



IReMus and Francophone Inclusive Musicology:

Shaping Pluralistic and Research-Based Pedagogies in a Global Context

**Nidaa Abou Mrad, Stéphane Audard,
Anne-Emmanuelle Ceulemans, Nathalie Hérold, Christophe Guillotel-
Nothmann, Sylvie Le Bomin**

**Music Theory Pedagogies Reimagined,
a multidisciplinary Conference and Hackathon**

July 6–9, 2026, Massachusetts Institute of Technology

IREMUS

Why This Roundtable?: A Francophone Perspective

- **Alternative Responses to Shared Challenges:** Questions of inclusivity, repertoire diversity, post-colonialism, embodiment, digital technologies, and global perspectives are addressed through intellectual trajectories that differ in important respects from dominant North American models.
- **A Distinct Musicological Configuration:** Francophone musicology has traditionally encouraged dialogue between music theory, musicology, ethnomusicology, semiotics, and systematic approaches, fostering forms of inquiry that cut across disciplinary boundaries.
- **An Institutional Ecosystem for Innovation:** The articulation of research, teaching, heritage institutions, and digital humanities within IReMus and Sorbonne Université creates a unique environment for pedagogical experimentation.
- **Plurality Without Fragmentation:** The approaches presented here share a commitment to expanding repertoires, methods, and analytical objects while maintaining theory and analysis at the core of musicological inquiry.
- **A Dialogue Between Traditions:** Rather than proposing a unified doctrine, this roundtable invites comparison between musicological cultures in order to identify complementary pathways for future curriculum design.

Where Do We Speak From?

IReMus and a Francophone Musicological Ecosystem

- **A Major European Musicology Hub:** IReMus (UMR 8223) is one of Europe's largest musicology research units: c. 180 members (researchers, faculty, engineers, librarians, doctoral candidates, and affiliated scholars), reflecting the diversity of contemporary musicological inquiry.
- **An Integrated Research–Teaching–Heritage Ecosystem:** IReMus brings together the CNRS, Sorbonne Université, the Bibliothèque nationale de France, and the French Ministry of Culture => direct articulation between research questions and curriculum design within university teaching (Sorbonne Université).
- **Four Research Teams :** (1) Musical heritage (tangible and intangible), (2) Music and society, (3) Musical languages, and (4) Research–creation–performance;
- **This roundtable originates from Team 3 “Musical Languages”.** We work on the hypothesis that music can be approached through the investigation of structured relations. This is a methodological framework, not an ontological claim !

Introduction

Who is speaking?



Nidaa Abou Mrad
Sorbonne Université, IReMus
and Antonine University (Lebanon)



Stéphane Audard
IReMus



Anne-Emmanuelle Ceulemans
IReMus



Christophe Guillotel-Nothmann
CNRS, IReMus



Nathalie Hérold
Sorbonne University, IReMus



Sylvie Le Bomin
Sorbonne University, IReMus

Concordia discors: Unity Without Uniformity

- **A Shared Intellectual Lineage.** Grounded in Francophone traditions of musicology that integrate music theory, ethnomusicology, semiotics, and systematic approaches, with a strong legacy of structural analysis.
- **Six speakers – Six Situated Perspectives.** These perspectives emerge from distinct research and pedagogical environments and are presented as open explorations rather than doctrinal positions, with contributors not necessarily sharing the assumptions or methods of one another.

**Our goal is not to present a unified doctrine,
but to make visible a plurality of positions
within a shared intellectual environment.**

Structure of the Roundtable: From Perspectives to Dialogue

Part I — Six Research-Based Perspectives

1. An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis
2. Ethnomusicology, Structuralism, and Fieldwork
3. Tonalities: Situated Analysis and Hybrid Intelligence
4. Timbre, Orchestration, and Multimodal Analysis
5. Audiotactile Pedagogy and Jazz Education
6. Atlas of Musical Languages

Part II — Negotiating Plurality in Music Theory Pedagogy

- Shared pedagogical directions
- Core epistemological tensions
- Open discussion around key questions

Perspective 1:

Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

Nidaa Abou Mrad, Antonine University & Sorbonne
Université

1. Introduction

- Modal semiotics
- Neuromusicology

Introduction to Music as a Language

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

2. Context:

- is musicology really **universal**?
- Music theory and musicology on one side.
Ethnomusicology on the other.
- Historical and analytical tools are always reserved
for **Western** art music.
- Everything **else**: sociological or anthropological.
- A kind of **apartheid** in music theory

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

3. **Conceptual Framework**

General musicology

- Music as a nonverbal **language**
- **Musicality**
- Musical **tongues**: modal, pentatonic, tonal systems

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

3. Conceptual Framework

- Our hypothesis is that **musical grammar** comes from a shared, **trans systemic principal component** in the brain, plus a **parametrized component** shaped for each musical tongue through culture, learning and neuroplasticity.

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

4. Methodology & Implementation

- **Structural Musical Phonology:** organization of intervals, scales typologies, modal or pentatonic polarity
- **Generative Musical Phonology:** underlying architectures; modal nuclei vs chord degrees

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

4. Methodology & Implementation

- **Musical Morphology:** quantitative and qualitative structuring of units, rhythmic typologies
- **Musical Syntax:** hierarchical vectorial configurations

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

5. Outcomes & Pedagogical Impact:

- Students can rewrite music sentences, across traditions and cultures,
- the way you'd rewrite verbal sentences:
- structurally, generatively, critically.

Perspective 1: An Inclusive and Transcultural Pedagogy of Trans-systemic Music Theory and Analysis

6. Closing

- We must work together to dismantle apartheid in music theory and musicology around the world
- **Let's get musicology universal forever!**

Perspective 2:

**How can the Tools of Ethnomusicology
based on Structuralism and Intensive
Fieldwork be used?**

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Introduction:

There is no human population without music. This implies highly diverse conceptual and performative realities

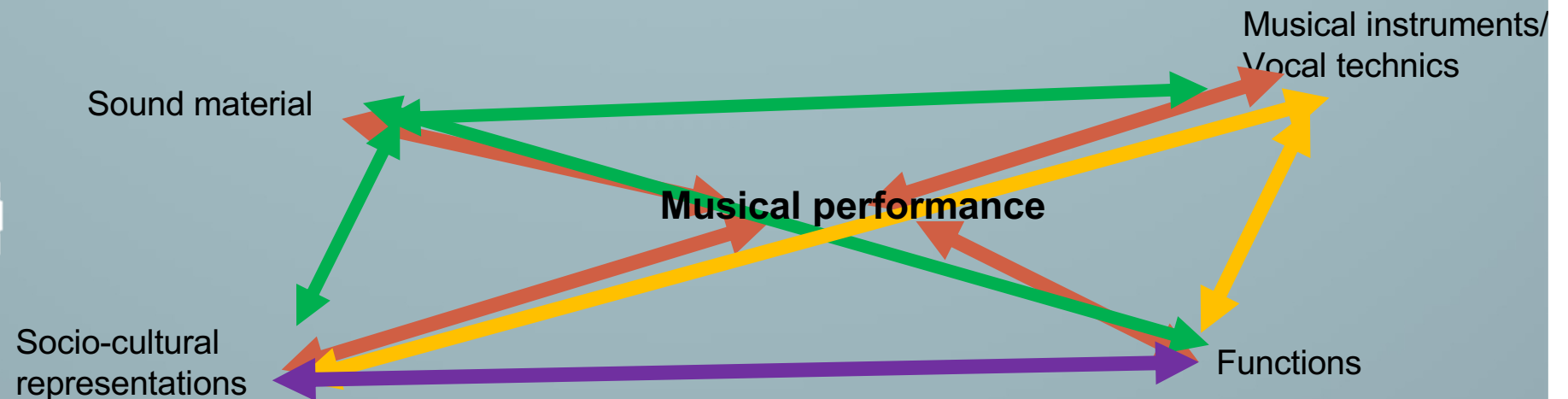
Students primarily trained in western classical music and expert musicians

To develop an interdisciplinary approach to the musical heritage of oral traditions and oral transmission

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Pedagogical Challenge

- To provide students with the theoretical and methodological tools to analyze the implicit musical theories and conceptualizations that underlie oral tradition musics



Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Pedagogical Challenge

- To provide access to the diversity and variety of world music while identifying commonalities

Homorythmy



Alleluia, Machaut

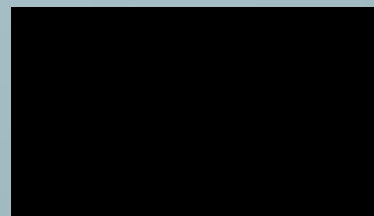


Chant de la semaine sainte, Sardaigne



Homorythmie, Chorale de Bach
Passion selon St Jean. 26'08

Counterpoint



Agnus dei, Machaut
(24'05)



PYGMÉES Chants
traditionnels recueillis
en 1946 par Gilbert
ROUGET



Contrepoint, Fantaisie de Bach

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Pedagogical Challenge

- To develop and disseminate a terminology , analysis categories for the cross-cultural description and analysis of music

Intrinsic musical:



Chant *Awiri* - Galoa

Extrinsic musical:



Tambour *Mokiki* - Apinji
IREMUS

Extramusical
parameterd:

