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Abstracts / Résumés

Thomas Ahrend.
Versions, Variants, and the Performatives of the Score: Traces of Performances in the Texts of Anton Webern's Music

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Most research on the creative process of Anton Webern's music has focused on the sketches, thus emphasizing the compositional process in the narrower sense. Less attention has been paid to the fact that especially for most of the works composed between 1908 and 1915 (esp. opp. 3–12) there exists a number of versions (appearing as fair copies rather than sketches) that may show traces of a feedback coming from rehearsals or performances which have occurred before the first printing of the compositions. (A remarkable exception is of course Felix Meyer / Anne Shreffler: "Performance and Revision: the Early History of Webern's *Four Pieces for Violin and Piano*, Op. 7", in: *Webern Studies*, ed. Kathryn Bailey, Cambridge: Cambridge University Press, 1996, pp. 135–69.) But even in the case of later works (esp. opp. 27, 28, 30) annotations may be found in the sketches or other sources that hint at a relation to possible (future) performances.

These noticeable revisions in the sources raise several questions concerning both the edition of these versions (as presently undertaken by the Anton Webern Complete Edition in Basel, Switzerland) and the conceptual approach to the relation between musical texts and performances. Some of these questions are:
– How do we distinguish the (various) layers of 'pure' compositional revisions from the inscriptions that were undertaken during rehearsals? And if we can: How do we evaluate the two sorts of revisions within the context of textual criticism?
– How do we (on the basis of possible answers to the first question) distinguish between different versions? In other words, which inscriptions are merely variants inherent to a particular version and which constitute different versions?
– To what extent can the thus defined (different) versions (and/or variants) be edited and/or performed differently, i. e. without mixing the different versions (and/or variants) which might result in a new yet possibly never intended, at least from the composer perspective, text and/or performance?
– To what extent is it possible to reconstruct particular performances of the music with the help of these traces of past rehearsals present in the sources?
– Do performances 'create' new texts of a work if they differ from the written texts they refer to?

The aim of this paper is to suggest possible answers to these and similar questions relying on the concept of a 'virtual text', a concept which refers to the notion of 'virtuality' as discussed by Gilles Deleuze [see esp. his *Différence et répétition*, Presses Universitaires de France, Paris, 1968] and other philosophers. This notion of a 'virtual text' will be developed in the paper and should be open to discussion. Moreover, a critical discussion of the concept of 'the performative' (as proposed by Erika Fischer-Lichte [see her *Ästhetik des Performativen*, Frankfurt am Main: Suhrkamp, 2004] and others) might contribute to a better understanding of the possible and complex relationships between musical texts and performances: aspects of performatives can be observed in both, texts and performances.

The suggested methodology is both philological and analytical, thereby implying that the objects of research are 'texts' (both written and audio) that have to be constituted from a critical comparison of the differences they have to other texts. The goal is to demonstrate

some kind of coherent connection of the observed differences (that is to say: 'sense', or significance). The written texts to be investigated contain all the known Webern sources (manuscripts and prints) – collected as digital copies at the Anton Webern Complete Edition in Basel, with further examination of some originals (of which the major part is held at the Paul Sacher Foundation in Basel). The audio texts to be explored are selected recordings both commercially available and especially produced for the present research project (in cooperation with musicians from Basel Academy of Music / School of Music).

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Regina BUSCH / Reinhard KAPP, "Tempofragen bei Anton Webern mit der Vorführung zweier von Rudolf Kolisch einstudierter Aufnahmen", in: *Der Grad der Bewegung. Tempovorstellungen und -konzepte in Komposition und Interpretation 1900–1950*, ed. Jean-Jacques Dünki et al., Bern 1998 (Basler Studien zur Musik in Theorie und Praxis 1), pp. 185–201.

Robert H. HALLIS, *Reevaluating the Compositional Process of Anton Webern: 1910–1925*, Diss., The University of Texas at Austin, 2004.

Felix MEYER, "Anton Webern und der Verein für musikalische Privataufführungen: Notizen zur 'Kammerfassung' der *Sechs Stücke für grosses Orchester* op. 6", in: *Musik denken. Ernst Lichtenhahn zur Emeritierung*, ed. Antonio Baldassare et. al., Bern 200, pp. 203–218.

Dominik SCHWEIGER, "Weberns verworfene Mikrotöne", in: *Mitteilungen der Paul Sacher Stiftung* 11 (1998), pp. 10–16.

Anne C. SHREFFLER, "Traces Left Behind. Webern's Musical Nachlass and Compositional Process", in: *Settling New Scores*, ed. Felix Meyer, Mainz 1998, pp. 103–106.

Giacomo Albert.
E-sketch analysis: Marco Stroppa's *Chroma* between late '80s and early '90s

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This paper aims at deepening the relationship between digital technology from the one side and compositional thought and techniques from the other, focusing on Marco Stroppa's music of the late 1980s and early 1990s. This relationship will be investigated through the analysis of both the compositional techniques, and the computer aided compositional tools, that Marco Stroppa developed during the creation of *Traiettoria* and *Proemio*. By this way, a correlation between the architecture of the programs and the dramaturgic and musical structures of the works will be stressed.

During his career Marco Stroppa developed many Computer Aided Compositional (CAC) tools, also thanks to the help of IRCAM's assistants as Serge Lemouton. Many of these programs have been collected in a package, engendering a programming environment: Chroma – OmChroma (partially made public as Open Music's library).

Chroma's evolution paralleled the variations and the development of Stroppa's compositional thought and techniques. During the late '80s and early '90s the composer ported both *Traiettoria*'s (1982-84; rev. 1988) sound synthesis programs and *Spirali*'s (1987-88) "Vertical Pitch Structures" (VPS) – a chord managing method based on constraint programming –, from Fortran's based Music V, to LeLisp (and to Common Lisp immediately afterwards), giving rise to Chroma. Once these programs have been joined into a single environment, the composer developed them further, and employed them for the composition of *Proemio* (1990-91), a radio opera based on a text written by Adolfo Moriconi.

In the paper, I will study this transition, analysing both the programming environment and the compositional techniques, i.e., from the one side Chroma and from the other side the most important *Traiettoria*'s and *Proemio*'s music structures. In order to better understand the connection between technology and compositional thought and techniques, I will compare *Proemio*'s computer aided sound synthesis programs to *Traiettoria*'s. In particular, I will focus my attention on the third section (from 7'57" to 11'10") of the second movement/module of *Traiettoria*'s score, and on *Proemio*'s episode devoted to the "character" Maria Goretti. Looking at both the architecture of the programs and the way they have been employed during the compositional process, and, from the other side, looking at the music structures, it will be possible to stress that the different programs mirror the difference between a processual, developing conception of form in *Traiettoria* (based on the conception of the superposition and juxtaposition of multifarious developing "OIMs"), and a static structure in *Proemio*, a kind of formal organisation well-suited for depicting characters (based on the idea of "sonic potentials"). Highlighting the use of different programs in relation to different sections of the work, I will theorize a connection among the architecture of the programs and the dramaturgic and musical structures of the works.

Both *Traiettoria* and *Proemio* have been investigated by many researchers; thus, many features of the two works and of their creative process have already been analysed and developed. In particular, *Traiettoria*'s compositional process has been studied by Stefano Marcato – both in his MA dissertation and in a later article –, by myself in my MA dissertation, and by Noémie Sprenger-Ohana and Vincent Tiffon in four recent articles; Giordano Ferrari studied *Proemio* in three articles and I dealt with some aspects of this same

work in my MA dissertation. In this paper I will carry on these studies further, through the comparison of the two works and the concentration on the analysis of the relationship among computer aided compositional tools and music structures.

In order to pursue this topic I will deal with sketch study and work analysis, trying to establish a link between them, well aware of both potentials and problematics of this enterprise, as also theorized by Gianmario Borio in *"Sull'interazione fra lo studio degli schizzi e l'analisi dell'opera"*. In Stroppa's case, sketch material includes many different kinds of sources: handwritten notebooks, music sketches and drafts, versions of the *libretto*, prints of computing algorithms, software interface and sound files. Analysing Brian Ferneyhough's work Ross Feller has outlined many of the main problems that a researcher faces working on e-sketches, particularly on music composed between late Eighties and early Nineties: a historical phase where computer and handwritten sketches were usually combined. Moreover, printed e-sketches document only a tiny part of the creative process, tend to preserve only what the composer explicitly wanted to conserve, and usually convey only the final step of the compositional process.

In order to study Stroppa's computer aided compositional tools, I will concentrate on three aspects: first of all, I'll individuate and analyse the primitive expressions, i.e. the implicit knowledge entailed in the different programs and in their interfaces, that is, both the representation of the compositional parameters that the programs convey and the possibilities of interaction that the programs allow. Furthermore, I'll also give a look at a second aspect: the fundamental architecture of the environment. Finally, I'll try to understand how primitive expressions can be combined in order to create compound elements.

My main goal is to relate these analyses to the compositional strategies, and to highlight the correspondence between Stroppa's new and different programs from the one side and the underlying musical strategies and compositional techniques from the other. So, the goal of this paper is to identify the link between digital implicit knowledge and music structures, through a systematic analysis of the computer aided compositional tools and, in general, of the procedures and techniques that Stroppa developed.

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Baptiste Bacot.
Gestural Interfaces and Creativity in Electronic Music: A Comparative Analysis

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When playing an acoustic instrument, the musician applies force [1] from his body to the instrument's exciter, which is amplified by the resonator. Except for vocal music and electronic music, the hands of the musician are the main vectors of sonic generation. Directly in touch with the instrument, they delve into its expressive possibilities through modulations of sonic parameters (pitch, dynamic, length, tone). The relationship between playing techniques' evolution (gestures) and instrumental displays (the shape of the instrument's body) leads to the organological conception of musical instruments [2].

Electronic music refers to many different genres, all of which are defined by the technological means used to produce it. Those means can be summed up in three categories: sampling, sound synthesis and sound or data processing. Various device configurations are required to record, edit and perform sounds in an instrument-oriented way. Since those often include basic controllers, they have to be programmed for the musician to be able to perform his/her music. When controllers are embedded, on dancers' bodies for instance, movement and the sonic reaction could even be contrary to the prosaic signification of sonic bodies in motion and our cognition of everyday sounds – distance, azimut, zenith, objects' mass and hits related to their frequency and volume range – could be disrupted. Body movements are then not necessarily related to generated or controlled sounds anymore, nor to daily sonic environment [3]. That paradigm, which removes "executive human gesture [4]" from the sonic result itself, is most of the time what makes the distinctiveness of electronic music. Its performance analysis requires both a thorough examination of controllers and gestural strategies, an approach that has thus far been only superficially explored [5]. Major questions remain unexamined: how does one analyse this electronic music's controller-practice in terms of organology? To what extent can controllers be, from the musician's point of view, a renewed approach to creating electronic music?

This contribution based on an ethnographical study, which began in 2014, aims at analysing the gestural appropriation of instrument-like devices used in electronic music, especially the mixing console. Two solo musicians using consoles in their performances are part of this comparative paper.

Robert Henke's *Lumière,* is an audio-visual work in which he uses four music-synchronized laser beams. A total of three interviews (one featuring a set up walkthrough and a demonstration) about Henke's work have been made last year and this year, during the 16th and 20th performances of *Lumière*. The second musician, Brain Damage (a.k.a. Martin Nathan), digitally records and arranges music sequences. On stage, he sends these scenes through channels of his Yamaha 01V mixing console, which provides motorized faders (their last position is recorded and can be recalled at any time). He thus manipulates through faders and buttons the type, amount, duration of effects and level of each track. Two interviews with demonstrations have been conducted and filmed as part of this research.

This approach, based on carefully documented professional musical practices, questions the evolution of creative process through controllers, and more widely, stresses the possibility of a wider organology, which could encompass electronic devices alongside traditional musical instruments. The control gesture becomes an instrumental parameter, vital to the creative process in electronic music. According to the performer, the aesthetics of the

piece or the device used to achieve it, performing music via a mixing console produces singular hand playing techniques related to the prior music production strategies in the studio. This analysis facilitates a new framework for conceiving performance and technological appropriation in electronic music creativity.

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Jeremy Baguyos.
A Framework for Sustainability and Research of Interactive Computer Music Repertoire

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Sustainability, a computer music work's chance of surviving far into the future, even if the composer and the performer at the première are no longer supporting the work and the implementation technology has long become obsolete and/or unavailable, is central to the formal study of computer music repertoire. Currently, it is difficult for musicologists to research computer music repertoire with any kind of methodology that is used on the more sustainable and symbolically represented music of the acoustic domain, because many real-time interactive computer music works utilizing live processing cannot be easily preserved and recreated for performance or study in the future, due to the quick obsolescence of the technological platforms upon which many real-time interactive computer music works are created.

The solution is to eschew the widespread practice of bundling the set of musical intents and ideas within a single technological implementation with the hopes that the technology would not be rendered obsolete in the future, and to instead preserve the composer's musical gestures as a precise (within the limits of appropriate summary and details), well-documented, and platform- independent set of intents and ideas that could be replicated accurately with any current or future technology.

A composer should divide their computer music work into two portions: a "composition" (or "music parameter control") portion and an "instrument" (or "sound generation") portion. The two portions would be coupled at the premiere, but at any time in the future, each portion could be modified and updated independent of each other, and thereby eliminating the complexities of modifying both at the same time. The "composition" portion consists of the composer's intents and ideas and is communicated to the performer through platform independent descriptors that communicate the desired musical gesture regardless of technical implementation. The "instrument" portion is the sound generation module and control interface appropriate for the sound generation module and the performer. Like the decoupling of composition and instrument in the centuries before computer-mediated music, the composer's intents and ideas are preserved regardless of updates to the implementation (instrument). Bach's *Well-tempered Clavier* works are preserved to this day partly because the platform independent notation of Bach's intents and ideas were preserved regardless of the implementation during Bach's day and implemented today on modern instruments. In short, decoupling composition and instrument follows what composers, performers, and instrument designers have been doing for centuries in that composers of keyboard music were not the keyboard makers, and neither were the keyboardists. Central to sustainability is the notation of the composition. An effective approach is to use high-level, platform-independent descriptors to communicate a musical gesture, regardless of the technology being utilized for a specific performance. For example, in the scenario of a laptop/phone/alternative controller composition, performers would be completely responsible for the implementation of the gesture communicated from the composer, on their chosen technology. One of the primary obstacles in composing for most laptop orchestras and mobile device orchestras is that the various members show up with a variety of platforms. While a composer could write software for each device in the ensemble, that approach might prove to be not only very time-consuming given all of the various operating systems and hardware, but eventually the

composer will tire of the continual updating and the piece dies inside the technology when the technology can no longer be supported. The solution is to shift the burden of implementation of a musical idea to the performer. The composer need not implement directly, their musical gesture. Instead, the gesture is communicated as specifically as possible to the performer (graphically, with text, with standard notation, or with other non-traditional notation), and then the performer implements the gesture on their chosen technology. For example, the composer could indicate to the performer to create a sine wave vibrating at 100 Hz that changes to 200 Hz over 10 seconds (instead of telling the performer to press this yellow button that produces a 100 Hz sine wave and changes to 200 Hz over 10 seconds on the software that the composer wrote for the performer). In placing the implementation duty on the performer, the performer would have to figure out how they will produce the 100 Hz sine wave (whether in Max, cSound, PD, Ableton, or something else) and trigger the modulation in musical time. In a more concise storyboard example, it's the difference between "Do a 3 Hz LFO for pitch vibrato on the fundamental frequency" versus "Click the LFO button on the Max patch that I gave you and I hope the patch works on your Windows98 machine running Max 4." In other words, the composer's focus is on the musical output, rather than the technology that produces the output. More importantly, the work has a better chance for future study of the work by musicologists and for preservation by librarians.

Currently, outside of traditional notation, there is no universally accepted notation scheme, but there is a very precise oral tradition requiring strict adherence to grammar, syntax, and protocol. Like oral musical traditions, there is no universal standard to facilitate the computer music performance tradition through written mediation other than standard musical notation. Until a corresponding notational tradition that effectively communicates computer music gestures emerges, text instructions (in a language that most people can understand) allow for precise mediation of musical gesture between composer and performer. Graphical depiction, not as precise as, but more intuitive than text, has also been implemented successfully. Text and graphics in tandem that represent the temporal relationships of the musical gesture (like traditional sheet music) have proven to be most effective. What has to be avoided is the notation of a knob turn, a button trigger, a menu selection, a radio button selection, a slider push, or a number entry that has no obvious connection to a musical structure and no meaning to the performer or researcher outside of the immediate implementation platform.

These approaches would facilitate preservation and study of computer music repertoire. More importantly, however, it would move computer music repertoire away from the ephemeral fringe and foster the inclusion of interactive computer music repertoire in the canon of the western art music tradition.

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Amanda Bayley and Chartwell Dutiro.
Creating new music across cultural boundaries: mbira and string quartet

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Chartwell Dutiro is a musician, singer-songwriter, composer and teacher, the founding Artistic Director of Mhararano Mbira Academy, Dartington, and Visiting Research Fellow at Bath Spa University. He holds a Masters in Ethnomusicology from SOAS, University of London, and is a WOMAD Foundation recommended artist.
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The exchange of ideas and sounds generated from combining Chartwell Dutiro's mbira music from the Shona tradition of Zimbabwe with a classically trained string quartet results in a creative practice that defines its boundaries through the act of collaboration. This paper identifies the processes involved in devising new music that merges oral and notated traditions and participatory and presentational performance practices. Neither the string quartet repertoire nor the sacred music of mbira stems from an improvisatory tradition but bringing these two distinct cultural strands together invokes an improvisatory style that questions the conventional roles of composer, performer and 'master musician' and the definition of authorship.

Combining music from diverse cultures invites practical considerations of many hotly debated topics, often presented as dualisms (including issues of West/East, good/evil, Christianity/Islam, etc. (Nooshin 2003)) or discursive binaries (Brinner 2009). The political notion that difference invokes power is quickly diffused in a creative context where building bridges across cultures requires breaking down boundaries rather than reinforcing them. However, this idea has yet to be fully explored at a practical level. Relatively little scholarship has focused on actual intercultural encounters or documented collaborations of intercultural inquiry.

The paper will include live demonstration. Recorded evidence (video and audio) from participant observation will reveal how the musicians work together to create new music. Observations are made prior to and during the creative process as well as post production. The creative components afforded by the participants that go towards defining a new music are interpreted by the respective etic and emic perspectives of the authors analysing interactions between performers and between composer and performers. The compositional input brings a third cultural dimension to the collaboration with Daniel Linker's Chilean origins. The composer has two roles in the project: 1. To arrange and transcribe the results of the creative process in a combination of fixed and unfixed notated forms in order to provide a structure to the music and as an aide memoire for performance; 2. To write music specifically for the collaboration in a way that offers new directions and approaches towards musical structure, timbre and notation. Musical parameters such as tuning, technique and tempo are investigated in order to consider how a notation for mbira music might serve future generations.

For all five players and the composer, background and culture are important contributory factors to understanding the independent histories and conventions of the mbira and the string quartet that determine how a fruitful collaboration is subsequently developed. This case study was set up to address the fact that despite Dutiro's wealth of experience, playing mbira (and saxophone) in many different cultural settings worldwide since the 1980s, his previous collaborations had all been 'fusions' rather than founded on creativity inspired by dialogue, historical context, empathy and education. In response to a point made by Martin Stokes – 'music doesn't simply "flow" across the gap as some, talking more generally about

cultural globalization and transnationalism, like to imply' (Stokes 2012: 99) – Dutiro identifies that 'the outcome is not a hybrid with mbira hanging on classical music, or strings on the periphery of mbira music. […] It's not a hybrid or a fusion but new music if it's done in a way that has a historical context' (Interview 20 August 2014).

Audio and visual evidence from eight days exploring creative practice, composer-performer dialogues, and interviews with the mbira player illustrate that the concept of composition needs to be reconsidered in this context as a product that evolves through a highly creative and collaborative process achieved through trial and error, consultation and negotiation. Theories and methodologies from ethnomusicology, sociocultural studies, network analysis, music analysis and intercultural theatre studies will be employed to interpret observations of dialoguing and musicking. The interactions that take place between musicians across stylistic and cultural boundaries are explained and understood through Benjamin Brinner's overlapping constellations of analytical concepts: interactive network, interactive system, interactive sound structure, and interactive motivation (1997). His theory of musical interaction is implemented in order to deal with abstractions of sound under the rubric of interactive sound structure and abstractions of human organisation under interactive network.

The methods, the creative process and even elements of the dialogue between Dutiro and the string players have strong parallels with intercultural trends in the making of contemporary theatre. For example, Jen Harvie and Andy Lavender present an ongoing theatrical trend to interrogate the roles of text and director by examining 'the methods of groups who devise theatre collectively, often led by or working with a director, but always with self-reflexive attention to the dynamics and ethics of power and authorship circulating amongst all participating makers' (Harvie and Lavender 2010: 2). For the musicians, their starting point was the exchange of ideas about sound, not the notation. Similarly, Harvie and Lavender 'understand devising to be a method of performance development that starts from an idea or concept rather than a play text; [it] is from the start significantly open-minded about what its end-product will be; and uses improvisation […] as a key part of its process' (Harvie and Lavender 2010: 2).

Prior to this, over twenty years ago Patrice Pavis (1992) proposed a new way of understanding intercultural theatre practice using an hourglass model which will be evaluated to determine its suitability as a methodology for music performance analysis.

By examining the dialogues and the sounds that have developed through the interactional processes of creative collaboration, an ethnographic approach helps to understand the nature of interculturality in music. A performative vocabulary can begin to be constructed from the discourse and playing that arises directly from the musicians' interactions. By bringing the conditions of making and hearing, history and culture, to the forefront of research, in preference to the dominant musicological interest in works as self-contained entities (Taylor 2007), the unfolding of events at a practical level deals in turn with cultural difference, social practice and improvisation. Languages of speech, gesture and music are shaped by the practices of communities. A new 'community' of musicians provides an opportunity to identify how creative practice can create a new musical language.

Main sources of ethnographic data:
• Video and audio recordings of eight days with mbira, string quartet and composer
• Composer-performer dialogues (video, audio and email correspondence)
• Interviews with performers

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Anne-Sylvie Barthel-Calvet.
La place du geste de l'interprète dans le processus compositionnel : le cas des œuvres solistiques de Xenakis

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Dans cette communication, je me propose de croiser deux problématiques, celle des relations compositeur-interprète dans le processus compositionnel, relations dans lesquelles le positionnement de Xenakis s'avère assez particulier par rapport à ses contemporains, et celle de l'articulation entre geste compositionnel et gestualité propre aux différentes idiomatiques instrumentales. Comment Xenakis prend-elle ces dernières en compte lors de l'élaboration de l'œuvre ? Comment modifie-t-il, le cas échéant, cette gestualité instrumentale ? et comment les musiciens innovent-ils – ou non - dans leur pratique et leur stratégie interprétatives pour s'adapter aux difficultés imposées ? Outre les témoignages a posteriori des créateurs de différentes œuvres, les « dossiers d'œuvres » contenus dans les archives de Xenakis recèlent un certain nombre de documents (lettres, mémos de modes de jeux annotés et corrigés, avant-textes divers) qui montrent que de tels questionnements traversent les échanges de Xenakis avec ses différents interprètes et permettent de dépasser le constat avancé par certains selon lequel le compositeur ne se souciait en aucune manière de la « faisabilité » technique de ses partitions, nées de pures spéculations abstraites.

