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"Analysis beyond Notation in XXth and XXIst Century Music"
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New Graphic Representation for Old Musical Experience: Analyzing Improvised Music

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Abstract

In the focus of this paper are some questions inherent to the use of various graphic analytical tools in order to approach the analysis of free improvisation. On the one hand, free improvisation has the doubtful reputation of having no structure, presumably no theoretical background and therefore being not suitable to analysis. On the other hand, a concentrated listener perceives constructive strategies and formal processes, which can be described and qualified. Moreover, the publication of some improvisatory sessions on recorded media (for example by Gruppo di Improvvisazione Nuova Consonanza or New Phonic Art) induced in the audience the sense of a work character which was mostly non premeditated, but that would become an essential component in its subsequent reception, with consequences ranging from aesthetic evaluation to stylistic emulation. The research will focus on various graphic models for analysis of improvised music of the late Sixties in order to make the discourse about structure, time, gestures, sound, and performance possible.

Keywords: Improvised music, performance, analysis, graphic score, Nuova Consonanza

Nuevas formas de representación para la experiencia musical antigua: analizando la música improvisada

Resumen

En el centro de este artículo están algunas cuestiones inherentes al uso de varias herramientas analíticas gráficas para abordar el análisis de la improvisación libre. Por una parte, la improvisación libre tiene la dudosa reputación de no tener estructura, presumiblemente tampoco

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base teórica y por todo ello de no ser apta para el análisis. Por otra parte, un oyente atento percibe estrategias constructivas y procesos formales, los cuales pueden ser descritos y calificados. Además, la publicación de varias sesiones de improvisación en soportes de grabación (por ejemplo, por el Gruppo di Improvvisazione Nuova Consonanza o New Phonic Art) indujo en el público la sensación de obra finalizada que en su mayor parte no era premeditada, sino que se convertiría en un componente esencial en su recepción posterior, con consecuencias en la evaluación estética y la emulación estilística. La investigación estará enfocada en varios modelos gráficos para el análisis de la música improvisada de finales de la década de los años sesenta con el propósito de elaborar un discurso sobre la estructura, el tiempo, la gestualidad sonora y la interpretación.

Palabras clave: música improvisada, *performance*, análisis, partitura gráfica, Nuova Consonanza

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Novas formas de representação gráfica para antigas experiências musicais: uma análise de música improvisada

Resumo

Este artigo aborda questões associadas à aplicação de várias ferramentas de análise gráfica na análise da improvisação livre. Por um lado, a improvisação livre tem a discutível reputação de não ter uma estrutura, de, presumivelmente, não ter uma base teórica e, portanto, não ser adequada pela análise. Por outro lado, um ouvinte concentrado é capaz de perceber estratégias construtivas e processos formais que podem ser descritos e qualificados. Além disso, a publicação em suportes gravados de algumas sessões de improvisação (por exemplo, Gruppo di Improvvisazione Nuova Consonanza ou New Phonic Art) induzem no público a sensação e o caráter de obra, algo que não é frequentemente premeditado mas que se transforma num componente essencial para a recepção com consequências que variam entre a avaliação estética e a emulação estilística. A investigação incidirá sobre diferentes modelos gráficos para uma análise da música improvisada do final da década de 1960, discorrendo sobre estrutura, tempo, gesto, som e performance.

Palavras-chave: Música improvisada, performance, análise, partitura gráfica, Nuova Consonanza

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This paper focuses on some theoretical questions inherent to the use of various graphic analytical tools in order to approach the analysis of free improvisation. The aim in itself –the analysis of improvised music– presents many questionable aspects that are in the focus of many recent studies and research projects and cannot be summarized here (Sheehy 2013). Nonetheless, some initial statements have to be clarified in order to continue this discussion, such as: Why do scholars analyze improvised music? What is the very object of this analysis or analyses in general? On which kind of sources does the analysis base? Which limits does the object of analysis present? How do these limits condition the analytical process? Which is the best way of sharing the results of the analytical process?

Because of methodological reasons and in order to avoid the risks of generalization, I will answer these questions considering only the period 1965-1976. Within the European context, many groups contributed to improvisation in contemporary experimental music, such as New Phonic Art with Vinko Globokar, AMM with Eddie Prevost and Cornelius Cardew, or Musica Elettronica Viva (MEV) with Alvin Curran, and Gruppo di Improvvisazione Nuova Consonanza (GINC) with Franco Evangelisti, on which this paper focuses.