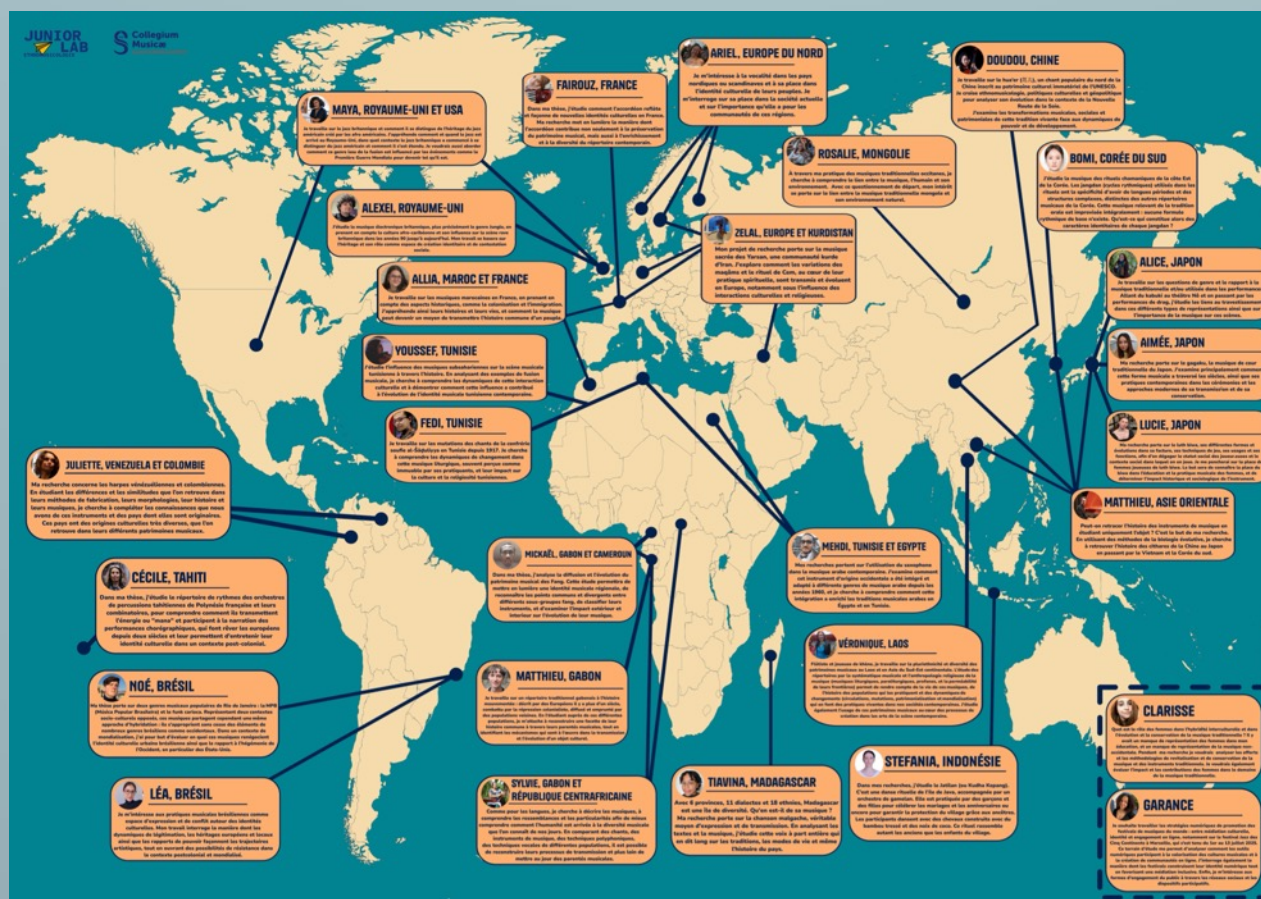


Masque *Nzambe Kana* -
Tsogho

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Pedagogical Challenge

- To promote the training of ethnomusicologists and practitioners of ethnomusicology who are sensitive to intercultural issues



Map of our student's ethnomusicological field

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Conceptual Framework, Methodology & Implementation

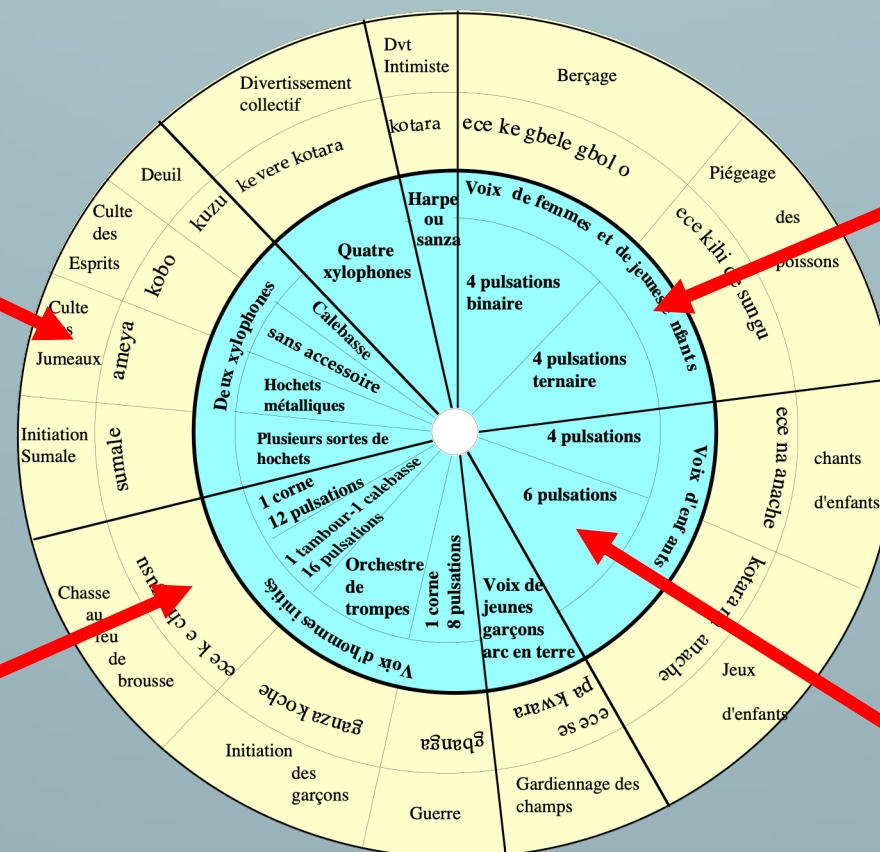
- To develop tools for categorizing musical heritage based on parameterization, in order to link the musical object to the worldview of the population that produces it

Performance contexts

Distinctive musical ensemble: extrinsic musical parameters

Endogenous categories

Distinctive intrinsic musical features

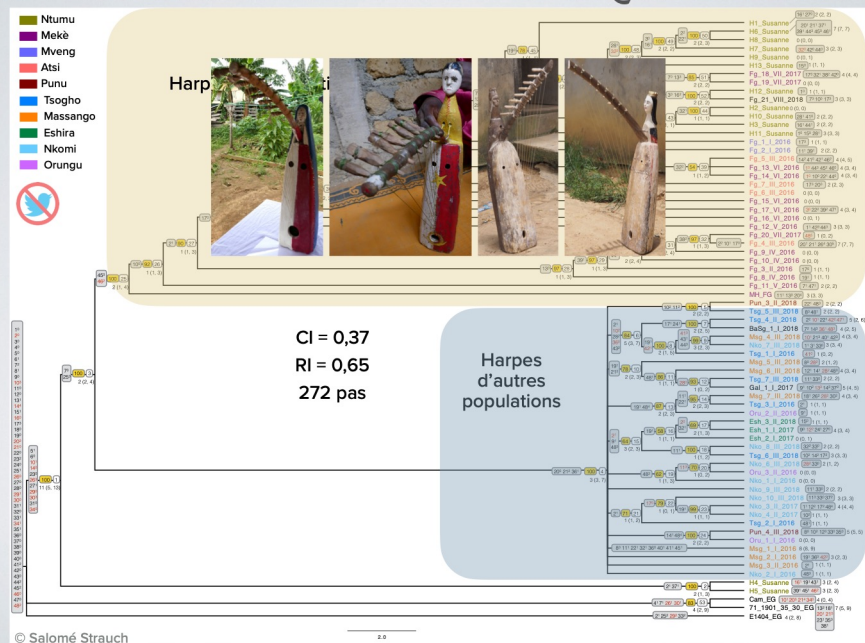


Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

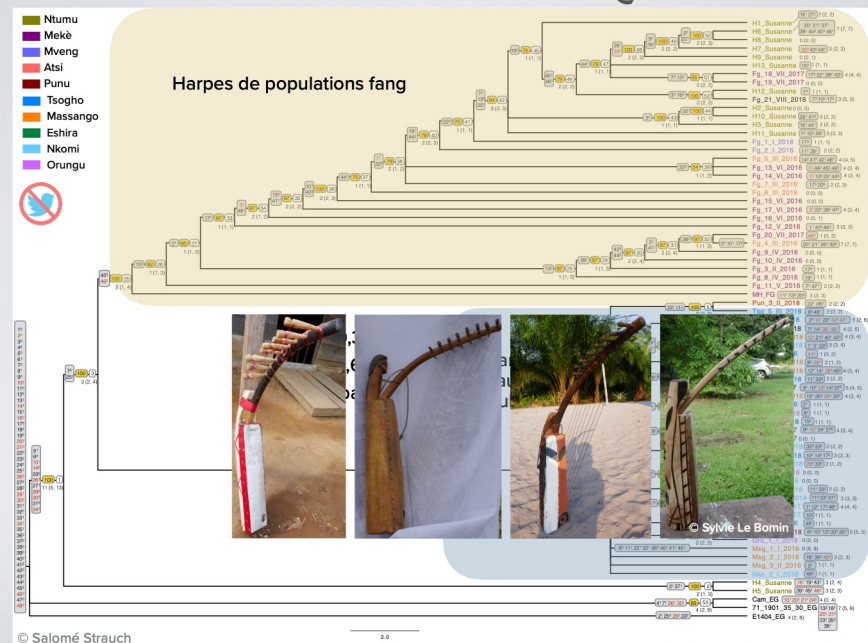
Conceptual Framework, Methodology & Implementation

- To present tools based on comparative ethnomusicology on the one hand and a cladistic approach on the other

L'ÉVOLUTION DES HARPES D'AFRIQUE CENTRALE



L'ÉVOLUTION DES HARPES D'AFRIQUE CENTRALE



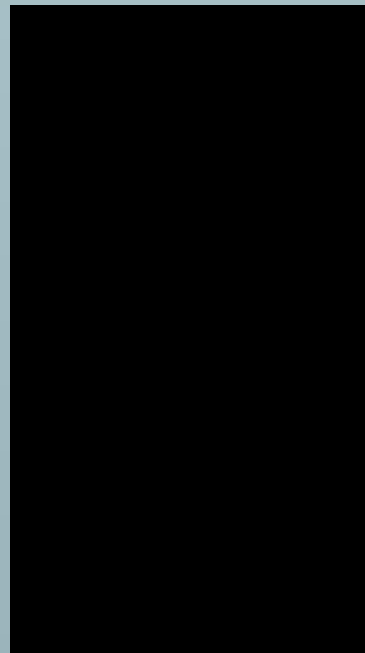
Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Conceptual Framework, Methodology & Implementation

- Teaching formats and learning activities



Learning diphonic singing
with Johani Curtet



Learning Guqin in
Wuhan (China)

IREMUS



Fieldwork in China with
Doudou Huang and Matthieu
Lainé



Fieldwork in Gabon with
Matthieu Rupp

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Conceptual Framework, Methodology & Implementation

- Teaching formats and learning activities



Learning Raga scale with Henri Tournier

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Conceptual Framework, Methodology & Implementation

- Role of students (individual, collaborative, reflexive, practice-based, etc.)



