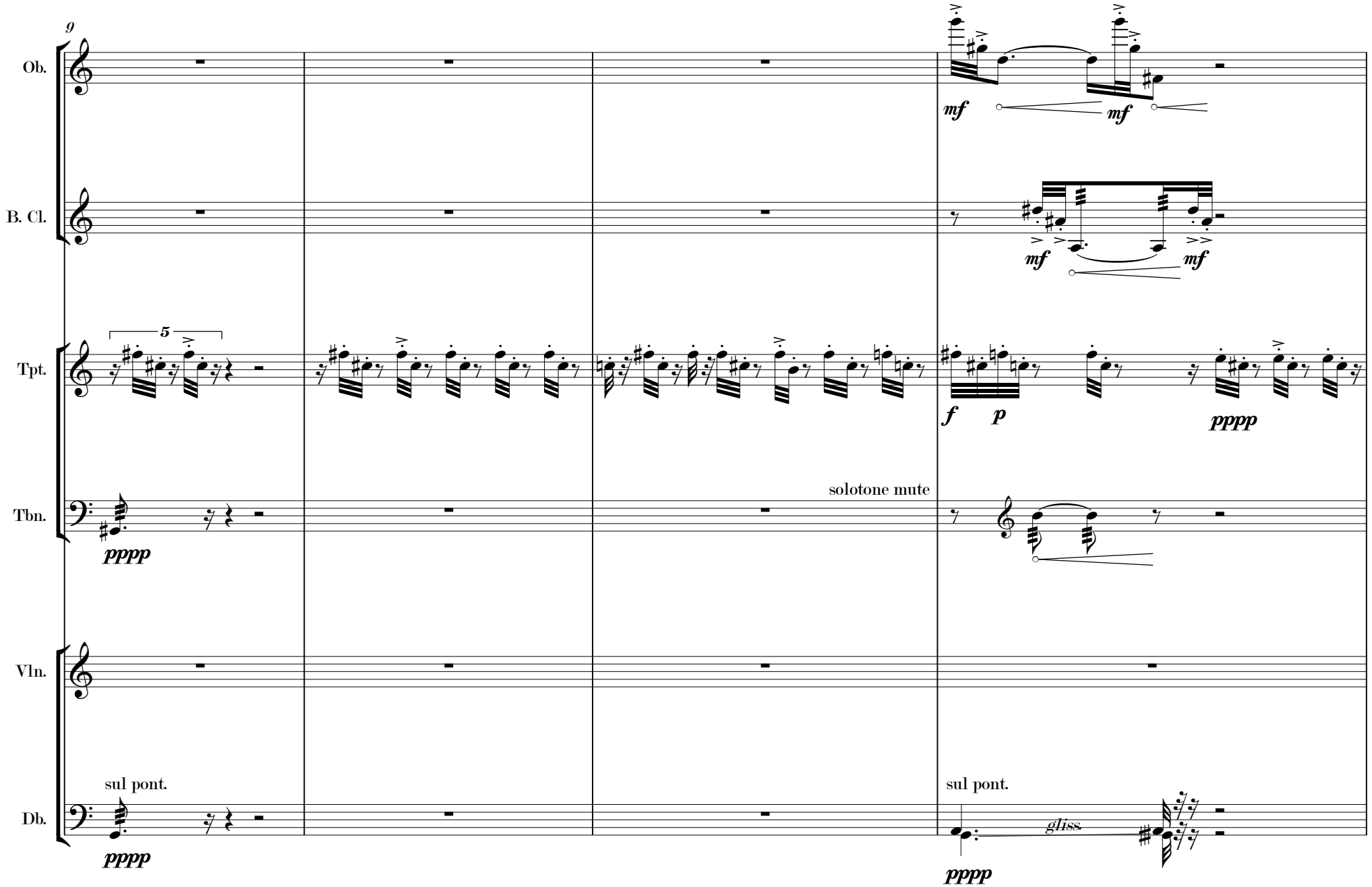
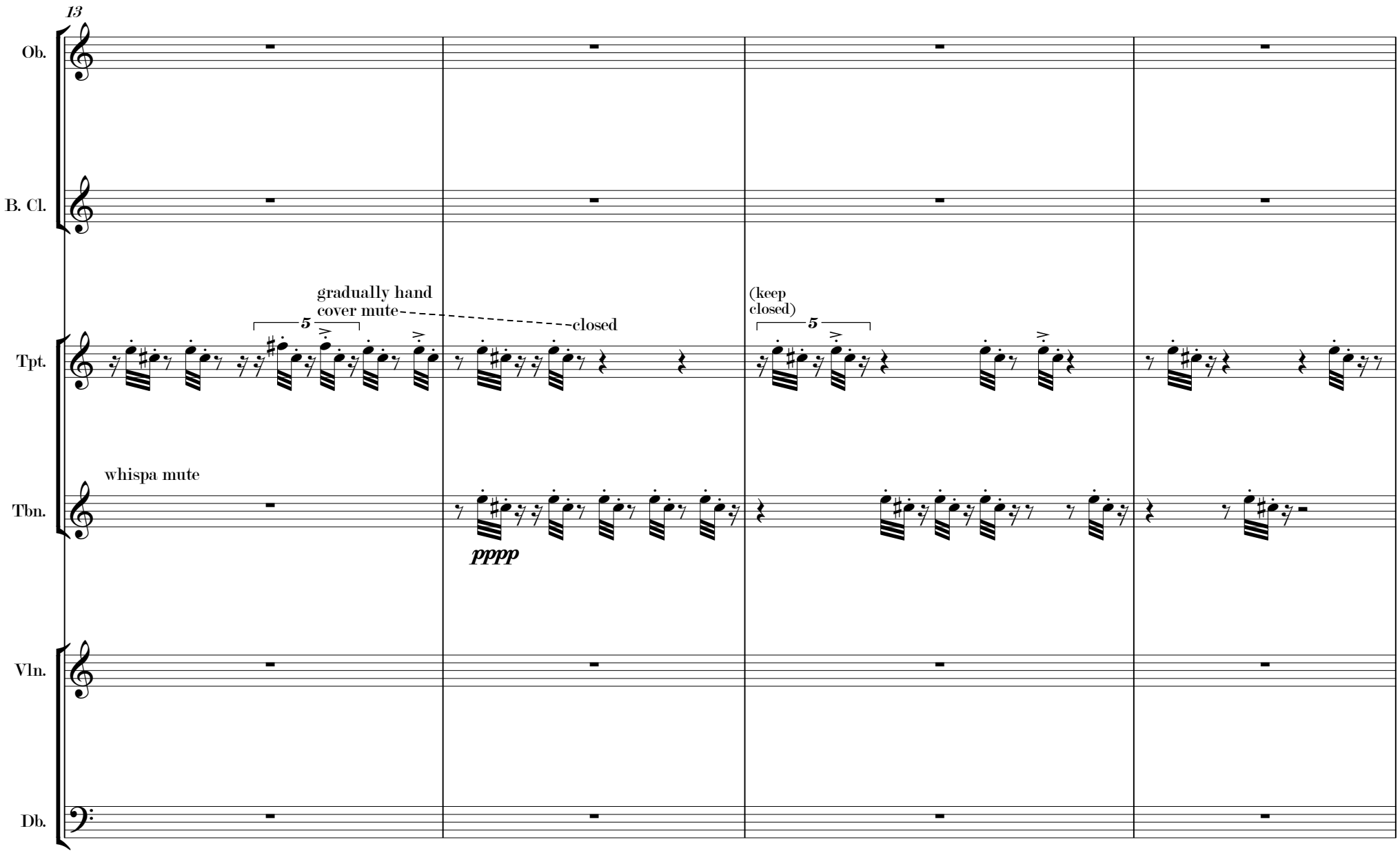
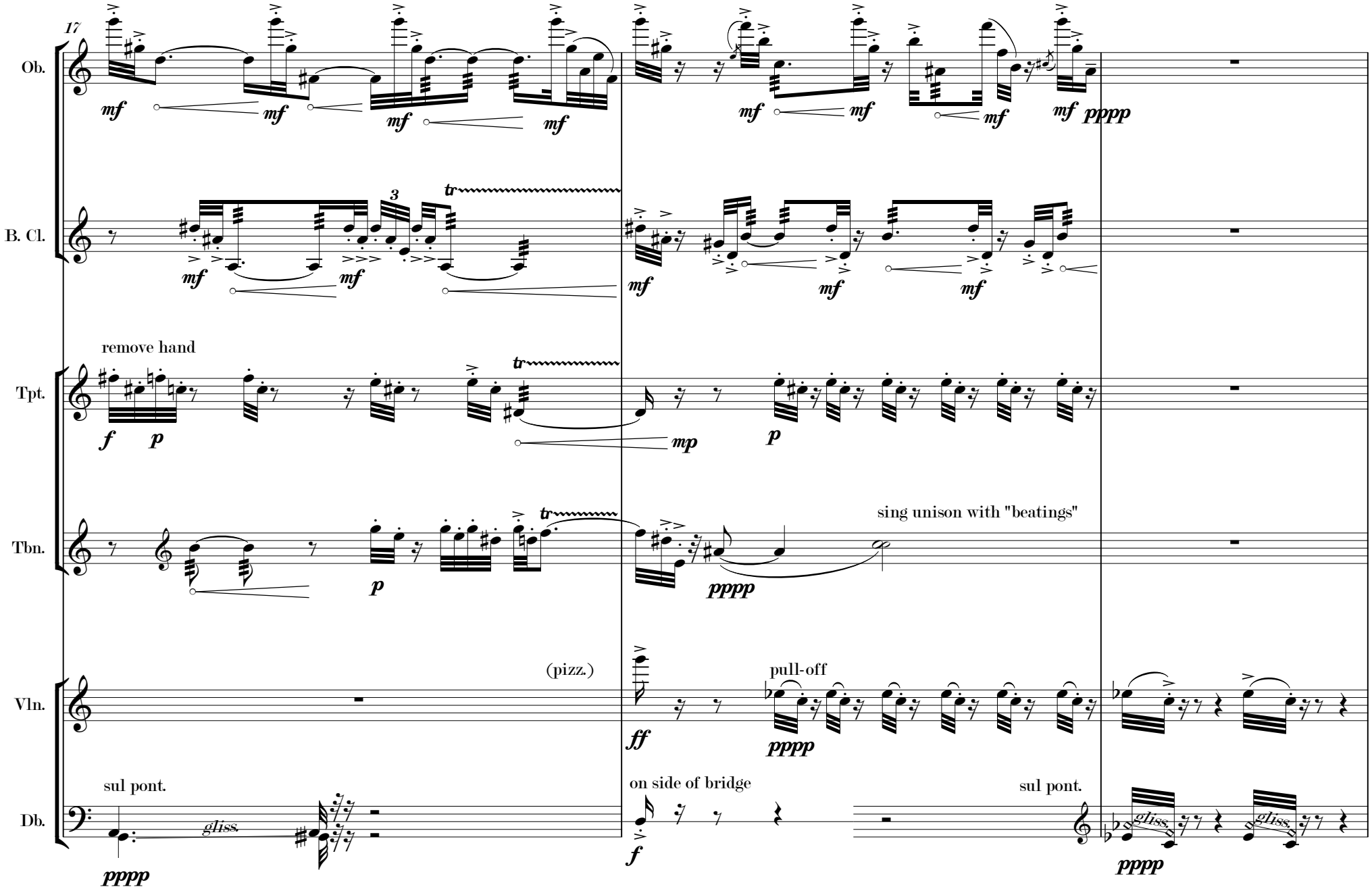
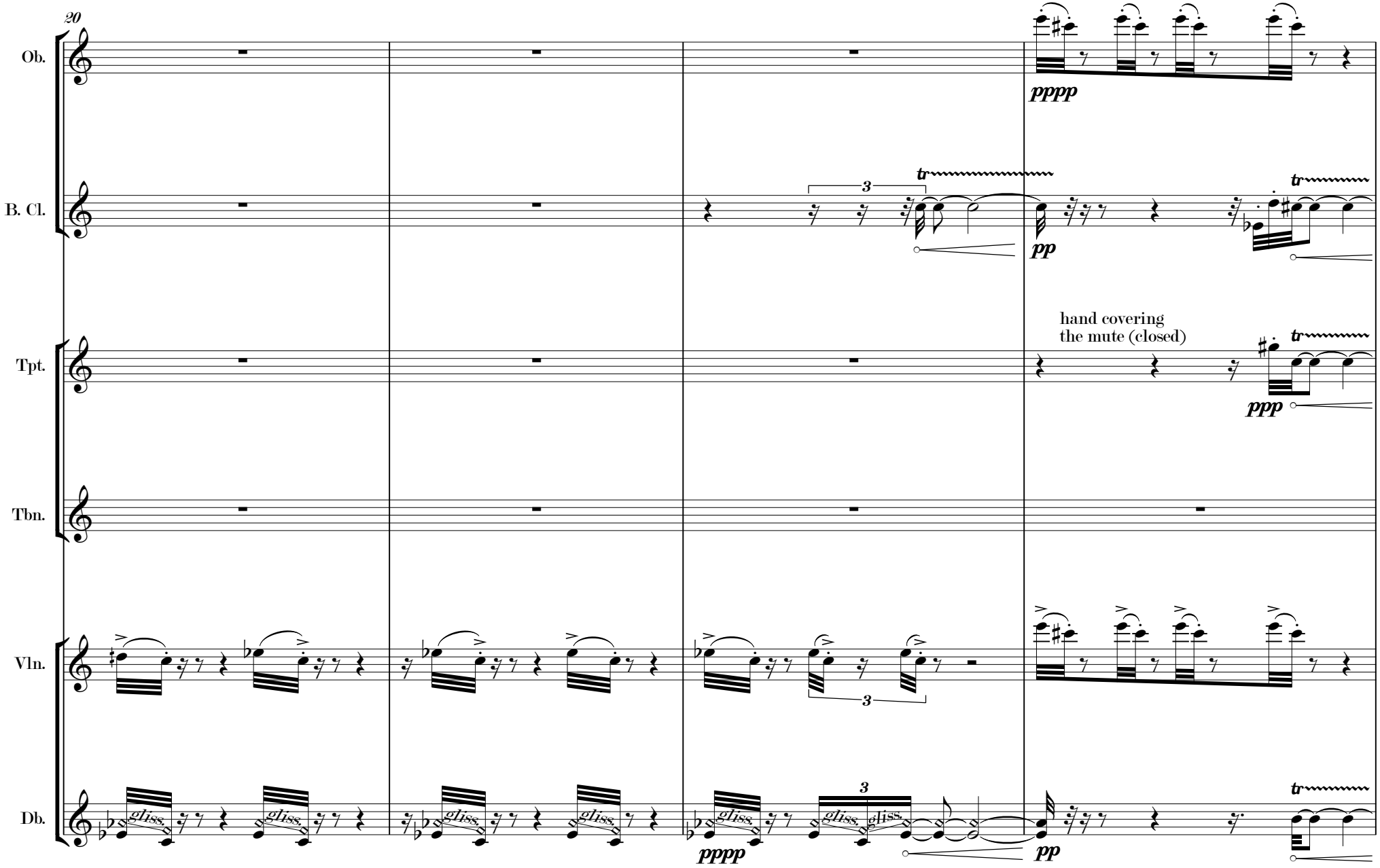


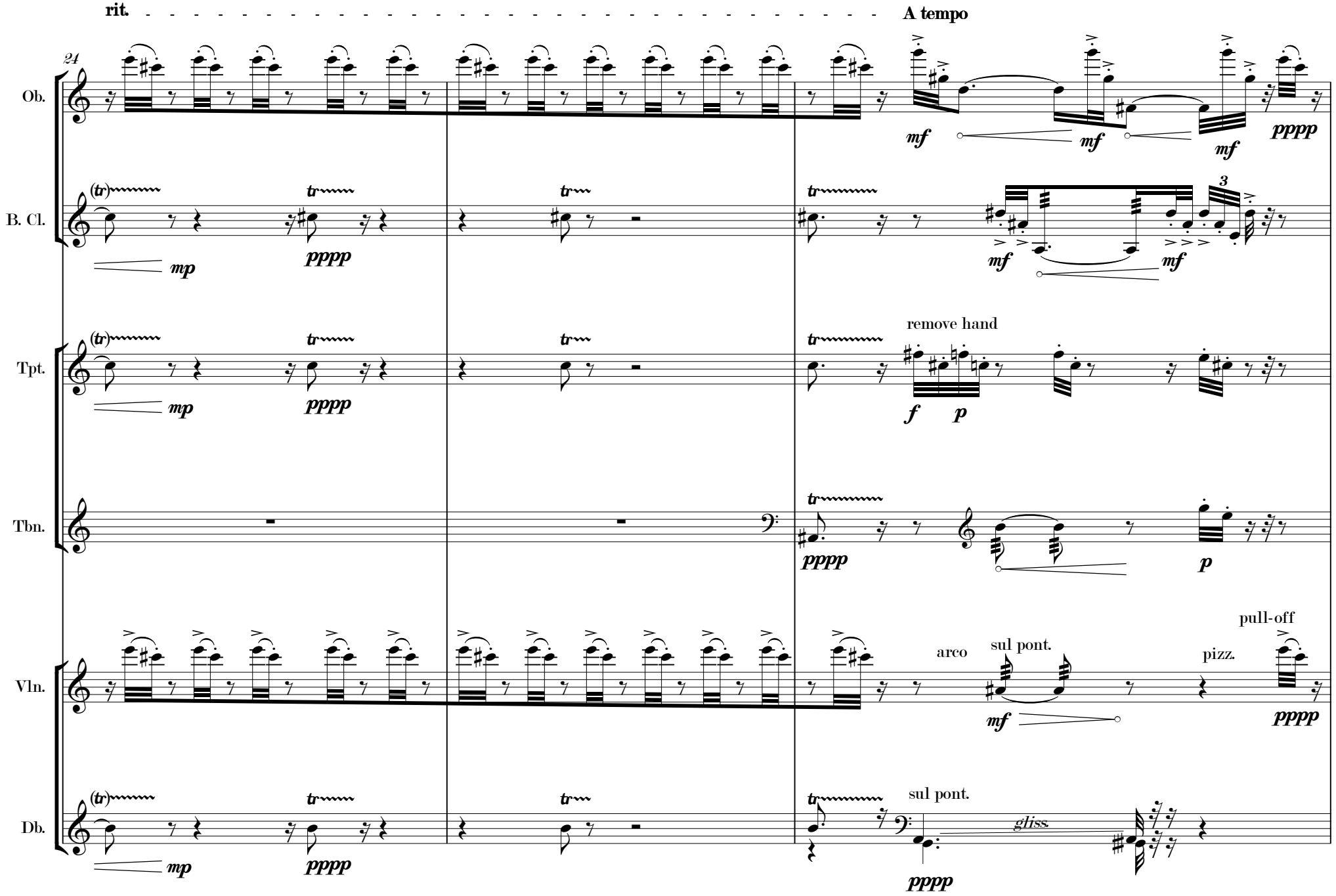

rall.
A tempo
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
whispa mute
arco
sul pont.
pizz.
arco
sul pont.

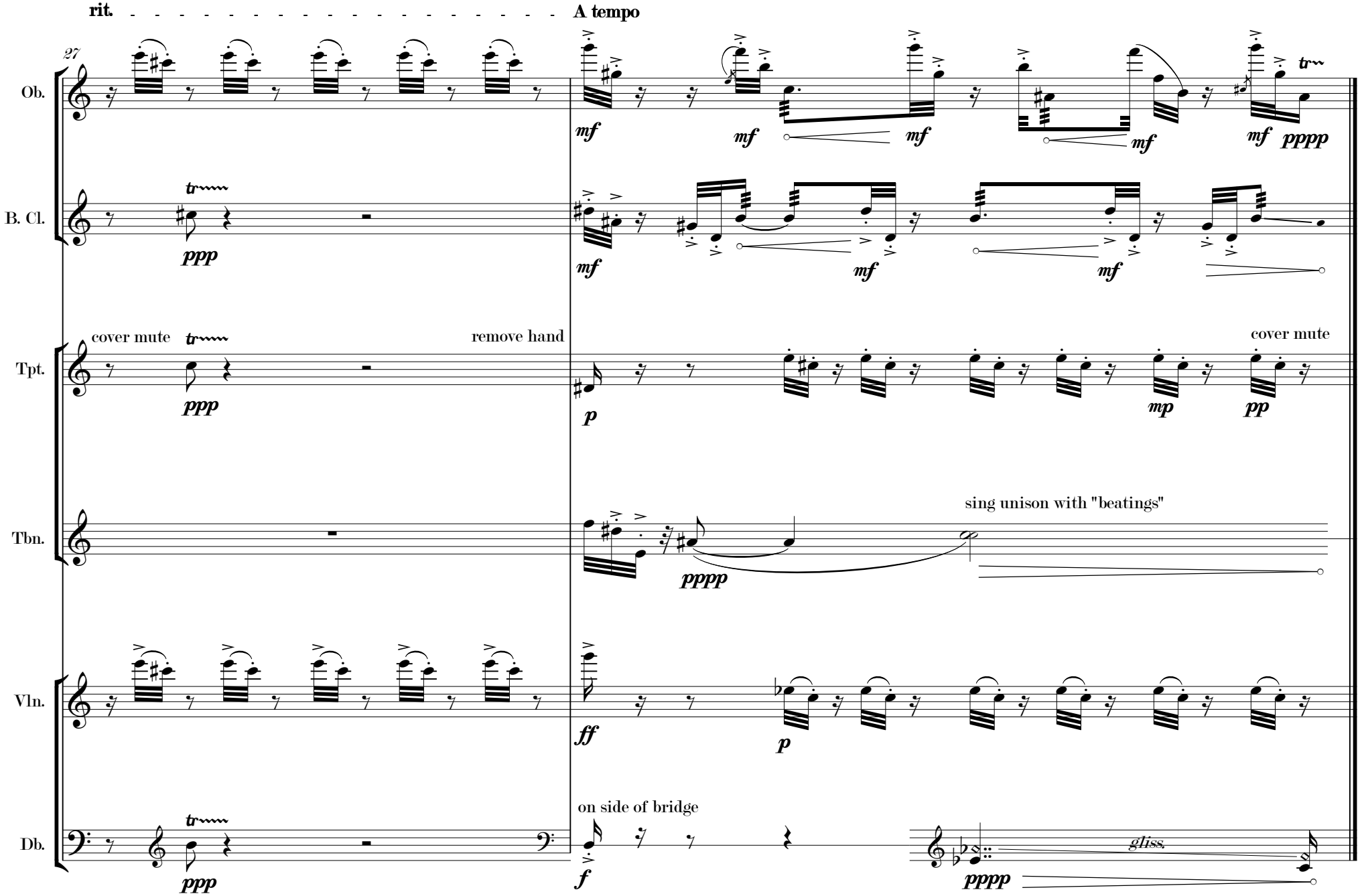

9
Ob.
mf
mf
B. Cl.
mf
mf
Tpt.
5
f
p
pppp
Tbn.
solotone mute
pppp
Vln.
Db.
sul pont.
pppp
sul pont.
gliss.
pppp


13
Ob.
B. Cl.
gradually hand
cover mute
closed
5
(keep
closed)
5
Tpt.
whispa mute
Tbn.
pppp
Vln.
Db.


17
Ob.
mf
mf
mf
mf
mf
mf
mf
pppp
B. Cl.
3
tr
mf
mf
mf
mf
mf
mf
remove hand
Tpt.
tr
f
p
mp
p
Tbn.
tr
p
pppp
sing unison with "beatings"
(pizz.)
pull-off
Vln.
ff
pppp
sul pont.
on side of bridge
sul pont.
Db.
gliss.
pppp
f
gliss.
gliss.
pppp


20
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp
pp
hand covering
the mute (closed)
ppp
gliss.


rit.
A tempo
24
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
mf
pppp
mp
(tr)
tr
3
remove hand
f
p
arco
sul pont.
pizz.
pull-off
gliss.


rit.
A tempo
27
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
cover mute
remove hand
cover mute
sing unison with "beatings"
on side of bridge
gliss.
ppp
mf
p
mp
pp
pppp
ff
f

VI

♩ = 60

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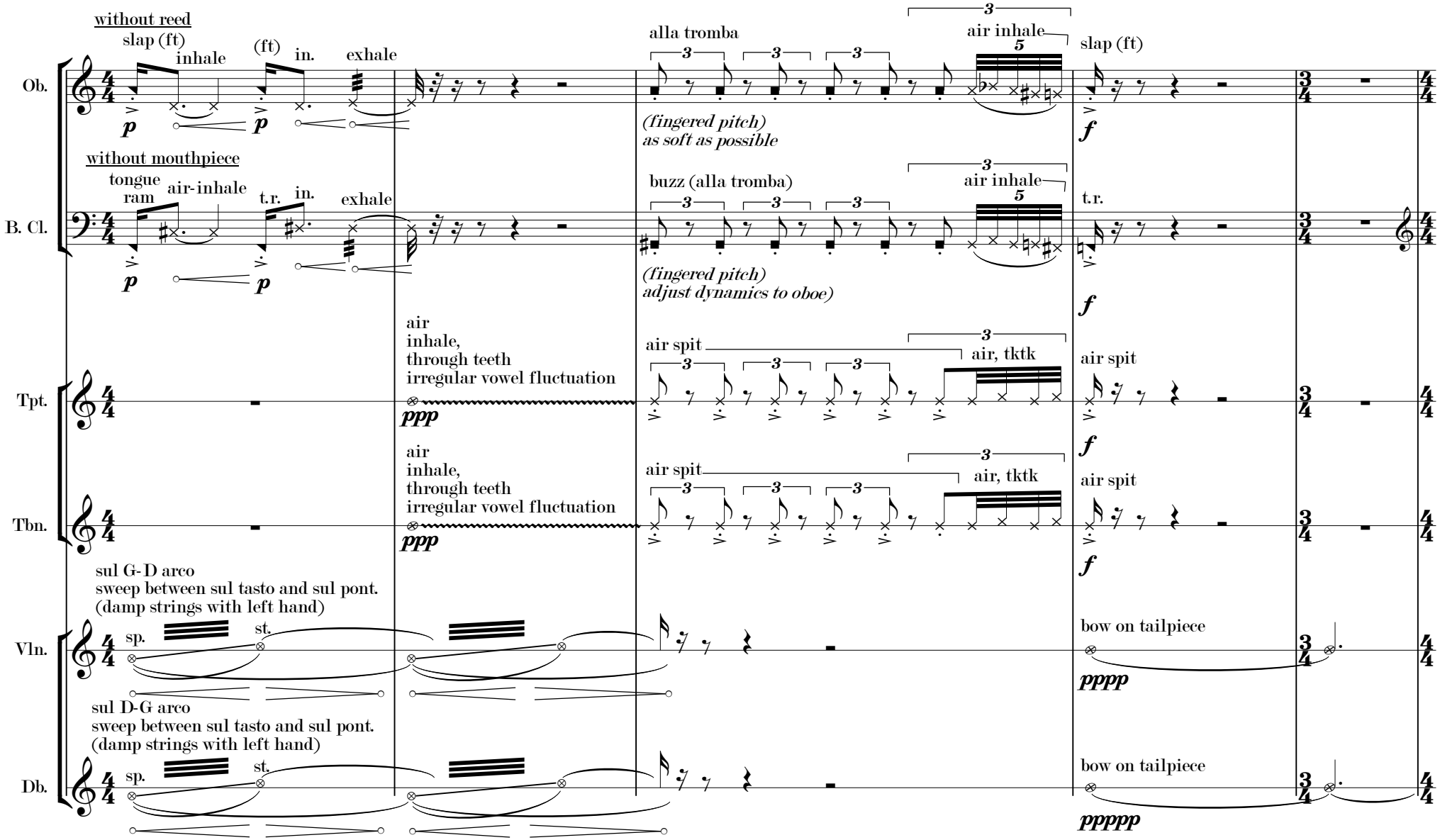
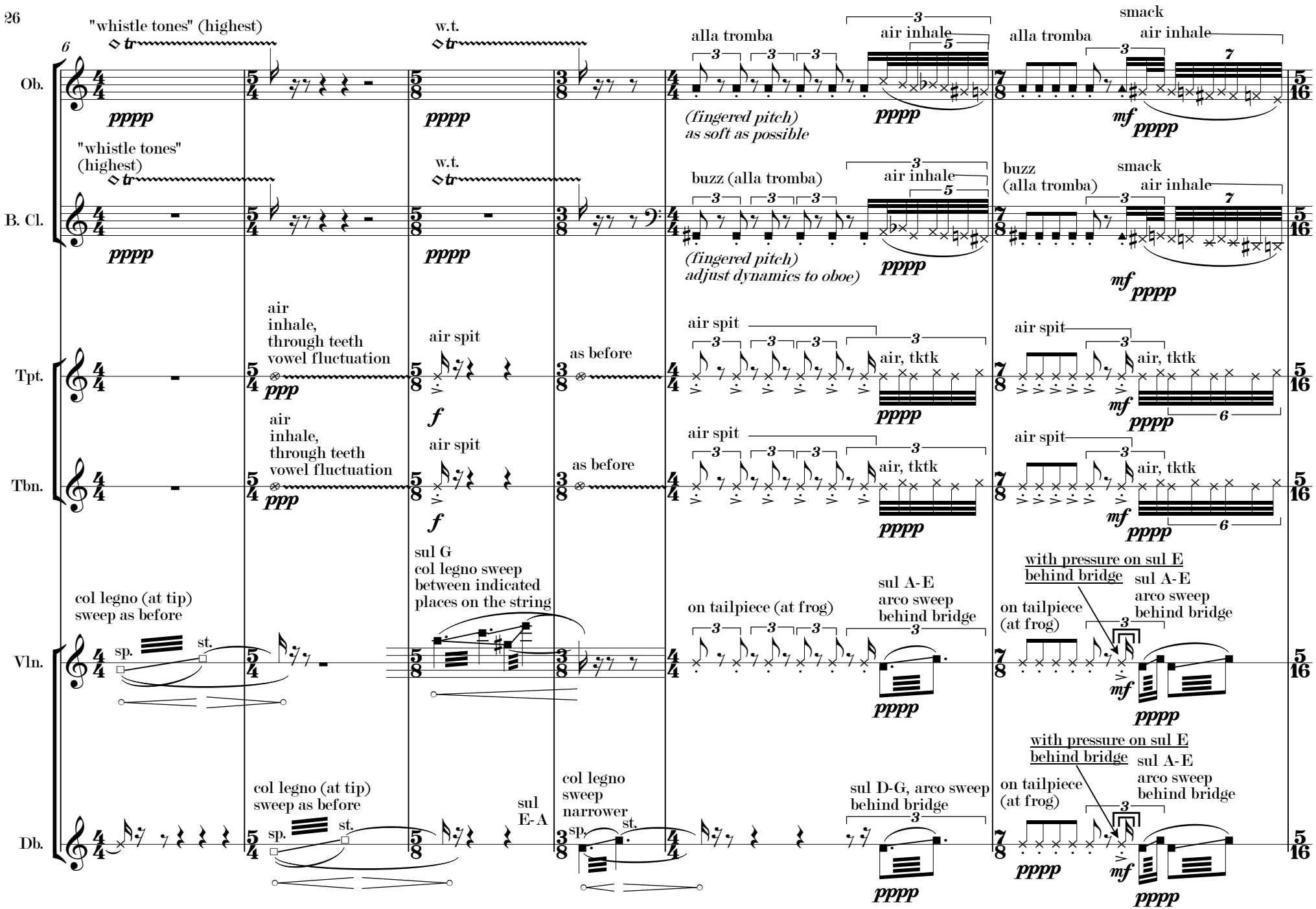
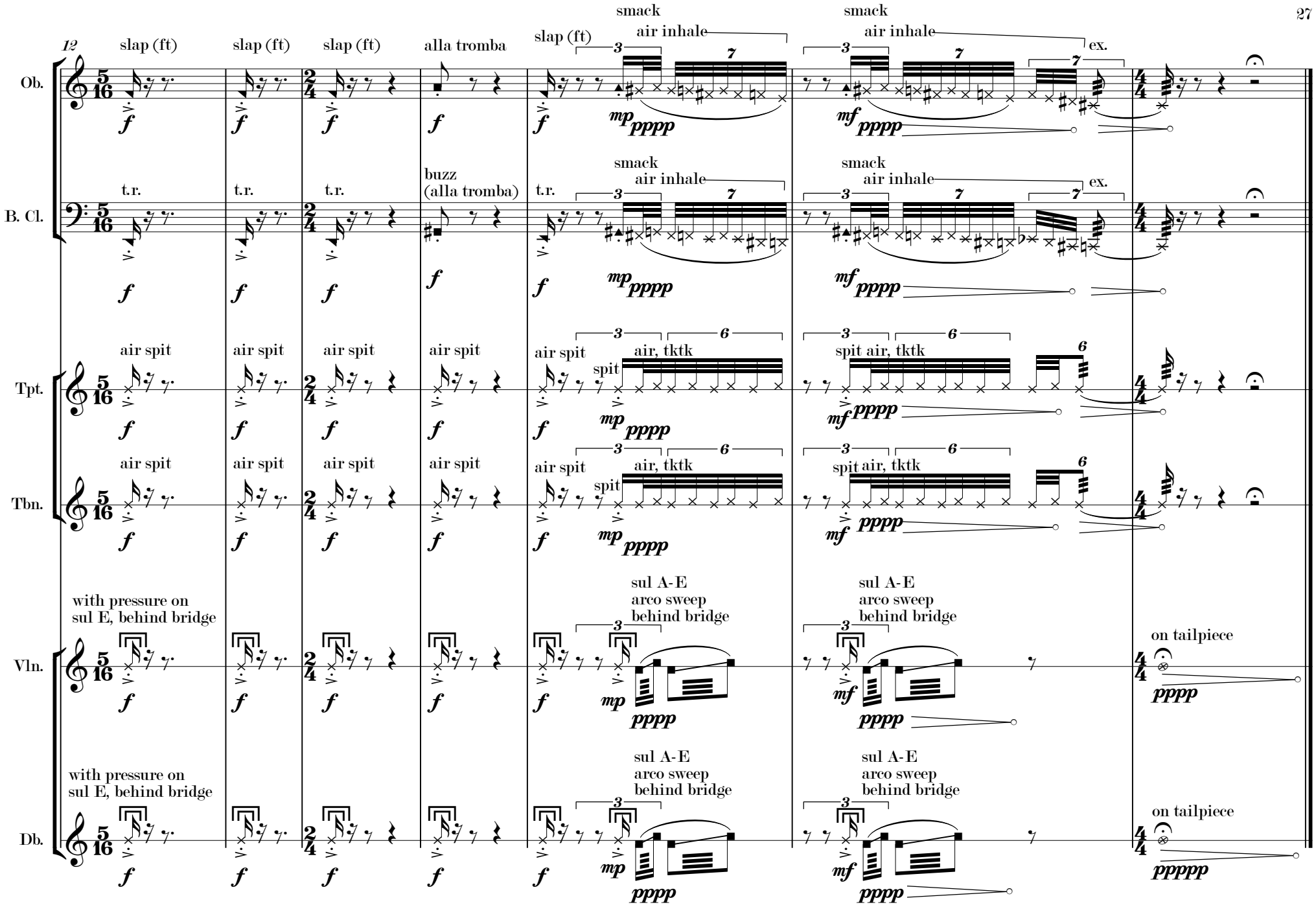



Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
"whistle tones" (highest)
w.t.
alla tromba
air inhale
smack
(fingered pitch)
as soft as possible
buzz (alla tromba)
(fingered pitch)
adjust dynamics to oboe)
air
inhale,
through teeth
vowel fluctuation
air spit
as before
air, tktk
col legno (at tip)
sweep as before
sp.
st.
sul G
col legno sweep
between indicated
places on the string
on tailpiece (at frog)
sul A-E
arco sweep
behind bridge
with pressure on sul E
behind bridge
sul E-A
col legno
sweep
narrower
sul D-G, arco sweep
behind bridge


12
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
slap (ft)
alla tromba
smack
air inhale
ex.
t.r.
buzz
(alla tromba)
air spit
spit
air, tktk
spit air, tktk
with pressure on
sul E, behind bridge
sul A-E
arco sweep
behind bridge
on tailpiece
f
mp
mf
pppp
ppppp

VII

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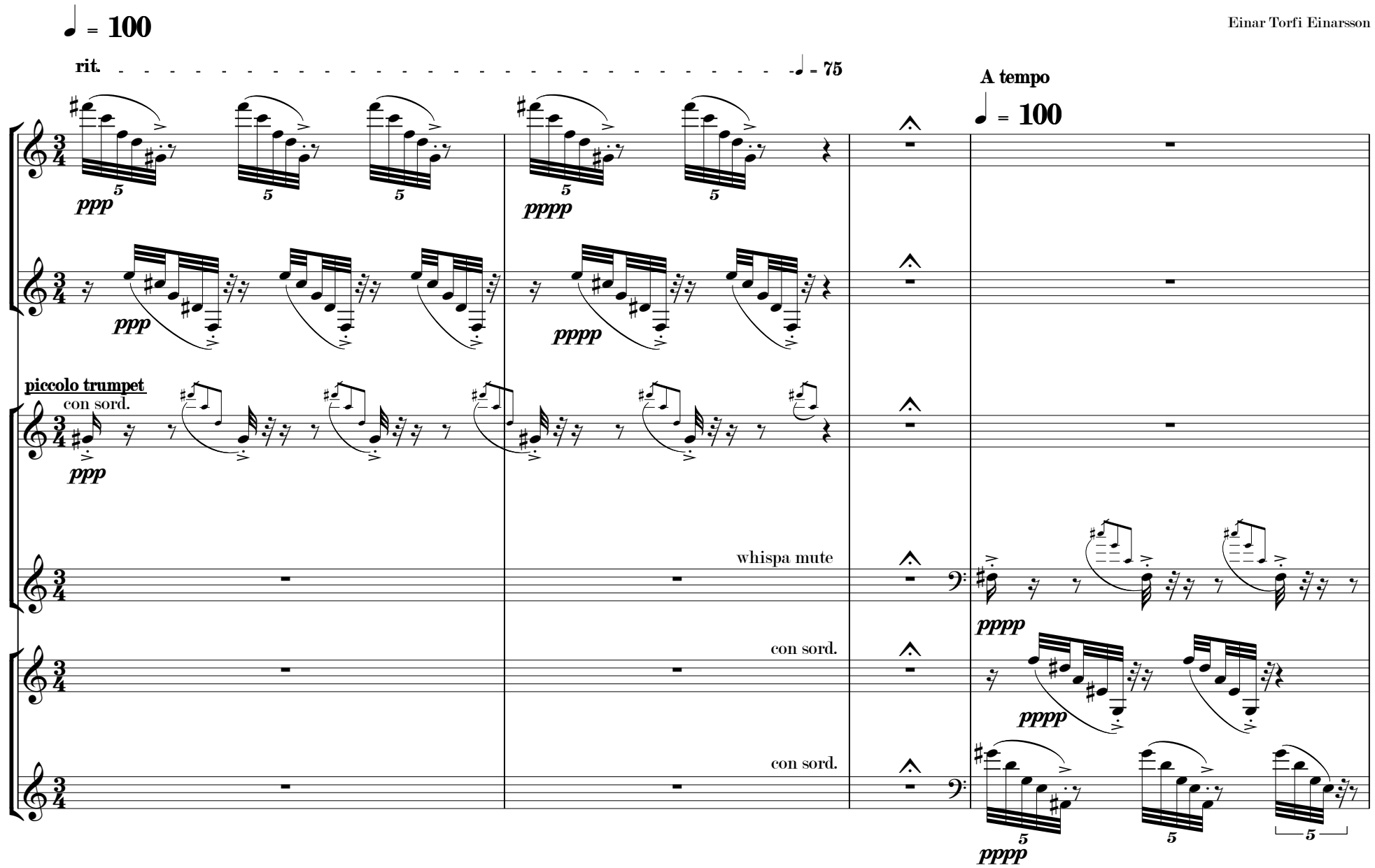
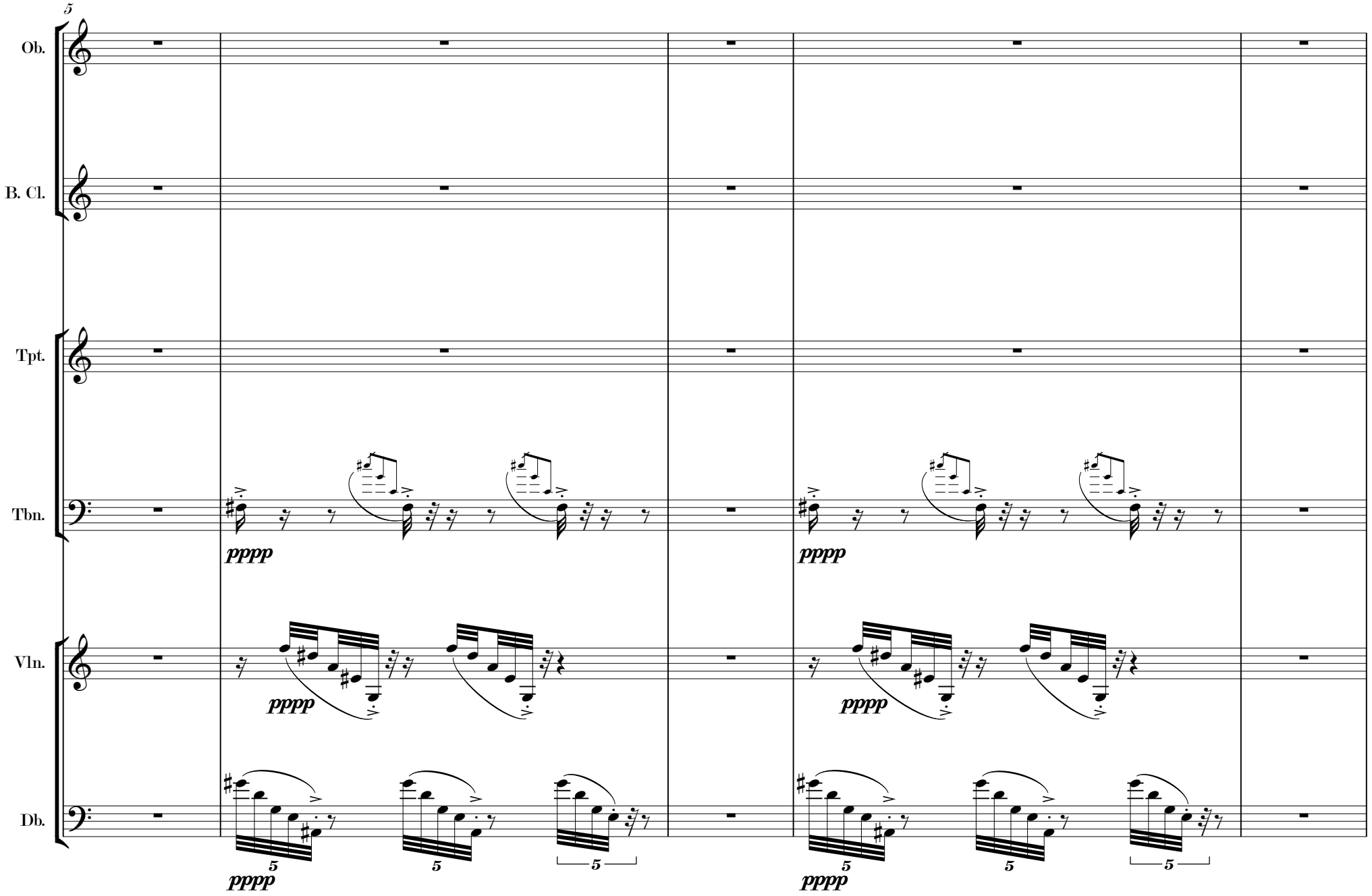
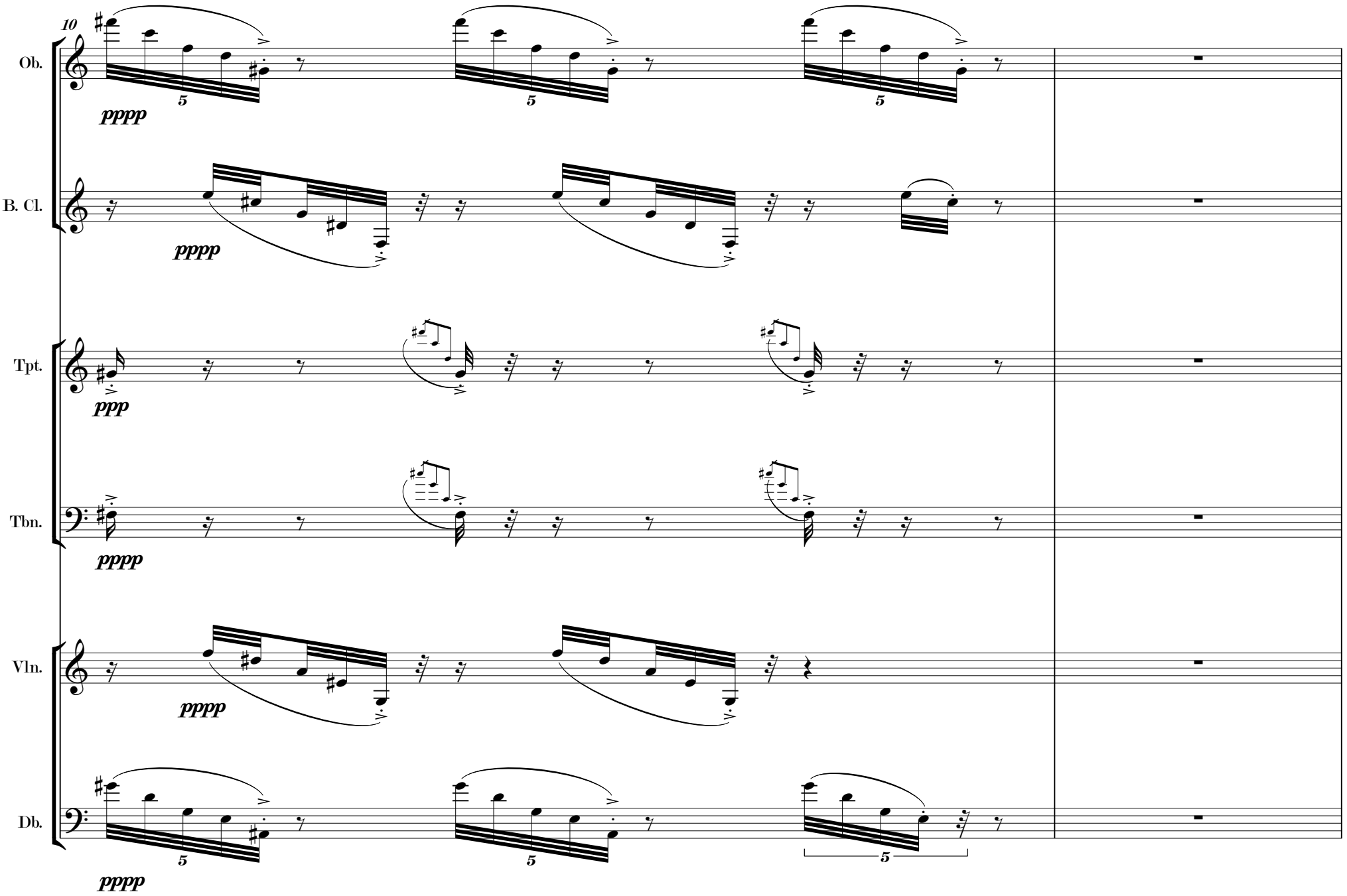
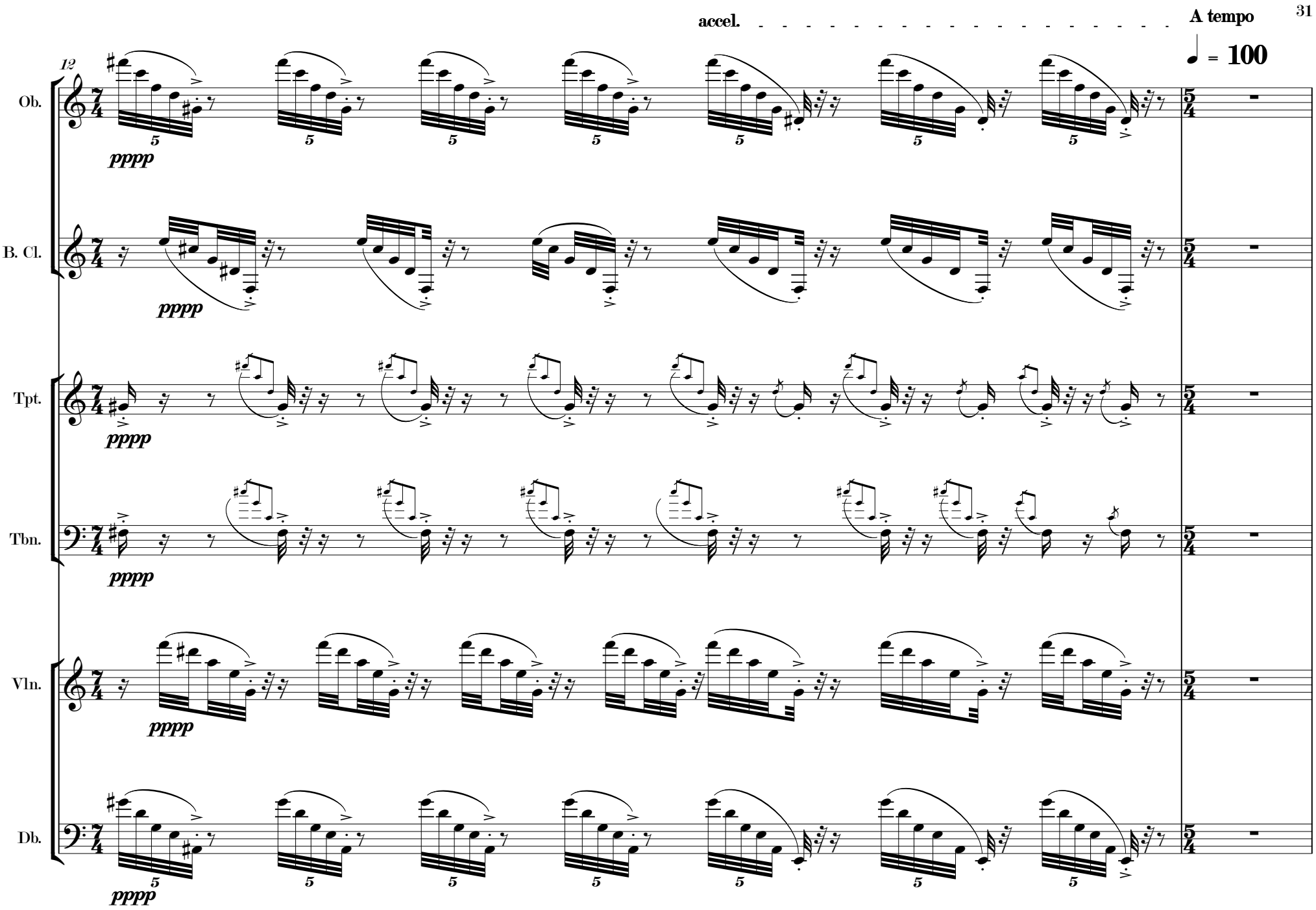
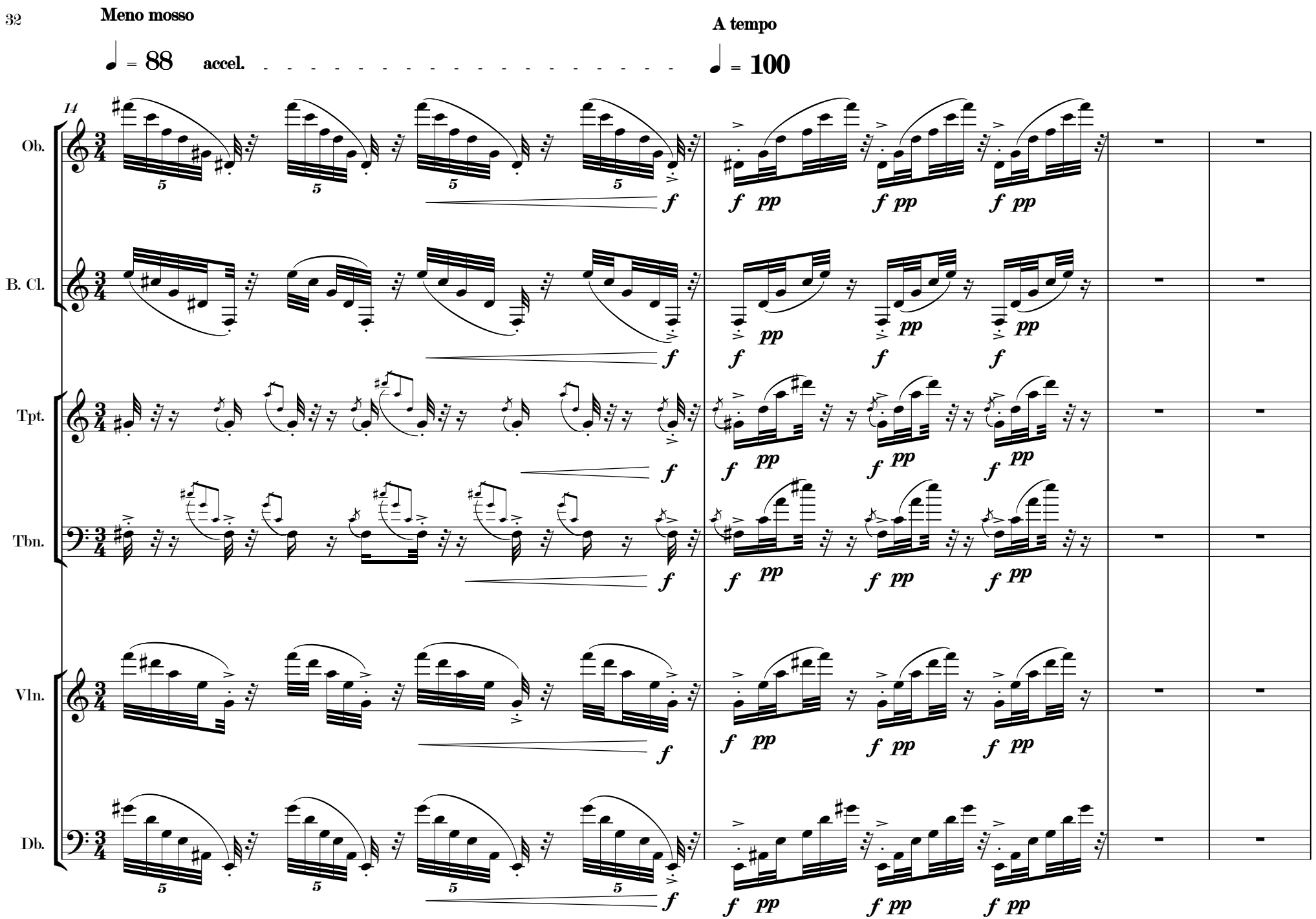
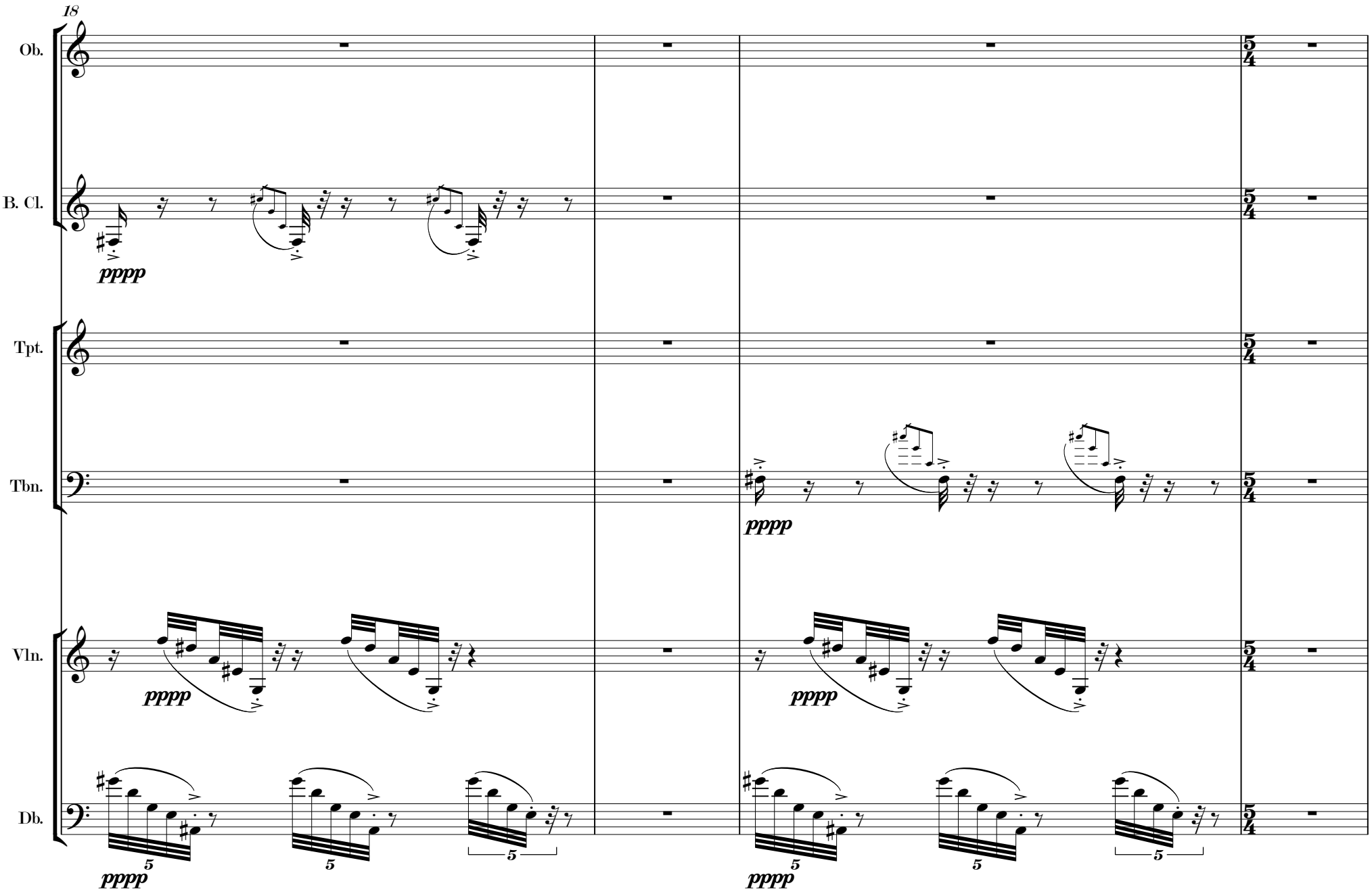