Le cas des partitions solistiques a été retenu parce qu'il induit un face-à-face mieux adapté à l'analyse. De plus, les « dossiers d'œuvres » de ces productions se trouvent particulièrement riches en éléments de documentation concernant ces échanges. La particularité et le fonctionnement du binôme « Xenakis/interprète ». Avec Xenakis, on se trouve dans la situation assez particulière d'une autonomie radicale des fonctions d'interprète et de compositeur : par rapport à ses homologues tels que Messiaen, Boulez, Berio, etc., il n'est en effet « absolument pas interprète », ce qui a pu, dans une certaine mesure, libérer son invention, n'étant pas dépendant d'acquis de lexique instrumental ou de réflexes de jeu. Cependant, ou bien par les hasards de la production de l'œuvre issue d'une commande, ou bien par relations personnelles, il s'est souvent trouvé en rapport avec un musicien qui s'est avéré devenir, pour une ou plusieurs œuvres, un véritable « interprète-référent ». Le plus souvent créateur de l'œuvre (voire d'une série), celui-ci va être consulté, en général à plusieurs reprises lors du processus compositionnel, comme l'attestent les avant-textes. Ces échanges reflètent tout d'abord la volonté de Xenakis de prendre pleinement connaissance des ressources idiomatiques « de base » d'instruments avec lesquels, à l'instar de beaucoup de ses homologues, il n'était pas forcément familier (orgue pour Gmeeorh, hautbois pour Dmaathen, par exemple). Celles-ci s'orientent selon deux axes principaux de préoccupations : Xenakis s'intéresse non seulement aux ressources sonores, mais aussi aux techniques gestuelles et instrumentales qui les produisent.

Gestualité et résultat sonore sont d'ailleurs encore plus étroitement connectés dans la deuxième étape de son enquête auprès des interprètes, qui porte sur la recherche de nouvelles sonorités. Xenakis note ainsi, lors de son travail préparatoire sur *Theraps* pour contrebasse: « IIIe corde sur I^{re} crissement en poussant (archet crin) suivant tension IIIe corde. » Au creuset de la confrontation entre geste compositionnel et geste instrumental. Au-delà de ces enquêtes somme toute assez documentaires, le point nodal de ces interactions au sein du binôme « Xenakis/interprète » tient surtout dans la confrontation entre la particularité du geste

compositionnel xenakien et celui de l'interprète. Xenakis n'est plus un compositeur à la table avec papier musique, ni au piano comme Stravinsky ou Messiaen. Il compose à la table d'architecte et, au-delà du recours à la formalisation mathématique, réalise des partitions graphiques sur le repère orthonormé d'une feuille de papier millimétré, souvent de très grand format. Son écriture apparaît donc fortement liée à la fois à une représentation spatiale graduée par 10 et à un geste de balayage de gauche à droite. L'organisation des sons est directement issue d'un geste matérialisé par une inscription au crayon : ce sont des points, des traits droits ou courbes qui se répartissent selon des structures en convergence, divergence, nuage, etc. L'évolution de ces structures fréquemment en déploiement puis refermement reflète le geste de balayage de la main, ses contraintes et celles du support graphique. Se pose alors la question de la compatibilité d'une telle gestualité avec les contraintes sonores et gestuelles induites par les particularités organologiques et idiomatiques de certains instruments. Le cas du clavecin pour lequel Xenakis a écrit plusieurs œuvres est, à cet égard, emblématique, et le témoignage de son « interprète-référente », Elisabeth Chojnacka, mis en dialogue avec les avant-textes de *Khoaï*, *Naama*, *Oophaa* ou *A l'île de Gorée* permet d'en évaluer les enjeux. Par exemple, l'emploi du glissando est au cœur des discussions du compositeur avec la claveciniste : élément emblématique de l'écriture xenakienne, il apparaît en effet difficilement compatible avec la discontinuité du clavecin. Xenakis résout alors cette difficulté en tirant parti des possibilités de changement extrêmement rapide des registres par les pédales. Comme l'explique Elisabeth Chojnacka : « le glissando est obtenu par le changement constant de registres ; le résultat sonore est l'illusion d'un glissando qui balaie tout le clavier. » Une nouvelle gestualité et une nouvelle écriture instrumentales sont alors inventées, qui permettent de contourner les contraintes organologiques et rompent avec les réflexes de jeu induits par le lexique instrumental acquis.

Pour les œuvres écrites pour des instruments dont Xenakis était plus familier (le piano, par exemple), ce dernier n'a pas jugé utile de consulter son interprète. Ce dernier se trouve alors parfois désemparé face à une abondance scripturale dont il ne perçoit pas l'organisation. Ce fut le cas, par exemple, de Claude Helffer lorsqu'il travaillait *Erikhthon*. Cédant à ses instances, Xenakis finit par lui communiquer la partition graphique et là, Helffer comprit le geste compositionnel sous-tendant les grappes de notes qu'il devait exécuter : « c'est le jour où j'ai vu cette première version sous forme de dessins sur papier millimétré, que j'ai compris exactement comment il fallait jouer. » Il put alors hiérarchiser les différentes arborescences et choisir à bon escient ce qu'il renonçait à jouer quand l'exécution devenait impossible. La connaissance du geste compositionnel s'avère ainsi indispensable à l'invention et l'organisation du geste de l'interprète qui s'y greffe. À travers l'étude de différentes « conjonctions » entre Xenakis et ses interprètes, je vise ainsi à dégager, dans ma communication, différents types de stratégies de collaboration et leur insertion dans les étapes du processus compositionnel qu'il adopte pour cette catégorie d'œuvres.

Olivier Baudry and Alain Bonardi.
Enquête sur les frequency-shifters dans les œuvres mixtes

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1. Introduction

L'analyse des processus de création musicale ne cesse d'élargir son domaine d'action vers les musiques faisant appel aux moyens électroniques et informatiques. Les contributions récentes sont nombreuses, notamment dans les projets :
DiP-CoRE [BOUTARD & MARANDOLA 2014] articule dissémination et préservation des œuvres de musique mixte au travers de la documentation des processus de production.
GAMELAN vise une modélisation en ingénierie des connaissances des activités de production musicale en environnement numérique [VINCENT & al. 2012].
TACEM se consacre aux liens entre technologies et composition électroacoustique, et propose le logiciel TIAALS pour l'analyse aurale interactive [CLARKE & al. 2013].

Certains chercheurs ont étudié plus particulièrement la reprise des œuvres avec technologie : l'obsolescence des moyens techniques engendre de nouveaux processus de création technico-musicaux, dont l'étude est pertinente pour eux-mêmes mais aussi pour comprendre les processus initiaux [MIHALIC & POTTIER 1991]. C'est dans ce cadre que nous positionnons nos travaux, consacrés à la transmission des pièces avec électronique et centrés sur le moment-clé de la reprise d'une œuvre.

En parallèle d'une enquête de terrain auprès de réalisateurs en informatique musicale (questionnaire sollicitant leurs expériences pratiques de transmission), nous commençons une étude centrée sur un dispositif technique précis, connu en musique électronique : le frequency-shifter.

Il est communément défini ainsi : étant donné une fréquence f0, le frequency shifter opère simultanément deux transformations sur un son en entrée :
1. en ajoutant f0 aux fréquences présentes dans le son d'origine,
2. en soustrayant f0 de ce même spectre.
Ce décalage donne des résultats sonores intéressants à deux échelles, macroscopique (battements) et microscopique (transformation d'un son harmonique en un son inharmonique).

Une fois posée cette définition consensuelle, la diversité règne tant au niveau des implémentations ou que de la prise en compte du dispositif dans les œuvres. Les implémentations techniques et les résultats sonores produits ne sont pas répertoriés systématiquement. Les choix compositionnels sont rarement explicités.

Nous faisons l'hypothèse de la pertinence d'une étude historique et technique du frequency-shifter comme contribution à l'analyse des processus de création des œuvres mixtes. Il s'agit de comprendre les évolutions du frequency-shifter comme dispositif technique utilisé par de nombreux créateurs, et d'en envisager les conséquences musicales.

2. Méthodologie
2.1. Corpus étudié

Nous avons entrepris un relevé non exhaustif de l'emploi du frequency-shifter dans des œuvres mixtes créées à l'Ircam de 1981 à nos jours par trois compositeurs : Pierre Boulez, Philippe Manoury, et Philippe Leroux. Nous avons suivi les versions successives de huit œuvres. Pour Boulez, *Répons* (versions 1981, 2006), *...explosante-fixe...* (1993), *Anthèmes 2* (versions 1999, 2005) ; pour Manoury, *Jupiter* (versions 1987, 1992, 2004), *La Partition du ciel et de l'enfer* (versions 1989, 1996), *Neptune* (versions 1991, 1993, 1998 et 2008) et *Partita 1* (version 2007). Enfin, *Voi(rex)* de Leroux dans sa version de 2002.

Les différentes versions de ces huit œuvres furent implémentées sur cinq configurations matérielle et logicielle différentes :

la configuration 1 est la machine 4X avant l'apparition du logiciel Max,

2 : la 4X avec Max,

3 : la station NeXTavec Max/FTS [PUCKETTE 1991],

4 : Max/MSP sur micro-ordinateur,

5 : PureData sur micro-ordinateur.

2.2. Classification technique des frequency-shifters

Dans chacune de ces œuvres, nous avons observé l'implémentation technique du frequency-shifter. Devant la difficulté de la tâche, nous avons dialogué avec les auteurs de des développements informatiques (Miller Puckette, Zack Settel).

Du point de vue du procédé, nous n'avons trouvé dans notre corpus que des implémentations dites time-domain (traitement temporel) et aucune dite frequency-domain (traitement fréquentiel).

Du point de vue de la programmation, nous trouvons deux formes dans les environnements Max et PureData : les objets et les abstractions. Les premiers développés en langage C complètent les traitements inclus par défaut dans le logiciel (cas de freqshift~ pour PureData); les secondes utilisent les objets présents dans Max ou PureData (cas de fshift~ pour PureData).

Signalons enfin que le frequency-shifter time-domain se compose de deux étages : un filtre de Hilbert qui crée un signal complexe en quadrature de phase à partir du son en entrée; puis un module de décalage de la fréquence f0. Ce dernier ne donne pas lieu à des variations d'implémentation. En revanche, le filtre de Hilbert est implémenté de diverses manières.

Nous obtenons à l'issue de cette classification trois implémentations principales désignées par A, B et C :

implémentation A (Favreau/Puckette/Settel) : filtre de Hilbert fondé sur une combinaison de 4 filtres passe-tout du 2ème ordre (biquad), code 4X et abstractions PureData et Max,

implémentation B (Weiss) : objet PureData utilisant la convolution,

implémentation C (Cycling'74) : objet Max/MSP fondé sur un filtre passe-tout du 6ème ordre, dont le code (propriétaire) est très certainement inspiré de celui de Sean M. Costello dans l'environnement Csound.

2.3. Comparaison sonore des implémentations A, B, C

Dans un premier temps, nous avons comparé les implémentations A et C, toutes deux disponibles sur Max/MSP. Nous avons soumis trois jeux de sons de flûte traversière avec des notes et des fréquences de décalage f0 différentes. Dans l'implémentation C, les pics des harmoniques sont plus nettement séparés. Les différences de rendu sonore sont sensibles.

L'étape suivante consistera à coder dans FAUST, les trois implémentations A, B, C, permettant une comparaison sonore complète.

3. Les frequency-shifters dans les œuvres du corpus

Les utilisations du frequency-shifter sont assez différentes d'une œuvre à l'autre de notre corpus, selon deux axes :

timbral et harmonique : transformation monophonique ou polyphonique du son de l'instrument.

rythmique : couplage ou pas avec une ligne à retard réinjectée.

Les différences de rendu sonore entre les implémentations A, B, C nous conduisent à poursuivre cette enquête en interrogeant les compositeurs et les réalisateurs en informatique musicale impliqués dans la conception technico-musicale des œuvres, pour comprendre la motivation du choix d'une implémentation lors de la création, et l'éventuel passage à une autre implémentation lors d'une migration. Par exemple, pourquoi l'implémentation A a-t-elle été conservée dans la deuxième version (2005) d'Anthèmes 2 de Boulez, alors qu'il aurait été possible de passer à l'implémentation C ?

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Valentina Bertolani.
No score, hundreds of sketches: Mario Bertoncini's Spazio-Tempo

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In the last decades, sketch studies and musical philology have been expanding their object of study to include non-conventional notation and alternative supports for the diffusion of the work of art, such as tapes or pieces of code (e. g. Hall and Sallis 2004; De Benedictis 2004; Zattra 2007). Those works that can be placed in the middle of the continuum between composed works and installations pose an additional challenge to these disciplines. Intuitively, the study of the written documents might seem inadequate to understand the complexity of those works. I argue, instead, that a thorough study of the sketches, if far from providing the ultimate answers, can still be a valuable tool to frame into specific creative practice otherwise elusive aesthetical issues. In my paper I will focus on the work of the Italian composer Mario Bertoncini (born 1932), specifically on *Spazio-Tempo* (1967-70) – an "environmental theatre piece," as defined by the author, performed at the Venice Biennale in 1970 – an applauded composition that counts hundreds of pages of preparatory material but has no score.

Most of Bertoncini's sketches up to the mid-1970s are held at the Archive of the Akademie der Künste in Berlin, constituting a growing collection (not entirely catalogued yet) of thousands of items. The collection is very diversified, with sketches, letters, final scores, pictures, posters, material for classes, etc. It also contains documents related to some of the most important works by Bertoncini, such as *Quodlibet* (1964, Gaudeamus Prize), *Tune* (1965) and *Cifre* (1964-7). More than 300 pages of the trust are taken up by documents for *Spazio-Tempo*.

Since 1964, with the composition of *Quodlibet*, Mario Bertoncini made use of non-conventional notations. A great part of the signs used were slightly modified but consistently present in later works, until the most recent ones. This interesting development can be seen through the documents in the archive, where the composer repeatedly tries to draw the "right" shape for the score as an actual part of the intermediate stages of the compositional process. For what concerns *Cifre*, it is possible to trace some of the signs back to the original movements improvised on the instrument (early stage of composition) thanks to drawings of the action that was played.

In the great part of the 300 and more papers dedicated to *Spazio-Tempo*, the modus operandi of the composer does not change much. However, this work represents a pivotal experience in Bertoncini's opus because it represents the middle ground between the normative function of notation and the radical turn of the Aeolian harps (1973), for which the score consists of the Aeolian object itself (Borio 2012). *Spazio-Tempo* is the first multimedia work of the author, featuring mimes-dancers next to musicians and a conductor.

The work is at the edge of composition and installation, even though the installation and compositional elements are hard to unravel. The audience – unwittingly – inputs gestures that will trigger reactions in the dancers-mimes; the action of the dancer-mimes will trigger reactions in the musicians, and their reaction will be based on graphical indications projected on the wall. The conductor, who probably has the most detailed indications, will moderate the process. The set-up (an entangled web of tubes and resonant objects that can be performed directly by the dancers) and the lights are playing a structural role in the piece, able to give

indications to the performers on how to react to certain elements. It is prescribed that the entire performance last for three days. The performance is constituted by a dress rehearsal and two executions of the work.

To the best of my knowledge, a study of the phases of Bertoncini's compositional process has not been attempted so far. Comparing the materials about different compositions, I grouped the documents found on *Spazio-Tempo* as following:

1. Drafts of theoretical texts: *Spazio-Tempo* features an unusually rich collection of drafts of theoretical texts on the significance of contemporary musical form. In other compositions, this type of reflection seems to be linked to the early stages of the creative process, but in the case of *Spazio-Tempo I* suspect it belongs also to the intermediate/advanced stages, due to the complexity of the idea and the long gestation. A parallel with the published text "Il teatro della realtà" [The theatre of reality] (Bertoncini 1985) seems to be particularly useful.

2. Attempts at graphical renderings of musical gestures: in the Berlin collection, this type of material is present in almost all the folders dedicated to Bertoncini's compositions and may represent the intermediate stage of composition (the early stage being the exploration on the instrument itself). Of particular interest in the case of *Spazio-Tempo* is a comparison with the gestures used in *Quodlibet*.

3. Accounts of unwillingness to write a score: as far as I know, this type of material is unique within the collection at the Akademie der Künste. Accounts are relatively scarce but they mark a crucial point in the change in Mario Bertoncini's creative process, leaving the final stages of composition to the untraceable moment of the rehearsals and, perhaps, to the unfinished theoretical drafts.

4. Contextual information: pictures, letters to prospective performers, promotional material, etc.

Based on the working hypothesis that installation and compositional elements are almost equally present and absent in the written documents, I will trace continuity and discontinuity patterns in the compositional/notational process of Spazio-Tempo with previous productions. In order to achieve this goal, I will make use of archival research, the composer's accounts and historical reconstruction. The discussion of Spazio-Tempo can represent a valuable contribution to the current scholarship not only because it is a work at the intersection of music composition, musical installation, and multimedia work, but also because its compositional process features different notational strategies, forcing a reflection on the role each of them can play.

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Amy Blier-Carruthers.
From Perfection to Expression?: Exploring Possibilities for Changing the Aesthetics and Processes of Recording Classical Music

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Since the beginning of recording, there have been debates about the balance of and interaction between the technological and artistic processes at play in the recording studio. It would seem that in classical music, recording has not achieved an emancipation from the aesthetic of live performance in the way that film has successfully diverged from theatre. Some of the most famous thinkers and practitioners in the area of the possibilities of the studio have included Glenn Gould (ed. Page 1984) and John Culshaw (1967), but despite their work, and the fact that we have had well over a century in which to experiment and get used to the ontologies and practicalities of this process, my research has indicated that there are still many questions to be considered. And it may be that, in fact, we are nearly too late.

There is a crisis in the classical music recording industry - companies are struggling and being dismantled, and the traditional sales mechanisms are collapsing - but there is another, hidden crisis. Many musicians working today have a negative attitude towards recordings, in which they perceive a prioritisation of perfection over expression, and over which they feel they have a lack of control in regards to both the process and final product. Perfection seems tacitly to have become the norm expected in classical music performance. Editing makes perfection possible on a recording, but this aesthetic has also invaded the concert hall. The expectation of perfection can be detrimental to in-the-moment communication with the audience, which may sometimes put at risk technical accuracy but often delivers more expressive and convincing artistic expressions. Our tastes have therefore been influenced by what technology makes possible.

I have been using an ethnographic methodology in order to study classical music as cultural process (Cottrell 2004, Nettl 1995, Stock 2004). My doctoral research, which was an ethnographic and analytical study of classical music-making, focused on the conductor Sir Charles Mackerras. I investigated his recordings and live performances, exploring the issues that arise when comparing these different performance situations. In addition to detailed analysis of the performances, there was a strong contextual aspect to this research which involved interviewing Sir Charles himself, the musicians, producers, and engineers he worked with, and fieldwork observation of the rehearsal, concert, and recording processes. I have continued this line of enquiry by applying this combination of ethnographic and performance analysis techniques to situations involving preparing conservatoire students for their professional encounters with the recording studio, as well as studying other professional music-making situations.

In this paper, I would like to introduce the concept of the possibility of moving from an aesthetic of perfection to one of expression, and describe elements of a large-scale collaborative research project on which I am working (currently at proposal stage), that will look at these issues and will gather knowledge and test possibilities through various experimental case studies. Some of the questions I am asking are: how could examining current practice and musicians' dissatisfaction with recording in fact rescue the classical recording industry? By looking objectively at the situation from many angles, gathering evidence about preferences and current practices in the industry, questioning the status quo by

asking people what they would like to try if they could, and then conducting experiments to try out these ideas, we might be able to find a new set of parameters and explore a new aesthetic for recording classical music. As well as academics in related fields (of musicology, ethnomusicology, sociology, psychology etc.), this kind of research involves musicians, producers, sound engineers, record companies, critics, concert venues, listeners, cultural institutions, educational establishments, and other parties with an interest in classical music (both live and recorded).

There are various areas of research and experimental situations which will be in process or will have been completed by the time of this conference, and I will therefore be able to report on the results of some of them. Issues covered will include: examining current practices in the recording studio; experimenting with different balances of power and control between producer and performer, both in the studio and the editing and post-production phases; testing perceptions of perfection, is perfection the problem?; how might an 'expressive' recording be received?; what are the possible future directions of the recording business?; what would classical musicians and producers do differently if only they were given the artistic and commercial freedom to experiment with other aesthetics in the studio?; what can be learnt about various recording aesthetics by experimenting with older technologies (such as acoustic recording processes); what might we try instead, as recording techniques could be more creatively used; what would the result be if we experimented more with the technology available, for instance a spatially distributed orchestra with implied movement in surround sound or hyper-real positioning of instruments, multi-track techniques used for rock/pop music so that listeners could have the possibility of choosing their own mixing and balancing options, a CD with several editing options so the listener can choose their own edits, or completely recomposed classics and new compositions commissioned to make the best of the opportunities that recording affords.

Some possible results of such explorations might be that musicians would be more in control, more involved in the production process and would have time to use the possibility of re-takes and editing to create something special, not simply to make it blemish-free. Producers and sound engineers could also have much more creative freedom in the studio - what would happen, for instance, if they collaborated more with the performer throughout the process, and if they were more than a footnote on the CD sleeve, an invisible prism through which the performance passes but in fact a visible part of the artistic process?

It is very important to have the freedom allowed by exploring these issues through the lens of research; being based in a conservatoire, we could be not only leading the profession but would also be at the forefront of educational innovations. Through this research we might find new ways of making the studio a place for creativity and collaboration, and offer new possibilities for the recording industry. Performers and production teams would have a new creative freedom, and audiences would be given something new to listen to, which would hopefully create a market and give record companies a reason to re-record and audiences a reason to buy new recordings.

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Alessandro Bratus.
Jimi Hendrix's *Fire* from Studio to Live, and Back. The Song as a Work in Progress

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The paper gives an overview of several of the surviving live and studio recordings of the song *Fire*, as performed by the Jimi Hendrix Experience between 1967 and 1969. The pivotal points consist in two versions of the song dating to January-February 1967 and February 1969; the first was released on the group's debut album *Are You Experienced?* (1967), and the latter on the posthumous *Valleys of Neptune* (2010). A favorite opening number for their shows, *Fire* underwent some major changes in its structure between the two studio recordings, step-by-step documented by sources such as radio and television broadcasts, as well as live performances.

What emerges from a comparison of the 1967 and 1969 versions is the influence of the song's performance history, underlining the normative value of recordings only in respect to a specific time, place, and conditions of production and consumption. Besides witnessing the creative work behind a song as an ongoing process taking place between the studio and the stage, the second studio recording of *Fire* also outlines a particular point of view from which Hendrix's musicianship is understood today. By highlighting his image as a flamboyant and virtuoso guitarist, the posthumous release plays with material evidence of the past and consciously manipulates it according to our idea of Jimi Hendrix –the legendary performer who burned his guitar at Monterey Pop– overshadowing his own efforts to approach composition as a studio-based practice.

When dealing with the analysis of recorded tracks, transcription no longer represents a reliable tool able to account for the performative qualities of a song, but must be complemented with other forms of sound representation such as sonograms, spectrograms and maps of temporal markers. A crucial performative feature of *Fire* is the fluctuation of the beat duration within the same take, giving rise –as the song progresses– to distinctive patterns of tension and relax in each version. Digital tools can help to represent and account for such patterns, that cannot be thought of as pertaining to performance alone. Rather they became one of the central compositional dimensions of the song, as witnessed by the several live recordings before and after the two studio versions. Careful observation of the different temporal distribution of beat durations, together with other elements directly related to the performative dimension of the song in different recordings of *Fire*, could reveal which features descend from live performance and which are related to work into the recording studio. On the whole, such processes highlight how the elaboration of a song over time requires a dynamic and practice-based conception of the creative process in popular music. Its reconstruction involves analytical attention to musical details, as well as a careful historical investigation based on written, oral and audiovisual sources.

This case study is thought to be relevant as regards the study of creative processes in popular music because it underlines crucial issues such as:

1) the unstable relationship between the record and the concept of the "work" as implied in the traditional notion of the written score, similar to the distinction proposed in the theoretical framework of contemporary visual art between "art documentation" and "artwork" (Groys 2002);

2) the nature of the recorded song as a specific compositional object at the center of a relational network in which creative and technical figures, as well as different sorts of cultural gatekeepers, are involved (according to McIntyre 2012, who adapted Csikszentmihaly's model of creativity to popular music);

3) the open relationship between live performance and its mediatization as part of a dialectic tension peculiar to the macro-genre of rock, in which the idea of "authenticity" plays a central role in defining the structural and representational strategies of mediated texts (Moore 2002; Auslander 2008).