IREMUS



Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Outcomes & Pedagogical Impact

- To foster new listening skills
- To develop new knowledge and skills related to music and world music
- To raise awareness of an approach in which music is produced within a specific cultural context that influences its conception, its manifestation, and its system of representation
- To engage students in large-scale comparative research by breaking down epistemological, theoretical, and methodological barriers between musical heritage and its written or oral nature

Perspective 2: How can the Tools of Ethnomusicology based on Structuralism and Intensive Fieldwork be used ?

Outputs & Perspectives

- To produce guides describing musical instruments
- To contribute to the development of a scalable infrastructure for mapping musicological knowledge
- To map the musical characteristics of the various populations studied,
- To better understand the origins and processes of transformation of musical knowledge and skills among human populations

DÉCRIRE UN INSTRUMENT DE MUSIQUE



GUIDE DE DESCRIPTION ORGANOLOGIQUE DES HARPES D'AFRIQUE CENTRALE

VERSION 3 - JUILLET 2020



© Salomé Strauch

SOMMAIRE

Chapitre 1 : Introduction	1
Chapitre 2 : Photographies	4
Chapitre 3 : Données contextuelles communes aux harpes de musée et de terrain	10
Chapitre 4 : Données contextuelles pour les harpes de musée	14
Chapitre 5 : Données contextuelles pour les harpes de terrain	16
Chapitre 6 : Morphologie générale	18
Chapitre 7 : La caisse de résonance	30
Chapitre 8 : La table d'harmonie	38
Chapitre 9 : Les événements	59
Chapitre 10 : Le cordier	69
Chapitre 11 : Le manche	77
Chapitre 12 : Les chevilles	89
Chapitre 13 : Les cordes	107
Chapitre 14 : Les sculptures	115
Chapitre 15 : Le contexte d'utilisation des harpes de terrain	174
Chapitre 16 : Le vocabulaire vernaculaire associé aux harpes de terrain	205
Chapitre 17 : La généalogie sur le terrain	216
Annexes	231
Bibliographie	236

Perspective 3:

Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalties

Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

Institutional Context

- IReMus - Departement of Music and Musicology
- EU project: H2020 Polifonia



Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

Pedagogical Challenge

- Conventional approach to teaching theory:
implicit models - single “correct” analysis

vs.

- Making interpretation explicit, plural, comparable

Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

Conceptual Framework, Methodology & Implementation

- Model-based interpretation: multiple coexisting theoretical models applied to the same musical work
- Situated & plural epistemology: analysis as contextual interpretation, not universal truth
- Linked-data musicology: formalisation of analysis through CIDOC-CRM / RDF
- Hybrid analytical workflow: human annotation + computational / AI-assisted processing
- Research-based pedagogy: students as collaborative analysts producing, comparing, and debating explicit interpretations

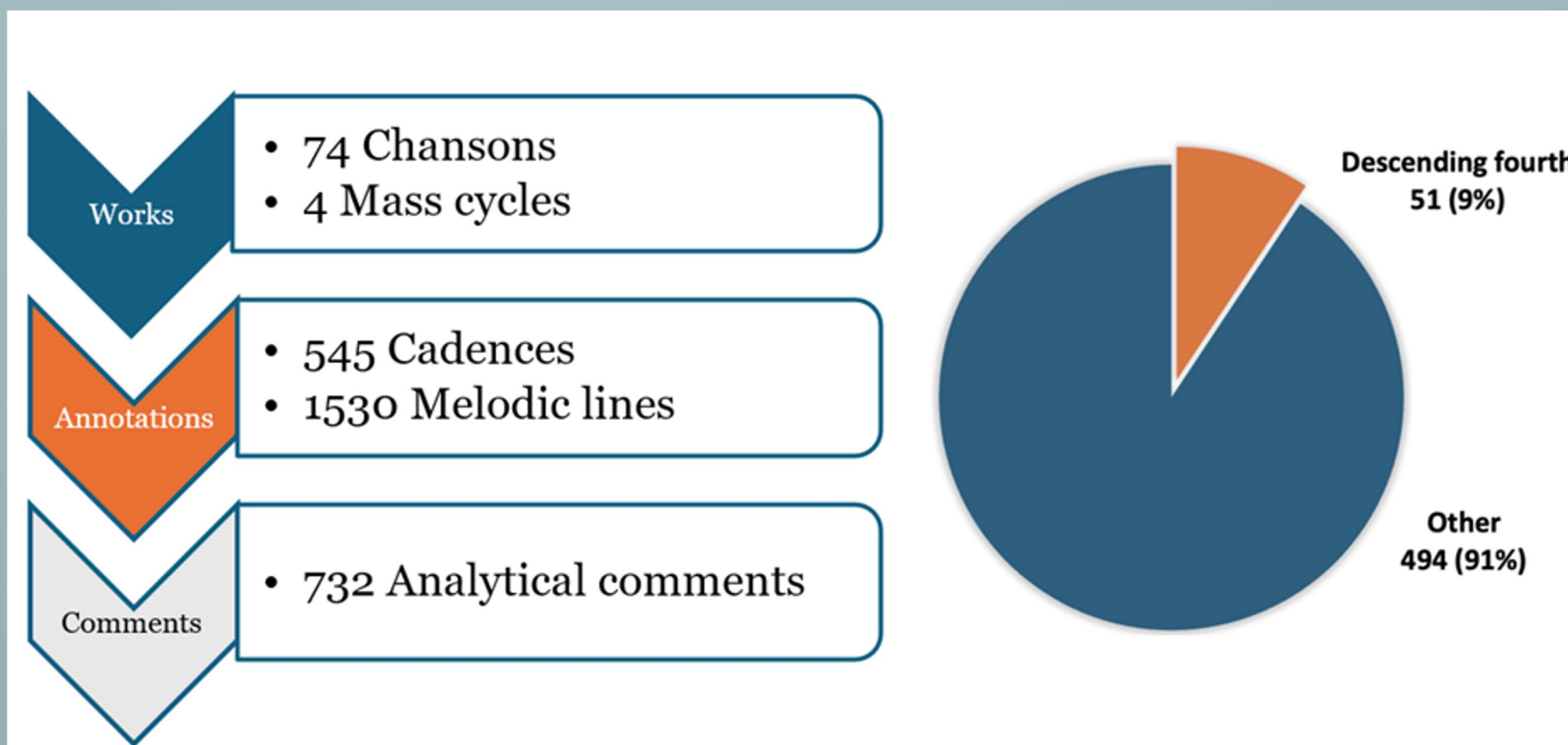
Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

An example



Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

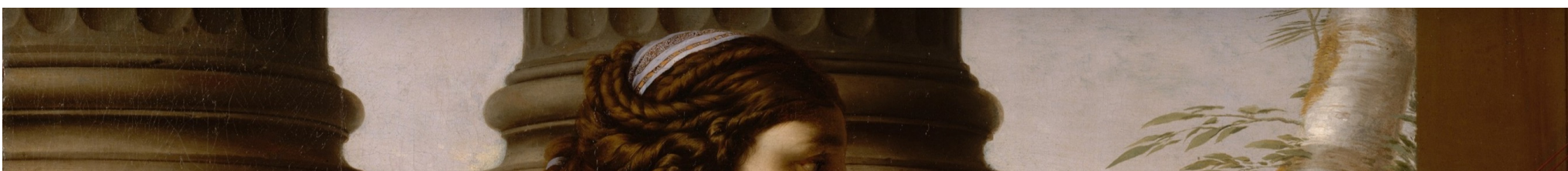
Guillaume Dufay: all chansons and selected late masses



Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

Outputs & Perspectives

- Production of a large-scale annotated dataset: ~10 analytical models, 1.6k analytical projects, 66k annotated concepts, and 130k analytical comments across repertoires
- Deployment of Tonalities as a publicly accessible web platform (<https://data-iremus.huma-num.fr/tonalities/>) and officially deposited software. ([Example](#))
- Ongoing development of hybrid AI workflows (annotation–learning–reannotation loops for large-scale analytical exploration)
- Future directions: systematic integration into BA/MA teaching curricula and extension toward hybrid symbolic (score) and sub-symbolic (audio/video) analysis in performance-aware music theory



Selected score

1 2 3 ... 6

Cadences FilaberGuillotelGurrieri 2023
Selected model CHANGE

Search...