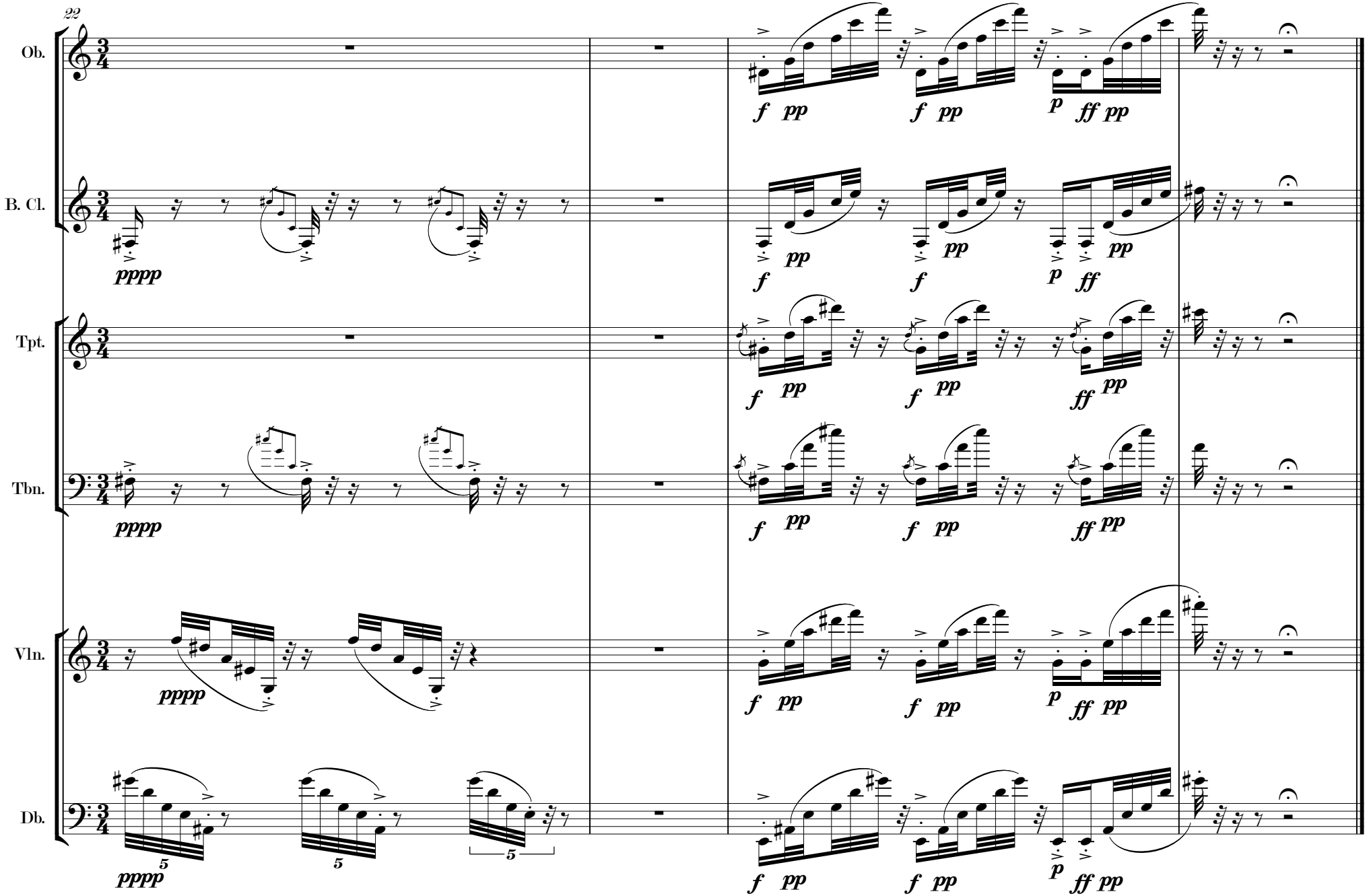

5
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp
pppp
pppp
pppp
5
5
5
5
5
5


10
Ob.
pppp
B. Cl.
pppp
Tpt.
ppp
Tbn.
pppp
Vln.
pppp
Db.
pppp


accel.
A tempo
♩ = 100
12
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp


Meno mosso
♩ = 88
accel.
A tempo
♩ = 100
14
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
f
pp


18
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp
5
5/4


22
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp
f pp
p ff pp
5

VIII

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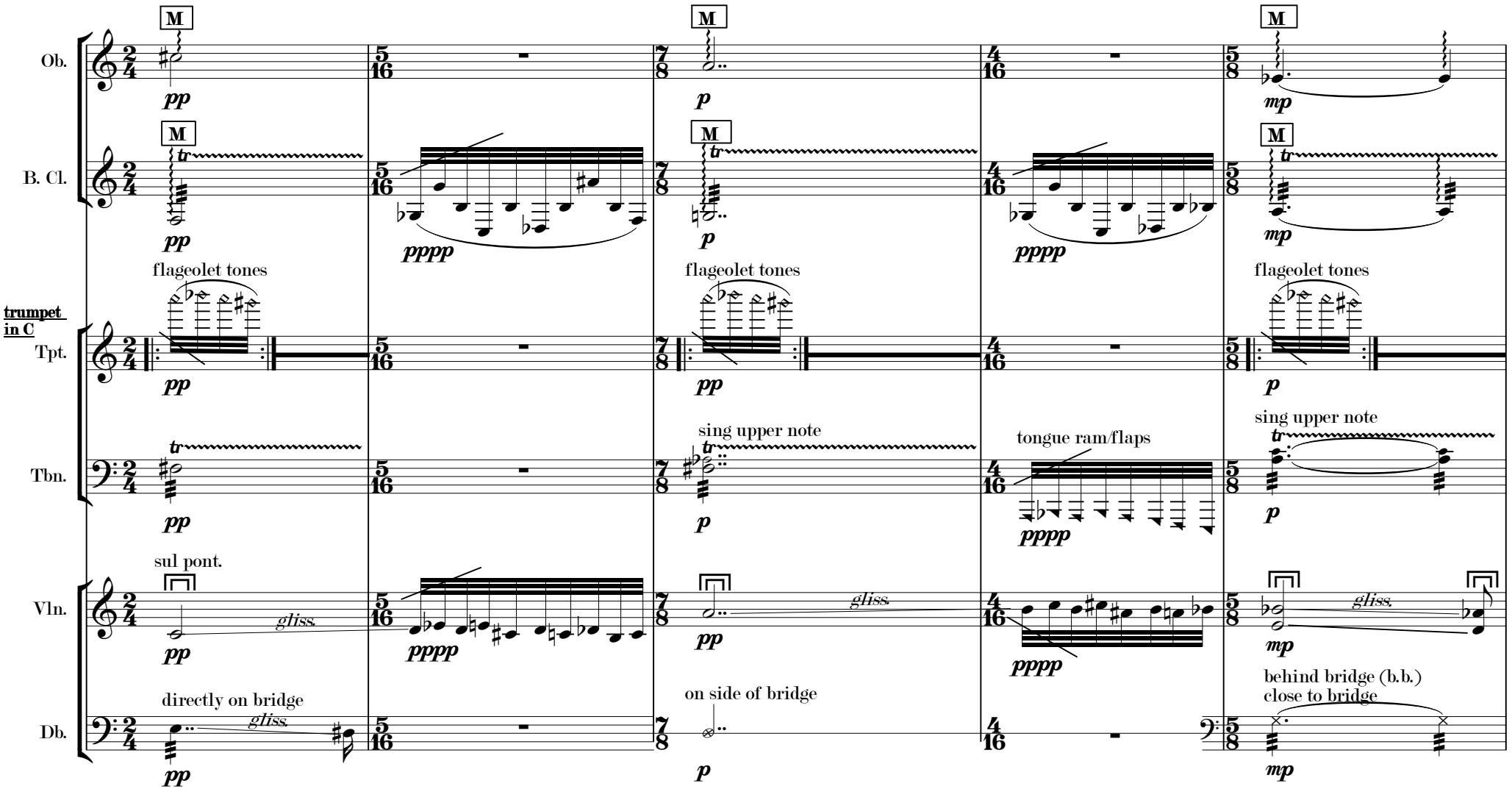
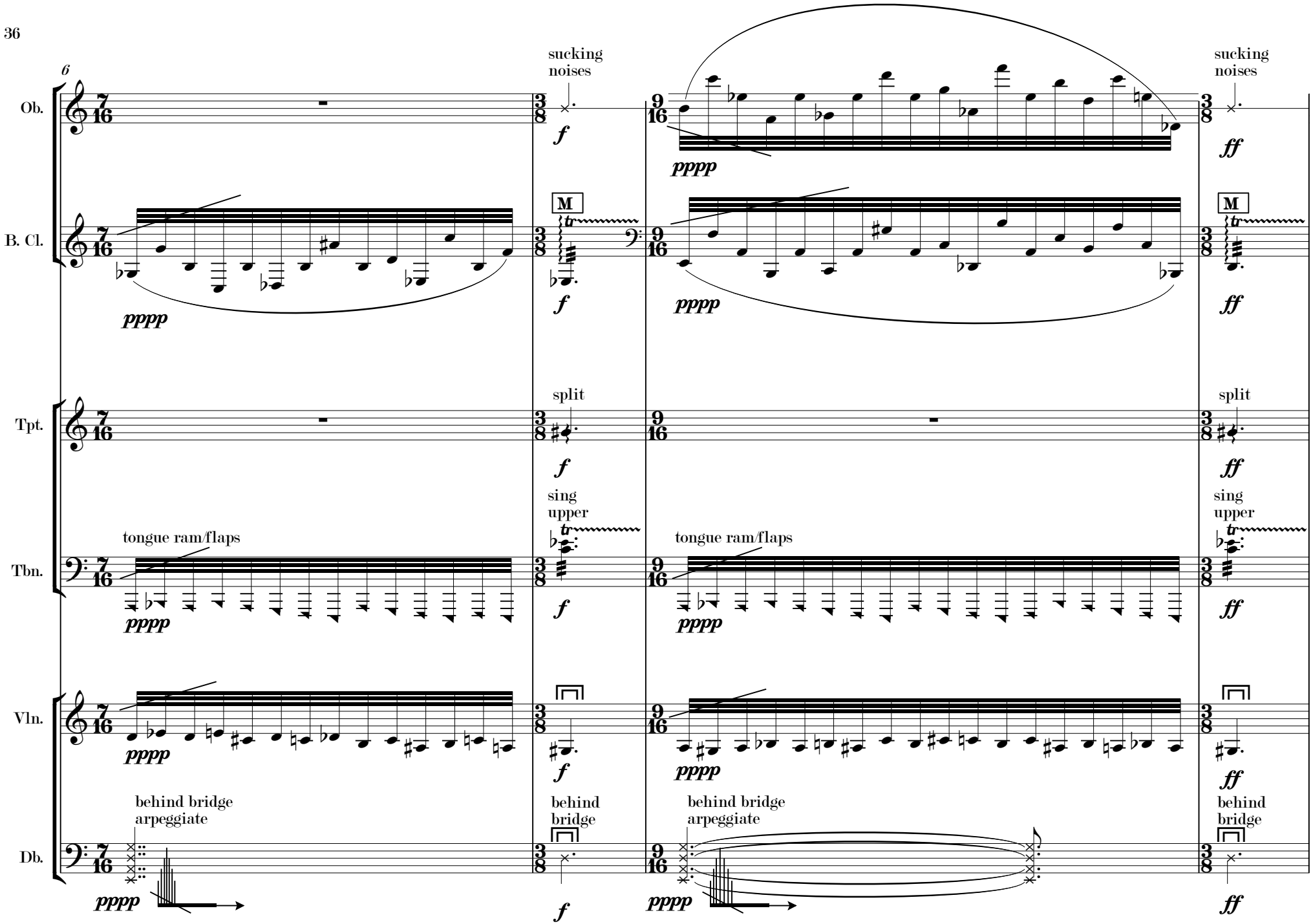
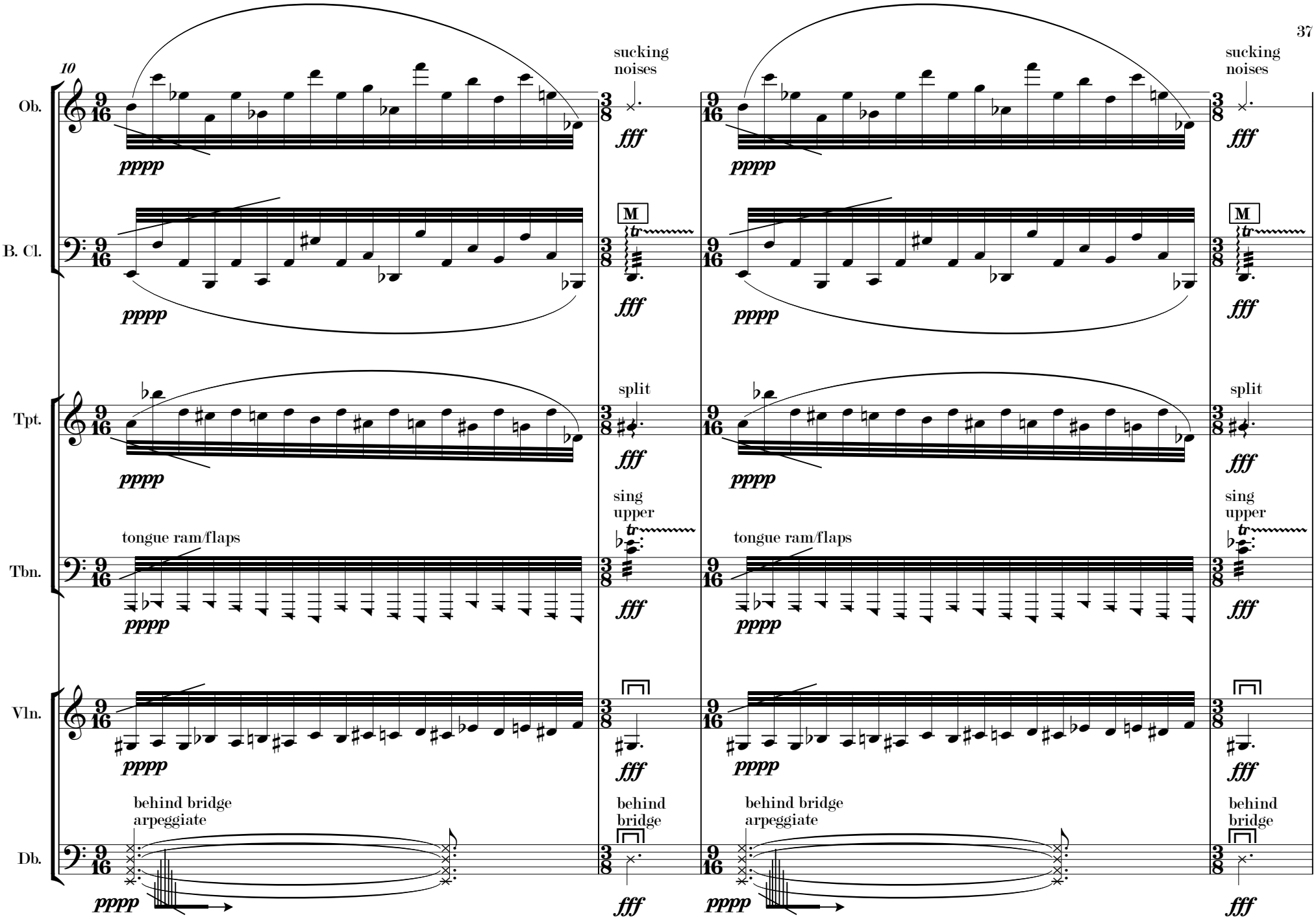
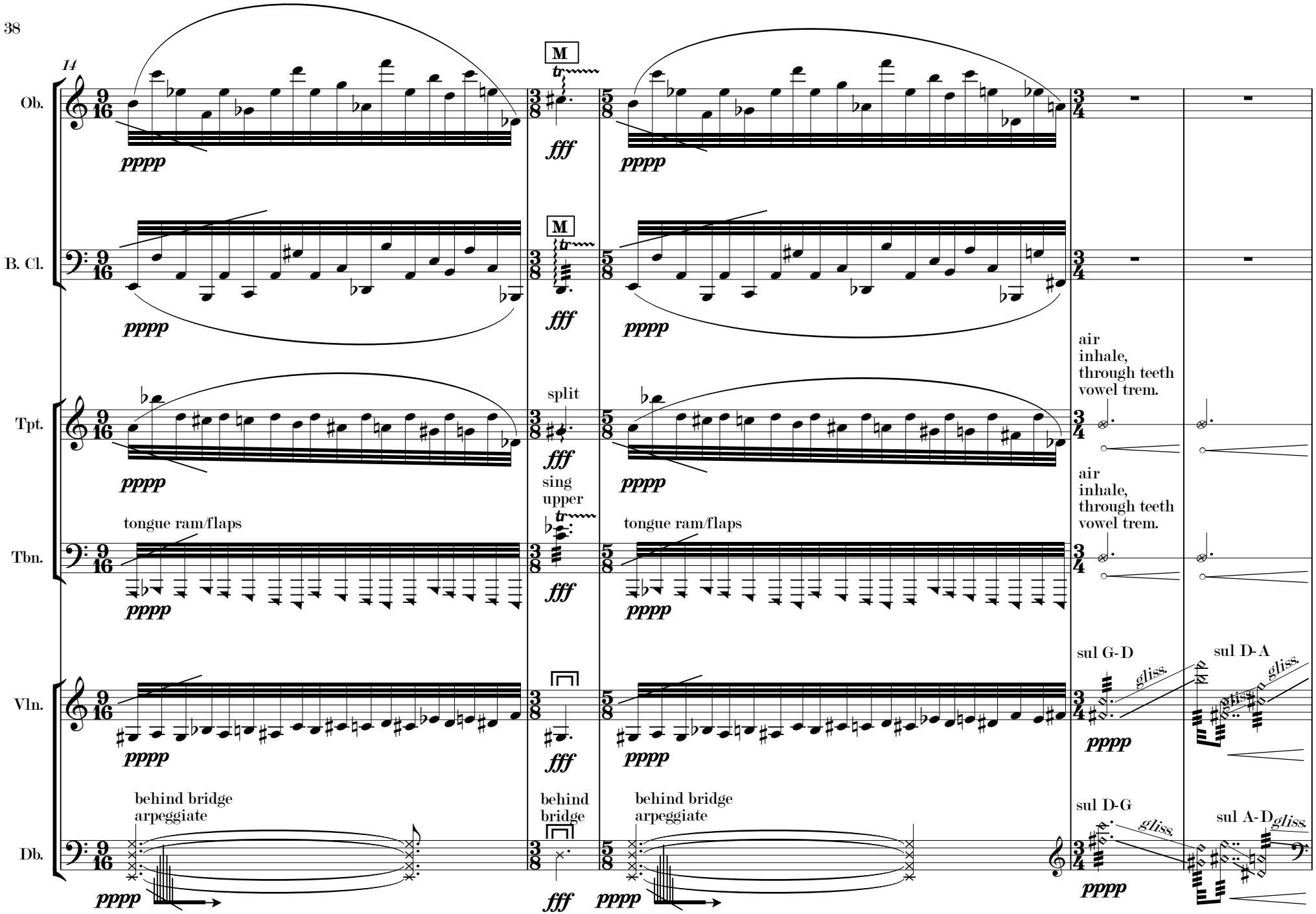
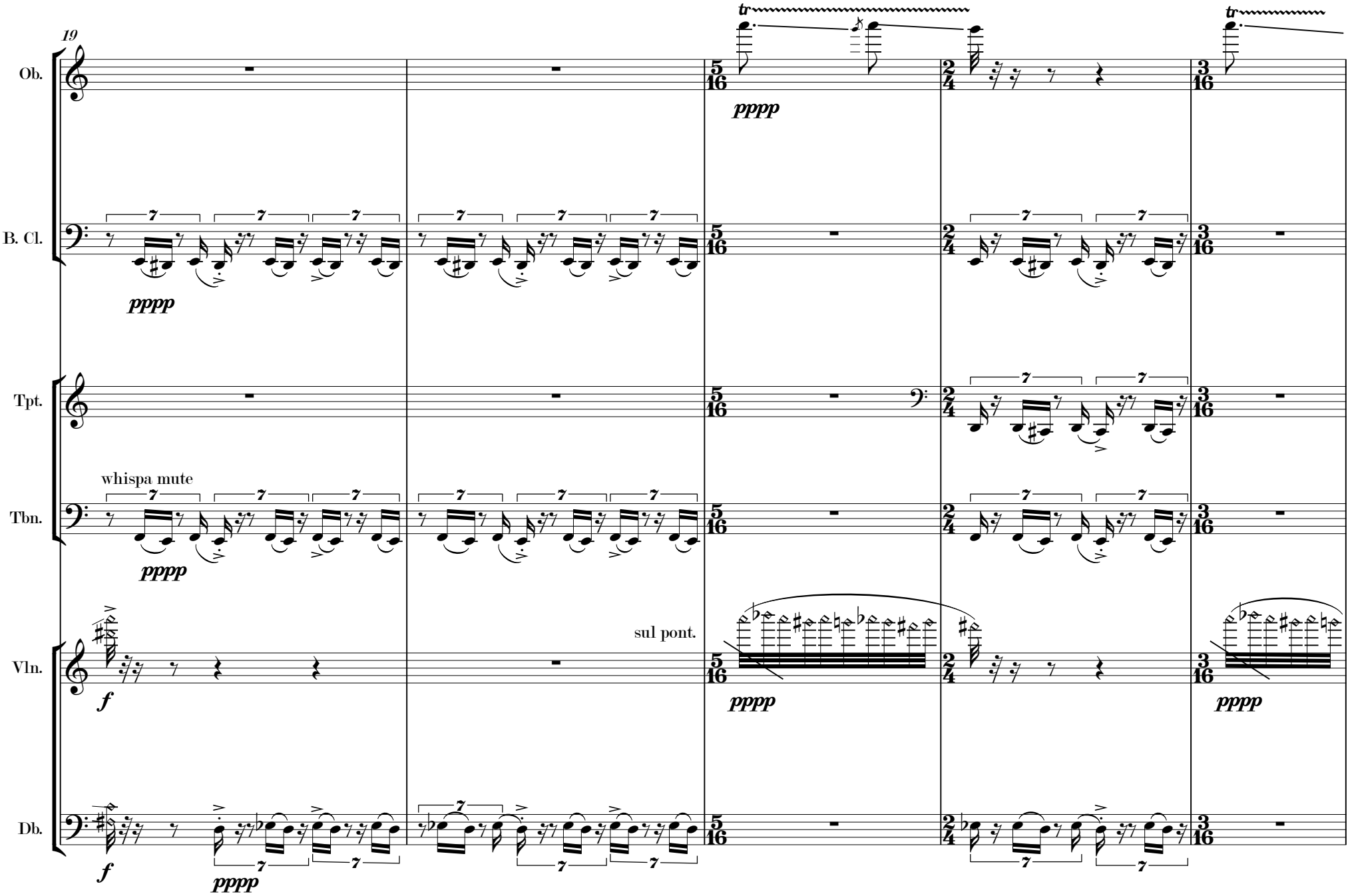
♩ = 113

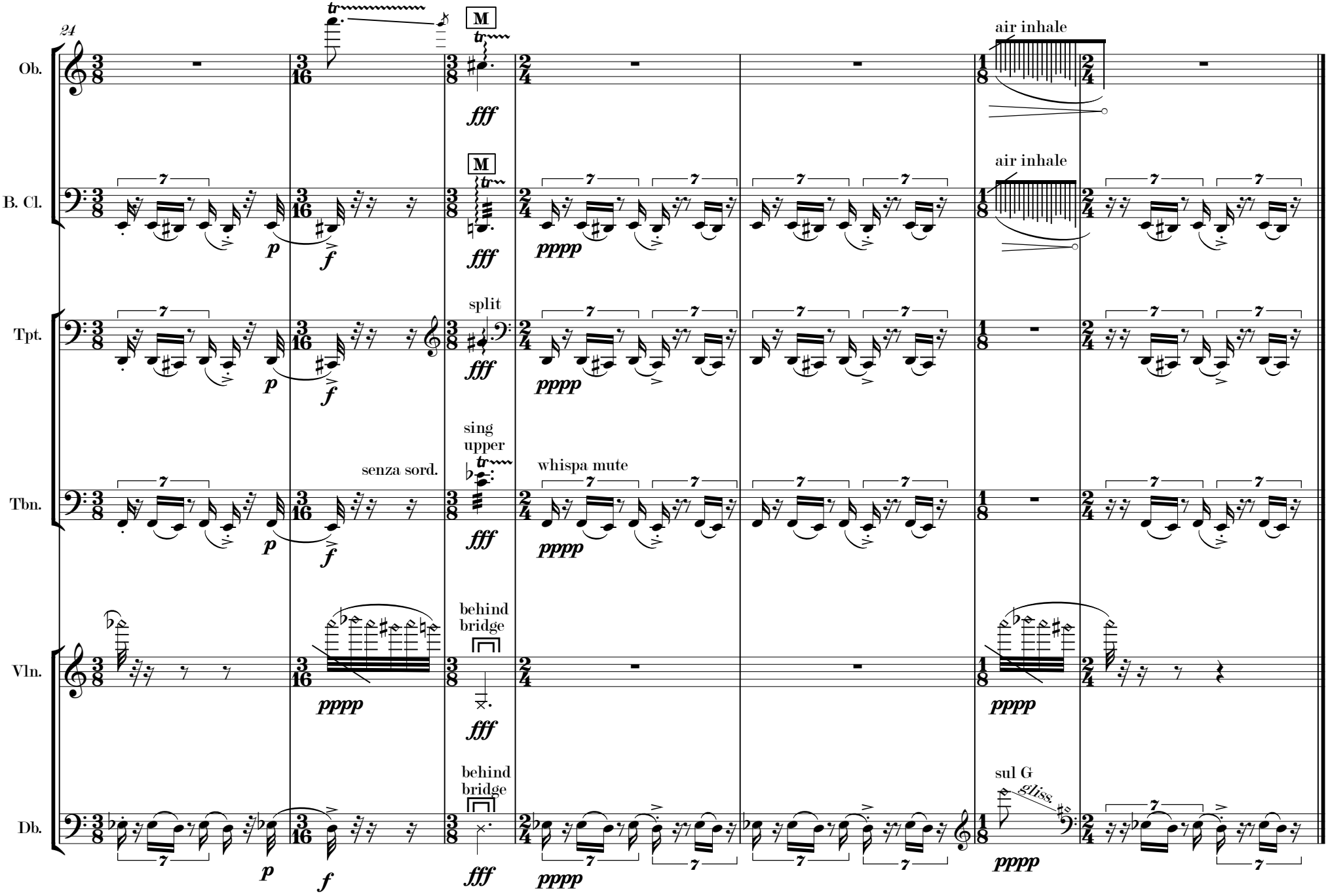



6
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
sucking noises
split
sing upper
tongue ram/flaps
behind bridge arpeggiate
behind bridge
M
pppp
f
ff


10
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
pppp
fff
sucking noises
M
tr
split
sing upper
tongue ram/flaps
behind bridge arpeggiate
behind bridge

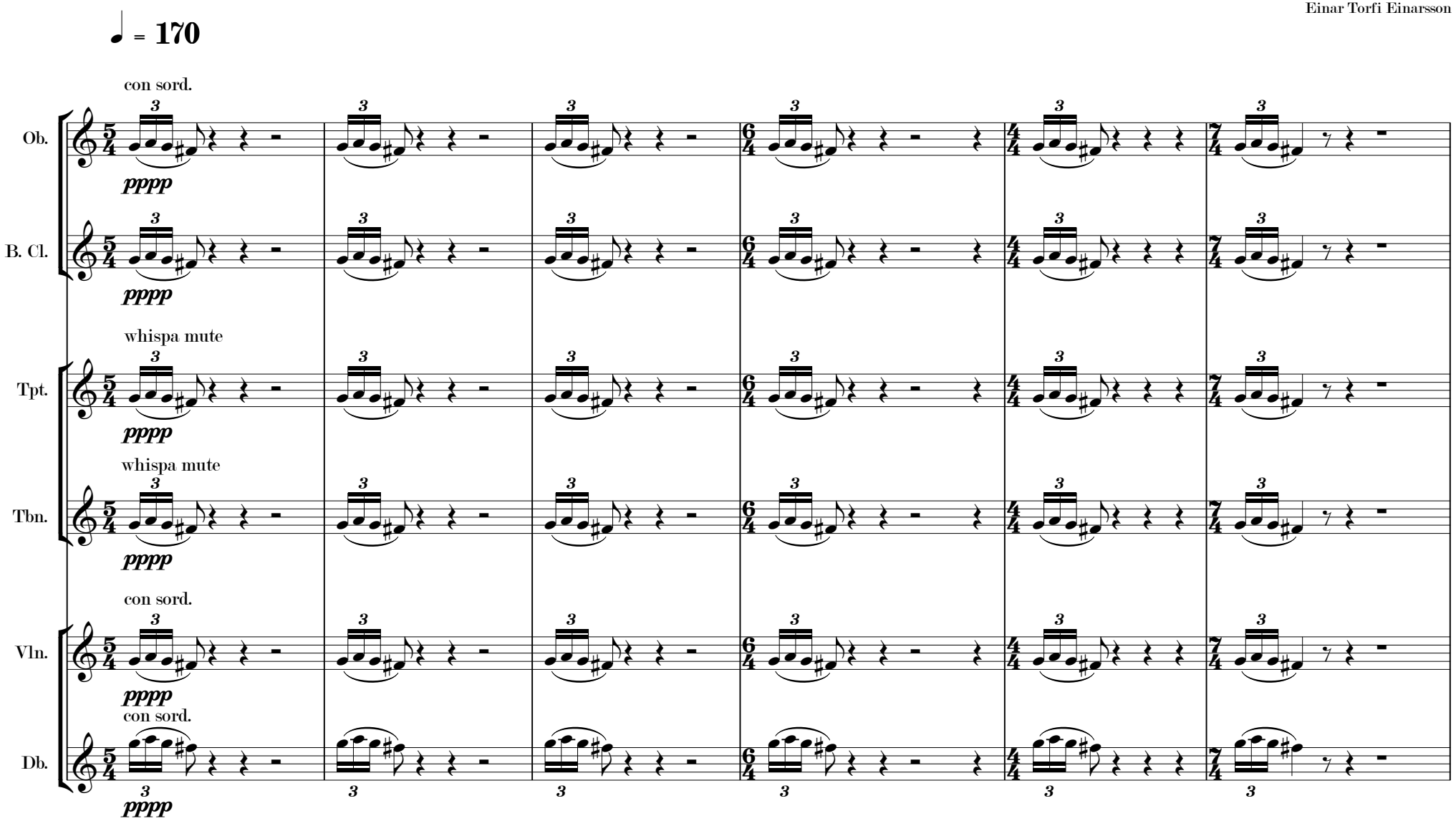

14
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
M
pppp
fff
split
sing
upper
tongue ram/flaps
behind bridge
arpeggiate
behind
bridge
air
inhale,
through teeth
vowel trem.
sul G-D
sul D-A
sul D-G
sul A-D
gliss.

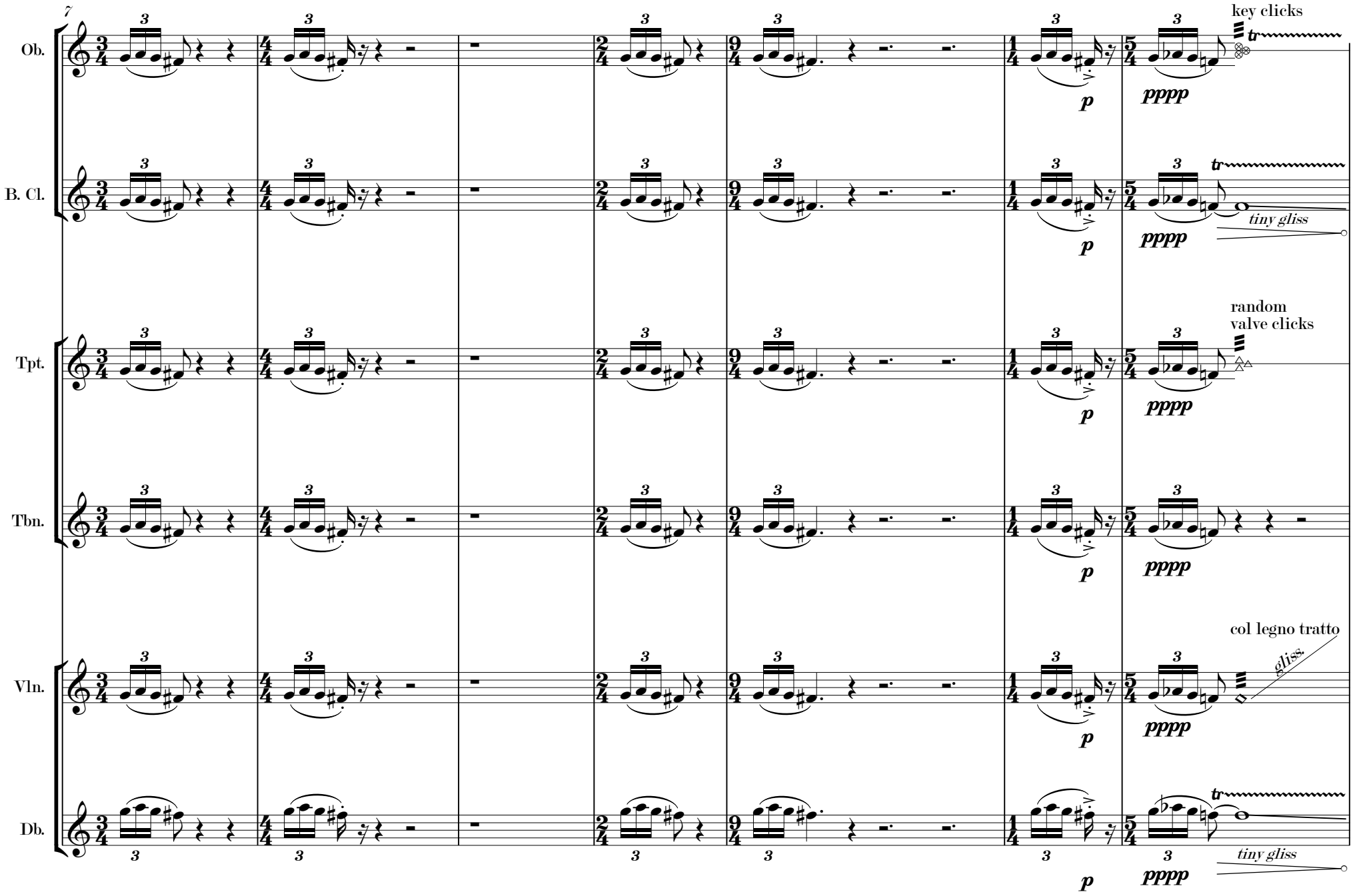

19
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
tr
pppp
whispa mute
sul pont.
f
5/16
2/4
3/16

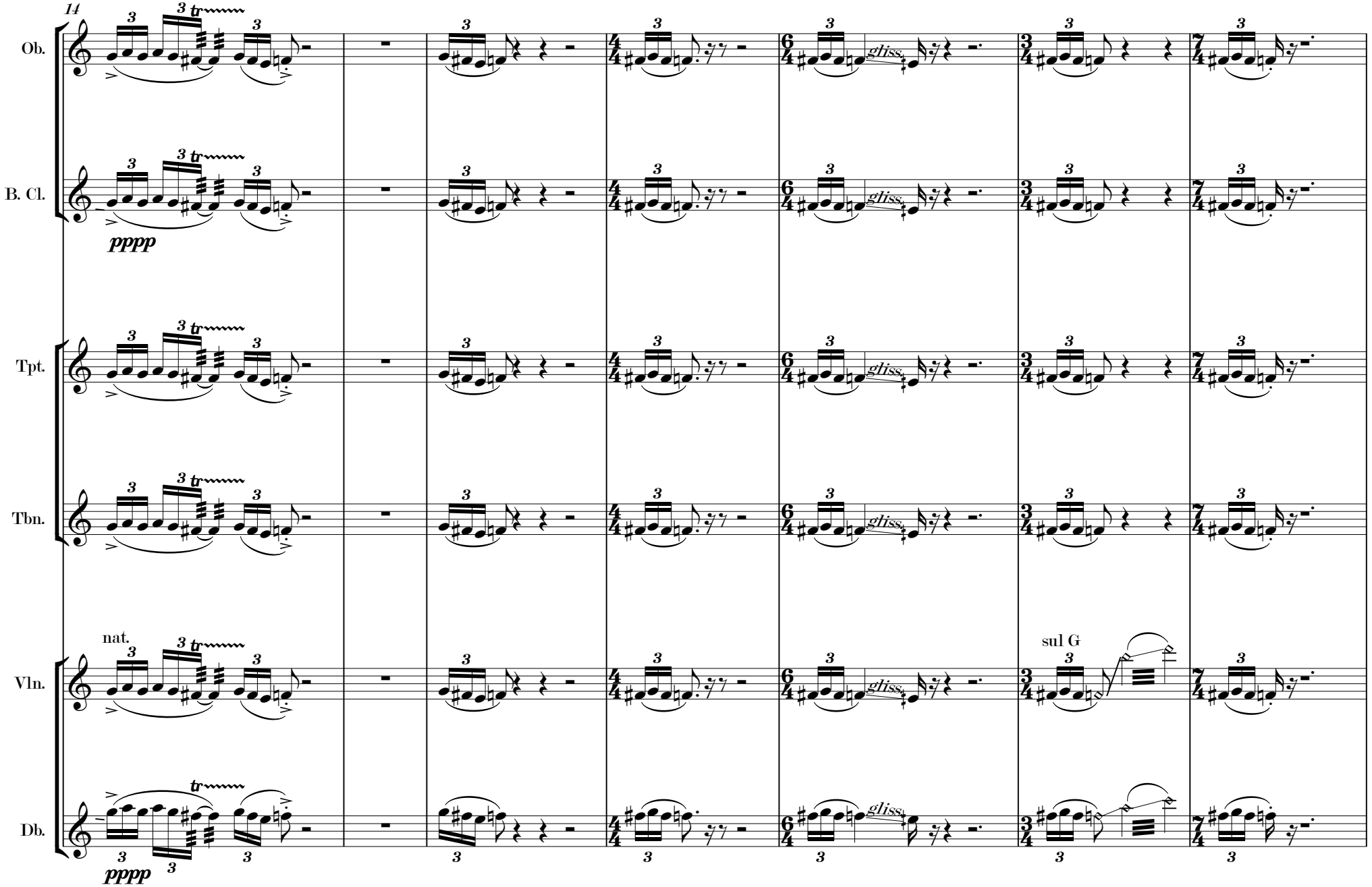

24
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
M
air inhale
split
sing
upper
senza sord.
whispa mute
behind
bridge
sul G
gliss.
fff
ppppp
p
f

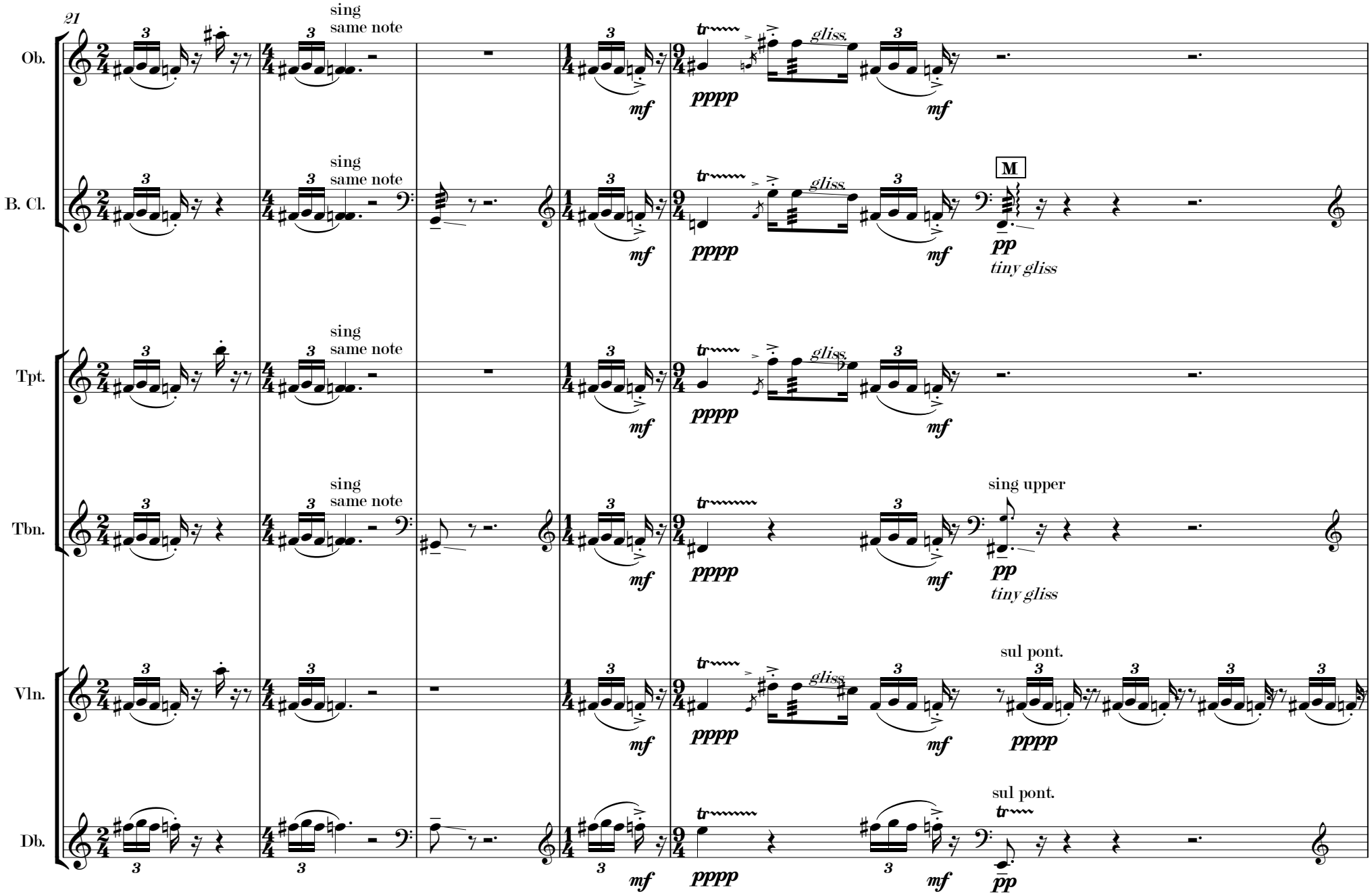
IX

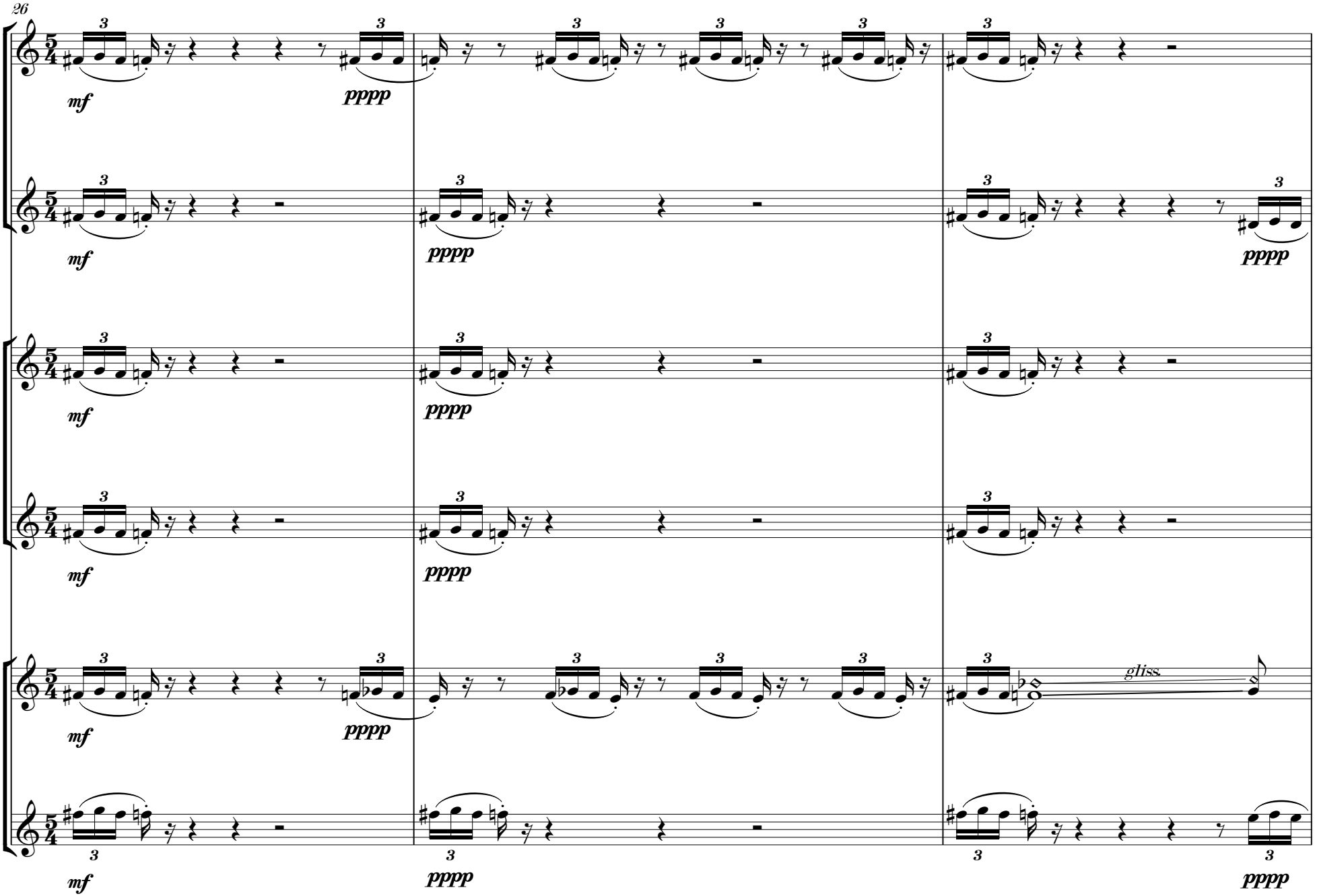
Einar Torfi Einarsson

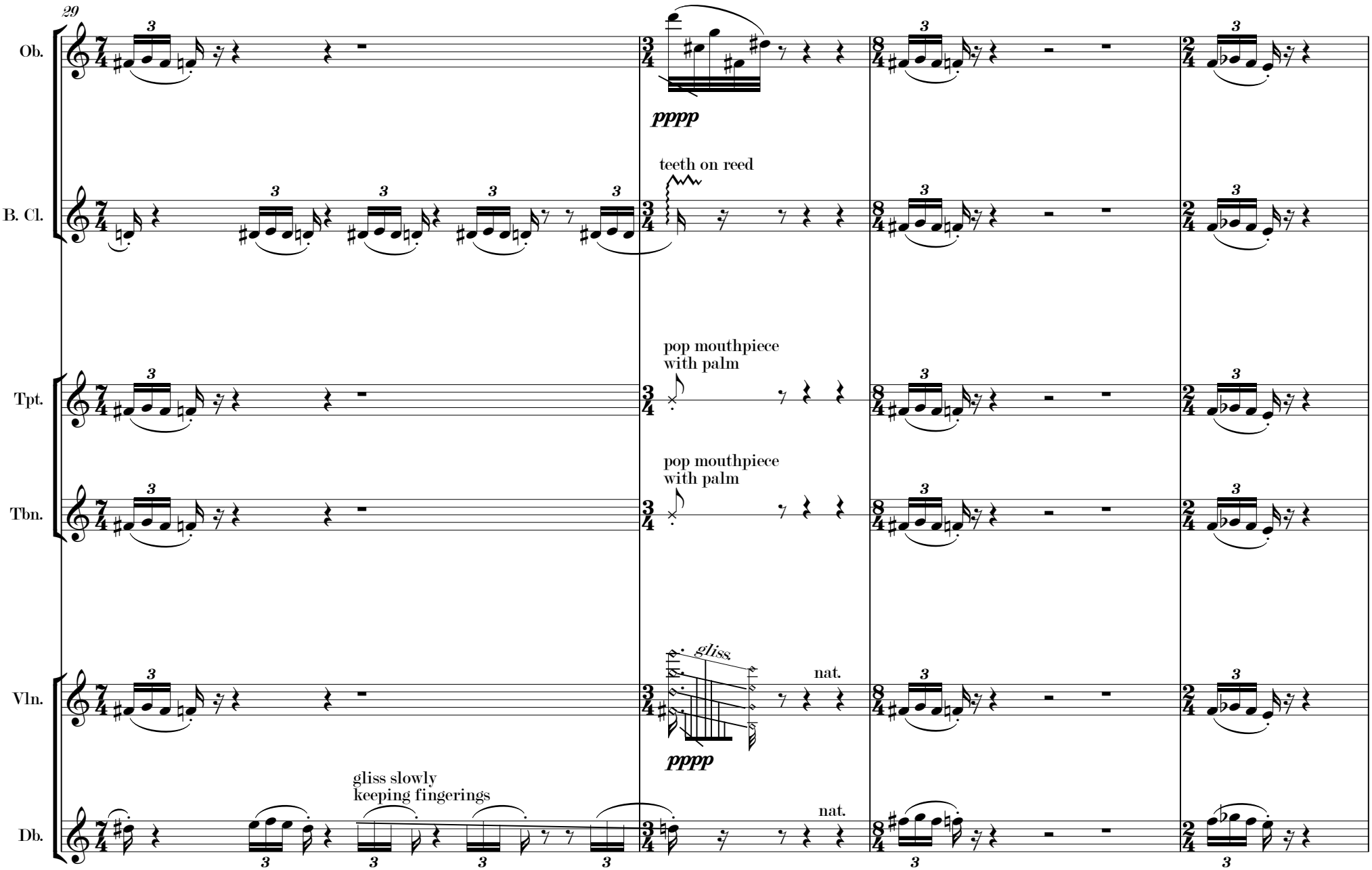


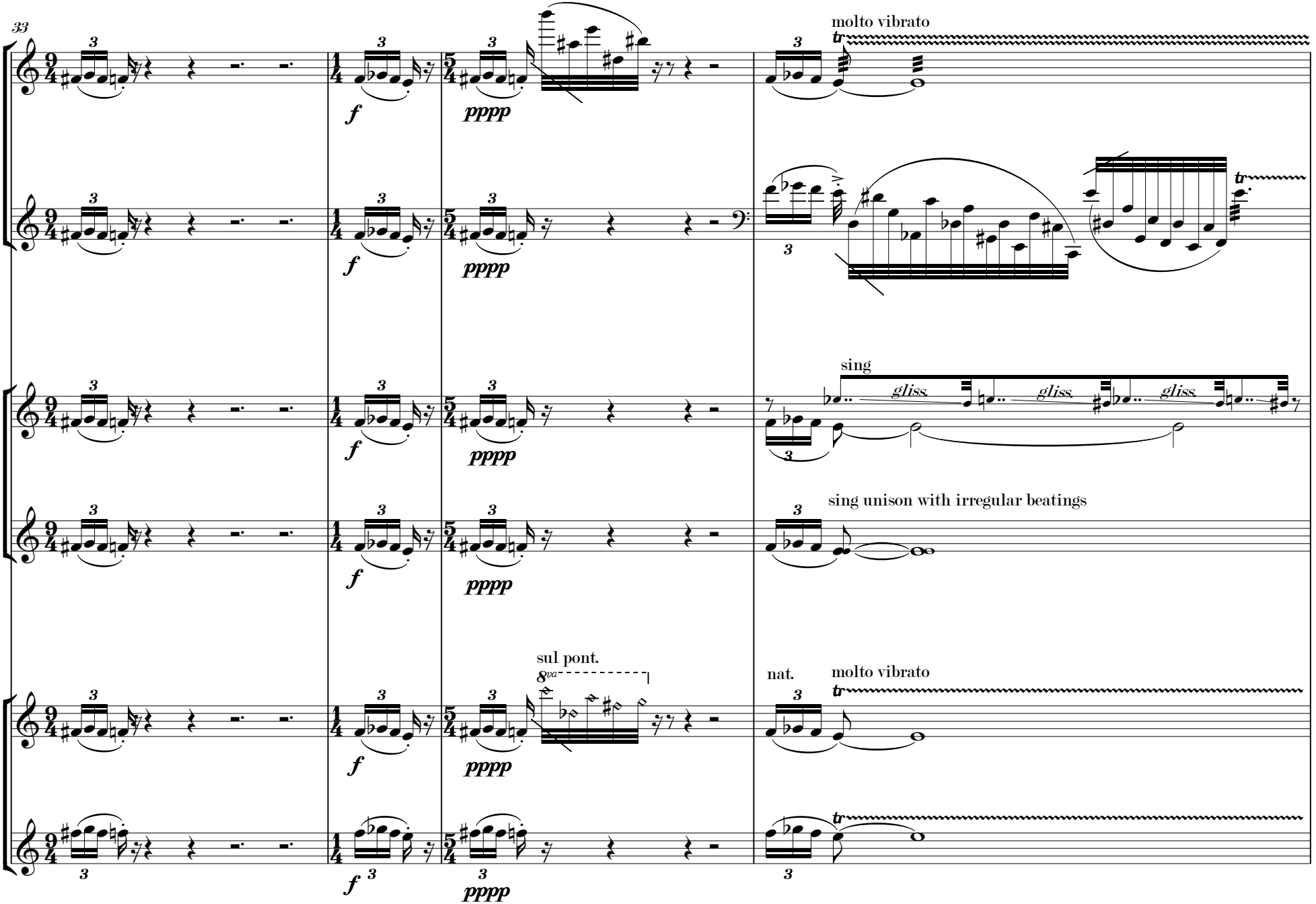

7
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
random
key clicks
random
valve clicks
col legno tratto
gliss.
tiny gliss
tiny gliss
p
pppp