What these issues underline is a concept of the creative process that not only chronologically predates the publication of a record –for which accessing documentation is often difficult (if not impossible) in the current framework of the popular music industry–, but that also continues after the release of the song, in its live performances or subsequent studio versions. On the whole, these documents witness an extended process of elaboration which can go on as long as the song is performed (and eventually re-recorded). Such later versions are often more relevant from the point of view of the audience and fans, as they reflect the specific needs of the contexts for which they have been produced. Here the unique personality of the star lies at the core of a complex strategy of representation, as the point of convergence of an overall intermedial image which is the result of the partial elements found in records, live performances, visual style, media appearances, interviews and historical accounts.

Such a vision of the creative process is typical of popular music as an expressive form of art in which recording and live performance give rise to peculiar configurations of production and reception. As the example of Jimi Hendrix's 1969 version of *Fire* shows, song is a compositional form that always tends to be "in progress": from point of view of its modular structure, its repetition night after night as part of the performative habits of popular music, and its nature as a cultural object in which conciseness and brevity are both aesthetic options and requisites for commercial circulation.

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Tara Browner.
Creativity within Formal Structures: Two American Indian Song Repertories

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In traditional First Nations musical expression, the formal structures of music often hold both spiritual and political meanings beyond the songs themselves. As frameworks for composition¬¬—most often referred to as "song making"—these forms are amazingly flexible, and provide song creators from novice through experienced a means to produce culturally relevant musical while expressing personal creativity. The two styles that I would like to present and contrast are Plains Indian War dances and Iroquoian Eskanye Ganiseh, also known as women's social dance songs. Each exists within a formal musical structure as music for dance, and performances usually feature songs of antiquity side by side with those that are newly composed. Plains War dances are the same songs that are used at powwow events (although they can also be used in other contexts), and at their most basic level are made up of a theme and variations moving down a pentatonic scale, broken up by sung 16th note rhythmic cadential patterns. The overall formal structure is a strophic ABB, and the cadential patterns are quite set, with minor variations from tribe to tribe and region to region. This all fits over a constant unchanging drum beat (other than accents and dynamic levels). Where creativity comes into play is through melodic variation, rhythmic variation, and Native language text—ultimately the key element in the melodic structure, as the melody must compliment the text in a way that the listener cannot only understand it, but also be energized in their dancing. This is accomplished through laying the text/melody onto the drum part using a technique where the main word stresses are always a 16th to 32nd note off from the heavier drum beat, giving the song a kind of forward motion, as opposed to the stereotypical bum-bum-bum-bum that many people assume is common to Native American songs.

Eskanye Ganiseh is in some ways quite similar to Plains War Dance styles, but with a number of key differences. The form is usually AA1BA1A2 (as a complete song) and each phrase is finished off with a cadential pattern of Gaina Wiiya Heya. In traditional contexts, songs are sung in repeated pairs, and complete "set" is seven songs (seven pairs). Instruments used are a single water drum and cowhorn rattles, and those parts are set and unchanging. Where musical creativity comes into play is through the creation of text and melody, and like Plains music, the melody is adapted to the text. In this tradition, texts and melodic fragments can be drawn from completely outside of the culture, and songs based on everything from Hank Williams tunes to *Old MacDonald had a Farm* are in current circulation.

My goal with this presentation is to explore just how song makers do their job, and specifically how a kind of implicit knowledge of song form influences their creative practice. Research methods used are almost entirely fieldwork based, and include long and detailed conversations with song makers, as well as participant observation in dances. As composer/performers, song makers are inspired by everything from melodies and texts learned from dreams and visions to commercial music from television ads, and somehow are able to fashion workable songs inspired by these disparate sources. In this case, a fairly strict musical form seems to be a key to their ability to utilize melodic and textual sources from outside of their culture to enrich their own.

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Alexander Cannon.
Metaphors of Creative Practice: Navigating Roots and Foliage in Southern Vietnamese Traditional Music

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Traditional music in southern Vietnam does not sit idly on the sidelines of cosmopolitanism, globalization, and modernity. Musicians travel from Long Xuyên to Hồ Chí Minh City and then fly to Bangkok, Dubai, and Seattle, interacting with a greater number of musical types, media, and ideas than in previous decades. As musicians navigate sources of global cultural power, they adopt new performance techniques and acquire new audiences in Europe, Asia, and the Vietnamese diaspora. These engagements activate disparate ideas concerning musical creativity, and the emergence of competing creativities in Vietnam forces delicate negotiations of so-called "authentic" and appropriately "developed" performance practices. Oftentimes adept or "charismatic" individuals lead the negotiation process; ultimately, however, communities of musicians sprout to make sense and maintain these practices. Traditional music, therefore, is profoundly creative and does not simply index the past but actively constructs the present and tackles the uncertainty of the future.

Drawing on models of music practice typical in research on Western art music, ethnomusicological studies of Vietnamese music often focus on individual prowess where scholars measure creativity as the individual's ability generate the new and garner a following (Phạm 1972; Lê 1998). Recent research in ethnomusicology and other fields posits instead that creativity is a social endeavor actively negotiated by groups of individuals (Csikszentmihalyi 1996; Hill 2012; Pang 2012). To understand creativity, therefore, one must investigate both the authority and power that establish boundaries of appropriate practice (Lam 1998; Ramnarine 2003) and the reactions to this power. Individuals do not necessarily engage in overt strategies to overthrow authority but instead adjust to their surroundings in more subtle ways. New modes of practice enter the bounds of the authorized, and other modes are omitted or disappear; in this sense, creativity both builds and destroys as communities of musicians re-craft their social worlds.

My research expands this work and specifies multiple levels of creative practice within southern Vietnam. I first examine how creativity emerges in spheres of traditional music performance from the interaction of authority, cultural policy initiatives, the labor of musicians, metaphors drawn from literature to direct preservation, and musical techniques from outside of Vietnam introduced by new participants. I then investigate the interaction between different scenes of performance and indicate how conflict between them sustains interest in traditional music. The juxtaposition of competing creativities forces debates concerning the Vietnamese identity in an increasingly cosmopolitan and globalized Vietnam and encourages Vietnamese practitioners to make sense of new societal conditions.

Vietnamese musicians impart their understandings of creativity [sự sáng tạo] using specific experiences with others in community settings. Ethnomusicologist Trần Văn Khê (2013) argues that he "best internalizes creativity" with the phrase "học chân phương mà đờn hoa lá," meaning that one must understand the truth or roots [chân phương] of music practice but improvise as foliage [hoa lá] grows on a tree. Musicians negotiate "truth" and "foliage" while operating in multiple social worlds. Musicians affiliated with conservatories and other institutions implement cultural policies written by the Ministry of Culture, Sport and Tourism

to direct practice and cultivate international recognition; master musicians seasoned by experience intersect and redirect these policies; newspapers provide suggestions for improvements; young people organize online forums to discuss and debate the authority of musicians and suggest sources for studying best practice; and musicians returning from abroad enter the mix to suggest new sounds and ways to preserve practice. Out of the interactions of these various actors, communities form in strategic urban, rural, and virtual spaces, lending authority to new viewpoints.

To focus my conclusions, I draw on my fieldwork research conducted with musicians of traditional music in southern Vietnam and their students in Vietnam and abroad. In this paper, I specifically examine the creativity of one musician, Nhạc sĩ [artist] Huỳnh Khải, who plays a genre of southern Vietnamese traditional music called đờn ca tài tử ["music for diversion"]. Huỳnh Khải is an emerging leader of đờn ca tài tử and, currently, heads the Department of Traditional Music at the National Conservatory of Music in Hồ Chí Minh City. He attempts to expand the audience of consumers of traditional music by composing new pieces, organizing festivals and producing đờn ca tài tử shows for television and radio. He performs in both the Mekong Delta and Hồ Chí Minh City and advocates the constant exchange of musical details between the two areas. Recently, he has undertaken new kinds of exchange by performing at festivals abroad--including in Shanghai and Dubai--and by posting photos and videos frequently on YouTube and Facebook. Such methods of exchange bring new possible foliage into the structures of music practice and expand consumable traditional music to new audiences in Vietnam and abroad. The meetings of individuals and practices enabled by Huỳnh Khải generate knowledge and serve, oftentimes, to make knowledge more versatile in ever-changing supra-local contexts.

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Maureen Carr.
Igor Stravinsky's Compositional Process for Duo Concertant (1931–32)

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Prologue

Aldous Huxley wrote *Brave New World* in 1931—the same year that Stravinsky began composing his *Duo Concertant*. Huxley quoted from *The Tempest* and other Shakespearean plays in his *New World*, whereas Stravinsky in his *Duo* quoted from one of his own ballets *Apollo* and alluded to motives and other gestures from works by Bach. Borrowing from other sources should not be so surprising, given that Shakespeare is thought to have drawn from Montaigne's "Of the Cannibals" for *The Tempest* (Stephen Greenblatt, *Shakespeare's Montaigne,* p. ix.). The uniqueness about Stravinsky's use of pre-composed sources is that he puts his own "thumbprint" on the source once he is comfortable with the idiom. Sometimes the sources are obvious in the musical outcome of Stravinsky's compositional process, as with the use of a source by Bach in "Petit choral" (*Histoire du soldat*). At other times he transforms the borrowed source to a more abstract level as in his allusion to Mozart, K.310 in A minor in the *Piano Sonata* (1924). Clues to Stravinsky's modus operandi are found in his musical sketches.

Proposal

Just as architects plan their projects by rendering designs, so too do composers begin by sketching musical ideas—with the obvious difference that architects render images and composers realize sketches in musical notation. Sketches provide treasure-troves for scholars searching for those transformative moments when abstract musical fragments take shape and become the basis for musical compositions.

In my many visits to the Stravinsky archive of the Paul Sacher Stiftung, I have learned that some of Stravinsky's musical sketches begin in a rudimentary manner, as in the case of *Apollo* (a ballet written in 1927–28). In what appears to be his earliest idea for this work, Stravinsky wrote a melodic fragment outlining a triad with a deliberate rhythmic pattern on a small piece of paper. Eventually he changed one note in this musical motto and expanded it through the use of poetic meter that corresponds to one of the Alexandrine patterns.

The purpose of this proposal is to present three approaches in Stravinsky's compositional process for *Duo Concertant* that are based on musical borrowings or reminiscences: (1) at the surface level from one of his own works, (2) at the middleground level from (a) a pre-composed source, or (b) a gesture by another composer, and (3) with the use of (a) a pre-existing large-scale form, or (b) the use of poetic meter in his formulation of musical meter. In addition to the use of borrowings in his compositional process for *Duo Concertant*, I will also discuss how Stravinsky presents abstract musical ideas that continue to evolve in the sketches.

Of the 63 pages in the Sketchbook for the *Duo Concertant* at the Stravinsky Collection of the Paul Sacher Stiftung, this presentation will include images of diplomatic transcriptions from five images on microfilm and images of the corresponding examples.
1. Borrowing at the surface level from one of his own works.

Stravinsky borrowed an identifiable fragment at the surface level from one of his own works—*Apollo* (1928–29), specifically the second tableau, "Variation d'Apollon," R-22, used three times in *Duo Concertant*, twice in the "Gigue" and once in the "Dithyrambe". This "musical idea" is generated by two thirds: a minor third and a major third separated by a half step and that can be reduced to a Phrygian tetrachord [0, 1, 3, 5], as compared with the minor third and a major third separated by a whole step that saturates the Introduction to Firebird and that outlines a tritone [0, 2, 3, 6].

2. Borrowing at the middleground level from (a) a pre-composed source or (b) a gesture by another composer.

(a) Stravinsky used a short motive from Bach's "Gavotte ou la Musette" from the *English Suite No. 3* as the source for the "Eglogue I". In this example, Stravinsky expanded upon Bach's musical idea to create an imitative texture that is accompanied by a drone perhaps as a musical reflection of the bucolic atmosphere conveyed by the poetic form.

(b) In the "Dithyrambe" Stravinsky borrows a Baroque gesture similar to one found in Variation XIII of Bach's *Goldberg Variations*.

3. The use of (a) a pre-existing large-scale form, or (b) poetic meter in his formulation of musical meter.

(a) Stravinsky's creation of five movements in *Duo Concertant* (Cantilène, Eglogue I, Eglogue II, Gigue, Dithyrambe), presupposes that he is using the Baroque suite as his model.

(b) Stravinsky's statement that: "The spirit and form of my *Duo Concertant* were determined by my love of the pastoral poets of antiquity and their scholarly art and technique" (Igor Stravinsky [or Walter Nouvel] *An Autobiography*, pp. 170–71) implies that Stravinsky was inspired by Charles-Albert Cingria's *Pétrarque* (a copy of this book with an inscription to Stravinsky by Charles-Albert Cingria is at the Paul Sacher Foundation [Igor Stravinsky Collection], Basel).

In addition to borrowings, Stravinsky also presents abstract musical ideas that continue to evolve in the sketches. One of the best examples is found in a paradigm that appears paradigm that appears in sketches the opening movement, "Cantilene," and is later transformed in the last movement, "Dithyrambe."

Epilogue
Tracking the Creative Process in Stravinsky's Music springs from the musical sketches, for it is here that we see how Stravinsky absorbed his compositional models before abandoning them on his path to abstraction.

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Alessandro Cecchi.
Musical composition under the sign of heteronomy: Synchronization techniques in film scores by Angelo Francesco Lavagnino

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During the 1930s and 1940s the collaboration of Italian composers to film productions resulted mainly in conflicting relations to film directors and producers. The reason of these conflicts can be easily detected in the aesthetic paradigm and mentality that were predominant at the time and were both closely related to the idea of musical autonomy. In this sense, "true" art was depicted as a pure and disinterested activity and the work of art as the product of an author who was the only responsible of a prescriptive score. The case of Gian Francesco Malipiero collaborating with Walter Ruttmann for the industrial film *Acciaio* ("Steel", 1932) testifies the attitude shared by most composers in those years. As celebrated sources in the Malipiero Collection at Fondazione Giorgio Cini (Venice) clearly show, film production to Malipiero appeared as an obstacle to autonomous artistic creativity. Consequently, any functional use of the score and of the resulting recorded track was experienced as a threat to the formal coherence of the musical work. The publication of re-elaborated orchestral scores (mainly suites) was thought to re-establish the composer's authorship beyond the film.

It was only during the 1950s and 1960s that some Italian composers began to specialize in the field of cinema. This implied a gradual shift of attention from the traditional structural dimensions of the score (formal organization, melodic-syntactic articulation, tonal coherence), intended as aesthetically autonomous configurations, to the sound result considered in its relation to the audiovisual destination of the music. This concerned not only timbre and instrumentation - aspects that remained under the control of the composer - but also the aspects involved in the increasingly sophisticated process of sound recording, editing and post-production. As Federico Savina, who was active as music studio mixer during the early 1960s, has recently asserted: "Composers such as Angelo Francesco Lavagnino, Mario Nascimbene and Carlo Savina were pioneers in establishing a new culture of hearing and consequently of scoring and performing" (Savina 2007: 119). In particular, the mentioned composers became increasingly aware of the relevance of film synchronization: In this respect they subordinated the autonomy of their artistic activity to the resulting sound design of the audiovisual construction. This produced consequences on the characteristics of film scoring, triggering a peculiar kind of musical creativity.

My presentation will deal with Angelo Francesco Lavagnino (1909-1987) who, starting from his collaboration to Orson Welles' *The Tragedy of Othello: the Moor of Venice* (1952), developed a unique synchronization technique and working method that allowed him composing for films in a rapid and effective way. This must be considered as an issue of musical creativity in all respects. My case study sheds light on a neglected aspect of film production as an international industrial system, where composition practically demanded high levels of performance, particularly due to lack of time. As unpublished drafts for conferences that are preserved in the private archive of the composer's daughters testify, in many cases the whole process of composing, recording and synchronizing music for films took averagely no more than 5 weeks, and Lavagnino was fully aware of the demanding task of composing for the cinema.

In this context the compositional process results to be strongly influenced by the production chain which in many respects resembles an assembly line. This encourages a reconsideration of the functions of written musical sources, so as to keep into account the radical heteronomy of composing for the cinema: they offer a very partial representation of a compositional and constructive process which in many respects exceeds musical notation. The strictly aural aspects of sound design are generally defined in the recording studio or during the post-production phases. Yet, occasional paper annotations offer sketches or a preparatory drafts to be interpreted and completed thanks to the imagination of sound technicians. This is also the reason why the score can only exceptionally be connected to the final audiovisual result. Anyway, with specialized composers such as Lavagnino, a film's synchronization receives a high level of accuracy already in the first drafts. On the other hand, it is precisely the planning of sync points that displays an effective representation of the heteronomy of film music composition, even incorporates such heteronomy directly in the score. Differently from many of his Italian colleagues, Lavagnino was also particularly proud of his profession and of his expertise in working under pressure to meet incredibly compelling deadlines. This was also thought as an important aspect of musical creativity.

Starting from a presentation of the musical sources conserved at the Biblioteca Luigi Chiarini in Cinecittà, Rome, I will discuss Lavagnino's techniques of synchronization, focusing attention on Lavagnino's music for the Italian, French and American mainstream co-production *The Naked Maja* (1958), directed by Henry Koster. The comparison with the more "empirical" working process in some sequences of *Othello* (1952) will allow me pinpoint specific elements of a creative evolution in Lavagnino's specialized approach to film synchronization through the 1950s, and to show how in this context creative process and film production process came to interact.

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Giovanni Cestino.
Investigating Performative Approaches Through the Analysis of 'Performing Scores': Cathy Berberian sings *Circles*

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In the rich landscape of studies about performance as a creative process, the investigation of such preliminary phases that go before the performance itself (i.e. the study process or the rehearsal practice) presented themselves like a more or less closed type of fieldwork. By establishing direct relationships with performers and sometimes integrating the researcher into the performative process, it has been possible to go deep into the peculiar procedure and dynamics at the roots of the act of performance. The new methodological elements introduced in this speech share the aim of that research field, but mean to enlarge its boundaries by including also historical case studies, with whom no more direct contact can be established. To do so, this approach chose to include a new type of documentary source: the score belonging to the performers (from here on defined as performing scores). This kind of materials represents a unique point of view to explore the relationship between performer and their text, contemplated here in two complementary meanings: on one hand as intellectual contents – sometimes enriched by performers themselves –, on the other as material objects playing an important role before (and very often during) the performance. The meticulous analysis of that source constitutes the first step of this innovative approach, followed by the contextualization of the inferred data not only with all the other documentary traces of the related performances (audio and video recordings), but also with other archival materials. Using a performing score like a litmus paper makes it possible to light up the 'written repercussions' of interpretative and performative choices made by musicians in the delicate process of the performance preparation. Moreover, it consists in a precious occasion to reflect writing as an auxiliary tool to fix a kind of thinking very different from the authorial one. Finally, it also provides elements to study the musical reading process and the strategies that enable to establish during the performance, thus stressing the relevant role that textual objects maintain during the act of performance.

The specific case study thanks to which the first outcomes of this approach are presented is exemplary, both because of its consistency and its exceptional nature, which set it at the crossroads of various problems. It discusses *Circles* (1960) by Luciano Berio, a composition among the milestones in the repertoire sung by Cathy Berberian, one of the most relevant vocal personalities of her times. Thanks to the extended resources of her voice and to her incredible musical intelligence, Berberian paved the way to a new conception of vocality, singing, stage presence and to the whole figure of the singer. Among many others, her human and artistic partnership with Luciano Berio – they got married in 1950 – was the most important in her career, and represents the deepest feature of her artistic path. She followed the creation and premiered many of the masterpieces of his production – e. g. *Thema (Omaggio a Joyce)*, *Epifanie*, *Folk Songs*, *Sequenza III* and *Circles* itself – but she also accompanied the composer in crucial experiences like the one in the electronic studio of Italian radio television (the Studio di Fonologia Musicale, founded in 1955) in Milan.

Circles, for voice, harp and two percussionists, marked not only Berberian's American debut, but was also the first piece – among the many written on her vocal peculiarities – that singled out her theatrical and scenic talent. The various archival materials kept until not long

ago in Radicondoli (Italy) and in Los Angeles (and now acquired by Paul Sacher Foundation) do not allow complete documentary evidences about all the phases of her performative approach. Nonetheless, the substantial part of it and the other elements inferable 'ex negativo' can reveal such a level of involvement of the singer in some moments of the creative process of *Circles*; moreover, they certify her role in editing the score too (Wien: Universal Edition, © 1961). The only performing score survived to this day is an incredible source to gather a lot of information both about the study of the text and about the use that Berberian made out of it. But unfortunately it cannot reveal all of the complex dynamics occurred previously, deeply inside of the creation of the work. However, such an examination allows us to launch a critical investigation of the authorial dynamics (and their declinations) of the duo Berio-Berberian, aside from common trivializations. In the creative process of the realization of *Circles* no trespassing and no significant alterations to the traditional roles of composer and performer can be identified thanks to those methods and resources. On the contrary, we can affirm that Berberian's contribution always remained in the performative and interpretative range. Also when she introduced new elements around the musical work, they were regularly approved by Berio, but they never escaped her boundaries. In addition, it was that very experience of work that inspired, in the time passing, new authorial decisions made by the composer.

The documentary evidence of this new typology of materials gives us a chance to examine deeply this chapter of their cooperation, making new observations possible and coherent. Merging the richness of those performing scores with other registrations (both audio and video) realized in various moments of her career, it becomes easier to stress some of the most relevant aspects of Cathy Berberian's performative approach, and to link them to the role of her scores inside and outside of her performances.

Michael Clarke, Frédéric Dufeu and Peter Manning.
Tracking the creative process in Trevor Wishart's *Imago*

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Often it may seem that electroacoustic music provides fewer resources and less evidence for musicologists to work on when investigating creative processes. Electroacoustic works are produced in the studio, often composed directly onto disc and there may not be sketchbooks with musical notation of drafts of passages, or diagrams or notes. Often digital sketches may be overwritten or discarded as the creative process moves on. Software and hardware used in a composition may become obsolete over time and its method of operation may not be have been recorded in detail. One of the goals of the our 30-month project TaCEM, finishing in March 2015, is to try and trace such compositional processes in electroacoustic works, and to emulate the techniques used by composers and to study how they were deployed in creating particular works. In some respects, the project is related to work analysing the technical and musical aspects of electroacoustic music using software in the form of Interactive Aural Analysis (Clarke 2012). Other related work includes: Battier (2003) on a constructivist approach to analysis, and Baudouin (2007) and Dahan (2007) on the preservation and reconstruction of technology related to creative practice. The overall goal of the project is to examine the relationship between technological innovation and creative potential in electroacoustic music. We are doing this by examining eight case studies, ranging across the repertoire, in which new technological innovation has played a key part in enabling composers to bring to fruition new creative approaches. We are studying the context of each work, investigating the technology employed and analyzing the music.

One of our first completed case studies is Trevor Wishart's *Imago* (2002). The way that Wishart worked and the software he used (his own Sound Loom software package) have resulted in an unusually rich resource for tracking the composer's creative process over time and examining the relationship between the technical resources he used and the final musical outcome. The Sound Loom software works by taking an input sound file and applying a transformational process to this file (e.g. transposition, time stretching or brassage), using parameter data entered either directly into the program or as a data file, so as to create a new output sound file. The program does not operate in real time but generates sounds one at a time with clearly defined processes and parameters. This way of working leaves behind a trace, a set of date-stamped audio files which represent the evolution of the work over time. The development of sound materials, from an original source sound through a sequence of processes, can be traced potentially, and the gradual assembly of components for the final piece can be tracked over time. Furthermore, the data files used to control the various processes can provide information about the details of the different transformations that were deployed. If, as is the case with *Imago*, these materials have been to a large extent preserved an extremely rich resource is available for tracing the creative process as it evolved.

How might such a digital resource best be used by musicologists for researching the creative process and for analyzing the musical work? Central to the methodology employed is the use of software both in undertaking our research and in presenting our findings. This

facilitates engagement with musical works as sound and the investigation of the techniques used through software emulations. So our primary means of researching the archive of sound and data files relating to *Imago* has been through software. One resource we have created is a calendar of activity. Set out like a traditional calendar this shows which files were created at what time and on which day. This calendar is not simply visual, the calendar being in software, each file is represented by an onscreen button and this can be used to play the sound or open the text file. It is therefore possible to trace in detail the process by which the work evolved day-by-day and hour-by-hour.