Available concepts SELECT ALL

- > Cadence
- > LineFunction
- > MelodicLine
- > StepNote
- > Step

26

S ta re, al le

T ta re, al le

B ta re, al

30

S

T

B -le

33

S lu ia

T lu ia

B lu ia

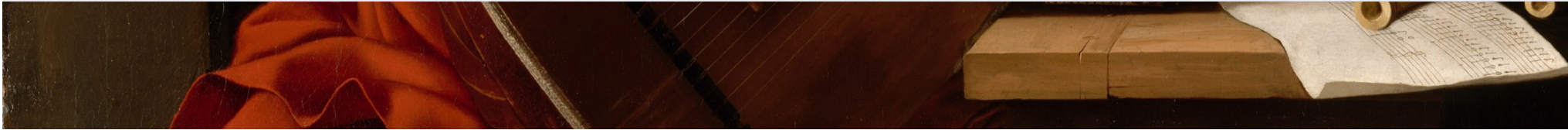
Richard Mower
Selected project Draft

Annotations SHRINK ALL

Page 1

Individual x CN =
02/07/2026, 17:58

CN Test MIT



Perspective 3: Situated Analyses and Hybrid Intelligence: A Critical Pedagogical Framework for Musical Annotation with Tonalities

Outputs & Perspectives

- Production of a large-scale annotated dataset: ~10 analytical models, 1.6k analytical projects, 66k annotated concepts, and 130k analytical comments across repertoires
- Deployment of Tonalities as a publicly accessible web platform (<https://data-iremus.huma-num.fr/tonalities/>) and officially deposited software. ([Example](#))
- Ongoing development of hybrid AI workflows (annotation–learning–reannotation loops for large-scale analytical exploration)
- Future directions: systematic integration into BA/MA teaching curricula and extension toward hybrid symbolic (score) and sub-symbolic (audio/video) analysis in performance-aware music theory

Perspective 4

Timbre, Orchestration, and Multimodal Analysis

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Institutional Context

- Sorbonne University, Faculty of Arts and Humanities, Music and Musicology Department
- Research Institute in Musicology (IReMus)
- ACTOR (Analysis Creation and Teaching of Orchestration, 2018–25, dir. S. McAdams) and TONE (Timbre and Orchestration Network, 2026–33, dir. S. McAdams and R. Hasegawa) partnerships



Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Pedagogical Challenges

- Moving beyond the traditional focus of music theory and analysis teaching and learning on pitch (and duration)
- Transforming music theory and analysis pedagogy in higher education through timbre- and orchestration-based approaches
- Diversifying the objects of analysis and moving away from a totally score-based perspective

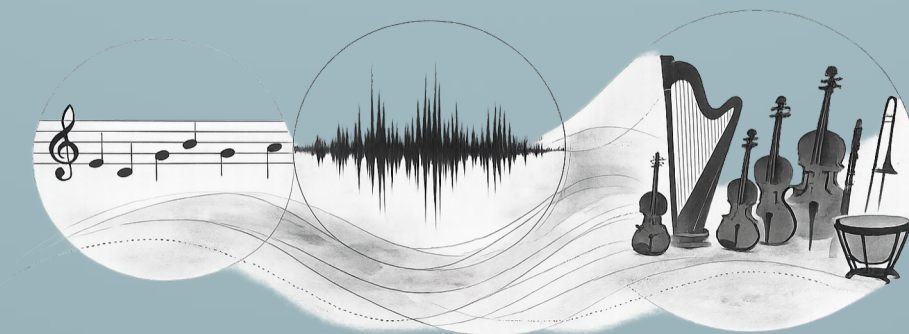
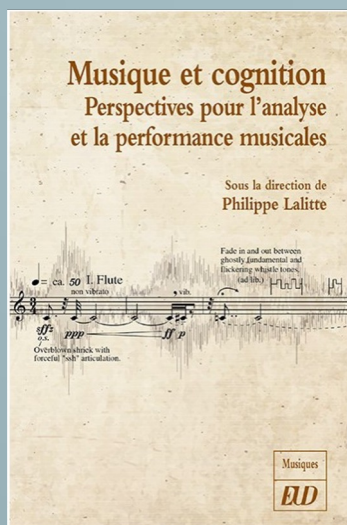


Image generated using ChatGPT

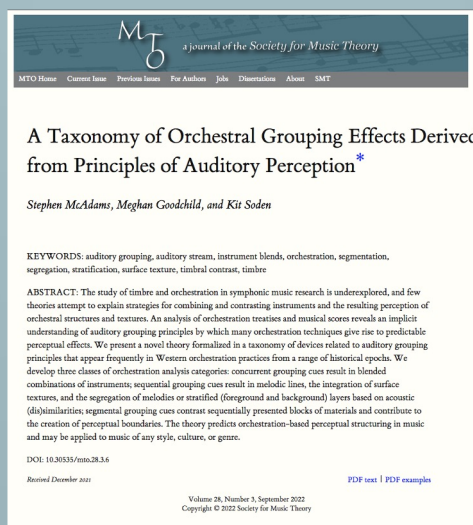
Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Conceptual Framework, Methodology & Implementation

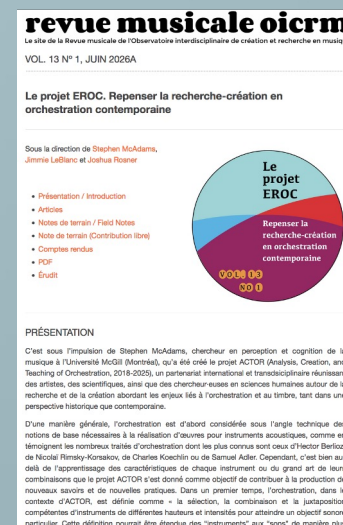
- A broad definition of the concepts of timbre (Hérold 2019) and orchestration (McAdams et al. 2022)
- The concept of multimodal music analysis (Hérold & Nouno 2026)



Hérold (2019)



McAdams et al. (2022)



Hérold & Nouno (2026)

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Conceptual Framework, Methodology & Implementation

- Development of a timbre-based aural analysis (identification of sound sources, instrumental and orchestration techniques, etc.)
- Development of instrumented listening and expertise in the use of appropriate digital tools (Sonic Visualiser, Acousmographe, etc.)
- Emphasis on methods combining score analysis and musical listening, in particular the Taxonomy of Orchestral Grouping Effects (McAdams et al. 2022)

Timbres

- formation (type d'ensemble, remarques sur l'instrumentation)
- familles utilisées (cordes, vents, percussions, claviers, voix...)
- timbres spécifiques (modes de jeu, registres...)
- traits caractéristiques d'un instrument, virtuosité
- soliste(s) ?
- orchestration (écriture des timbres) :
 - . dialogue, opposition
 - . division des pupitres
 - . timbres purs, mélanges
 - . doublures
 - . rôle de la percussion

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Forme/Structure	Thèmes/Mélodies/Motifs (hauteurs, approche linéaire)	Durées	Harmonie (hauteurs, approche simultanée)	Autres
- y a-t-il plusieurs pièces, enchaînées ou détachées ? - repérer les phrases (grâce aux cadences, respirations, silences) → carrures ? - y a-t-il des répétitions, des reprises ? - repérer les différentes parties (caractérisées par un élément ou un caractère différent, et grâce aux cadences) - repérer ce qui est identique et différent → caractériser les parties : répétition, variation, développement, juxtaposition... - articulation des éléments - en déduire la forme, est-elle connue, simple, - complexe ? → principales formes : binaire, ternaire, rondo, sonate, thème et variations... - noter les thèmes, mélodies, rythmes, techniques caractéristiques de ces parties	- continu/discontinu - longueur, carrure, point culminant - intervalles utilisés, chromatisme - rythme caractéristique - ambitus - registre - style, caractère - cas de la voix : mélismes, vocalises, syllabisme ? - socle harmonique, type d'accompagnement - rôle structurel (transposé, développé et dans quelle partie ?) - type de thème → antécédent-conséquent (<i>period</i>), <i>sentence</i>, hybride, composé... - noter les thèmes - à quel(s) instrument(s) sont-ils joués ?	- tempo : . vif, lent, modéré ? . donner approximativement le mouvement . changements de tempo ? - mesure : . mesuré/non mesuré . binaire/ternaire . temps forts → en déduire la mesure . changements, fréquence - rythmes : . durées caractéristiques . rythme caractéristique (de danse, rythmes grecs...) . cellules rythmiques ? . <i>ostinato</i> ? hémioles ? . syncopes ? valeur ajoutée ? . les noter - ralenti, <i>accelerando</i> ? - rôle des silences	- impression : clair, statique, confus, tendu ? - consonant/dissonant - mode : majeur, mineur, autre (modes anciens, pentatonique, gamme par tons...) - tonalité principale : choix, connotation - principal parcours tonal : - modulations aux tons voisins, à la tierce, aux tons éloignés, à la sixte napolitaine... - mineur - mélodique/harmonique - type d'accords : parfaits, septième de dominante, d'espèce, quarte et sixte, septième diminuée, accords altérés... - cadences employées, enchaînements harmoniques caractéristiques → les noter (basse et chiffrage)	- procédés d'écriture : . horizontal/vertical . mouvement des voix : parallèle, contraire, oblique . imitations . monnayage . augmentation/diminution . renversement . pédale . <i>ostinato</i> . basse continue . élimination . tuilage . superposition . variation . accompagnement . etc. - nuances : contrastes, progressions ? - accentuation - si texte : langue, rapport texte-musique - figuralisme ? - genre, époque, pays - langage, style - remarques sur l'enregistrement : interprètes, interprétation ?