For free improvisation in general, and more specifically for the GINC experience, the common-sense definition of improvised music, as music with the doubtful reputation of having no structure, presumably no theoretical background and therefore being not suitable to analysis has to be abandoned. Studies and research on this topic (the International project Improvised Music in Europe 1966-1976 coordinated by Gianmario Borio and Veniero Rizzardi[1]; Wagner 2004, Caporaletti 2005, Beck 2012, Guaccero 2013, Anderson 2013), allow us to affirm that:

1) Free improvisation was conceived as a collective experience, no author (composer) is recognized, no score (verbal, graphic or traditional) is present, all members are performers and composers at the same time, no distinction between composer and performer is necessary;

2) The structure of improvised music is the result of a real-time action/reaction strategies guided by common practice rules of the group in order to create a coherent musical experience;

3) The groups diverge for what concerns definition (either clearly expressed or not) and use of the rules; they represent the theoretical background of the group's experience;

4) An attentive listener perceives constructive strategies and formal processes which can be described and qualified;

5) Improvised music released on the recorded media changes the status from a real-time listening experience to a document which can be replayed and therefore analyzed as non written but as a recorded item;

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[1] http://www.cini.it/en/events/international-conference-improvised-music-in-europe-1966-1976 (accessed: September 30, 2015).

6) The recording induced in the audience the sense of a work status, which was mostly unintended, but became an essential component in the subsequent reception (with consequences such as aesthetic evaluation, stylistic emulation, etc.).

The questionable status of improvised music recordings as the object of analysis is immanent in this specific context. Many performers and scholars have pointed out this central aspect; among them, Cornelius Cardew stressed it in an exemplar way in his *Towards an Ethic of Improvisation*:

> Documents such as tape recordings of improvisation are essentially empty, as they preserve chiefly the form that something took and give at best an indistinct hint as to the feeling and cannot convey any sense of time and place. […] What a recording produces is a separate phenomenon, something really much stranger than the playing itself, since what you hear on tape or disc is indeed the same playing, but divorced from its natural context. What is the importance of this natural context? The natural context provides a score which the players are unconsciously interpreting in their playing. Not a score that is explicitly articulated in the music and hence of no further interest to the listener as is generally the case in traditional music, but one that coexists inseparably with the music, standing side by side with it and sustaining it (Cardew 1971: xxvii; xx).

As stressed in point 5) for the present research the role of improvised music recordings has been recognized as a starting point, considering that, among interviews and writings about the experience (the impact of this material will be discussed later), recordings are the only trace of those real-time musical actions of the past. They take the status of object of analysis even if there is no text in a traditional way, but there is a document –the only possible one as in the case of electronic music– that is represented by the recording (De Benedictis 2005), and for the sake of analysis, recordings may be treated as composition (Sheehy 2013). From the first studies on the status of recorded music (Elste 1987) to the more recent publications of the Centre for the History and Analysis of Recorded Music (UK)[2] many aspects of the issue as well as new analytical tools have been developed. For what concerns GINC improvisations, the published recordings of the first phase by GINC (1965-1972) are at present available in four albums (LP or mastered as CD)[3].

Once we accept the limited status of a recording compared to a live performance (Bailey 1993: 103-104), another question that has to be discussed is the finite nature of something that was conceived idealistically without a beginning and without an end. The length of the recordings must be considered in any discourse about formal aspects (or about shaping music time) of improvised music, especially when the length of the recordings does not coincide with the length of the improvisation sessions. The music material developed and investigated by improvised music collectives in the late Sixties shares some features and shows common aesthetic positions. For example they all avoid any reference to classic, avant-garde or jazz music whose stylistic code was mainly expressed by certain ways of organization of pitch and duration. The liberation from the system of primary parameters as pitch, duration and recognizable instrumental timbre –for the

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[2] http://www.charm.rhul.ac.uk/studies/p6.html (accessed: September 30, 2015).
[3] G*ruppo di Improvvisazione Nuova Consonanza*, LP 1966; *Improvisationen*, LP 1968; *Nuova Consonanza 1967-1975*, CD 1998; *Azioni 1966/1969*, CD/DVD 2006. Some unpublished material has been recently discovered; personal communication by Maurizio Farina (Archive "Nuova Consonanza").

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experience of GINC in particular– showed, as a direct consequence, the predominance of timbre variety that stimulated the use of extended instrumental techniques as well as the use of non-musical instruments and various tools in order to produce all kinds of almost indeterminate sound. The result is a new musical idiom strongly based on sound as a new category. In the context of free improvisation, as in the context later defined with the term "sonic art" (Wishart 1996), the experience is to be differentiated from traditional musical practices in that it subsumes rhythm, dynamics and pitch into the broader parameters of time, amplitude and timbre; the latter are conceived of as continua, within which discrete units such as metric values, well-tempered pitch, and instrumental timbre can be isolated. In his definition of sonic art (and improvised music of the late Sixties could be included, *a posteriori* from reasons previously clarified), Wishart inverts the hierarchy found in Western art music and states "(1) that pitch-free materials can be structurally organized, though not in the hierarchic fashion used in lattice pitch music; (2) that anecdotal aspects of sound-material can also be organized coherently and in a complex manner and even enter into our perception of the most supposedly abstract pieces" (1996: 7).

