

# A cross-genres (ec)static perspective on contemporary experimental music

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## ABSTRACT

*This paper presents a particular perspective, shared across various currents of today’s music that focuses on sound itself as a complex entity. Through the analysis of certain fundamental musical elements and sonic characteristics, this study explores a new method for comparing different genres of music characterized by a similar approach to sound. Taking benefit of theoretical and perceptual examinations, this strategy is applied to post-spectralist and minimalist compositions (e.g. G. F. Haas, B. Lang R. Nova, G. Verrando), as well as glitch, electronic and basic-channel style pieces (Pan Sonic, R. Ikeda, Raime). Nine musical attributes are identified that help trace a new outlook on various genres of music. The study’s contribution lies in its revealing of a shared musical perspective between different artistic practices, and in the establishment of new connections between pieces that belong to unrelated contexts.*

*Keeping with the topic of the conference, this paper attempts to deal with several questions, such as (i) the “splendid of isolation” of genres of experimental music, (ii) the development of new cross-cultural methods of analysis and (iii) the future of music education and didactic approaches.*

## 1. INTRODUCTION

The field of contemporary experimental music, considered in its broad sense, is enormously diversified [1, 2], but distant genres of music have in common some characteristics even if they are part of distant cultural and social environments.

Throughout the 20<sup>th</sup> century, certain currents within exploratory music can be seen as moving progressively towards a more explicit interest in the intrinsic properties of sound [3]. Within this frame of reference, one can identify that starting from the mid-twentieth century certain trends (*i.e.* non-teleological and acousmatic perspectives; the fusion of electronic, acoustic and concrete sounds; and the extended use of sound spectra) were simultaneously developed and established as the cardinal principles of artistic practice across distant genres of music [1].

More recently, spectralism and the exploration of sound using electronic technology have acted as a sort of springboard for the development of new musical genres, namely in the electroacoustic field. At the same time, during the '80s and '90s, there was an on-going process of constant and discrete refinement within many genres of

popular and alternative music towards more advanced and sophisticated forms, *e.g.* experimental rock, drone metal, basic channel style, IDM, among others [1, 3, 4]. This process of sophistication within different genres of popular music, often accompanied by more specialized though smaller audiences, lead to a shift of perspective: from music as entertainment and distraction to being something deserving contemplative home listening focused on the sonic experience.[3, 4].

Currently, these different areas of musical exploration consider similar sonic materials and arrive sometimes at equivalent results. Common practices are found across distant styles: such as a flexible approach to harmony, the enormous extension of timbric range, the creative use of new technologies, and, above all, the sculptural approach to sound as a matter to mould. This paper looks at a cross-section of contemporary music and examines their use of fundamental musical elements in order to highlight this shared perspective across different genres of exploratory music.

## 2. AREA OF STUDY

This study considers those genres that approach sound as a sculptural material, considering it as a complex, dense and tangible entity. This description is admittedly fairly generic and vague but allows going beyond a specific instrumentation: as this paper is drawn to identify common approaches to sound irrespective of the medium used, musical practices are considered whether they are electroacoustic, purely acoustic or electronic.

On the one hand, contemporary composers such as Georg Friedrich Haas, Fausto Romitelli and Bernhard Lang have advanced their artistic practice by exploring new possibilities within instrumental music, each according to his own aesthetic, considering sound as a complex, almost tactile substance. Another characteristic common to these composers is their unconventional vision of time in music. Through their particular use of repetition and their exploration of sound spectra, their work induces a kind of temporal dilation: sound is treated as an almost atemporal object, periodic, cyclic and static.

On the other hand, post-minimalist composers and electronic performers such as Alvin Lucier, Eliane Radigue and Alva Noto have made free use of the musical theories of the “experimental school” of Cage, Feldman and Schaeffer, absorbing these influences to create more “instinctive” works. In some cases, their methods combine noise and tonal melodies (C. Fennesz), granular and

digital processes (R. Ikeda), hypnotic repetitive clusters (minimal-techno and basic channel styles), immersive multi-channels soundscapes (B. Labelle), and exploratory sound resonances (J. Kirkegaard). These approaches maintain certain common features such as non-narrative development and a particular focus on the perceptual aspects of music.