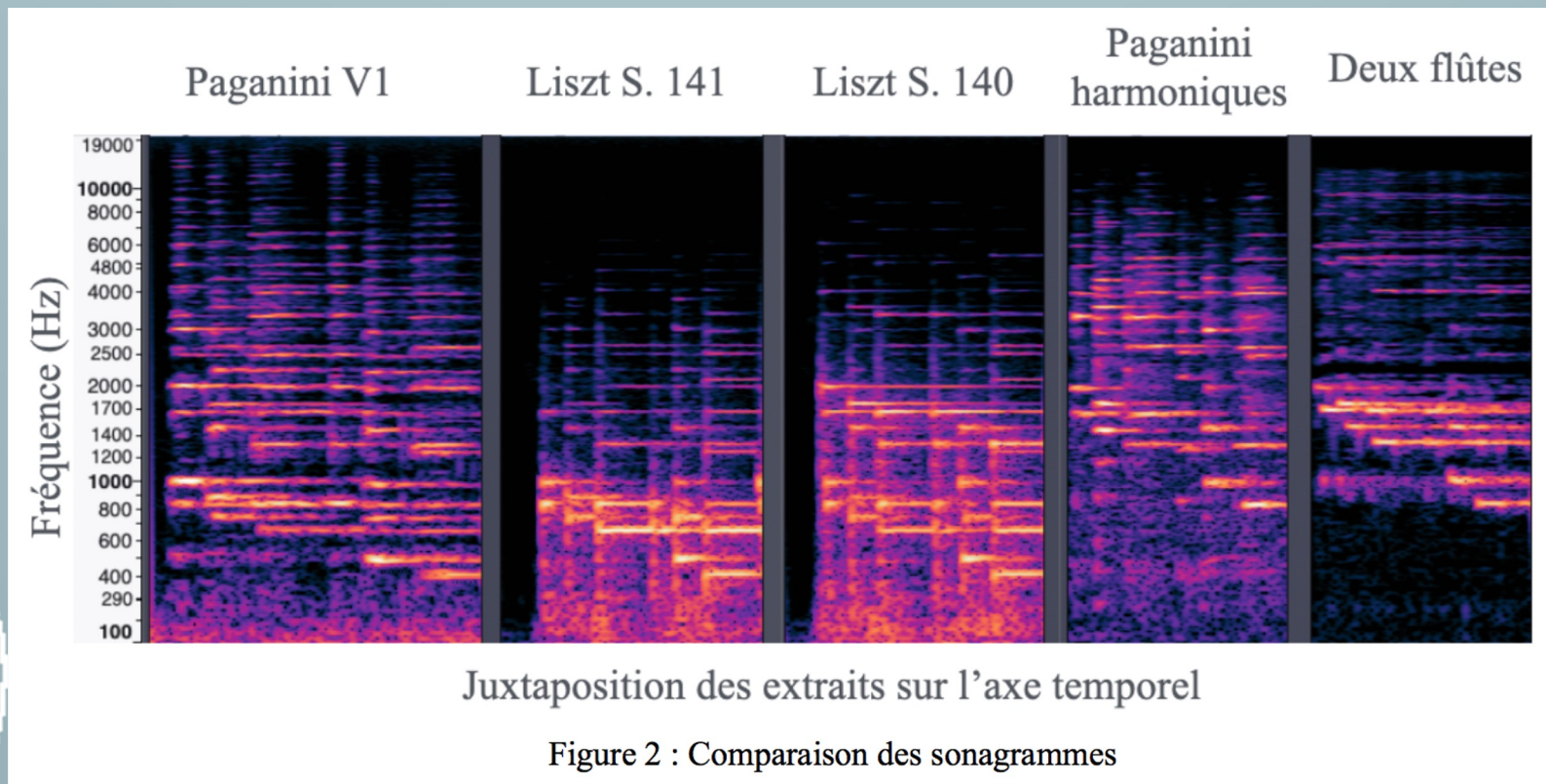
Listening grid for auditory analysis used at undergraduate level (Sorbonne University, "Evolution of Musical Language" module)

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Conceptual Framework, Methodology & Implementation

- Development of a timbre-based aural analysis (identification of sound sources, instrumental and orchestration techniques, etc.)
- Development of instrumented listening and expertise in the use of appropriate digital tools (Sonic Visualiser, Acousmographie, etc.)
- Emphasis on methods combining score analysis and musical listening, in particular the Taxonomy of Orchestral Grouping Effects (McAdams et al. 2022)

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis



*Excerpt from a student paper written at Master level
(Sorbonne University, Master seminar "Analyzing Timbre, Analyzing Orchestration",
academic year 2025–26)*

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Conceptual Framework, Methodology & Implementation

- Development of a timbre-based aural analysis (identification of sound sources, instrumental and orchestration techniques, etc.)
- Development of instrumented listening and expertise in the use of appropriate digital tools (Sonic Visualiser, Acousmographie, etc.)
- Emphasis on methods combining score analysis and musical listening, in particular the Taxonomy of Orchestral Grouping Effects (McAdams et al. 2022)

The diagram illustrates the orchestration perception across measures 78 to 84 of the second movement of Ligeti's Requiem. It features a horizontal timeline with vertical grid lines for each measure. The background is divided into three main horizontal sections: a light green section at the bottom for vocal parts (Mezzo-soprano Alto, Soprano), a light blue section in the middle for instrumental parts, and a light orange section at the top for texture integration. Key elements include:

- Measures 78-80:** Focus on vocal parts and initial instrumental textures. Labels include 'Intégration de texture de surface' and 'Stratification'.
- Measure 81:** Introduction of 'Premier plan' (First Plan) with 'Augmentation timbrale' (Timbral Augmentation) for Trombones and Soprano.
- Measure 82:** Further development of the 'Premier plan' with 'Émergence timbrale' (Timbral Emergence) for Trompette (Trumpet) and Trombones.
- Measure 83:** Introduction of 'Plan intermédiaire' (Intermediate Plan) with a list of instruments: Harpe (Harp), Trombones, Flutes, and Haubois (Oboes).
- Measure 84:** Culmination with 'Intégration de texture de surface' and 'Limite sectionnelle' (Sectional Limit).

 Arrows indicate the flow and integration of these elements across the measures.

*Excerpts from student papers written at Master level
(Sorbonne University, Master seminar “Analyzing Timbre, Analyzing Orchestration”,
academic year 2023–24 and 2025–26)*

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Conceptual Framework, Methodology & Implementation

- Implementation in the context of various musical repertoires (Western art music from diverse periods, popular music, traditional music, film music, etc.)
- Development of a collaborative approach based on research and, if applicable, practice

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Music Repertoires	Academic Year 2025-26
Western art music – 18th century	❖ Edelmann, piano music
Western art music – 19th century	❖ Liszt/Verdi and Pfeiffer/Verdi, transcription of <i>Il Trovatore</i>, “Miserere” ❖ Liszt/Paganini, transcription of <i>Caprice</i> No. 9 ❖ Sterdale, Symphony in g ❖ Brahms, Intermezzo Op. 118 No. 6
Western art music – 20th century	❖ Sohy, “Le feu s'est éteint” (<i>Trois chants nostalgiques</i>, Op. 7, No. 2) ❖ Pipkov, Symphony No. 1 ❖ Ligeti, Requiem
Popular music	❖ The Winstons , “Amen, Brother”
Traditionnel music	❖ Ladrang Eling-Eling (gamelan)
Film music	❖ Revueltas, <i>Redes</i>

*Music repertoires explored by students at Master level in the context of their research-based projects
(Sorbonne University, Master seminar “Analyzing Timbre, Analyzing Orchestration”, academic year 2025–26)*

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Conceptual Framework, Methodology & Implementation

- Implementation in the context of various musical repertoires (Western art music from diverse periods, popular music, traditional music, film music, etc.)
- Development of a collaborative approach based on research and, if applicable, practice

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Outcomes & Pedagogical Impact

- Stimulation of new listening experiences, shifting the focus away from pitch alone, as evidenced by students' auditory analysis reports
- Development of an interdisciplinary approach to music theory and analysis in relation to acoustics, psychology, computer science, etc.
- Improvement of the accessibility to music theory and analysis for students with diverse profiles in terms of disciplinary background, musical culture and relationship to musical practice

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

“Although Liszt’s piano version S. 140 — which includes an octave doubling — does not sound quite as close to the flute, it is nevertheless closer to it than the piano version S. 141 without doubling.”

“From a perceptual standpoint, and even with the aid of a spectrogram, it is difficult to determine precisely which instrument comes in at 0:29:7.”

*Excerpts from student papers written at Master level, translation from French
(Sorbonne University, Master seminar “Analyzing Timbre, Analyzing Orchestration”,
academic year 2023–24 and 2025–26)*

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Outcomes & Pedagogical Impact

- Stimulation of new listening experiences, shifting the focus away from pitch alone, as evidenced by students' auditory analysis reports
- Development of an interdisciplinary approach to music theory and analysis in relation to acoustics, psychology, computer science, etc.
- Improvement of the accessibility to music theory and analysis for students with diverse profiles in terms of disciplinary background, musical culture and relationship to musical practice

Perspective 4 – Timbre, Orchestration, and Multimodal Analysis

Outputs & Perspectives

- Since 2021–22: Master seminar “Analyzing Timbre, Analyzing Orchestration” provided at Sorbonne University (semester 2, 13 hours lecture)
- Since 2025–26: Annual research seminar and conference “Timbre and Orchestration” open to students (4 three-hour seminar sessions and a one-day conference per academic year, org. N. Hérold and J.-J. Velly)
- In the future: Development of new teaching materials focused on timbre and orchestration theory and analysis at undergraduate level
- In the future: Publication of a handbook on timbre and orchestration theory and analysis

Perspective 5

Audiotactile Pedagogy and Jazz Education

Jazz as a Process, B. Evans, 1966



Conceptual Framework: Audiotactile Music Theory

- Formativity

[...] a certain “doing” which, while doing, invents the “way of doing”; a “production” which is, at the same time and inseparably, “invention”.