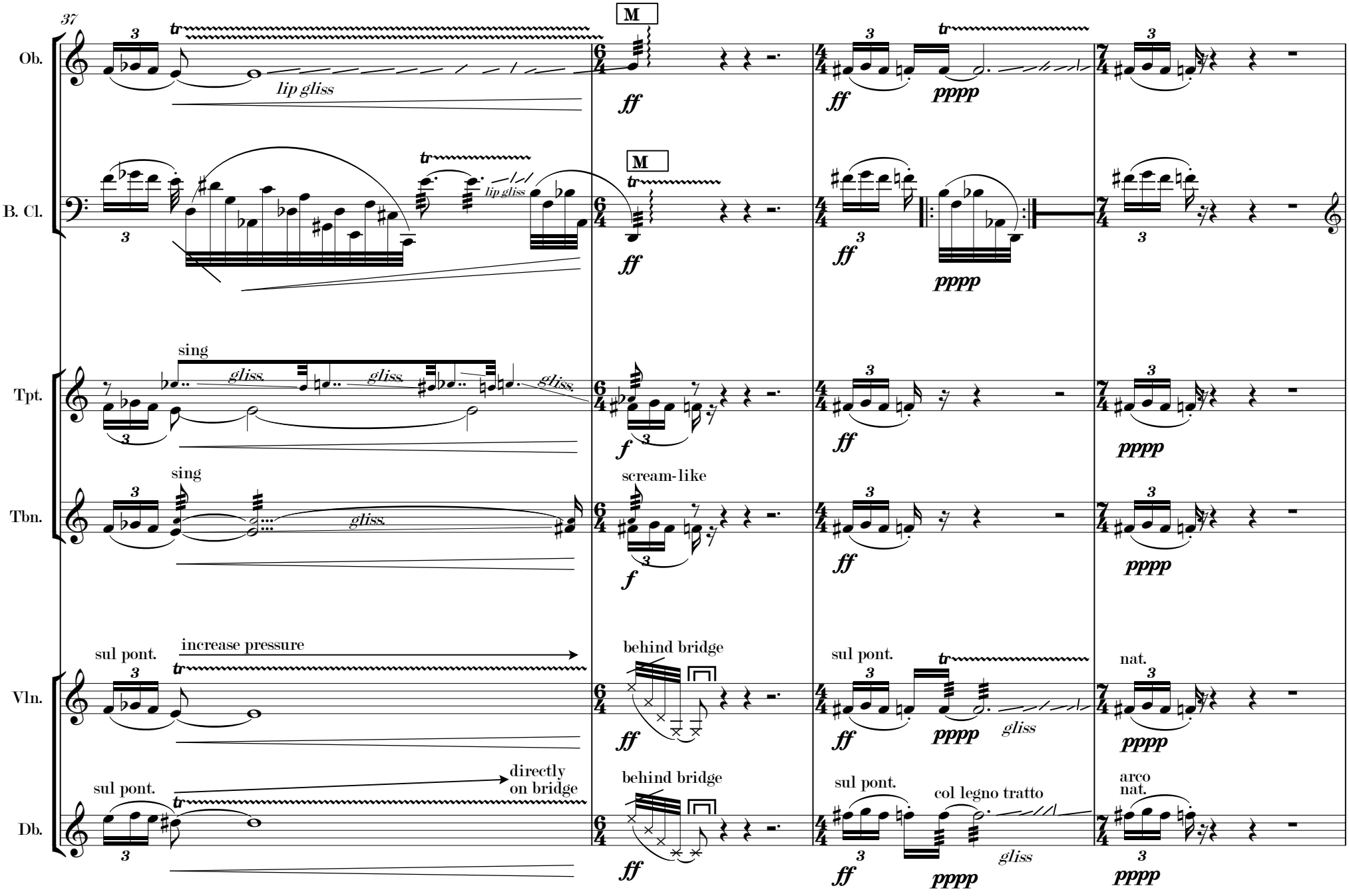

14
Ob.
B. Cl.
pppp
Tpt.
Tbn.
Vln.
nat.
sul G
Db.
pppp
gliss.

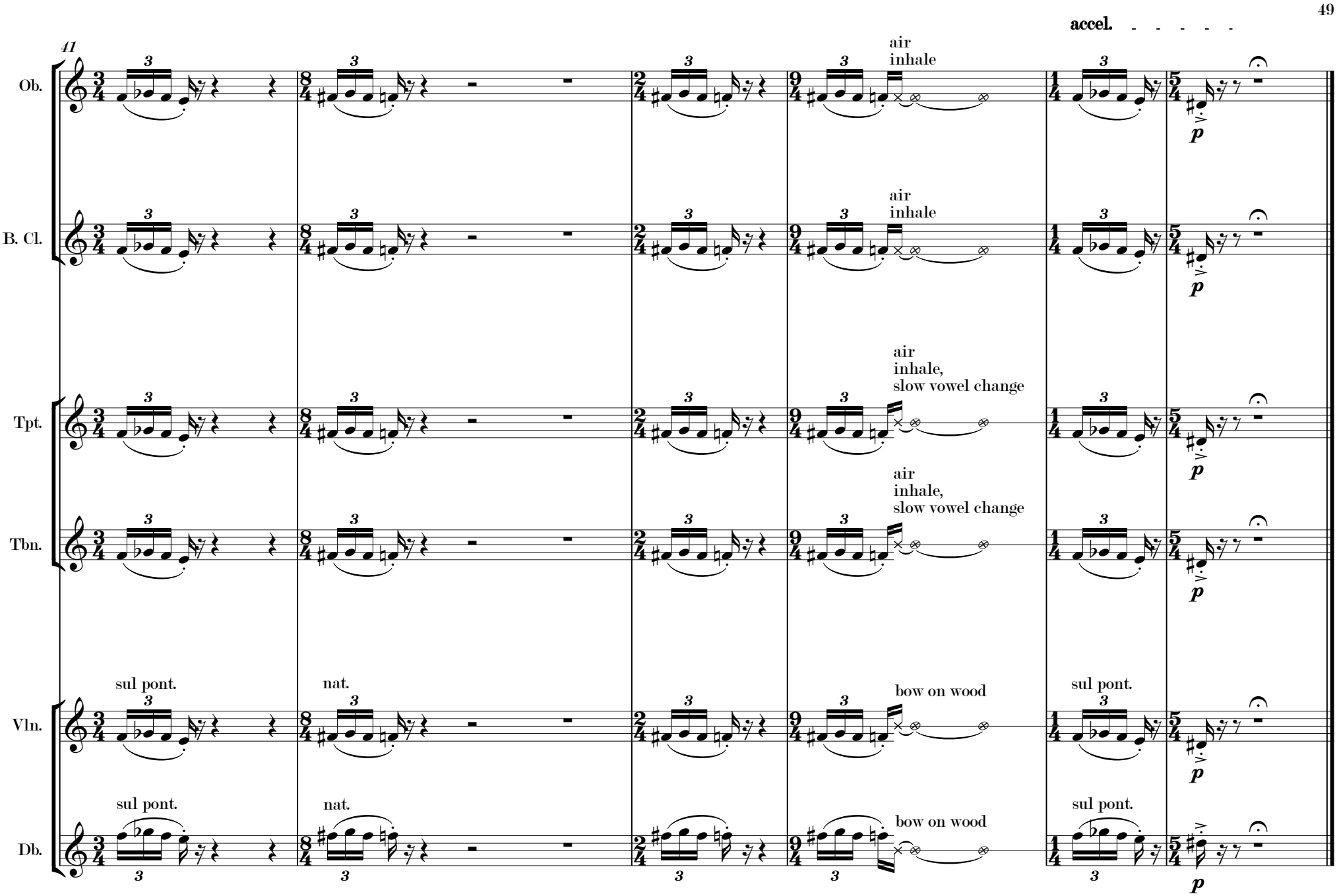

21
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
sing
same note
gliss.
pppp
mf
M
pp
tiny gliss
sing upper
sul pont.


26
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
mf
pppp
gliss.


29
Ob.
pppp
B. Cl.
teeth on reed
Tpt.
pop mouthpiece
with palm
Tbn.
pop mouthpiece
with palm
Vln.
gliss.
nat.
pppp
Db.
gliss slowly
keeping fingerings
nat.


33
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
molto vibrato
sing
gliss.
gliss.
gliss.
sing unison with irregular beatings
sul pont.
8va
nat.
molto vibrato
f
pppp


37
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
M
lip gliss
sing
gliss.
scream-like
sul pont.
increase pressure
behind bridge
directly
on bridge
col legno tratto
arco
nat.
ff
f
pppp


accel.
41
Ob.
B. Cl.
Tpt.
Tbn.
Vln.
Db.
air
inhale
air
inhale
air
inhale,
slow vowel change
air
inhale,
slow vowel change
sul pont.
nat.
bow on wood
sul pont.
sul pont.
nat.
bow on wood
sul pont.
p

Topiary

for recorder

Einar Torfi Einarsson

Topiary

for recorder

Einar Torfi Einarsson 2009

http://einartorfieinarsson.co.cc/

Notes

- This piece has 11 parts, between them should be a little pause.
- The Alto-recorder is used throughout except in **R1** where the soprano is used.

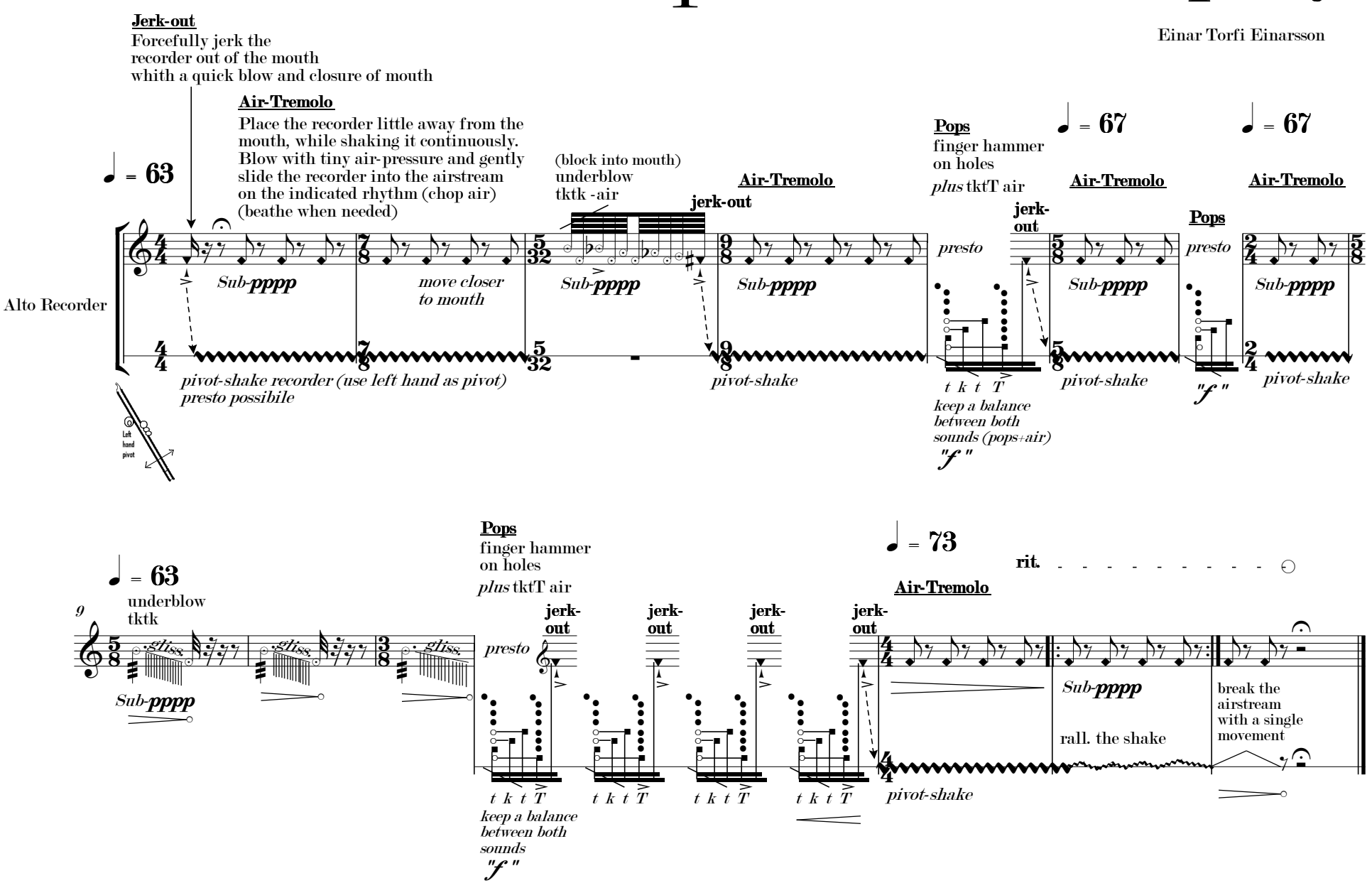
All instructions/descriptions regarding special techniques can be found within the score. However, if needed, further demonstration can be found on the following website: http://einartorfieinarsson.co.cc/instructions

This piece was written for Jeremias Schwarzer

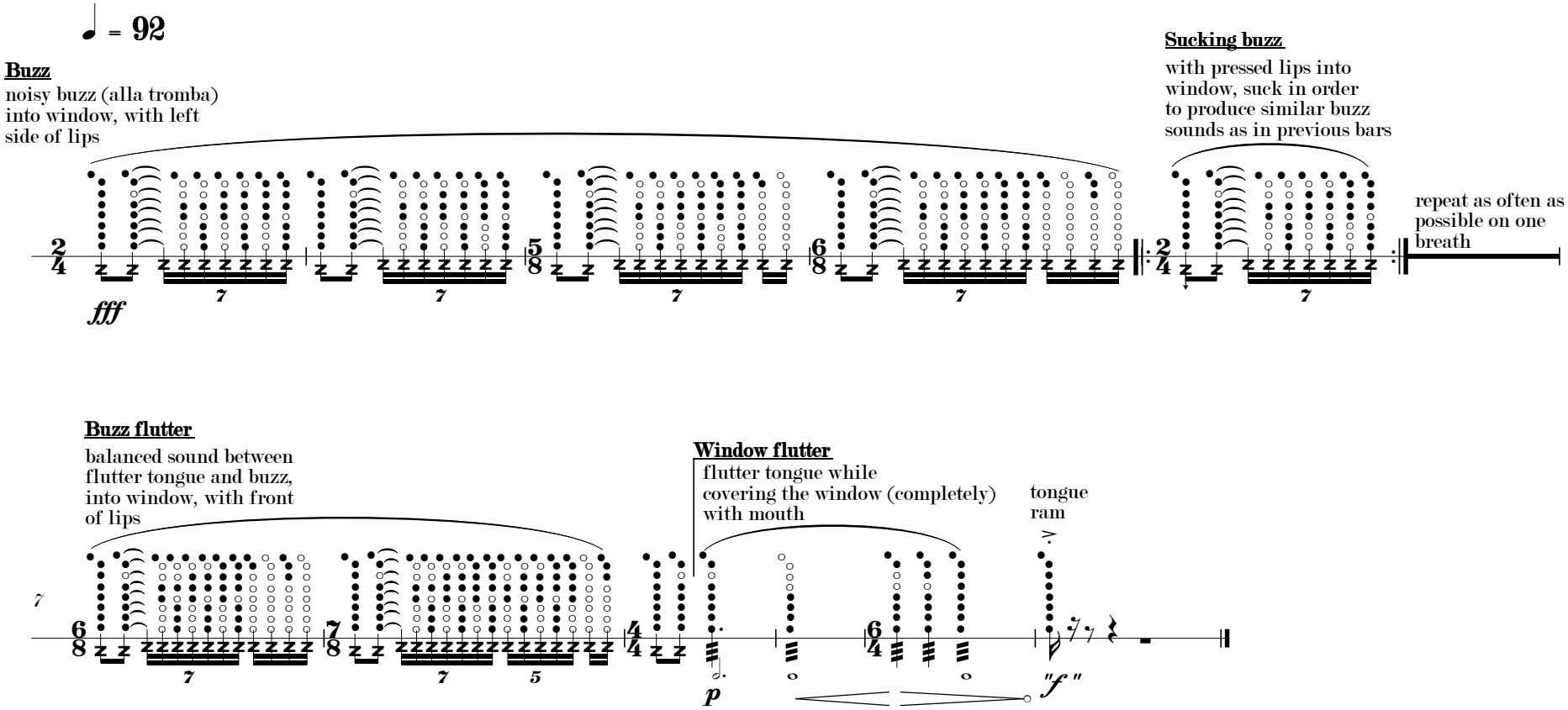
Topiary

Einar Torfi Einarsson

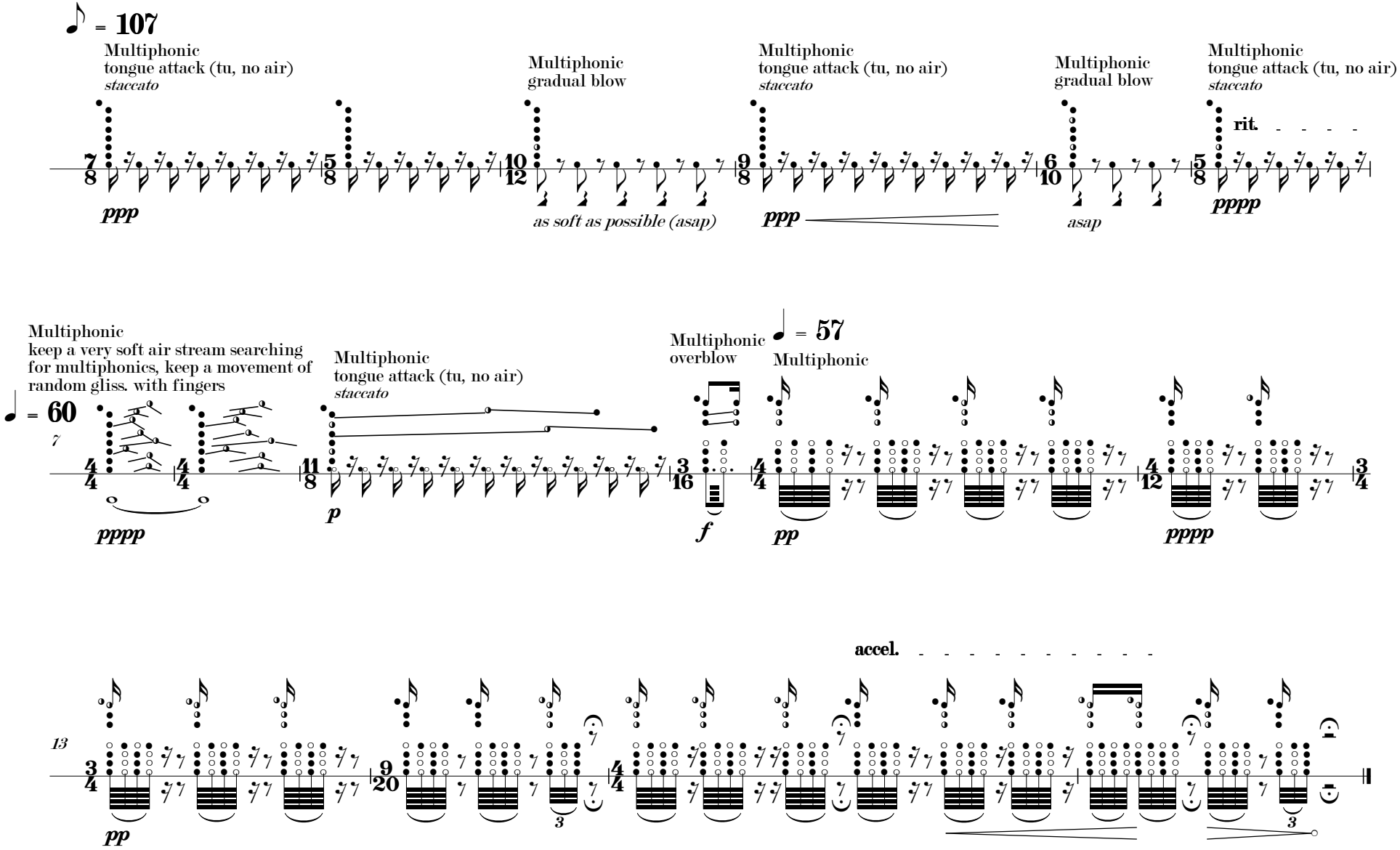
T



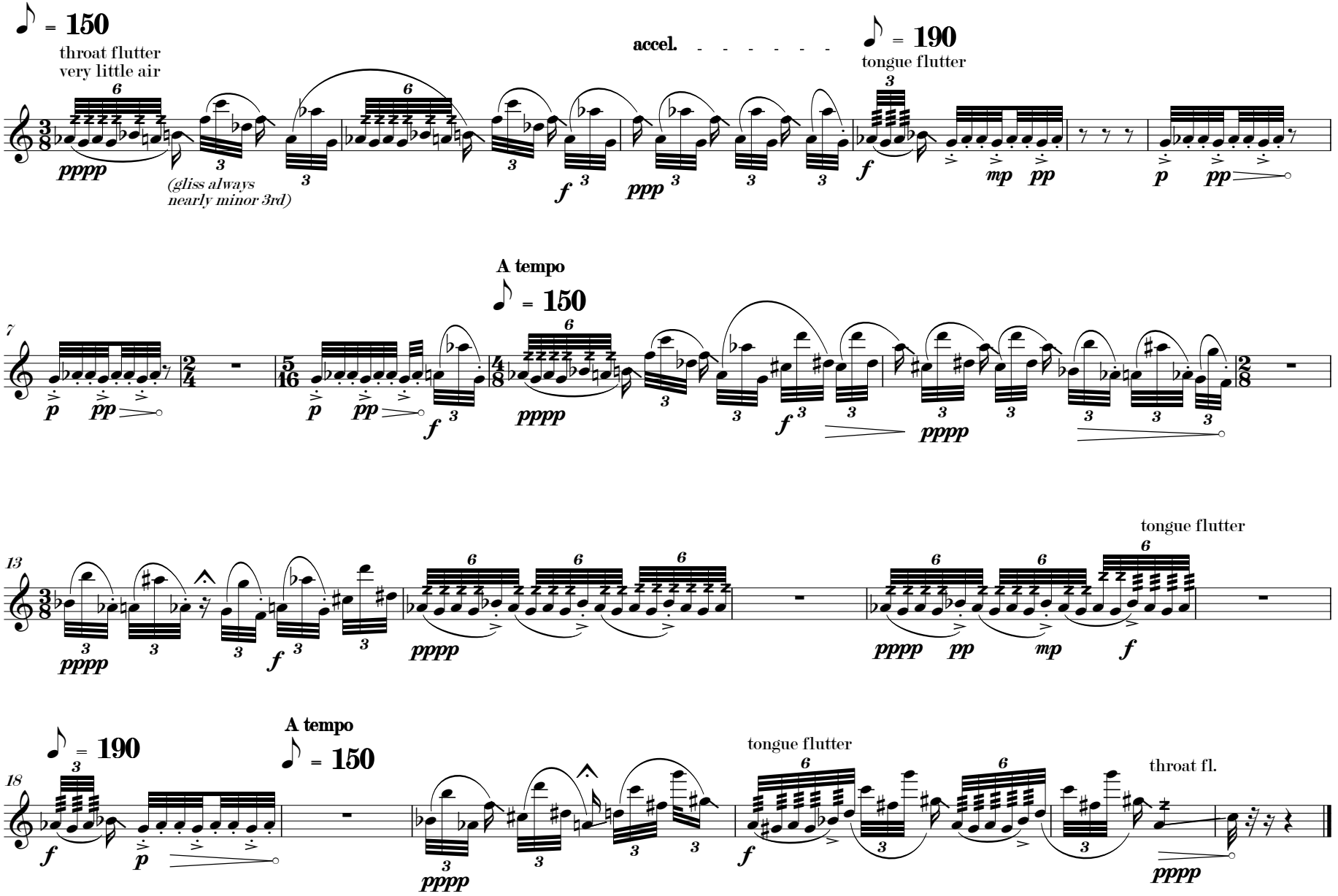
R


♩ = 92
Buzz
noisy buzz (alla tromba)
into window, with left
side of lips
fff
Sucking buzz
with pressed lips into
window, suck in order
to produce similar buzz
sounds as in previous bars
repeat as often as
possible on one
breath
Buzz flutter
balanced sound between
flutter tongue and buzz,
into window, with front
of lips
Window flutter
flutter tongue while
covering the window (completely)
with mouth
tongue
ram
p
"f"

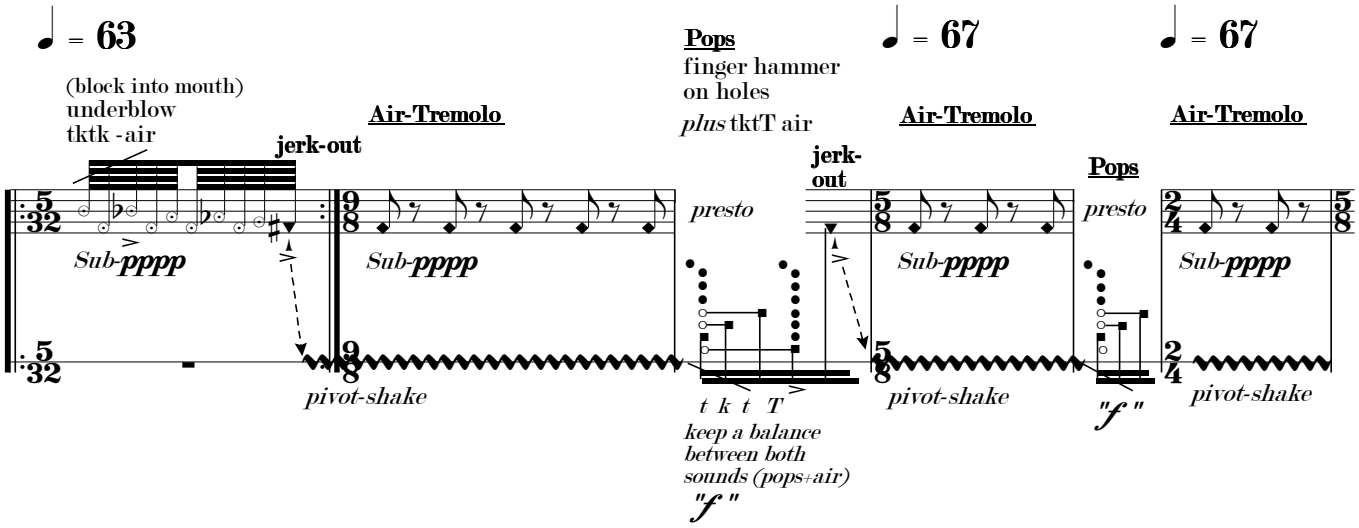
D

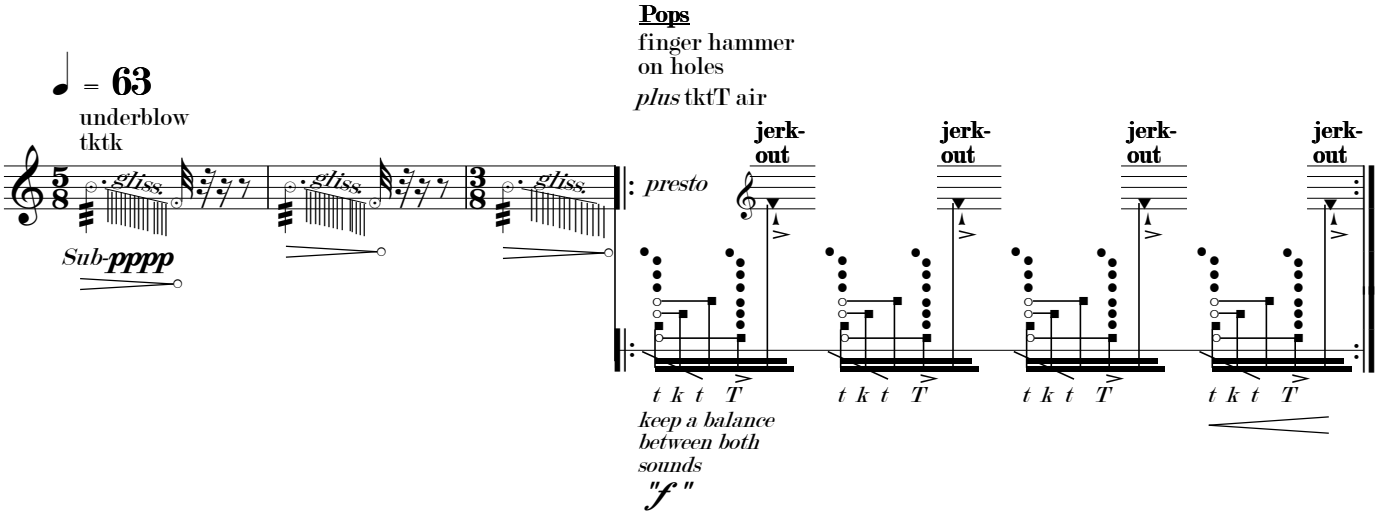

♪ = 107
Multiphonic
tongue attack (tu, no air)
staccato
Multiphonic
gradual blow
Multiphonic
tongue attack (tu, no air)
staccato
Multiphonic
gradual blow
Multiphonic
tongue attack (tu, no air)
staccato
rit.
ppp
as soft as possible (asap)
ppp
asap
pppp
Multiphonic
keep a very soft air stream searching
for multiphonics, keep a movement of
random gliss. with fingers
♩ = 60
Multiphonic
tongue attack (tu, no air)
staccato
Multiphonic
overblow
♩ = 57
Multiphonic
pppp
p
f
pp
pppp
accel.
pp

M

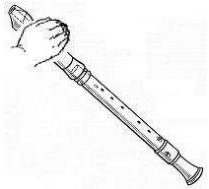

♪ = 150
throat flutter
very little air
pppp
(gliss always
nearly minor 3rd)
accel.
♪ = 190
tongue flutter
f
ppp
mp
pp
p
A tempo
♪ = 150
7
pppp
tongue flutter
13
A tempo
♪ = 190
♪ = 150
18
tongue flutter
throat fl.

T1

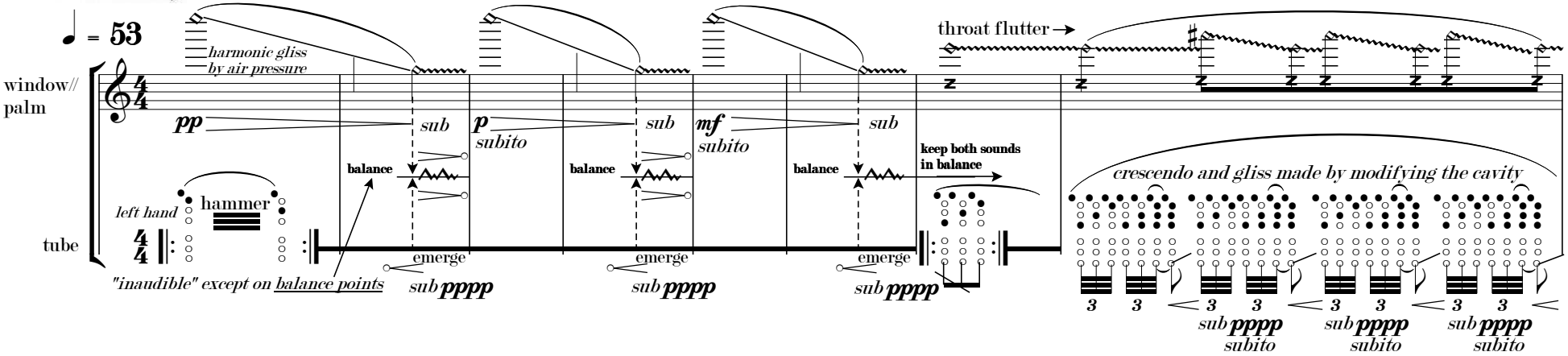

♩ = 63
(block into mouth)
underblow
tktk -air
jerk-out
Air-Tremolo
Sub-pppp
pivot-shake
Pops
finger hammer
on holes
plus tktT air
presto
t k t T
keep a balance
between both
sounds (pops+air)
"f"
♩ = 67
Air-Tremolo
Pops
presto
Sub-pppp
"f"
pivot-shake
♩ = 67
Air-Tremolo
Sub-pppp
pivot-shake

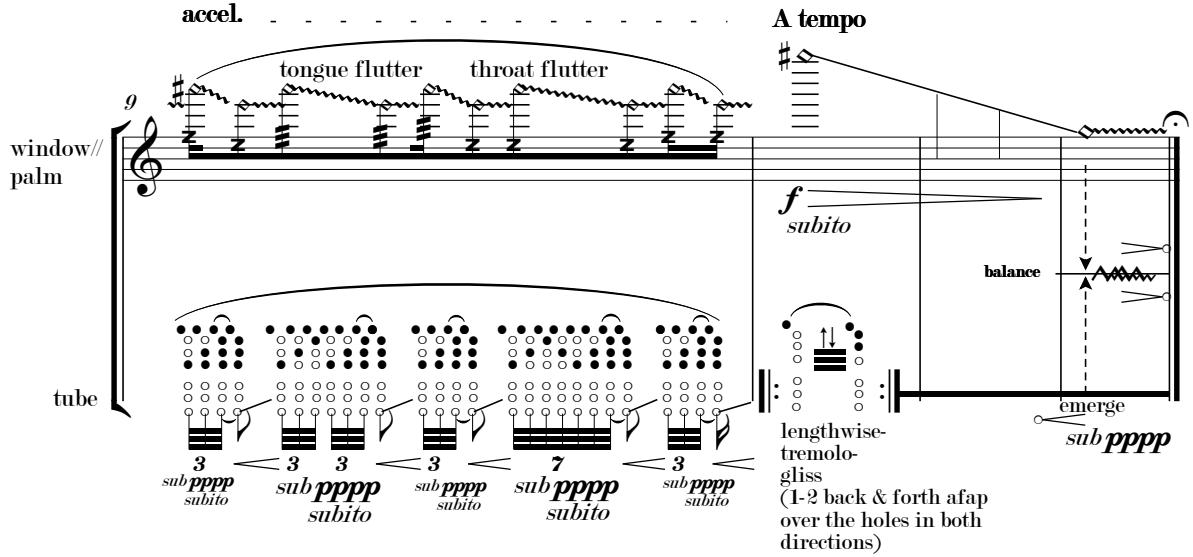

♩ = 63
underblow
tktk
gliss.
Sub-pppp
Pops
finger hammer
on holes
plus tktT air
presto
jerk-out
t k t T
keep a balance
between both
sounds
"f"

Z



Right hand: cover the window, thereby forming a small cavity within the palm which isolates overtones.
This cavity can be modified in order to balance the sounds through window (extended through palm) or "tube".
The sounds through the "tube" should only emerge (or escape) when the airstream is minimum (underblown) (stay at the border to allow both sounds to exist)





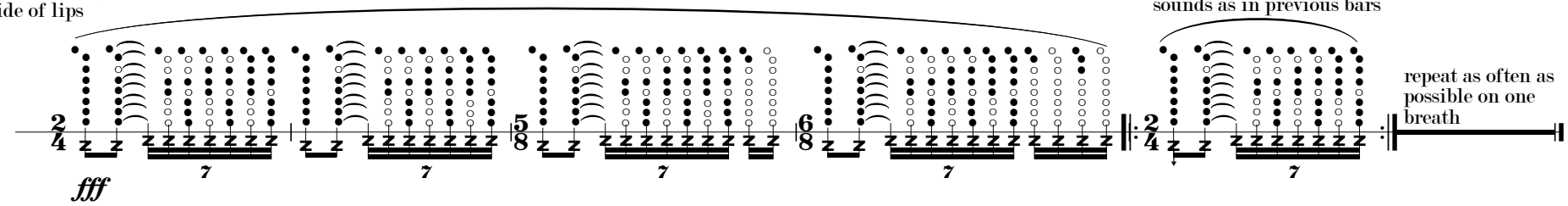
R1

Change to soprano recorder

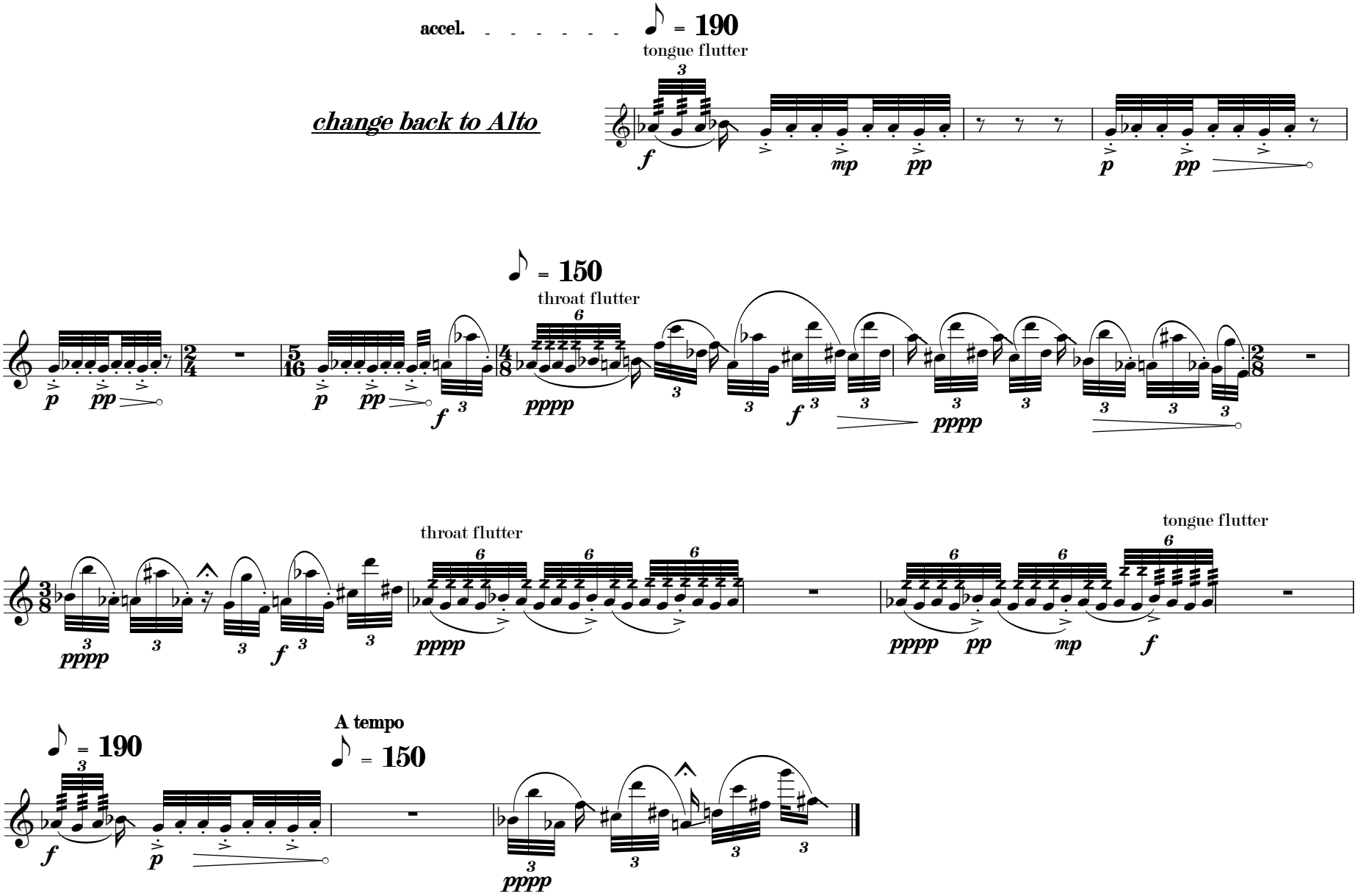
♩ = 92

Buzz
noisy buzz (alla tromba)
into window, with left
side of lips

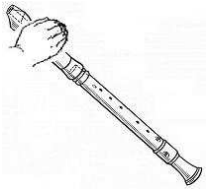
Sucking buzz
with pressed lips into
window, suck in order
to produce similar buzz
sounds as in previous bars



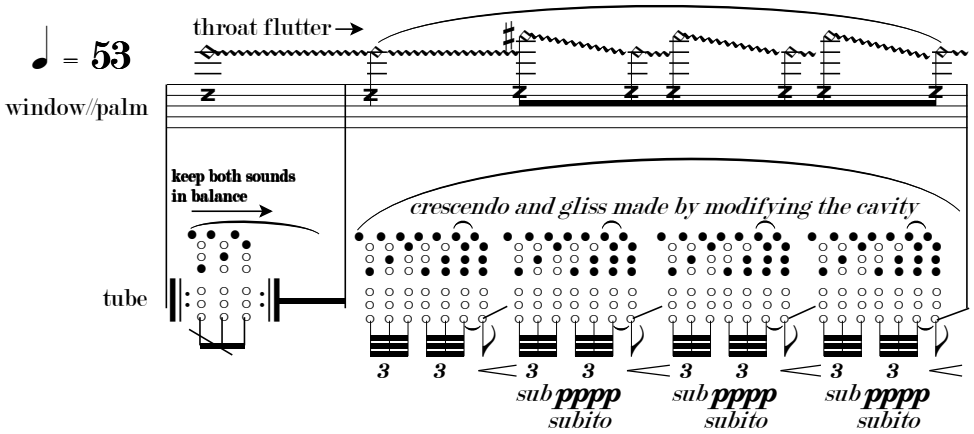
M1

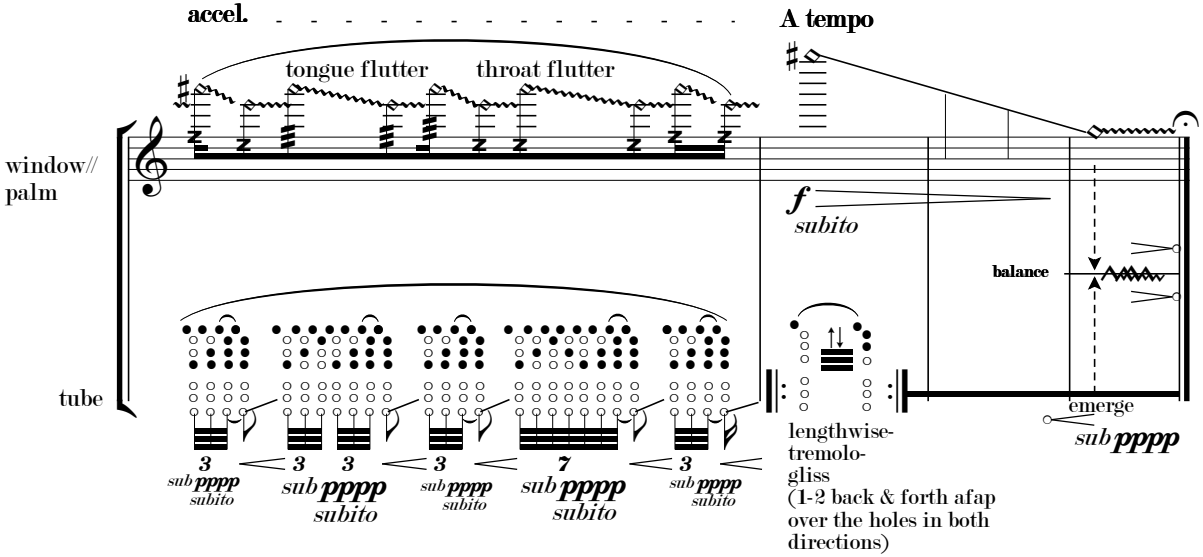

accel.
= 190
tongue flutter
change back to Alto
= 150
throat flutter
pppp
throat flutter
tongue flutter
pppp
A tempo
= 190
= 150
pppp

Z1

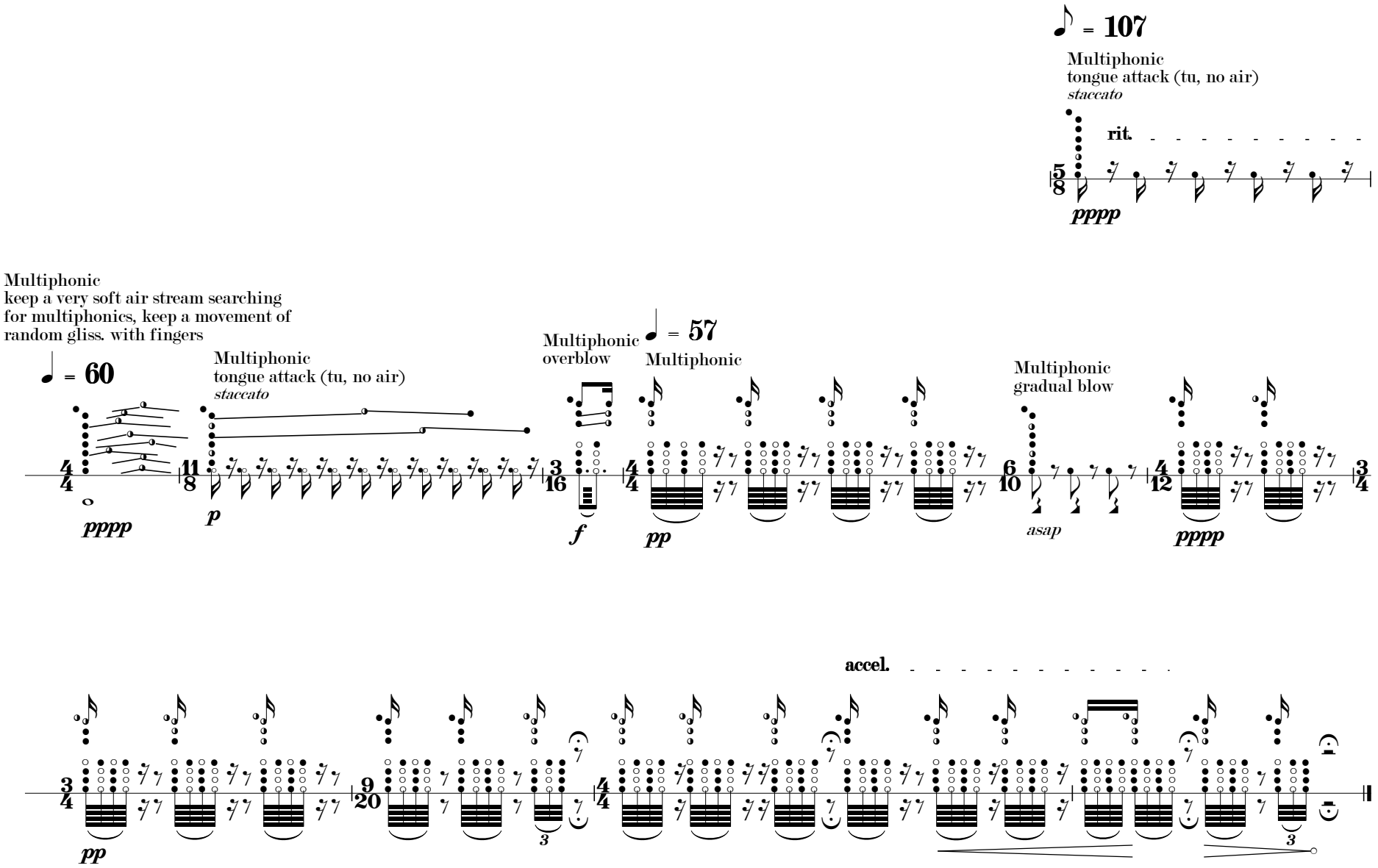


Right hand: cover the window, thereby forming a small cavity within the palm which isolates overtones.
This cavity can be modified in order to balance the sounds through window (extended through palm) or "tube".
The sounds through the "tube" should only emerge (or escape) when the airstream is minimum (underblown) (stay at the border to allow both sounds to exist)

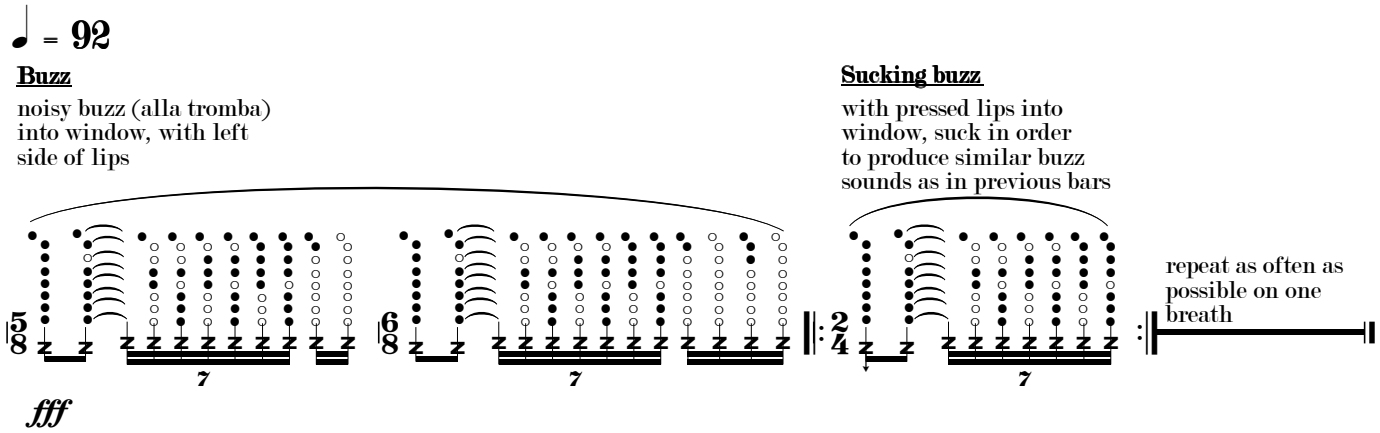




D1


♪ = 107
Multiphonic
tongue attack (tu, no air)
staccato
rit.
pppp
Multiphonic
keep a very soft air stream searching
for multiphonics, keep a movement of
random gliss. with fingers
♩ = 60
Multiphonic
tongue attack (tu, no air)
staccato
pppp
p
Multiphonic
overblow
♩ = 57
Multiphonic
f
pp
Multiphonic
gradual blow
asap
pppp
accel.
pp

R2


♩ = 92
Buzz
noisy buzz (alla tromba) into window, with left side of lips
Sucking buzz
with pressed lips into window, suck in order to produce similar buzz sounds as in previous bars
repeat as often as possible on one breath
5/8
6/8
2/4
7
7
7
fff

Objects

for 26 musicians

Einar Torfi Einarsson

Objects

for 26 musicians

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http://einartorfieinarsson.co.cc/

Instrumentation

2 Flutes (both: + picc.-, alto-, bass-)

Oboe (+ Cor Anglais)

2 Bb clarinets (both: +Bass.cl)

Bass-clarinet (+Contra)

2 Bassoon (2nd +Contra)

2 Horn

Trumpet in C (+piccolo in Bb)

2 Trombone

Tuba

3 Percussions

1. balloon, rainstick, crotales, bongo, nylon-zipper, friction-drum, timpani (20"), gong, marimba.
2. ratchet, cymbal, whip, plastic cap (attached to a bottle, e.g. ½ litre soda), splash cymbal, lion's roar, snare drum (S.D.), cabasa, hose-in-water, glockenspiel, musical-glass.
3. bass drum (B.D.), book (hardcover linen), tom-tom (with superball), kokiriko, wind-machine, flexatone, safety-button-metal-lid.