Indeed, both of these two broad musical currents have the shared desire ‘[to] create works that seek to engage the listener in a stimulating listening experience’ [5]. This listening experience is characterized by a new vision of time in music, space (i.e. multi-channels diffusion and sculptural musical design), musical evolution (non-narrative and extended) and repetition (generation of hypnotic effects and a listening “in accumulation”). These characteristics form an (*ec*)static listening environment, where the musical material is *static* (atemporal, non-narrative) and the listening attitude is *ecstatic* (free to explore and move through the dimensions of sound) [6, 7].

The variety of the cross-genres area makes a useful comparison difficult: how is it possible to examine the complex composition for 24 instruments *in vain* by Haas together with the indefinite drone of *Kesto#4* by the electronic duo Pan Sonic? In my recent paper [6], I try to approach at this musical material focusing the attention on the primal musical elements and the current study seeks to approach different genres from the side of perceived musical components rather than through comparison of any writing method or theory. Current methods approaching analysis from perceptual aspects are mostly applied to electroacoustic music [8] and focus attention on the nature of sound within a specific genre [9]. However, an effort to extend these approaches to a more general level capable of comparative studies across different styles is currently a subject of great interest among scholars [10], and is the aim of the study proposed here.

### 3. ANALYTIC PROCEDURE

#### 3.1 Method

The first step of this study is the definition of general categories to classify those musical events that seem typical of our area of study. This framework should consist of fundamental guidelines that can be adapted to different styles (e.g. acoustic, electroacoustic, electronic...) and have the potential to describe the characteristics of sound itself.

Thus, each piece is divided up according to either a narrative partitioning or a separation based on musical textures or events [8]. Each episode is analyzed and described using a combination of four categories: *time*, *dynamics*, *spectrum* and *mode*. The second step looks at the sonic effects of each musical episode, and how these define a particular musical environment (Figure 1, steps 1 and 2).

The framework put forward in this paper is designed to be flexible and comprehensive, taking the characteristic of sound itself to stimulate the listening experience as its starting point. The analytic procedure presented here is

best regarded more as a comparative method than simply a taxonomic description. Therefore, this study aims to provide a qualitative classification method with which to identify comparable musical events in a list of compositions. This analytical process was applied to a set of compositions and revealed a large number of similarities that then led to the definition of nine musical attributes.

#### 3.2 Selection Of Pieces

For the purposes of this study, compositions characterized by an absence of overt sociocultural references and containing only a small number of real-world sounds were opted for. Musical works containing narrative voices or representational musical elements would have been ill-suited to the premise of starting with sound itself: extra-musical traits are more often related to social and cultural themes than to the sonic characteristics of a piece. However, the background and context for each piece should be examined [10], allowing the influence of a composer’s poietic intention to be acknowledged. Thus, this approach should be able to decode and interpret diverse musical works and be able to identify similarities among them.

The following pieces were analysed: • G. F. Haas String *Quartet n°2* and *In vain*; • B. Lang *Differenz/Wiederholung* (selection); • R. Nova *Eleven*; • G. Verrando *Dulle Griet, Triptych #2*; • Pan Sonic *Kesto*; • Ryoji Ikeda +/- ; • Raime *If Anywhere Was Here He Would Know Where We Are, Quarter Turns Over A Living Line*, and *Hennail*.

This selection reflects a great variety of styles but all pieces display a common focus on the precise use of various spectral characteristics of sound. The range of styles represented allows this study to demonstrate that the common perspective that emerges goes beyond any specific instrumentation or genre as the pieces cover acoustic (i.e. Haas and Lang), electronic (i.e. Ikeda, Raime, Pan Sonic), electroacoustic, mixed and real-world sounds (i.e. Nova, Verrando, Lang and Pan Sonic), and span from contemporary classical music to experimental alternative music genres.

Haas’s pieces represent prime examples of contemporary instrumental music that explore various sonic characteristics through a minute exploration of instrumental spectra and a large use of microtonality. Highlighting this approach, *in vain* (2000) includes lighting instructions for live performance, denoting shifts from darkness to fully illuminated, driving the audience’s attention towards the perceptual aspects of sound.

The B. Lang project, *Differenz / Wiederholung*, is characterized by the exploration of repetitive musical elements such as looping and the idea of erratic reiteration, suggesting connections with DJ and glitch aesthetics [11]. Verrando’s and Nova’s pieces combine acoustic instruments, electronic sounds, and noise to explore new limits in electroacoustic composition, embracing, for instance, enharmonic exploration and digital manipulation.