(Pareyson 1954)

Conceptual Framework: Audiotactile Music Pedagogy

- Mediology & cognitive processes

Medium	Highly prescriptive score	Recordings & low-prescriptive scores
Learning process	Reductionist	Holistic
Theory	Objectived	Embodied
Implementation procedures	Interpretation based on score	Extemporisation based on the source material
Formativity	Visive	Audiotactile

Perspective 5: Audiotactile Pedagogy and Jazz Education

Conceptual Framework: Audiotactile Music Pedagogy

- Audiotactile formativity

Audiotactile formativity is a mode of psychic and bodily perception specific to each individual, inducing musical representations and skills that are mobilized in the immediate interaction with a performance context.

(Audard, 2025)

Perspective 5: Audiotactile Pedagogy and Jazz Education

Pedagogical Application

- Jazz ensemble of Sorbonne University, Musicology Department



Pedagogical Application

- Articulation of mediums of transmission with a large jazz ensemble

TUTU

HALF TIME SHUFFLE ♩ = 70 MARCUS MILLER

INTRO



5 **G-7**

9

13 **(A)**

G-7 **G-6** **G-(Δ)**

17 **E♭Δ/G** **G-7**



Miles Davis, "Tutu", *Tutu*,
Warner, 1986

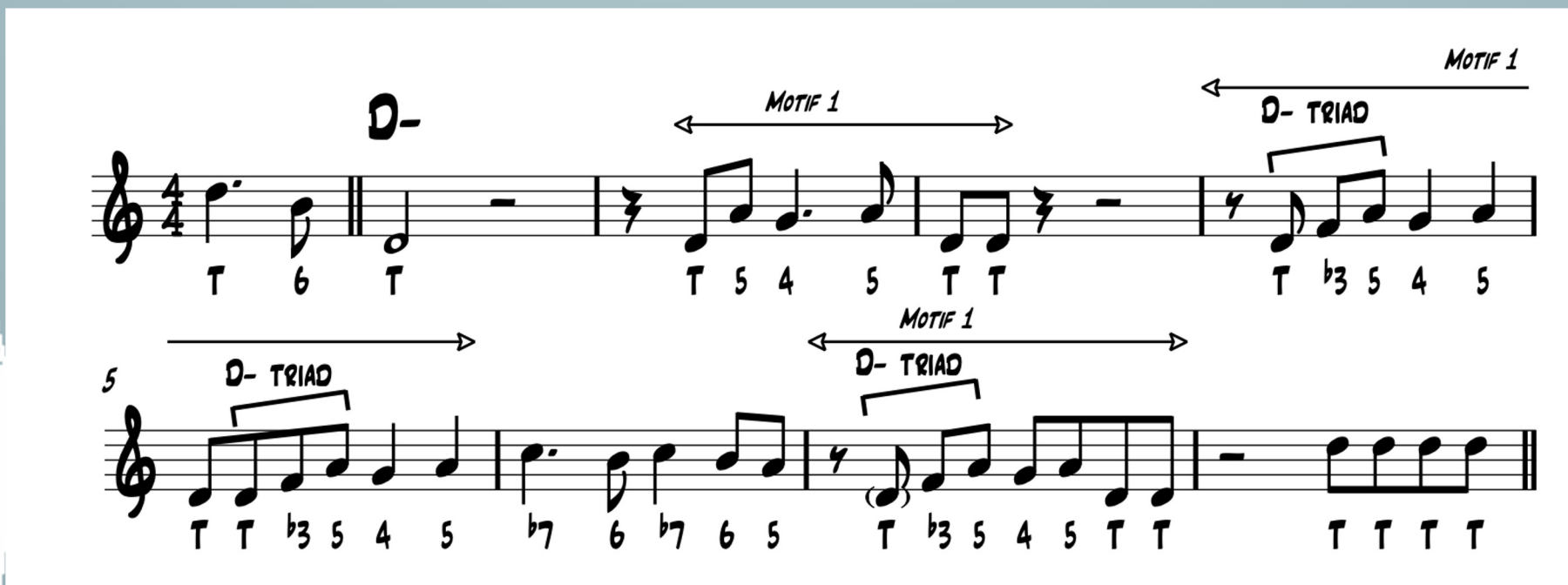
Pedagogical Application

- Integrating Theory into Performance



Pedagogical Challenge

- Integrating Theory into Performance



The image displays a musical score for Miles Davis's "So What" in 4/4 time, focusing on the D- triad and Motif 1. The notation is presented on two staves. The first staff begins with a D- triad (D, F, A) and includes a double bar line. Following this, Motif 1 is introduced, consisting of the notes D, E, F, G, A, B, C, D. The second staff continues the melody, featuring a D- triad (D, F, A) and Motif 1. The notation includes fingerings (T, 6, T, 5, 4, 5, T, T, T, b3, 5, 4, 5, b7, 6, b7, 6, 5, T, b3, 5, 4, 5, T, T, T, T) and dynamic markings (D- TRIAD, MOTIF 1). The score is written in 4/4 time and includes a double bar line at the end.



Miles Davis, "So What", *Kind of Blue*, Columbia, 1959

Outcomes & Pedagogical Impact

- Include students from diverse backgrounds

Sections	Students	Classical	Jazz	Pop/Rock
Strings	4	4	0	0
Woodwinds	6	4	2	0
Brass	4	3	1	0
Rhythm	8	0	4	4

Outcomes & Pedagogical Impact

- Students implication in learning processes
- Collective evaluation criteria of improvised performances

Improvised jazz performance, as an collective formativity, “consists of a dynamic process of producing, inventing, and evaluating a shared artistic set of rules in real time”.

(Araújo Costa 2016)

Perspective 6:

An Atlas of Musical Languages

Perspective 6: An Atlas of Musical Languages

Institutional & Research Context: IReMus, Langues Musicales team, in collaboration with the Department of Music and Musicology



Music theory rarely teaches its own language:
it trains students to apply concepts, but not to
question the conceptual tools that make musical
objects thinkable.

Pedagogical Challenge

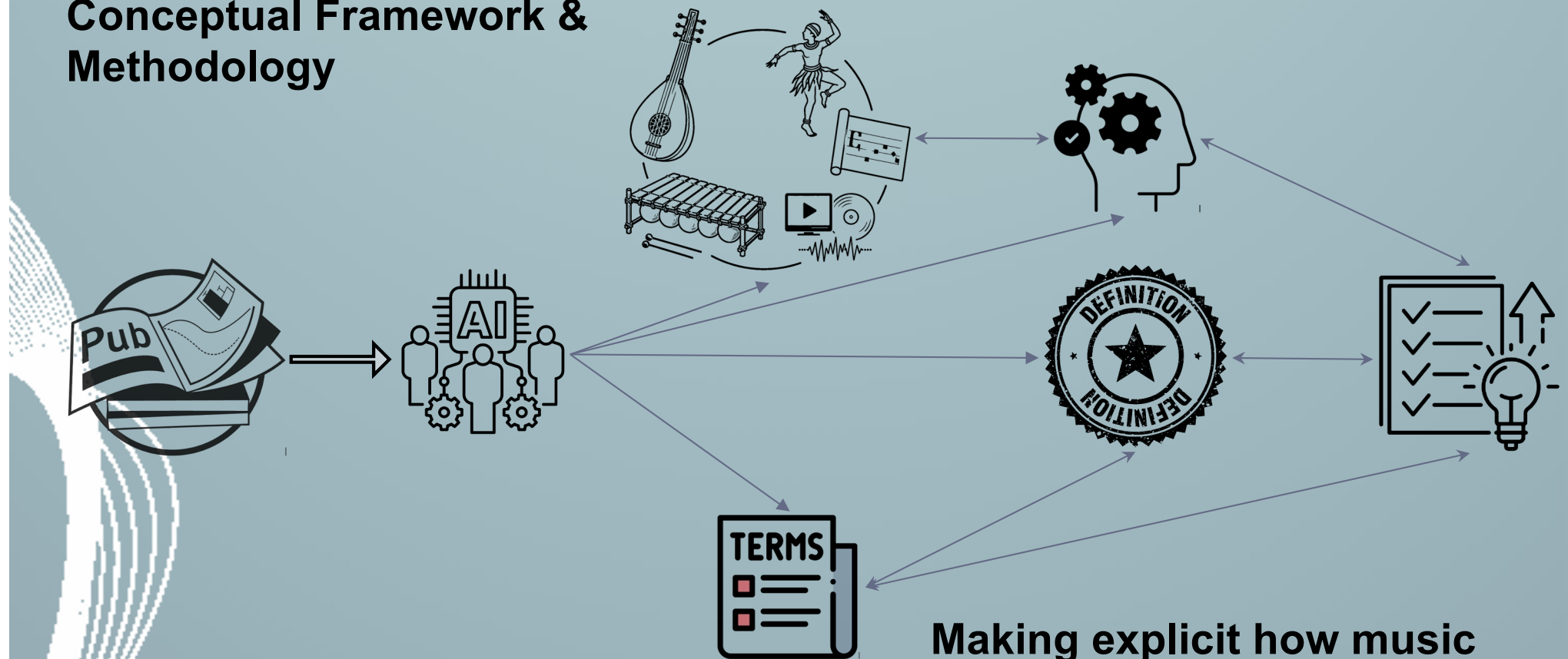
- 
- 1 concept = 1 definition
 - Linear knowledge
 - Stable categories

**Didactic
simplification**

- 1 concept = multiple definitions
- Networked knowledge
- Contextual variability