Another software resource we have produced shows the relationships between the sounds. A network of inter-related sounds, leading from the original source sound (*Imago* is built entirely from one single short recorded sound) through sequences of transformations branching out in different directions, to the completed work, is represented on screen. Each node is an on-screen button that can play the sound concerned. A slider control also allows the user to move through the evolution of the work in time, so that nodes on the diagram (i.e. sounds) gradually appear on screen in the order they were created. It is possible to see the temporal evolution of the work and to hear it by playing the files. We can discover whether sections were composed in the order they appear in the work (mostly they weren't), whether materials for a particular section were all developed in close temporal proximity or not (sometimes they were) and how the overall form of the work took shape.

This leads to a related chart that also shows the relationships between sound files but this time focusing on the genealogy of the sounds – how different sounds are related through similar branches of processing. Again the nodes of the tree can be played. Furthermore, in this case it is possible to learn in detail about how sounds are interrelated. The processes that link sounds can be opened in an associated window on the screen. It is then possible to recreate that transformation using our own emulation of the Sound Loom software. The data used by the composer can be entered to produced an exact or very close replication of what Wishart himself did, or alternative settings can be tried to learn more about the processes and their potential and about the choices the composer was faced with. *Imago* is a long work, over 25 minutes, and the archive comprises well over 1000 files and employing many different processes. We have not therefore been able to analyse the whole piece at this level of detail but have chosen representative passages for in depth examination.

In summary, we have used software to help us understand more about the creative process involved in the composition of *Imago*. We have been able to track its temporal emergence moment by moment. We can follow each step in the creative process over time and see what that involved in terms of technical manipulations of the sounds. This technical and analytical work has been carried out alongside discussions and interviews with the composer so that we can cross-reference the composer's thoughts on the creative process with our own interpretations. The outputs resulting from this research, which include interactive software, text and recordings of interviews with the composer, provides the reader with a multi-dimensional resource for exploring the structure of *Imago* and for developing an understanding of the creative process that led to its creation. Our presentation will include a demonstration of the software we have developed as well as discussion of Wishart's creative process in composing *Imago*.

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Marco Cosci.
Mixing Papers, Writing Sounds: Into Egisto Macchi's Audiovisual Workshop

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It has often been remarked that a major barrier to effective film-music scholarship lies in the absence of published editions of the scores. Film scores usually survive just as handwritten manuscripts created in function of a determined recording session. Far from being an obstacle, what can we then deduce concerning the compositional and production processes from the temporariness of the manuscript sources? And also, paradoxically, from their absence? And lastly, in the redefinition of the textual structures, what new links exist between scoring and performance practices, and how are they mutually conditioned and redefined?

In this paper I will answer to these questions through the lens of Egisto Macchi's music in his two main domains of compositional activity: documentary and feature film. Whereas the Hollywood Music Departments usually split between different people the competences for the preparation of a musical soundtrack, the Italian system shows a more flexible and unsystematic situation. As I shall illustrate, the supervision of every aspect of musical production – spanning from the initial musical sketches, through their timbral and dynamic elaboration on paper, to the moment of recording – is the conditio sine qua non for Macchi's conception of the soundtrack as a complex, stratified and unitary phenomenon, through his work as composer, arranger and conductor. The name of Macchi is inseparably linked to the documentary genre, which marked his debut in film composition in 1958 and served as an authentic testing ground throughout his career. Thus, in the first part of this paper I will discuss the tools we have available to reconstruct the first developments in Macchi's artisanal approach to film composition. According to records drawn up by Macchi himself, the number of his documentary film scores is well over a thousand. In order to realise such a massive production, he developed a serial-type compositional procedure based on economical efficiency at every operational level, from the choice of instrumental resources to the ability to keep very tight schedules and even adapt to very basic working facilities.

We can distinguish three categories in his compositional approach to documentaries: scores employing exclusively acoustic instruments; electroacoustic re-elaboration of pre-existing materials; and entirely electronic sonorization. I will concentrate my attention on the first category, which will shed light on the textual relations involved in the production process. The paper files are annotated with paratextual indications facilitating complete control over the audiovisual result before setting foot in the recording studio. In fact, one always finds precise metronome markings, agogic indications concerning the character of the musical episode and, lastly, mainly descriptive indications related to visual elements. Beyond these notes, we find other annotations, which document the working process during the recording sessions. These signs provide clear synch points for the conductor, i.e. Macchi himself. At this stage we can find coloured diacritic signs that highlight previous pencil notes, as well as new notes. In spite of the sheer quantity of documentary films Macchi scored, there is always an extreme care as to the sound profile of each film: this emerges not only from the composer's scrupulousness as a conductor, inferable from the number of takes for each cue which are preserved on tape, but also from the meticulous indications of dynamics he recorded on paper. Such a sharp-cut definition of these parameters must on one hand be seen in the context of the experimentation associated with sound as process as it was developed by

the composers involved with Nuova Consonanza, and on the other, it responds to the need to obtain the intended sound from the instrumentalists in the shortest time possible.

The relationship between score and recording is highly dynamic. If the composition on paper is conceived specifically for a certain documentary, once the process goes beyond the stage of tape recording, the field of possibilities for its destination widen considerably. In fact, the discrepancy between the large number of documentaries made by Macchi and his apparently missing paper manuscripts has to be viewed from a different perspective. It indicates that tapes, rather than scores, had become the main musical sources for the composer himself. Macchi drew on his own 'music library' reorganising musical tapes originally recorded for different documentaries, which then could be reassembled for a new film.

While the manuscript sources for documentaries do not reveal any particular problems concerning the balance between the audio realization and the voice-over, things are rather different when it comes to feature films. In the second part of my paper, I will use as a case study one of Macchi's most prestigious collaborations with the director Joseph Losey on *The Assassination of Trotsky* (1972). The overall postproduction process took place at the International Recording studios in Rome. In order to infer from the sources how the multi-layered soundtrack's dimension is shaped through the compositional process, I will look at a specific case that was crucial in the film's dramaturgical evolution: the sequence of the bullfight. Beside the definitive version, we have two earlier versions of the piece of music written by Macchi for this audiovisual segment, both of which contribute to the final released track, albeit to varying degrees. Although the three versions differ in terms of instrumental resources and in the overall managing of pitches, all three are nonetheless characterised by a clear definition of the visual and sonic points of development. Almost every scored cue is accompanied by a smaller sheet of paper where Macchi defines the structure of the piece in skeleton score form, setting out the temporal structure with the division into bars, accompanied by precise indications in seconds.

By comparing the three versions we can identify some creative aspects that perfectly match Macchi's overall and multi-layered conception of the soundtrack, conceived as an organised sound world. In addition to the musical component, there are a dialogue between the two characters and the noises produced by the dying bull. The final version brings together various aspects of the first two that are consistent with the audiovisual layers of the film reel, allowing each element to maintain its own character quite clearly. The process of rewriting that underlies the various versions shows, through the textual stratifications present in the score, the point of contact between a compositional activity in the traditional sense and its transformations as required by the multimedia film system. In conceiving these aspects on paper, Macchi pre-set particular mixing procedures, so as to integrate each of the audio-visual components.

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Fabian Czolbe.
Comparative Sketch Studies and the ‚Hidden Concepts' of the creative process in music

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Faced to a more and more digitalized world the interest in artists manuscripts is still growing. Sometimes it is the mystic rising of an idea and its often unexpected development, sometimes it is a surprising simple reason that can be seen as the basis of a complex structure, and sometimes it is just the material or ‚aisthetic' dimension of a manuscript that leads a creative process.

The particular interest in musical manuscripts is mainly connected to the discovery of Beethoven's sketch-books. From the mid of the nineteenth century scholars started to investigate these documents from different perspectives. More or less intended they elaborated specific questions and new scholarly approaches. With a growing amount of studies concerning Beethoven, Mozart, and other composers manuscripts this research development became an inherent part of musicology. After the scholarly discourse shifted to the United States in the 1960th a new scientific field called sketch studies has been occurred, including new methodological and theoretical approaches. In todays sketch studies one can observe a new impulse from French literary studies under the topic of critique génétique. A so called genetic criticism emerges in musicological sketch studies and open up a wide horizon for scholarly approaches.

These differentiated investigations on composers manuscripts evolve an amount of research questions and methods. It is obvious that this tradition of investigating sketches has elaborated different methodological approaches and it is needed to have a look at these works to reflect the methodological consequences and their scholarly value. A comparative view on sketch studies over the history of more than 150 years can evaluate particular approaches, and initiate a theoretical discourse about investigating sketches. A reflecting view on methodology in musical sketch studies can finally draw different models of the creative process in music based on investigating composers manuscripts.

My presentation will outline the main methodological key aspects in the history of musical sketch studies. It starts with the first investigations of sketches by G. Nottebohm and P. Spitta in the nineteenth century, followed by investigations concerning the physiology of script and paper by L. Schiedermair, P. Mies, J. Schmidt-Görg etc., and goes until the first Gesamtausgaben of Bach, Mozart and Beethoven in the first half of the twentieth century. The first half of the development of sketch studies was affected by chronological interest. In connection with this interest in assigning a detailed history of the origin of a musical work or œvre one can see different methodological "proofs" of the compositional process. Ranging from physiological aspects of the paper or complete miscellany to graphological assumptions of the individual hand-script it seems that scholars had a teleologic model in mind when they tried to reconstruct the creative process. They pointed on a more often 'mystical' first idea, a logically continuative development, and a final authorized version. A so called 'historical model' of the creative process in music is still alive in todays research particular in critical editions. In the 1960th/70th the scholarly discourse was relocated in musicological institutions in the United States. Within the 1970th and 80th American musicologist pushed further the methodological criteria of investigating composers manuscripts (e.g. L. Loockwood, A.

Tyson, J. Kerman etc.), and discussed their analytical value (J. Kerman, D. P. Johnson, C. Schachter etc.). The focussed discussion about the philological facture, the chronological as well as analytical value of sketches in musicological contexts has shown sharp distinctions in the developed methodological and theoretical concepts. Based on these discussions and new self-conception the field of sketch studies became a regular part of todays musicology. This development with a delay of a decade has an initial resonance in the European particular in the German musicology. Investigations for example by U. Konrad (1992) have shown a differentiated use off and view on sketches in music history and music analysis contexts. Furthermore in the first decade of the twenty first century there can be observed some new paradigmatic shifts concerning the understanding of the creative process in music. One the one hand psychology based models of the musical creation are presented (C. Bullerjahn, N. Cook, E. Clarke etc.) integrating empirical methods and new technological measuring. Sketches are still discussed in these contexts but the focus is on the action and the cognitive structures of the artist's behaviour. These concepts generate the basis of a so called 'psychological model' of the creative process that follows in general a teleologic structure but includes feedback circuits and reflexive situations of choice and decision. This model open up a more action orientated understanding of the process, as well as cognitive structures of explorative or creative action in artistic contexts. The last decade finally educed an auspicious approach in sketch studies that tries to adopt the facilities provided by critique génétique. Faced to the artist's artefacts genetic criticism asks for the genesis of a structure. This approach focusses on the genesis of tiny aspects of one notation or a musical idea by asking for the conditions for and the participants of the process, comparing different possible ways including detours or alternatives, and finally including all possible actants independently from their medial constitution. Thus we can draw an approach that seems to have a concept of the creative process in music that is a 'non-teleologic' one. A model that brings points of decision, interaction between different participants (human or non human like the notation material, listening situation etc.), or the individual constitution to light.

My paper will present an overview of the historical development of sketch studies, a choice of investigations to analyse their methodological techniques, and the different models of the creative process in music hidden in the background of these approaches. A comparative investigation of sketch based studies in music can help to elaborate a theory of sketch studies. A theory that capture the relation between sources, methods, scholarly interest, and epistemic outcome. Furthermore such a concept can be the basis for advanced approaches take into account medial peculiarity, empiric set-ups, or an more action orientated concept of the creative process.

Francesco Del Bravo.
Modes of collision: Alberto Favara in the process of transcribing Sicilian folk songs.

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The analysis of creative process in music through written sources intertwines often with hermeneutics [Kinderman 2009], in a way not dissimilar from philological studies, whose basic purpose —although many attempts to delimit or to unbind it— remains 'making sense of texts' [Pollock 2009: 934]. An interesting field for music philology in order to investigate the ways a musical text took form seems to be the study of musical texts transcribing unwritten music, since they, facing music notation with music conceived out of a notation system, allow to explore the rationale underpinning the choices made by the transcriber, whose act encloses undoubtedly a creative activity [Arom 2002; Nettl 2005; Scaldaferri 2005].

A significant case study for this kind of enquiry in "music transcription philology" could be that of Alberto Favara (1863 1923), who is considered the first scholar approaching the Sicilian folk music not only through the transcription of the melodies and/or their texts but also through the study of the multiverse whereof they were part and expression [Leydi 1996: 26]. Born in Salemi, near Trapani (Sicily), and trained as composer, Favara had a multifaceted personality: composer, teacher for composition and sing, speech therapist, musicologist, music critic, concert manager, and proto-ethnomusicologist. He became interested in Sicilian folk music after being appointed as professor for composition at Palermo Conservatory, having already composed two operas, cantatas, and symphonic works. Between 1898 and 1905 he collected more than one thousand folk songs, travelling at his own expenses through Sicily and coming in contact with cultural fields far away from his milieu, both in urban and in non-urban contexts.

Although he was not able to raise funds for publishing the song collection, he presented part of his work, both as musicological essasys, appeared between 1898 and 1905 [Favara 1959]], and as compositions for voice and piano based on the transcription of the collected material [Favara 1907, 1921]. It is interesting to note that he was perfectly aware of his creative approach to Sicilian folk music, as in his essays he declares that this 'natural' music could allow a basic regeneration of Italian national music. Clearly influenced from Nietzschean philosophy —as the references to Friedrich Nietzsche's *The Birth of Tragedy* in his essays testifies—, he was interested in the search for ancient Greek roots as statement of and means for a music founded on interaction of gesture, voice and melos as expression of natural forces effecting on the singing body embedded in the world.

The songs were first transcribed in modern Western musical notation but without segmentation through bars and without accompaniment (in this form were edited only posthumously by Ottavio Tiby [Favara 1957]). On the basis of this transcriptions Favara achieved the artistic transcriptions for voice and piano, in which he realised the desired rekindling of Italian music.

The published sources display a broad range of creative acts that can be systematized in three main groups:

1) Analytical transcription. The monodic transcription is both descriptive and prescriptive, as it sets some paramters for pitch and rhythm in order to make the songs analyzable and mental performable by people trained in Western music notation but without any knowledge of Sicilian folk songs. The degree of accuracy in transcriptions oscillates

between emic and etic: while the rhythm is not fixed in isochronic metrical structures, thus reproducing the performance state of the transcribed songs, the pitch is put in a sort of preset modal system, being the songs transcribed not in their absolute pitch but in abstract scalar systems mostly rooted on D, E, and F, thus reflecting the (asserted) idea of their connection with "Greek modes" (respectively the Dorian, the Phryigian, and the Lydian) as categorized during 19th-Century [Powers 1992].

2) Thick evocations. In his essays, Favara not only explains his purposes, his conceptual sources, and the results of his analysis, but he also describes in highly evocative terms the conditions of performances and his role in transcribing the songs, recognizing his being-in-the-performance as source of artistic inspiration.

3) Artistic transcription. In spite of their "modalized" analytical transcription the folk songs in the version for voice and piano are less harmonized through the modal harmony, typical of the the coeval harmonization of plain chant and folk music [Gonnard 2000: 91 150; Gelbart 2011: 111 151], than through the irrelation of the syntax of tonal harmony, with some effects of pitched percussions. The rhythmic fluidity of the songs, despite the use of isochronism and bars, is mantained by means of meter changes.

The aim of my paper is to examine on the basis of the conceptual interacting written sources how a Western trained composer of late 19th-Century reacted to Sicilian folk songs. Both kinds of transcriptions reveal how the creative process through which Favara intended to renew the Italian music was centred on a tension between different ways to conceive and organize melody. On the one hand there is a melody structured on pitches embedded in a harmonic system ordered through leading tones and a simple double modal organization, on the other hand there is a melos structured around voiced tones generating melodic types and a multi-modal system. The collision between this two structuring principles caused a sort of "scalar normalization" in the analytical transcription and enabled the emancipation of syntax of tonal harmony from its teleological organization in the song collection for piano and voice, allowing a free motion of tonal harmony-chords on the basis of a complex modal melos.

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François Delecluse.
Comment Debussy réinvente-t-il les opérateurs de la modernité ? Modèles, figures et modernité dans la composition de la *Sonate pour violoncelle et piano* de Claude Debussy : l'exemple de la « Sérénade ».

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La dialectique, bien connue dans la critique génétique, entre la reproduction de modèles pré-composés et la transgression de ces modèles est un angle d'approche qui permet de se demander comment un compositeur produit une œuvre originale. En effet, l'analyse des esquisses comprise comme une analyse d'un processus créateur donne l'occasion au chercheur de reconstruire une micro-histoire de l'évolution des techniques de composition : longuement apprises par le compositeur au cours de sa formation puis au cours de sa carrière, les techniques de composition sont le fruit d'une transformation de modèles empruntés à des œuvres antérieures d'autres compositeurs ou du compositeur lui-même. D'un point de vue épistémologique, il s'agit moins ici de réinventer la question de la création musicale, que d'approfondir la compréhension du rapport qui se noue entre un modèle et sa transformation dans un acte de composition. Dans le cas de notre étude génétique, un modèle est une technique de composition de base (duplication, carrures, schémas harmoniques), endogène ou exogène au style du compositeur, dont on ne soupçonne l'existence qu'à travers une analyse du processus de composition.

Cet enjeu se pose tout particulièrement dans l'étude du processus de composition des œuvres de Claude Debussy, qui fut habité toute sa vie par un souci d'originalité, souvent revendiqué dans ses écrits publics : « Le musicien (ou l'artiste contemporain) arrivé à la grande notoriété n'a plus qu'une préoccupation. Produire des œuvres personnelles, des œuvres renouvelées autant que possible. » (Claude Debussy, 1987, p. 281). La question du passage entre la formation d'un compositeur et la construction de son autonomie artistique fait l'objet d'un glissement lorsque l'on étudie une période de création tardive dans la vie du compositeur. En effet, la dernière période créatrice chez Debussy, qui s'étend de l'année 1913 à la fin de sa vie, est marquée par un renouvellement musical, que l'on peut expliquer historiquement : le courant symboliste sur lequel Debussy a édifié son premier style musical, et dont *Pelléas et Mélisande* est l'apogée, n'est plus au goût du jour dans la première décennie du XXe siècle. Si l'invention des techniques de composition est fortement liée au mouvement symboliste dans la première partie de la carrière de Debussy (ce que François Lesure a appelé « les années symbolistes »), un besoin de réinvention des opérateurs de la modernité musicale – l'ensemble des codes musicaux permettant de redéfinir la modernité en regard de la musique du passé – se fait sentir dans une période correspondant à celle de son style tardif (voir Marianne Wheeldon, 2009).

L'abondante correspondance du musicien laisse parfois apparaître, à la fin de sa vie, les doutes qui aliment la réflexion du compositeur sur ses techniques de composition : « Pour une mesure à peu près libre, il y en a vingt qui étouffent sous le poids d'une sourde tradition, dont malgré mes efforts, je reconnais tout de même l'influence hypocrite et lâche. Remarquez qu'il importe peu que cette tradition m'appartienne en propre… c'est tout aussi décevant, car c'est se retrouver sous des masques divers. » (Claude Debussy, 2005, p. 1472-1473). Debussy semble concevoir la composition comme une tentative de réinvention radicale de la musique à chaque œuvre. À ses yeux, cette tentative est vouée à l'échec, tant les formules musicales

préfabriquées, qui proviennent de ses œuvres ou de celles d'autres compositeurs, encombrent ses habitudes de composition. Cette représentation de l'acte créateur typiquement romantique élimine des discours de compositeur toute manifestation de l'imitation de modèles. La spécificité de l'étude de la transformation des modèles de composition dans la musique du XIXe siècle et du début du XXe siècle repose sur le camouflage des modèles, bien plus souvent cachés que revendiqués. C'est sur ces présupposés théoriques et biographiques que l'on peut examiner à nouveaux frais le processus de réélaboration des opérateurs de la modernité dans les œuvres de la fin de la vie de Debussy.

Dans l'exemple que nous souhaiterions aborder, la « Sérénade » de la *Sonate pour violoncelle et piano* de Debussy, on ne peut faire l'économie de l'étude des figures musicales référant au champ extra-musical, sans passer à côté des techniques mises en jeu dans la réinvention de la musique et de ses codes modernes. L'analyse des esquisses de la *Sonate pour violoncelle et piano* conservées à Winterthur permet de mettre en lumière des transformations de modèles de composition (phrase classique, schémas harmoniques, etc.). Cependant, l'univers poétique dont s'entoure la musique de Debussy n'est pas un vague supplément d'âme, mais un élément essentiel à la compréhension du processus de composition. En effet, l'élaboration de nouveaux codes harmoniques, rythmiques, mélodiques, formels et instrumentaux va de pair avec l'invention de figures qui circulent dans l'œuvre debussyste : ainsi le processus de composition du deuxième mouvement de la *Sonate pour violoncelle et piano* ne peut être séparé des figures que l'on trouve dans la *Boîte à joujoux*, les *Études pour piano*, *En blanc et noir*, mais aussi le deuxième mouvement de la *Sonate pour violon et piano*. Loin du malentendu de « Pierrot fâché avec la lune », il s'agit alors, dans la perspective d'une investigation tant génétique qu'esthétique, de décrire des réseaux de figures musicales associées à un sens extra-musical, qui participent à la réinvention des codes de la modernité propres aux œuvres de la fin de la vie du compositeur.

Claude Debussy, *Monsieur Croche*, éd. François Lesure (Paris : Gallimard, 1987 ; coll. « L'Imaginaire »).
Claude Debussy, *Correspondance* (1872-1918), éd. François Lesure et Denis Herlin (Paris : Gallimard, 2005).
Marianne Wheeldon, *Debussy's Late Style* (Bloomington : Indiana University Press, 2009).

Michael Dias.
"The Application of Foundational Principles of Critique Génétique to the Analysis of Music Sketches: Problems and Solutions"

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The French literary criticism movement, critique génétique, is an attractive interdisciplinary model for the study of music sketches because of its staggering amount of varied scholarship published during its forty-year history, its concerted activity within the Institut des Textes et Manuscrits Modernes (ITEM), and its dedicated academic journal, *Genesis*. However, this presentation purports that the essential value of critique génétique to sketch studies is its rigorous theoretical foundation regarding the analysis of the creative process put forth by its pioneering scholars. This presentation builds on the efforts of scholars within English and French-language musicology, as well as practitioners of critique génétique within the field of literary criticism, to establish a musical critique génétique and identifies the benefits and potential challenges of such an endeavor.

Since 2003, Anglo-American musicologists have made interdisciplinary overtures to the movement of critique génétique (Kinderman, 2003, p. xii). Sketch study scholars such as William Kinderman and Philip Gossett have seen the potential of a musicological "genetic criticism" and have advocated for an integration of its theoretical framework in the field of sketch studies (Kinderman, 2009a, 2009b, 2012; Gossett, 2009). While studies of musical sketches in French-language scholarship were undertaken within the fourth volume of *Genesis* as early as 1994, Nicolas Donin found that the musicological discipline in 2010 still exhibited a "profound theoretical thoughtlessness" in its understanding and analysis of the creative process (2010, p. 15). He writes, "musicology has seemed to fail, alone, to constitute composition as an object of study as a whole" (Donin, 2010, p. 15). Like his Anglo-American colleagues, Donin advocates for an intersection with other fields in the humanities and finds that applying the foundational ideas of critique génétique (such as the concept of avant-texte) is a necessity that has yet to be fully undertaken. Not surprising, the most rigorous attempt to apply principles of critique génétique to music has come from a scholar within literary criticism. In his 2009 article, "Can Genetic Criticism be Applied to the Performing Arts?," Jean-Louis Lebrave examines his titular question by comparing the ontological status of the aesthetic objects and agents present in the performing arts with that of the literary arts, including the concepts of work, text, and performance. Lebrave's account leaves more questions than answers. While he seems adamant that critique génétique can be applied to performing arts such as music, he does not ontologically equate literary textual variants (drafts) with their musical counterparts (sketches). He sees the musical score (and sketch) as a set of performance instructions which, unlike a literary text, is not the ultimate result of the creative process. The ultimate result would be the performance of the score, which is, for Lebrave, problematically "ephemeral" (Lebrave, 2009, p. 79).