In this paper I will consider "RKBA 1675/I", released in 1966[4]. Among "Light Music" (1967) and "Omaggio a Scelsi" (1976), this improvisation represents one of the most coherent improvisations with respect to the idea of continued and sustained texture and the sonic approach can be stated as the first level of an analytical process. Various models can be used (Roy 2003, Landy 2007, Smalley 1986, etc., for an overview see Zattra 2005 and Emmerson-Landy 2016). Focusing on sound material or more generally speaking on sounds, the starting point can be the schafferian model as systematized by Michel Chion (1983) and later simplified by Lasse Thoresen (2007 and 2010). In this auditive analysis of musical structure, three tasks of typo-morphology (identification, classification, and description) are developed to a sophisticated system with its own graphic symbols (Thoresen 2007).

The first phase in identifying sound objects (single/short sounds or noises; continuous/long sounds-homogenous or granular; gestural shapes-pitched or unpitched, with or without recognisable rhythmic pattern) is articulated in three levels: 1) sound objects, i.e. single sound objects, analyzed in spectromorphologic terms; 2) elementary gestalts, i.e. combinations of sound objects into small patterns; 3) form gestalts, i.e. patterns of elementary gestalts (Thoresen 2007). The second phase consists in classifying them into basic characteristic types: 1) recognizable/unrecognizable source; 2) harmonic/inharmonic sound spectrum. The final phase comprises description of their characteristics in detail.

The model offers a useful method for approaching the sound objects and their various structures even for instrumental music (Decroupet 2012). But to apply this model to an improvisation recording reduced listening, as theorized by Schaeffer, seems to be inadequate (Chion 1983). If we try to analyze "RKBA 1675/I" we obtain a list with some very general sound descriptions. For single/short sound objects: high pitched non-iterated sounds, pitched sounds (C, F, C#), low noise scratched sound. For the category of continuous/long sound objects: a high and

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[4] *Gruppo di Improvvisazione "Nuova Consonanza"*, Vinyl LP, RCA Italiana – MLDS 20243, Side B, Track 3, 1966. Digital version *Gruppo di Improvvisazione Nuova Consonanza. Kompositionen 1967-1975*, Edition, RZ, 1009 CD Track 3, 1992.

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medium-frequency cluster, high-frequency homogenous noise, low-frequency granular noise, pitched sounds. For gestural shapes: noise glissando, unpitched crescendo, all without a recognizable rhythmic pattern.
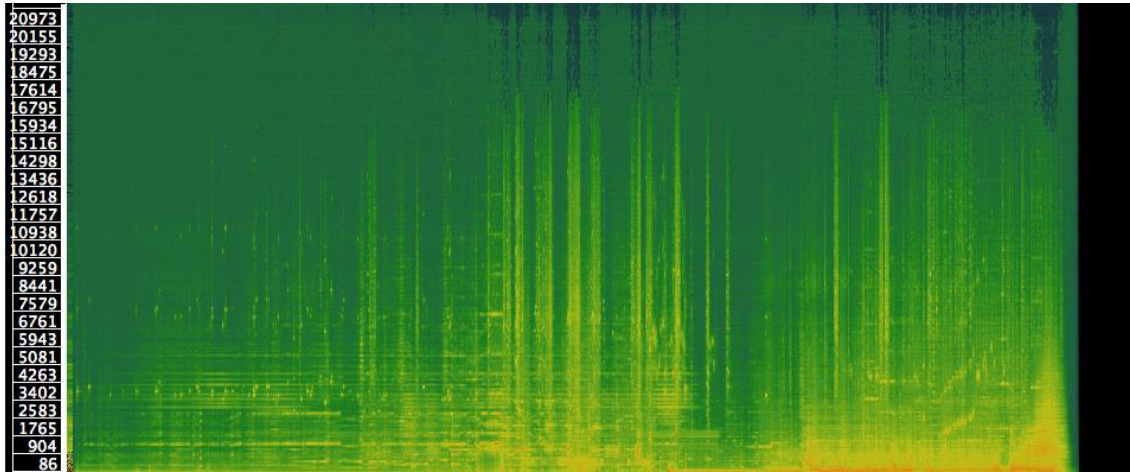
This description is very general. From the typo-morphological point of view, we can also add some spectrographic qualities, using a sonographic analysis, in order to characterize the various sounds, as Smalley's model suggests (Smalley 1986).
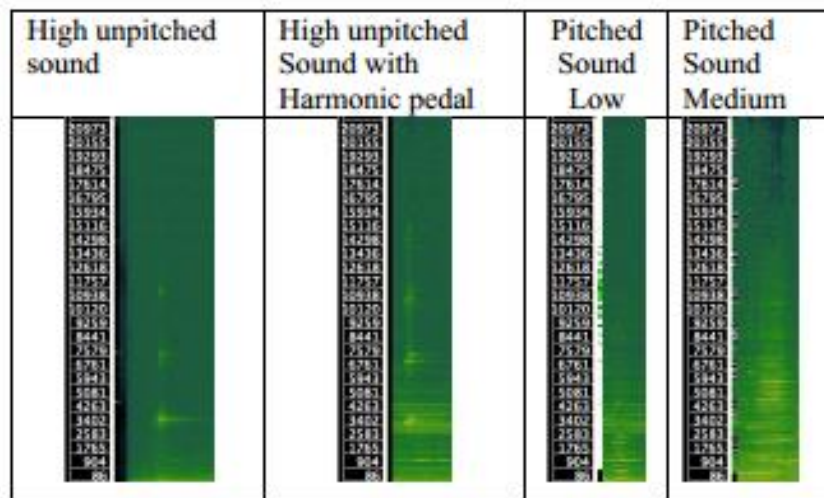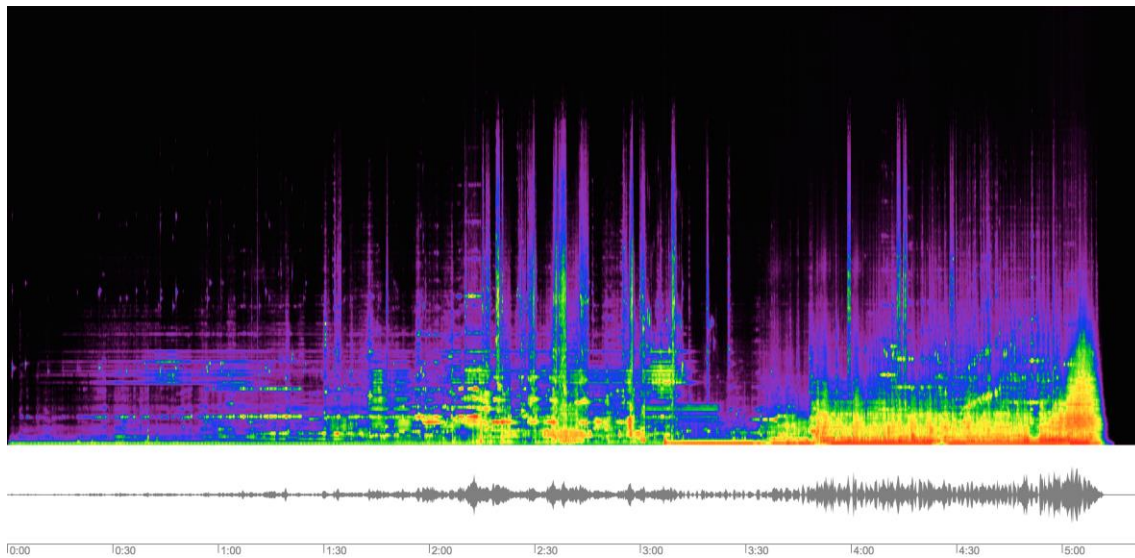