**Musical
complexity**

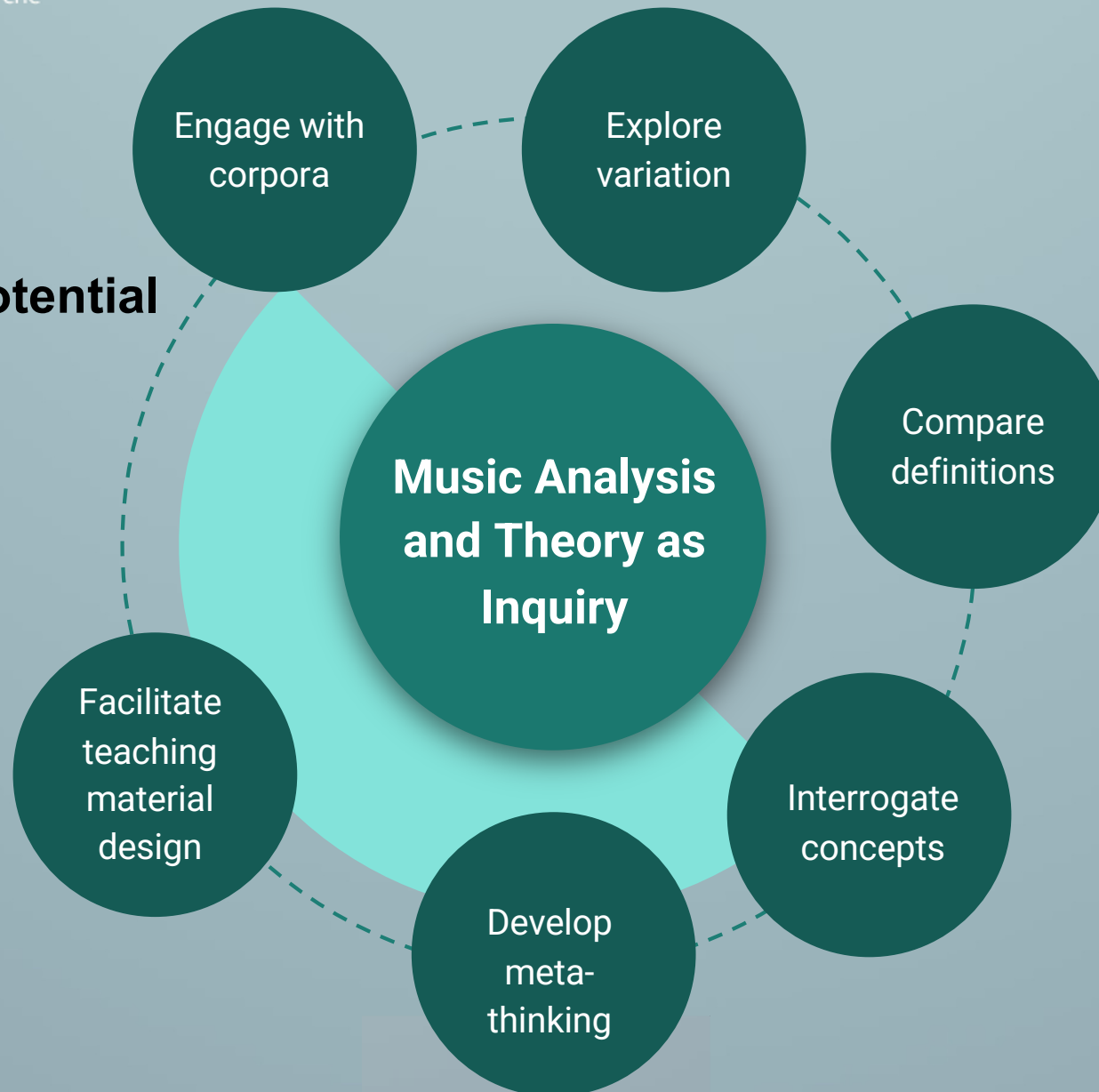
Conceptual Framework & Methodology



Making explicit how music theory constructs, stabilizes and transforms meaning.

Perspective 6: An Atlas of Musical Languages

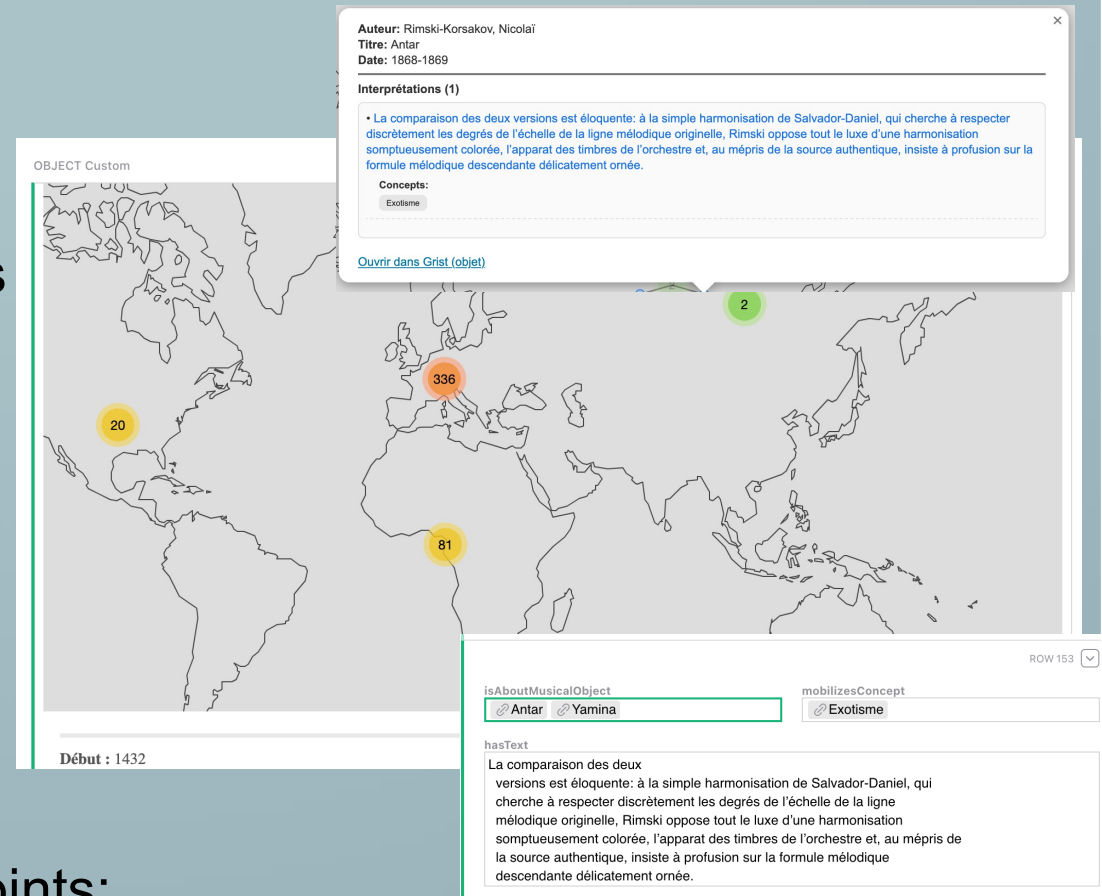
Teaching Potential



Perspective 6: An Atlas of Musical Languages

Outcomes & Impact

- Prototype knowledge graph built from IReMus publications
 - 41 academic publications
 - 648 terms
 - 708 concepts
 - 522 musical objects
 - 1129 analytical interpretations
- Different pedagogical entry points:
 - Musical objects => Analytical interpretations => Concepts
 - Concepts => Definitions => Terms
 - Terms (in different languages) => Definitions => Publications
 - [...]



Outputs & Perspectives



Go global: Scale a knowledge infrastructure for mapping musicological theory across corpora, institutions, and international contexts



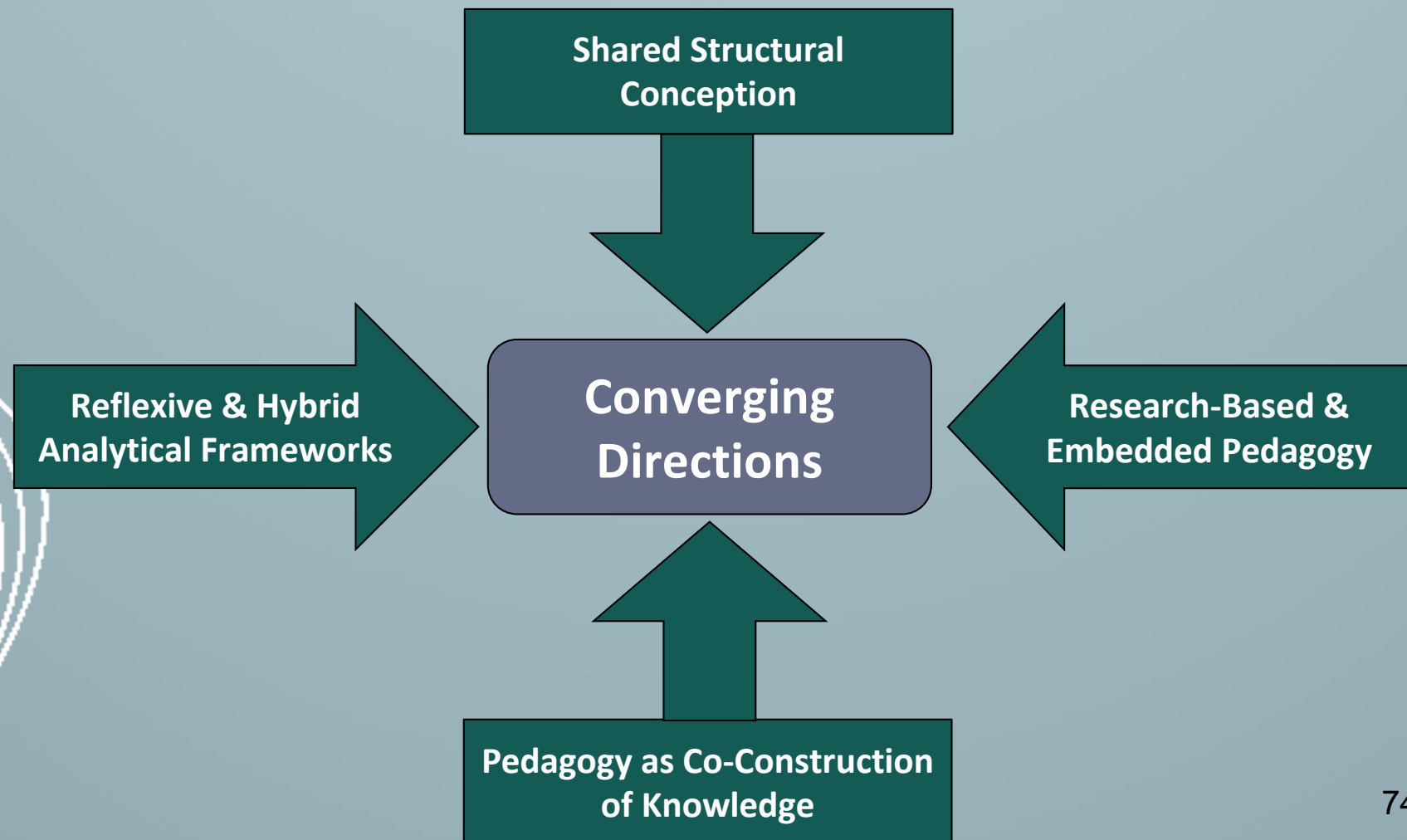
Design for teaching: Turn the knowledge graph into pedagogical interfaces for music theory education