Piano (+ celesta)

Harp

Strings

Score in C

- Crotales & glockenspiel sounds 2 octaves higher than written

Notes

General

- All trills are half-tone trills
- Dynamics are adjustable
- { } = pronunciation instructions

Woodwinds

Suck-buzz = performed by putting the tip of tongue up against the hard palate and sucking air through (like inhaling, use the lungs), with a resulting buzz sound.

t.r. = tongue ram

w.t. = whistle tones

Slap = can be pitched (slap) or unpitched (wood-slap (w-slap), explosive, Pah!).

inhale = normal and with tktk (i.e. superimposed double-tonguing on the inhaling air).

M = Any multiphonic on a given note, choose according to dynamics. Can also have trill and/or flz.

Air tktk = air tones with superimposed double-tongue.

other instructions within the score

Brass

Suck-buzz = with lips pressed against each other resting on the mouthpiece, perform a suction with air (like inhaling, use the lungs), the result is a buzz which is produced by the lips vibrating.

Soft whistle tones {s} = mouth position as if pronouncing "s", then let a little air run through the mouth, producing very soft whistle like sounds.

air {s}={u-i} = pronounce "s" in conjunction with a fast vowel change from "u" to "i".

vacuum-smack *(trombone2)* = while blocking both holes on the inner slide (the mouthpiece hole and the other hole (slide lock) (creating a vacuum within the slide), pull the slide apart rapidly. The result is a very loud pop. (It is recommended to have an extra trombone for this technique.)

other instructions within the score

Percussion

Nylon zipper: ideally attached to a wallet or anything similar.

Plastic cap: from any soda bottle (1/2 litre or 1 litre), ideally the bottom of the bottle should be cut off and the cap should remain attached to the bottle while playing. The playing technique: with the cap resting in your hand and the fingernail of the thumb (or any other finger) firmly pressed against the stripes on the cap's side, circularly turn the bottle producing a rattling sound which can be manipulated by speed.

Hose-in-water: ideally the water container should be rather big and the hose put rather deep in.

other instructions within the score

Piano – Harp

Scrape: always performed lengthwise on the string(s), with fingernail or plectrum.

Rub: always performed lengthwise on the string(s) with fingertips, firmly.

other instructions within the score

Strings

= behind bridge clef

= extra pressure and distorted sound, always unpitched.

Sweep, bow lengthwise = firmly with the bow-hairs pressed against the strings, only the movement lengthwise the strings is executed, i.e. from sul tasto towards sul pont., there should be a correspondence between pressure and dynamics.

other instructions within the score

Objects
for Tremplin 2010
Einar Torfi Einarsson

object T

♪ = 108 **rit.** - - -

rit. ca. 75 ♪ = 95 accel.

7+4 11/8 — 7/16 — 4/4

Fl. — ■closed → suck through tongue {n}, buzz + slow vowel changes (o,e,etc.) — t.r. — sfz pppp — breath-tone — sfz sfz — t.r. sfz

bass-Fl. — □open — pppp — t.r. sfz

Ob. — M tr — p — suck — ff

Cl. — M tr — p — wood-slap sfz sfz

B.Cl. — t.r. sfz — pppp — wood-slap sfz

B. Cl. — t.r. sfz — pppp — wood-slap sfz

Bsn. — slap sfz — slap sfz

C. Bsn. — slap sfz — slap sfz slap sfz

Hn. — air-spit sfz — air-spit sfz air-spit sfz

C Tpt. — air-spit sfz — sfz sfz

2 Tbn. — air-spit sfz — 1̇,2̇ = whispa mute — presto possibile pppp — air-spit sfz

Tba. — air-spit sfz — air-spit sfz

Perc. 1 — rub sfz rub sfz

Perc. 2 — whip

Perc. 3 — mf

Hp. — D C♯ B♯ E F G♯ A — scrape 8vb ff gliss. harmonics

Pno. — Piano

7+4 11/8 — 7/16 — 4/4

Vln. — ff

Vln. — ff sul pont. scratch

Vla. — ff

Vla. — ff sul pont. scratch

Vc. — ff

Vc. — sul D pppp gliss. — ff sul pont. scratch

Db. — sul A sul pont. pppp gliss. — ff scratch

A tempo

♪ = 108

rit.

Fl.

bass-Fl.

Ob.

Cl.

B. Cl.

B. Cl.

Bsn.

C. Bsn.

Hn.

C Tpt.

2 Tbn.

Tba.

Perc. 1

Perc. 2

Perc. 3

Hp.

Pno.

Vln.

Vln.

Vla.

Vla.

Vc.

Vc.

Db.

suck through tongue {n}, buzz

suck

slap

air-tone

air

inhale

exhale

spit

suck-buzz

2° senza sord.

palm-rub

plastic cap attached to a bottle

scrape with nail over stripes, accel.

fist

between tuning pins and disc, with fingernail

sul E

sul A

sul D

increase pressure

nat.

au talon

sul G-D, sweep bow lengthwise

sul C-G, sweep bow lengthwise

sp. (bow crosswise)

♪ = 87 **rit.**

A tempo

♪ = 108

Fl.

bass-Fl.

Ob.

Cl.

B. Cl.

B. Cl.

Bsn.

C. Bsn.

Hn.

C Tpt.

2 Tbn.

Tba.

Perc. 1

Perc. 2

Perc. 3

Hp.

Pno.

Vln.

Vln.

Vla.

Vla.

Vc.

Vc.

Db.

suck
simile

air-tone

air-tones

suck-buzz

2˚: prepare vacuum-smack

1˚ (whispa mute)

repeat, presto possibile

rub
with finger

turn into palm

scrape with nail over stripes, accel.

splash cymbal

palm-rub

finger
roll

gliss.

increase pressure

scratch

nat.

sul pont.

au talon, sul G, sweep

au talon, sul C, sweep

sp.

t.r.

explosive
slap

Pah! explode

slap

air-spit

vacuum-smack

single
rub

harmonics (low)

object R

♩ = 44

Meno mosso

Fl. — **alto-flute**

Fl. — **bass-flute**

Ob. — **cor anglais**

Cl.

Cl. — **bass-cl.**

B. Cl. — **Contra-bass-cl.**

Bsn.

Bsn. — **Contra-bsn.**

Hn. — **a2**

C Tpt.

2 Tbn. — **a2**

Tba. — con sord.

Perc. 1

Perc. 2

Perc. 3

Hp.

Pno.

Vln.

Vln.

Vla.

Vla.

Vc.

Vc.

Db.

■ closed key-clicks

pppp

key-clicks

valve slam

soft whistle tones {s}

sub ***ppppp***

gliss.

pull slide out to release air

valve-vacuum slam

palm-ram

con sord.

sul E gently tap with edge of frog on indicated places on the string, presto possibile but irregular

sul A gently tap with edge of frog on indicated places on the string, presto possibile but irregular

sub ***pppp*** ◇ *left hand dampen all strings*

8va

simile

* *gliss by changing vowels {u-›i}*

A tempo ♩ = 44

rit.

A tempo ♩ = 44

molto rit.

alto Fl.

bass Fl.

Ob. c.a.

Cl.

B. Cl.

C. B. Cl.

Bsn.

C. Bsn.

Hn.

C Tpt.

2 Tbn.

Tba.

Perc. 1

Perc. 2

Perc. 3

Hp.

Pno.

Vln.

Vln.

Vla.

Vla.

Vc.

Vc.

Db.

5/4 3/16 4/4

■ closed
key-clicks + air tktk

pp

change to piccolo

whistle tones

sub ppppp

pppp

without reed, slap

soft whistle tones {s}

sub ppppp

gliss.

rainstick

lion's roar

book (hardcover linen), on B.D.
scrape cover, with fingernails, very slowly, allowing occasional creak

B.D.

with wet finger
rub slowly (rumble)

keep a certain horizontality, never turn completely vertical allow only an *occasional* single, or few-as-possible, to slide through

book

as before

sul E left hand gliss

sul A left hand gliss

sul pont.

towards tail

①❋ gently tap with edge of frog on indicated places on the string, presto possibile but irregular. Left hand dampen the string, except in last bar: left hand gliss with normal touch.

②❋ while damping lightly, tap gently with the edge of a tuning key (or coin or sim.) on the indicated string, very slowly move upwards with tapping, starting in the middle of the string

③❋ while damping lightly the string, tap gently with the edge of a plectrum (or coin or sim.) on the indicated string, very slowly move up the string with tapping

object E

♩ = 87

Fl. — picc. — gliss. — ff — 8va — t.r. — sfz
Fl. — picc. — gliss. — ff — 8va — t.r. — sfz
Ob. — M-gliss — ff high overtones — suck — sfz — ff simile
Cl. — Bass-cl. — pppp — wood-slap — sfz — w-slap
Cl. — Bass-cl. — pppp — wood-slap — sfz — w-slap
B. Cl. — Contra — pppp — wood-slap — sfz — w-slap
Bsn. — M-gliss — ff highest overtones — slap — sfz — ff simile
Bsn. — M-gliss — ff highest overtones — slap — sfz — ff simile
Hn. — con sord. — pppp
Hn. — con sord. — pppp
C Tpt. — whispa mute — vibrato, sempre — pppp
2 Tbn. — whispa mute — pppp
Tba. — con sord. — pppp
Perc. 1 — crotales — f
Perc. 2 — lion's roar — ppp
Perc. 3 — B.D. — fingers-roll — as before
Hp. — hit with palm 8va — ff — A♭-A-A♯ slow pedal gliss. w/ plectrum — as before — w/ plectrum
Pno. — 15ma — ff p3 ff
Vln. — 2/4 sul pont. sempre — ff — 8va 3
Vln. — sul pont. sempre — ff — 8va 3
Vla. — sul pont. sempre — ff — 8va 3
Vla. — sul pont. sempre — ff — 8va 3
Vc. — sul pont. sempre — sfz
Vc. — sul pont. sempre — sfz
Db. — sul pont. sempre — sfz — pppp

rit. - - -

10

picc. Fl.
picc. Fl.
Ob.
B. Cl.
B. Cl.
C. B. Cl.
Bsn.
Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

7/8 2/4 7/16 6/16 5/16 2/4

gliss. M-gliss high overtones t.r. suck w-slap slap air air-spit jeté S.D. rub with palm fingers with fist hit with palm as before w/ plectrum plectrum muted

object M

♩ = 130

alto-fl. / Fl. / bass-fl. / Fl. / Ob. / cl. in Bb / Cl. / Bass cl. / Cl. / Contra / B. Cl. / without reed / Bsn. / Contra / without reed / Bsn. / Hn. / Hn. / C Tpt. / 2 Tbn. / Tba. / Perc. 1 (bongo) / Perc. 2 (S.D.) / Perc. 3 (B.D.) / Hp. / Pno. / Vln. / Vln. / Vla. / Vla. / Vc. / Vc. / Db.

❊ as indicated no bowing is to be executed, only the subtle sound of fingertips (loosely touching the strings) moving over the strings is to be heard. However, the movement should be firm and intensive.

8

alto Fl.
air-tktk
pppp
simile
closed
air-tktk
5
t k t k t
5
k t k t k t
closed
suck-buzz {n}
tr
f
air-tktk
pppp
closed
suck-buzz {n}
f

bass Fl.
air-tktk
pppp
closed
suck-buzz {n}
tr
p
air-tktk
pppp
closed
air-tktk
5
t k
5
t k t k t k
pppp
closed
suck-buzz {n}
tr
f
air-tktk
pppp
closed
suck-buzz {n}
f

Ob.
air-tktk
pppp
simile
gliss.
suck
f

Cl.
air-tktk
pppp
simile
air-tktk
5
t k t k t
pppp
smack
f

B. Cl.
simile
air-tktk
6
t k t k t k
pppp
smack
f

C. B. Cl.
simile
gliss.
smack
f
suck
f

Bsn.
simile
gliss.
suck
f

C. Bsn.
simile
gliss.
suck
f

Hn.
air
{s}={u-i}
pppp
suck-buzz
tr
p
air
{s}={u-i}
pppp
suck-buzz
tr
p
air
{s}={u-i}
pppp
air spit
f

Hn.
air
{s}={u-i}
pppp
suck-buzz
tr
p
air
{s}={u-i}
pppp
air spit
f

C Tpt.
suck-buzz
tr
p
air
{s}={u-i}
suck-buzz
tr
p
air
{s}={u-i}
pppp
air spit
f

2 Tbn.
a2
air
{s}={u-i}
pppp
1.
air
{s}={u-i}
2.
air
{s}={u-i}
a2
air
{s}={u-i}
air
{s}={u-i}
air
{s}={u-i}
air spit
f

Tba.
air
{s}={u-i}
pppp
suck-buzz
tr
p
air
{s}={u-i}
pppp
air
{s}={u-i}
air
{s}={u-i}
air spit
f

Perc. 1
bongo
rapid-rub
pppp
rapid-rub
p
rapid-rub
pppp
rapid-rub
p
rapid-rub
cymbal
bowed
pppp
distorted
rapid-rub
pppp

Perc. 2
S.D.
rapid
rub
pppp
rapid-rub
p
rapid-rub
pppp
rapid-rub
p
rapid-rub
pppp
rapid-rub
pppp

Perc. 3
B.D.
rapid
rub
pppp
rapid-rub
p
rapid-rub
p
rapid-rub
pppp
rapid-rub
p
rapid-rub
pppp

Hp.
muted
8va
pppp
muted
plectrum
8vb
pp
8va
gliss.
pppp
on the string rub
as before
sub-pppp never lift-off

Pno.
inside on strings
with fingertips
8vb
pppp
15ma
gliss.
pppp
on the string rub
as before
sub-pppp never lift-off

Vln.
(bowing)
I
IV
p
never
lift-off
no bowing
gliss with rapid
up-down motion
hold
hold
no bowing

Vln.

Vla.
(bowing)
I
IV
p
never
lift-off
no bowing
gliss with rapid
up-down motion
hold
hold
no bowing

Vla.

Vc.
never
lift-off
no bowing
gliss with rapid
up-down motion
hold
hold
no bowing

Vc.
I
IV
p

Db.
no bowing
I
IV
f close to tail

16

alto Fl.

bass Fl.

Ob.

Cl.

B. Cl.

C. B. Cl.

Bsn.

C. Bsn.

Hn.

Hn.

C Tpt.

2 Tbn.

Tba.

Perc. 1

Perc. 2

Perc. 3

Hp.

Pno.

Vln.

Vln.

Vla.

Vla.

Vc.

Vc.

Db.

5/8 3/4

■closed
air
ppppp

air
ppppp

air
ppppp

air
ppppp

air
ppppp

long-sweep
ppppp

nylon-zipper
very fast

hold

never lift-off

gliss with rapid up-down motion

rapid up-down motion

col legno tratto
no bowing!
sub-pppp

place palm over all strings loosely, not pressed, the note indicated sul E

23

alto Fl.
bass Fl.
Ob.
Cl.
B. Cl.
C. B. Cl.
Bsn.
C. Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

air-tktk gliss. *ppppp*
air-tktk gliss. *pppp*
air-tktk gliss. *pppp*
air-tktk gliss. *pppp*
air-tktk gliss. *pppp*
air-tktk gliss. *pppp*
air-inhale through teeth exhale *ppppp*
1.
S.D.
very fast
long, slow sweep *ppppp*
8vb
col legno tratto hold no bowing *sub-pppp*
col legno tratto *pppp*
hold
rapid up-down motion
col legno tratto hold no bowing!

rit.

29

alto Fl.
bass Fl.
Ob.
Cl.
B. Cl.
C. B. Cl.
Bsn.
C. Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

5/4 3/4

■ closed □ → ■ closed

air-tktk
simile
inhale towards suck-buzz
suck-buzz {n}
smack
air-tones tktk
suck
air {s}={u-i}
air {s}={i-u}
suck-buzz
tongue ram
air-spit
air-inhale through teeth
exhale
a2
inhale through teeth
very fast
long, slow sweep
friction drum
cabasa
kokiriko
roll
fast
scrape (fast) w/plectrum
scrape (fast) w/nails
arco
sul pont.
no bowing
gliss with rapid up-down motion
col legno tratto
no bowing

place palm over all strings loosely, not pressed, the note indicated sul E, and gliss with rapid up-down motion

object P

♩ = 100

3/4 | 7/8 | 4/4 | 9/8 | 5/8 | 2/4

Fl. — alto fl.

Fl. — alto fl.

Ob.

Cl.

Cl. — Bass cl. — flz.+growl — pp — ff

B. Cl. — Bass cl. — M — flz.+growl — pp — ff

Bsn. — flz.+growl — pp — ff

Bsn. — M — pp — ff

Hn. — con sord. — ff — pp — f — tr

Hn. — con sord. — f — tr

C Tpt. — con sord. — f — tr

2 Tbn. — 1,2 con sord. — 1 — f — tr

Tba. — con sord.

Perc. 1 — timpani (20") — gliss. — pp

Perc. 2 — hose-in-water — blow into hose to bubble the water — "f"

Perc. 3 — B.D. — f — pppp

Hp. — pedal gliss. — ff

Pno. — 8vb — ppp — f — ff

Vln. — sul pont. sempre — increase pressure — ff

Vln. — sul pont. sempre — increase pressure — ff

Vla. — sul pont. sempre — increase pressure — ff

Vla. — sul pont. sempre — ff

Vc. — sul pont. sempre — gliss. — pp — f

Vc. — sul pont. sempre — gliss. — pp — f

Db. — sul pont. sempre — gliss. — pp — f

6

2/4 | 3/4 | 7/8 | 3/16 | 4/4

alto Fl.
alto Fl.
Ob.
Cl.
B.Cl.
B. Cl.
Bsn.
Bsn.

Hn.
Hn.
C Tpt.
2 Tbn.
Tba.

Perc. 1
Perc. 2
Perc. 3

Hp.

Pno.

Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

flz.+growl

simile

gliss.

11

alto Fl.
alto Fl.
Ob.
Cl.
B.Cl.
B. Cl.
Bsn.
Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

flz.+growl
gong
glockenspiel
pedal gliss.
change to **piccolo trumpet**

15

alto Fl.
alto Fl.
Ob.
Cl.
B. Cl.
B. Cl.
Bsn.
Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

flz.+growl
flz.+growl
flz.+growl
friction drum
cymbal
bowed
crotales
distorted overtones
ratchet
pedal gliss.
pedal gliss.
harmonics (low)
higher harmonics
jeté
jeté
jeté
jeté

object L

♩ = 72

Fl.
Fl.
Ob.
Cl.
Bb cl.
Cl.
Bass cl.
B. Cl.
Bsn.
Contra
Bsn.
con sord.
Hn.
con sord.
Hn.
whispa mute
C Tpt.
a2 whispa mute
2 Tbn.
Tba.
crotales soft mallets
Perc. 1
glockenspiel soft mallets
Perc. 2
wind-machine
Perc. 3
Hp.
on strings w/fingertips
sempre
Pno.
Vln.
Vln.
Vla.
jeté
Vla.
Vc.
Vc.
Db.

w.t. air gliss. slowly sul pont. pizz. bow on wood

10

Fl.

Fl.

Ob.

Cl.

slap

Cl.

slap

B. Cl.

air

gliss.

pppp

air + tktk

Bsn.

air

gliss.

pppp

air + tktk

C. Bsn.

air

gliss.

pppp

air + tktk

Hn.

Hn.

air inhale, {n}

pppp

C Tpt.

1

2 Tbn.

2

Tba.

air

pppp

air, dog-breath (rapid in-out)

pppp

Perc. 1

Perc. 2

Perc. 3

slowly

pppp

flexatone

soft mallet

ppppp

Hp.

p.d.l.t.

pppp

Pno.

Vln.

Vln.

Vla.

jeté

Vla.

jeté

Vc.

sul pont.

pizz.

Vc.

Db.

bow on wood

pppp

bow on wood

pppp

17

A tempo

Meno mosso

♩ = 72

Fl.
Fl.
Ob.
Cl.
Cl.
B. Cl.
Bsn.
C.Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

pppp
ppppp
slap
air-tktk
gliss.
air-flutter
"f"
air + tktk
flutter
piccolo
piccolo-tpt.
con sord.
marimba
wind-machine
slowly
p.d.l.t.
muted
sul pont.
pizz.
arco
bow on wood
jeté
sfz
pp

23

Fl.
Fl.
Ob.
Cl.
Cl.
B. Cl.
Bsn.
C. Bsn.
Hn.
Hn.
C Tpt.
2 Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln.
Vln.
Vla.
Vla.
Vc.
Vc.
Db.

slap
air-flutter
highest-slap
air flutter
inhale {n}
(a2)
glass with finger
safety-button-metal-lid
press button release immediately
p.d.l.t.
scrape w/plectrum
muted pizz.
scrape
sul pont.
pizz.
arco sul pont.
sul E
pizz. ahap
jeté
gliss.
close to bridge
sul A

Quanta

for 11 musicians

Einar Torfi Einarsson

Quanta

for 11 musicians

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http://einartorfieinarsson.co.cc/

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Instrumentation

Flute (piccolo, C-flute, alto-, bass-)

Clarinet (Bb Clarinet, Bass-clarinet)

Baritone Saxophone

Piccolo Trumpet in Bb (+ C-trumpet)

Trombone (+extra trombone, (mute stand))

Percussion [1]

Kick-Drum, Bass-Drum, Cymbal (12”), Tomtom, Prepared foot-pedal, Foot-pump, Marimba, vibraphone, Bike hand-pump, Lion’s Roar, Flexatone, Hose, Crotales, Friction-drum, Electronic Toothbrush, bongo, gong, balloon, Drinking-straw, Velcro (wide and thick), Timpani (32”).

Accordion

Violin

Viola

Violoncello

Double Bass

Score in C

- Crotales sounds 2 octaves higher than written
- Piccolo-flute sounds octave higher than written
- Double-Bass sounds octave below written

Duration 10-11 minutes

[1] See performance notes for details

Performance notes

General

- All trills are half-tone trills (unless otherwise stated)
- Dynamics are adjustable
- { } = pronunciation instructions (vowels)
- Ahap = as high as possible
- Alap = as low as possible
- Grace-note sign is used on measured notes, performed presto possibile

Woodwinds

air-tktk = superimposed double tonguing (unmeasured) on given notes.

Suck-buzz = performed by putting the tip of tongue up against the hard palate and sucking air through (use the lungs), with a resulting buzz sound which is modulated by the instrument.

Flz = flutter tongue, can be attached to pitch or air tones.

inhale ttt... = the “t” should be at a trembling speed (high muscle tonus, as if sucking the “t”).

(Exhale/air) ttt… = single tonguing, presto possibile.

inhale {n} = very short, and sharp, inhale accent, pronounce “n” and release jaw when sucking air.

Trr-flz = A very strong accented T sound followed immediately by a rolling **r** (flutter tongue).

Slap = slap tongue, should be very dry, percussive and unpitched.

t.r. = tongue ram

M = above note means any multiphonic on given note and dynamics. Can have a trill, flz, growl or glissandi attached.

Flute:

Open/closed mouthpiece = open closed

w.t. = whistle tones

Clarinet / Saxophone:

Teeth-reed = teeth on reed, creating a very high, unstable, squeaking sounds

Pah! = a sudden release of jaw and a detachment from mouthpiece - resulting in a high screechy sound.

Tumpet / Trombone

(*See Woodwinds notes for:* air-tktk , inhale ttt… , air ttt… , Trr flz , inhale {n}***)***

Suck-buzz = with lips pressed against each other resting on the mouthpiece, perform a suction with air (like inhaling, use the lungs), the result is a buzz which is produced by the lips vibrating.

Cover/uncover = hand over mute to cover, valid until uncover is indicated.

N.B. Trills on non-pitch notes: rapid movement between given positions, shown by circled numbers for trombone and trill lines for trumpet (1-3).

<u>Trombone:</u>

Tongue flap = sort of continuous tongue ram, creating low pops and slaps.

Vacuum smack = while blocking both holes on the inner slide (the mouthpiece hole and the other hole (slide lock) (creating a vacuum within the slide), pull the slide apart rapidly. The result is a very loud pop. (It is necessary to have an extra trombone for this technique.)

Percussion

<u>Bike hand-pump:</u> normal bicycle hand pump. **hack** technique = rapid back and forth movement of the handle, hacking the air out.

<u>Foot-Pump:</u> normal foot pump for camping or similar. Air output should be fully open (i.e. no attachments (nozzles))

<u>Hose:</u> Normal garden hose or the hose from the foot-pump, or similar.

<u>Prepared foot pedal:</u> On solid metal (like anvil) with metal taped around the foot pedal's mallet. Thus metal on metal sound.

<u>Drinking straw:</u> ideal a "bendy straw" size. Not too thick. Play by blowing air into straw.

<u>Velcro:</u> any thick Velcro, e.g. Velcro used on braces or similar

<u>Crotales:</u> If possible the crotales set should have a damping pedal.

Accordion

B.S. = Belly shake

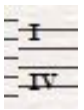
Vib. = vibrato

Key-clicks = always presto and random, use both hands when possible.

Belly-run = rapidly, and crosswise, run steady finger(s) over the belly edge, creating a ratchet like sound.

Strings

= behind bridge clef - **b.b.** = behind bridge, used for further indication and clarification.

 = string-clef, indicates which strings to play.

= extra pressure and distorted sound, always unpitched.

= diamond shaped note-head, used always for harmonic touch (light) on indicated places.

jeté >> scratch = the scratch tone should follow immediately as a continuation of the jeté.

Creak = purely lengthwise extra pressure-bowing movement (e.g. from sul tasto to sul pont.), performed *au talon* with the bow pressed on the indicated string(s), resulting in creaking crunchy sound. Left hand should always damp the strings.

Pressure tremolo = tremolo with sustained extra pressure, sort of hacking.

Frozen-bow = no bow movement is to be executed. The bow is to be pressed with force onto the strings indicated. Only the subtle sound of fingertips (left hand) moving over the strings is to be heard. These highly subtle sounds (airy-whooshing sounds) of fingertips moving over the strings are best produced by putting minimum pressure on the string by the finger, just enough to make contact.

Hair-crush = put such pressure on the bow that the hairs get crushed between wood and string(s). In this position perform lengthwise motions (to and fro) with the *wood only*, resulting in the wood crushing the hairs up against the strings (squeaky sounds). The hairs keep their position on the string while the wood part is moved. Three stages are possible; 1) single-crush (quick *to* or *fro*), 2) tremolo-crush (to and fro repeatedly), 3) motionless=silence (keep pressure) (notated with rests). Left hand should always damp the strings.

Sweep = rapid lengthwise sweeping movement (from sul-tasto to sul-pont. etc.). Can be arco or col legno (c.l.) and on different places on the strings including behind bridge.

(Frozen bow +) **Twist-crunch =** keeping bow-hairs in position, pressed on strings, quickly twist the bow to/fro, using the fixed position of the hairs as pivot. The hairs position does not change.

Frog-tap = gently tap with *edge* of frog on indicated places on the string, presto possibile but irregular. Left hand should always damp the strings.

Bridge-sweep = as normal sweep, i.e. lengthwise sweeping the strings, only the sweeping takes place at the bridge, crossing the bridge every time in each sweep (i.e. sweep from *behind-bridge* to *sp.*)

c.l. = col legno

st. = sul tasto

sp. = sul ponticello

Quanta

Einar Torfi Einarsson

♪ = 130-140

Flute (+piccolo, +alto, +bass)

Clarinet in B♭ (+bass cl.)

Baritone Saxophone

Piccolo Trumpet in B♭ (+ trumpet in C)

Trombone (+extra trombone)

Percussion

Accordion

Violin

Viola

Violoncello

Double Bass

repeat 7x

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♩ = 100

Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

❊ Covering the harmon-mute is always done with the hand. The covering is valid until uncover is indicated.

10

Fl.

slap

suck-buzz

ff

8va

pp

3 5

pppp

Cl.

slap

slap

M

ff

change to B.cl.

Sax.

M

ff

3

pppp

P.Tpt.

uncover

suck-buzz

tr

ff

ahap

cover

pppp

Tbn.

uncover

growl+ flz

f

alap

f

cover

pppp

Perc.

lion's roar

f

flexatone

highest range, gliss ca. minor 3rd

ff

pppp

marimba

muted (sempre)

pppp

Accord.

15ma

ff

pppp

pppp

B.S.

ff

Vln.

sul pont.

jeté

15ma

ff

pppp

pizz.

pppp

Vla.

arco

sul pont.

jeté

8va

ff

pppp

pizz.

pppp

Vc.

Creak

sul D-A

au talon

sp.

norm.

ff

(left hand damp strings)

sul pont. - tremolo

ahap, harmonic touch, gliss ca. major 3rd

ff

pppp

pizz.

pppp

Db.

sul pont.

ff

bow on tailpiece (high screech)

pppp

rit. - - - - -

15

7/8

3/16

change to Bass-Flute

Fl.

Bass-Cl.

pppp

Sax.

P.Tpt.

uncover

Tbn.

uncover

Perc.

vibraphone

soft mallet
muted

pppp

Accord.

Vln.

arco

sul pont.
pizz.

arco

Vla.

pizz.

sul pont.
arco

sul pont.
pizz.

arco

Vc.

sul pont.
pizz.

arco

Db.

sul pont.

♪ = 130-140

21

Bass-Fl.

5/8 slap t.r. air-tktk air-inhale towards suck-buzz (5) air-flz

ff pp molto pp molto pp

3/8 air-inhale towards suck-buzz add voice-gliss highest to lowest (5) air-flz

pp molto pp

4/4 air-tones

pppp

repeat 5x

Bass-Cl.

slap t.r. air-tktk air-inhale towards suck-buzz air-flz

ff pp molto pp molto pp (6)

air-inhale towards suck-buzz add voice-gliss lowest to highest air-flz

pp molto pp (6)

air-tones

pppp

repeat 5x

Sax.

teeth-reed flz+growl key-clicks flz+growl slap air-flz

f ppp f f pp

key-clicks flz+growl slap air-flz

f f pp

air-tones

pppp

repeat 5x

P.Tpt.

ahap suck-buzz tktk air-spit suck-buzz

sffz p alap pp (5) sffz p

ahap suck-buzz tktk alap pp

sffz p

air-tones (low)

pppp

repeat 5x

Tbn.

ahap suck-buzz tongue-flap/ram ahap air-spit suck-buzz

f p ppp alap pp sffz p

ahap suck-buzz tongue-flap/ram

f p ppp alap

air-tones (low)

pppp

repeat 5x

Perc.

Cymbal bowed press with finger on cymbal to form distorted overtones

p p **Kick-Drum**

Tom rub with superball

f **Prepared Foot Pedal** on metal

Cymbal scrape b/f afap ↑↓ with bow c.l., muted

Foot Pump lift-up

Tom rub with superball

f **Prepared Foot Pedal** on metal

Cymbal scrape b/f afap ↑↓ with bow c.l., muted

Foot Pump lift-up

Foot Pump pppp

slowly and silently open the pump

Bike Hand-Pump

repeat 5x

Accord.

8va key-clicks belly-run B.S. air

sffz ff molto

vib. vib.

ppp f

key-clicks belly-run B.S. air

f ff molto

vib.

f

air

pppp

repeat 5x

Vln.

5/8 jeté détaché 8va 6 behind bridge

f pp f ff pp

3/8 jeté détaché 8va 6 b.b.

f pp f sfz pp

4/4 **frozen-bow** ✻ bow pressed on G-D without motion →

7/16

repeat 5x

Vla.

jeté détaché 8va 6 behind bridge

f pp f ff pp

jeté détaché 8va 6 b.b.

f pp f sfz pp

frozen-bow ✻ bow pressed on C-G without motion →

repeat 5x

Vc.

Creak sul D-A au talon normal sul pont. behind bridge **pressure tremolo**, towards tail jeté››scratch

p *crunchy sound* (left hand damp strings) ff 5 pp ff p

Creak sul D-A au talon st. sp. b.b. **pressure tremolo** towards tail

p (left hand damp strings) ff 5 pp

frozen-bow ✻ bow pressed on C-G without motion →

repeat 5x

Db.

Creak sul D-G au talon normal sul pont. behind bridge **pressure tremolo**, towards tail jeté››scratch

p *crunchy sound* (left hand damp strings) ff 5 pp ff p

Creak sul D-G au talon st. sp. b.b. **pressure tremolo** towards tail

p (left hand damp strings) ff 5 pp

frozen-bow ✻ bow pressed on E-A without motion →

repeat 5x

place palm over all strings, loosly not pressed, the note indicated sul E

✻ Frozen-bow: no bow movement is to be executed. The bow is to be pressed with force onto the strings indicated. Only the subtle sound of fingertips moving over the strings is to be heard.

accel. - - - ♪ = 180

24

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

7/16 | 4/4 | 7/16 | 3/8 | 7/16 | 3/8 | 7/16 | 3/8 | 7/16

inhale | air-exhale | inhale | hold position silently and motionless | inhale | hold position silently and motionless | exhale | pppp

inhale (higher) | air-exhale (low) | inhale (higher) | hold position silently and motionless | inhale (higher) | hold position silently and motionless | exhale (low) | pppp

slowly and silently lift up | pppp | slowly and silently open the pump | slowly and silently lift up | pppp | slowly and silently open the pump | hold position silently and motionless | slowly and silently lift up | pppp

rapid up-down motion | rapid up-down motion with growing distance | hold position silently and motionless | gliss with rapid up-down motion with growing distance | hold position silently and motionless | rapid up-down motion with growing distance | pppp

3 | 5 | cover | uncover | Bike Hand-Pump | pressure screech: with thumb pressed over air-output, single pump with force (distorted high-pitched screech) | sfz | pizz. | (normal bow)

32

Bass-Fl.

7/16 inhale — 4/4 exhale — 3/8 inhale — 3/4 exhale — air-tktk — 5/16 inhale — 2/4 exhale — air-tktk — 3/16 inhale — 1/4 air-flz — 2/16 inhale

pppp — pppp — pppp — pppp — pppp — pppp — pppp — pp — "f"

Bass-Cl.

inhale — exhale — inhale — exhale — air-tktk — inhale — exhale — inhale — air-flz — inhale

pppp — pppp — pppp — pppp — pppp — pppp — pppp — pp — "f"

Sax.

inhale — exhale — inhale — exhale — air-tktk — inhale — exhale — inhale — air-flz — inhale

pppp — pppp — pppp — pppp — pppp — pppp — pppp — pp — "f"

P.Tpt.

inhale (higher) — exhale (low) — inhale (higher) — exhale (low) — inhale (higher) — exhale (low) — inhale (higher) — air-flz — inhale

pppp — pppp — pppp — pppp — pppp — pppp — pp — "f"

Tbn.

uncover

inhale (higher) — exhale (low) — inhale (higher) — exhale (low) — inhale (higher) — exhale (low) — inhale (higher) — air-flz — inhale

pppp — pppp — pppp — pppp — pppp — pppp — pp — "f"

Perc.

Foot Pump pppp — *slowly and silently open the pump*

slowly and silently lift up — pppp

pppp — *slowly and silently open the pump*

slowly and silently lift up

pppp — *slowly and silently open the pump*

slowly and silently lift up — pppp

open the pump

hold down — *hack* — pp

lift up — sfz — sfz — *open the pump*

Bike Hand-Pump

Accord.

pppp — pppp — pppp — air B.S. — pppp — pp — "f"

Vln.

frozen-bow

7/16 4/4 3/8 3/4 5/16 2/4 3/16 1/4 2/16

as before

❋bowing: col legno arpeggio stringendo — "f"

Vla.

frozen-bow

as before

❋bowing: col legno arpeggio stringendo — "f"

Vc.

frozen-bow

as before

❋bowing: col legno arpeggio stringendo — "f"

Db.

frozen-bow

as before

"f"

❋ Add arpeggio-stringendo, start very slowly, col legno tratto bowing. (the wave above staff still indicates the left hand's rapid movement)

♩ = 100

41

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

suck-buzz

ahap

teeth-on-reed

slap

M

cover

uncover

growl+ flz

alap

senza sord.

marimba

muted (sempre)

lion's roar

flexatone

highest range, gliss ca. minor 3rd

B.S.

jeté

(normal bow)

sul pont.

sul tasto

pizz.

arco

Creak

sul D-A

au talon

sp.

norm.

(left hand damp strings)

sul pont. - tremolo

ahap, harmonic touch, gliss ca. major 3rd

bow on tailpiece (high screech)

sul pont. (sempre)

rit. accel. ♩ = 100

45

Bass-Fl.
ahap
ppp

Bass-Cl.
teeth-on-reed
ahap
ppp
growl+ flz
pppp

Sax.
teeth-on-reed
ahap
ppp
growl+ flz
pppp

P.Tpt.
slowly cover
cover
ahap
ppp
uncover

Tbn.
air-flz
whispa-mute
molto
pppp
growl+ flz
pppp

Perc.
flexatone
highest range, gliss ca. minor 3rd
ff
pppp

Accord.
15ma
ff
pppp
pppp

Vln.
jeté
15ma
ff
pppp

Vla.
jeté
8va
ff
pppp

Vc.
sul pont.
ahap, harmonic touch, gliss ca. major 3rd
ff
pppp

Db.
bow on tailpiece (high screech)
pppp

♪ = 130-140

48

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

repeat 3x

add voice-gliss highest to lowest

air-inhale towards suck-buzz

air-flz

molto

add voice-gliss lowest to highest

growl+ flz

pppp

key-clicks

flz+growl

slap

uncover

ahap

suck-buzz

tktk

cover

alap

senza sord.

tongue-flap/ram

Tom

rub with superball

Cymbal

scrape b/f afap with bow c.l., muted

Prepared Foot Pedal

on metal

Foot Pump

lift-up

belly-run

B.S. air

molto

vib.

jeté

détaché

behind bridge

Creak

sul D-A au talon

sul D-G au talon

sp.

st.

pressure tremolo towards tail

(left hand damp strings)

♩ = 50

51

Bass-Fl.

4/8 slap ff; t.r. air-tktk pp molto pp; add voice-gliss highest to lowest (5); air-flz f; suck-buzz

repeat 9x

4/4 air-inhale pppp

hold position silently and motionless

Bass-Cl.

slap ff; t.r. air-tktk pp molto pp; add voice-gliss lowest to highest (6); air-flz f; suck-buzz

repeat 9x

air-inhale pppp

hold position silently and motionless

Sax.

slap ff; t.r. air-tktk pp molto pp; add voice-gliss lowest to highest (6); air-flz f; suck-buzz

repeat 9x

air-inhale pppp

hold position silently and motionless

P.Tpt.

add voice-gliss lowest to highest; uncover; air-spit pp; suck-buzz sffz p; ahap sffz; suck-buzz p molto (5)

repeat 9x

senza sord. air-inhale (low) pppp

hold position silently and motionless

Tbn.

add voice-gliss highest to lowest; ahap gliss. air-spit pp; suck-buzz sffz p; ahap f; suck-buzz p molto; harmon-mute (3)

repeat 9x

senza sord. air-inhale (low) pppp

hold position silently and motionless

Perc.

Cymbal bowed, press with finger on cymbal to form distorted overtones p; Kick-Drum p

Tom rub with superball f; Prepared Foot Pedal on metal

Foot Pump lift-up

repeat 9x

Hose air-inhale through hose through teeth with jaw together {u} pppp

hold position silently and motionless

Accord.

8va sffz; key-clicks; belly-run ff; vib. ppp; vib. f

repeat 9x

air pppp

hold position silently and motionless

Vln.

4/8 behind bridge; jeté 8va; détaché 6 ff pp f pp ff

repeat 9x

4/4 ❋ hair-crush sul G-D pos: nat.

silent motionless

single-crush to fro to fro to fro pp f pp (left hand damp strings)

tremolo-crush to/fro f pp ff

Vla.

behind bridge; jeté 8va; détaché 6 ff pp f pp ff

repeat 9x

❋ hair-crush sul C-G pos: nat.

silent motionless (left hand damp strings)

single-crush to fro to fro to fro pp f pp

tremolo-crush to/fro f pp ff

Vc.

Creak sul D-A au talon st. sp. ff 5 pp ff

behind bridge pressure tremolo towards tail

jeté›› scratch pp

repeat 9x

hold position silently and motionless

frozen-bow bow pressed on C-G without motion

as before

Db.

Creak sul D-G au talon st. sp. ff 5 pp ff

behind bridge pressure tremolo towards tail

jeté›› scratch pp

repeat 9x

hold position silently and motionless

frozen-bow bow pressed on E-A without motion

place palm over all strings, loosly not pressed, the note indicated sul E

❋ hair-crush: put such pressure on the bow that the hairs get crushed between wood and string(s). In this position perform lengthwise motions (to and fro) with the *wood*, resulting in the wood crushing the hairs up against the strings (squeaky sounds). Three stages are possible; 1) single-crush (quick *to* or *fro*), 2) tremolo-crush (to and fro), 3) motionless-silence (keep pressure) (notated with rests)

♩ = 95

55

Picc-Fl.

change to piccolo

pppp

Bass-Cl.

growl+ flz

pppp pp

ff pppp

Sax.

pppp pp

ff pppp

P.Tpt.

Tbn.

pppp

ff pppp

Perc.

Electric Tooth-brush pressed with rear-side on
Bass-Drum with cloth between (on/off for the duration of notes)

on off

pressure lines
+move towards middle

pppp

Accord.

8va

ppppp

pppp

ff pppp

Vln.

sul pont.
sempre

pppp

Vla.

Vc.

Db.

57

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

harmon-mute

flageolet-tones (highest)

(repeat)

growl+ flz

pp

pppp

on

off

8va

24

59

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

flageolet (highest) noisy

as before

growl+ flz

pizz. sul pont.

sul pont. (sempre)

B.pizz.

arco sul tasto

64

Picc-
Fl.

Bass-
Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

3/16 7/16 2/16 7/8 15/32

ff pp

suck-buzz

ff

M growl+ flz

tr 7

pppp ff pppp

growl+ flz

7 (7)

pppp

M growl+ flz

tr 6

pppp ff pppp

growl+ flz

6 (6)

pppp

as before

pppp

as before

ff pp

suck-buzz

tr

ff

senza sord.

growl+ flz

suck-buzz

tr ③ ⑤

ff

pppp

pppp

on

off

crotales

pp

friction-drum

ff

8va

ff pp

pppp ff pppp

pppp

8va

3/16 7/16 2/16 7/8 15/32

ff pp

behind nut arco

pppp

pressure tremolo

ff pp

sul pont.

pppp

ahap, harmonic touch, gliss ca. major 3rd

ff pp

Creak
sul D-G
au talon

st. sp. st.

ff (left hand damp strings)

B.pizz.

f

Creak
sul D-G
au talon

st. sp. st.

ff (left hand damp strings)

68

15/32 13/32 11/32 9/32

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

M growl+ flz

as before

whispa-mute slowly attach

senza sord.

(on/off)

crotales

8va

pressure tremolo

behind nut

arco sul pont. sempre

sp.

st.

Creak sul D-G au talon

Sweep sul G towards tip

(left hand damp strings)

72

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

9/32 7/32 5/32 2/4

pppp ff pppp ff ff ff pppp ppppp

M growl+ flz

growl

as before

flageolet (highest) noisy

whispa-mute slowly attach

senza sord.

whispa-mute

crotales

Cymbal

bowed distorted press with finger

(lot of rosin on bow)

E-toothbrush on B.D. (no cloth)

behind nut

pressure tremolo

very low pressure

Creak sul D-G au talon

Sweep sul G towards tip

sul G, arco sp. ahap, harmonic touch, gliss ca. ♭5

arco sp.

sul pont. sempre

accel. = 100

80

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

growl

8va

3/4

behind nut

rit. - - - - - ♩ = 95

91

13/32 11/32 9/32 7/32

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

growl

M growl+ flz

ahap

flageolet (highest) noisy

whispa-mute slowly attach

senza sord.

crotales

8va

behind nut

pressure tremolo

Creak sul D-G au talon

Sweep sul G towards tip

st. sp.

ff pppp p pp

(left hand damp strings)

accel. ♩ = 110

96

Picc-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

change to c-flute

inhale ttt...

cover

whispa-mute

whispa-mute slowly attach

senza sord.

growl+ flz

crotales

B.D. rapid sweep with palm/ fingers

Cymbal

bowed distorted press with finger

(lot of rosin)

E-toothbrush on B.D. (no cloth)

air B.S.

Sweep sul D-A

(left hand damp strings)

behind nut

pressure tremolo

pizz.

nat.

Creak sul D-G au talon

sul G, arco sp. ahap, harmonic touch, gliss ca. ♭5

arco sp.

sul pont.

102

C-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

5/8

5/16

3/4

4/4

slap

pppp

air-tone

marimba

muted (sempre)

ppppp

sul pont.

pizz.

arco

sul tasto

108

Fl.

pppp

5 inhale {n}

pppp

5

ff

5 inhale {n}

pp

5

pppp

w.t.

7/8 4/4

sub pppp

Bass-Cl.

slap

pppp

change to Clarinet

air-tone tktk

pppp

slap

pppp

soft whistle {s} ❊

sub pppp

Sax.

pppp

air-tone tktk

pppp

pppp

soft whistle {s} ❊

sub pppp

P.Tpt.

uncover

pppp

inhale {n}

pppp

cover

pppp

uncover

inhale {n}

pp

cover

pppp

uncover

soft whistle {s} ❊

sub pppp

Tbn.

pppp

pppp

soft whistle {s} ❊

sub pppp

Perc.

Cymbal

bowed distorted

press with finger

pppp

(lot of rosin)

Toothbrush

slowly and lightly brush over B.D.

sub pppp

Accord.

5

air

3

5

air

3

Vln.

pizz.

3

3

ff

pppp

3

Vla.

arco nat.

pppp

sul tasto

pppp

nat.

pppp

sul pont.

Vc.

behind bridge

arco close to bridge

3

pppp

behind bridge

arco close to bridge

3

Db.

3

3

22

❊ gliss by changing vowels {u-›i}

112

Fl.

slap
air-flz
pppp
5
5
inhale
{n}
ff
p
pppp
ff
pppp
3/2
2/4

Cl.

air-tone
tktk
pppp
air-flz
ff
pppp
pppp
pppp

Sax.

air-flz
pppp
air-tone
tktk
pppp
pppp
pppp

P.Tpt.

air-flz
cover
3
pppp
uncover
inhale
{n}
p
cover
pppp
5
uncover
air-inhale
ppppp

Tbn.

air-flz
3
pppp
air-flz
pppp
pppp
air-flz
①
③
pppp
air-inhale
ppppp

Perc.

Cymbal
bowed
distorted
press with finger
pppp
(lot of rosin)
marimba
bowed
pppp

Accord.

5
air
3

Vln.

arco
sul pont.
jeté
8va
pizz.
3
ff
pppp
jeté
8va
ff

Vla.

nat.
pizz.
sul pont.
3
sul tasto
pppp
nat.
pppp
sul pont.
pizz.
ahap
ff

Vc.

pizz.
behind
bridge
arco
close to bridge
3
pizz.
behind
bridge
arco
close to bridge
3
pppp
close to bridge
3

Db.

3
bow on wood (body)
"ff"
sul tasto
pppp

116

Fl.
2/4 ff pppp slap air-flz
3/8 ff pppp slap air-flz
5/16 ff pppp slap air-flz
ff pppp slap air-flz

Cl.
air-flz

Sax.
air-flz pppp
air-flz p pppp
air-flz p pppp
air-flz p

P.Tpt.
air-flz cover 5 pppp
air-flz 5 p pppp
air-flz 5 p pppp
air-flz uncover air-flz 5 p pppp

Tbn.
air-flz ⑦ air-flz ④ 3 pppp p
air-flz ① air-flz ③ 3 f pppp p
air-flz ⑦ air-flz ④ 3 p pppp
air-flz ⑦ air-flz ① 3 senza sord. f pppp

Perc.
muted (sempre) pppp

Accord.
air

Vln.
arco sul pont. jeté 8va ff
arco sul pont. jeté 8va
arco sul pont. jeté 8va
arco sul pont. jeté 8va

Vla.
pizz. ahap arco sul pont. ff pppp
pizz. ahap arco sul pont. ff pppp
pizz. ahap arco sul pont. ff pppp
pizz. ahap arco sul pont. ff pppp

Vc.
behind bridge close to bridge 3
close to bridge 3
close to bridge 3
close to bridge 3

Db.
bow on wood (body) "ff"
bow on wood (body)
bow on wood (body)
bow on wood (body)

♪ = 130-140

rit.

Fl.

120

air-inhale towards suck-buzz

add voice-gliss highest to lowest

air-flz

repeat 20x

inhale ttt... inhale (nat.) in. ttt...

air (ex) tktk tktk

Cl.

air-inhale towards suck-buzz

add voice-gliss lowest to highest

air-flz

repeat 20x

inhale ttt... inhale (nat.) in. ttt...

air (ex) tktk tktk

Sax.

air-inhale towards suck-buzz

add voice-gliss lowest to highest

air-flz

repeat 20x

inhale ttt... inhale (nat.) in. ttt...

air (ex) tktk tktk

P.Tpt.

add voice-gliss lowest to highest

air-spit

suck-buzz

ahap

suck-buzz

repeat 15x

inhale ttt... alternate {u}-{i}

air (ex) ttt...

Tbn.

add voice-gliss highest to lowest

ahap

air-spit

suck-buzz

ahap

suck-buzz

harmon-mute

repeat 15x

inhale ttt... alternate {u}-{i}

senza sord.

air (ex) ttt...

Perc.

Cymbal bowed, press with finger on cymbal to form distorted overtones

Kick-Drum

Tom rub with superball

Prepared Foot Pedal on metal

Foot Pump

lift-up

repeat 15x

Foot Pump

open the pump

Bike Hand-Pump

hold down

lift-up

with shaky hand

Accord.

highest cluster

belly-run

air B.S.

repeat 15x

air

Vln.

sul pont. sempre

jeté

détaché

behind bridge

repeat 12x

frozen-bow bow pressed on G-D without motion

col legno

Vla.

sul pont. sempre

jeté

détaché

behind bridge

repeat 12x

frozen-bow bow pressed on C-G without motion

col legno

Vc.

Creak sul D-A au talon

behind bridge

pressure tremolo towards tail

jeté›› scratch

repeat 12x

frozen-bow bow pressed on C-G without motion

rapid up-down motion

Db.

Creak sul D-G au talon

behind bridge

pressure tremolo towards tail

jeté›› scratch

repeat 12x

frozen-bow bow pressed on E-A without motion

place palm over all strings, loosly not pressed, the note indicated sul E

rapid up-down motion

♩ = 54

Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

♩ = 110

rit. - - - -

♩ = 100

128

Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

pppp

ff

5

inhale {n}

7/16

3/8

inhale ttt...

ahap

f

pp

air-tone

flz

slap

teeth-on-reed ahap

cover

uncover

inhale ttt... {u}/{i}

whispa-mute

air flz

marimba

muted

Cymbal

bowed

distorted

press with finger

(lot of rosin)

Foot Pump

lift-up

flexatone

highest range, gliss ca. minor 3rd

3

air

15ma

pizz.

arco sul tasto

arco nat.

sul pont.

behind bridge

arco close to bridge

col legno presto arpeggio

jeté

8va

sul pont. - tremolo

ahap, harmonic touch, gliss ca. major 3rd

bow on tailpiece (high screech)

❋ the wave indicates a rapid up-down motion with growing distance, which is added to the glissandi.

rit. - ♩ = 95

132

Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

accel.