The Finnish duo Pan Sonic (Mika Vainio and Ilpo Väisänen) and the Japanese sound artist Ryoji Ikeda are representative figures of glitch music. The former are closer to an experimental industrial aesthetic and mostly work with analogue electronic devices, while Ikeda usually creates his sound digitally using a computer. Their music is often focused on “raw” elements of sound, such as sine tones and noise, and uses an extreme spectral range pushing at the edges of human hearing. The London-based duo Raime (Joe Andrews and Tom Halstead) are typical of the recent underground scene in that they move freely between noise, techno and dub styles. Their music usually combines the asymmetrical rhythms of dubstep with minimal musical textures.

The audio, spectral and score examinations previously described reveal nine musical attributes that are to a large extent common to all these pieces (Figure 1, step 3). These attributes depict a frame of musical practices that comprises an extended spectral vocabulary, a clear use of repetitive musical units for specific purposes and a peculiar idea of time and space within the sound.

### 3.3 Nine Common Attributes

These attributes are (Figure 1, step 3):

- **(A) An Expanded Spectrum**, *i.e.* the use of an extended frequency range. This trait is especially prominent in electronic or electroacoustic pieces. However, this feature is also apparent in contemporary acoustic compositions using traditional instruments: Haas, for instance, makes frequent use of *sforzato* and *sul ponticello* techniques to generate multiple overtones in his string quartet.
- **(B) Microtonal Variations**, *i.e.* the use of microtonality or more generally interactions between neighbouring frequencies. Specifically, this attribute concerns, (i) the exploration of binaural beats (*e.g.* Ikeda, Haas), and (ii) the creation of static blocks with minimal fluctuation (*e.g.* Pan Sonic, Lang), and is found to a similar degree across the entire selection of pieces.
- **(C) Systematic Glissandi**, *i.e.* the use of glissandi embedded within repetitive units. This feature is present in most pieces: in the case of contemporary instrumental compositions, it often arises as a core structure used to create larger patterns (Haas, Lang), while in electronic pieces it is used more as a systemic contour to shape continuous evolutions.
- **(D) Rhythmic Developments** are integral to glitch or techno genres, but occasionally appear as minimal evolution in other contemporary pieces. They are frequently used by Lang within repetitive clusters (F) (see below), but also by Haas who creates synchronous progressions (*e.g.* the final part of *in vain*) that generate a kind of rhythm. In case of styles that are based on pulsations, the rhythmic development should be considered and understood within the specific socio-cultural context of these genres (*e.g.* IDM). Nevertheless, these styles do develop sophisticated rhythmic textures that are associated with timbric, spatial and dynamic attributes identified by this

analytical method. In the interests of variety, the pieces selected for this study by these authors also include ones not primarily built on pulsation or rhythmic development.

- **(E) Static Masses** are constituted by layering sounds, but can also be created through continuous stationary textures, *e.g.* Lang’s pieces. As mentioned above, this static attribute embodies an atypical vision of time. The creation of non-teleological musical sections is a common tendency among post-spectralist and minimalist pieces using an immobilized temporal flow to explore sonic nuances. This attitude is also typical of those genres that use drones (*i.e.* the use of sustained, repeated sounds, or tone-clusters) to originate hypnotic effects, such as in the work of Pan Sonic and Raime.

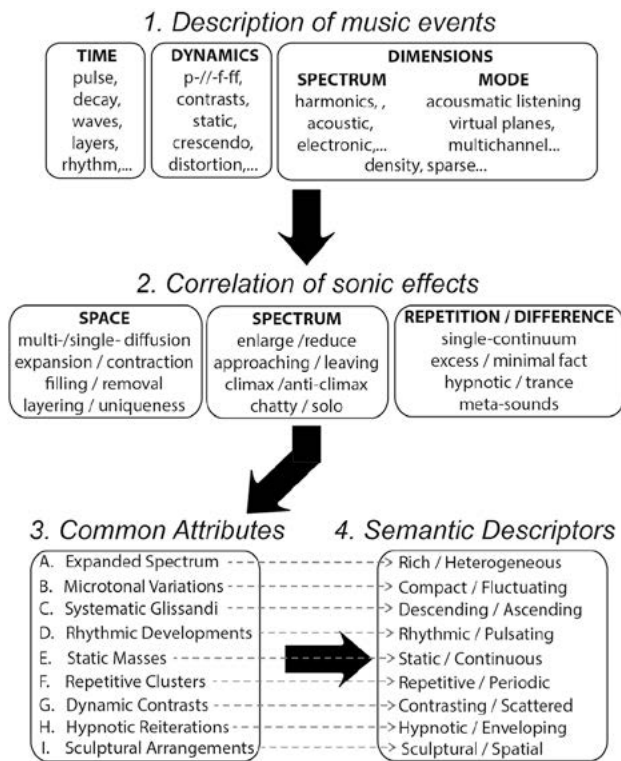
- **(F) Repetitive Clusters**, *i.e.* unvaried musical motifs that could generate rhythmic patterns (D), hypnotic effects (H), or mechanical and automated profiles. This attribute is strikingly prevalent in the pieces by Haas and Lang, where it is often the building block for more complex musical organizations. Each cluster, as a musical unit, can be composed differently: in the case of *in vain*, for example, the cluster consists of sequential (during the first part) and layered (during the final part) groups of tones. The use of repetitive clusters is also representative of glitch and electronic genres.