Expand exploration: Navigate across concepts, definitions, musical objects, and interpretations within a structured musicological knowledge space linking research and education

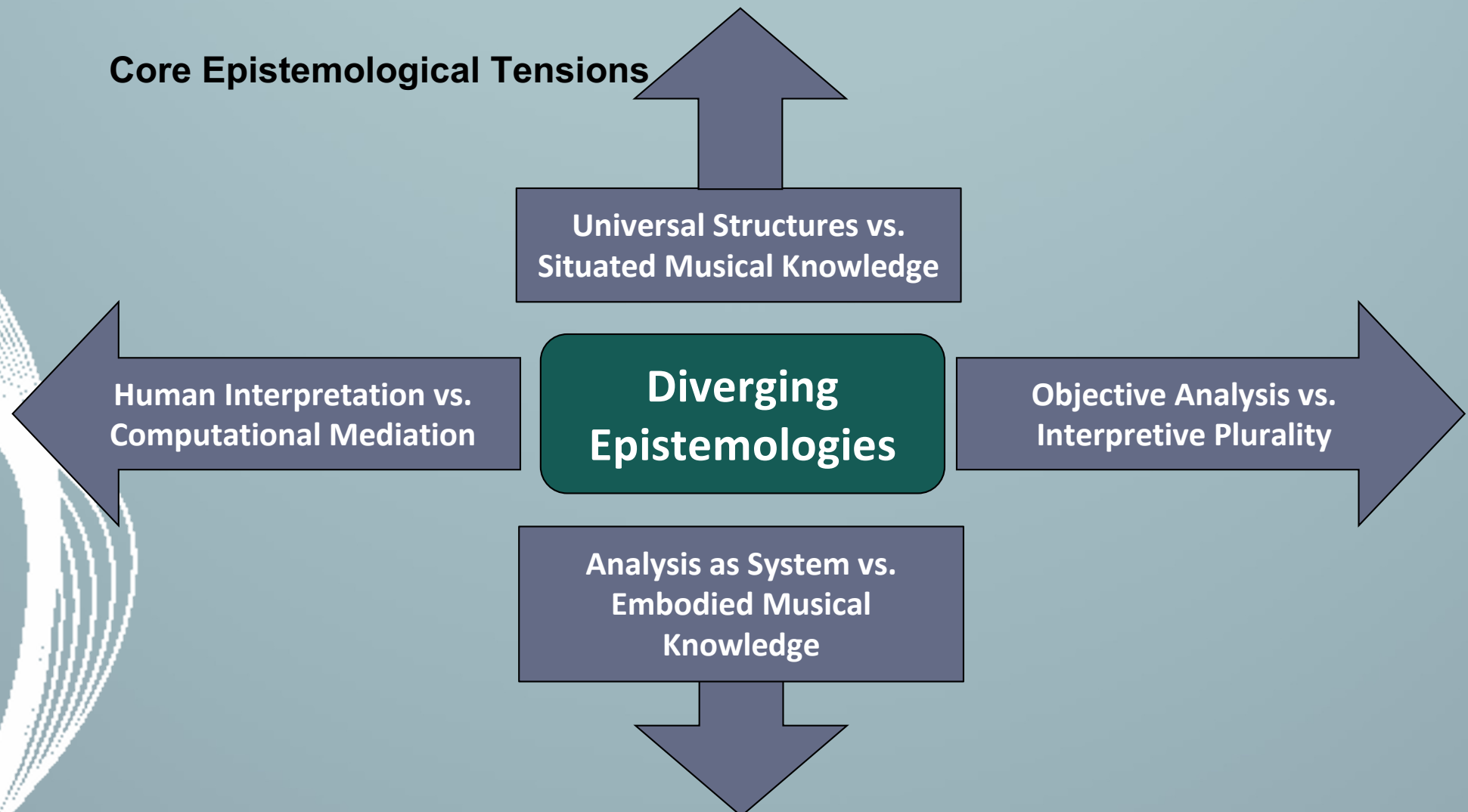
Negotiating Plurality in Music Theory Pedagogy

Shared Pedagogical Directions in Contemporary Music Theory



Negotiating Plurality in Music Theory Pedagogy

Core Epistemological Tensions



Negotiating Plurality in Music Theory Pedagogy

Questions:

Reframing Inclusivity: How can music theory broaden its objects without losing its analytical identity?

How can music theory pedagogy **remain attractive without sacrificing analytical depth?**

Can analytical concepts **travel across musical worlds?**

If analytical **disagreement is constitutive rather than exceptional**, what becomes of the pedagogical notion of correctness?

Can music theory pedagogy account for embodied, audiotactile, timbral, and performance-based knowledge **without translating them into abstract analytical representation?**

Can music theory pedagogy legitimately aim at **generalizable knowledge**, or must it accept the coexistence of **heterogeneous analytical regimes?**

Who holds **interpretive authority in contemporary music theory education**: the analyst, the student, the conceptual model, or the algorithm?

References

Perspective 1

- Abou Mrad, Nidaa. 2016. *Éléments de sémiotique modale: Essai d'une grammaire musicale pour les traditions monodiques*. Éditions Geuthner et Éditions de l'Université Antonine.
- Meeùs, Nicolas. 2002. Musical Articulation. *Music Analysis*, 21, 161–174.
- Nattiez, Jean.-Jacques. 2010. "Musicologie historique, ethnomusicologie, analyse: Une musicologie générale est-elle possible?", *Musicae Scientiae*, 14(2_suppl), 333–355, <https://doi.org/https://doi.org/10.1177/10298649100140S218>.

Perspective 2

- Arom S., Fernando N, Fürniss S, Le Bomin S, Marandola F, et Molino J. 2020. "The categorization of musical heritage in oral tradition societies", *Translingual Discourse in Ethnomusicology*, 37 pp.
- Le Bomin S, Lecointre G, Heyer E. 2016. "The Evolution of Musical Diversity: The Key Role of Vertical Transmission", *PLoS ONE* 11(3): e0151570. doi:10.1371/journal.pone.0151570
- Strauch Salomé, Lecointre Guillaume, Darlu Pierre and Sylvie Le Bomin. 2025. "African harps as units of cultural evolution: a cladistic analysis on their morphology ", *Evolutionary Human Sciences* (2025), 7, e31, doi:10.1017/ehs.2025.10009, Cambridge University Press, page 1 of 19.

Perspective 3

- Anne-Emmanuelle Ceulemans, et al. 2026. "Annoter, modéliser, interpréter vers un paradigme quanti-qualitatif et collaboratif de l'analyse musicale avec Tonalities." *MeSSH 2026 – Méthodes pour les Sciences sociales et les humanités Campus Condorcet*, 9-10 juillet 2026.
- Christophe Guillotel-Nothmann et al.. 2022. "Tonalities: a Collaborative Annotation Interface for Music Analysis." *Musical Heritage Knowledge Graphs, 22nd International Semantic Web Conference 2022*, Oct 2022, Hangzhou, China. [hal-03923731](https://hal.archives-ouvertes.fr/hal-03923731)

References

Perspective 4

- Hérold, Nathalie. 2019. "Analyser le timbre: objets, méthodes, représentations." In *Musique et cognition: perspectives pour l'analyse et la performance musicales*, ed. Philippe Lalitte, 15–33. Éditions Universitaires de Dijon.
- Hérold, Nathalie, and Gilbert Nouno. 2026. "Analyser les pratiques créatives en orchestration: réflexions méthodologiques dans le contexte du projet APCOR." *Revue musicale OICRM* 13 (1).
- McAdams, Stephen, Meghan Goodchild and Kit Soden. 2022. "A Taxonomy of Orchestral Grouping Effects Derived from Principles of Auditory Perception." *Music Theory Online* 28(3).

Perspective 5

- Audard, téphane. 2025. "Audiotactile Music Theory and Jazz Education: Historical and Pedagogical Perspectives." *The IASJ Journal of Applied Jazz Research* 2 (1).
- Caporaletti, Vincenzo. 2018. "Une musicologie audiotactile." Laurent Cugny (trad.). *Revue d'études du jazz et des musiques audiotactiles* 1: 1-17.
- Cugny, Laurent. 2021. *Recentrer la musique. Audiotactilité et ontologie de l'œuvre musicale : musique d'écriture, jazz, pop, rock*. Lyon, Symétrie.

Perspective 6

- Christensen, Thomas; Carmel Raz; Lester Hu. 2023-2026. "Thinking Music: Prospects for global histories of music theory", <https://neubauercollegium.uchicago.edu/research/thinking-music#>.
- Guillotel-Nothmann, Christophe. 2023. "Introduction to EMA-2023", *Epistemologies of Music Analysis: What Theories, What Methods, for What Types of Music, and in What Disciplinary and Cultural Contexts? (EMA-2023)*. Paris, <https://doi.org/10.34847/NKL.CD12V4I0>.