Example 1. Sonograms of four sounds.

The whole improvisation can also be represented graphically as a sonogram and/or simple waveform. But the only advantage of this kind of representation is the possibility to visualize the whole work duration with some dynamic and frequency peaks; here two accumulation and increasing energy processes can be observed.

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Example 2. "RKBA 1675/I" *Sonic Visualizer* Sonogram[5].

Example 3. "RKBA 1675/I" *EAnalysis* Sonogram and Waveform[6].

Scholars more expert in *EAnalysis* graphic templates or in the *Sonova*[7] system for typo-morphological analysis can realize detailed and useful graphic representations of analytical data.

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[5] *Sonic Visualizer* is a free download application for viewing and analyzing the content of audio files. http://www.sonicvisualiser.org (accessed: October 18, 2015).

[6] *EAnalysis* is a free software developed as new multimedia tool for electroacoustic music analysis by Pierre Couprie. http://logiciels.pierrecouprie.fr/?page_id=402 (accessed: October 18, 2015).

[7] *Sonova* is a truetype Unicode font containing a large number of signs, intended for the different types of analysis and description methods developed in the Sonology branch of Auditive Analysis. Specifically it contains signs for the notation of sounds described in the article "Spectromorphological analysis of sound objects - An adaption of Pierre

In the specific case of the free improvisation recording analysis this spectro-morphologic approach and the concept of reduced listening raise several problematic aspects. The approach privileges the sounds as objects; studying them is the first necessary level of analysis. Various improvisations by Gruppo di Improvvisazione Nuova Consonanza do differentiate in musical material. For instance, the same album (1966 LP) contains also "String Quartet", an improvisation entirely realized on piano by four improvisers (Franco Evangelisti, John Heineman, Mario Bertoncini, Roland Kayn), using all kind of extended techniques, some of them developed at that time by Mario Bertoncini in his works, as *Cifre* (1964/1966) for piano(s) and a variable number of performers (Wagner 2004: 194-198). There are also "Cantata" with reverberated and filtered voices (Ennio Morricone, Franco Evangelisti, Frederic Rzewski, Mario Bertoncini, Roland Kayn) or "Improvvisazione per Cinque", with some electroacoustic material on tape, consistent presence of silences (a very significant "sound" element) and all kinds of short sounds, granular continuous sounds, gestural correspondences between instrumental actions, and so on (Wagner 2004: 231-235). It seems that for the first level analysis, the concept of reduced listening allows just a partial analytical approach. What seems to be more significant for a further analytical discourse on the free improvisation experience is the improviser's intention to act in order to produce a sound considering the available acoustical resources creatively. In the process of description and mapping of sound objects, the source and the playing technique have to be considered as a fundamental part of the sound itself (Smalley 1994); often the intention to avoid or expand traditional instrumental techniques is present.