This presentation has three specific aims. First, critique génétique is presented as a solution to a fundamental crisis in sketch studies that was initiated by Douglas Johnson's 1978 article, "Beethoven Scholars and Beethoven's Sketches." In addition to spurring a barrage of polemics, Johnson's article raised the following question: How can the sketches of a musical work, which are the textual traces of a diachronic process, be relevant in the pursuit of an understanding of the musical work as a closed, synchronic system represented by a

single, definitive score? Rather than dismissing Johnson's argument as an antiquated remnant of an outdated musicological paradigm, his question is examined on its own grounds. It is shown that Johnson was explicitly following Carl Dahlhaus's approach to analysis in the latter's 1975 article, "Some Models of Unity in Musical Form," which appealed to the literary movement of New Criticism. Johnson understood the musical work as represented by a single score – a closed system that needs to be studied synchronically in order to discover internal relationships within the work. From this point of view, historical and biographical dimensions of the work and its composer are considered external to the text and thus dismissed. As such, sketches – which often represent an array of textual variants – are deemed irrelevant: they are simply historical artifacts. Any material they contain that is present in the definitive score is seen as redundant and unnecessary. Sketch material that is not found in the definitive score is dismissed as irrelevant as it is external to the text. The result of Johnson's article was that while sketch study that remained within the realm of biography and history was not questioned (such as ascertaining the chronology and date of works, understanding the composer's style, and discerning the composer's intentions), the relevance of sketches toward an analysis of a work, previously left as self-evident, was open to questioning inside and outside the field.

Second, this presentation identifies specific foundational principles of critique génétique that offer a response to Johnson's argument. Critique génétique, at its inception in the late 1960s and early 1970s, separated itself from the traditional study of manuscripts within a philology based on Lachmannian editorial principles. The writings of Louis Hay and Jean Bellemin-Noël established an approach to textual variants that took the post-structuralist view of text as the site for meaning production, but adopted a plural and mobile concept of the textual site which freely crossed the divide between text and avant-texte (see Hay, 1979; and Bellemin-Noël, 1972). Rather than appealing to a singular notion of a work's text, critique génétique's foundational principle is textual plurality and the rejection of an analysis of textual variants that appeals to teleology, finalism, and authorial intention. It is put forth that sketch studies can benefit from adopting such principles not only because they appeal to a nuanced and scrupulous view of the creative process, but because they render Johnson's argument moot.

Third, this presentation concludes by examining potential challenges to the application of critique génétique to music. How does the discrepancy between the ontology of the musical work/score relationship and literary work/text relationship pose challenges to the application of fundamental principles of critique génétique to music? Most importantly, do these differences result in such challenges that the advantages of doing so are less than the benefits? Lebrave's ontological examination of literature and music is advanced, but the presentation re-focuses the issue within dominant ontological accounts found within music aesthetics and music philosophy given by Roman Ingarden, Nelson Goodman, Peter Kivy, Jerrold Levinson, and Jean-Jacques Nattiez.

Nicolas Donin.
Sur les rôles de Heinz Holliger dans la genèse de la *Sequenza VII* de Luciano Berio

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Bien que la musique d'avant-garde après la Deuxième guerre mondiale ait plus que jamais valorisé la figure de l'« auteur » (le compositeur) au détriment de ses médiations (commanditaires, interprètes, exégètes, etc.), certaines figures d'interprètes sont souvent citées du fait de leur engagement intensif au service des œuvres nouvelles : par exemple le chef d'orchestre Roger Désormière, le flûtiste Severino Gazzelloni, le violoncelliste Siegfried Palm, les pianistes Alfons et Aloys Kontarsky, pour n'en citer que quelques-uns. Si ces musiciens ont joué un rôle éminent dans la vie musicale, il n'en est pas de même de leur traitement dans la littérature spécialisée, qui a rarement étudié leur contribution à la création autrement qu'au prisme monographique des vies de compositeurs, dans lesquelles ils apparaissent le plus souvent comme de fidèles adjuvants plutôt que des forces dynamiques et autonomes. En parallèle de la composition de ses *Sequenze* pour instruments seuls (1958-2003), Luciano Berio a construit dans ses dits et écrits un discours de valorisation de ce qu'il appelait des « solistes ». La notice d'accompagnement de la *Sequenza VII* pour hautbois (1969) fournit un bon exemple de sa position, largement endossée par la suite par les musicologues indépendamment du cas particulier des *Sequenze* ou de l'œuvre bérien : « In contrast to the virtuoso, [the modern soloist] can master extensive historical perspectives, since he uses his instrument not only as a means of pleasure, but of insight (of intellectual analysis). So he is in a position to collaborate in the music and contribute to it, instead of 'serving' it with false humility. By this I simply mean to say that my piece *Sequenza VII* was written with this kind of interpreter — Heinz Holliger — in mind. »

Tout en louant la « collaboration » et la « contribution » apportées par le soliste à la musique, la déclaration de Berio comporte sa part d'ambiguïté. D'une part, l'opposition entre « soliste » et « virtuose » vise certes à louer la dimension de recherche inhérente au travail d'Holliger et de ses semblables, mais aussi à critiquer l'autonomie artistique (le bon « plaisir ») exhibée par les virtuoses d'antan au détriment des compositeurs. D'autre part, en mettant l'accent sur l'intelligence historique et analytique du soliste, Berio donne un sens relativement abstrait aux notions de collaboration et de contribution, qui semblent porter sur l'appropriation et la restitution d'une œuvre préexistante et non sur l'implication directe dans le processus créateur. Mais qu'en était-il, en pratique, de la relation entre Berio et les « solistes » auxquels chacune des *Sequenze* est dédiée ? Nous nous consacrerons à l'étude d'un cas – la *Sequenza VII* – pour lequel le processus créateur est suffisamment bien documenté dans sa dimension collaborative.

Notre source principale sera l'importante correspondance avec Holliger relative à cette œuvre, au sein de la collection Luciano Berio de la Fondation Paul Sacher (Bâle). Seuls quelques extraits ont été publiés [Shreffler 2001], sans donner lieu à une reconstruction complète des échanges entre les deux musiciens. Cette reconstruction permet de mettre en évidence les occurrences des « contributions » de l'interprète à la genèse de l'œuvre, et de qualifier ses modalités créatrices en regard de celles du compositeur. Dès les premières lettres échangées, il apparaît que c'est en partie la façon dont Holliger abordait son instrument (voire, plus largement, la façon dont il concevait le travail collaboratif) qui a conditionné le

processus aboutissant à la partition de Berio. Par exemple, le point de départ du projet de *Sequenza VII* n'était ni une initiative de Berio, ni le souhait d'un programmateur de concerts, mais une requête de la part de Holliger : une commande, sur ses deniers personnels. Ou encore, Holliger adresse à Berio une feuille de musique listant les « possibilités du hautbois » dont les annotations ultérieures par Berio permettent d'identifier l'emploi direct dans la partition, par ce dernier, des timbres et hauteurs qui retenaient son attention. La genèse de l'œuvre est accompagnée par l'interprète dans de nombreuses étapes, jusqu'à la relecture des épreuves pour la maison d'édition. Il y a donc « créativité distribuée » [Clarke et al. 2013], plutôt que concentration de l'invention dans les mains du seul compositeur, sans pour autant que les rôles de chaque partenaire soient bouleversés : l'interprète agit avant tout comme un expert de son propre instrument, le compositeur avant tout comme le constructeur d'une structure temporelle basée sur quelques concepts et techniques personnels. Mais le caractère profondément collaboratif de ce processus créateur aura eu sûrement d'autres incidences, que je suggèrerai en m'appuyant sur des sources inédites (collections Vinko Globokar et Heinz Holliger de la Fondation Paul Sacher, entretien personnel avec Holliger en 2014) : la focalisation de Berio sur certaines techniques de jeu instrumental au détriment d'autres disponibles dans la liste fournie par Holliger a influencé les focalisations respectives de Globokar et de Holliger sur ces dernières dans leurs propres œuvres solistes pour hautbois composées en 1971 : *Atemstudie* et *Studie über Mehrklänge*.

Holliger, tout comme Globokar, a été connu comme interprète avant de l'être comme compositeur ; l'un comme l'autre ont mené une double carrière. Si Globokar s'est rapidement émancipé de la tutelle de Berio qui avait guidé ses premiers pas de compositeur d'avant-garde en 1964, Holliger était encore peu connu comme compositeur au moment de la *Sequenza VII*. Quand à Berio, il doit lui-même une partie de sa célébrité à une double activité de compositeur et de chef d'orchestre qui s'est épanouie pendant les années 1960. Les échanges entre Holliger et Berio peuvent donc être vus non pas simplement comme la coopération de deux spécialistes aux compétences complémentaires, mais aussi comme un moment de la construction collective d'un réseau de musiciens caractérisés par leur capacité à agir tantôt dans le monde de la composition, tantôt dans celui de l'exécution. Ils sont interprètes-compositeurs, ou compositeurs-interprètes, selon que l'on veut mettre l'accent sur l'une ou l'autre facette pour des raisons de préséance chronologique d'une activité sur l'autre, ou de plus grande postérité dans l'un ou l'autre domaine.

Luciano Berio, *Scritti sulla musica* (Angela Ida de Benedictis, ed.), Turin : Einaudi, 2003.
Eric Clarke, Mark Doffman, Liza Lim, « Distributed Creativity and Ecological Dynamics: A Case Study of Liza Lim's 'Tongue of the Invisible' », *Music and Letters*, 94-4 (2013), p. 628-663.
Anne C. Shreffler, « Circuits de collaboration. Heinz et Ursula Holliger », Ulrich Mosch et Matthias Kassel (éds.), *"Entre Denges et Denezy..." : la musique du XXe siècle en Suisse, manuscrits et documents*, Bâle : Paul Sacher Stiftung, 2001, p. 106-116.

Ernesto Donoso.
Marc-André Dalbavie, du produit au processus. Un regard sur la genèse d'« acoustiques virtuelles » à partir de partitions et d'écrits du compositeur

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Vers le milieu des années 1980 à l'IRCAM, le compositeur français Marc-André Dalbavie a pris conscience de l'importance de l'espace dans l'existence du son, notamment à travers son contact avec l'acousticien Jean-Marie Adrien. À partir de ce moment, il a décidé de faire de l'espace un aspect important de la composition musicale, élargissant en conséquence son approche spectrale : en prêtant une attention particulière sur l'influence de l'espace externe dans la redéfinition acoustique du son et en incluant cet élément dans ses présupposés compositionnels.

Marc-André Dalbavie a ainsi développé une conception de l'orchestre très particulière, laquelle a son essence dans quelques corrélations entre des règles traditionnelles de l'orchestration et des lois de l'acoustique. Une nouvelle conception de l'orchestration surgit alors en conséquence de l'application à l'orchestre de son idée de « redéfinition acoustique ». Cette perspective l'a mené à définir l'orchestration comme « l'écriture d'une acoustique fictive ». Considérer l'espace comme un élément important dans la composition, ainsi que le développement d'une conception acoustique de l'orchestre, sont deux aspects qui confluent dans la création de ce que le compositeur nomme « acoustiques virtuelles ». Ces « acoustiques virtuelles » lui permettent d'incorporer dans l'écriture orchestrale certains éléments du comportement du son dans l'espace externe. Ces éléments, incorporés dans l'œuvre, à travers un ensemble de techniques d'orchestration, incluent des phénomènes acoustiques comme la réverbération, l'écho, la résonance, entre autres.

Ces techniques d'orchestration particulières, liées à la création d'« acoustiques virtuelles », constituent un aspect important dans les processus créatifs des œuvres orchestrales de Marc-André Dalbavie, qui est devenu, après son développement et perfectionnement dans les années 90, un des piliers essentiels de son écriture orchestrale récente. Dans notre recherche actuelle, nous étudions ces « acoustiques virtuelles » et les techniques d'orchestration associées. Notre recherche autour des processus créatifs de Dalbavie approche 10 œuvres orchestrales, composées entre 2001 et 2009 : *Color, Ciaccona, Rocks under the water, Sinfonietta, Concerto pour piano, Variations orchestrales sur une œuvre de Janacek, Concerto pour flûte, La source d'un regard, Sonnets, Concerto pour hautbois*. Dans cette communication, nous présenterons quelques éléments essentiels de la genèse des « acoustiques virtuelles » liés aux processus créatifs cités présents dans le corpus d'œuvres précédemment exposé, notre recherche est fondée dans une analyse approfondie autant des partitions que des écrits du compositeur.

Laura Emmery.
Finding Common Ground in Divergent Compositional Aesthetics: Elliott Carter's and Luigi Nono's Analyses of Arnold Schoenberg's Op. 31

Laura Emmery is Assistant Professor of Music Theory at Arizona State University. Her research focuses on Elliott Carter's string quartets and incorporates sketch study in tracking Carter's evolution and process. Laura has presented her research at numerous national and international conferences, published eight articles, and is currently working on a monograph. Contact: laura.emmery@gmail.com

From their compositional and philosophical perspectives, the works of Elliott Carter and Luigi Nono share very little in common. Carter, a true American modernist, strongly opposed the method of twelve-tone music, which was becoming prevalent and practically unavoidable in the 1950s Europe and US. Devising his own harmonic language based on all-interval tetrachords, he sought to distance himself from the growing trend of serialism. Nono, a European avant-garde composer associated with the Darmstadt School, embraced the twelve-tone method, also looking for ways to distance himself from yet another style sweeping the US during the same period—chance and aleatoric music. Despite their opposing views on the aesthetic and applicability of twelve-tone music, the two composers shared their admiration for the works of the Second Viennese School. In this paper, I examine Carter's 1957 and Nono's 1956 analyses of Schoenberg's pivotal twelve-tone work: *Variations for Orchestra, Op. 31* (1926-1928). Completed only a year apart, the analyses take a different approach on the piece at hand, hence showing how both composers understood Schoenberg's construction of combinatorial rows, and which particular techniques of the method each found applicable to their own works. Thus, these analyses, combined with sketches housed at the Paul Sacher Stiftung and Fondazione Archivio Luigi Nono, not only shed light on Schoenberg's system, but also become a valuable tool for tracking both Carter's and Nono's compositional processes.

Despite Carter's public decry of the twelve-tone method, Schoenberg's *Variations* left a profound impact on him. Months after hearing the performance of the piece in 1955, Carter completed his own *Variations for Orchestra,* closely following Schoenberg's form of Introduction-Theme-nine variations-Finale. Further, although not twelve-tone music, Carter's Theme contains two twelve-note sequences. In his 1960 essay, "Shop Talk by an American Composer," Carter explains that he studied the important twelve-tone works, many of which he admired, "out of interest and out of professional responsibility" (219-220). However, Carter disassociated himself from twelve-tone practice early on, finding the system inapplicable to what he was trying to do. While he did explore the compositional possibilities within this method and had no objections in principle towards the use of the system, he never submitted to the serialist mentality. Carter's theoretical foundation and compositional practice differed distinctively from that of his contemporaries of the Darmstadt School—Boulez, Stockhausen, Maderna, and Nono—who were primarily interested in the twelve-tone system, and used the music of Schoenberg, Berg, and Webern as an immediate point of departure for their own music (Meyer, 14). Instead, Carter was interested in the expressive content of twelve-tone music.

Carter's more intimate familiarity with Schoenberg's work is revealed in his 1957 lecture on the piece, Carter's only written analysis of a Second Viennese School work. Although Schoenberg introduced the last of his mature techniques of the twelve-tone method in his *Variations* and realized how to integrate them into a comprehensive musical system (Haimo 1990, 149), Carter's seems to demonstrate only a basic understanding of that system. He focuses on the principal row forms and transformations and explains the I-combinatorial

property of the row in general terms: "the first 6 tones of the inversion of the row, when transposed down a minor third, constitute a new ordering of the original row" (Meyer, 143). This "layman" analysis of the piece would suggest that Carter did not completely understand the full potential of the method. However, his sketches demonstrate the opposite. For instance, in a sketch outlining the harmonic design of the *Second String Quartet* (1959), Carter derives (012678) all-combinatorial hexachord from the two forms of (016) "Viennese" trichord. Carter explores both the symmetry of the hexachord, by working with trichordal subsets, and the special combinatorial transformations of (012678) to complete the aggregate. Hence, the striking importance of Carter's analysis and these sketches is in that they reveal how Carter applied the ideas of the twelve-tone method in his works of the 1950s, a period during which he greatly struggled to develop his own harmonic expression.

In stark contrast to Carter's general analysis of the work, Nono's technical study supplements Schoenberg's own 1931 lecture on the *Variations*. Closely examining Nono's 1956 essay and his annotated score analysis, it becomes evident that Nono was drawn to Schoenberg's structural logic of the system, which greatly guided his compositional process. Nono's annotated score not only tracks the transformations of the row and the "BACH" motive, but also the distinct rhythmic cells throughout the variations. That Schoenberg's harmonic and rhythmic treatment influenced Nono is quite clear: for instance, his 1950 work, *Variazioni canoniche sulla serie dell'op. 41 di A. Schönberg*, is based on twelve-tone series of Schoenberg's *Ode to Napoleon Buonaparte, Op. 41*. This series is derived from the transformation of all-combinatorial hexachord (014589). In addition to exploiting the properties of this special hexachord, Nono also rotates his rhythmic units in the fourth movement, the "Allegro violento," tying them directly to particular dyads of the sequence (Iddon, 39-40). Thus, Nono's analysis of Schoenberg allows us to realize what specific methods Nono pursued and developed as the basis of his own system.

Composers seldom offer technical analyses of their own music. However, when they do analyze other composers' works, it gives a chance to examine their own compositional development. In this case, having one same work analyzed by two composers with opposing aesthetics—Elliott Carter and Lugi Nono—gives us an extraordinary possibility to understand how both composers, in their quest to establish their own identifying voice, found the common ground in Schoenberg's method, yet used it as a means to achieve different goals.

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François-Xavier Féron et Baptiste Bacot.
Sculpting the Air (2014-15) de Jesper Nordin : l'expérimentation d'une direction d'orchestre techno-augmentée

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Exformation Trilogy est un cycle de trois pièces mixtes que le compositeur suédois Jesper Nordin projette de composer entre 2014 et 2017 en utilisant Gestrument, une interface de contrôle gestuel qu'il a lui-même développée. *Sculpting the Air* (sous titrée « Gestural exformation »), est la première pièce de ce triptyque (les suivantes, destinées au Quatuor Diotima et à l'Ensemble Recherche, seront composées en 2016 et 2017). Commandée par l'Ircam-Centre Pompidou et le Statens musikverk, Sculpting the Air a été créée le 22 juin 2015 à Nanterre dans le cadre du festival Manifeste par l'ensemble TM + dirigé à l'occasion par Marc Desmons. L'œuvre, dont nous avons eu le privilège de pouvoir suivre les étapes de production, a été imaginée comme un concerto pour chef d'orchestre, ce dernier devant contrôler gestuellement l'électronique, via l'application Gestrument.

Le dispositif technologique, destiné à enrichir la direction d'orchestre, se compose de deux caméras Kinect reliées à l'application Gestrument hébergée sur deux tablettes tactiles. Initialement conçues pour être couplées à la console de jeu Xbox 360 et disponibles depuis novembre 2010, ces caméras reconnaissent la profondeur de champ des gestes ainsi que les couleurs et ne nécessitent pas la pose de marqueurs sur les vêtements ou le corps. Elles sont fournies avec un Software Development Kit, permettant aux utilisateurs d'en faire un usage détourné et adapté à leurs besoins, hors du domaine vidéoludique. Les musiciens se sont très vite appropriés les caméras Kinect pour en faire des contrôleurs gestuels [5] comme en témoignent certaines applications et projets musicaux récents ou en cours (Synapse, Synekine, The V-Motion Project, Kin Hackt) et les communautés qui se construisent autour de ce produit, à l'instar de « Kinect Hacks ».

Gestrument a été développé par Jesper Nordin en 2007 sous la forme d'un patch Max. Avec le concours de Jonatan Liljedahl, il réalise ensuite une application pour iOS qui remporte le Prix de l'Innovation de la ville de Stockholm. Vendue à plus de 25 000 exemplaires, cette application consiste à « plonger dans l'ADN de la musique – un son unique, défini par les instruments, les rythmes, les échelles et les gestes musicaux employés » [6]. En pratique, il s'agit de balayer du doigt la zone tactile de la tablette pour « jouer » des événements sonores modulables en densité, durée et hauteur.

Le travail du compositeur part du constat selon lequel il existe une certaine déconnection entre les musiciens et les traitements électroniques appliqués sur leurs instruments. Dans *Sculpting the Air*, les Kinect sont disposées dans l'espace scénographique de telle sorte que les mains du chef d'orchestre puissent entrer dans la zone de captation sans pour autant interférer avec la direction traditionnelle. Elles transmettent les coordonnées de la captation à l'application Gestrument (la tablette tactile n'est jamais manipulée directement par le chef d'orchestre mais lui sert de retour visuel). Si le compositeur a une idée précise de la forme de l'œuvre et de la manière dont il va explorer certaines caractéristiques du dispositif à travers la gestique du chef, il doit faire face à certains compromis en fonction des contraintes

technologiques et humaines. Le chef ne connaissait pas l'application du compositeur et n'avait jamais utilisé les caméras Kinect dans sa pratique de musicien. L'intégration de la technologie dans l'écriture instrumentale doit tenir compte des limites humaines, le chef devant diriger simultanément un ensemble de musiciens et contrôler l'électronique. Le compositeur proposa différents systèmes de notation pour décrire, à des degrés variés, les gestes à accomplir. Ils ont alors dû trouver un consensus pour les décrire et les représenter graphiquement sur la version finale du conducteur.

Au cours de cette communication, nous reviendrons d'une part sur l'évolution de la composition de l'œuvre en analysant les changements de stratégies opérés par le compositeur au fil des séances de travail. Nous nous concentrerons d'autre part sur la manière dont le chef d'orchestre s'est approprié le dispositif et sur l'impact de ce dernier quant à sa manière de diriger. Sa pratique ne peut être dissociée du processus de création de l'œuvre. Le suivi d'un tel projet artistique s'avère extrêmement intéressant puisqu'il propose un cas unique de contrôle de l'électronique par le chef d'orchestre. Cette recherche porte non seulement sur le processus créateur mais concerne aussi les *performance studies*. Au-delà des textes auto-analytiques des chefs eux-mêmes sur leur pratique [3], elle s'inscrit dans la lignée de quelques études empiriques éclairant cette activité [1] et plus généralement dans le champ des investigations concernant les liens entre geste, technologie et musique [2, 4] .

Les deux premières phases de production avec le chef ont eu lieu à l'IRCAM en novembre 2014 puis en février-mars 2015. Cela a été l'occasion pour le chef d'orchestre de se familiariser avec les aspects technologiques de l'œuvre et de faire les premiers essais de contrôle gestuel du son. Le concert a été précédé d'une semaine de répétition avec les musiciens à Nanterre. Une captation vidéo et audio des séances de travail a été réalisée, ainsi que des entretiens avec le compositeur, le RIM et le chef d'orchestre. Nous sommes aussi en possession des différentes versions de la partition. C'est à partir de ces données que nous analyserons l'évolution du processus créateur de la pièce et la pratique du chef d'orchestre.