136

Fl.
ff slap pppp air-flz tr
13/32 M ff
5/8 inhale {n} p 5 pppp ff pppp
3/4

Cl.
pppp
M growl+ flz tr 7 7 ff
air-flz tr pppp pppp

Sax.
air-flz pppp
M growl+ flz tr (6) growl+ flz 3 ff
pppp

P.Tpt.
air-flz tr 5 pppp
uncover ahap ff flageolet (highest) noisy
inhale {n} p cover 5 pppp

Tbn.
air-flz ⑦ tr 3 senza sord. air-flz ⑤ tr pppp
whispa-mute slowly attach 3 growl+ flz ff
whispa-mute senza sord. air-flz ① tr pppp

Perc.
pppp
crotales pp
marimba pppp

Accord.
pppp
ff
air pppp

Vln.
jeté 8va pppp
13/32 8va ff
pizz. 3 8va pppp ff

Vla.
pizz. ahap ff arco sul pont. pppp
behind nut pressure tremolo ff
sul pont. pppp pizz. ahap ff arco

Vc.
behind bridge 3 close to bridge pppp
7 7 ff
behind bridge arco close to bridge 3 pppp
3 close to bridge

Db.
bow on wood (body) "ff"
Creak sul D-G au talon sp. st. Sweep sul G towards tip sp. st. ff
(left hand damp strings)
bow on wood (body) "ff"

arco sul pont. jeté

♩ = 110 **rit.** ♩ = 77

139

Fl.
ahap
ff *ppp*
ppppp

Cl.
teeth-on-reed
ahap
ff *ppp*
growl *ppppp*

Sax.
teeth-on-reed
ahap
ff *ppp*
growl *ppppp*

P.Tpt.
uncover
ahap
cover
uncover
ff *ppp*
flageolet (highest) *ppppp*

Tbn.
air-flz
whispa-mute slowly attach
molto *pppp*
whispa-mute growl *ppppp*

Perc.
flexatone
highest range, gliss ca. minor 3rd
ff *pppp*
Cymbal
bowed distorted
press with finger
pppp
(lot of rosin on bow)

Accord.
15ma
ff *pppp*
8va *ppppp*

Vln.
jeté
15ma
ff *pppp*
8va *pppp*

Vla.
jeté
8va
ff *pppp*
pppp
behind nut
pppp

Vc.
sul pont.
ahap, harmonic touch, gliss ca. major 3rd
ff *pppp*
very low pressure *pppp*

Db.
bow on tailpiece (high screech)
pppp
sul pont. sempre *pppp*

accel. ♩ = 95

146

Fl.
inhale {n} pppp
5/8 3/4 5/8
inhale {n} p pppp 5 ff pppp
13/32 8va M ff

Cl.
inhale {n} pppp
growl growl growl
air-flz pppp pppp
M growl+ flz 7 7 ff

Sax.
inhale {n} pppp
growl growl growl
pppp
M growl+ flz (6) growl+ flz 3 ff

P.Tpt.
inhale {n} pppp
inhale {n} p cover pppp 5
uncover ahap ff
flageolet (highest) noisy
whispa-mute slowly attach

Tbn.
inhale {n} pppp
growl growl growl
air-flz senza sord. pppp
growl+ flz 3 senza sord. ff

Perc.
marimba muted pppp
crotales pp

Accord.
air pppp
air p
8va ff

Vln.
Sweep sul G-D single presto sp.→ st. ppppp (left hand damp strings)
pizz. pppp ff
arco sul pont. jeté
ff

Vla.
Sweep sul C-G single presto sp.→ st ppppp (left hand damp strings)
behind nut
sul pont. pppp
pizz. ahap ff
arco
behind nut ff
pressure tremolo

Vc.
Sweep sul D-A single presto st.→ sp. ppppp (left hand damp strings)
behind bridge arco close to bridge pppp
close to bridge
ff

Db.
Sweep sul G single presto st.→ sp. ppppp (left hand damp strings)
bow on wood (body) "ff"
Creak sul D-G au talon sp. st. ff
Sweep sul G towards tip sp. st.
(left hand damp strings)

152

Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

M

ff

pppp

inhale {n}

change to B.cl

soft whistle {s}

sub pppp

inhale ttt... {u}/{i}

molto

w.t.

growl+ flz

growl

ahap

flageolet (highest) noisy

whispa-mute slowly attach

whispa-mute

senza sord.

crotales

pp

Toothbrush

sweep on bongo

slowly & lightly brush on B.D.

Foot Pump

with mouth soft whistle {s}

air

Sweep sul G-D single presto sp.→st.

Sweep sul C-G single presto sp→st

Sweep sul D-A single presto st.→sp.

Sweep sul G single presto st.→sp.

(left hand damp strings)

frog-tap sul E ❊

frog-tap sul A ❊

col legno tratto

behind nut

pressure tremolo

Creak sul D-G au talon

towards tip

towards tail

behind bridge

very slow gliss

❊ gently tap with *edge* of frog on indicated places on the string, presto possibile but irregular

160

Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

w.t. tr

inhale ttt...

soft whistle {s}

sub pppp

molto

whispa mute

change to C-trumpet

Toothbrush

slowly & lightly brush on B.D.

Foot Pump

with mouth

air

frog-tap

sul E

sul A

sul tasto

col legno tratto

towards tail

(left hand damp strings)

inhale ttt... {u}/{i}

soft whistle {s}

with mouth ❋

❋ gliss by changing vowels {u-›i}

rit. - - - - - - - - ♩ = 84

accel. - - - - - -

168

Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

13/8 3/4 3/2

w.t. tr

change to Bass-Flute

soft whistle {s} sub pppp

whispa-mute

Toothbrush slowly & lightly brush on B.D.

with mouth soft whistle {s}

sul E 8va (left hand damp strings)

frog-tap sul A 8va (left hand damp strings)

frog-tap towards tail b.b. I IV

tongue-flap ppppp

growl+ tktk pppp

noisy pppp

B.D. pppp

Lion's Roar pppp

B.D. wet finger rub (rumble)

bow on tailpiece (low moaning) pppp

M ahap inhale ttt... pppp

tongue-flap ff

senza sord. suck-buzz ff

Friction-drum hack ff

behind bridge

bow on tailpiece ff

✻ bridge-sweep (sp./b.b) at tip 3 pppp

behind nut ff

sweep st. max gliss to nat. pppp

Creak sul C-G b.b., from tail towards bridge ff

sweep b.b. at tip pppp

Creak sul D-G st. ff (left hand damp strings)

sweep b.b. at tip sp. pppp

inhale thru teeth {u} pppp

mouth inhale thru teeth {u} pppp

air pppp

add voice unison ahap ff pppp molto

Gong p pp

gong-"gliss" with wood-stick

sul pont.

sul G ahap

sul C ahap

sul D ahap

✻ bridge-sweep: as normal sweep, i.e. lengthwise sweeping the strings, only the sweeping takes place at the bridge, crossing the bridge every time (i.e. from behind-bridge to sp.)

♩ = 100 rit. ♩ = 67

176

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

pppp ppp

air flz

air inhale

whispa mute

harmon mute

cover

change to piccolo-tpt (harmon)

marimba

bowed

sul tasto

♪ = 130-140

182

Bass-Fl.

slap t.r. air-tktk

air-inhale towards suck-buzz

add voice-gliss high to low

air-flz

ff pp pp molto pp molto pp (5)

repeat 15x

hold position silently and motionless

pppp

♩ = 95

4/2

4/4 change to piccolo

Bass-Cl.

slap t.r. air-tktk

air-inhale towards suck-buzz

add voice-gliss lowest to highest

air-flz

ff pp pp molto pp molto pp (6)

repeat 15x

hold position silently and motionless

pppp

Sax.

slap t.r. air-tktk

air-inhale towards suck-buzz

add voice-gliss lowest to highest

air-flz

ff pp pp molto pp molto pp (6)

repeat 15x

hold position silently and motionless

pppp

P.Tpt.

uncover

air-spit slap air-tktk

inhale towards suck-buzz

add voice-gliss lowest to highest

air-flz

ff pp pp molto pp molto pp (5)

repeat 15x

hold position silently and motionless

cover

pppp

Tbn.

uncover

air-spit slap air-tktk

inhale towards suck-buzz

add voice-gliss lowest to highest

ahap gliss. air-flz

ff pp pp molto pp molto pp (3)

repeat 15x

hold position silently and motionless

whispa mute

pppp

Perc.

Cymbal bowed, press with finger on cymbal to form distorted overtones

Tom rub with superball

p p f

Kick-Drum

Prepared Foot Pedal on metal

repeat 25x

hold position silently and motionless

marimba

bowed

pppp

Accord.

8va highest cluster

random key-clicks

f p ff

repeat 25x

hold position silently and motionless

Vln.

sul pont. jeté

détaché

increase pressure, towards light touch

behind bridge

8va (6)

f pp f pp sfz

repeat 25x

hold position silently and motionless

pppp

Vla.

sul pont. jeté

détaché

increase pressure, towards light touch

behind bridge

8va (6)

f pp f pp sfz

repeat 25x

hold position silently and motionless

pppp

Vc.

Creak sul D-A au talon

behind bridge

pressure tremolo towards tail

sp. st.

p (left hand damp strings) ff pp

repeat 25x

hold position silently and motionless

Db.

Creak sul D-G au talon

behind bridge

pressure tremolo towards tail

sp. st.

p (left hand damp strings) ff pp

repeat 25x

hold position silently and motionless

♩ = 90

188

Picc-Fl.

pppp

change to clarinet

Bass-Cl.

ppp

Sax.

ppp

uncover

flageolet-tones (highest)

(8va)

gliss.

(repeat)

P.Tpt.

pppp

cover

ppp

harmon-mute

cover

Tbn.

ppp

Crotales

Cymbal bowed, press with finger on cymbal to form distorted overtones

Perc.

pppp

pp

8va

Accord.

pppp

sul pont.

8va

Vln.

pppp

sul pont.

jeté →

Vla.

pppp

sul pont.

ahap

Vc.

pppp

Db.

190

Picc-Fl.

M ahap
tongue-flap
inhale ttt...
pppp ff pppp

5/8
ppp

11/16

Cl.

growl+ tktk
M ahap
inhale ttt...
pppp ff pppp

ppp

Sax.

growl+ tktk
M ahap
inhale ttt...
ff pppp

ppp

P.Tpt.

uncover
suck-buzz {i-u}
inhale thru teeth {u}
ff pppp

cover
ppp

Tbn.

uncover
noisy
suck-buzz {i-u}
inhale thru teeth {u}
ff pppp
pppp

cover
ppp

Perc.

Lion's Roar
Friction-drum
hack
mouth
inhale thru teeth {u}
pppp ff pppp

Accord.

air
pppp ff pppp

8va
ppp

Vln.

bow on tailpiece
behind bridge
bridge-sweep (sp./b.b) at tip
pppp ff pppp

5/8
sul pont.
ppp

11/16
sul pont.
jeté →
ppp

Vla.

behind nut
sweep st. max gliss to nat.
ff pppp

Vc.

bow on tailpiece
Creak sul C-G b.b., from tail towards bridge
sweep b.b. at tip
pppp ff pppp
(left hand damp strings)

sul pont.
ppp

Db.

Creak sul D-G sp.
sweep b.b. at tip
st.
pppp ff pppp
(left hand damp strings)

193

Picc-Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

2/4 3/4

pppp ff

suck-buzz

inhale ttt...

slap

M

3 5

uncover cover

inhale thru teeth {u}

growl+ flz

alap

marimba muted (sempre)

lion's roar

mouth

air

8va

B.S.

bridge-sweep (sp./b.b) at tip

sweep st. max gliss to nat.

pizz. arco

sul pont.

sul pont. sempre

Creak sul D-A au talon nat. sp.

(left hand damp strings)

sweep b.b. at tip

196

78

Fl.

Cl.

Sax.

uncover

cover

P.Tpt.

Tbn.

Crotales

Perc.

(8)

Accord.

Vln.

Vla.

Vc.

Db.

ff

ppp

pppp

♩ = 80

199

Fl.

Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

add voice-gliss high to low

add voice-gliss lowest to highest

add voice-gliss lowest to highest

add voice-gliss lowest to highest

change to Bass-fl.

change to Bass-cl.

air

uncover air

inhale ttt... {u}/{i}

flz

air-flz

air-tktk

+random key-cicks

in. ttt...

in. +keys

trr-flz

spit

lift-up

air-tktk

B.S.

Cymbal bowed, press with finger on cymbal to form distorted overtones

Foot Pump

frozen-bow bow pressed on A-E without motion

frozen-bow bow pressed on D-A without motion

frozen-bow bow pressed on D-A without motion

frozen-bow bow pressed on D-G without motion

ahap

sul E

sul A

sul D

♩ = 95

205

Bass-Fl.

in. ttt... trr-flz

in. flz in. flz in.

trr-flz

11/32 9/32 7/32 11/32

Bass-Cl.

air-flz +random key-clicks in. ttt...

trr-flz in. ttt...

M growl+ flz

Sax.

in. ttt... air-flz

in. flz in. ttt...

air-flz +random key-clicks in.

M growl+ flz

P.Tpt.

trr-flz

in. ttt... spit in. flz

in. ttt... spit flz

Tbn.

in. ttt... air-tktk spit flz in.

in. ttt... in.

slowly cover growl +flz

Perc.

Bike Hand-Pump

thrust

hack

lion's roar

B.D.
wet finger rub (rumble)

with fist

Accord.

B.S.

B.S.

Vln.

arco

Vla.

arco

Vc.

arco
sul pont.

Db.

Creak
sul D-G
au talon

Sweep
sul G
towards tip

Creak
sul D-G
au talon

Sweep
sul G → A
towards tip

Creak
sul E-A
au talon

sul E, arco sp.
ahap,
harmonic touch,
gliss ca. ♭5

(left hand damp strings)

211

11/32 | 9/32 | 6/16 | 7/16 | 5/16

Bass-Fl.

Bass-Cl.

M growl+ flz tr 7 ff pppp

Sax.

M growl+ flz tr (6) ff pppp

P.Tpt.

slowly cover growl +flz 3 ff pppp

Tbn.

Perc.

lion's roar f

B.D. wet finger rub (rumble) p

with fist

Accord.

Vln.

Vla.

Vc.

Db.

Creak sul E-A au talon sp. st.

Sweep sul A towards tip

Sweep sul G → A towards tip

sul E, arco sp. ahap, harmonic touch, gliss ca. ♭5

♩ = 80

215

5/16

11/32

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

♩ = 95

11/32 9/32 7/32 11/32 9/32 6/16

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Timpani

Accord.

Vln.

Vla.

Vc.

Db.

M growl+ flz

slowly cover growl +flz

arco

sul pont.

Creak sul D-G au talon

Sweep sul G towards tip

Creak sul E-A au talon

sul E, arco sp. ahap, harmonic touch, gliss ca. ♭5

Sweep sul E towards tip

Sweep sul G → A towards tip

227

6/16 | 7/16 | 9/32 | 4/8 | 9/32

Bass-Fl.

Bass-Cl.

M growl+ flz tr ff pppp

Sax.

M growl+ flz tr ff pppp

P.Tpt.

uncover cover growl +flz growl +flz growl +flz 3 ff pppp

Tbn.

uncover cover growl +flz growl +flz growl +flz 3 ff pppp

uncover growl +flz 3 ff pppp

slowly cover growl +flz growl +flz growl +flz 3 ff pppp

Perc.

Friction-drum hack ff

Kick-drum ff

Accord.

ff pppp

6/16 | 7/16 | 9/32 | 4/8 | 9/32

Vln.

Vla.

Vc.

ff pppp

7

Db.

Creak sul E-A au talon sp. st. sul E, arco sp. ahap, harmonic touch, gliss ca. ♭5 ff

Sweep sul E towards tip sp. st. ff

Creak sul E-A au talon sp. st. sul E, arco sp. ahap, harmonic touch, gliss ca. ♯7 ff

231

9/32 5/16 11/32 9/32 5/32 9/32

Bass-Fl.

M growl+ flz

ff

Bass-Cl.

M growl+ flz

ff

pppp

Sax.

M growl+ flz

ff

pppp

P.Tpt.

suck-buzz

ff

Tbn.

uncover

suck-buzz

ff

cover

growl +flz

ff

pppp

Perc.

Balloon creak/scratch single rubs w/ 3-4 fingers

ff

Timpani

f

Accord.

(clusters)

ff

pppp

9/32 5/16 11/32 9/32 5/32 9/32

Vln.

b.b.

ff

Vla.

b.b.

ff

Vc.

pressure tremolo

ff

Db.

Creak sul E-A au talon

sp. st.

ff

Creak sul E-A au talon

Sweep sul E towards tip

sp. st.

ff

♩ = 110

♩ = 95

236

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

M growl+ flz

highest slap

in. ttt... +random key-cicks

inhale {n}

air-flz

air flz

air-inhale

cover

uncover

suck-buzz

air-flz

dog in/out

Balloon creak/scratch single rubs w/ 3-4 fingers

single rapid finger rubs (high screech)

bongo sweep w/ fingers

Balloon screech

(clusters)

air

air-flz +random key-cicks

ahap

pizz.

arco

b.b.

sul tasto

jeté

sul pont.

on wood (body)

behind bridge

arco close to bridge

pressure tremolo

Creak sul E-A au talon

sp. st.

♩ = 80

Bass-Fl.

240

5/16 4/8 2/8 5/16 4/4

in. air-flz air-tktk +random key-cicks

M growl+ flz

air

in. ttt... trr-flz dog ex/in

Bass-Cl.

air-tktk air-flz 4:3 in. ttt...

Sax.

in. ttt...

air

inhale ttt... {u}/{i} flz

P.Tpt.

uncover flz in. ttt...

suck-buzz

Tbn.

air-tktk in.

cover growl +flz

uncover suck-buzz

Balloon creak/scratch single rubs w/ 3-4 fingers

Perc.

Accord.

air B.S.

(clusters)

Vln.

arco

b.b.

Vla.

Vc.

pressure tremolo

Db.

Creak sul E-A au talon

sul E, arco sp. ahap, harmonic touch, gliss ca. ♯7

st. sp.

ff pppp

♩ = 110

246

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

♩ = 95

248

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

5/32 2/4 7/8 7/16 9/8 7/16 3/2 7/16 11/8

ff

cover

(6)

slowly cover

ahap

sul pont.

sul G

sul D

towards tail

b.b.

I IV

f

senza sord.

w.t. (highest)

w.t.

tr

sub pppp

soft whistle {s}

inhale ttt...

molto

with mouth soft whistle {s}

air

Toothbrush

slowly & lightly brush on B.D.

Foot Pump

lift-up

frog-tap

sul E

sul A

towards tail

8va

col legno tratto

(left hand damp strings)

whispa mute

sul tasto

pppp

rit. - - - - - ♩ = 90

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

256

11/8 7/16 13/8 5/16 7/16

w.t. inhale ttt... air in. ttt... trr-flz air tktk +random key-cicks slap

soft whistle {s} + key-clicks highest double trill air-tktk air-flz 4:3 air-flz +random key-cicks

air inhale ttt... {u}/{i} flz spit air flz

Toothbrush slowly & lightly brush on B.D. brush on bongo

Foot Pump lift up

with mouth soft whistle {s} air key clicks

frog-tap sul E col legno tratto hair-crush single-crush sul G-D pos: nat. bridge-sweep (sp./b.b) at tip

sul C-G pos: nat. Sweep st./sp.

twist-crunch sul C sul D-G sul E

sub pppp molto (left hand damp strings) towards tail on wood (body)

♪ = 130-140

263

Bass-Fl.

air flz | in. | t.r. | in. ttt... | in. | 5/16 suck-buzz | 7/16 air tktk +random key-cicks | inhale ttt... | t.r. air-tktk | air-inhale towards suck-buzz | add voice-gliss high to low | repeat 10x

Bass-Cl.

air-tktk | in. | pah! (screech) | in. | pah! (screech) | air-flz +random key-clicks | inhale ttt... | t.r. air-tktk | air-inhale towards suck-buzz | add voice-gliss lowest to highest | repeat 10x

Sax.

in. ttt... | in. | slap | air-flz +random key-clicks | in. ttt... | air-tktk +random key-cicks | in. | smack | air-flz +random key-clicks | inhale ttt... | t.r. air-tktk | air-inhale towards suck-buzz | add voice-gliss lowest to highest | repeat 10x

P.Tpt.

air flz | in. | spit | air-tktk | spit | in. flz | in. ttt... | suck-buzz | air-tktk | inhale ttt... {u}/{i} | harmon mute | spit air-tktk | inhale towards suck-buzz | add voice-gliss lowest to highest | repeat 10x

Tbn.

air flz | in. | spit | in. ttt... | spit | flz | spit | flz | suck-buzz | air-tktk | inhale ttt... {u}/{i} | harmon mute | spit air-tktk | inhale towards suck-buzz | add voice-gliss lowest to highest | ahap | repeat 10x

Perc.

Drinking Straw blow straight into straw, move closer to mouth | "pf" | **Toothbrush** brush on **bongo** | 5 | **Velcro** | **mouth** inhale, teeth together {i} | **Cymbal** bowed, press with finger on cymbal to form distorted overtones | **Tom** rub with superball | lift-up | **Kick-Drum** | **Prepared Foot Pedal** on metal | **Foot Pump** | repeat 10x

Accord.

air | key clicks | air | B.S. | key clicks | highest cluster 8va | belly-run | air | air | highest cluster 8va | belly-run | air B.S. | repeat 10x

Vln.

bridge-sweep (sp.//b.b.) at tip | **hair-crush** | arco b.b. **Sweep** b.b. | 5/16 arco b.b. **Sweep** b.b. | 7/16 col legno tratto | **Creak** sul G-D au talon | sp. st. | behind bridge **pressure tremolo** towards tail | jeté ›››scratch | repeat 8x

Vla.

Sweep st.//sp. | **hair-crush** | arco b.b. **Sweep** b.b. arco b.b. **Sweep** b.b. | arco b.b. **Sweep** b.b. | col legno tratto | **Creak** sul C-G au talon | sp. st. | behind bridge **pressure tremolo** towards tail | jeté ›››scratch | repeat 8x

Vc.

c.l. jeté b.b. sul A | **twist-crunch** | **Sweep** c.l. long sweep sul D-A max sp.→ max st.→ sp. | **Creak** sul D-A | **Sweep** sul D-A | col legno tratto | **Creak** sul D-A au talon | sp. st. | behind bridge **pressure tremolo** towards tail | jeté ›››scratch | repeat 8x

Db.

c.l. jeté b.b. sul G | **twist-crunch** | **Sweep** c.l. long sweep sul D-G max sp.→ max st.→ sp. | **Creak** sul D-A | **Sweep** sul D-A | col legno tratto | **Creak** sul D-G au talon | sp. st. | behind bridge **pressure tremolo** towards tail | jeté ›››scratch | repeat 8x

(left hand damp strings)

♩ = 90

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

♪ = 130-140

♩ = 90

273

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

repeat 4x

repeat 5x

5/16

7/16

Balloon

Velcro

Drinking Straw

Creak

hair-crush

twist-crunch

♩ = 100

278

Bass-Fl.

Bass-Cl.

Sax.

P.Tpt.

Tbn.

Perc.

Accord.

Vln.

Vla.

Vc.

Db.

♪ = 130-140

282

9/16

Bass-Fl.

suck-buzz +random key-cicks

add voice-gliss high to low

(5)

slap

t.r.

air-tktk

molto

repeat 9x

Bass-Cl.

add voice-gliss lowest to highest

(6)

Sax.

cover

uncover

air-spit

air-tktk

P.Tpt.

Tbn.

(3)

ahap

gliss.

Perc.

Velcro

rapid rub (screechy)

Foot Pump

lift-up

Accord.

8va

belly-run

air

B.S.

Vln.

Creak

sul G-D au talon

st.

sp.

crunchy sound

(left hand damp strings)

bridge-sweep

(sp./b.b) at tip, towards au talon

Vla.

sul C-G au talon

Sweep

st./sp.

Vc.

sul D-A au talon

Db.

sul D-G au talon

Negative Dynamics I(a/b)

for a string player

Einar Torfi Einarsson

Negative Dynamics I(a/b)

for a string player

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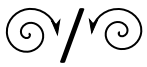
http://einartorfieinarsson.co.cc/

This piece was written for Johnny Chang

Performance Notes

Negative Dynamics I(a/b) proposes a shift, or a capsize/inversion, in aim/attention/focus of controlling sound, into aim/attention/focus of controlling silence. A space is therefore created with a set of instructions where this becomes attempted (the endeavor): absolute silence (or rather intensified silence).
However, this remains an impossibility, but a very different level of impossibility emerges between the two versions of the piece. Version **a** is 30 seconds, while version **b** is 30 minutes. Absolutely *no* amplification is permissible for version **a**. For version **b** amplification is permissible *if* the amplification can be "broadcast" through headphones for each audience(r). The audience will then have the choice of using the headphones or not (or indeed occasionally). In this case contact microphones should be used.
It should also be noted that the performer should by no means attempt any theatricality or exaggeration of any gesture. Subtle precision of muscle actions, with the aforementioned aim, together with a subtlety reaching the efforts and dimensions of the proprioception space/area, are to be *the* sufficient and total engagement.

- The string instrument is to be tuned accordingly: **IV** up ½ or ¾ tones, **III** remains, **II** up 3, 3+¼ or 2+¾ tones, **I** up 1+¼ or ¾ tones.
- The top line in all three pressure staves indicates the contact point between strings and fingers/bow. Utmost care and prudence should be taken when arriving at, and departing from, this line. The space above the line is in the realm of: *as close as almost*. The bottom line indicates extremes of pressure, stress and tension.
- Reddish lines indicate instructions for the right hand (the bow). Left hand actions are indicated with greenish lines.

 Indicates a gradual clockwise/anti-clockwise turn of the bow, i.e. from arco to/fro col legno (cl.).

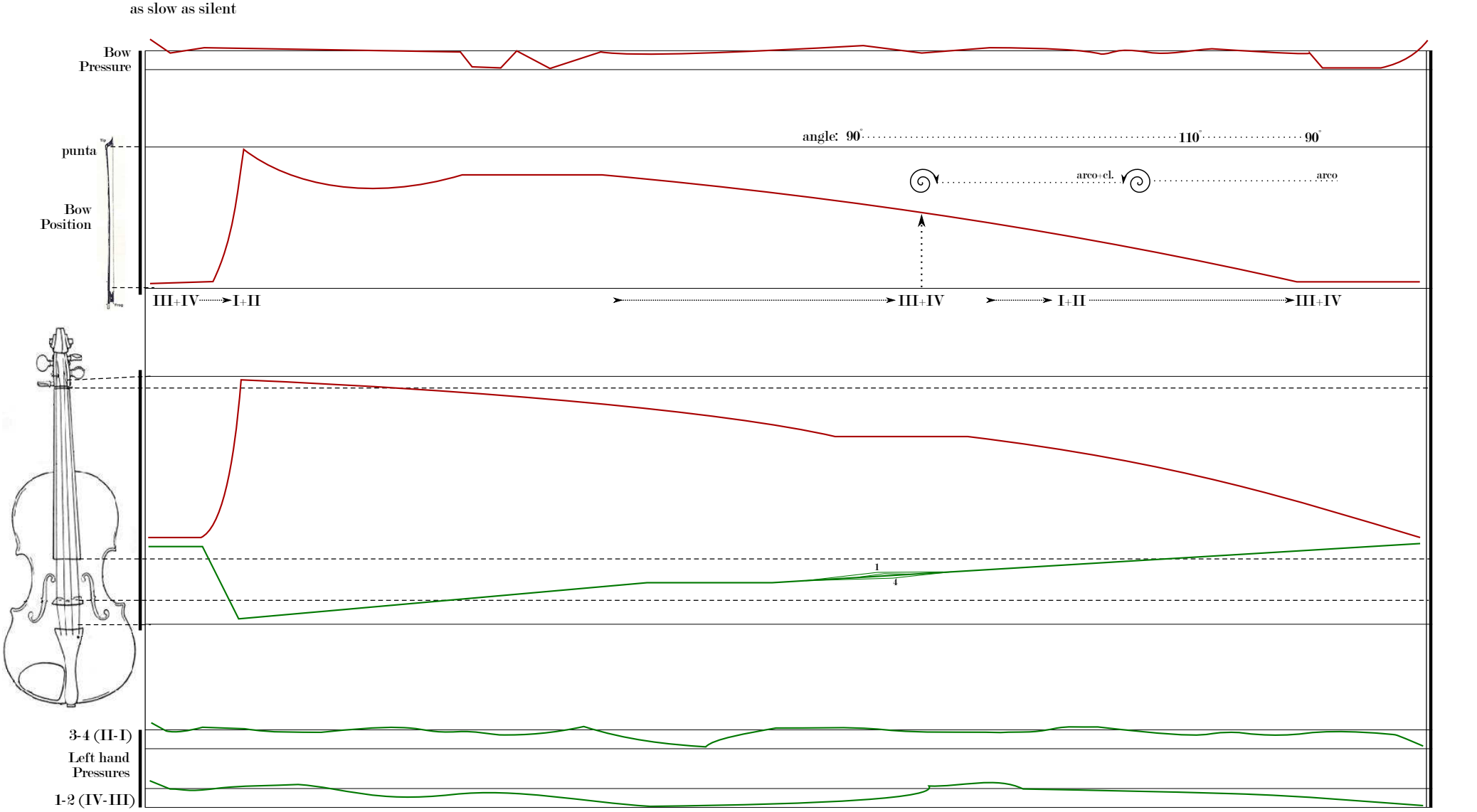
- Angle: indicates the angle, in degrees (e.g. 90°), between the bow and the fingerboard (or strings).
- Numbers (1-4) indicate fingers (1 being the index finger).
- Roman numerals (I-IV) indicate strings (IV being the traditional G-string).
- Dotted lines indicate graduality.

Negative Dynamics I(a/b)

for a string player

Einar Torfi Einarsson

as slow as silent



a 30'' / 30' b

Repetition of Repetition

for orchestra

Einar Torfi Einarsson

Repetition of Repetition

for orchestra

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http://einartorfieinarsson.co.cc/

Commissioned by

Nordic Music Days 2011

Premiered at Nordic Music Days, October 6th, 2011, in Reykjavík, Iceland by Iceland Symphony Orchestra, conducted by Martyn Brabbins

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Instrumentation

3 flutes (piccolo, c-flute, alto)

2 clarinets in Bb

Bass Clarinet in Bb

2 Horns

2 Trumpets

2 Trombones

Tuba

3 Percussion (wind-machine, crotales, rainsticks)

Harp

Piano

Violin, 3 groups (8+8+8)

Viola, 2 groups (5+5)

Violoncello, two groups (4+4)

Double Bass, two groups (3+3)

Duration ca. 8 minutes

Performance notes

General

- This piece deals with cycles of different lengths, which are repeated continuously. Each instrument has its unique cycle-length, which is repeated for the total duration. The conductor has also a unique cycle-length of 27 pulses. As the cycle's lengths don't correspond to each other the *Conductor should only indicate tempo, i.e. conduct in 1*. The changing tempo then modulates each "voice" differently at different times, as voices move out of phase with each other. This is the idea of the piece, endless repetition subtly creating continuously different momentum.
- Dynamics are to be kept at an extreme softness ***ppppp*** throughout the piece.
- Repetitions can be found within repetitions (nested repetitions). After repeating a nested repetition it is canceled until next cycle.
- Numbers above staff indicate the amount of pulses where note-values are not clear. Total note-values or numbers always add up to 27, but because of different repetitions (of parts of those 27) the result is cycles of different lengths.

Ahap = as high as possible

Afap = as fast as possible

Winds

key-click (single) = with the indicated note as a result, click continuously with a single finger, as fast as possible.

key-click (double) = with the indicated note as a result, click continuously with two fingers (left/right hand), as fast as possible.

key-click gliss = simply cover all holes gradually with a click, scale like gliss, always as fast as possible.

■ = closed mouthpiece □ = open mouthpiece

NB. no airstream is used, only inhaling where indicated.

Brass

{s}-whistle = very soft airstream through a pronounced {s}, modulated by vowel changes (i-u).

tut... = a continuous (either regular or irregular) dental click, a sharp/short squeaky sound made by sucking on the front teeth (as in pitying: tut-tut).

Harp

The strings in use are indicated on the side of staff. Tap gently with a plectrum (or a tuning key) on the indicated strings, either both strings or only one (in that case changing every repetition). Start ahap (as high as possible), close to the levers on the bridge and move slowly downwards the string, to approximate middle of string. Damp the strings to avoid any unnecessary resonance.

Piano

The strings in use are indicated on the side of staff. Tap gently with a plectrum (or a credit card) on the indicated strings, either two strings or only one (changing every repetition). Start close to the damper and move slowly upwards the string, to ahap (as high as possible).

Strings

frog-tap = tap gently, as-fast-as-possible with edge of frog, on indicated places on the string.

col legno battto tremolo = tap gently, with wood, as-fast-as-possible (tremolo), on indicated places on the string and where indicated on the bow (talon-punta).

col legno tratto = normal up- or down-bow *only* with the wood.

Repetition of Repetition

Larghissimo

Einar Torfi Einarsson

repeat for 8 min.

ppppp

11 ♩ = 32 **accel.** | 11 ♩ = 42 **rall.** | 5 ♩ = 27 **accel.**

Flute 1 (Piccolo)

inhale; key-click gliss; key-click (single key tremolo, afap); 2 key-click gliss; repeat; key-click (double); key-click gliss; inhale; key-click (single key); key-click (double); key-click gliss; key-click + inhale (single key)

Flute 2

key-click (single key tremolo, afap); key-click gliss; key-click (double); key-click gliss; inhale; key-click (single key); key-click gliss; inhale; key-click (single key); 3 key-click gliss; repeat

Flute 3 (Alto)

key-click (single key tremolo, afap); key-click gliss; inhale; key-click (single key); key-click (double)

Clarinet in B♭ 1

key-click (single key tremolo, afap); inhale; inhale

Clarinet in B♭ 2

key-click gliss; key-click (single key tremolo, afap); inhale; key-click (single key tremolo, afap); inhale; key-click (single key)

Bass Clarinet in B♭

key-click (single key tremolo, afap); inhale; key-click (single key)

1,2 Horn in F

a2; {s}-whistle {i} {u}; tut... *irregular*; {s}-whistle {u} {i}; tut... *regular*; {s}-whistle {i}; tut... *regular*; {s}-whistle {u} {i} {u}; tut... *irregular*

Trumpet 1,2

a2; tut... *irregular*; {s}-whistle {i} {u}; tut... *irregular*; {s}-whistle {u} {i}; tut... *regular*; {s}-whistle {u} {i}

Trombone 1,2

a2; {s}-whistle {i} {u}; tut... *irregular*; {s}-whistle {i} {u} {i}; tut... *irregular*; tut... *regular*; {s}-whistle {u} {i} {u}

Tuba

{s}-whistle {i} {u}; tut... *regular*; {s}-whistle {i} {u}; tut... *irregular*; {s}-whistle {i} {u} {i} {u}; tut... *irregular*

Percussion 1 **wind-machine**

Turn very slowly

Percussion 2 **crotales** (highest pitch)

13 tap gently, as-fast-as-possible, with a metal object, moving gradually between side and middle, mute with finger *simile*; 7 scrape, with metal object, with long circular motion (do not let ring out); 7 tap, as before

Percussion 3 **Rainstick** (short & long)

15 short — Keep a certain horizontality, never turn completely vertical, allow only an *occasional* single, or as-few-as-possible, to slide through; 6 long — same technique; 6 short — as before

Harp

plectrum-tap ahap 6 *simile* 7 2 12; *damp string*

Piano

8va 11 **plectrum-tap** *simile* 7 4 5 ahap

Violin 1

frog-tap sul E 4 8va *simile* 5 3 3; 4 15ma *simile* (15) *gliss.* 6 *simile* 2 8va; sul E left hand gliss; *left hand: damp all strings*

Violin 2

frog-tap sul E 3 8va *simile* 4 5 (8va); 4 15ma *simile* (15) *gliss.* 5 6 8va *simile* 8va; sul E left hand gliss; *left hand: damp all strings*

Violin 3

frog-tap sul E 9 15ma *simile* (15) *gliss.* 3 15ma *simile* 5 10 8va; sul E left hand gliss; *left hand: damp all strings*

Viola 1

frog-tap sul A 8va 13 *simile* 3 8va 11 8va; *left hand: damp all strings*

Viola 2

frog-tap sul A 22 *simile* 5 8va *simile* (8va) *gliss.*; sul A left hand gliss; *left hand: damp all strings*

Violoncello 1

frog-tap sul A 7 *simile* 11 div. *simile* *gliss.* 5 *simile* 4; sul A left hand gliss; *left hand: damp all strings*

Violoncello 2

frog-tap sul A div. ahap 5 *simile* 4 7 4 7; *left hand: damp all strings*

Double Bass 1

col legno battuto tremolo sul G div. 8va *punta* *talon* 1 **col legno tratto** 1 12 **col legno battuto tremolo** sul G 8va *talon* *punta* 1 **col legno tratto** 4 **col legno battuto tremolo** sul G *MB* *punta* *simile*; *left hand: damp all strings (very high)*

Double Bass 2

col legno battuto tremolo sul G *talon* 10 div. *punta* 7 10 ahap *simile*; *left hand: damp all strings*

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Non-vanishing vacuum state

for bass-flute, bass-clarinet, trumpet and cello

Einar Torfi Einarsson

Non-vanishing vacuum state

for bass-flute, bass-clarinet, trumpet and cello

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http://einartorfieinarsson.co.cc/

Co-commissioned by

hcmf//, TRANSIT festival and Dark Music Days

Premiered at TRANSIT October 22, 2011 by Elision Ensemble

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Performance Notes

- All sounds are air based.

Rhythm

Rhythm has three simultaneous tempo lines. These tempos have a strict ratio of 4:5:7. Rhythm is also non-metric, since it continually shifts between these tempos, and thus the time-signatures indicate only the total ingredients of durational values within a bar – *not* in any way the order of those values. Each bar has a fixed duration, but bars (downbeats) should however not receive any special attention/emphasis. It should be noted, although obvious, that in this score the note's proportions "*on paper"* are not correct, i.e. an 8th note has the same "on paper" length no matter which tempo line it belongs to, thus it is only in the actualization of the score that the tempos warp the rhythms. (and in fact any tempos/ratios could be assigned to the lines)
The piece comes with a click-track where each attack is given a click and each downbeat given a chime.
In the middle section of the piece there are repetitions/loops. These repetitions don't have a fixed amount of repetition, but have a fixed duration, and thus have to be cued off. They are therefore not included in the click-track as such (although the first instance is included). (The cueing is included in the click-track by 3 preceding chimes (the "cueing bar"))

Dynamics

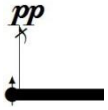
The main part of the piece is to be performed at the as-soft-as-possible dynamics. However, this should be understood as an attractor/effort with a field space. This means that any sound should be forcefully pulled as-close-as-possible to the as-soft-as-possible attractor. This remains differently possible for different sounds, thus there will remain dynamic curves (instability) instead of absolutism. The last section of the piece explores dynamics which may not be possible, such as fff for a particular sound/technique. Again, we are not dealing with absolutism so the fff/pppp should therefore receive a forceful pull as-if-it-was-possible (effort/attractor). Also, in this last section there is an unconventional dynamic notation: strings of dynamics (pffpppffpffpfppfff). These should be understood as non-linear instability, constantly shifting in nature (much like the rhythm/tempos). The dynamics indicated also affect any graphic notation (involving keys etc.).
Furthermore, it is important during the entire piece to balance the ensemble in order to avoid that any single instrument becomes foregrounded.

Graphic notation

The graphic notation aligns durationally, and proportionally, to the rhythm staff. It, as the rhythm, receives thus a warp by the tempos. It is however less accurate in nature (more intuitive) but is only occasionally directly synchronized to notes on the rhythm staff. However, for **cello** (right hand) it is always directly synchronized. It may be active during silenced rhythm part, meaning that it doesn't have to contribute to a sound – it can be considered as a silent intensity, occasionally non-affecting. It should always be thought of as a separated-yet-superimposed layer.

Voice

The voice can be activated in three different ways:

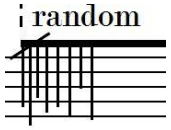
staccato as-high-as-possible staccato as-low-as-possible  extended over graphical duration.

It should be noted that the voice should always be modulated by the technique it "falls on", this means that if the technique involves inhaling or suction of any kind the voice should follow the same rule of air-direction (in or out). The voice mostly behaves in a very short interruption kind of way, but should never cancel the sound it superimposes. Where it falls is more or less free, but it should be proportionally/graphically determined within each context, which means that the distance (on paper) from the following note matters.

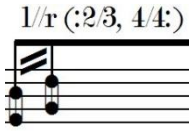
Exception from most of this is the **cello** voice, which should always be performed distantly with a closed mouth.

Flute/Clarinet

- **NB: Bass-Clarinet finger staff is notated *8va* normal, both in score and in part. Thus, "sounding" *<u>two</u>* octaves + whole-tone lower than written.**



Continuous random key-clicks, affected by any dynamic indication. Duration is indicated with the thick black line.



Left- right-hand tremolo. Amount of fingers involved are indicated and also any sequence (freely executed) of different finger-tremolos. Normal position is assumed. (in the above example: two fingers (any 2) of the left hand against three (any 3) in the right, then, four against four…repeat if time)

<u>Glissando:</u> Should always be as smooth as possible, meaning that each key should be very gradually depressed/released on its way to its destination. It is a smooth physical activity ideally separated from sound, and should not be adjusted to any required sound results.

<u>Quarter-tones:</u> Don't necessarily indicate given note as-if-pitched (but not necessarily not), but rather indicate a slight difference in key depression around the given note, in the domain of ¼ open/closed key. Thus, a matter of fine physical attention/tension.

<u>Flute only:</u> indicates open mouthpiece indicates closed mouthpiece. A line towards or between indicates graduality.

Bass-Flute/bass-clarinet/trumpet mouth techniques (dictionary)

ex. = normal exhaled air sound.

in {i}, {u}, {u//i}, {i→u} = Determines the pronunciation accompanying the inhaling air sound, either as fixed (u,i), alternating (u//i), or gradual (i→u).

in. ttt... = Inhale whilst chopping the air with as-fast-as-possible "t" Interruptions (much like a shaking-jaw caused by extreme cold). High muscle-tonus!

in! = Very rapid, staccato, inhale.

tktk... = Unmeasured, continuous, double tonguing (air). (as-fast-as-possible)

p t k = Specific, air-based plosives, measured attacks: **t**, **k**, or **p**.

flz. = Normal flutter tongue

Trr flz. = Flutter tongue with a strong initial "**T**" accent.

airless flz. = Flutter tongue without air from the lungs; simply a mouth cavity sound formed by forcing, with muscles, a rolling tongue.

tsk! = Dental click, sharp/short (high-pitched) squeaky sound made by sucking on the front teeth. (as in pitying: tut-tut!).

tsk!... = A continuous, as-fast-as-possible, repetition of tsk!

horse click = Squeaky sound, made by sucking on the molars on either side (or both sides) of the mouth. (e.g. to get a horse moving).

pop-click = Alveolar click, the tip of the tongue is pulled down abruptly (and forcefully) from the roof of the mouth, producing a hollow pop sound.

plop-click = Palatal click, similar as pop-click but made with a flat tongue and thus producing a softer pop sound.

lung in/out (dog) = The traditional dog-breathing involving the lungs, this should be done at a maximum possible speed.

muscle in/out (jaw open/closed) = Unlunged air sounds. Rapid back & forward movement of the tongue's back-muscle whilst pronouncing: {u}. Either with open jaw: air pressed in/out through the {u}; or closed jaw (teeth together): air is presses into cheeks *as well*, thus producing more air turbulence.

suck-buzz (tongue, lips) = Buzz sound by forced suction, 1) sucking the tip of tongue up against the hard palate, 2) sucking on lips pressed together.
As high "pitched" as possible, unstable as well as multiphonic.

teeth-on-lip suction = High squeaky/unstable suction produced by putting the front teeth together and up against the lower lip. (best results with a little saliva on the lip, and keeping the lips in slow motion: loose→ pursed)

smack = A kissing like sound - should always be staccato.

slap = Air puffs with the tongue. Should always be air-based and as dry as possible.

spit = A very quick "t" like sound, although with more air.

t.r. = tongue-ram: sudden closure of mouth cavity involving the tongue reaching the hard palate and the back of the front teeth. (hT!)

Trumpet

An ascending line always indicates a gradual key release, similarly a descending line indicates a gradual key depression. Straight line = stasis.

There are two types of trills. Normal tr involves a full depress/release trill, while the micro-trill μtr involves only half or less depress/release action.

Indicates a sudden accented key-depress-attack. Indicates a sudden accented key-release-attack. (Both types can be assigned to a single finger)

Coupled means that a trilling (i.e. up/down) activity is synchronized between any fingers.

Cello

Scordatura (IV-I): F#-G-C-G#

It should be noted that the graphics remain an approximation, or a rough indication, they should however be aimed at with precision.

Care must be taken in the last section of the piece regarding the *fff* - in order to keep the ensemble-balance this will occasionally have to be adjusted.

Right hand:

All text indication remains active until the next text appears.

There are two types of rapid movements (wavy lines): **tremolo** (crosswise) and **sweep** (lengthwise, i.e. sp.//st.) - (either arco or col legno)

Sweep can also be a slow movement. All this is indicated by the graphics (activity, position, direction) within the two spaces (talon-punta & st.-sp.)

Twist = a rotation of the bow changing the angle between the bow/hairs and the strings. The hairs remain in position, only the angle changes.

Frog-tap = simply beyond the talon, with the *edge* of the frog, tap (and/or sweep/gliss) where indicated by the above staff.

Left hand:

Note that the right hand (bow) is always primary, meaning that the highest possible position for the left hand is always dependent on the position of the bow. The left hand can go beyond its frame and then reach the behind-bridge area (specifically indicated in the score).

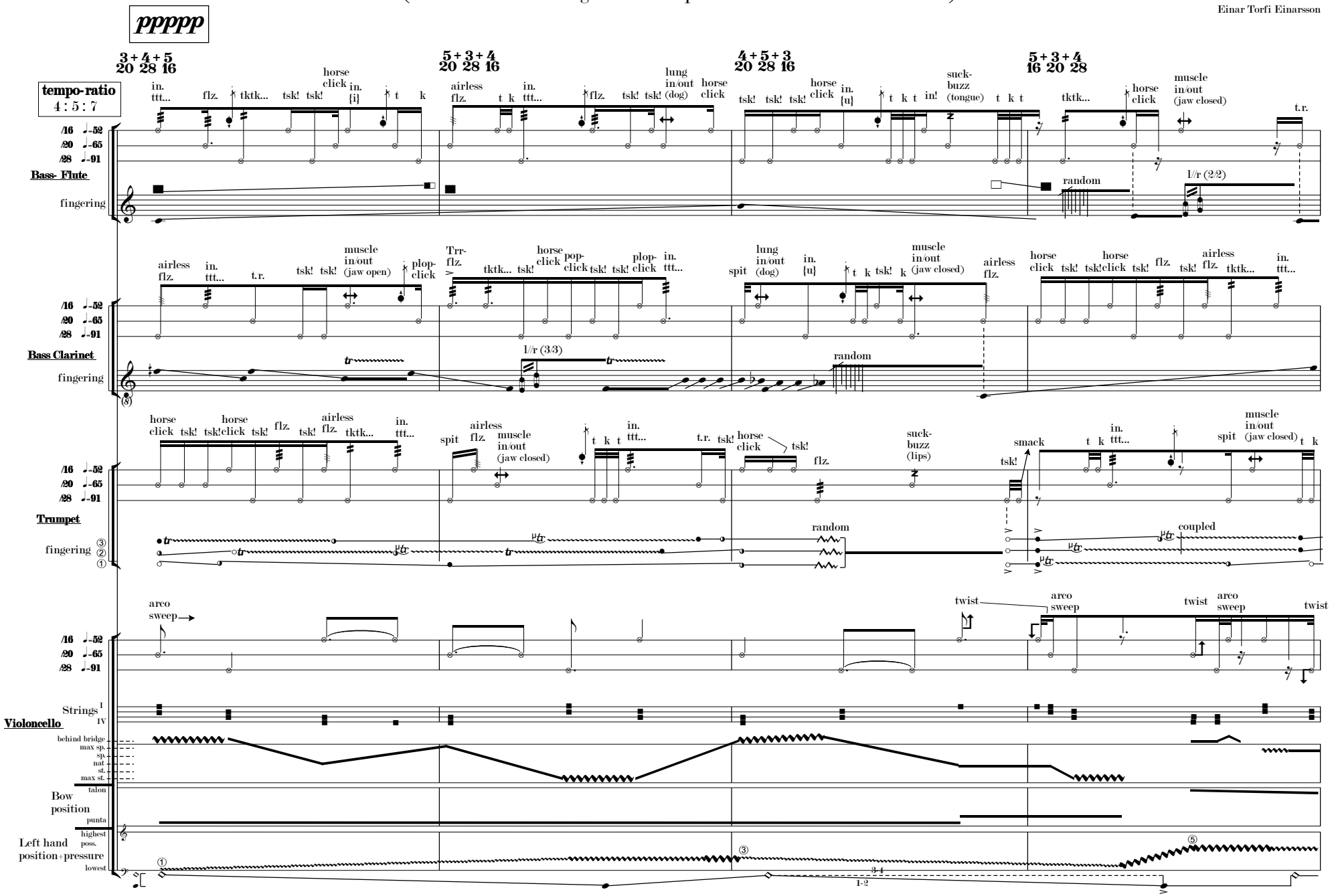
The circled numbers indicate how stretched the fingers are from each other, i.e., 1=most compact and 5=most apart/stretched. All fingers should always have contact with all strings (following the pressure indications at the bottom staff: fully-pressed/light touch).

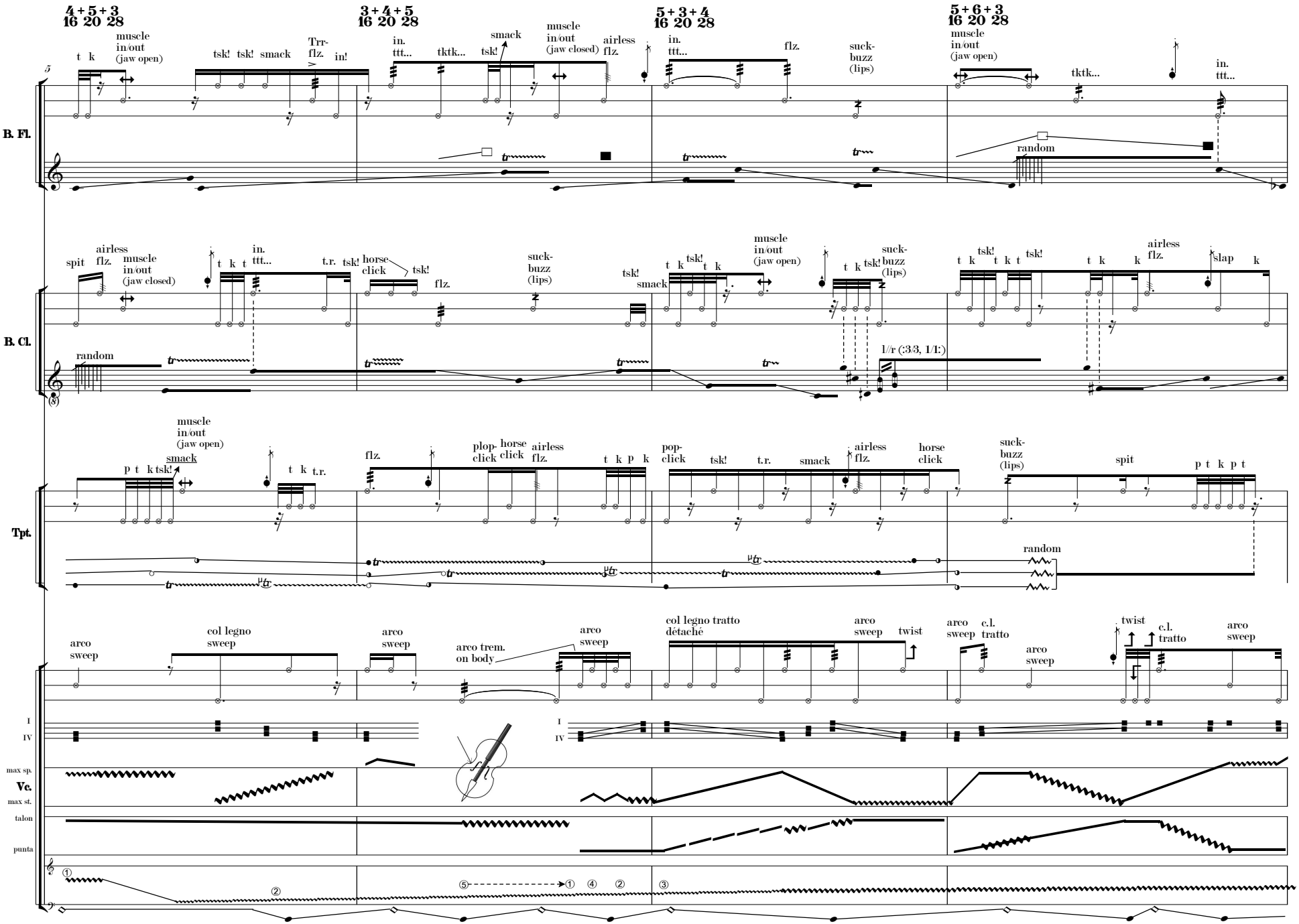
The wavy lines of different sizes indicate a range of lengthwise motion (small to big): vibrato→vibrato molto→rapid gliss up&down.