- **(G) Dynamic Contrasts**, *i.e.* the opposition of different elements according to certain sonic dimensions, are usually related to the sculptural use of sound (I) that is the combination and succession of events creating repetition or difference. This attribute is carefully evaluated, more through a qualitative and aesthetic assessment than a quantitative analysis using absolute values. A hasty comparison of the use of dynamic contrast in Ikeda and Haas pieces, for example, could lead to antithetical conclusions. The former makes use of extreme spectral ranges, whereas the latter creates contrasts only within a traditional acoustic palette. However, taking the possible dynamic range of instrumental composition into account, Haas’ designs can be seen as equally radical and contrasting.

- **(H) Hypnotic Reiterations**, *i.e.* repetitive musical elements used both for static (E) and rhythmic development (D) purposes. This dual purpose in creating hypnotic effects using sustained sounds or streams of short tones (E) and continuous pulsations (D) is common to all the pieces selected and helps reinforce the idea that a shared perspective arises from the use of similar practices.

- **(I) A Plastic and Sculptural Arrangement of Sound**, *i.e.* the use of a particular organization of sounds based on their various characters, be it according to their sonic and spectral characteristics. This attribute, typical of electroacoustic and mixed music, is predominant in those genres that encompass the use of multichannel sound diffusion. In our selection, the sculptural arrangement of sonic elements is focused on the organization of musical events within the inner sonic space in order to create virtual planes and dimensions of perception (*i.e.* Smalley’s spectral space and spatiomorphology [10]). In some cases (*i.e.* Pan Sonic and Raime pieces), it is also accompanied

by the use of real-world sounds that serve to clearly characterize specific spectral regions.



**Figure 1.** The analysis led to the identification of nine musical attributes (step 3), these were translated into corresponding semantic descriptors (step 4) to be used in Perceptual Studies.

### 3.4 Some Considerations

In some pieces, these attributes are frequently combined, e.g. glitch-electronic music usually exhibits repetitive clusters (F) within rhythmic frameworks (D), while the repetition of musical units (F) in Lang and Haas' pieces can at times be associated with non-rhythmic hypnotic reiterations (H) or more complex structures.

More generally, it can be seen that contemporary instrumental compositions make elaborate use of simple musical elements to create new effects: the reiteration of descending notes at the beginning of *in vain* evokes a sort of a cyclic falling whirl that constantly ascends. Similarly, electronic pieces apply drastic timbric techniques to arrive at analogous results, such as the application of periodically fluctuating frequency filters in the music of Pan Sonic (*Rafter*). When more static musical episodes are considered or even when, in the case of Lang's or Nova's pieces, electronic devices are used in notated compositions there is an explicit intention to take inspiration from wider cultural aesthetics, such as turntablism, glitch or noise for Lang, Nova and Verrando, respectively.

One might argue that this selection of pieces includes strategically chosen examples to facilitate the method of analysis and that this analysis occurs only at a relatively general sonic level. However, as this cross-genre examination is innovative and untested, it was important to start

with a solid and fertile set of musical works in order to create a clear template to be developed in the future.

Considering the overall results of this analysis, each work displays at least eight out of the nine attributes identified above. Therefore, even though these nine attributes are fairly general, their presence across all pieces represents a starting point for the definition of a common cross-genre perspective.

Now, in order to confirm if these evidences are essential, it is necessary to move from analytical approach to empirical studies. These attributes (Section 3.3) represent, in fact, the framework for the extension of the study toward perceptual examinations.