Considering the importance of information about the different sources of sounds, a new list to approach "RKBA" could be:

- Single/short sound objects: high pitched non-iterated sounds produced as cello harmonics, as a string bow on a cymbal, rubber mallets on piano strings or a cymbal, pitched sounds traditionally produced by a cello, Hammond, (C, F, C#), low noise scratched sound produced by *arco pesante* on a cello, blowing the internal part of a piano, and so on;

- Continuous/long sound objects: a high and medium-frequency cluster on a Hammond or a piano, high-frequency homogenous noise produced on a tam-tam, low-frequency granular noise produced using chains on a tam-tam, pitched sounds on a cello (normal sound or harmonics) and a Hammond (chords or single sound);

- Gestural shapes: noise glissando on a tam-tam, on a cello with *arco pesante*, on piano strings, unpitched crescendo by other metallic percussions (cymbals).

Considering that some sounds are morphologically very similar, this level of analysis contains elements that cannot be recognized and classified only by listening. Therefore, without video recording or personal communications by GINC members, some aspects remain open.

Once this level is completed, the next aim of free improvisation analysis can be addressed. It consists in the evaluation of the relationship between the material related to a single improviser and its trans(formation) real-time. This relation pursues the different model of action/reaction that

Schaeffer's typomorphology" by Lasse Thoresen. http://spectromusic.com/downloads/downloads.html (accessed: October 19, 2015).

will be discussed later in the text. It's about the analysis of structural and formal relationships that are distinctive elements to various groups and collectives of free improvisation that were founded in the Sixties, among the difference in status and origin of their members (composers/improvisers, professional musicians/amateurs, with roots in new music, electronic or in jazz), internal organization of the group (open/closed group setting, internal distribution of roles, participation of audience), group's improvisation style (free/structured, genre-linked / poly-idiomatic) as well as in aesthetic openness.

In the specific case of GINC the fact that all members were also composers was a fundamental assumption. The reason has deep compositional roots. Improvisation by GINC (and New Phonic Art too) was conceived as liberation from some contemporary musical paradigms in the context of serialism and indeterminacy, through avoiding them and experimenting new elements in a context free from compositional skills linked to the written page, in order to experiment new proposals on the level of sounds, gestures and formal organization. This aspect was central for GINC and has to be in the focus of the analysis.

Thorsten Wagner has developed one of the first analytical models in his monographic work on Evangelisti and GINC. Here the improvisation style is defined as free texture improvisation. In this author's statement we can observe the emergence of a model (texture), or in Bailey's terminology the free improvisation can be redefined as "idiomatic improvisation", the exact opposite of "non-idiomatic improvisation" linked to the free improvisation experience:

> I have used the terms "idiomatic" and "non-idiomatic" to describe the two main forms of improvisation. Idiomatic improvisation, much the most widely used, is mainly concerned with the expression of an idiom –such as jazz, flamenco or baroque– and takes its identity and motivation from that idiom.

Non-idiomatic improvisation has other concerns and is most usually found in so-called "free" improvisation and, while it can be highly stylised, is not usually tied to representing an idiomatic identity. I have also followed what seems to be the usual practice in writings about "straight" music, of treating the contemporary as a special, quite segregated musical activity. Here one finds "specialists" in "new" music as though music, in order to be normal and unspecialised, has to be a sort of sonic archaeology.

> The word improvisation is actually very little used by improvising musicians. […] They know that there is no musical activity which requires greater skill and devotion, preparation, training and commitment. […] They recognise that, as it is generally understood, it completely misrepresents the depth and complexity of their work (Bailey 1993: ix-x).

Conclusive remarks of this paper will return on this point, which allows Wagner to develop of an analytical model adherent to the idea of texture improvisation. According to this stylistic feature Wagner mentions three typologies of general formal pattern and composition principles: simple texture improvisations (*einfache Texturimprovisationen*) with one texture typology and 2-5-minute duration; complex texture improvisations (*komplexe Texturimprovisationen*) with more than one texture typology, 6-7-minute duration; moment improvisations (*Momentimprovisationen*) with shorter sections separated by silences (Wagner 2004: 191). For