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Anna Ficarella.
The performing dimension in Gustav Mahler's compositional process

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This paper is about one of the most innovative and distinctive features of Gustav Mahler's music: the complex concept of the sound-space and its process of organization within the conducting scores of his own works. A process of continuous and often tortured revision which is to be considered part of Mahler's creative process as well as a composer and as an interpreter. The main focus is on the traitment of the so-called 'secondary parameters' such as rhythmic profile, articulation, phrasing, dynamics, timbre balance which may be called a 'sound editing' ante litteram. Indeed Mahler's revisions were not concerned with either the formal concept or the melodic-harmonic structure of his works, but focused on the orchestral texture and instrumentation, as well as on performing instructions. Such revisions usually followed rehearsals or public performances conducted by himself. That is why a great part of his works exists in many different versions, a fact that complicated the history of their edition, confusing the roles of the composer Mahler and the interpreter Mahler or rather merging the two perspectives. Such scrupulous accuracy of performing and markings concerning dynamics, agogics, colours, articulation and even the instrumental technique, was unheard before Mahler and stemmed from his exceptional experience as a conductor. The Mahlerian orchestral texture and the continuous revisions it underwent reveals, first of all, a real obsession for a more and more precise notation, an urge that does not seem to find a definitive solution, given the nature of the medium: notation, as a form of writing, is an abstraction which cannot define everything. On the other side Mahler's scores narrate and represent graphically the Klangvorstellung, his mental soundscape, which results in the elaborate multi-perspective concept of the sound-space as a polyphony of voices and timbres.

It can be claimed that Mahler imagines a multi-perspective sound-space, a concept which translates in musical terms the polyphony of themes and timbres that Mahler compared to the different yet mixing sources of sound he heard in the woods where he used to walk. The pursuit of precision in both notational technique and texture attempts to translate into the written sign all the most minute details of this extremely elaborate Klangvorstellung. Mahler behaves as a sort of "director" of the sound-space where position, movement, perspective, depth - all spatial aspects - take on a determining role. It is a notational technique aimed at performance and at the same time projected towards the listener, turning the score into a musical 'script'. This approach takes into account both the conducting and instrumental techniques, the possible mistakes or misunderstandings. It is a quest for the best possible orchestral solution, so that listeners may really hear what the composer had in mind. It is for this reason that an extreme precision in notation is counterpointed by a great flexibility in the search for other possible and suitable solutions to phisically translate the composer's intentions. Mahler used this method for his compositions and for others', as the Dirigierpartituren, the scores used by Mahler for conducting, tell us. Such an accurate concept of orchestral texture and instrumentation is underpinned by the regulatory principles of the Mahlerian Klangvorstellung, necessary to represent a moving sound space with continual changes of perspective. These pivotal principles guide Mahler's process of score revision and can be summarized as the pursuit of clarity and transparency (Deutlichkeit), of brilliance and

timbre vividness (Tonglanz), of singableness in contrapuntal voice-leading (Gesanglichkeit im reinen Satz), and of variety in the compositional means used to structure the orchestral sonority (with long chamber passages or solo ones in contrast with tutti).

The particularly tortured history of revisions of the Fifth appears paradigmatic. In fact, with the Fifth the change in the compositional style, which becomes distinctly polyphonic, reveals Mahler's search for a more appropriate orchestral texture and technique of instrumentation. From this point of view it may be interesting to compare some passages in the main sources of the symphony, including some considered not so immediate and fundamental for the critical edition of 2002. However, they are useful to gather information about Mahler's way of revising the instrumentation (the so-called "retouching") and performing instructions, according to the regulatory principles mentioned above. In particular I will analyse some examples taken from some of the conducting scores of the Fifth symphony that were used by Mahler himself, such as the one stored in the Mengelberg archive at Den Haag and used by Mahler for a concert in Amsterdam in 1906, called M-Dp in the sources. In the score there are several layers of annotations: Mahler's, the copyist's (in red), and Mengelberg's own (in red and blue). Mengelberg worked in very close contact with Mahler to prepare the orchestra, attended the rehearsals and made note of every kind of suggestion as a sort of notary. As far as Mahler's and the copyist's insertions are concerned, this score represents just a transitional phase of a work in progress, which revision continued until 1910 – 1911.

Tracking this revision's process in Mahler's scores gives the opportunity of bringing out the performing dimension that seems to be immanent in his compositional process and instrumentation style as well as many performing habits of his time.

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Silvana Karina Figueroa-Dreher.
Material, Interaction, Attitude and Music within Improvising Processes: A Sociological Model

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Since sociology has been historically concerned with the question of how social order is possible, its main focus has been on exploring (the imposition of) conventions, rules, norms, every day routines, etc. As a result, the study of creative processes has been mostly left aside. This has changed within the last years, but sociology is still lacking profound studies of creative processes, such as composing, improvising, playing, inventing, etc.

My contribution is aimed at filling this theory driven gap. For this purpose, I conducted an empirical research project to explore improvising processes in music from the perspective of the sociology of action and interaction. Two genres were chosen to enable an explicitly contrastive analysis so that a higher level of generalization could be achieved: free jazz and flamenco.

A qualitative, ethnographic data collection strategy was applied. Data were collected in three steps: first, audio and visual recordings were made of the performances of three free jazz trios and two flamenco ensembles (a duo and a trio), all of them professional musicians, in a recording studio. One at a time, the groups were invited to the recording studio of the Institute for Composition and Electroacoustic of the University for Music and Visual Arts in Vienna to perform improvisations, so that participant observation could be made while they performed. In a further stage, the ensembles were confronted – immediately after playing – with the audio-visual material in which they could see and hear their performances, the audio-visual data functioning as a trigger for the musicians to make free comments, observations, and evaluations about their improvisations. Also, as part of this second step, a non-structured interview with the group was carried out. Afterwards, the musicians were asked to name the best improvisation piece of the session. In a third step, the researcher accompanied each of the musicians separately to the technical room and heard with him or her the selected piece of music, carrying out an individual in-depth interview, within which the artist told her what she/he thought and did during each sequence of the piece. This way, the subjective experience of each musician and his/her ways of acting regarding the action-interaction process of improvisation could be examined, all of this being again video-audio recorded. As a result, the same selected piece of music had been examined and narrated from the point of view of each of the musicians, which enabled to reconstruct the process of improvisation at the level of the individuals and at the level of the interaction within the group.

The method employed for the analysis of the observation protocols, and the individual and group interviews was grounded theory, a qualitative, flexible and systematic strategy that enables the formulation of a theory based on the analysed data and that does not force empirical data into theoretical corsets.

As a result, an action and interaction model emerged, that aims to explicate improvisation processes from the double perspective of action and interaction theory. It consists of four dimensions: 1) the (malleability of the) musical material, 2) the (more or less intense) interaction between the players, 3) the attitude of the actors (from "open" to

"closed"), and 4) the (more or less emergent) music. These dimensions are closely intertwined with one another and each of them can vary from a minimum to a maximum.

Improvising is modelling musical material. By musical material, a key category within my model, I mean not only perceptible sounds, scores or instruments, but also the knowledge that musicians carry with them and that is incorporated as sedimented experience. Depending on the musical genre, the material is more or less malleable, i.e., can be formed while performing. The more malleable the material is, the more intense is the interaction between the musicians that respond to new or unanticipated forms of it. In an "open attitude mode", the artists experience a high receptivity towards the musical materials offered by the others within the performance and respond according to them: imitating, continuing musical ideas, etc. A high degree of the first three dimensions leads to a high degree of the emergent quality of the music performed. The more emergent the music is, the more it results from the playing process. At the same time, a high emergent music influences the other dimensions back.

The advantage of the proposed model consists in the fact that it does not postulate a single criterion (i.e. primary vs. secondary musical parameters) to decide whether improvisation is or is not taking place, and conceives of it as a continuum from minimum to maximum. It takes into consideration the mutual influences of four central, empirically driven dimensions of improvising processes. Including such "variables" that have been normally left aside by improvisation models, like musical material, or attitude, the creative practice of improvising can be comprehended in a more holistic, broaden way. The four dimensions discussed, as well as their mutual influences, which could be complemented and completed in further studies, show that, for musical improvising, the knowledge of the artists (their material), their attitude towards contingency, their interaction, and their music as output of their action are mutually influential factors that determine, on the whole, creativity in performance.

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Annelies Fryberger.
The composer as evaluator: reflections on evaluation and the creative process.

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In an autonomous field(1) such as that of contemporary music, or new music as it is commonly called in the American context, it is the creators themselves who are called on to evaluate the work of their peers. This evaluative work is familiar to academics, who are accustomed to a system of peer review, and has been the subject of sociological study(2). However, the interaction between this evaluative work and the creative process itself has not been investigated. The present study looks at how the creative identity of an individual is forged in part by the evaluative work he or she accomplishes, both formally, in juries and committees, and informally, in statements intended for his or her peers via platforms such as Facebook or the blogosphere. Our aim is to understand how composers of contemporary music incorporate evaluative work – a service required of them by their field – into their creative process over the long term.

This paper draws on a theoretical grounding in sociology and original ethnographic research conducted in France and the United States on the evaluative work of composers. Twenty interviews were conducted from 2012 to 2014 with composers who served as panelists for New Music USA in New York City and those who sat on the jury for the French state-funded commissions (Commandes d'Etat, now known as Aides à l'écriture). At New Music USA, we were also able to observe the work of two panels whose job was to evaluate applications from composers for grants. In addition, we have systematically observed the behavior of composers in France and the United States on Facebook and in blogs as a way to understand how evaluative statements, of oneself and other composers, are used to forge a creative identity within the field of contemporary music (once one manages to slog through the ubiquitous cat videos).

Our results show that composers use formal evaluative work to get a view of the field of contemporary music as a whole, and thereby better understand their place therein and are thus able to refine their creative output. This modus operandi is similar to that of a "status market"(3), wherein producers look to each other to coordinate their activities, rather than looking toward consumers. Information gathered when evaluating applicants is subsequently used to create new contacts, paving the way for future collaborations and reinforcing networks within contemporary music. In this way, evaluation is not simply a service provided by the composer to the field; it can directly influence future creative projects by providing information on the creative activities of others in the field – information that is not always readily accessible otherwise. While composers typically state that they are willing to do this evaluative work because they want to give back to an organization that has helped them in the past (New Music USA and the French Ministry for Culture both recruit panelists from their former awardees), it is important to note that this work is also beneficial for the composer, whether she realizes it or not. The privileged viewpoint they gain by doing this work helps them ascend the new music hierarchy or reinforces their position as a gatekeeper by demonstrating to others their control of certain resources. Overall, this work sustains the field of new music as a whole, by providing a concrete platform for its gift economy: one "wherein exchange is not mediated through price, immediate reciprocation, or other key aspects of market economies"(4).

This paper will also address a separate but related aspect of this study: what we might call "informal evaluation." Using public and semi-public platforms, composers align themselves – or distance themselves from – the work of other members of their field. Statements of support or outright critique give the reader an idea of where we might situate the composer within the field of new music. In this way, the composer takes on part of the evaluation of her own work, by indirectly providing an evaluative schema for same. Indeed, the uncertainty inherent in evaluating contemporary music(5), often seen as a problem of incommensurability(6), is dealt with upstream when a composer demonstrates with whom her work should be compared. This makes evaluation easier, which inherently increases the quality attributed to her work(7). My argument, then, is that providing an evaluative context for one's work is part of the creative process, and that one gains this ability by evaluating the work of others in a collective setting – be that in studio classes as a student, informally at concerts, or through formal organs such as juries. The statements that can be found in places like Facebook or in blogs – or more traditionally in program notes or biographies – are then expressions of this ability.

In order to understand the way evaluative ability is acquired, and the work composers do to position themselves in their field, we mobilize the theory of the "dialogical self"(8). This theory calls us to look at how identity may be constructed via internal dialogue – a dialogue which can take place between different perspectives on the world within the individual (I-positions) or with internalized others or collectivities. This theory helps us to see how composers may dialogue with the field of contemporary music, and how the collective voice of contemporary music becomes internalized and reflected in their creative output. In this way, we may be able to move beyond looking at the creative process at the level of a work, and instead look at the larger process of forging a creative identity within the context of a field, with each work being an external manifestation of this process. As such, we contribute to a more general desire to broaden the scope of genetic criticism to include a more holistic view of the composer's musical culture(9).

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Shigeru Fujita.
Henri Dutilleux's incorporation of serialism into his harmonic language: An examination of the sketches related to *Métaboles* and *Tout un monde lointain*

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The question of whether Henri Dutilleux was a pro- or anti-serialist can be difficult to answer. However, in the 1960s, the composer evidently participated in the serial movement when he composed his two seminal works called *Métaboles* and *Tout un monde lointain*. Moreover, in the process of their composition, Dutilleux incorporated serialism into his harmonic language, which was often modal in its widest sense. Therefore, this study aims to reveal the aspects of this incorporation on the basis of sketches related to these compositions and examine the arguments as follows:
1) From the beginning of the composition of *Métaboles*, the incorporation of serialism into the harmonic language was the composer's central concern;
2) Because the combination of the two aspects (i.e., serialism and the composer's harmonic language) did not initially work, he transformed these aspects to create an ideal juxtaposition;
3) After the completion of *Métaboles*, Dutilleux discovered the concept of "the series (or tone row) of limited transposition." Using this concept, he constructed a harmonic plan of the next composition called *Tout un monde lointain*; this composition became an example of his ideal incorporation.

For the first argument, special attention will be paid to the four-page sketch dedicated to Paul Sacher Stiftung by Dutilleux himself with the remark as follows: "Etudes pour 1er de *Métaboles,* disposition abandonnée par la suite" [Studies for the 1st of *Métaboles* ('Incantatoire'), disposition abandoned afterward]. These studies for Incantatoire most likely are the first drafts of *Métaboles*. In the abovementioned sketch, the dodecaphonic tone row (i.e., D-E♭-A♭-G♭-E-F-B-A-B♭-C-D♭-G) is observed to be harmonized by various diatonic chords, as well as its subset and superset. This characteristic reflects his first attempt at combining serialism with his harmonic language; however, he abandoned it later.

Regarding the second argument, a comparison of these studies with the completed score shows that the harmonic plan of 'Incantatoire' was completely transformed during the composition. For example, as found in the sketches, the original dodecaphonic tone row and the diatonic chords that harmonized it were replaced with whole-tone melodic fragments and chords of contracted harmonic series ("chords of contracted resonance," in Olivier Messiaen's term), respectively, in the completed score.

Note that the constitutive elements of these studies, namely, the tone row and the harmonization by the diatonic chords, were transferred to the consecutive movements. For example, the latter was transferred to the second movement, 'Linéaire', whereas the former to the third movement, 'Obsessionnel'. As a result, an evolution of sonority occurs from natural resonance (first movement), via diatonic (second movement), to dodecaphonic or serial (third movement). This suggests that Dutilleux transformed his first attempt at combining his harmonic language with serialism to create an ideal juxtaposition. Moreover, when the notion of the tone row was transferred to the third movement, remarkably, the tone row itself was completely redressed. The dodecaphonic tone row in these studies (i.e., D-E♭-A♭-G♭-E-F-B-A-B♭-C-D♭-G) comprised the subsets of two different octatonic collections that were alternately combined: A♭, B♭, B, D♭, D, E; and E♭, F, G♭, A, C, G. Conversely, the tone

row redressed for the third movement of the completed Métaboles (i.e., A#-E-D#-A-G#-D-C#-G-F#-C-B-F-E-B♭) consists of two diatonic collections (a tritone apart); these collections were again alternately combined: B, C#, D#, E, F#, G#, A#; and F, G, A, B♭, C, D, E.

Notably, the new tone row of *Métaboles* is the staggered combination of ascending fourths. However, in this tone row of 14 notes, E and B♭/A# have been doubled. Thus, when skipping the first A# and eliminating the last E, the tone row is practically defined as E-D#-A-G#-D-C#- G-F#-C-B-F-B♭, whereas when skipping the last B♭ and eliminating the first E, the tone row (in its reversed order) is E-F-B-C-F#-G-C#-D-G#-A-D#-A#. As a result, the prime inversion is the same as the retrograde, and the prime itself is the same as the retrograde inversion. In short, a parsimonious property has been introduced in the tone row.

Concerning the third argument, significant importance is given to another sketch also dedicated to Paul Sacher Stiftung with the remark as follows: "Esquisses pour *Tout un monde lointain* (Fragment, au crayon, de la réduction d'orchestre–très incomplet)" [Sketches for *Tout un monde lointain* (fragment, in pencil, of the orchestral reduction—very incomplete)]. This sketch contains some memoranda written by Dutilleux for his personal use. The most interesting one is found at the beginning of the fourth movement in which there are six consecutive notes (C-F#- A♭-G-E♭-B, with the first five notated on the stave and the last by a letter): "Penser aux différents renversements (synthèse harmonique du motif de la première partie, utilisé également pour la 4ème" [Think of different inversions (harmonic summary of the motif of the first movement, used also for the fourth)]. This memorandum not only testifies that a harmonic link exists between the first and fourth movements but also reveals the harmonic conception of the tone row in this work, which is deduced from the motif and used as the basis of the first movement.

Finally, the set of six consecutive notes in these aforementioned sketches should importantly be a subset of the enneatonic collection (or the "third mode of limited transposition," in Messiaen's term) that includes only four possible transpositions. In effect, its harmonic properties are inherited in the tone row of the work (i.e., F#-C-A♭-G-E♭-E-B-A#-D-C#-F-A). In addition, the first nine notes of this tone row constitute exactly the enneatonic collection, and its first six and final six notes constitute the subsets of the two transpositions of the same collection. Furthermore, when the tone row is inverted, its first nine notes also constitute the enneatonic collection, and its first six and final six notes constitute the subsets of the other two transpositions of the same collection. In this manner, the parsimonious properties of the enneatonic collection were integrated into the tone row and completely exploited in Dutilleux's dodecaphonic writing. Consequently, serialism is ideally incorporated into his modal harmonic language on the basis of "the series (or tone row) of limited transposition."

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Sheila Guymer.
Genre as Frame in Elite Performers' Interpretative Decision Making

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This paper presents some key results from a doctoral study undertaken by the author into elite performers' decision making. Professional concert soloists spend many hours developing and refining their performances via a complex process of decision making. In creating their interpretations, they draw on both the 'fact-oriented, declarative knowledge' of traditional musicology, and their 'action-oriented, procedural knowledge' (Cook 2014: 333) acquired through decades of training and experience. Some performers aim to pass on the fruits of their experience to students, and it is in the lesson studio that performers most frequently and openly share their concepts and processes in both the literary and aural/oral strands of the Western 'art' music tradition.

This study draws on over 20 hours of ethnographic lesson-interview material collected by the author (herself a professional pianist) in one-to-one lessons with four elite fortepianists (Malcolm Bilson, Robert Levin, Tom Beghin, and Bart van Oort). The data was analysed using techniques of Interpretative Phenomenological Analysis, complemented by analysis of the interviewees' commercially-released recordings. The study also referenced the interviewees' published research.

The lessons focused on Classical Viennese repertoire, including Mozart's *Sonata in B-flat major*, K. 333; Haydn's *Sonata in E-flat Major*, Hob: XVI: 52, and Beethoven's *Sonata in E,* Op. 109. These sonatas cover a period of significant change in piano design (1783-1820), and provide an opportunity to explore not only three significant works of the Classical style, but also how these fortepianists respond to difference instruments and editions. As Daniel Bangert (2012: 1) points out, 'the complexities of musical decision-making are brought into focus by considering historically informed performance (HIP), in which performers must reconcile extensive historical and contemporary writings on performance practice with their personal judgement.' In other words, HIP performers regularly negotiate the tensions and connections between their declarative and tacit knowledge in their interpretative decision-making.

To date, much of the focus of analytically driven studies of performance (as distinct from studies in historical performance practices) has been on nineteenth century piano music, or fundamentally shaped by late nineteenth-century conceptions of the performer's role, especially in matters of expression and analysis. In empirically driven studies, the kinds of tasks that performers are often asked to do may be considered contrived or limited, compared with what performers normally do, and this kind of research design may (albeit inadvertently) skew the data. Also, there has been a focus on student performances that arguably cannot penetrate to understanding the concepts and processes used by experienced, elite musicians. Studies undertaken by or with professional performers rarely include in-depth, comparative analysis of the interpretative processes used by several elite musicians; or else focus on interpretations of shorter pieces rather than of the complex, large-scale works (such as complete sonatas) often programmed in solo recitals.

This project explored such questions as: How do professional performers draw on their 'informed intuition' (Rink 1990)? How are various kinds of declarative knowledge, such as those presented in analyses and historical treatises, used by performers? What do scores

signify to performers interpreting them? How do the affordances of specific instruments, or the social contexts and acoustics of different performance venues, influence their decision-making? How do they analyse another's performances, as teachers do frequently when providing feedback to their performance students; and what does that feedback reveal of their own priorities, values, and perspectives in the interpretative process? What does the lesson context demonstrate about the dynamics between the literary (including scores) and the aural/oral in the practice of Western art music?

This paper focuses on two important results of the study: (1) it suggests that musicologists use a model of ethnographically-realised sensemaking (rather than conventional score analysis) as an analytical basis for researching performers' decision making; and (2) that genre is a significant but generally overlooked consideration in performers' interpretative processes. Particularly, I argue that elite performers use concepts of genre (and generic references such as topics) as expressive frames. The finding that expert decision making in music uses conceptual frames correlates with studies of expert decision making in other fields; for example, Gary Klein et al (2007) proposed what they call a data-frame theory of sensemaking. In brief, their model suggests that expert decision makers infer (usually from incomplete, but rapidly comprehended data) a conceptual frame by identifying within the data a pattern with which they are familiar. That category or frame both conditions what other data is identified, and the resulting choices of action; albeit that over time, the 'first choice' may be refined and perhaps even replaced, although replacing a 'first choice' frame is rare with experts. Indeed, the rapidity and accuracy with which experts choose a frame may seem like intuition or ESP. Klein et al argue this is because a key difference between experts and novices is that experts have a much richer and more nuanced range of frames that they can identify; in other words, experts are 'primed' by prior experience to recognise and act on particular frames. Because experts have knowledge of many more frames, they can identify what features in the data are relevant for their choices more accurately, more appropriately, and much more quickly than novices.

This paper suggests that elite performers use concepts of genre as frames in their decision making processes, and the author will discuss examples from the lesson-interviews. While conceptual framing is discussed in such studies as Chaffin, Imreh et al (2003), the specific role of genre, and the links between genre and musical character have not been sufficiently explored. By comparison, the topical variety of the high Classical Viennese repertoire selected for this study affords rich opportunities for discussing genre and generic references.

Principal Source Material:
Lesson-interviews conducted by the author (2012-14) with fortepianists Malcolm Bilson, Robert Levin, Tom Beghin, and Bart van Oort.

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Benoit Haug.
Créer sous les micros. Quand la lecture répétée d'une œuvre fait advenir son interprétation

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La dimension créative de l'interprétation musicale constitue l'un des postulats fondateurs des *performance studies* : constater la variété des interprétations d'une même œuvre, y mettre de l'ordre, considérer ce qu'elles signifient et tenter d'y trouver des explications, c'est d'abord accorder aux interprètes le statut de créateurs. Ce postulat est de plus en plus explicite comme en témoigne le libellé de l'avant-dernier avatar institutionnel londonien des études sur l'interprétation, le Centre for Musical Performance as Creative Practice (CMPCP, 2009-2014). Le concept de "création", en filigrane tout au long de la somme *Beyond the score. Music as performance* de Nicholas Cook (2014), se retrouve explicité dans le titre de la série à paraître des *Studies in musical performance as creative practice.* La prochaine étape verra-t-elle l'avènement de la « *Performance as creative* process » ? Peut-être faudra-t-il patienter un peu : le pas ne semble qu'être timidement franchi parmi les musicologues investis dans les études sur l'interprétation (cf. Ravet 2005). Cette discipline s'est en effet historiquement construite autour de l'analyse de musiques enregistrées, principalement au sein du prédécesseur du CMPCP, le Centre for the History and Analysis of Recorded Music (CHARM). De fait, les documents sonores ou audiovisuels témoignant du processus créateur menant à l'enregistrement musical – par exemple les nombreux films dont on dispose au sujet de Glenn Gould au travail – sont très rarement "authentiques" : les musiciens y sont le plus souvent déjà en représentation, embarqués dans un dispositif de communication. Le patrimoine discographique invite donc naturellement à une analyse fondée quasi exclusivement sur l'extrémité ultime de la chaîne créatrice, le produit fini ; par mimétisme, l'analyse de performances musicales publiques a pris la même habitude de se concentrer sur le moment de la représentation.