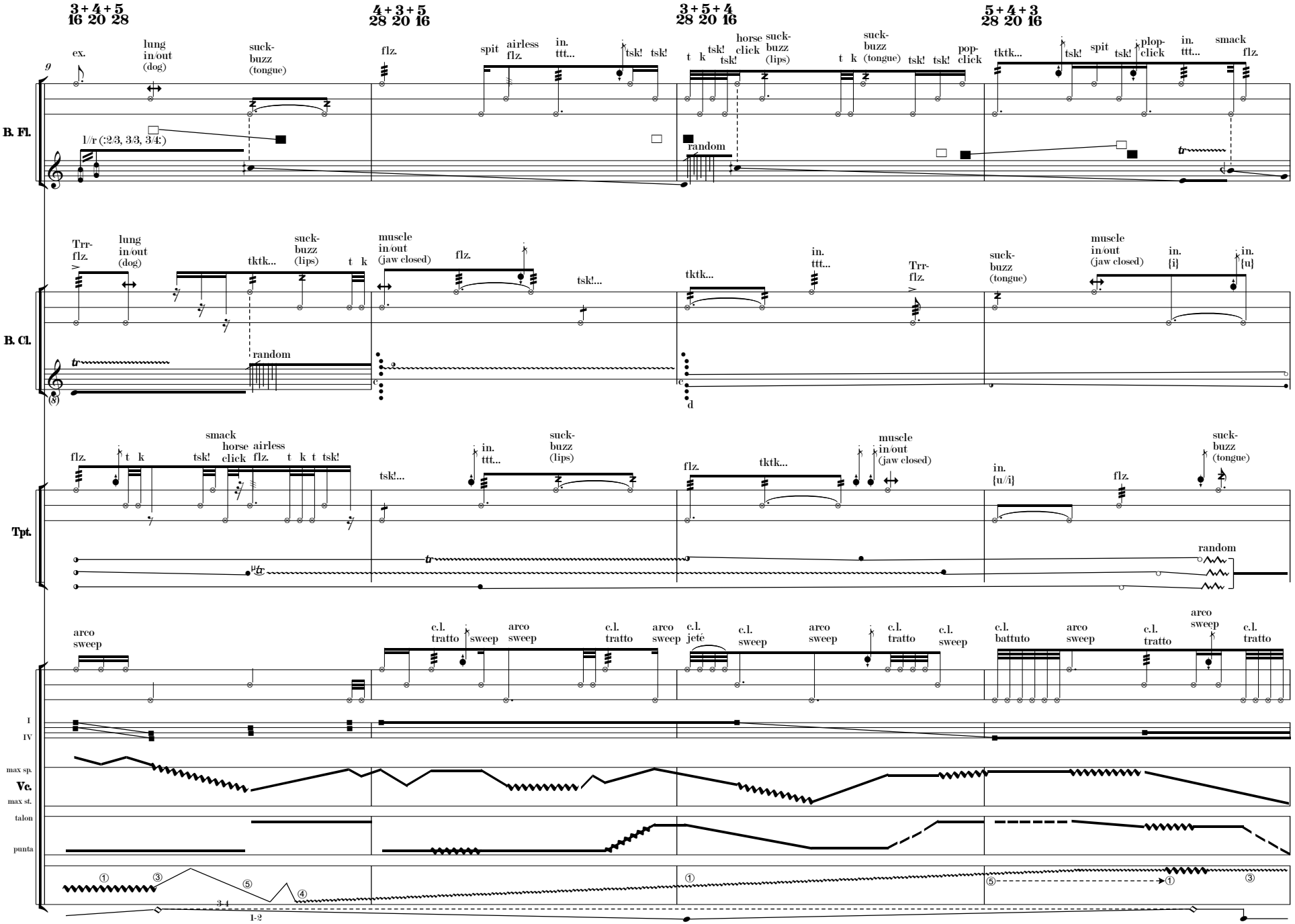
Non-vanishing vacuum state

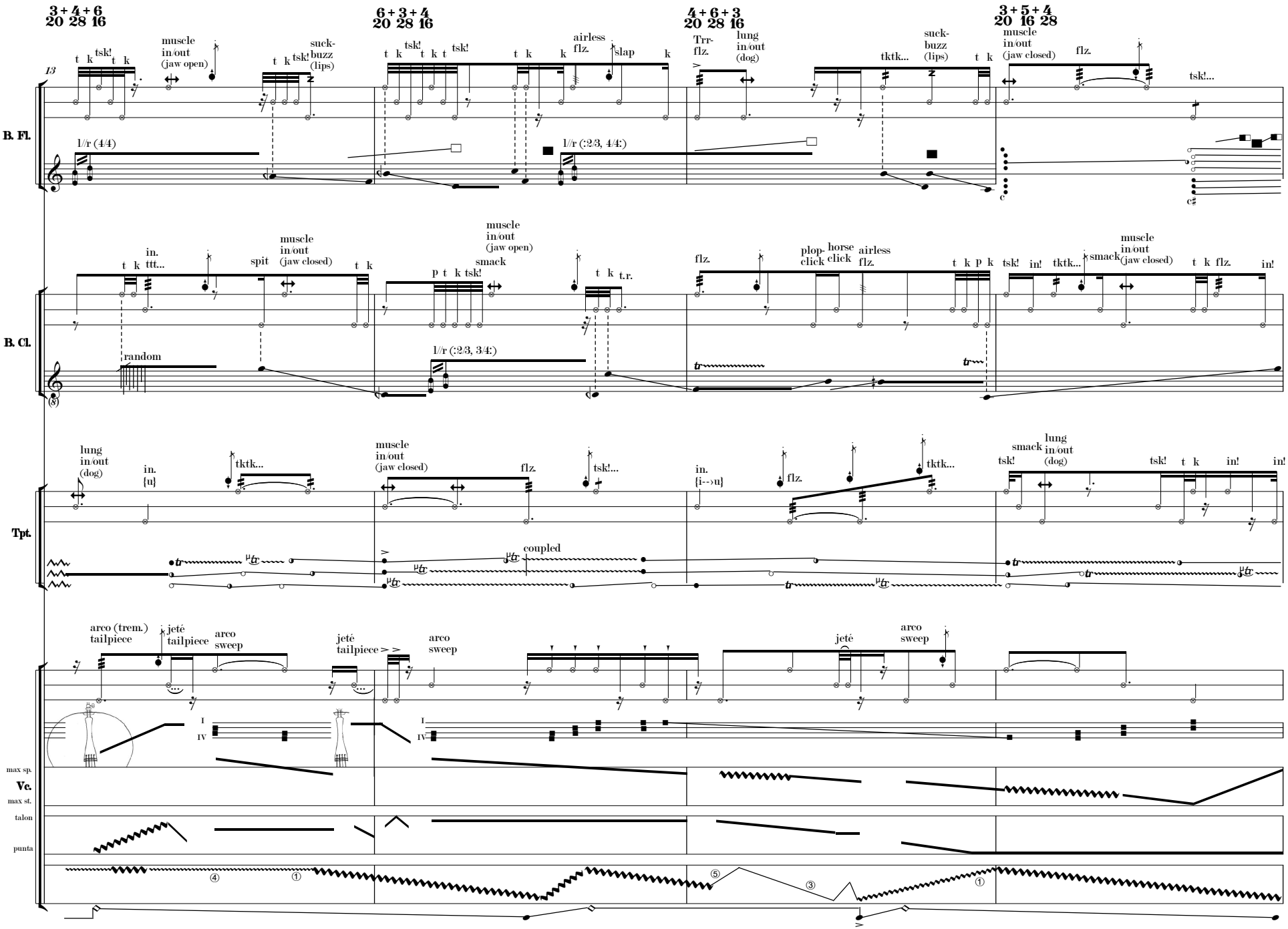
(and the visual data might not correspond to the movements of the head)

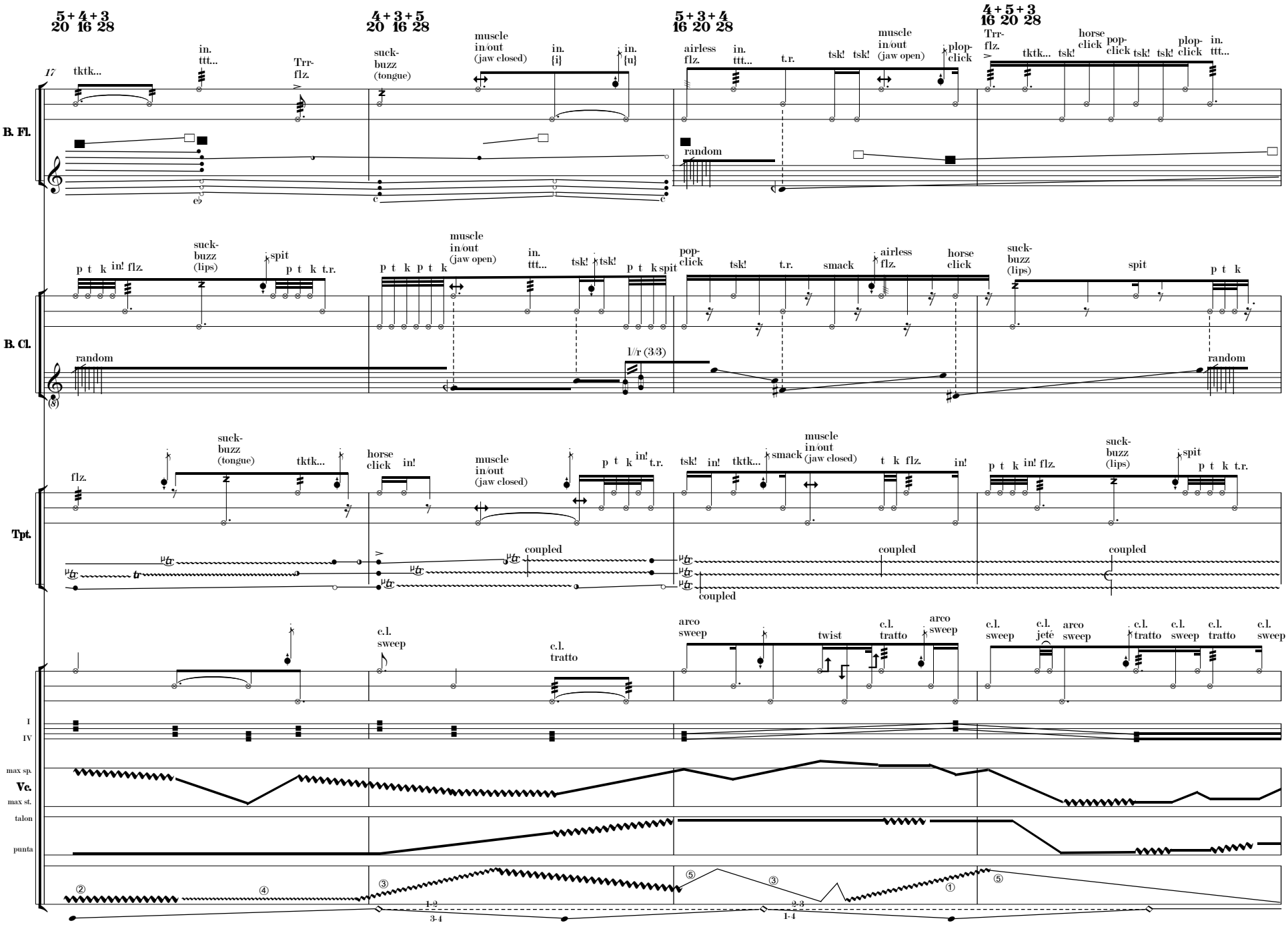
Einar Torfi Einarsson

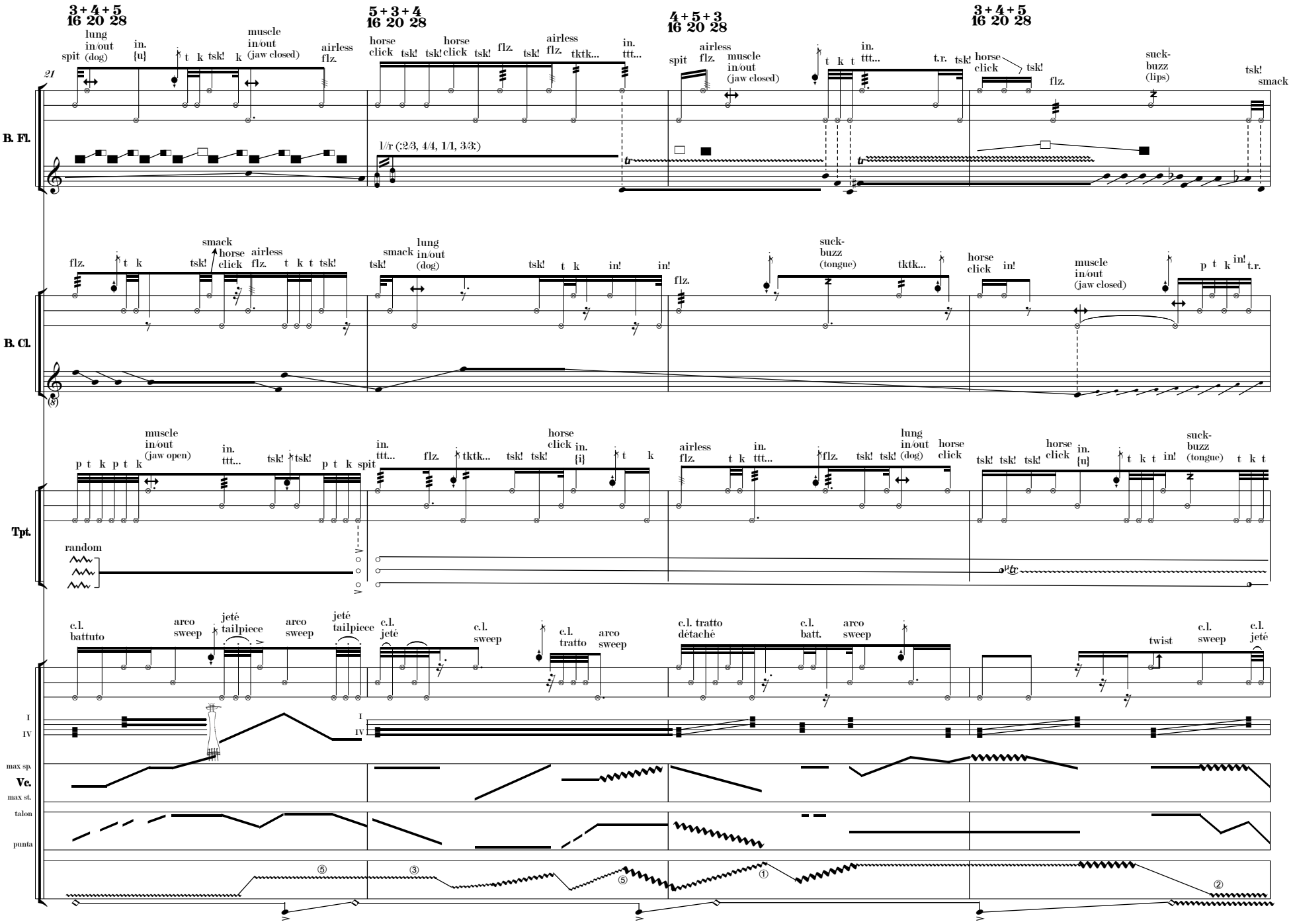


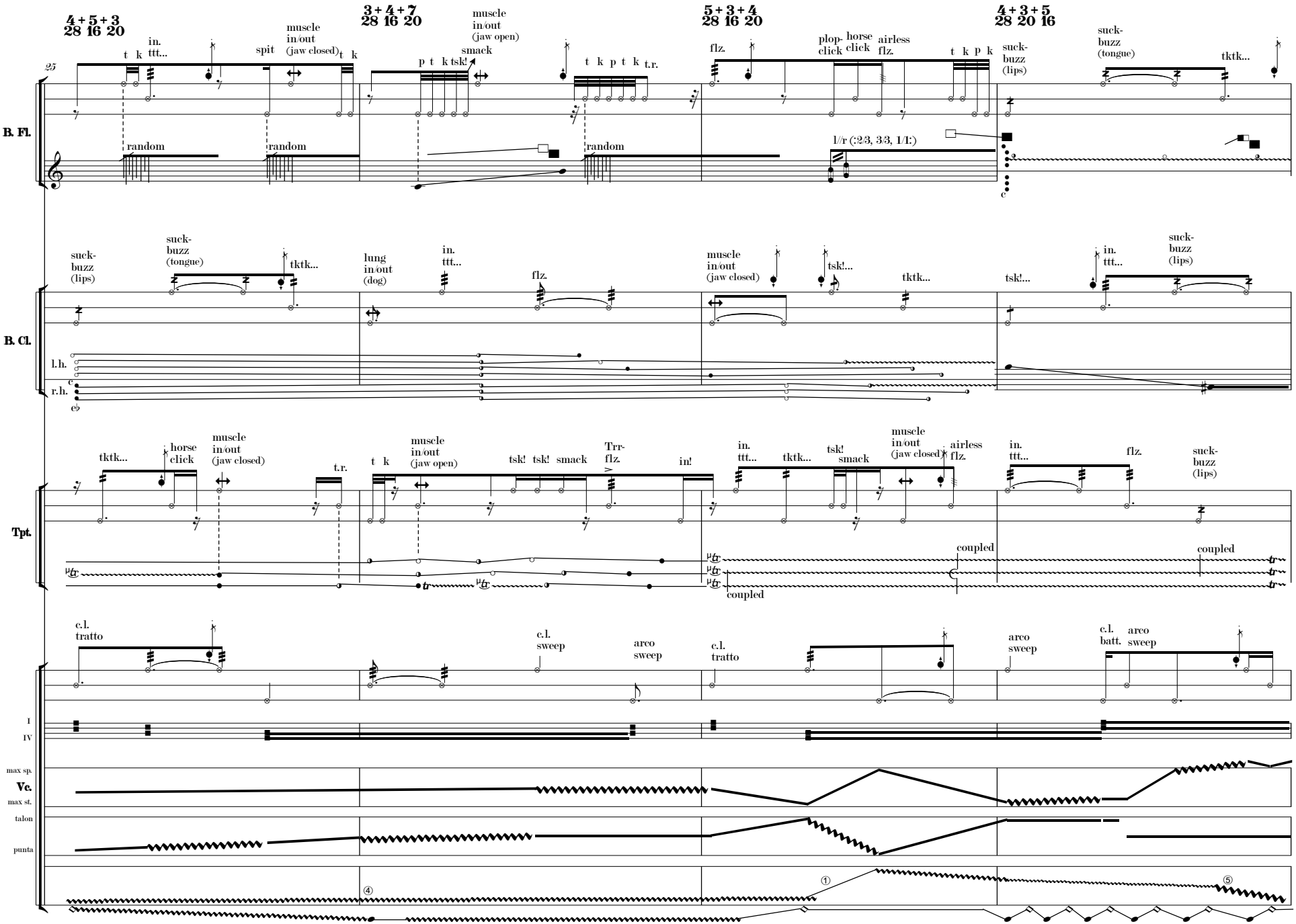

4+5+3
16 20 28
3+4+5
16 20 28
5+3+4
16 20 28
5+6+3
16 20 28
B. Fl.
B. Cl.
Tpt.
Vc.
max sp.
max st.
talon
punta
I
IV
muscle in/out (jaw open)
muscle in/out (jaw closed)
airless flz.
suck-buzz (lips)
random
l/r (:3/3, 1/1:)
arco sweep
col legno sweep
arco trem. on body
col legno tratto détaché
c.l. tratto
twist

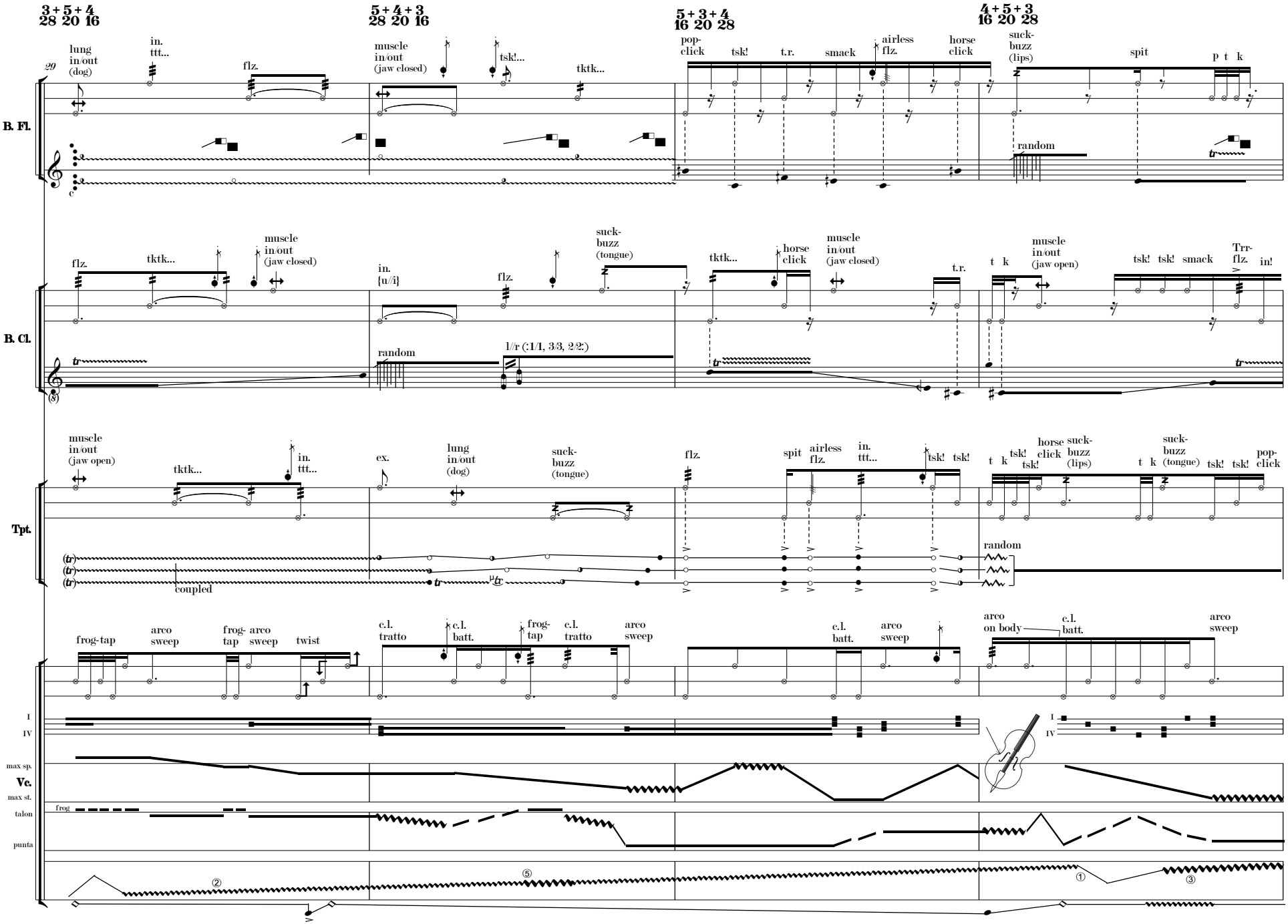

3+4+5
16 20 28
4+3+5
28 20 16
3+5+4
28 20 16
5+4+3
28 20 16
B. Fl.
B. Cl.
Tpt.
Vc.
ex.
lung in/out (dog)
suck-buzz (tongue)
flz.
spit
airless flz.
in. ttt...
tsk!
t k
horse click
pop-click
tktk...
plop-click
smack
l/r (:2⅔, 3⅓, 3/4:)
random
Trr-flz.
muscle in/out (jaw closed)
in. {i}
in. {u}
in. {u/i}
tsk!...
arco sweep
c.l. tratto
c.l. jeté
c.l. sweep
c.l. battuto
I
IV
max sp.
max st.
talon
punta
1-2
3-4

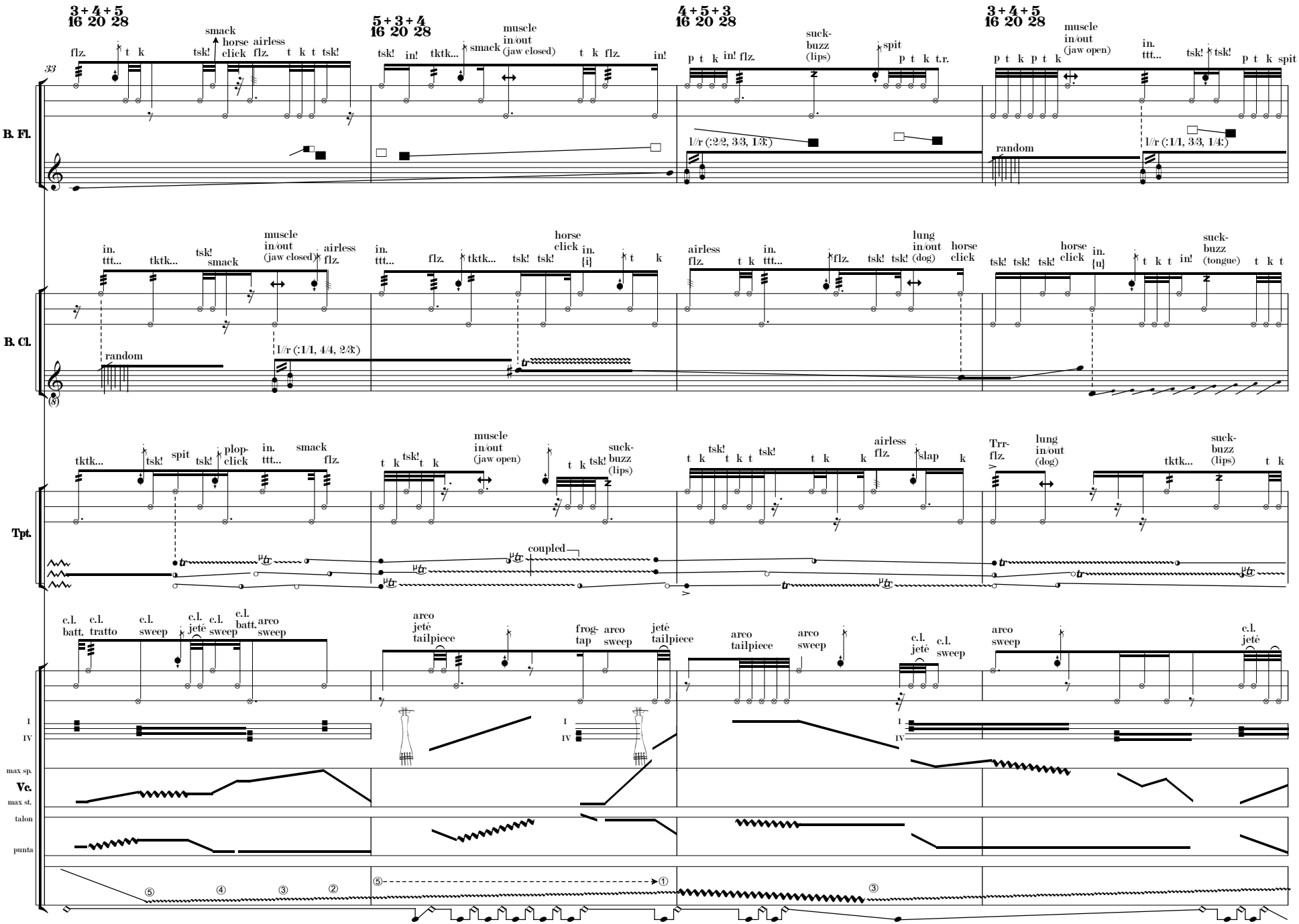

3 + 4 + 6
20 28 16
6 + 3 + 4
20 28 16
4 + 6 + 3
20 28 16
3 + 5 + 4
20 16 28
B. Fl.
B. Cl.
Tpt.
Vc.
max sp.
max st.
talon
punta
l/r (4/4)
l/r (:2/3, 4/4:)
l/r (:2/3, 3/4:)
random
muscle in/out (jaw open)
muscle in/out (jaw closed)
suck-buzz (lips)
airless flz.
slap
Trr-flz.
lung in/out (dog)
tktk...
tsk!...
in.
spit
smack
t.r.
plop-click
horse click
tsk!
in!
lung in/out (dog)
in. {u}
in. {i--›u}
coupled
arco (trem.) tailpiece
jeté tailpiece
arco sweep
jeté

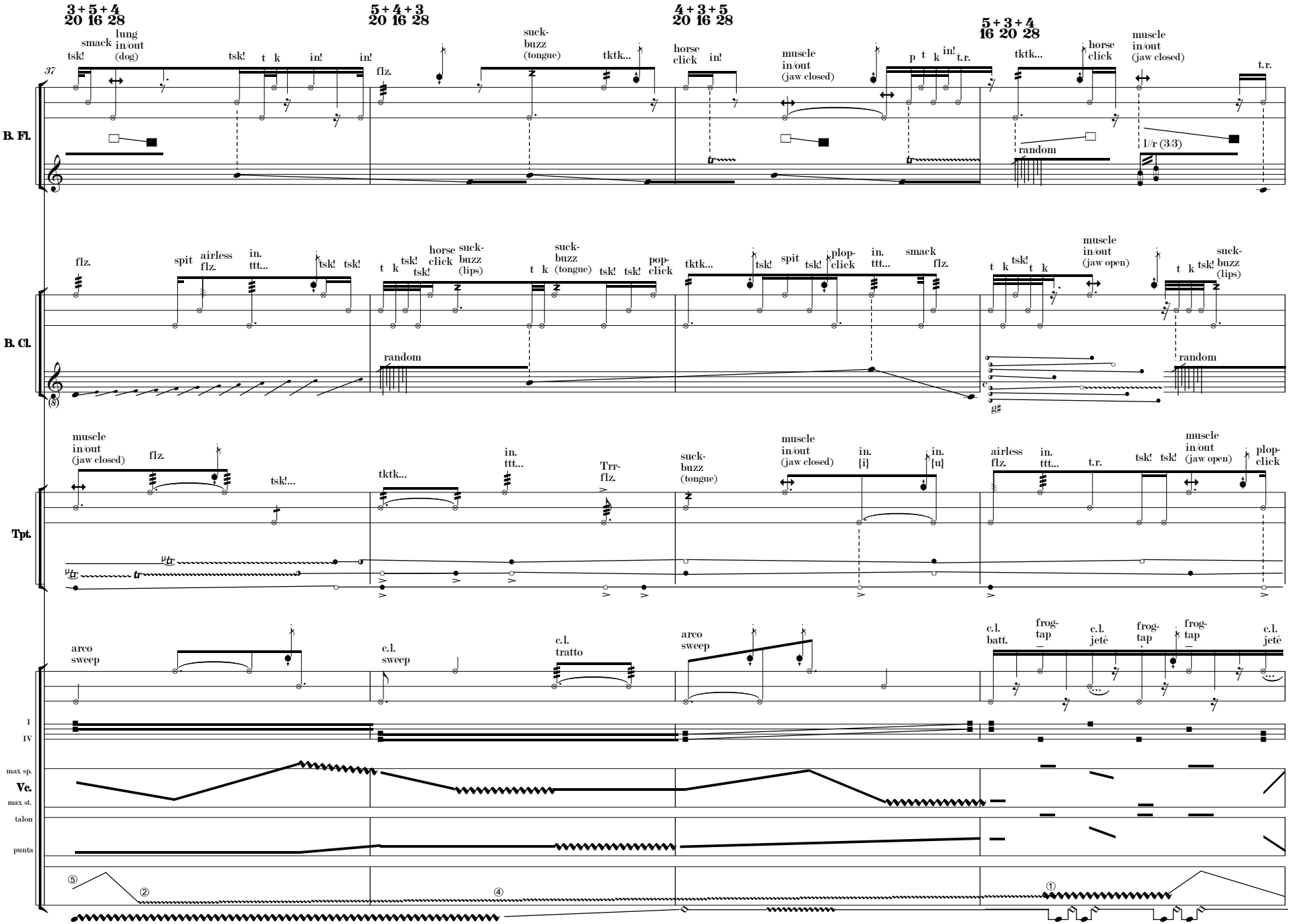

5 + 4 + 3
20 16 28
4 + 3 + 5
20 16 28
5 + 3 + 4
16 20 28
4 + 5 + 3
16 20 28
17
B. Fl.
tktk...
in. ttt...
Trr-flz.
suck-buzz (tongue)
muscle in/out (jaw closed)
in. {i}
in. {u}
airless flz.
in. ttt...
t.r.
tsk! tsk!
muscle in/out (jaw open)
plop-click
Trr-flz.
tktk... tsk!
horse click
pop-click
tsk! tsk!
plop-click
in. ttt...
random
B. Cl.
p t k in! flz.
suck-buzz (lips)
spit
p t k t.r.
p t k p t k
muscle in/out (jaw open)
in. ttt...
tsk! tsk!
p t k spit
pop-click
tsk!
t.r.
smack
airless flz.
horse click
suck-buzz (lips)
spit
p t k
random
l//r (3/3)
random
Tpt.
flz.
suck-buzz (tongue)
tktk...
horse click
in!
muscle in/out (jaw closed)
p t k in! t.r.
tsk! in! tktk...
smack
muscle in/out (jaw closed)
t k flz.
in!
p t k in! flz.
suck-buzz (lips)
spit
p t k t.r.
coupled
coupled
coupled
coupled
c.l. sweep
c.l. tratto
arco sweep
twist
c.l. tratto
arco sweep
c.l. sweep
c.l. jeté
arco sweep
c.l. tratto
c.l. sweep
c.l. tratto
c.l. sweep
I
IV
max sp.
Vc.
max st.
talon
punta
1-2
3-4
2-3
1-4

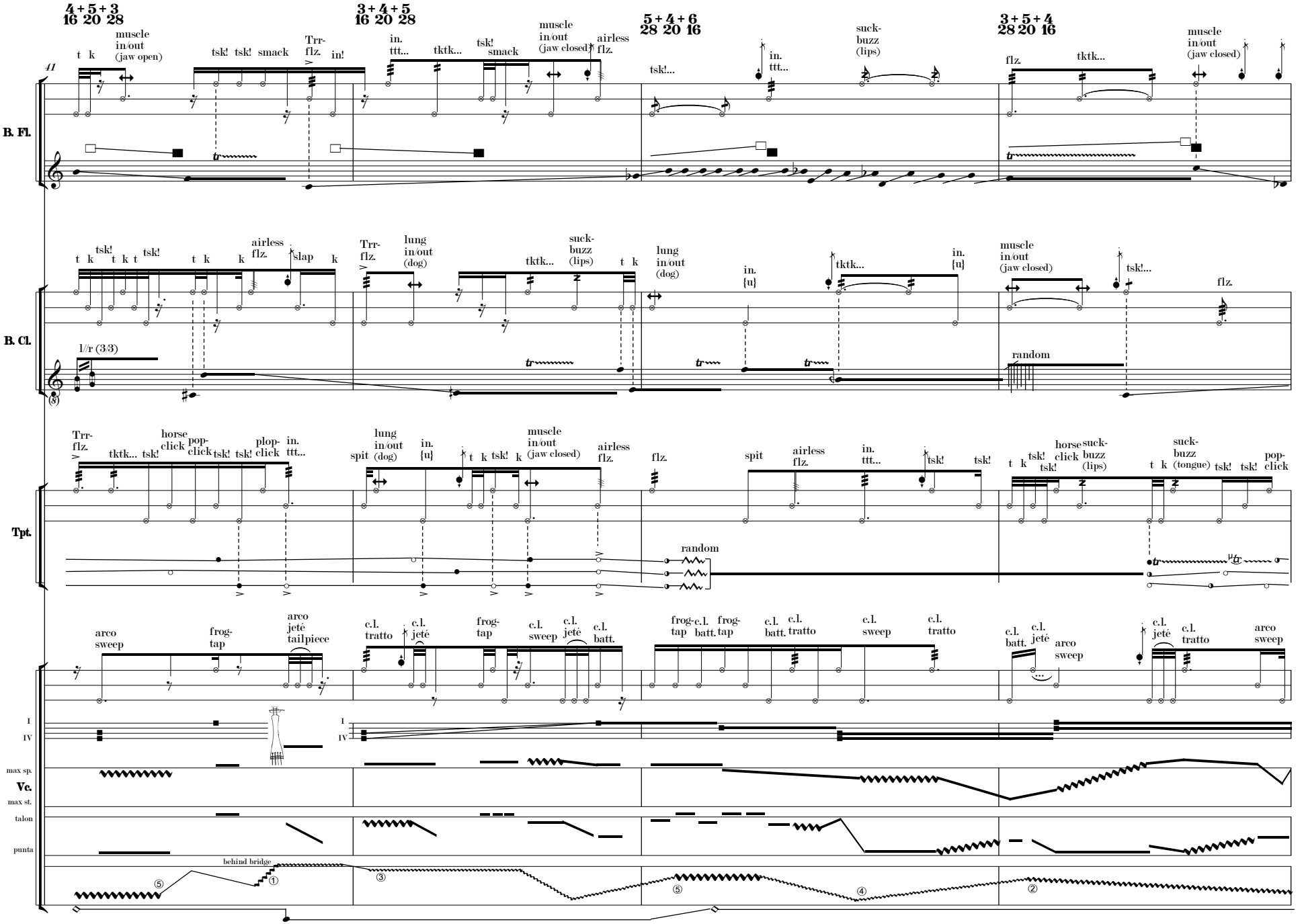

3+4+5
16 20 28
5+3+4
16 20 28
4+5+3
16 20 28
3+4+5
16 20 28
21
B. Fl.
B. Cl.
Tpt.
Vc.
spit
lung in/out (dog)
in. {u}
t k tsk! k
muscle in/out (jaw closed)
airless flz.
horse click tsk! tsk!
horse click tsk!
flz. tsk!
airless flz. tktk...
in. ttt...
l/r (:2⁄3, 4⁄4, 1⁄1, 3⁄3:)
t r
t k t
in. ttt...
t.r. tsk!
horse click
tsk!
flz.
suck-buzz (lips)
tsk! smack
flz. t k
smack
tsk! horse click airless flz. t k t tsk!
tsk!
smack
lung in/out (dog)
tsk! t k in! in!
flz.
suck-buzz (tongue)
tktk...
horse click in!
muscle in/out (jaw closed)
p t k in! t.r.
p t k p t k
muscle in/out (jaw open)
in. ttt...
tsk! tsk!
p t k spit
in. ttt...
flz. tktk...
tsk! tsk!
horse click in. {i}
t k
airless flz.
t k in. ttt...
flz. tsk! tsk!
lung in/out (dog)
horse click
tsk! tsk! tsk!
horse click in. {u}
t k t in!
suck-buzz (tongue)
t k t
random
c.l. battuto
arco sweep
jeté tailpiece
arco sweep
jeté tailpiece
c.l. jeté
c.l. sweep
c.l. tratto
arco sweep
c.l. tratto détaché
c.l. batt.
arco sweep
twist
c.l. sweep
c.l. jeté
I
IV
max sp.
max st.
talon
punta
⑤
③
⑤
①
②

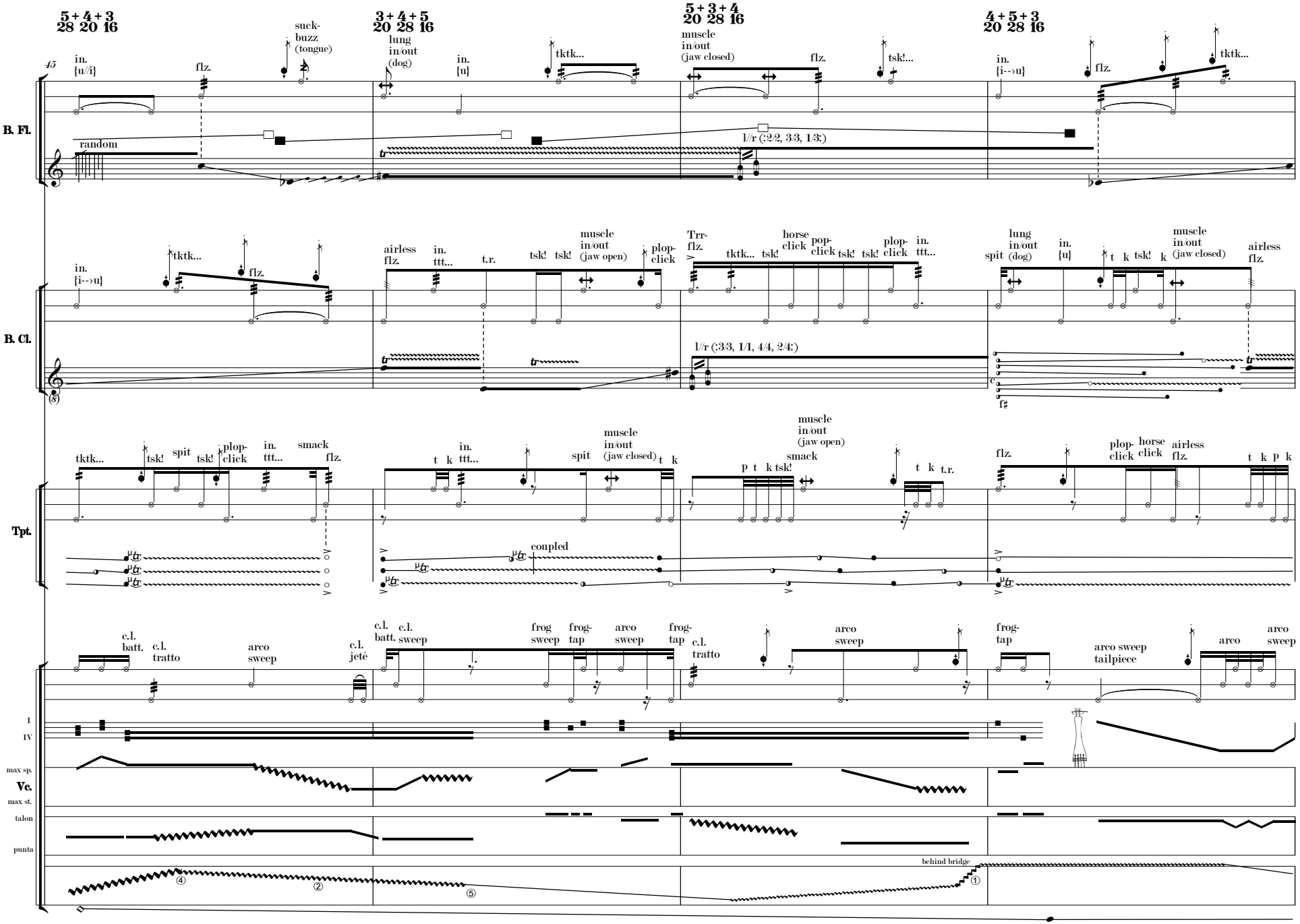

4 + 5 + 3
28 16 20
3 + 4 + 7
28 16 20
5 + 3 + 4
28 16 20
4 + 3 + 5
28 20 16
25
B. Fl.
B. Cl.
Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
l.h.
r.h.
t k
in.
ttt...
spit
muscle
in/out
(jaw closed)
p t k tsk!
smack
muscle
in/out
(jaw open)
t k p t k t.r.
flz.
plop-
click
horse
click
airless
flz.
t k p k
suck-
buzz
(lips)
suck-
buzz
(tongue)
tktk...
random
l//r (:23, 33, 1/1:)
lung
in/out
(dog)
tsk!...
tktk...
tsk!
smack
Trr-
flz.
in!
coupled
c.l.
tratto
c.l.
sweep
arco
sweep
c.l.
batt.
④
①
⑤

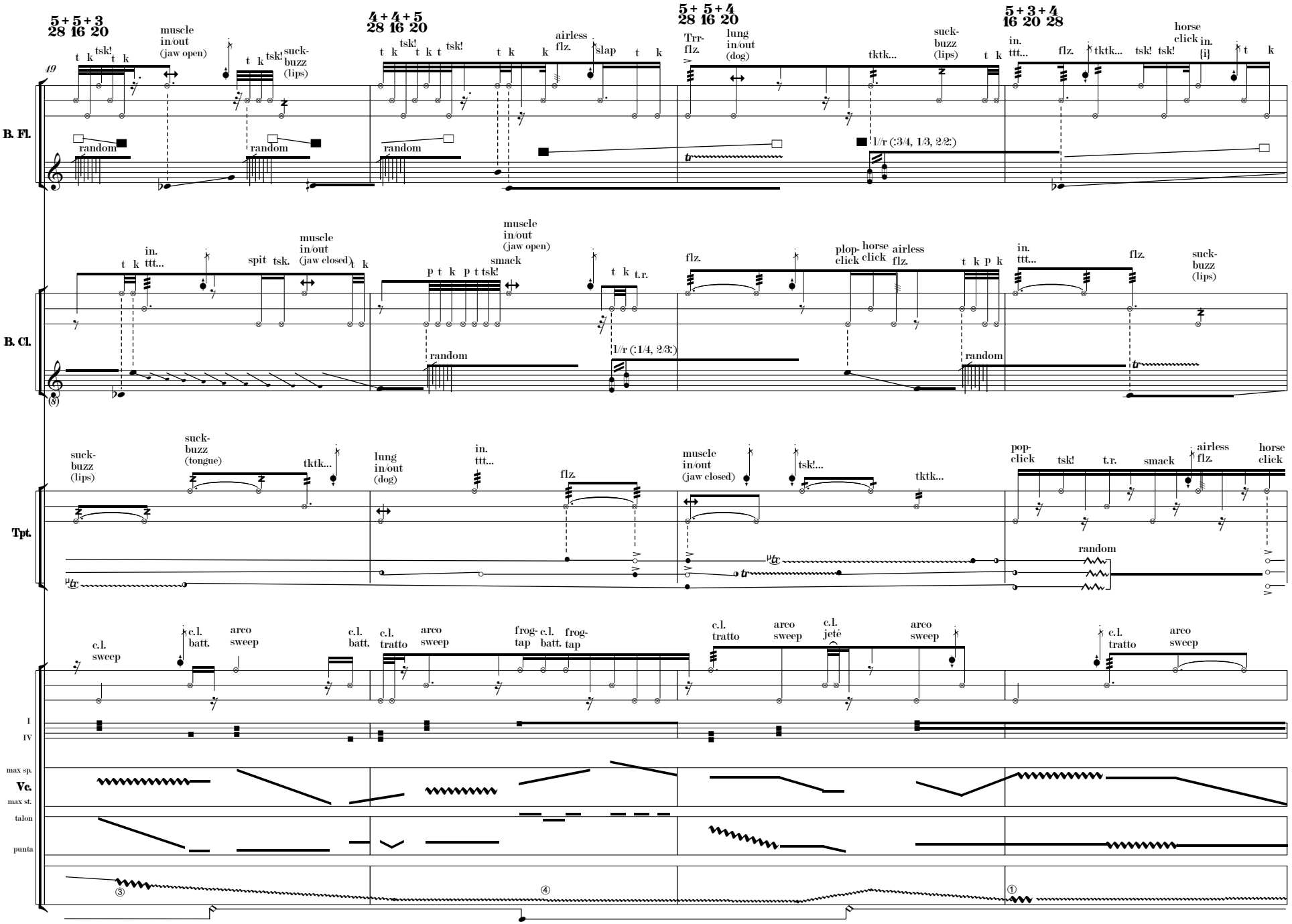

3+5+4
28 20 16
5+4+3
28 20 16
5+3+4
16 20 28
4+5+3
16 20 28
29
B. Fl.
lung in/out (dog)
in. ttt...
flz.
muscle in/out (jaw closed)
tsk!...
tktk...
pop-click
tsk!
t.r.
smack
airless flz.
horse click
suck-buzz (lips)
spit
p t k
random
B. Cl.
flz.
tktk...
muscle in/out (jaw closed)
in. {u/i}
flz.
suck-buzz (tongue)
tktk...
horse click
muscle in/out (jaw closed)
t.r.
t k
muscle in/out (jaw open)
tsk! tsk! smack
Trr-flz.
in!
random
l/r (:1/1, 3/3, 2/2:)
Tpt.
muscle in/out (jaw open)
tktk...
in. ttt...
ex.
lung in/out (dog)
suck-buzz (tongue)
flz.
spit
airless flz.
in. ttt...
tsk! tsk!
t k
tsk! tsk!
horse click
suck-buzz (lips)
t k
suck-buzz (tongue)
tsk! tsk!
pop-click
random
coupled
frog-tap
arco sweep
frog-tap
arco sweep
twist
c.l. tratto
c.l. batt.
frog-tap
c.l. tratto
arco sweep
c.l. batt.
arco sweep
arco on body
c.l. batt.
arco sweep
I
IV
max sp.
Vc.
max st.
talon
frog
punta
②
⑤
①
③

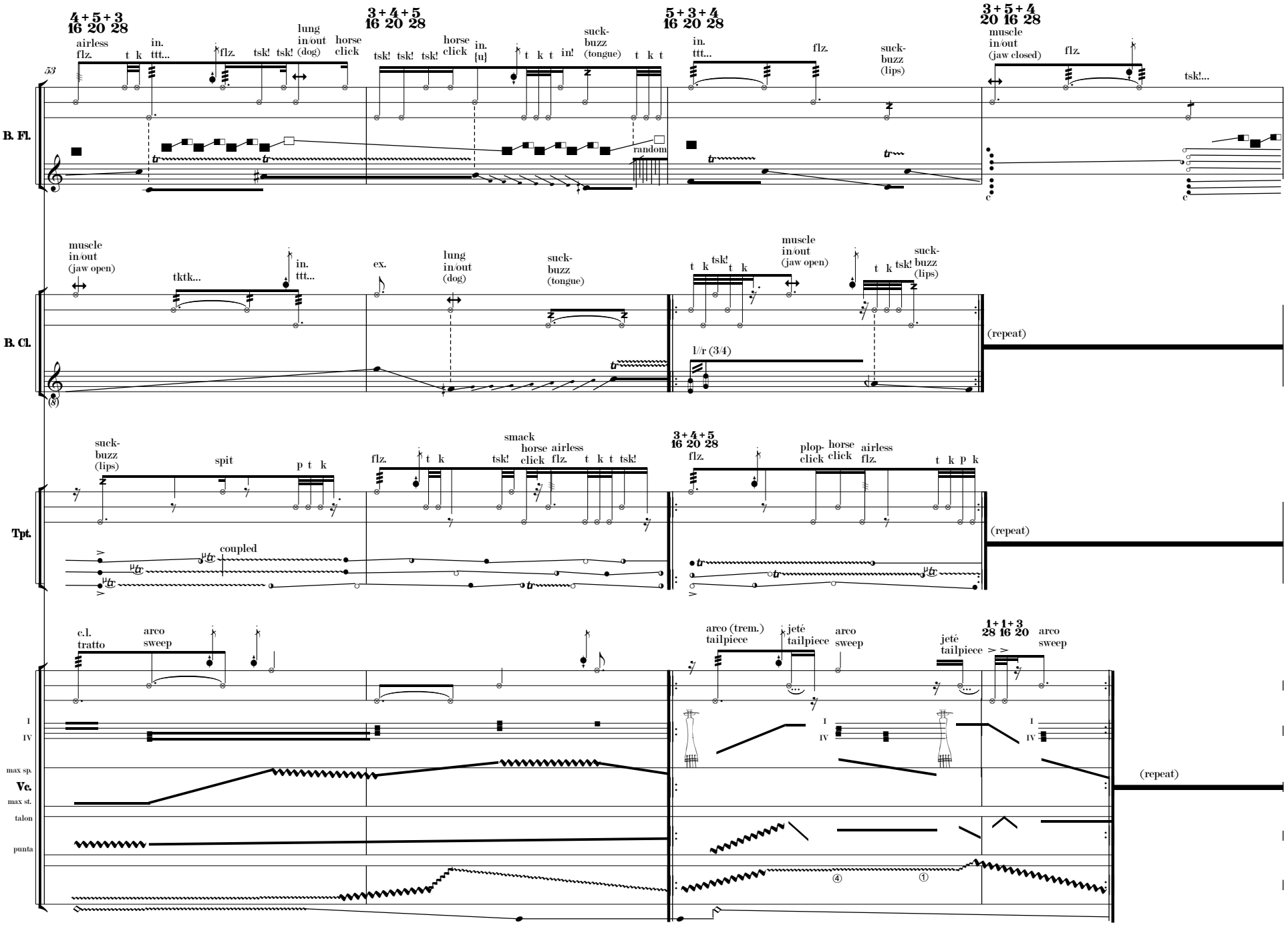

3+4+5
16 20 28
5+3+4
16 20 28
4+5+3
16 20 28
3+4+5
16 20 28
33
B. Fl.
flz. t k
tsk! smack horse click airless flz. t k t tsk!
tsk! in! tktk... smack muscle in/out (jaw closed) t k flz. in!
p t k in! flz. suck-buzz (lips) spit p t k t.r.
p t k p t k muscle in/out (jaw open) in. ttt... tsk! tsk! p t k spit
l/r (:22, 33, 13:)
random
l/r (:11, 33, 14:)
B. Cl.
in. ttt... tktk... tsk! smack muscle in/out (jaw closed) airless flz.
in. ttt... flz. tktk... tsk! tsk! horse click in. {i} t k
airless flz. t k in. ttt... flz. tsk! tsk! lung in/out (dog) horse click
tsk! tsk! tsk! horse click in. {u} t k t in! suck-buzz (tongue) t k t
random
l/r (:11, 44, 23:)
Tpt.
tktk... tsk! spit tsk! plop-click in. ttt... smack flz.
t k tsk! t k muscle in/out (jaw open) t k tsk! suck-buzz (lips)
t k tsk! t k t tsk! t k k airless flz. slap k
Trr-flz. lung in/out (dog) tktk... suck-buzz (lips) t k
coupled
c.l. batt. c.l. tratto c.l. sweep c.l. jeté c.l. sweep c.l. batt. arco sweep
arco jeté tailpiece frog-tap arco sweep jeté tailpiece
arco tailpiece arco sweep c.l. jeté c.l. sweep
arco sweep c.l. jeté
I
IV
max sp.
Vc.
max st.
talon
punta
⑤ ④ ③ ②
⑤ ①
③