what concerns the improvisation process, four different phases (i.e. sort of formal functions) are identified: constitution phase (*Konstituirungsphase*), stabilization phase (*Etablierungsphase*), changing phase (*Modifikationsphase*), transformation or resolution phase (*Ablösung- oder Transformationsphase*) (Wagner 2004: 188). At the last analytical level Wagner introduces three categories of sound events: initiatory sound events (they start the process of texture building); confirmation/variation/contrasting sound events (they conduct to the building of specific texture typology); modifying sound events (second degree initiatory sound events, which conduct to modification, optionally to the transformation of a texture) (Wagner 2004: 189). In order to make the analytical discourse possible, a sort of graphic score is realized by Wagner where each instrument has its own line and very generic graphic signs indicate single sounds and gesture. On the global level four phases of the improvisation process are introduced, as well as internal formal segmentation according to the texture modifications.
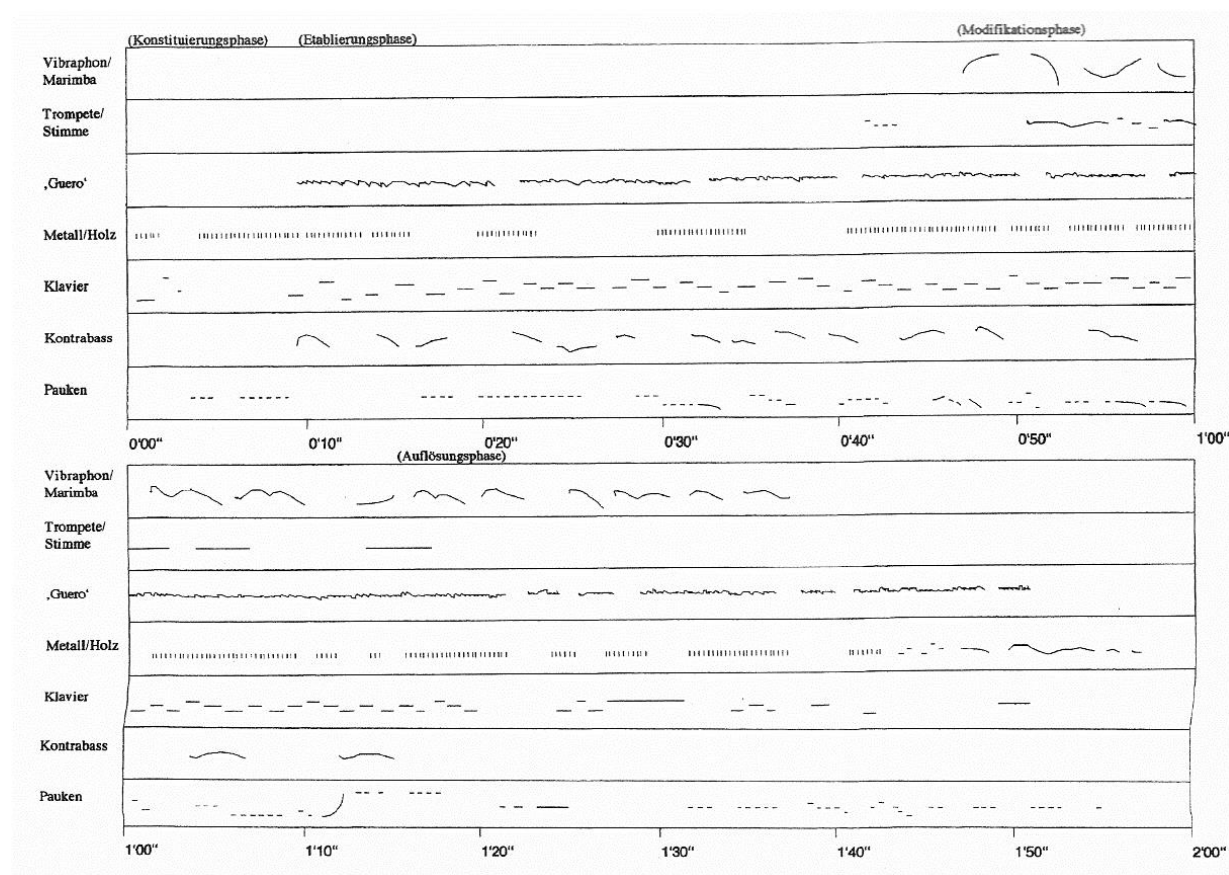
Example 4. Wagner's graphic analysis of "*Wenig aber kurz*" by GINC (Wagner 2004: 193).

What this model tries to do is actually very similar to different kinds of more or less graphic scores written by the same composers who participated in this experience. The scores fixed the graphic symbols of a specific action results in space. Some instructions written or shared personally by composers (or informed performers) are suitable in order to make the performance of these scores possible. On the other side, the graphic representation of improvised music analysis

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in the form of an aural score with separated instrumental layers (and not a synthetic overview of the sonic results as a whole) and all kinds of additional information that can be introduced accomplishes a different goal: making the discourse about the material, structure, formal processes and improvisers interaction possible. The convergence of graphic aspects of two fields (graphic score and graphic representation of free improvisation analysis) is rooted in common practice with sound and texture-based music making. Once again, the concept of "idiomatic improvisation" be rethought here. And some recent statements by Bruno Nettl seem to contemplate this possibility:

> Some improvisers in avant-garde music of the 1960s whished to avoid the use of any model, and, paradoxically, if the innovation itself is to be the model, it can hardly be considered an audible one. Thus, while a model of some sort is necessary condition of any improvisation, the audibility of the model, like its density, varies form culture to culture and form repertory to repertory (Nettl 2015: 77).