Une fenêtre s'ouvre sur le processus créateur menant au disque lorsque l'on a la chance d'accéder aux rushs et plans de montage. Cependant, le processus créateur tel qu'il se déploie dans l'expérience de préparation, de répétition et d'enregistrement de la plupart des musiciens ne peut être saisi que par une ethnographie, ce à quoi se sont déjà livrés plusieurs chercheurs de l'espace académique francophone (cf. Cugny et al. 2004 ; Rudent 2011). La vocation souvent synthétisante de ces réalisations nous a incité en mars 2014 à déployer quant à nous une méthodologie différente – partant de situations observées/captées qu'il s'agit d'analyser dans leurs détails – à l'occasion de l'enregistrement d'un disque de musiques du XVIe siècle français par un ensemble spécialisé. Comme l'avait fait avant nous Maÿlis Dupont (2012) au sujet du travail des interprètes en vue du concert de création d'une pièce contemporaine, aidée d'un dispositif complexe de captation audiovisuel multipiste doublé du relevé des annotations régulières sur les partitions, nous avons procédé à la captation quasi-intégrale d'une semaine de répétitions et d'enregistrement. Nous pouvons alors revenir à loisir sur une grande partie de la genèse de la plupart des pistes du disque, de la première séance de travail collectif jusqu'à la dernière prise enregistrée. Le processus dans lequel sont impliqués les musiciens peut ainsi faire l'objet d'une analyse approfondie à l'intersection de la musicologie de l'interprétation et de l'anthropologie du détail.

Nous n'avons pas eu accès en aval aux séances de montage et de mixage, ce qui nous place dans une certaine mesure dans la position du musicien "de rang" qui, une fois les micros

éteints, ne renouera avec son enregistrement qu'une fois le disque édité et commercialisé ; il est du moins très rare dans le monde des musiques anciennes que le travail de montage mobilise d'autres musiciens que le directeur artistique de l'ensemble. Cela ne représente pourtant pas un problème dans la perspective que l'on adoptera dans le cadre de cette communication, bien au contraire : il s'agira pour nous d'appréhender le processus de création menant au disque du strict point de vue de l'expérience du musicien. Nous nous concentrerons sur l'une des chansons enregistrées, « Susanne un jour » de Didier Lupi – ici interprétée par deux chanteurs et une luthiste – et en considérerons l'intégralité des évolutions au fil des étapes de répétition et d'enregistrement. Cette focale resserrée autorise la prise en compte la plus minutieuse d'un maximum d'orientations, verbalisées ou non, qui modèlent peu à peu l'interprétation telle qu'elle sera entendue au disque.

Plutôt que d'un travail d' « interprétation », nous pourrons à la suite de N. Donin et J. Theureau (2006) considérer que ce à quoi se livrent les musiciens relève avant tout de la « lecture » répétée de la chanson « Susanne un jour », et ce à au moins trois niveaux. D'une part, l'essentiel du travail sous les micros consiste effectivement avant tout à produire plusieurs versions successives de la chanson, à partir du découpage desquelles l'ingénieur du son sera amené ultérieurement à réaliser un "montage" cohérent. D'autre part, les interactions entre les musiciens et avec le personnel en cabine laissent apparaître que les considérations "interprétatives" au sens herméneutique du terme, bien que présentes, sont minoritaires face à de nombreuses autres considérations – de mise en place, de justesse, etc. – qui n'ont pas pour premier objet de donner à entendre une "compréhension" singulière du contenu sémantique de l'œuvre. Enfin, nous verrons incidemment la "lecture" à proprement parler représenter l'une des activités principales des musiciens – sinon leur activité principale, dans le cas qui nous occupe – et ainsi l'un des centres d'attention essentiels du travail menant au disque : avant même de réfléchir aux orientations que doit prendre l'interprétation, les chanteurs déclament le texte à plusieurs reprises – en vue essentiellement de s'accorder sur sa prononciation –, pour secondairement lui donner l'expression musicale idoine. En somme, notre approche "pas à pas" du processus de création dans un contexte d'enregistrement – dont les particularités auront bien sûr toute notre attention – s'appliquera à mettre au jour certains des ressorts d'une activité musicienne qui, bien que banale, n'a jusqu'à ce jour été que peu approfondie dans le champ des études sur l'interprétation : la *répétition* en tant que moyen privilégié par lequel advient « l'interprétation ».

Sources :
- Captation de l'unique séance de répétition collective (durée : 16'30") à l'aide d'une camera
- Captation de la séquence d'enregistrement (durée : 43'30") à l'aide d'un micro en plateau ainsi que d'une caméra en alternance plateau/cabine
- Partitions des musiciens avec leurs annotations (la datation de celles-ci étant facilitée par un code de couleurs que nous avons imposé aux musiciens)
- Version commercialisée de la chanson
- Relevés de terrain
- Données ethnographiques obtenues par la fréquentation sur le long terme des pratiques musicales et sociales de l'ensemble considéré.

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Vanessa Hawes and Kate Gee.
Looking at, and listening to, musical features: creativity in score preparation

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In recent years, the increased availability of recorded music in the instrumental teaching studio as part of performers' routine for familiarising themselves with musical works they will then go on to perform, has meant that performers are increasingly exposed to existing performances during, or even before, developing an interpretation of a score in the traditional sense.

This has become an area for research activity in the social psychology of music (for example, the current project undertaken by Ginsborg, Gaunt and Prior, 'First encounters of the musical kind') and has implications for the way instrumental and vocal teaching develops over the next few years, and the way 'creativity' is characterised in the context of performance preparation and one-to-one teaching.

The subject of the present study is the processes by which a performer develops a relationship with, and understanding of, a score. Self-report and eye-tracking are used to interrogate this process, with a particular concentration on the process as creative in the standard definition of whether the understanding developed by the performer can be classified as 'original' and 'effective' (Runco and Jaeger, 2012). These two criteria for creativity are problematic in music and particularly in music performance: what does it mean to be 'original' and produce an 'original' interpretation of a score through performance? What does it mean to be effective – how does one 'find' the purpose of the performance and judge how well the performer has achieved that end?

The goal of the current paper is to explore questions about creativity in the process of preparing a score for performance. More specifically, whether, using the kinds of theories about creativity which are visible in current music research, listening to existing recordings of a piece one is preparing for performance can be seen as limiting potential for creativity, or increasing potential for creativity. In addition, the use of eye-tracking technology allows questions about the conscious (self-report) and subconscious (eye-movement) to be explored, with a view to discussing the relationship of these two stages of score study with an overall notion of creativity within the process.

The context for this research draws on studies by Ginsborg, Chaffin and Demos about the preparation of music for performance, with particular reference to musical features and performance cues (2014), and on earlier work on performance cues in singing (Ginsborg and Chaffin, 2011a) and preparation and spontaneity while singing Schoenberg songs (Ginsborg and Chaffin, 2011b). Comparing this work with other work on musical features encouraging a dynamic and expression-driven attitude towards musical structure (e.g., Rink, Spiro and Gold, 2009), a viewpoint is developed on the relative importance (according to performers) of different musical features when making judgements about score preparation. In particular, do the features that would fall into Ginsborg and Chaffin's 'expressive' feature category map directly on to the set of features judged to be 'more hearable' by participants, and are these the features that represent the potential for creativity in score preparation? This is then recontextualised in the notion of creativity in a model of ecological perception (Clarke, Doffman and Lim, 2013).

Music students (n=50) were asked to silently study a score of a Schoenberg song, 'Saget Mir', Song V from *Das Buch der Hängenden Gärten* (1909), for two minutes, thinking about preparing it for performance while their eyes were tracked. They then filled in a questionnaire about the important of various musical features when making decisions about the form and structure of the song, as well as about perceived climaxes. The process was then repeated while the participants listened while looking at the same time.

Musical features were categorised according to participants' judgements of their relative important in the looking and the listening phases of the experiment. The length and position of gaze was then compared to these judgements. Using trends from the literature and from the pilot study (n=26), the effects of learning and familiarity between the two phases were accounted for as much as possible.

The results suggest that there is indeed a marked difference between features judged to be important when just looking at a score, and those judged to be important when listening. That these 'more hearable' features are those that are more closely linked to an 'expressive' performance (Rink, 2001), this may suggest that listening as part of score preparation increases the potential for creativity simply by dint of drawing attention to those malleable features early on in the preparation process, rather than that the interpretation presented in the actual recording used is something that the performer will seek to emulate and therefore limit their potential for originality and therefore creativity.

This research presents tentative conclusions which ask more questions than they answer, and suggests further development of the results, including studying the effect of experience and type of expertise on the judgement of features.

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Isabelle Héroux and Marie-Soleil Fortier.
Présentation du processus de création de six musiciens experts

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En psychologie cognitive, plusieurs recherches auprès de musiciens experts ont permis de définir ce qui constitue des répétitions efficaces (Parncuttt and McPherson, 2002; Jørgensen and Lehmann 1997), d'identifier le rôle de l'expressivité et les éléments la constituant (A. Friberg & Umberto Battel, 2002, Juslin et Sloboda, 2010) et de décrire les étapes de travail d'une œuvre (Chaffin et al, 2003, Sloboda. 2005), rares sont celles qui abordent le travail de l'interprétation musicale sous l'angle d'un processus de création. En effet, la créativité des interprètes a plutôt été étudiée en situation de performance (Rink 1995, Clarke 2011, Dogantan-Dack, 2012), lors de prestation en concert ou d'enregistrement. Pourtant, comprendre comment s'effectue au jour le jour le travail de création d'une interprétation est essentiel pour former les futurs musiciens dont le jeu sera jugé, en partie, sur son originalité.

Afin d'identifier à quel moment et sous quelle forme se présente le processus de création dans le travail d'interprétation d'une œuvre, Héroux & Fortier (2014) ont développé puis expérimenté une méthodologie, dans une étude pilote, avec un seul sujet musicien professionnel. Bien que les résultats recoupent ceux déjà mentionnés dans la littérature scientifique existante en ce qui concerne les étapes de travail du musicien et l'élaboration d'une image mentale de l'œuvre (Chaffin et al. 2003). Selon Héroux & Fortier (2014), il est pertinent de distinguer, d'une part, l'image formelle, qui réfère à la structure de l'œuvre et à ce que Nattiez (1987) définit comme le langage interne de la musique, et, d'autre part, l'image artistique qui réfère au caractère de l'œuvre et à tout ce qui n'est pas écrit dans la partition, soit le langage externe de la musique (Nattiez 1987). L'image formelle et l'image artistique seraient ainsi deux facettes de la représentation mentale d'une même œuvre. Ainsi, dans leur étude pilote, Héroux & Fortier (2014) ont identifié une nouvelle étape de travail nommée Appropriation artistique qui a permis la réalisation de l'image artistique à travers le travail expressif de l'œuvre. Lors de cette étape, le sujet rattachait le sens musical abstrait de l'œuvre à des éléments extramusicaux inspirés de son vécu, grâce à l'utilisation d'analogies et d'une trame narrative, dans le but de donner un sens plus personnel au texte musical et favorisant, selon lui, une interprétation plus convaincante. La nature du travail effectué durant cette phase reposait sur la recherche d'un sentiment de justesse de l'expressivité du jeu (caractère, nuances, sonorité, phrasé, etc.) que le sujet utilisait pour valider la qualité et l'authenticité de son interprétation musicale. Cette nouvelle étape de travail aurait permis au sujet de donner un caractère unique à l'interprétation par l'utilisation d'analogies et de métaphores (Lubart, 2011), ce qui favoriserait le ressenti d'émotions (Bosse, Jonker M, Treur 2008) et ainsi la création d'une adaptation physique du musicien au caractère de la pièce à interpréter. Cependant, comme on peut généraliser ces résultats, il est important de reproduire l'expérience avec d'autres musiciens pour vérifier la présence d'une telle phase et d'analyser son contenu.

Dans cette communication nous présenterons les résultats partiels d'une recherche qui vise à comprendre le processus créatif de neufs musiciens professionnels dans le travail de l'interprétation d'une même pièce, selon la méthodologie développée par Héroux & Fortier (2014). Nous présenterons le portrait de six des neuf musiciens professionnels ayant travaillé la même pièce solo pour guitare qu'ils n'avaient jamais entendue auparavant, *Why*, du compositeur américain Andrew York, dans le but de réaliser un enregistrement sonore en studio. Les sujets devaient conclure l'expérience en enregistrant une version finale de la pièce lorsqu'ils jugeaient leur interprétation satisfaisante. Les données ont été collectées de trois manières: 1) la captation audio-visuelle de l'ensemble des répétitions des sujets, accompagnées de verbalisations et d'un questionnaire réflexif, 2) la description des actions posées par les musiciens par un observateur externe et 3) deux types d'entretiens soit d'auto confrontation, une technique de rappel stimulé (Theureau, 2010), et d'explicitation, qui vise à aider les sujets à verbaliser leurs actions telles que vécues dans un moment spécifié. Cette technique permet d'amener à la conscience réfléchie des sujets des aspects de leur vécu qui sont majoritairement de l'ordre de la conscience pré réfléchie, ou conscience en acte (Vermersch 2012). Les données ont été analysées à travers une analyse de contenu des répétitions et par théorisation ancrée (Paillé, 1994) de l'ensemble des données.

L'analyse du contenu des répétitions a révélé la présence d'étapes précises, confirmant les quatre étapes de travail identifiées par Chaffin et al (2003), Scouting-it-out, Section-by-section, Gray stage and Maintenance et la formation d'une Global Image de l'œuvre, chez chacun de nos 6 cas. Les résultats démontrent l'usage de différentes stratégies pour créer une interprétation originale. Les stratégies observées sont cohérentes avec la littérature existante. En effet, nous avons pu observer l'alternance entre la pensée convergente et divergente (Guilford, 1950) et l'usage d'associations créatives (Lubart, 2011). Cependant, si les résultats confirment l'existence de la phase d'appropriation artistique (Héroux & Fortier, 2014) chez la majorité de nos sujets, certaines caractéristiques sont différentes. En effet, pour certains, l'appropriation artistique commence lors de la première répétition, alors que pour d'autres, elle débute seulement lorsque la pièce est mémorisée. Les éléments extramusicaux utilisés par nos sujets pour cette appropriation artistique varient, même si le titre *Why* et l'indication « With Sorrow » restent déterminants. De plus, pour deux de nos sujets, la recherche d'une appropriation artistique, qui inclut l'utilisation d'éléments extramusicaux, comme des souvenirs ou autres éléments plus personnels, est considérée comme inappropriée.

Cette étude permet de constater la présence d'une appropriation artistique chez la majorité des sujets. Par contre, plutôt qu'une étape de travail qui arrive à un moment précis comme l'on définit Héroux & et Fortier (2012), cette phase semble apparaître à différents moments selon les sujets, en parallèle avec les autres étapes identifiées dans la littérature. Si plusieurs sujets ont besoin d'évoquer des images, d'inventer des trames narratives afin de rendre plus personnel le discours musical abstrait de l'œuvre, d'autres écartent ces stratégies et se positionnent plutôt comme des artisans utilisant divers outils expressifs pour façonner le matériau musical rendant ainsi audible le message intrinsèque de l'œuvre en faisant ressortir la structure et les subtilités du langage musical. Nous pourrions conclure que certains sujets expérimentent l'appropriation artistique avec une conception plus expressionniste, voire symbolique, alors que d'autres avec une conception plus formaliste de la musique.

Olaf Hochherz.
Oliveros' oeuvre formed by the delay effect - The delay as formed in Oliveros' work

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Creative processes in music often go along with the use of specific music instruments. But do musicians take instruments simply as a pre-condition for their work, or does the work realized with them also form them? In my talk I will discuss the creativity emerging between musicians and their instruments. Drawing on the example of Pauline Oliveros' use of the delay, I will show the dialectic between the instrument as an idiom and the genesis of the instrument in its use. I argue for a reciprocal dependency of musical-material and instruments. So that some musicians' music can be described as develop along the line of a use of an instrument. In the course of the discussion I will introduce a framework for the analysis of music instruments.

Tresch and Dolan initially inspired my proposal. They introduced a framework for a "new organology" (Tresch & Dolan, 2013) based on Foucault's analysis of self-techniques (Foucault, 1985). But it appeared to me as a contradiction that they take Foucault's self-techniques as their inspiration, as he does not explicitly define the role of tools and material culture in his analyses. I propose that we should rather build upon Foucault's earlier concept of the dispositif [apparatus], where material things had been considered more explicitly (Foucault 1990). Another source of inspiration is Verillon and Rabardel's concept of instrument genesis (Verillon & Rabardel 1995). They highlight that instruments are framed by their teleological use in relation to an object. But it is a particular problem in music that the object of instrument-use is rather ambivalent. I suggest that the object of music instrument-use is what Adorno called musical-material (Adorno 2003).

My framework calls for a description of the aim of music making (which means a particular concept of the musical work), of the self-understanding of the musician, of the conceptualization of the instrument and the musical-material, and their relations. This allows us to see if the relation between musician and musical-material is transformed by the mediation through the instrument, so that we can describe its influence on creative processes.

In the application of this framework on the delay in the work of Pauline Oliveros, we can trace its influence in her thinking about her music. As a summary we can describe her work as structured by the shift from material constraints of tape delays to the complexity of computer delays, her self-understanding as an embodied musician and it's link to the spatiality of sound. This in her understanding defines the event character of musical performances. So that the delay is not understood as an effect that simulates acoustic properties of space, but a part of the extended, distributed instrument. The "Extended Instrument System", which is defined in particular by the idea of extension an instrument in space, can be seen as a nucleus of this practice. It is this temporal and technological distributed creativity that allowed her to develop her particular interpretation of music. We can see in her practice that an analysis of musical instruments is depending on the musician, her concept of musical material and a particular concept of the aim of musicking.

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Joel Hunt.
From Process to Performance: Compositional Process as Framework for Text-Based Improvisation in Henry Brant's "Instant Music."

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In previous conference presentations and writings I have discussed Henry Brant's process of "prose-report composition," which became his primary working method in 1945. The process, which is heavily documented in his sketch manuscripts at the Paul Sacher Stiftung, consists of three stages. In stage one, Brant brainstorms on lined paper, organizing his thoughts into a series of text units, each of which contains the compositional parameters for a particular block of music. In stage two, Brant transfers abbreviated text units to individual cards, which allow him to mobilize text units and rearrange them in various orderings, stratifications, and overlapping juxtapositions, before defining a final configuration. In stage three, Brant spontaneously composes each block of music according to the parameters outlined in the previous two stages and compiles the manuscript blocks in full score according to his stage-two card configuration. This systematic approach allows Brant to rationalize and expedite the final compositional act, virtually eliminating the need for drafts and edits. In his subsequent "instant compositions," Brant takes his quest for compositional efficiency a step further by completely removing the final compositional act from his creative process. Rather than spontaneously composing the specific notes and rhythms on manuscript paper, he summarizes and compiles his pre-compositional notes on a "cue score" and gives performers the freedom to improvise the specific details of the composition based on his "cue-score" instructions. For Brant, this new process of "instant composition" results in a monumental reduction in production time.

Brant defines "instant composition" as "planned improvisation without the aid of traditional notation." (Everett, 1976) To compose an "instant composition," he first summarizes musical elements for each player in written prose on a "cue score," then describes the desired effect in rehearsal, and finally coordinates the performance by means of a variety of special gestures. Like the first two-stages of the "prose-report process," Brants "cue-score" instructions specify foreground and background content and organization: tone, range, dynamic level, articulation, rhythmic character, order of entrances, succession of sections, structural articulations of form, cutoff points, and major points of ensemble synchronization. However, he does not define specific notes or rhythms. As such, Brant develops a detailed framework for improvisation that limits the possible musical result, but leaves many of the specifics of each performance to the discretion of the performer. Drawing on my research of Brant's sketch manuscripts housed at the Paul Sacher Stiftung in Basel and at the Brant Estate in Santa Barbara, I will show how Brant's compositional process of "prose report composition" transformed into his text-based improvisational "instant composition" technique.

Zubin Kanga.
Sounding Bodies: Embodiment and Gesture in the Collaborative Creation and Realisation of works for Piano and Electronics

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This paper examines works for piano and electronics that use technology to expand and subvert the body and pianistic technique of the pianist. It draws upon the fledgling research field of auto-ethnographic examination of composer-performer collaboration and builds upon the author's doctoral thesis, *Inside The Collaborative Process: Realising New Works for Solo Piano*, which examined collaborations between the author and 30 composer on new piano works to track and analyse the catalysts and pressures that affect the process, such as differences of age and seniority, the goal of virtuosity, the use of graphic notation and the cumulative effects of long-term collaborations. However, new approaches to gesture have been only fleetingly explored in these case studies, and the use of electronics was not explored at all – this paper is thus a vital keystone in both fields.

As a study of composer-performer collaboration, work also builds upon the work in this field of Östersjö (2008), Roche (2012), Hayden/Windsor (2007), Clarke/Cook/Harrison/Thomas (2005), Heyde/Fitch (2007), Heyde/Bayley (2014), Clarke/Doffman/Lim (2013) and Hooper (2013) who all use ethnographic (or autoethnographic) documentation of collaborations as a research tool. The author examines the process of creating or realising each of these works, allowing the formation of new approaches to gesture through multimedia to be observed, tracked and analysed. This type of examination will allow the role of the performer in creating, refining and controlling the innovative gestural aspects of the work to be revealed. It also allows the author to test the effects on the collaboration process of these interactions between body and technology.

The three new works are by Belgian, Australian and British composers, with two of the works written specifically for the author (a concert pianist). Each explores and subverts the relationship between the pianist's body and the instrument but each does so using different musical and technological means. The process of creative collaboration was documented (through filming of workshops, collection of sketch materials and interviews) creating a body of data that can be analysed and compared. By studying a group of similar cases, trends and strategies can be tracked across multiple cases, allowing the specific interaction between technology and collaborative process to be assessed.

Dark Twin (2015) by Australian composer, Julian Day, utilises a tape part to create the effect of a pianist accompanied by a distorted doppelgänger. The perception of the relationship between the pianist's sound and physicality is gradually altered and subverted, creating the illusion of a complex interaction between pianist and technology. In *Piano Hero* (2012) by Belgian composer, Stefan Prins, the performer uses a keyboard to control a video avatar of a pianist, creating gestural complexity from the contrast between the live performer's gesture and the resultant 'performing' video. Although this work was not composed for the author, the gestural aspects of the work still required workshopping, with discussions focussing on the managing the many different roles that gesture plays in the work. British composer, Patrick Nunn's *Morphosis* (2014) uses 3D sensors, attached the pianist's hands to control the electronics (programmed with Max). The movements of the pianist are not choreographed, yet the specific parameters of control programmed into the electronics

part create a 3D landscape for the pianist to explore. In addition, Nunn sets up different parameters for each section, creating a game for both performer and audience of continuously attempting to discover the limits of control.

These works all require explore new approaches to the interaction between performative gesture and electronics and all require many stages of collaborative creativity and experimentation. In addition, considerable creative input is required from the performer at all stages from the process, in calibrating the electronics parts, exploring the constraints and controls of both the notation and the electronics as well as choreographing movements around the piano. In some cases, the electronics and choreography are tailored to the pianist's natural gestural approach to the piano, and in others, the electronics and choreography are made to challenge the technique of the pianist in a prime example of resistance as a creative tool (a term coined by Sennett (2008) and explored further in Heyde/Callis/Kanga/Sham (2014)). The process of collaborative creation of works for piano and electronics has not been examined before, and the insights of this comparative exploration will be of significant importance to both the field of the study of new approaches to gesture, the research into new approaches to composition for the piano as well as the field of study of composer-performer collaboration.