## 4. PERCEPTUAL STUDIES

The question of the perceptual aspect of sound spans an immense area of studies from psychology [12] to neurosciences [13] and concerns human reactions that extend over stimuli, feelings and emotions [14]. The majority of works in music perception makes use of several strategies (e.g. semantic differential, multidimensional scaling, verbal attribute magnitude estimation...) moving between two approaches: on the one hand, some analytical assessments aim to explore sound's qualities and timbre, using adjectives of different semantic classes to define simple sounds that are often uniform (i.e. single tones or noises) in order to have a consistent response in their examinations. On the other hand, some studies have to do more with philosophy, semiology and psychology and focuses on formalist, cognitivist and emotivist positions and refer to western classical repertoire and 20th century popular music. Within the large production of studies in music perception there is still a reduced number of works that deals with contemporary experimental music.

The lack of perceptual studies in experimental music is a sort of paradox, because many genres of exploratory music, today, deal with perceptual aspects more than ever. The interest in perception of new music seems to have moved from scholars towards composers themselves. When these two figures coincide we find interesting debates: for instance, the intense literary production within the electroacoustic communities [10] is an example of how profound is the interest in listening, perception and cognition of music within some communities.

Coming to this study, how should be treated, then, a selection of pieces with no tonal construction, no traditional narrative and time perception but containing noises, real-world elements, acoustic, electronic and manipulated sounds? This task aims to (i) evaluate the similarities, previously identified in theoretical analysis; (ii) investigate the capacity of listener to express about his perception of sound; (iii) verify if one or more styles of music are actually considered in a different manner; (iv) correlate the answer with the typology of listener: his musical training, preferences and background.

The listener's response to abstract and experimental works of music relates to rational and conceptual issues involving listener's background, but also with phenomenal qualities and pure sonic stimuli

On the one hand, the musical works selected for this study contain elaborated constructions, and consequently I could not use simple descriptors, such as “the sound is sharp or dull”, to describe, for instance, a composition for 24 instruments. These pieces include complex sounds and structured textures thus being at the same time *sharp* and *dull*. On the other hand, a more detailed comparison of the emotional effect of music would not furnish useful results; the emotional side is differently conveyed in case of a contemporary composition or an electronic club-based session: there are different purposes, enjoyments, stimuli and interests. Therefore, the emotive responses to these pieces could be greatly different and are not the central part of this investigation. Rather, I would examine the ability of different typologies of listeners to express and distinguish sonic characteristics.

For this reason, I arranged an array of descriptors starting from the nine musical attributes identified in the analytic step. This verbal translation (Figure 1, steps 3 and 4) into more comprehensible adjectives would favour the extension of the study to untrained listeners that may be unfamiliar with the meaning of specific words or idiomatic expression. However, this linguistic conversion is strictly related with the musical characteristics of the pieces and is not a universal transformation adaptable for every type of music. For instance, exclusively for this study, it has been possible to adapt the expression “microtonal variation” into the couple of adjectives “compact / fluctuating”. Within the selection of pieces, in fact, the use of microtonality is encountered in sustained musical episodes and concerns with the creation of static blocks of sound (e.g. *compact*) with aural fluctuations (e.g. *fluctuating*) generated by acoustic binaural beats.

To summarize, considering a double approach, where, on the one hand, there are practices typical of a timbre assessment, through the use of pure tones and noises, and on the other hand we find surveys that explore the emotional response towards a traditional repertoire; I may virtually place this study midway between these two approaches.

#### 4.1 Method

The examination consisted on a listening session (nine excerpts –approx. 1 min. each– from the selection of pieces, see Section 3.2) combined with an evaluation questionnaire and it has been carried out both through a web-based platform and some direct experimental surveys. The participants (N=55) were mainly students and young musicians in the age of 20 to 40 years.

The first section includes four questions to define the typology of participants (*i.e.* age, professional link to music, time of listening music in everyday life, music preferences). After that, participants could listen at the selection of the audio samples and they should answer about familiarity with the types of music samples. In the next section (Perceptual Evaluation #1), participants are invited to sort the audio samples into groups and to indicate which criteria they apply (it is specified that any criteria is acceptable and it is not compulsory to separate the samples). Subsequently (Perceptual Evaluation #2), the

list of semantic descriptors (Figure 1, step 4) is provided to the participants, who are asked to associate these descriptors to audio excerpts.