The categories developed by Wagner's analytical model focus on the specificity of GINC improvisation based on rehearsing sessions practice, which is not so common among improvisation groups. Rehearsals consist in various exercises ("*esercizi*"), a kind of exploration of one's ability and attitude to react to the impulses of the other participants and to explore various level of coherence of sound material, formal processes, durations and real-time action/reaction attitude. Significant statements can be found in several writings of all the participants. Here is an excerpt from a text "Dalla forma momentanea al Gruppo di improvvisazione" (*From the momentary form to Gruppo di Improvvisazione*) by Franco Evangelisti:

> Effective collective improvisation is not born out of vocation, but rather is the result of many preparatory exercises on the different aspects of the musical technique: time, pitch, timbre, dynamic, syntax and grammar, linguistic functions and collective listening. […] why is it important that each member should be a composer, as any proposed theme has to be discussed from a theoretical point of view and with a shared language. […] the material to be distributed over the duration of time can be more or less rarefied. In addition, each member will have to listen carefully and to react immediately. Listening, coupled with the ability to think/react in real time, is the main aspect of the exercise. Once the exercise is completed and recorded, we listen to it to find the critical points. Then we rehearse again and again, until the problem is solved in a satisfactory way (1991: 69-70)[8].

According to Evangelisti's writings, to Bertoncini's and Branchi's personal communications, and according to some scholars (Anderson 2013, Wagner 2004, and Bertolani 2014, among others) some general rules for improvisation sessions by GINC have been explained.

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[8] Non si giunge all'improvvisazione collettiva per vocazione, vi si arriva dopo molti esercizi preparatori sui vari settori della tecnica musicale: tempo, rapporto delle altezze, timbre, dinamiche, aspetti grammaticali e sintattici, funzioni linguistiche di un periodo specifico, ascolto d'insieme. […] ogni membro del Gruppo sia un compositore, poiché ciascun tema proposto deve essere discusso teoreticamente e quindi criticamente in un linguaggio comune a tutti. […] si stabilisce che il materiale da distribuire in questa durata possa essere più o meno rarefatto e con una dinamica di contrasto. Inoltre, ciascun membro dovrà, mediante un ascolto attento, reagire di conseguenza. L'ascolto, unito a quella facoltà di pensiero-reazione immediata, è la base fondamentale dell'esercitazione. Eseguito e registrato l'esercizio, lo si acolta per individuarne e criticarne i punti più 'scoperti'. Quindi si riprova, e così via, finché il problema proposto abbia raggiunto un buon livello per tutti.

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They represent the theoretical background of the improvisation model and should have a significant role in the development of appropriate analytical models that can be expressed by verbal description or graphically. Let's examine a possible general model that results from the synthesis of various exercises.

Duration	This parameter influences the formal shape. Can be free or predetermined.
Formal shape	Number of different acoustic situations or parts. Longer improvisations often have more parts with elaboration of different sound materials, while short improvisations explore more homogeneous materials, often in one formal arch. Ending in dissolution or increasing.
Sound material	Predominant or characteristic timbre or texture; presence of acoustic "*objets trouvée*" (recorded elements, radio excerpts, etc.), degree of recognisability of the instrumental source and playing techniques, unusual "music" instruments.
Pitch definition	Presence or absence of distinguishable pitch classes, intervals or melodic gesture and their relationship.
Dynamic shape	Dynamic, static or progressive articulation of single events and global intensity.
Velocity of situation change	It concerns directly to the formal shape. Low degree of change results in homogeneous and more static processes, while high level results with a more fragmented contrast-based form.
Directionality of interaction processes	Built by accumulation, by contrast, by adding new unrelated elements; staying there, no directionality; deconstructing; silence (no action or action delay).

Example 5. Table of main analytical parameters.

The last category needs to be discussed more in detail considering that similar functions have been identified by Wagner and resumed by Globokar' text *Réagir… Musique en Jeu* (1970), a kind of catalogue of the performers' reactions (imitate, integrate oneself, hesitate, doing the opposite, doing something different). For the GINC improvisations these possibilities are subordinated to the global formal project that results in real-time improvisation, but after rehearsing on each specific reaction possibility in order to suppose and propose the more model-suitable action[9].