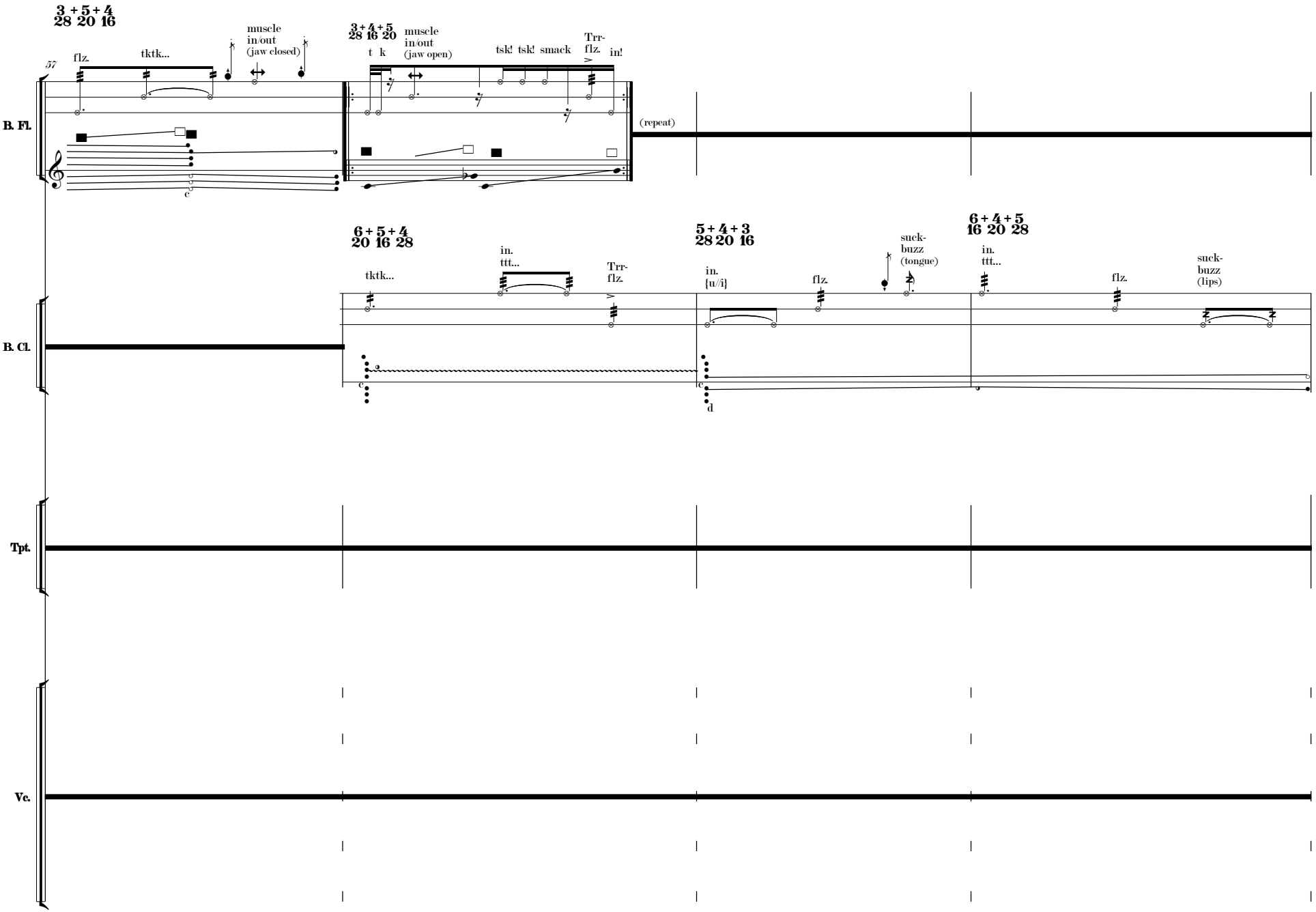

3 + 5 + 4
20 16 28
5 + 4 + 3
20 16 28
4 + 3 + 5
20 16 28
5 + 3 + 4
16 20 28
37
B. Fl.
smack
lung in/out (dog)
tsk!
tsk! t k in!
in!
flz.
suck-buzz (tongue)
tktk...
horse click
in!
muscle in/out (jaw closed)
p t k in!
t.r.
tktk...
horse click
muscle in/out (jaw closed)
t.r.
random
l/r (3:3)
B. Cl.
flz.
spit
airless flz.
in. ttt...
tsk! tsk!
t k tsk! tsk!
horse click
suck-buzz (lips)
t k
suck-buzz (tongue)
tsk! tsk!
pop-click
tktk...
tsk!
spit
tsk!
plop-click
in. ttt...
smack
flz.
t k tsk! t k
muscle in/out (jaw open)
t k tsk!
suck-buzz (lips)
random
random
g♯
Tpt.
muscle in/out (jaw closed)
flz.
tsk!...
tktk...
in. ttt...
Trr-flz.
suck-buzz (tongue)
muscle in/out (jaw closed)
in. [i]
in. [u]
airless flz.
in. ttt...
t.r.
tsk! tsk!
muscle in/out (jaw open)
plop-click
arco sweep
c.l. sweep
c.l. tratto
arco sweep
c.l. batt.
frog-tap
c.l. jeté
frog-tap
frog-tap
c.l. jeté
I
IV
max sp.
Vc.
max st.
talon
punta
⑤
②
④
①

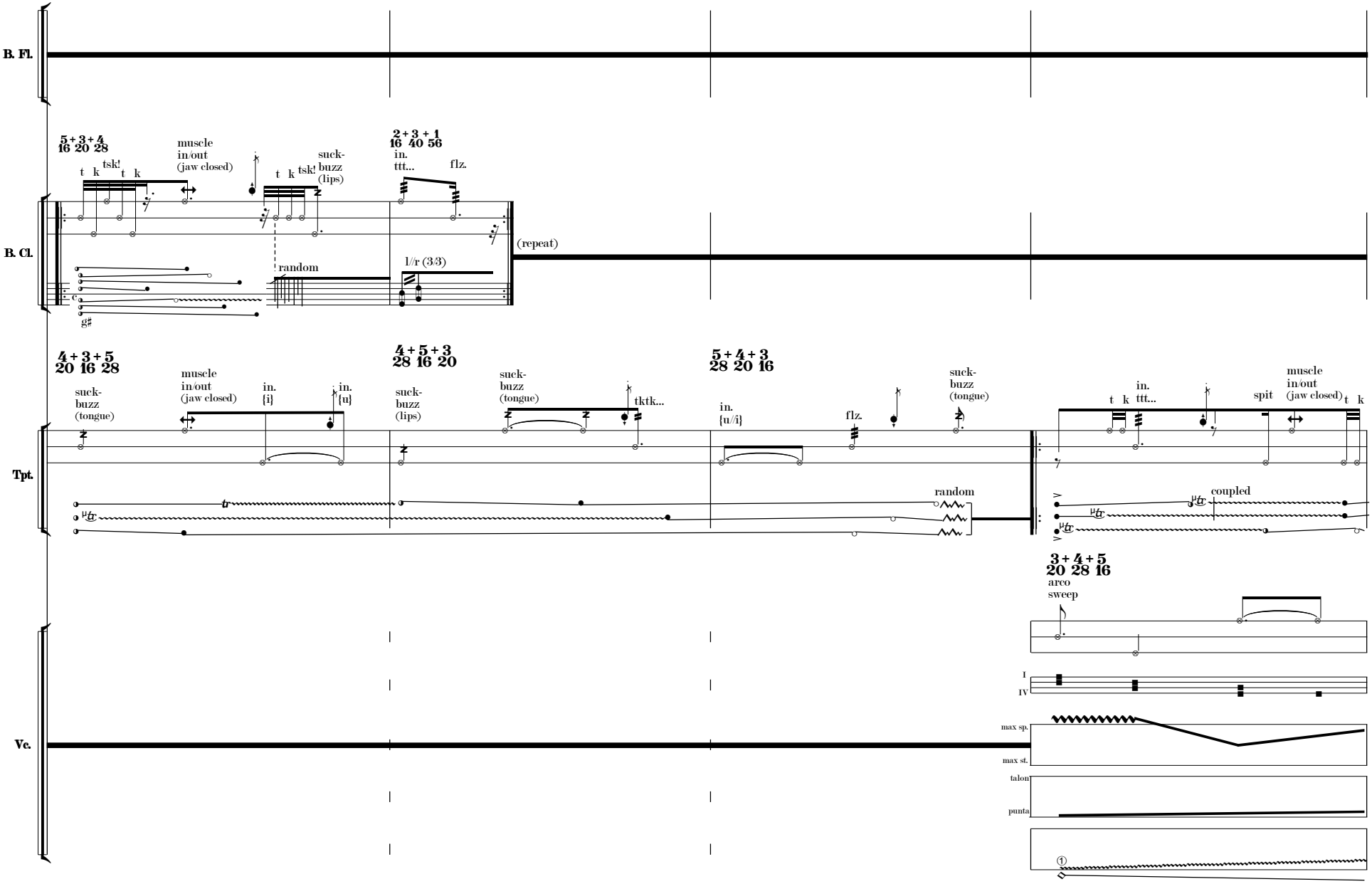

4+5+3
16 20 28
3+4+5
16 20 28
5+4+6
28 20 16
3+5+4
28 20 16
41
B. Fl.
B. Cl.
Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
behind bridge
l/r (3/3)
random

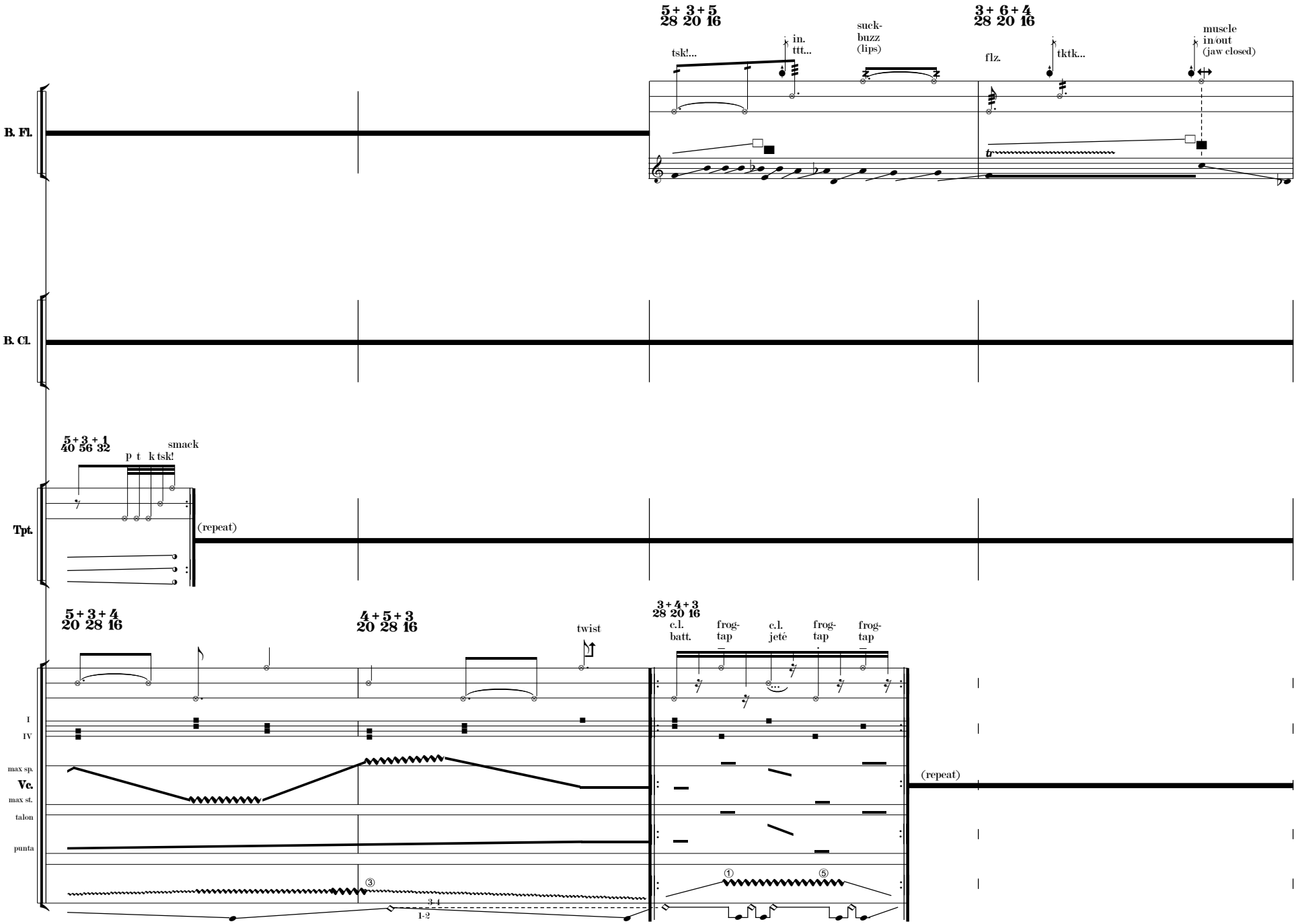

5+4+3
28 20 16
3+4+5
20 28 16
5+3+4
20 28 16
4+5+3
20 28 16
45
B. Fl.
B. Cl.
Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
in.
{u/i}
flz.
suck-
buzz
(tongue)
lung
in/out
(dog)
in.
{u}
tktk...
muscle
in/out
(jaw closed)
flz.
tsk!...
in.
{i-->u}
flz.
tktk...
random
l/r (:22, 33, 13:)
in.
{i-->u}
tktk...
flz.
airless
flz.
in.
ttt...
t.r.
tsk! tsk!
muscle
in/out
(jaw open)
plop-
click
Trr-
flz.
tktk... tsk!
horse
click
pop-
click
tsk! tsk!
plop-
click
in.
ttt...
l/r (:33, 1/1, 4/4, 2/4:)
lung
in/out
(dog)
in.
{u}
t k tsk! k
muscle
in/out
(jaw closed)
airless
flz.
f♯
tktk...
tsk!
spit
tsk!
plop-
click
in.
ttt...
smack
flz.
t k
in.
ttt...
spit
muscle
in/out
(jaw closed)
t k
p t k tsk!
muscle
in/out
(jaw open)
smack
t k
t.r.
flz.
plop-
click
horse
click
airless
flz.
t k p k
coupled
c.l.
batt.
c.l.
tratto
arco
sweep
c.l.
jeté
c.l.
batt.
c.l.
sweep
frog
sweep
frog-
tap
arco
sweep
frog-
tap
c.l.
tratto
arco
sweep
frog-
tap
arco sweep
tailpiece
arco
arco
sweep
behind bridge

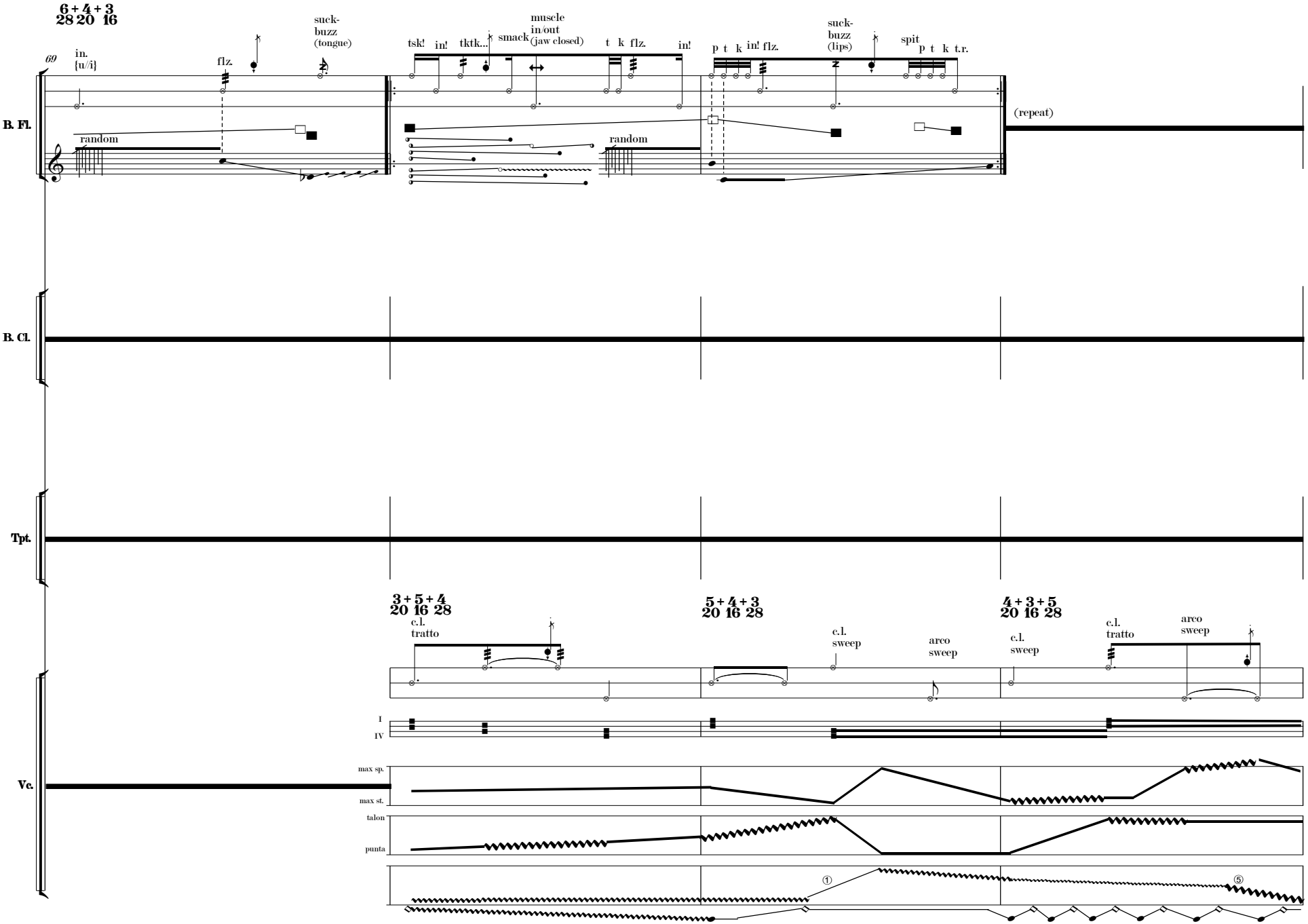

5+5+3
28 16 20
4+4+5
28 16 20
5+5+4
28 16 20
5+3+4
16 20 28
49
B. Fl.
B. Cl.
Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
random
1/r (:3/4, 1/3, 2/2:)
1/r (:1/4, 2/3:)
muscle in/out (jaw open)
muscle in/out (jaw closed)
muscle in/out (dog)
suck-buzz (lips)
suck-buzz (tongue)
airless flz.
slap
Trr-flz.
lung in/out (dog)
tktk...
in. ttt...
flz.
tsk!
tsk! tsk!
horse click
in. {i}
spit tsk.
smack
p t k p t tsk!
t k t.r.
plop-click
horse click
t k p k
pop-click
t.r.
smack
c.l. sweep
c.l. batt.
arco sweep
c.l. tratto
frog-tap
c.l. batt.
frog-tap
c.l. tratto
arco sweep
c.l. jeté
arco sweep
c.l. tratto
arco sweep

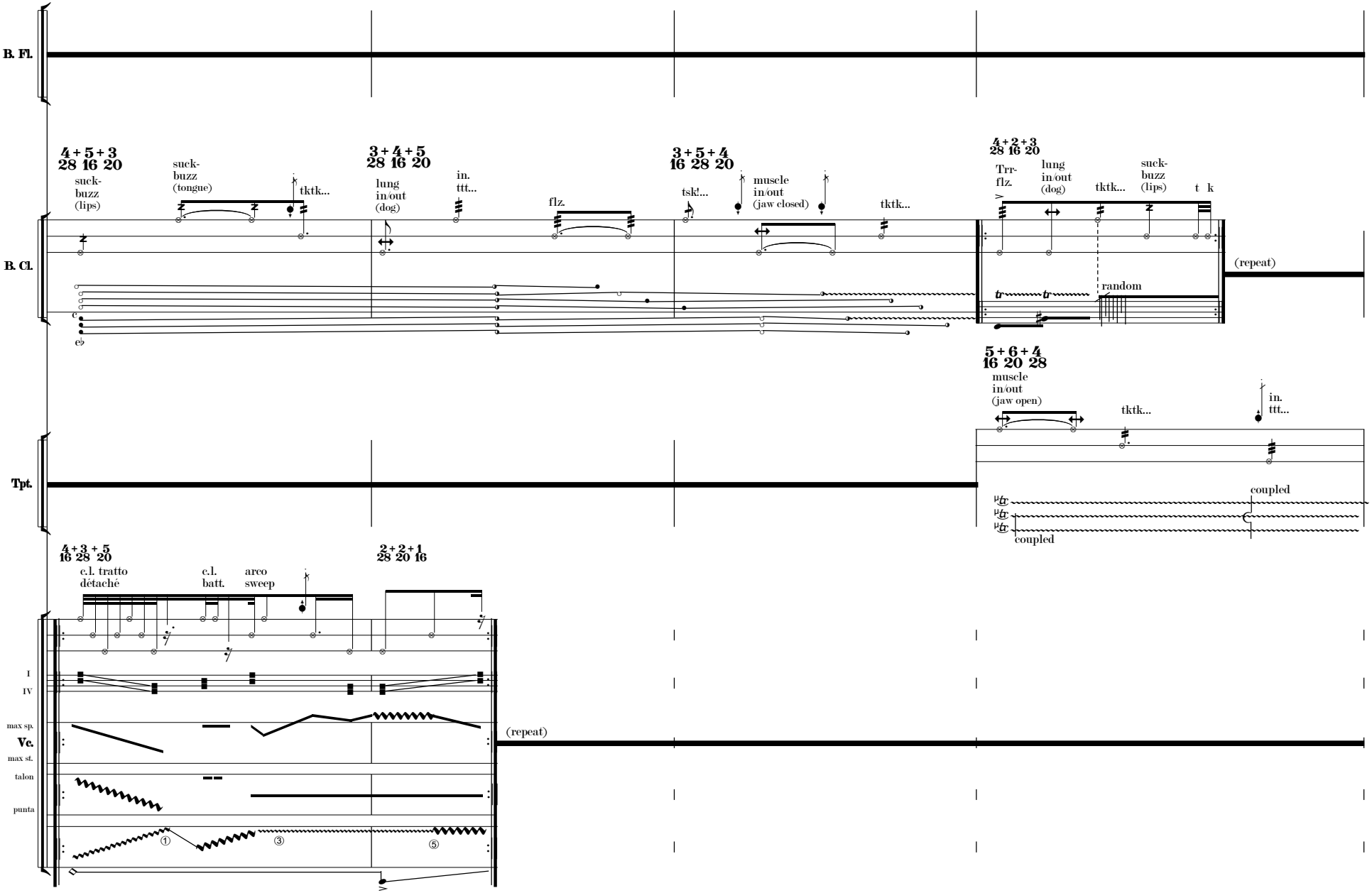

4 + 5 + 3
16 20 28
airless flz.
t k
in. ttt...
flz.
tsk! tsk!
lung in/out (dog)
horse click
3 + 4 + 5
16 20 28
tsk! tsk! tsk!
horse click
in. {u}
t k t in!
suck-buzz (tongue)
t k t
random
5 + 3 + 4
16 20 28
in. ttt...
flz.
suck-buzz (lips)
3 + 5 + 4
20 16 28
muscle in/out (jaw closed)
flz.
tsk!...
B. Fl.
53
muscle in/out (jaw open)
tktk...
in. ttt...
ex.
lung in/out (dog)
suck-buzz (tongue)
t k tsk! t k
muscle in/out (jaw open)
t k tsk! suck-buzz (lips)
(repeat)
B. Cl.
(8)
l/r (3/4)
suck-buzz (lips)
spit
p t k
flz.
t k
smack
tsk!
horse click
airless flz.
t k t tsk!
3 + 4 + 5
16 20 28
flz.
plop-click
horse click
airless flz.
t k p k
(repeat)
Tpt.
coupled
c.l. tratto
arco sweep
arco (trem.) tailpiece
jeté tailpiece
arco sweep
jeté tailpiece
1 + 1 + 3
28 16 20
arco sweep
I
IV
max sp.
Vc.
max st.
talon
punta
④
①
(repeat)

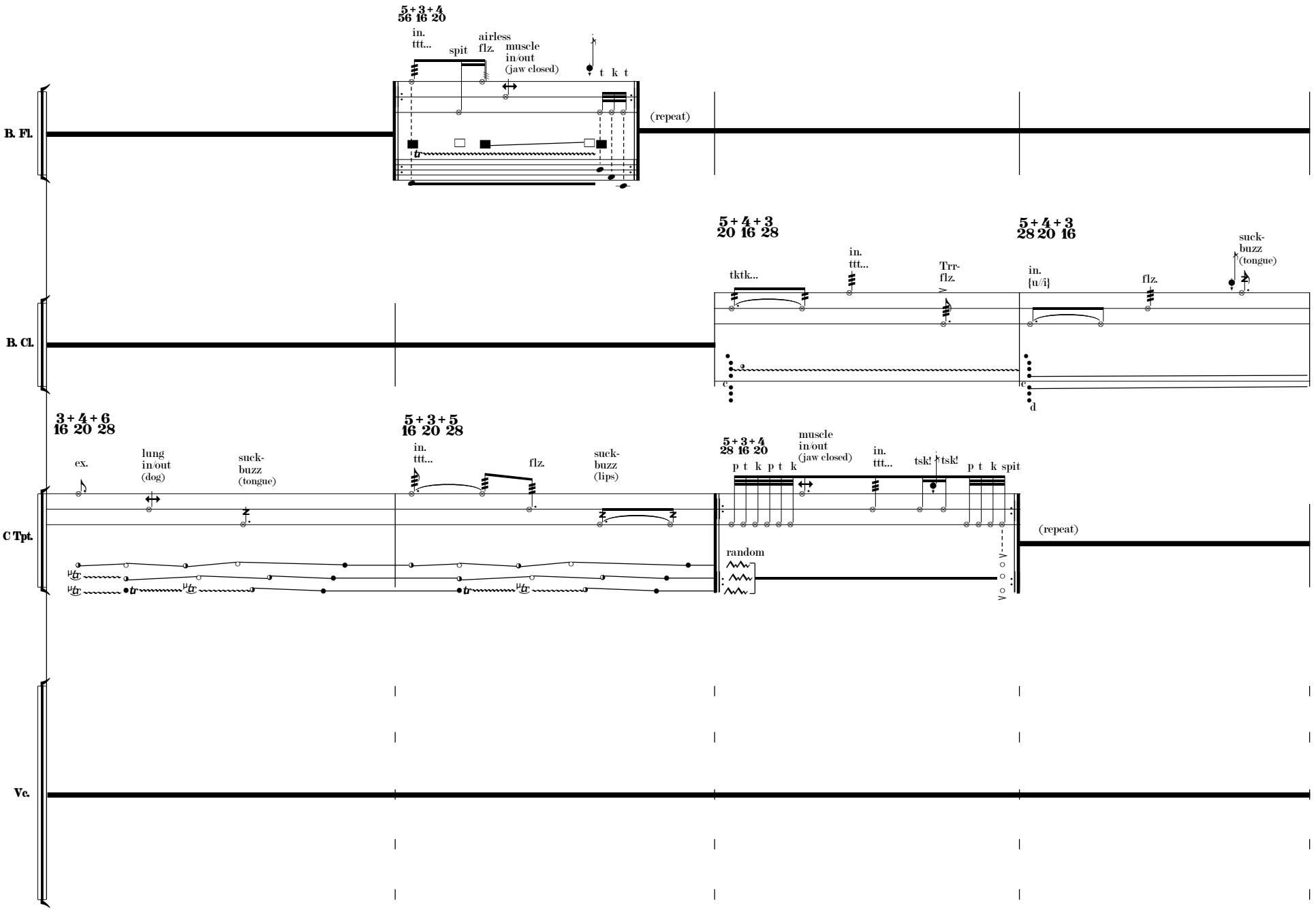

3 + 5 + 4
28 20 16
57
flz.
tktk...
muscle
in/out
(jaw closed)
3 + 4 + 5
28 16 20
t k
muscle
in/out
(jaw open)
tsk! tsk! smack
Trr-
flz.
in!
(repeat)
B. Fl.
c
6 + 5 + 4
20 16 28
tktk...
in.
ttt...
Trr-
flz.
5 + 4 + 3
28 20 16
in.
{u/i}
flz.
suck-
buzz
(tongue)
6 + 4 + 5
16 20 28
in.
ttt...
flz.
suck-
buzz
(lips)
B. Cl.
c
d
Tpt.
Vc.

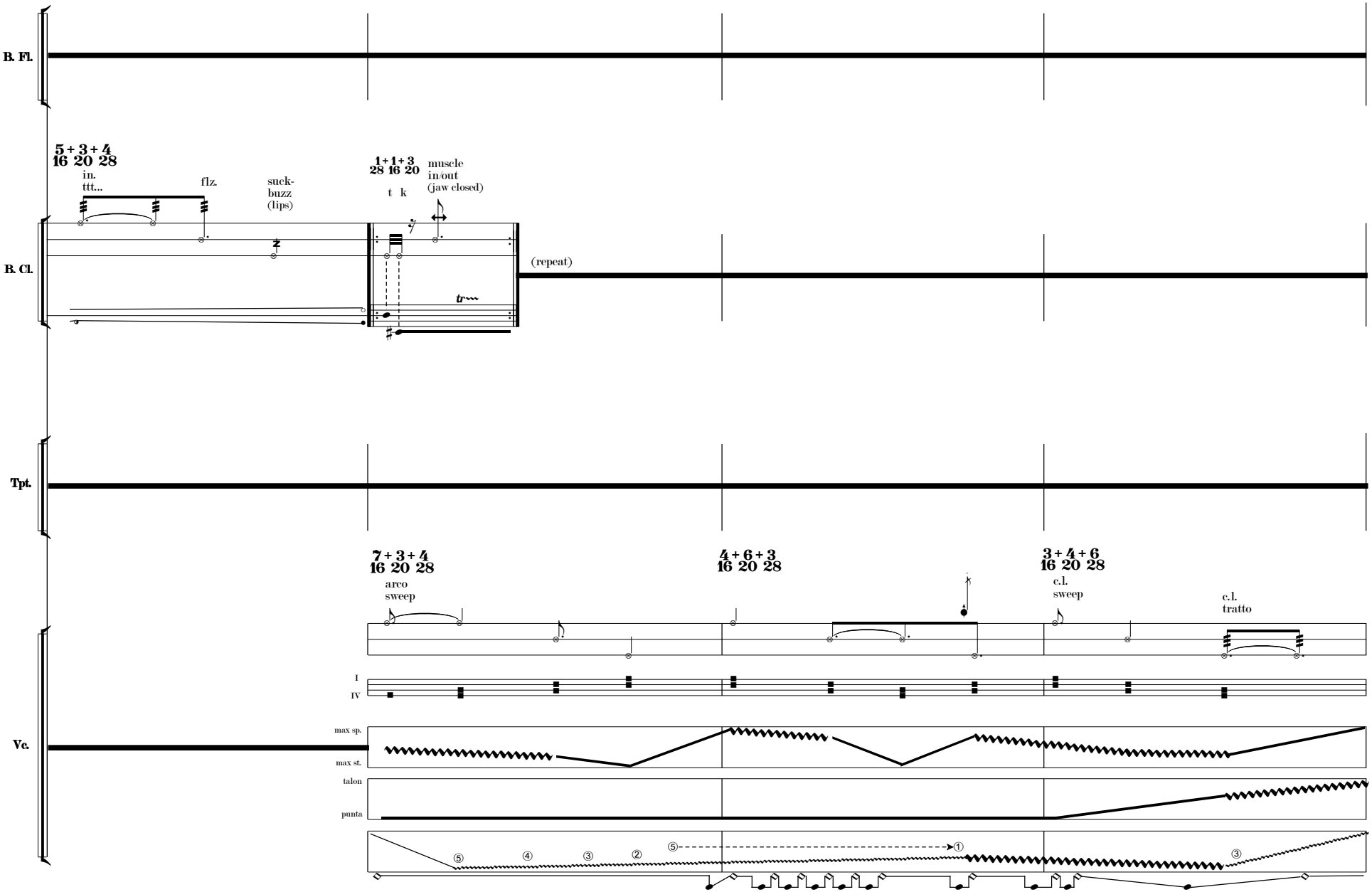

B. Fl.
B. Cl.
Tpt.
Vc.
5 + 3 + 4
16 20 28
t k tsk! t k
muscle
in/out
(jaw closed)
t k tsk!
suck-
buzz
(lips)
2 + 3 + 1
16 40 56
in.
ttt...
flz.
(repeat)
random
l//r (3:3)
gǂ
4 + 3 + 5
20 16 28
suck-
buzz
(tongue)
muscle
in/out
(jaw closed)
in.
{i}
in.
{u}
4 + 5 + 3
28 16 20
suck-
buzz
(lips)
suck-
buzz
(tongue)
tktk...
5 + 4 + 3
28 20 16
in.
{u/i}
flz.
suck-
buzz
(tongue)
random
t k
in.
ttt...
spit
muscle
in/out
(jaw closed)
t k
coupled
3 + 4 + 5
20 28 16
arco
sweep
I
IV
max sp.
max st.
talon
punta
①

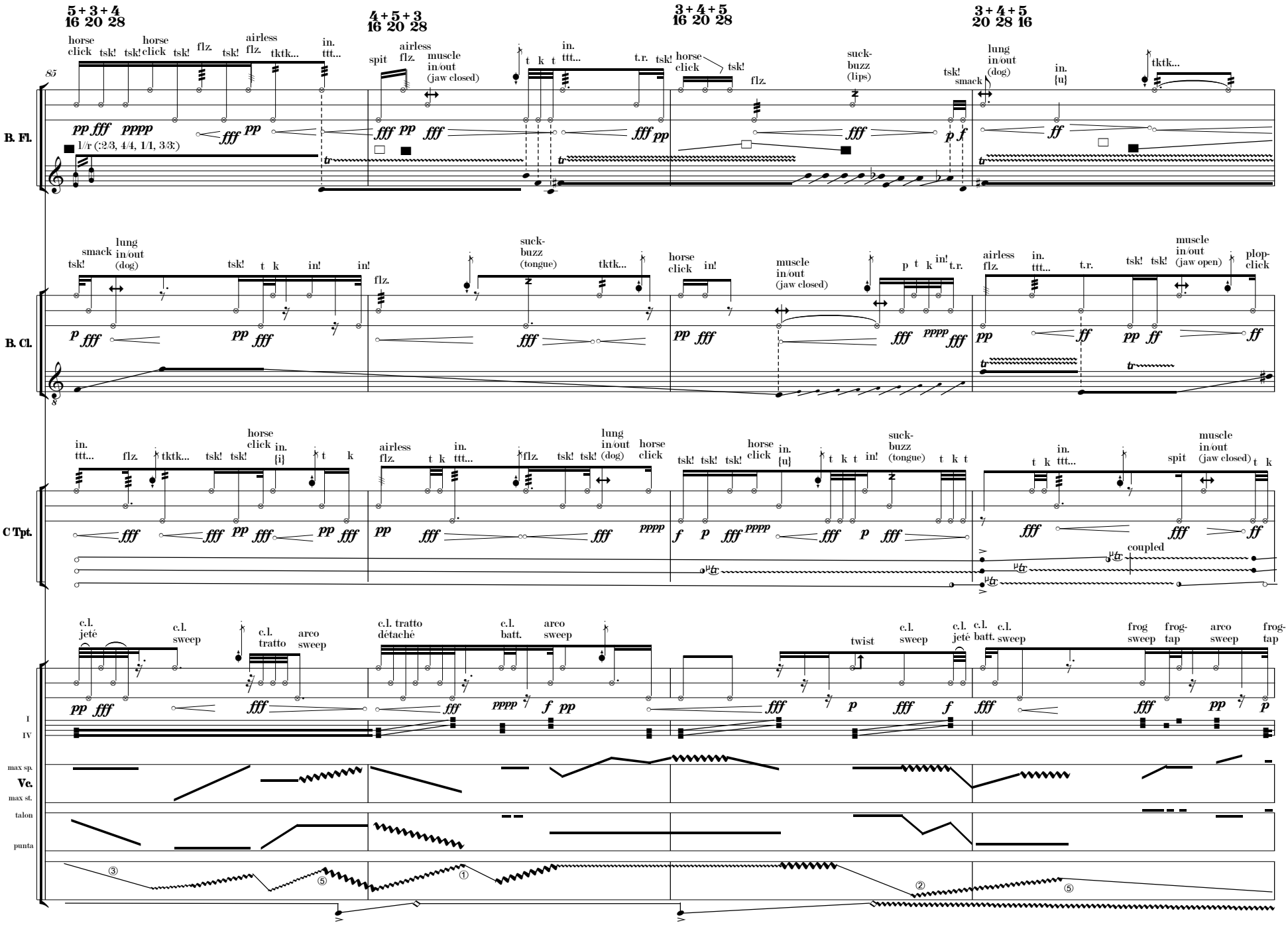

B. Fl.
5+ 3+ 5
28 20 16
tsk!...
in.
ttt...
suck-
buzz
(lips)
3+ 6+ 4
28 20 16
flz.
tktk...
muscle
in/out
(jaw closed)
tr
B. Cl.
Tpt.
5+ 3+ 1
40 56 32
p t k tsk!
smack
(repeat)
5+ 3+ 4
20 28 16
4+ 5+ 3
20 28 16
twist
3+ 4+ 3
28 20 16
c.l.
batt.
frog-
tap
c.l.
jeté
frog-
tap
frog-
tap
I
IV
max sp.
Vc.
max st.
talon
punta
(repeat)
③
3-4
1-2
①
⑤

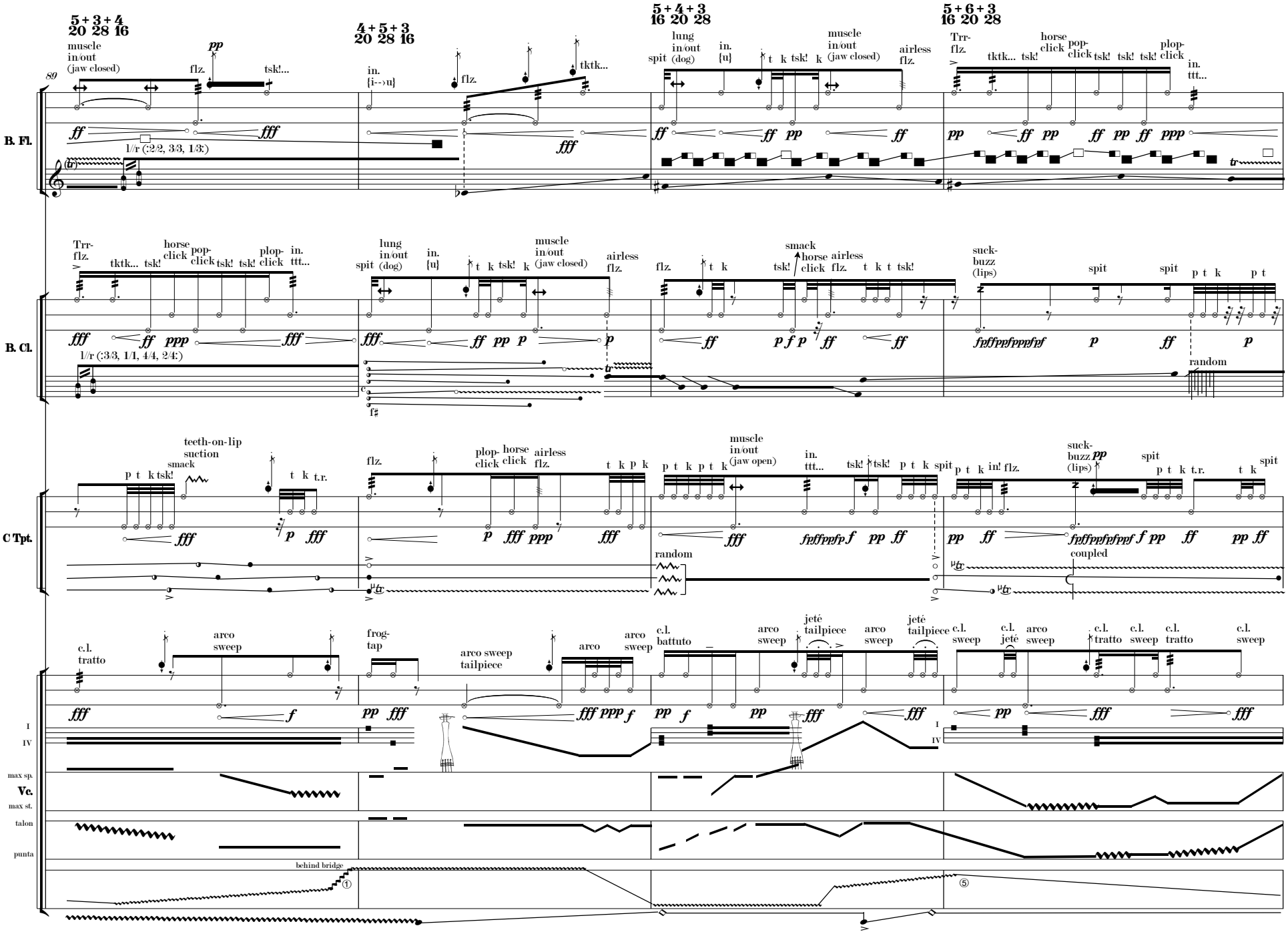

6 + 4 + 3
28 20 16
69
in.
{u/i}
flz.
suck-
buzz
(tongue)
tsk!
in!
tktk...
smack
muscle
in/out
(jaw closed)
t k flz.
in!
p t k
in! flz.
suck-
buzz
(lips)
spit
p t k t.r.
(repeat)
B. Fl.
random
random
B. Cl.
Tpt.
3 + 5 + 4
20 16 28
c.l.
tratto
5 + 4 + 3
20 16 28
c.l.
sweep
arco
sweep
4 + 3 + 5
20 16 28
c.l.
sweep
c.l.
tratto
arco
sweep
I
IV
Vc.
max sp.
max st.
talon
punta
①
⑤

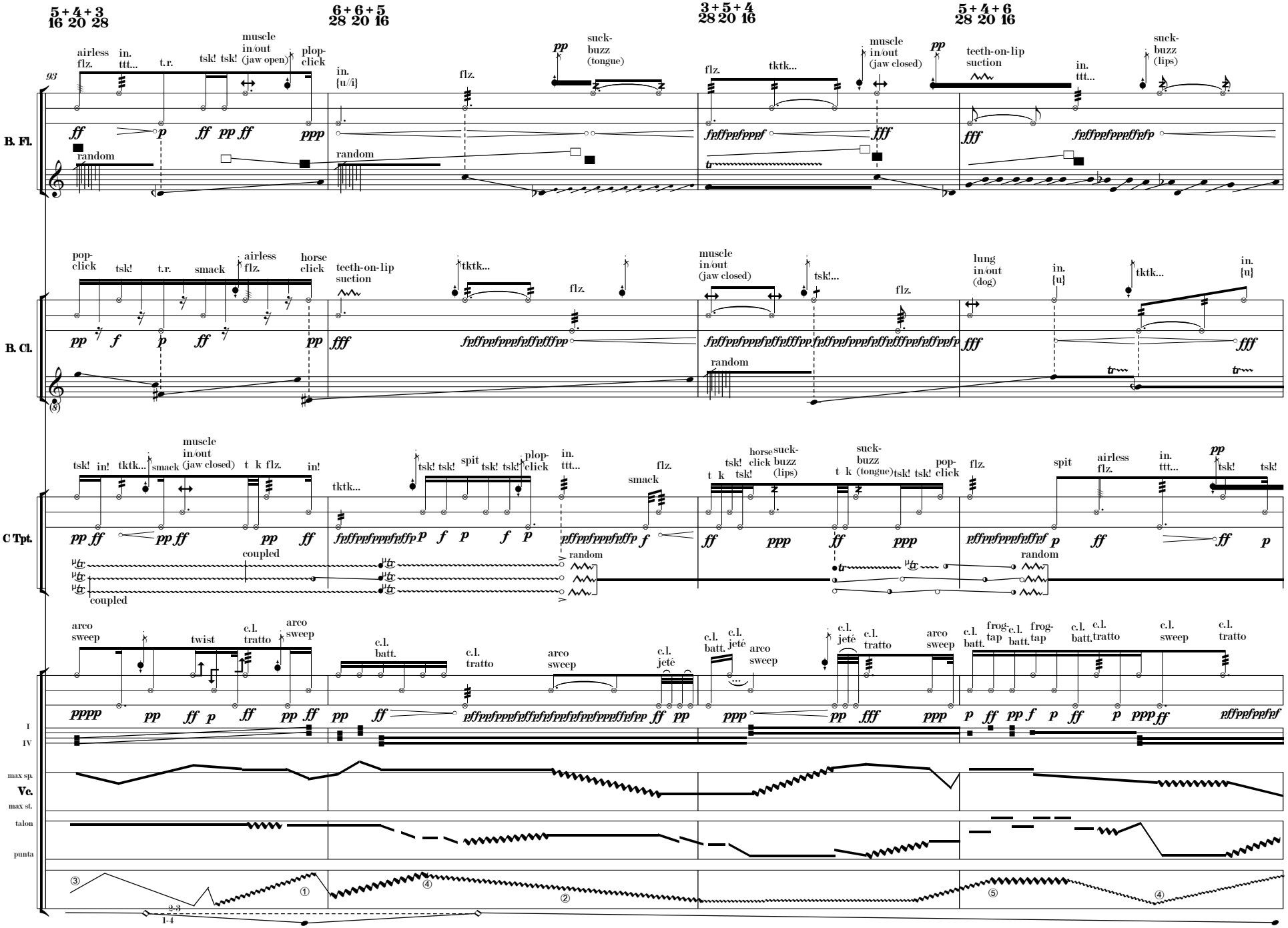

B. Fl.
B. Cl.
Tpt.
Vc.
4 + 5 + 3
28 16 20
suck-
buzz
(lips)
suck-
buzz
(tongue)
tktk...
3 + 4 + 5
28 16 20
lung
in/out
(dog)
in.
ttt...
flz.
3 + 5 + 4
16 28 20
tsk!...
muscle
in/out
(jaw closed)
tktk...
4 + 2 + 3
28 16 20
Trr-
flz.
lung
in/out
(dog)
tktk...
suck-
buzz
(lips)
t k
(repeat)
random
5 + 6 + 4
16 20 28
muscle
in/out
(jaw open)
tktk...
in.
ttt...
coupled
coupled
4 + 3 + 5
16 28 20
c.l. tratto
détaché
c.l.
batt.
arco
sweep
2 + 2 + 1
28 20 16
I
IV
max sp.
max st.
talon
punta
(repeat)

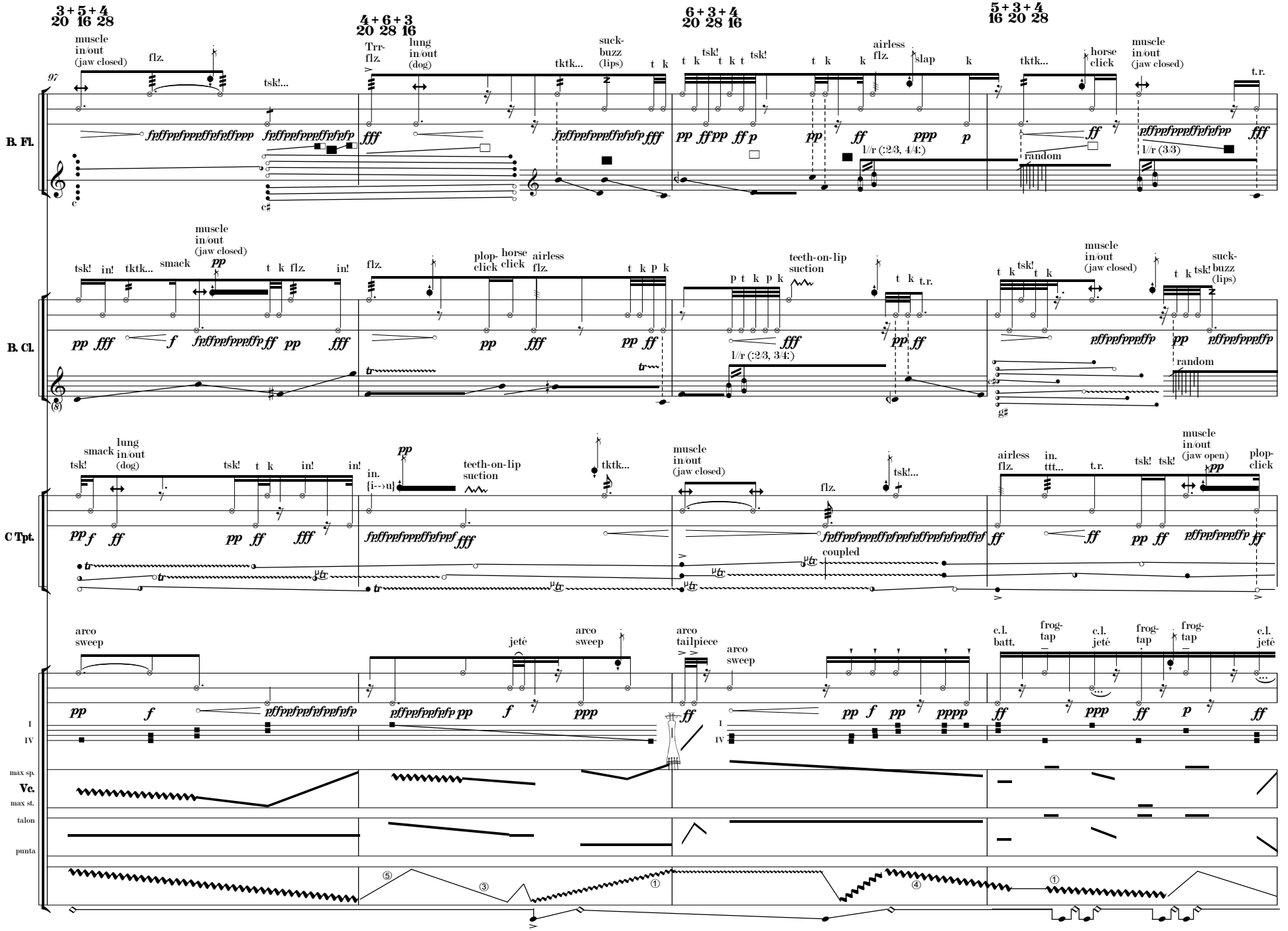

B. Fl.
5+3+4
56 16 20
in.
ttt...
spit
airless
flz.
muscle
in/out
(jaw closed)
t k t
(repeat)
B. Cl.
5+4+3
20 16 28
tktk...
in.
ttt...
Trr-
flz.
5+4+3
28 20 16
in.
{u/i}
flz.
suck-
buzz
(tongue)
C Tpt.
3+4+6
16 20 28
ex.
lung
in/out
(dog)
suck-
buzz
(tongue)
5+3+5
16 20 28
in.
ttt...
flz.
suck-
buzz
(lips)
5+3+4
28 16 20
p t k p t k
muscle
in/out
(jaw closed)
in.
ttt...
tsk!
tsk!
p t k spit
random
(repeat)
Vc.