#### 4.2 General remarks on the perceptual survey

There is a prevalence of trained listeners (N=38, 68%): several personal contacts with potential participants confirmed that when untrained listeners approach the questionnaire they often left it when started to listen at the selection of pieces. They stated to feel “incompetent and unsuitable for the type of music” and become reluctant to participate.

Nevertheless the variety of typologies and musical preferences allows to traces some preliminary notations:

- there is mutual correspondence among musical preferences, familiarity with the audio samples and the questionnaire evaluation, thus indicating that besides this work extend across various genres of contemporary music is still contemplated as a “niche”, limited and isolated branch of today’s music.

- Trained participants tend to group sample based on instrumentation and recognized genres, while untrained participants also use personal sensations and feeling as parameters to classify. The results seem to suggest the most logic outcome: most of the participants (62%) is inclined to categorize pieces based on their past experience than based on their transitory sensations.

- There is a gap between trained and untrained participants. Even if I have attempted to modulate the questions in order to be understandable to all listeners, those with experiences in abstract and experimental music show a greater ability (i) to distinguish styles and genres; (ii) to identify the nature and the source of different sounds; (iii) to deal with semantic descriptors of different spheres of sense other than hearing (*e.g.* visual or tactile). In particular, when the music shows several attributes, trained participants are able to better identify them than untrained ones; whereas the piece exhibit few specific attributes, the experienced listeners succeed to improve his answer indicating additional minor attributes that the inexperienced listeners are not capable to recognize.

- Looking at the Perceptual Evaluation #1 (sorting task), there is a positive and interesting response: there is a significant number of participant (80%) able to group all the samples, accomplish multiple connections and classifications and provide detailed descriptions of the criteria they used. This evaluation (PE1) tells us that the major sorting criterion appears to be the recognized instrumentation and style. At the second stage, participants consider the atmosphere and character of a piece. The results confirm essentially that a common platform among distant genres could exist if this second criterion that concerns more with musical atmosphere and sonic character and effect, is not just a secondary aspect but holds a important role. A future study should (i) investigate longer audio samples, (ii) focuses on the aural effect of the music and (iii) account for a more profound depiction of piece’s sonic nature.

• The Perceptual Evaluation #2 has been accomplished more successfully than PE1: it seems to be more demanding to define own musical decisions and express them with own words (PE1) than combine and associate given expressions to what one had listened before (PE2). In general, untrained listeners handle better generic descriptors and those that relate more with effect of music (e.g. “hypnotic”, Figure 1, step 4) than with intrinsic qualities. On the contrary, trained listeners prefer functional and structural descriptors (e.g. “sculptural”, “fluctuating”). In the future, it could be important to differentiate these classes and explicitly declare when it is aimed to inspect inner quality of sounds and their effect.

## 5. CONCLUSIONS

This study focus on a specific facet of today’s experimental music, selecting works that favour the exploration of sound itself over more structured writing techniques or systems. On the one hand, this study looked at styles of music that deal with a limited set of characteristics (e.g. hypnotic effects, repetition, rhythm) but which make use of innovative sonic contrasts and complex elaborations of sound. On the other hand, compositions belonging to the so-called contemporary instrumental music genre were seen to hold similar qualities within more elaborate structures.

This paper does not intend to over- or underestimate any particular genre of music, but aims rather to highlight interesting correspondences between distant genres according to specific uses of sonic material and so originate constructive debates. It strives to compare (other than analyse) different styles based on a more aesthetic approach, trying to express it through descriptive attributes able to define more clearly this cross-genres perspective. The latter, in fact, even if it could be likely well know among scholars and trained listeners, continues to be indistinct and not fully recognized.

Perceptual studies reveal that there is still a virtual barrier that separates the world of exploratory music (academic and independent) and the study highlight the difficulties that inexperienced listeners encounter approaching a diverse material of experimental music. However, this work suggest that it would be possible to set a series of informative tools for young students and listeners to approach this type of music. Moreover, the study helps to define the potential of a semantic descriptor when connected to the field of contemporary exploratory music (e.g. how an adjective works, where and how it should be applied...).

Finally, the paper (i) shows an advanced strategy that combines perceptual studies with theoretical analyses to define a more profound cross-genres perspective over experimental fields of today’s music; (ii) it displays correlations among these audio extracts and open the way to reflect in how distant pieces could be treated; (iii) it permits a better understanding of various fields of music and would facilitate artistic convergences and (iv) it would help in the creation of didactic and academic platforms

for the study of diverse musical contexts within a unified framework.

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