Returning to the analytical model applied to "RKBA 1675/I" we can observe how some parameters can be resumed verbally as general characteristics, some of them have to be represented according to their temporal occurrence. For this reason some visual representation is suitable (Wilson 2004).
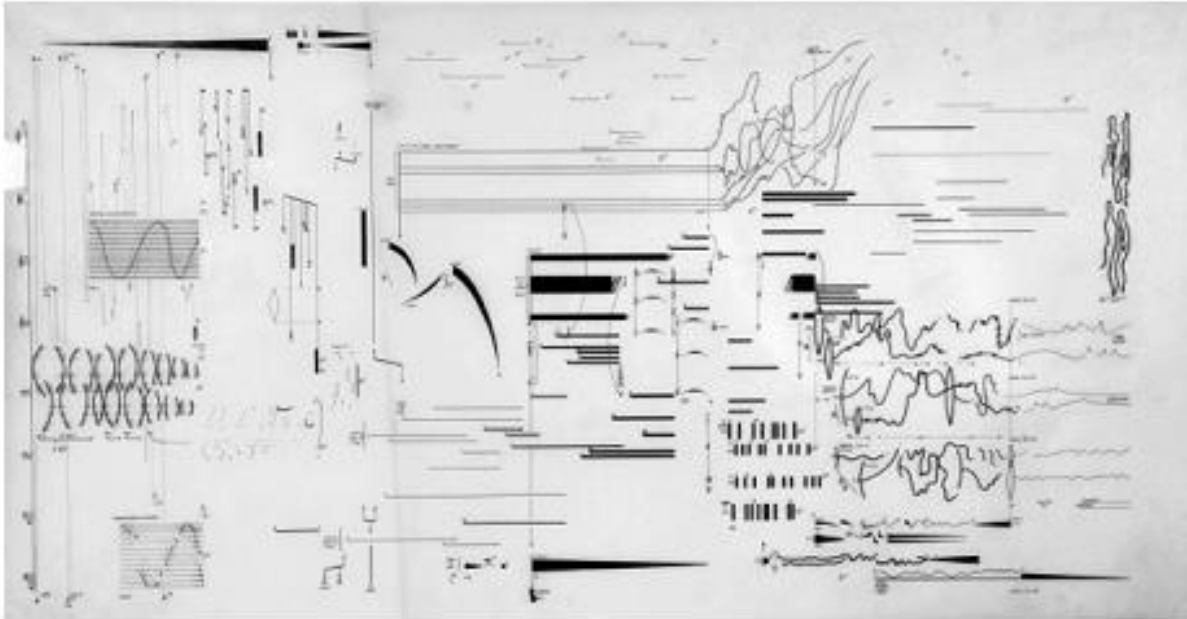
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[9] Some recent studies examine the issue of individual decisions in collective free improvisation. See Canonne and Garnier 2015.

Duration	5:12
Formal shape	Two accumulation processes separated by "silence": 0'00"-2'38" accumulation process 2'38"- 3'07"acceleration in noise texture (2'45"), than reduction to Hammond Organ 3'07"-3'35" 'silence' coloured by low register after a short sound by a cello 3'35"-4'31" maximum developing of all elements 4'31"-5'10" final glissando in crescendo
Sound material	Textural continuum dominated by Hammond, tam-tam, piano strings, cello harmonics or scratched sound.
Pitch definition	Few pitch classes emerge accidentally by noise-oriented actions or from the texture-pedal (C, F, C#), individually and successively, without being developed in any intervallic or melodic relationship.
Dynamic shape	1-4-2-2-5 / some moments of full saturation with final crescendo.
Velocity of situation change	The building and deconstructing processes are gradual and slow.
Directionality of interaction's processes	Building gesture: short harmonic sound as initial gesture in a process of gradual accumulation in time; cluster-pedal element with increasing density; scratched sound as contrast and acceleration of increasing dynamic; dynamic oscillations for stationary phase.

Example 6. Table of analytical data for GINC, "RKBA 1675/I".

The same analytical data expressed graphically in a score (Example 8) with symbols inspired by Mario Bertoncini's "Cifre" allow a more immediate evaluation of the velocity of situation's changing and the directionality and typology of interaction's processes.

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Example 7. Mario Bertoncini, "Cifre"[10].

Example 8. Graphic representation of "RKBA 1675/I".

The free improvised music analysis represents a challenging field. Here many actual issues of music making and music analysis meet and new approaches are welcome. In the specific case of the free collective improvisation in the Sixties, examined on the GINC experience, we can observe the lack of analytical models (Wagner 2004, Beck 2012, Anderson 2013). Some of the possible analytical models that have been discussed privilege aspects are mainly focused on the acoustic dimension of improvisation. Indeed, they were developed for the analysis of

[10] The score were first published in *Source Magazine,* 1968 (4): pp. 7-9, now also in Bertoncini (2013: 225).

electroacoustic music. An exhaustive analytical model should allow the integration of other significant levels, as the evaluation of an extended instrumental technique (and corresponding sound sources) and tracing the improviser interactions, among others. Aspects that a graphic score such as the one I propose (example 8) achieve. The mutual adoption of both models in an integrated approach cannot be developed without considering the historical background and the specific aesthetic horizon of the collective's members in order to map the challenging feedback that occurred between the composition and improvisation experience in the Sixties, which can be summarized in Sheehy's statement: "The search for the new is necessarily improvisational, but that does not make it completely accidental" (2013: 4).

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