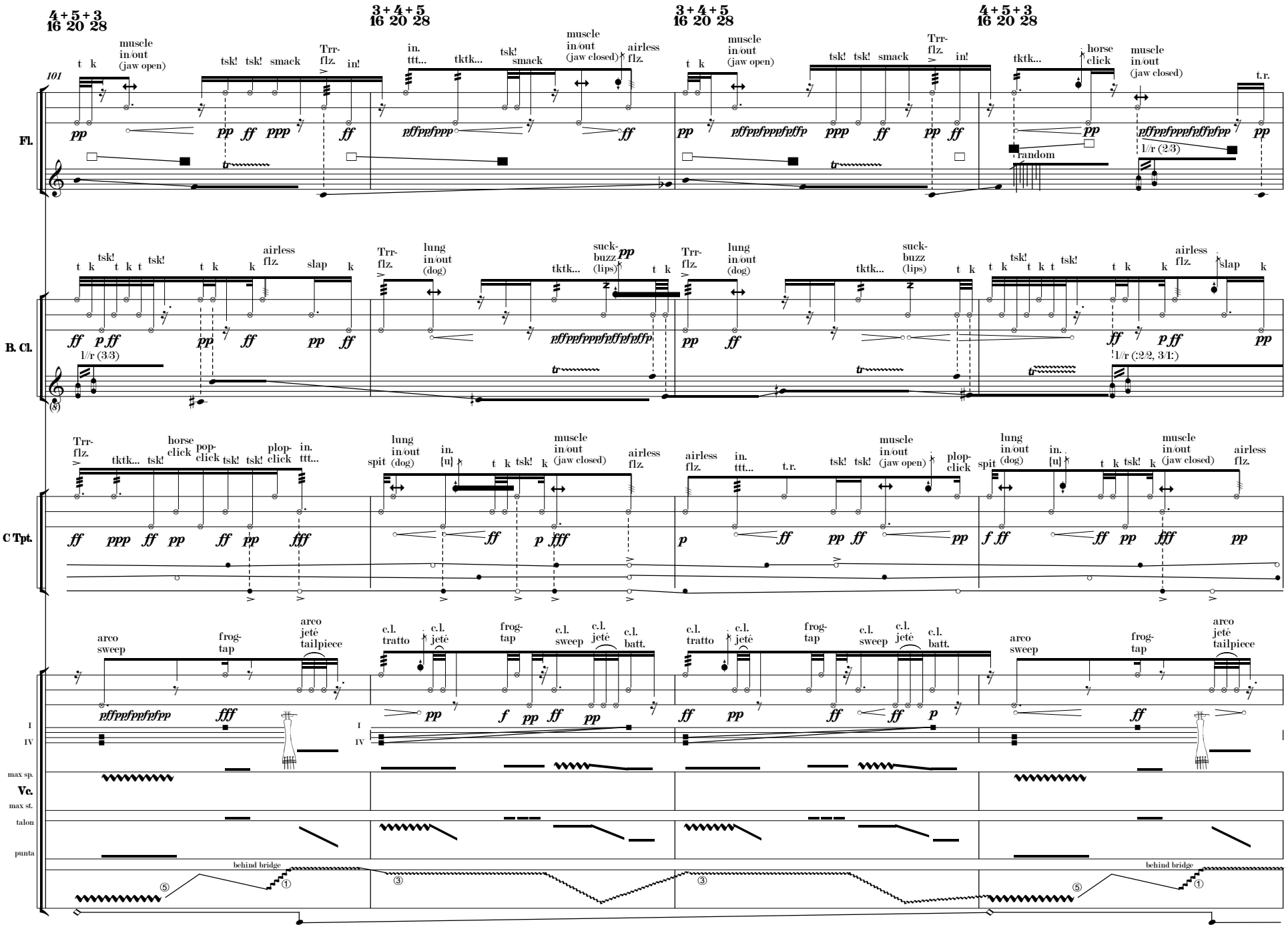

B. Fl.
B. Cl.
Tpt.
Vc.
5 + 3 + 4
16 20 28
in.
ttt...
flz.
suck-
buzz
(lips)
1 + 1 + 3
28 16 20
t k
muscle
in/out
(jaw closed)
(repeat)
7 + 3 + 4
16 20 28
arco
sweep
4 + 6 + 3
16 20 28
3 + 4 + 6
16 20 28
c.l.
sweep
c.l.
tratto
I
IV
max sp.
max st.
talon
punta

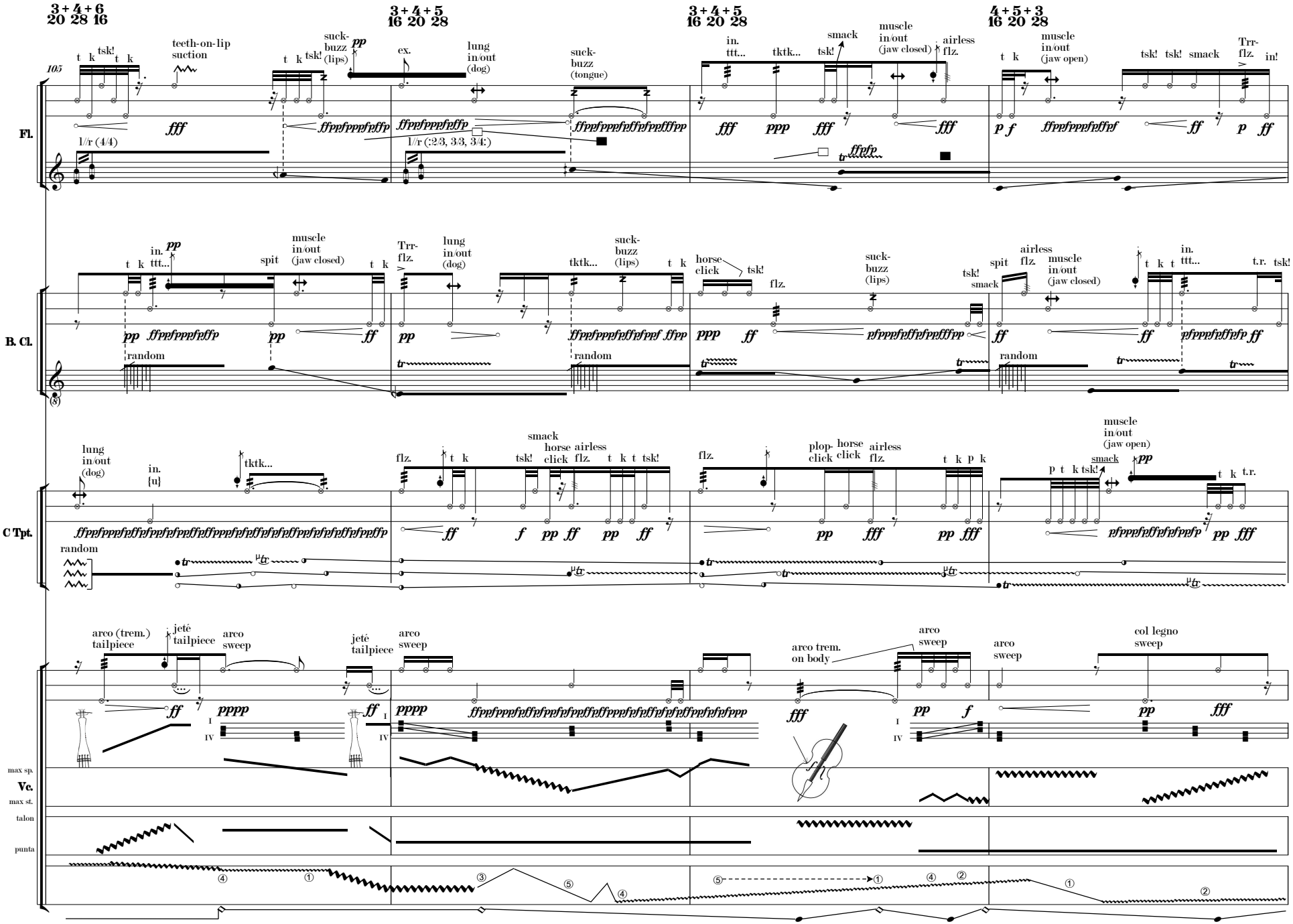

5 + 3 + 4
16 20 28
4 + 5 + 3
16 20 28
3 + 4 + 5
16 20 28
3 + 4 + 5
20 28 16
85
B. Fl.
1/r (:2⁄3, 4⁄4, 1⁄1, 3⁄3:)
B. Cl.
C Tpt.
coupled
I
IV
max sp.
Vc.
max st.
talon
punta

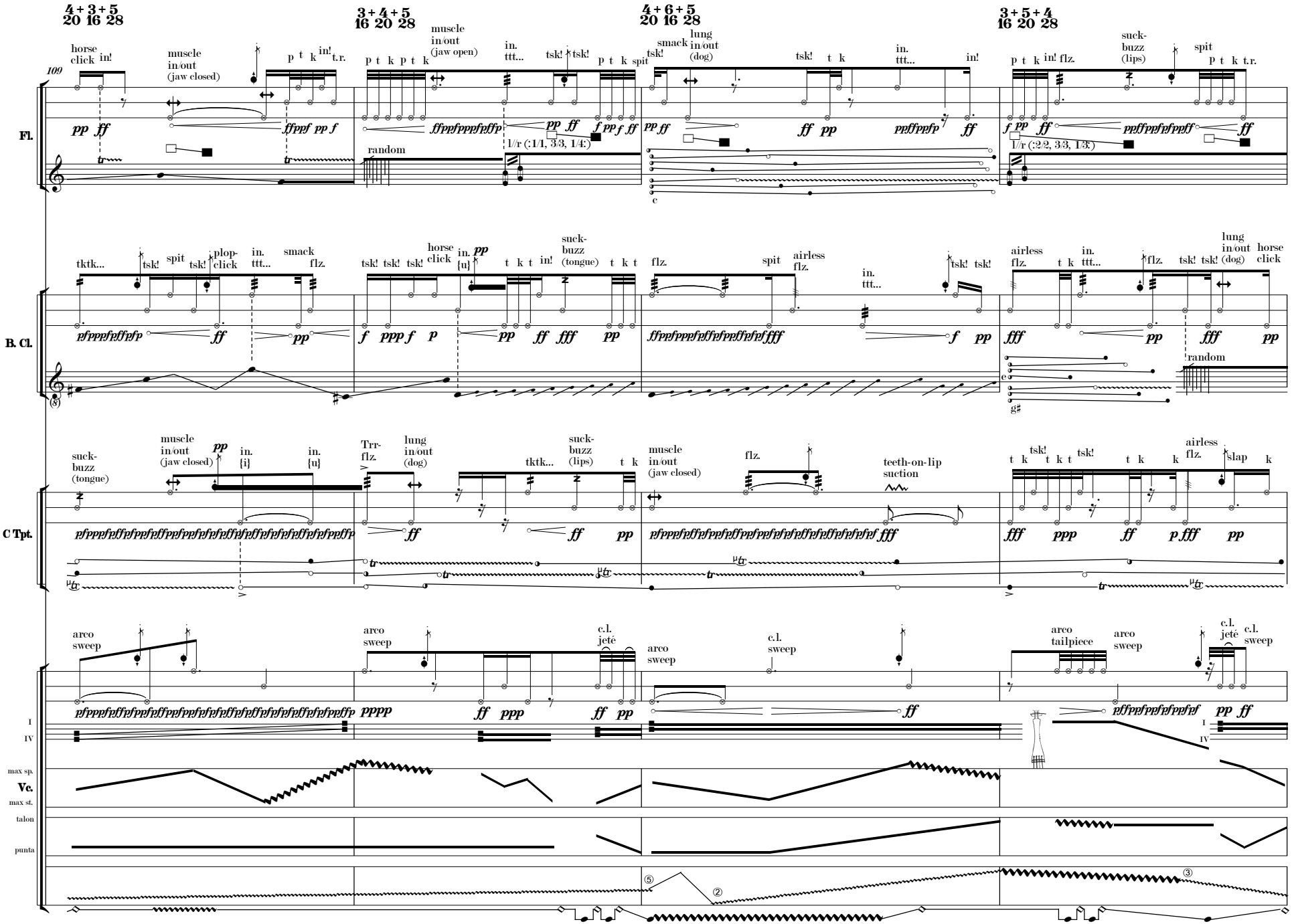

5+3+4
20 28 16
4+5+3
20 28 16
5+4+3
16 20 28
5+6+3
16 20 28
89
B. Fl.
B. Cl.
C Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
behind bridge
muscle in/out (jaw closed)
flz.
tsk!...
in. {i-›u}
tktk...
lung in/out (dog)
in. {u}
airless flz.
Trr-flz.
horse click
pop-click
plop-click
in. ttt...
1/r (:2⁄2, 3⁄3, 1⁄3:)
1/r (:3⁄3, 1⁄1, 4⁄4, 2⁄4:)
smack
suck-buzz (lips)
spit
random
teeth-on-lip suction
t.r.
muscle in/out (jaw open)
coupled
c.l. tratto
arco sweep
frog-tap
arco sweep tailpiece
arco
c.l. battuto
jeté tailpiece
c.l. sweep
c.l. jeté
c.l. tratto

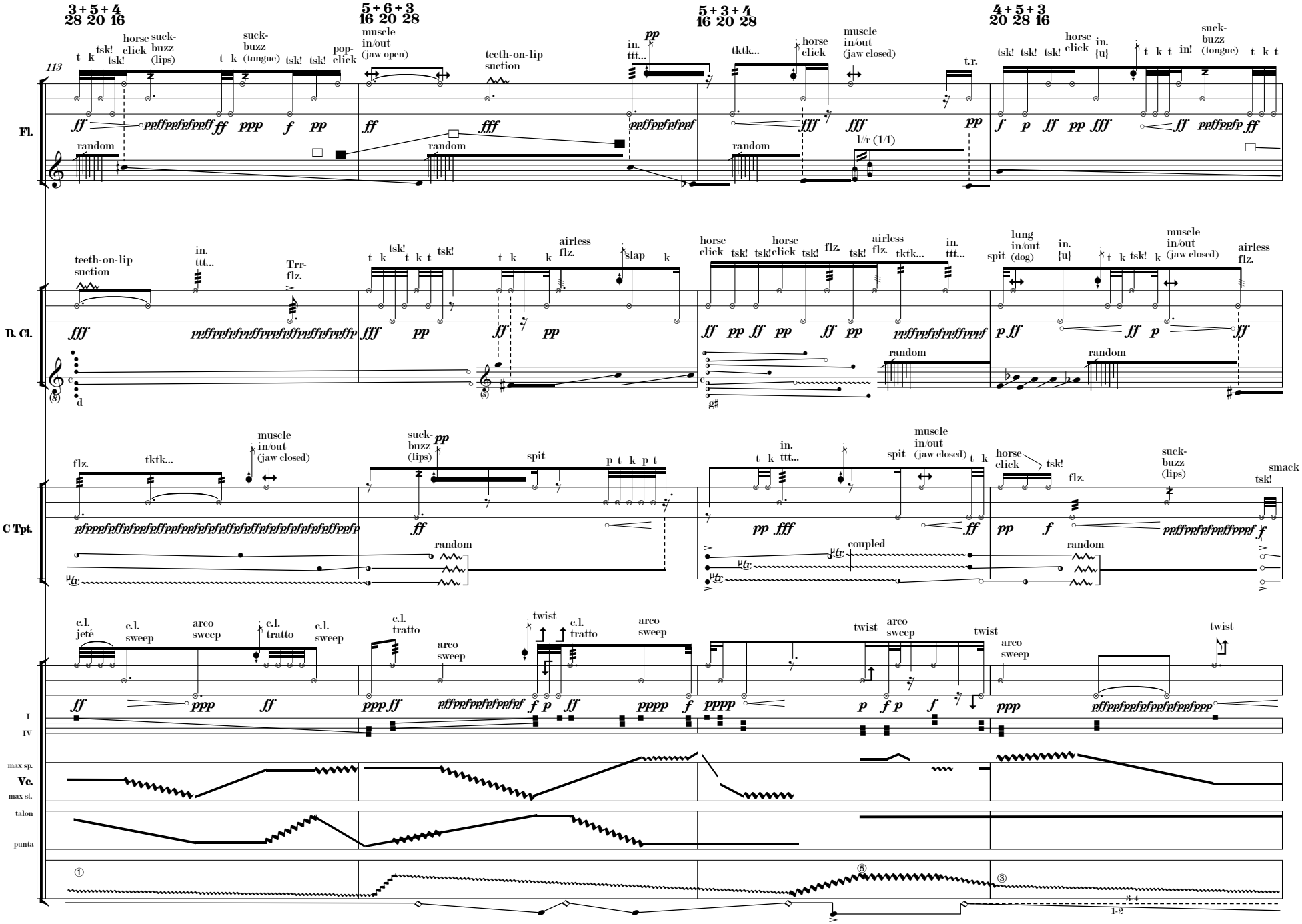

5 + 4 + 3
16 20 28
6 + 6 + 5
28 20 16
3 + 5 + 4
28 20 16
5 + 4 + 6
28 20 16
B. Fl.
B. Cl.
C Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
airless flz.
in. ttt...
t.r.
tsk! tsk!
muscle in/out (jaw open)
plop-click
in. {u/i}
flz.
suck-buzz (tongue)
tktk...
muscle in/out (jaw closed)
teeth-on-lip suction
suck-buzz (lips)
pop-click
tsk!
smack
horse click
tsk!...
lung in/out (dog)
in. {u}
in!
spit
coupled
random
arco sweep
twist
c.l. tratto
c.l. batt.
c.l. jeté
frog-tap
c.l. sweep

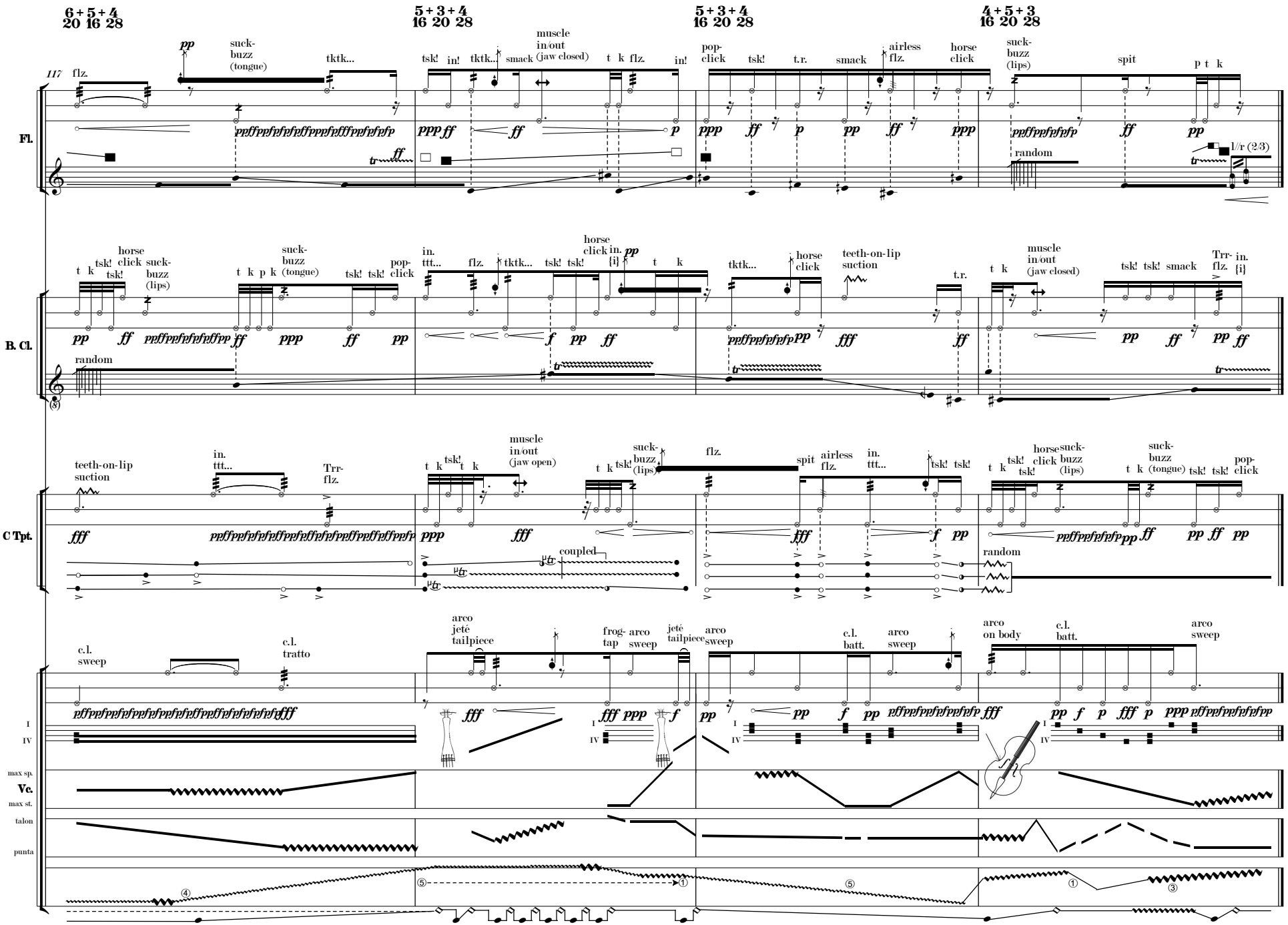

3 + 5 + 4
20 16 28
4 + 6 + 3
20 28 16
6 + 3 + 4
20 28 16
5 + 3 + 4
16 20 28
B. Fl.
B. Cl.
C Tpt.
Vc.
muscle in/out (jaw closed)
flz.
tsk!...
Trr-flz.
lung in/out (dog)
tktk...
suck-buzz (lips)
airless flz.
slap
horse click
t.r.
1/r (:2/3, 4/4:)
random
1/r (3/3)
smack
plop-click
teeth-on-lip suction
1/r (:2/3, 3/4:)
in.
{i-->u}
in. ttt...
muscle in/out (jaw open)
plop-click
coupled
arco sweep
jeté
arco tailpiece
c.l. batt.
frog-tap
c.l. jeté
max sp.
max st.
talon
punta


4 + 5 + 3
16 20 28
3 + 4 + 5
16 20 28
3 + 4 + 5
16 20 28
4 + 5 + 3
16 20 28
101
Fl.
B. Cl.
C Tpt.
Vc.
muscle in/out (jaw open)
tsk! tsk! smack
Trr-flz.
in!
in. ttt...
tktk...
tsk! smack
muscle in/out (jaw closed)
airless flz.
horse click
t.r.
random
1/r (2:3)
tsk!
airless flz.
slap
Trr-flz.
lung in/out (dog)
suck-buzz (lips)
1/r (3:3)
1/r (:2/2, 3/1:)
horse click
pop-click
plop-click
spit
in. {u}
arco sweep
frog-tap
arco jeté tailpiece
c.l. tratto
c.l. jeté
c.l. sweep
c.l. batt.
I
IV
max sp.
max st.
talon
punta
behind bridge


3 + 4 + 6
20 28 16
3 + 4 + 5
16 20 28
3 + 4 + 5
16 20 28
4 + 5 + 3
16 20 28
105
Fl.
B. Cl.
C Tpt.
Vc.
max sp.
max st.
talon
punta
teeth-on-lip suction
suck-buzz (lips)
ex.
lung in/out (dog)
suck-buzz (tongue)
in. ttt...
tktk...
smack
muscle in/out (jaw closed)
airless flz.
muscle in/out (jaw open)
Trr-flz.
in!
spit
horse click
random
in. {u}
plop-click
arco (trem.) tailpiece
jeté tailpiece
arco sweep
arco trem. on body
col legno sweep


4 + 3 + 5
20 16 28
3 + 4 + 5
16 20 28
4 + 6 + 5
20 16 28
3 + 5 + 4
16 20 28
109
Fl.
B. Cl.
C Tpt.
Vc.
horse click
in!
muscle in/out (jaw closed)
p t k in! t.r.
muscle in/out (jaw open)
in. ttt...
tsk! tsk!
p t k p t k
random
1/r (:1/1, 3/3, 1/4:)
smack
lung in/out (dog)
tsk! t k
in. ttt...
in!
p t k in! flz.
suck-buzz (lips)
spit
p t k t.r.
1/r (:2/2, 3/3, 1/3:)
tktk...
tsk!
spit
plop-click
in. ttt...
smack
flz.
tsk! tsk! tsk!
horse click
in. {u}
suck-buzz (tongue)
t k t in!
flz.
spit
airless flz.
in. ttt...
tsk! tsk!
airless flz.
t k
in. ttt...
flz.
tsk! tsk!
lung in/out (dog)
horse click
random
suck-buzz (tongue)
muscle in/out (jaw closed)
in. {i}
in. {u}
Trr-flz.
lung in/out (dog)
tktk...
suck-buzz (lips)
t k
muscle in/out (jaw closed)
flz.
teeth-on-lip suction
tsk!
t k t k t tsk!
t k k
airless flz.
slap
k
arco sweep
arco sweep
c.l. jeté
arco sweep
c.l. sweep
arco tailpiece
arco sweep
c.l. jeté
c.l. sweep
I
IV
max sp.
max st.
talon
punta


3 + 5 + 4
28 20 16
5 + 6 + 3
16 20 28
5 + 3 + 4
16 20 28
4 + 5 + 3
20 28 16
113
Fl.
B. Cl.
C Tpt.
Vc.
I
IV
max sp.
max st.
talon
punta
random
l/r (1/1)
teeth-on-lip suction
horse click
suck-buzz (lips)
suck-buzz (tongue)
pop-click
muscle in/out (jaw open)
muscle in/out (jaw closed)
in. ttt...
tktk...
t.r.
in. {u}
in!
Trr-flz.
airless flz.
slap
flz.
spit
lung in/out (dog)
smack
coupled
c.l. jeté
c.l. sweep
arco sweep
c.l. tratto
twist
3-4
1-2


6 + 5 + 4
20 16 28
5 + 3 + 4
16 20 28
5 + 3 + 4
16 20 28
4 + 5 + 3
16 20 28
117
Fl.
B. Cl.
C Tpt.
Vc.
max sp.
max st.
talon
punta
flz.
suck-buzz (tongue)
tktk...
tsk! in! tktk... smack
muscle in/out (jaw closed)
t k flz. in!
pop-click
tsk!
t.r.
smack
airless flz.
horse click
suck-buzz (lips)
spit
p t k
random
l//r (2/3)
t k tsk! tsk!
horse click
suck-buzz (lips)
t k p k
suck-buzz (tongue)
tsk! tsk!
pop-click
in. ttt...
flz.
tktk... tsk! tsk!
horse click
in. {i}
t k
tktk...
horse click
teeth-on-lip suction
t.r.
t k
muscle in/out (jaw closed)
tsk! tsk! smack
Trr-flz.
in. {i}
teeth-on-lip suction
in. ttt...
Trr-flz.
t k tsk! t k
muscle in/out (jaw open)
t k tsk!
suck-buzz (lips)
flz.
spit
airless flz.
in. ttt...
tsk! tsk!
t k tsk! tsk!
horse click
suck-buzz (lips)
t k
suck-buzz (tongue)
tsk! tsk!
pop-click
coupled
random
c.l. sweep
c.l. tratto
arco jeté tailpiece
frog-tap
arco sweep
jeté tailpiece
arco sweep
c.l. batt.
arco sweep
arco on body
c.l. batt.
arco sweep
I
IV

Desiring-Machines

for conductor and 24 musicians

Einar Torfi Einarsson

deuss music
managed by albersen verhuur bv

Commissioned by
Ensemble Intercontemporain
Premiered October 4th, 2012
by Ensemble Intercontemporain at Centre Pompidou, Paris, conducted by Susanna Mälkki.

www.einartorfieinarsson.co.cc
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www.albersenverhuur.nl

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instrumentation

Group A (conductor-dependent)

Flute 1 (= bass-flute)
Oboe 1
Clarinet in Bb (cl. 1)
Contrabass Clarinet (cl. 3)
Contrabassoon
Horn 1
Trumpet + piccolo
Trombone 1
Percussion 1
--- wire-brush (on glass/window + metal plate), table-tennis ball (on hard surface), balloon, Bass Drum (B.D.),
Audubon birdcall instrument*, spring drum, wind-machine, oil-drum.
Percussion 2
--- bowed cymbal, crotales (3-4 highest cluster), table-tennis ball, wire-brush (on glass/window), guitar string (E-low) through a drinking straw,
velcro (very large), flexatone (bowed), balloon, Audubon birdcall instrument*
Piano (prepared)
Harp (prepared)
Violin 1
Viola 1
Violoncello 1

Group B (eigen-tempo)

Group B (eigen-tempo) performers should be equipped with their own metronome and headphones. The sound of the metronome should not be heard by audience. Group B performers are placed above the conductor's part in the score.

Flute 2 (= alto-flute)
Oboe 2
Bass Clarinet in Bb (cl. 2)
Horn 2
Trombone 2
Percussion 3
--- marker pen, large sheet of paper placed on a Bass Drum, wire-brush fixed on a turntable (+ a 12-inch LP record)
Violin 2
Viola 2
Violoncello 2

* Audubon birdcall instruments (2 pieces) should be supplied by the publisher and accompany the score otherwise they can be purchased at http://www.audubon-birdcall.com

duration 17' - 27' (based on 31-47 conductor cycles)

Program Note

This work is primarily concerned with performance or how performing can take a prioritized concern over the actual sounds and configurations that are produced. The reality of performance is therefore put into focus and treated as compositional material. In that regard the piece institutes a strange relationship between the conductor and performers. This unusual relationship is constituted by the fact that the conductor has his/her own part which affects each performer in a unique way. Moreover, each performer (including the conductor) has a repeating material but each individual repetition is of a different length, which is also subject to changes. Thus, each performer encounters other performers continuously in a new way, rendering a certain contingency regarding what is heard at each moment. The conductor follows the same paradigm, only he/she alters the material within the myriad repetitions and warps it with continuously different tempo patterns – forcing the herculean task for each performer to continuously adjust his/her material according to a capricious conductor. It is within this effort of continuous adjustment and adaptation where perpetually altering "relationscapes" form – and at the same time a critique against discrete identities and fixities. Furthermore, the piece can simply be thought of as 'relation as such', or the in-betweenness.

The piece was commissioned by Ensemble Intercontemporain and IRCAM as part of the TREMPLIN Commission Programme.

Desiring-Machines relates to the concept bearing the same title and is best delineated by Deleuze&Guattari:

> "Desiring-machines are the following: formative machines, whose very misfiring are functional, and whose functioning is indiscernible from their formation; chronogeneous machines engaged in their own assembly, operating by nonlocalizable intercommunications and dispersed localizations, bringing into play processes of temporalization, fragmented formations, and detached parts, with a surplus value of code, and where the whole is itself produced alongside the parts, as a part apart or, as [Samuel] Butler would say, "in another department" that fits the whole over the other parts; machines in the strict sense because they proceed by breaks and flows, associated waves and particles, associative flows and partial objects, inducing – always at a distance – transverse connections, thereby producing selections, detachments, and remainders, with a transference of individuality, in a generalized schizogenesis whose elements are the schizzes-flow."
>
> Deleuze & Guattari
> (Anti-Oedipus)

> "Voilà ce que sont les machines désirantes : machines formatives, dont les ratés mêmes sont fonctionnels, et dont le fonctionnement est indiscernable de la formation ; machines chronogènes confondues avec leur propre montage, opérant par liaisons non localisables et localisations dispersées, faisant intervener des processus de temporalisation, formations en fragments es pièses détachées, avec plus-value de code, et où le tout est lui-même produit à côté des parties, comme une partie à part ou, suivant le mot de Butler, « dans un autre département » qui le rabat sur les autres parties ; machines à proprement parler, parce qu'elles procèdent par coupures et flux, ondes associées et particules, flux associatifs et objets partiels, induisant toujours à distance des connexions transversales, des disjonctions inclusives, des conjonctions polyvoques, produisant ainsi des prélèvements, des détachements et des restes, avec transfert d'individualité, dans une schizogenèse gènéralisée dont les éléments sont les flux-schizes."
>
> Deleuze & Guattari
> (Anti-Oedipus)

Performance Notes

General instruction - essential read for all performers

This piece investigates different approach to the Score and through that investigation the relationship between the conductor and the musicians, as well as between the musicians themselves, is challenged. The score is treated as a nonlinear map rather than a chronological indicator of events. It therefore doesn't represent in any way an accurate description of moments, in fact it doesn't represent moments but movements, it's an active score, a multiplicity event. Changeable (self-morphing) repetitions of different lengths become the key element along with the modulating conductor and the full responsibility of each performer. Here follows crucial points in order to fully understand this score/piece:

Some general points

- Each performer, including the conductor, can start anywhere within their given material, there is no given beginning or an end. However, all performers should start and stop the piece together.
- The conductor is a destabilizing factor, with its own independent part, which modulates each part/performer in a continuously unique way. The conductor does not conduct the score in a conventional way, each performer has to adjust their material to the conducted material (see details below).
- The parts below the conductor (**group A**) are conductor-dependent, meaning that they have to follow the conductor's tempo/pulse indications at all times. The parts above the conductor (**group B**) are only partially conductor-dependent, i.e. they have their own tempo (their eigen-tempo), but occasionally enter a conductor-dependent state, which is indicated by the X- and Y- tempo frames. **Group B** performers should be equipped with their own metronome and headphones.
- Grace-notes are graphically determined, meaning that they should occur where they proportionally are located within a beat (i.e. the distance from previous note and to the next note matters).

Regarding conductor / performer relationship

The rhythm within each conductor-dependent part is notated on an equal distanced pulse grid, but is only so graphically, in the actualization of the score those pulses are always modulated or warped by the conductor and thus are never of equal length. This stable presentation of material is necessary since there is no conformity between amount of pulses and their tempi among musicians and conductor. As a result any pulse/beat can have any of the 5 tempi available in an unpredictable order and therefore each repetition is different from the previous one. The performer is forced into an intense real-time 'reading the conductor' situation where the effort of adaptation/adjustment of one's material according to the conductor's instability is crucial and ever renewing.

Regarding possibility-paths / decisions

All performers (including conductor) are engaged with possibility-paths. These are to be freely executed but each performer is stipulated to make the effort to take a different path each 'repetition' (different from previous). No delay should occur at those possibility junctions, the connection is immediate (exception: oboe 2 needs time regarding reed).
For woodwinds + brass: Mouth-based material can be shorter than finger-based material, however the mouth-based material is primary, which means that a connection to the following frame is triggered immediately when a mouth-based material is finished, thus abandoning the finger-based material from that frame.

Regarding cues

The conductor is in charge of cueing. A cue signals a performer to enter a cue-event. The so called cue-events are different for different instruments and appear in different order. To qualify for a cue a performer must satisfy certain conditions:
For **group A** performers to qualify they must, at the time of cueing, be reading/playing the lower staff of their material or the so called Y-frame. Exception to this are the group A strings, they have cue-zones that indicate when they qualify.
For **group B** performers to qualify they must, at the time of cueing, be following the conductor, i.e. being engaged with a conductor-dependent X- or Y- tempo frame.
When a cue is signaled by the conductor, those who qualify at that moment must enter their 1st cue-event, then at next cue, when qualified, their 2nd cue-event and so forth. It is never known which performers will be affected by a cue since that is highly contingent (dependent on initial conditions as well as on each performer's decisions during performance).
Entering a cue-event is immediate and the duration of the cue-event should be approximated individually, i.e. the given number of seconds is approximated by each performer. Returning from a cue-event should be somewhat flexible, meaning that one should 'catch' the next conductor beat. One should always return to the same spot as before the cue.
One cue-event has a different functionality, the '**Go to Dynamic Instability**' cue-event is more of a special dynamic mode rather than a cue-event. This cue-event triggers a different treatment of the material already engaged with. This treatment should be characterized by highly fluctuating dynamics where each beat and each sound/gesture is treated with this string of dynamics: ***fffpppfppffppffpffpffpffffpppfppffpfpp***
Each gesture is seized by this dynamic function and should be understood as nonlinear instability. This dynamic function also affects any graphic notation, i.e. key-click sounds etc. This irregular and unstable dynamic fluctuation should also be treated as an unstable *physical* dynamics, meaning that fluctuating *effort* should be made to forcefully pull sounds, which seem impossible or disinclined to become very loud or very soft, in the manner of '*as if it was possible*' to become very soft or very loud. This cue-event or mode can have several different durational values as indicated in each performer's part.

Regarding general dynamics

The general dynamics adhered to throughout is the ***pppp***. However, this should be considered as an *as-soft-as-possible* attractor, meaning that any sound should be forcefully pulled *as-close-as-possible* to the *as-soft-as-possible* attractor. This remains differently possible for different sounds, thus there will always remain dynamic curves (instability) instead of absolutism. That having been said, certain dynamic balance should not be entirely neglected.

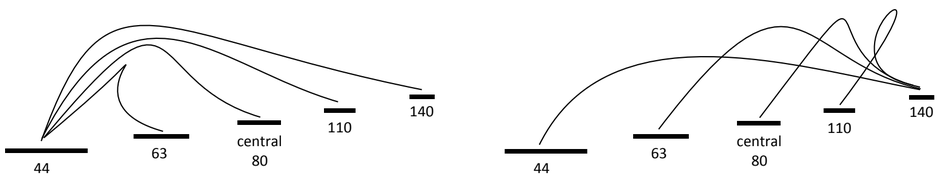
Regarding nested repetitions

Nested repetitions are repetitions which occur within the global/cyclic repetition. These are always accompanied by an extra symbol which indicates pairs, i.e. one always returns to the repeat sign with that same symbol (usually a star-like symbol directly above the repeat sign).

Conductor

The conductor is in some sense detached from the conventional unification function, i.e. no longer uniting all performers through shared meter and tempo structure. He/She is nevertheless a reference point but an unstable one, one that behaves in a semi-unpredictable manner. For this reason, and that the length of the conductor's material doesn't correspond to that of others resulting in phase shifting, another approach has to be investigated in regard to beating patterns. It makes no sense to beat in 2,3,4,5, etc. since none would share this at the same time – in fact it would create utter confusion – thus it's only possible to only indicate the tempo and beat in 1. However, some effort should be made to indicate the speed/tempo of the following beat, to signal in some way the anticipated change in tempo. There are 5 tempi and although each conductor must find his/her suitable conducting method here follows a suggestion of how this might be attained:

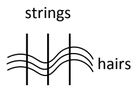
By assigning to each tempo/pulse a fixed plane in the conducted space and each plane/tempo a different height - i.e. slowest pulse (44) on the lowest plane and fastest pulse (140) on the highest plane (see figures) – the speed and the direction of the arc would then give some indication of what to expect.



Another method might employ the left hand to help with indications, e.g. by a simple numbering system (1-5) using digits or spatial localisations (planes). These only being suggestions it is encouraged to explore other possibilities that might further the development of this conducting method.

Another conducting issue regards stopping the piece. As the duration of the piece is based on 31-47 cycles, i.e. 31-47 repetitions of the conductor's material, it is up to each conductor to decide his/her number of repetitions, but remember that it's possible to start/stop anywhere within the material. Another option is to have a stopwatch by and stop the piece somewhere between 17 and 27 minutes. The piece should be stopped suddenly and not "on the beat" but "within the beat". Thus, a special cue-action has to be designed to stop the piece, a pre-indication announcing the very last beats might be necessary to make sure everyone is alert for the imminent "off" signal.

Piano & Harp (prepared)



The piano and harp are prepared in a similar way: removed hair-bundles* from a bow (violin or viola bow) are *weaved* through 2-5 strings, one bundle within the lowest octave and another bundle within the highest octave. The performing technique is twofold: holding at both ends of the hair-bundle and forcing the hairs either lengthwise or crosswise along/through the strings - i.e., up / down (to / fro) or left / right, indicated with arrows. It is essential to keep this movement at extremely slow speed and to spread the hairs in order to cover an area as large as possible over the strings. 'Pitched' sound should never occur. The interruptions (grace-notes) should be *staccatissimo possibile.*
When/if entering the Dynamic Instability mode (see Regarding cues) the pressure accompanied with pulling the hairs through the strings should become unstable.
The notation is split onto two frames - of which only one is played at each time - the low and the high octave (indicated with bass and treble clefs). Each of these frames is further split in two: the crosswise and lengthwise movements. At the junction one can choose to change location or not, i.e. change "clef" or not, or change a frame or not. It is encouraged to explore all of these possibilities, i.e. to allow the material to be explored in different contexts and to always repeat differently.

* (These hair-bundles can easily be obtained from a bow maker, they are detached in whole (stuck together on one end) when string players re-hair their bows.)

Woodwinds & Brass

The woodwind and brass material is split into mouth-based and finger-based material. Furthermore, it's set on a 3-part frame where never more than 2 of the 3 parts are active, one mouth-based and one-finger based. When entering another frame a new decision has to be made which 2 of the 3 parts will be active, i.e. which finger-based material and which mouth-based material to follow. (See also 'regarding possibility-paths'). Clarinets, bassoons and oboe 1 are without mouthpieces.
All sounds/techniques are air-based, i.e. an ordinary pitched tone is never asked for, any notated pitch would only be a fingering indication.
These sounds/techniques are explained in detail in the following lexicon:

air = normal exhaled air sound.

in. = inhaled air sound

{i}, {s}, {u}, {u//i}, {i-->u}, {u-->i} = Determines the pronunciation accompanying the air sound (exhaled or inhaled), either as fixed (u,i,s), alternating (u//i), or gradual (i-->u).

in. ttt... = Inhale whilst chopping the air with as-fast-as-possible "t" Interruptions (much like a shaking-jaw caused by extreme cold). High muscle-tonus!

dl. = (brass) A continuous "doodle-ing" with the tongue while inhaling.

in! = Very rapid, staccato, inhale.

tk... = Unmeasured, continuous, double tonguing (air). Can also accompany inhaling air. (as-fast-as-possible)

p t k = Specific, air-based plosives, measured attacks: t, k, or p. These should always be performed *staccatissimo possibile.*

flz. = Normal flutter tongue air. If accompanied by (**v**) then the voice is activated during flutter, always with highest pitch possible--> (v)

tsk! = Dental click, sharp/short (high-pitched) squeaky sound made by sucking on the front teeth. (as in pitying: tut-tut!).

tsk!... = A continuous, as-fast-as-possible, repetition of tsk!

h.c. = Horse Click. Squeaky sound, made by sucking on the molars on either side (or both sides) of the mouth. (e.g. to get a horse moving).

dog = lunged in/out air. The traditional dog-breathing involving the lungs, this should be done at a maximum possible speed.

suck-buzz (s-b) = Lunged buzz sound by forced suction: sucking on lips pressed together. As high "pitched" as possible, unstable as well as multiphonic.

lip-suck = Unlunged forced suction. Produced by putting/pressing the upper front teeth over the lower lip and suck. High squeaky/unstable sound. (best results with a little saliva on the lip, and keeping the lips in motion (sidewise) under the teeth)

smack = A kissing like sound - should always be staccato.

Ext.-smack = prolonged smack sound, i.e. a sustained sound produced by presssing the lips together with high pressure, while performing forceful suction. (always squeaky and as high 'pitched' as possible)

sputter = An unlunged buzz sound produced by pressing the lips together and forcing air outwards, as high 'pitched' as possible. Always staccato.

slap = Air puffs with the tongue. Should always be air-based and as dry as possible.

spit = A very quick "t" like sound, although with more air.

t.r. = tongue-ram: sudden closure of mouth cavity involving the tongue reaching the hard palate and the back of the front teeth. (hT!)

snore = Artificial snoring through instrument. Inhaling air while narrowing upper throat resulting in the vibration of the uvula.

t-c-smack = Repeated tongue and inside cheek smacking sounds, as in tasting food. Always as fast as possible.

instantanious-value tempo = indicates a sampled tempo from the conductor, i.e. the tempo of a pulse/beat at a particular moment in time.

= indicates accented depressed key-click attack = indicates accented released key-click attack

Flutes

= Indicates open or closed mouthpiece.

Oboe 2

M = Multiphonics. When not numbered any multiphonic, suitable for the technique/dynamics required, can be played. The numbered multiphonics M1, M2, M3 and M4 should be fixed and chosen beforehand by the performer. However, they should always be complex multiphonics and suitable for very quiet dynamics, but in the case of entering the 'Go to instability' Cue it would suit them to be dynamically flexible.
(Some possible options to choose from are given in the Oboe 2 part)

Trombone 1 & 2

The graphic notation for hand positions (I-VII) contains multiple possibilities. The general instruction regarding these paths is the following: where paths intersect a new path can be taken. It is encouraged to explore these possibilities to full extend.
When wah-wah mute is called for an irregular on/off motion is intended.

Trumpet + piccolo

Every repetition the performer is required to change between trumpet and piccolo. This exchange should be as smooth as possible.
When wah-wah mute is called for an irregular on/off motion is intended.

Strings

Left Hand
Movements are indicated on a fingerboard-space along with indications regarding finger pressure, i.e. flageolet-touch or natural-touch, as well as how stretched the fingers are from each other (indicated by circled numbers), i.e., 1=most compact and 3=most apart/stretched.
All of these indications (pressure and stretch) are always active until the next sign.
The wavy lines of different sizes indicate a range of lengthwise motion (small to big): vibrato-->vibrato molto-->rapid gliss up&down.
Group A strings: All fingers should always have contact with all strings (indicated by sul tutti).
Multiple paths are possible, the general instruction regarding these paths is the following: where paths intersect a new path can be taken. It is encouraged to explore these possibilities to full extend.

= Indicates a repeated as-fast-as-possible finger pattern at approximate location on indicated string. Always flageolet-touch.

= Indicates a "hammered" down on strings action.

Right Hand (bow)
Actions and rhythms are indicated on a string-staff with further indication regarding positions under and above the staff.
Bow position on instrument:

bb = behind bridge **msp =** molto sul ponticello **sp =** sul ponticello **nat =** natural position
st = sul tasto **mst =** molto sul tasto **bN =** behind Nut

Dotted line (·····) indicates gradual movement towards the next indication.
Arrowed line (⟶) indicates that a position is stabalized for the duration of the line.
Bow part indication: (T) = au talon (M) = middle-bow (P) = punta (remain active until next indication unless a dotted line is attached)
a-sweep, cl-sweep = arco or col legno sweep technique: rapid lengthwise movement (e.g. between st//sp).
a-slide, cl-slide = arco or col legno slide technique: lengthwise sliding for the duration of given note-value. Slide direction is indicated under the staff.
jeté = Always arco unless stated: cl-jeté, then col legno.
cl-batt = col legno battuto, single attacks.

= arco tremolo on the tail = arco slide on the tail (to or from bridge) = arco tremolo on the body (either side)

Twist = a rotation of the bow changing the angle between the bow/hairs and the strings. The hairs remain in position, only the angle changes.
Frog-tap = simply beyond the talon, with the *edge* of the frog, tap (and/or sweep/gliss) where indicated.
esb. = Extremely slow bowing: barely moving the hairs over the strings, with normal to very little pressure always maintain a soft, unstable creaky sound. Normal position is intended. When/if entering "Dynamic Instability" this technique transforms to extreme pressure sul ponticello.

Percussions

Percussion 3
Percussion 3 is totally in a free-tempo state, it only regards the conductor when starting and stopping the piece.
Marker pen: use a thick marker pen (felt-tip) such as permanent marker or a "highligher" to write the given text on a paper which rests on a bass-drum (using the bass-drum as a resonating table). Any paper size can be used but bigger is preferable - the bigger the paper the less change of paper is needed. The writing should be flexible but as fast as possible except when words are in **bold**, then extremely slowly with extreme pressure.
Wirebrush on turntable: This setup has to be prearranged, i.e. the wire-brush should be hand-free and in a fixed position above the turntable. It should be possible to fine-tune the height thus: the tip of the wires should make contact with the LP (vinyl) record in order to produce a squeaking and schreeching noise. The turntable should be put 'on' at start and 'off' at stop, thus left operating on its own throughout in a continuous way. The best way to arrange this is with a hand or foot operated power switch (foot operated is preferable). The turntable should be set on 45 rpm with a 12-inch vinyl record in place.

Percussion 1 & 2
There are three staff-lines: upper, lower and middle. Only one should be performed at each time. Percussion 1 & 2 are conductor dependent and belong to Group A, which means that to qualify for a cue one must be reading the lower staff, ignoring all cues when reading upper or middle staff-lines.

Table-tennis-ball bounce = is a naturally occurring ritardando bounce by letting the ball drop (on a hard surface) and bounce from a little distance (ca. 1 cm), keep the hand above the ball as it bounces to be ready to catch and re-bounce it. The **rub** is a quick rubbing the ball against the surface.

Wire-brush = whether on glass or metal plate it's important to know that the same distance should be covered by the brush regardless of which note-value is present (a suitable distance is up to the performer to decide). This rule, along with the unstable conductor, will secure a constant variation of speed.

B.D. rumble (B.D. = Bass Drum) **=** slide with a wet finger from edge towards middle in order to produce a friction resulting in a rumbling sound.

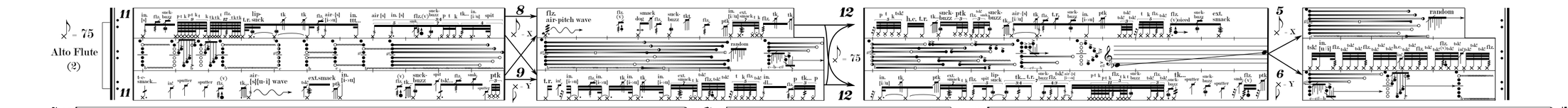
Audubon = a wood and metal instrument, the *wood* is turned up against the metal. It's necessary to fix the metal part to a stand in order to play with only one hand. There are two techniques: 1) slow rotation and 2) presto back and forth. Always apply unstable pressures to produce unstable sounds.
Audubon Bird Call Instrument should be supplied by the publisher (otherwise http://www.audubon-birdcall.com, or contact composer)

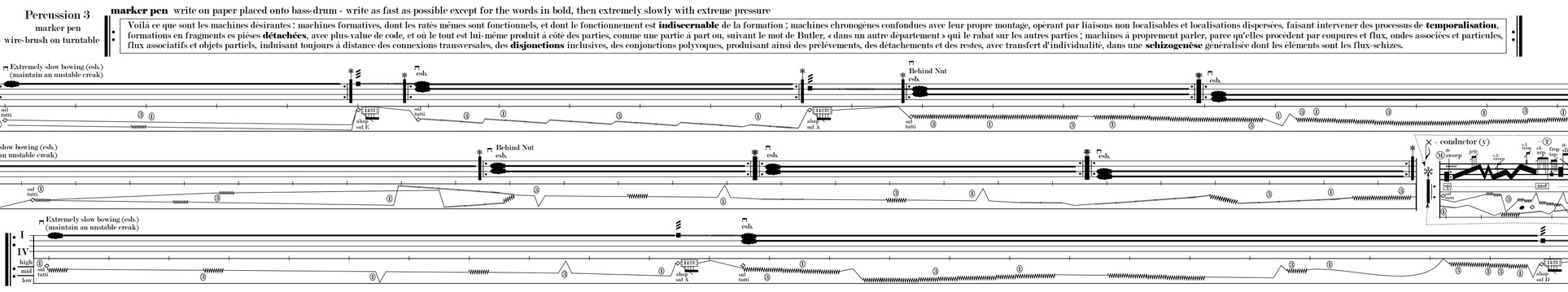
Parrot lip-suck = with the mouth: lips pressed together perform a forced suction in order to produce high squeaks (as if imitating parrots) (as high as possible).

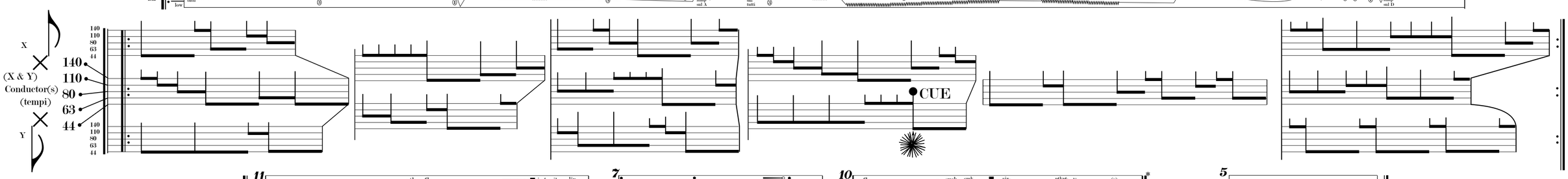
Desiring-Machines

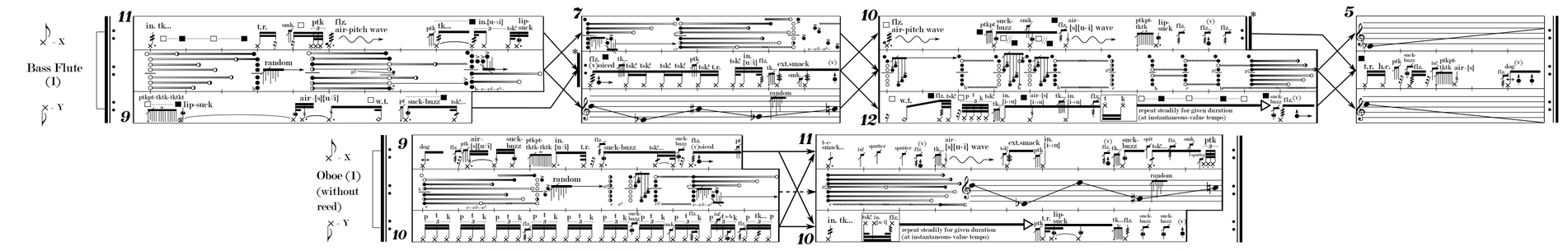
pppp

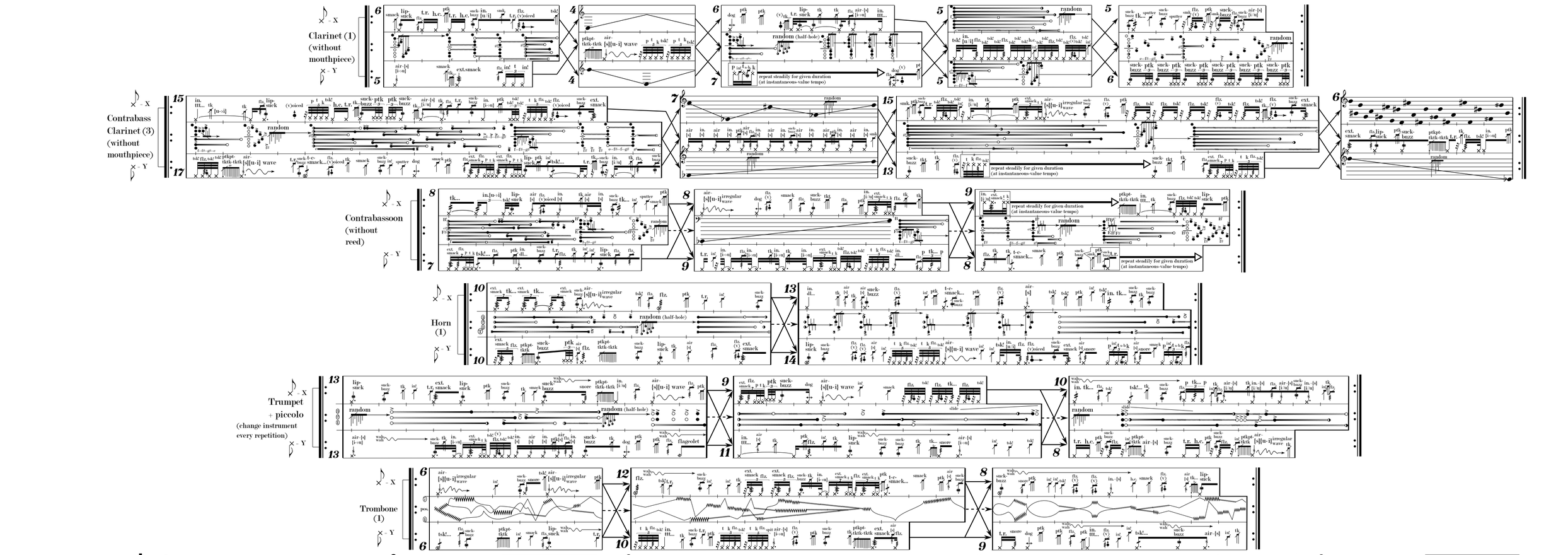
Einar Torfi Einarsson











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