Laura Kennedy.
From Fragments to Final Works: Shostakovich and the Creative Process

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My paper centers on the compositional manuscripts of Dmitri Shostakovich (1906-75), the Soviet Union's leading composer of art music. Opening a window onto the composer's creativity, fragmentary passages, rejected movements, revised manuscripts, jumbled drafts, aborted works, meticulous piano score drafts, and extracts from final scores offer a glimpse into one of the most extraordinary compositional minds of the twentieth century. These documents are extremely diverse but little known. My paper presents selections from sketch materials for Shostakovich's symphonies and, in doing so, seeks to probe both the compositional endeavor and aesthetic framework that shaped the composer's thought. Shostakovich's sketch materials have only recently come to light after decades in which their very existence was denied. Until now, therefore, Shostakovich has been excluded from the ranks of major composers whose sketches have been regarded as essential to understanding the creative process. Such omission has produced an image of the composer-creator who conceived his pieces in every detail, then wrote them out in finished form. Shostakovich's own statements about his working methods confirmed this impression. When asked about his compositional process at the outset and the end of his creative life, he claimed that he conceived his pieces completely before writing them and emphasized the totality, sophistication, and permanence of his compositional decisions. Contemporaries who were in a position to know mostly affirmed this claim, suggesting or allowing the implication that Shostakovich put his music to paper whole and complete. Such remarks encouraged an image of Mozartian mastery. There was nothing else to report—because Shostakovich never sketched.

In 2002, however, Manashir Iakubov, the late curator of the Dmitri Shostakovich Archive in Moscow, made a startling assertion: hundreds of sketches survive from Shostakovich's creative process. These manuscripts, Iakubov claimed, include all the usual documents that provide insights into a composer's creativity. Limiting our inquiry to Shostakovich's symphonies, we know, so far, of piano score sketches for eleven (of the fifteen) completed works. The New Collected Works edition of Shostakovich's music includes facsimiles of manuscripts for Symphonies Nos. 1–5 and 9. Manuscripts for Symphonies Nos. 8 and 10 are in Shostakovich's fondï, or archival collections, in Moscow and are currently being published. There are also indications in the Russian-language literature and in files of unidentified manuscripts in Shostakovich's fondï that materials relating to Symphonies Nos. 6, 7, and 12, not to mention many other non-symphonic works, also exist. Based on Shostakovich's sketch materials for his symphonies alone, it is possible to reconstruct key moments in his creative process and show what compositional issues his manuscripts raise.

Shostakovich's sketch materials for different symphonies illustrate a spectrum of his process, but no sketches for a particular symphony trace that process completely. Rather than early, middle, and late sketches, his symphonic manuscripts typically comprise one stage of his thinking per work. Manuscripts for some symphonies are coherent and detailed; others are partial, and some, extremely fragmentary. Some documents are written in piano score, others in orchestral score. Some show almost all the notational details of the final autograph, though rarely particulars of dynamics, articulation, tempi, or scoring. Others merely outline ideas,

break off abruptly, and appear to lack continuity. Some sketch materials contain large, unbroken sections of music; others, just two or three bars. Some compositional manuscripts (if the term may still be used) even postdate autograph scores.

These manuscripts, however, are extremely difficult to access. Shostakovich's fondï in Moscow are large, growing, and not yet fully organized. They are also closed and documents can only be seen if the composer's widow gives written permission. Given concerns for the rights of immediate family, scholarly interests in Russia, and possibly even the composer's own sense of privacy, Shostakovich's unpublished manuscripts are subject to vigilant protection. Moreover, many of his sketch materials are also filed under generic, even puzzling, labels—from "sketches," "excerpts," and "drafts" to "assorted compositions" and "documents for lengthy safe-keeping"—and contents are occasionally mixed up. A folder of "sketches" may actually contain fragments of autograph scores. "Assorted compositions" might be unidentified manuscripts, and "documents for lengthy safe-keeping" can contain entire drafts of previously unknown works. Resources are plentiful, but finding and interpreting them are difficult. These challenges have left a gap in scholarship that sketch study is poised to fill.

Sketch study on Shostakovich's music is in its infancy. My paper elaborates the current scholarly situation and offers a framework for examining Shostakovich's manuscripts for his symphonies. All documents discussed are in three archives in Moscow: the Dmitri Shostakovich Archive, the Russian State Archive of Literature and the Arts (RGALI) and the Glinka Museum of Musical Culture. Shostakovich's manuscripts permit expositional and interpretive questions, including what kinds of materials are available, what information they contain, and how they illuminate the composer's creativity. To some extent, they corroborate Shostakovich's own description of his creative process, in which thorough mental preparation preceded writing. But they also suggest that the act of writing was a particular cognitive and compositional process for Shostakovich; it led to changes, new ideas, occasional anomalies, and sometimes the abandonment or complete alteration of large-scale works. Though extremely disparate, Shostakovich's manuscripts show that he sketched his way to final versions and that his method of sketching varied for different works. In elaborating this process in relation to his symphonies, my paper will demonstrate how Shostakovich composed and how his sketches provide insight into his creative thinking.

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William Kinderman.
'Feeling New Strength': Beethoven's Ninth Symphony and Quartet in A Minor, Op. 132

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One landmark in the reception history of Beethoven's *Ninth Symphony* is Thomas Mann's novel *Doktor Faustus*, in which Mann places his fictional composer Adrian Leverkühn into the role of the Faustian figure. Leverkühn's culminating work is a great Faust Cantata entitled *Des Fausti Weheklag* or "Lament of Faust," a multi-movement composition bearing an orchestral finale which "revokes" the idealistic message of Beethoven's Ninth.

Manuscripts recording the genesis of Beethoven's symphony show that he too had doubts about the choral finale based on Schiller's poem, since he repeatedly made entries for a "Finale instrumentale" or orchestral finale, whose main theme was subsequently transposed from D minor to A minor when used as the principal subject of the rondo finale of op. 132. A page from the "DeRoda" Sketchbook of 1825 documents the transference of this passionate theme from the symphony to the quartet. In the end, of course, Beethoven remained committed to his remarkable Schiller setting for the choral finale of the *Ninth Symphony*. But it is worth pondering how the D minor theme not used in the symphony became the main theme of the finale of this second of the "Galizin" quartets, the work in A minor, op. 132. Noteworthy is the rhythmic and motivic kinship between the main theme of the first movement of the symphony and the theme Beethoven transferred to the quartet. While absorbing the preexisting theme into the quartet, Beethoven not only developed the subject and changed its key, but he also chose to preface the finale with a piercing dramatic recitative in the first violin, a gesture unmistakably linked to the quartet's opening movement. The position of the recitative in the quartet reminds us once more of the *Ninth Symphony*, whose elaborate recitative passages at the threshold to the finale are bound up with the recall of earlier movements.

The nineteenth-century pioneer of Beethoven sketch studies, Gustav Nottebohm, already observed how Beethoven originally contemplated adding words to the instrumental recitative passages in the *Ninth Symphony* sketches, words that clarify why the recall of earlier movements is rejected in favor of the adoption of the idealistic Schiller text, with its musical setting in D major suggestive of folksong. Scrutiny of the manuscript sources of the symphony and quartet extends Nottebohm's observation, and opens up a startling new perspective on these two intimately related works. What Beethoven weighed, in completing the *Ninth Symphony*, was nothing less than whether the vision of Schillerian collective harmony, of joyful community, could sustain itself against the contrasting modalities of the preceding movements, and especially the despairing character of the great opening Allegro in D minor.

As in the symphony, the quartet's finale is prefaced by recitative, which here assumes a despairing, tragic character deeply grounded in the work as a whole. The recognition that Beethoven inserted the quartet's fourth movement, the Alla marcia, at a late compositional stage suggests that he used it as a stylized foil against which the recitative makes its mark. Beethoven's "Joy" theme and its ensuing variations in the choral finale assume the character of an optimistic march in D major, a march in which gradually all sections of the orchestra and then the vocal soloists and chorus join. In the A minor Quartet, by contrast, a Alla marcia in the major mode precedes the finale; its forthright confident mood is then countered by the

darkly impassioned recitative. In this context, Beethoven has inverted and negated the narrative succession of the symphony in his quartet.

Still more thought provoking is the comparison between the symphony's optimistic "Joy" theme and the crucial initial phrase of the Lydian hymn whose development sustains the climax of the quartet's great central slow movement. The "Joy" theme circles around the third of D major, rising initially from F#. The opening phrase of the Heiliger Dankgesang in the quartet moves downward from F in a much slower tempo. Structurally, the opening of the Dankgesang is a dark inversion of the head of the "Joy" theme.

Fresh study of the sketches for the quartet thus shows that the parallels between symphony and quartet are closer than has previously been recognized, embodying an instance of "expressive doubling" whereby the quartet, while not "revoking" the Ninth in the sense of Thomas Mann's character Leverkühn, acts as a dark companion work to the luminous chorale finale. As an investigation of "genetic criticism" (critique génétique), this project has twofold significance: it reveals a contrasting background to the compositional genesis of the idealistic Ninth Symphony finale, exemplifying how a shared narrative design can assume diametrically opposed embodiment in two related works; and it illustrates how related artistic ideas can tend to overspill the singular individual work of art, refusing containment within the project for which they were originally envisioned.

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Irina Kirchberg.
Opter pour les bonnes « notes » en natation synchronisée : conséquences pratiques et stylistiques

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Communément appelés par les journalistes sportifs à « laisser parler [leur] créativité » (*Natation Magazine*, n° 93, 2008), les entraîneures et le musicien de l'équipe de France sont en réalité contraints à composer avec ce qu'ils appellent « le goût des juges ». Selon eux, il s'agit donc de composer une musique qui « sonne bien » aux oreilles des juges, d'utiliser les bonnes « notes musicales » pour obtenir de bonnes « notes sportives ». Là où, dans le domaine artistique, la rupture avec les conventions peut accroître « les difficultés des artistes », les exposer « à l'obscurantisme » et réduire « la diffusion de leurs œuvres » (Becker, 1984 : 58), dans le cadre sportif, la transgression des normes musicales établies par les experts condamne les équipes au discrédit sportif.

Dans cette communication, nous nous intéresserons donc à la difficile congruence entre ce qu'ambitionnent musicalement les entraîneures et le compositeur (leurs ballets de « rêve ») et les compositions qu'ils se voient contraints de réaliser pour répondre aux attentes des juges. Partant de cette dialectique des goûts, nous analyserons l'organisation du processus de création musicale en natation synchronisée. Comment ces créateurs arrivent-t-ils à cerner les caractéristiques musicales qui permettront de convaincre les juges ? Quelles sont les conséquences pratiques et stylistiques du partage de l'activité créative sur les processus de création musical qu'ils mettent en œuvre ? Que se passe-t-il pour le musicien et les entraîneures lorsque ces derniers acceptent de s'en remettre au goût des juges ?

Nous répondrons à ces questions à partir de l'analyse de données recueillies durant une enquête sociomusicologique menée entre 2008 et 2014. Dans la lignée des sketch studies nous avons collecté les maquettes et les brouillons de certains des ballets de l'équipe de France afin de reconstruire la genèse de ces productions musicales et chorégraphiques.Les treize entretiens réalisés avec les entraîneures et le musicien de l'équipe de France, l'observation de trois compétitions internationales et l'analyse documentaire de plus de 300 articles publiés entre 1996 et 2013 dans un magazine spécialisé (*Natation Magazine*)sont venus étayer nos analyses musicales et nous ont permisd'appréhender la dimension collective et dynamique des processus de création musicale en natation synchronisée.

Afin d'éprouver leurs créations musicales et chorégraphiques les équipes se voient contraintes d'organiser des représentations non-officielles des ballets, d'inviter des juges nationaux à leurs entraînements et de recueillir les commentaires de ces officiels à l'issue de chaque compétition. Chacune des critiques et des remarques formulées par les juges à l'issue de ces rencontres donne lieu à la réactualisation des musiques de ballet. Que se passe-t-il lorsque les consommateurs-experts (juges) d'une création (ballet de natation synchronisée) participent de sa production ?

C'est l'organisation du calendrier de la création des musiques de ballet de même que les procédés de création adoptés par les entraîneures et le musicien qui se trouvent, en premier lieu, affectés par cette nécessité de s'ajuster aux goûts des juges. Ainsi, durant les périodes d'attente forcée entre deux rencontres avec les juges, les entraîneures décident généralement de passer commande de créations originales au compositeur. À contrario, à l'approche d'un grand rendez-vous international, les arrangements et les collages, plus rapides à réaliser,

seront privilégiés. Nous constatons alors que l'influence des juges sur les processus créateurs dépasse les seules questions d'organisation pratique de la création pour déborder sur des questions esthétiques. Chaque remarque émise à l'issue des compétitions engage les créateurs à repenser en profondeur les caractéristiques des musiques de ballet, à en modifier l'orchestration, à en remanier la structure formelle ou encore à en reprendre totalement la composition.

Partant de ces premières constatations, nous nous interrogerons sur le statut des entraîneures et du compositeur dans ce cadre (Goffman, 1991). Que se passe-t-il socialement pour ces créateurs qui acceptent d'abandonner leurs ambitions artistiques au profit d'options stratégiques correspondant au « goût musical des juges » ? Frustrations, renonciations, et stratégies, la deuxième partie de notre propos fera apparaître l'écart qui sépare ces acteurs d'artistes ayant la possibilité de « négliger quand il le faut » les « réactions qu'ils anticipent chez les autres membres du monde de l'art » (Becker, 1984 : 217). Cette communication rendra compte d'un processus de création musical soumis à la coercition d'un cadre sportif. Plus largement, elle s'inscrira dans la continuité des travaux relevant de l'étude du travail artistique pensé en termes de créativité partagée. Elle donnera enfin un aperçu des méthodes et des concepts pouvant permettre de rendre compte des activités de « création appliquée » (design sonore, musiques de publicité, composition à l'image, musiques de jeux-vidéo) pris entre invention musicale et adaptation à un cahier des charges détaillé et contraignant.

Principales sources :
- 13 Retranscriptions d'entretiens d'explicitation et de remise en situation matérielle réalisés les entraîneures et le compositeur de l'équipe de France.
- Dossier génétique d'un ballet « Le vent » présenté entre 2011 et 2014 par les nageuses françaises.
- Observation de 3 compétitions internationales (soit près de 36 ballets analysés).
- Plus de 300 articles journalistiques publiés entre 1998 et 2013 dans le magazine federal *Natation Magazine*.

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Matthew Lorenzon.
"Situation" and "Problem Situation" in the Interaction of Music and Philosophy in
Antagonisme by Xavier Darasse on a Text by Alain Badiou

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This paper presents the results of a genetic study of *Antagonisme*, a chamber work composed by Xavier Darasse on a text by the philosopher Alain Badiou for the 1965 concours de composition at the Conservatoire de Paris. Darasse and Badiou began work on *Antagonisme* in the autumn of 1964, making it an important early work in the output of both figures. *Antagonisme* is Darasse's first composition in a contemporary idiom, while its première coincided with the completion of Badiou's first theoretical article, "L'autonomie du processus esthétique." The sketches, manuscripts, and letters relating to the work held at the Médiathèque Hector Berlioz present the researcher with an unparalleled opportunity to consider the interaction of competing philosophical and musical priorities during a collaborative creative process.

The paper begins by presenting the philosophical and musical stakes of the composition. The former is established through a reading of Badiou's text and letters within the context of debates around Marxist and structuralist aesthetics at the École Normale Supérieure, in particular among the group of students gathered around Louis Althusser. The latter is established through an analysis of the score and sketches that reveals Darasse's remarkable experiments with his analysis teacher Olivier Messiaen's technique of interversion. In his first letter to Darasse, Badiou suggests that Darasse's music ought to contradict the narrator's conception of music while "exceeding it each time" [en la dépassant à chaque fois]. Darasse contradicts the narrator's image of music by obscuring and revealing the work's two distinct tone rows through rhythm and texture, but how does he exceed it and why does it matter that it is refuted within musical rather than linguistic discourse?

The answer may be found in "L'autonomie du processus esthétique," which is a riposte to the Marxist association of art and ideology. The article was written in the context of a seminar delivered at the ENS on Althusser's invitation. Badiou asserts the autonomy of modes of aesthetic production, musical apparatuses such as the tonal system that are dissolved and reinvented through a series of works. When Badiou writes to Darasse that he wants the music to exceed the text, he is urging Darasse to engage in his own musical dialectic that—while proving the ideology of the narrator wrong—validates his own theory of music. Darasse appears to conform to Badiou's "game plan" through the use of original permutational techniques derived from Messiaen's works. Darasse explores the reciprocity between conventional dodecaphonic transformations and Messiaen's interversions at every formal level of the work, from its large-scale form down to its precompositional materials. The lessons learnt through this analysis of *Antagonisme* have implications for the analysis of Messiaen's own works.

Given the absence of any testimony from Darasse as to his intentions when composing the work, the study seems to commit an intentional fallacy that the rest of the paper seeks to address. To what extent is authorial intention important when analysing Darasse's use of interversion in Antagonisme? The evidence does not exist to assert that Darasse's use of interversion was an intentional response to Badiou's text, much less a response to "L'autonomie du processus esthétique". However, the paper argues that there is value in

considering how Darasse's music reflects upon Badiou's text independently of his intentions. The paper does not argue that any interpretation of the work is equally valid, but that music and philosophy can be evaluated here as independent and objective bodies of thought.

The rationale behind this argument draws, perhaps controversially, on two notions from divergent philosophical fields. The notion of "situation," drawn from Badiou's later work, provides a model for examining Darasse's use of competing compositional techniques as a strictly musical truth procedure. Karl Popper's "problem situation" considers how Darasse balances the conflicting musical and theoretical priorities presented to him by Badiou and by the academic context of the work's production. "Divergent" is the key term here, as Popper's adoption in the English-speaking world and his absence from the French literature—occurring as Antagonisme was being composed—is symptomatic of the divergence of analytic and continental philosophy around the use of mathematics and logic. Indeed, Popper was hailed for purging analytic philosophy of Marxism and psychoanalysis precisely when Badiou was emerging as the philosophical standard-bearer of French Maoism. However, the thinkers' common interest in music and logic may be read in their agreement on one point: The partially-autonomous existence of objective contents of thought, in particular of musical thought. Badiou will speak of "truths" and Popper will speak of "world three objects," but they both assert that musical thought, once it is produced, has unexpected consequences for its own structure and the material world. This paper argues that philosophy partially defines Darasse's problem situation when composing Antagonisme, while Darasse also grapples with the narrower musical situation of the Conservatoire de Paris in the mid-1960s.

This paper does not suggest that Popper and Badiou may be reduced to one another, far from it. In Popper's perspective, influences from any number of fields may determine a compositional outcome, but musical materials themselves are incapable of radical change. But where Badiou would argue that a situation always contains the possibility of the emergence of the new, he is still committed to a hermetic view of the musical situation that forecloses any interruption from outside the musical materials—philosophical interruption included. This study of Antagonisme is presented as an example of how musicology may function as a mediator of these two ontologies of music, at once more immanent than Popper's problem situation and more contextual than Badiou's musical situation.

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Stefan Caris Love.
Learning From Our Mistakes in Tonal Jazz Improvisation

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The concept of "mistake" is antithetical to jazz's spirit of uninhibited creativity. But jazz, like any musical style, conforms to a system of rules and conventions; indeed, this is what defines the style—what makes it sound like jazz and not some other style. When a jazz solo is "outside," or "out," it bears little relationship to the underlying harmony. But paradoxically, musicians require extensive instruction to play this way: an incompetent improviser is not merely playing "out." A rule of thumb for the improviser: it's not a mistake if you play it twice. But would it be a mistake if you played it once?

Previous analyses of jazz focus on acknowledged masters of the style, for obvious reasons; but these offer little help in systematically studying errors. To rectify this, during the 2014–2015 academic year, I recorded and analyzed solos by jazz students at the University of Massachusetts. In this talk, drawing on analyses of these solos, I offer some thoughts on the jazz "mistake." My focus is on "tonal jazz," the predominant style of the 1920s through the 1950s and the first style learned by most students.

Some errors result from disruptions to the physical act of performance—for example, a finger slips and hits the wrong key. Even among beginners, these "errors of execution" tend to be relatively rare: beginners usually attempt to play only those things that they reasonably expect to execute. The difficulty of improvisation lies not in playing, but in conceiving what to play. Since execution errors are not unique to jazz improvisation, they are not my focus here.

Errors in the soloist's selection of notes and rhythms have no equivalent in performances of composed music. We can approach them by an analogy between the acts of speech and musical improvisation. The speech act is susceptible to two categories of error. "Competence errors" stem from a speaker's deficient knowledge of the language—for example, a child's use of "goed" for "went." "Performance errors" stem from the contingencies of actual speech: fatigue, speaking quickly or on a difficult topic, and so on. Performance errors affect language learners and native speakers alike. These two categories also apply to errors in improvised solos.

S.P. Corder, an early observer of competence errors, notes that "the learner is using a definite system of language at every point in his development"; it is simply that the learner's system is different from that of a fluent speaker (Corder 1967: 166). For competence errors in jazz improvisation, we can often infer the "definite system" that underlies a student's error. Furthermore, a student's error may be in perfect accordance with typical jazz pedagogy, but nevertheless come across as stylistically clumsy. Such an error reveals shortcomings in current pedagogical approaches. To diagnose competence errors more accurately, we can compare multiple solos from the same student: a persistent kind of error reveals a faulty system, rather than a momentary lapse.

Momentary lapses—"performance errors"—can arise even among soloists who have mastered the jazz style. In such cases, circumstances like a fast tempo, an unusual chord progression, or a momentary distraction cause a "deviation from normal competence" (Boomer and Laver 1973: 123): the soloist chooses an incorrect note or notes normally avoided. Most such errors involve miscoordinations of timing between the melody and the accompaniment. For example, in a "perseveration," a soloist persists with a harmony for too long, carrying it into the space allotted to the next chord. This is equivalent to a native speaker

of English accidentally saying "black bloxes" in place of "black boxes" (Fromkin 1973: 244). This speaker perseverates the initial "bl" sound.

The counterpart to perseveration is anticipation, another linguistic error with clear equivalents in improvisation. A similar error is the "blend," where an improviser mixes the properties of adjacent harmonies. For example, the quality of one chord might be blended with the root of the next chord. But other errors have no direct linguistic equivalent. For instance, a soloist might briefly play in the wrong key.

These analyses lead to some broader claims. Jazz solos are sometimes viewed as musical "works," of a kind. But a proper understanding of improvisational errors requires that we view a solo as a series of actions made in a particular context, rather than as a work. The context includes local and large-scale conventions of jazz improvisation, jazz pedagogy, and the soloists' other solos. From the solo itself and the surrounding context, we infer the soloist's intentions and abilities to explain the error. The errors interest us not for their content, per se, but as artifacts of the underlying improvisational process. Indeed, given the nature of jazz, even an error-free solo might be best understood not as a work, but as an act.

Michael Mackey.
The Art of the Trio: Improvisation, Interaction, and Intermusicality in the Jazz Piano Trio

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In jazz research and performance practice, emphasis has long been awarded to musicians who exhibit virtuosity or mastery of solo improvisation. Whether Louis Armstrong's assertive solo cadenza on *West End Blues* or John Coltrane's blazing acrobatics on *Giant Steps*, select recordings, such as these, have come to represent the genius of iconic individuals. As a result, generations of scholars, performers, and pedagogues have turned to jazz recording transcriptions to gain insight into the improvisatory techniques and practices of the jazz masters. Because emphasis tends to fall on solo improvisation alone, transcriptions typically neglect one of the most important characteristics of jazz performance: communication. Studying a musician's solo and the accompanying rhythm section as mutually exclusive entities inadvertently disengages the improvised processes of interaction that reciprocally inform and inspire both solo and accompaniment through various aural cues employed during performance. By analyzing all components of improvised performance as interdependent entities, we may ascertain the communicative dialogue coded in the melodic, harmonic, and/or rhythmic content.

Paul Berliner's monumental *Thinking in Jazz: The Infinite Art of Improvisation* (1994) is perhaps the first major scholarly work to specifically investigate the collective aspects of improvisation at length. Berliner employs ethnographic practices to examine musicians' decisions in rehearsal arranging practices, the conventional roles of instruments, and the collective conversations between musicians in performance. Drawing attention to how rhythm sections improvise accompaniment within the context of the groove, he notes how musicians constantly shift between complementary positions in performance, as they negotiate between harmonic/rhythmic responsibilities and improvised/complementary interactions, for the sake of group unity and musical cohesiveness.

Ethnomusicologist Ingrid Monson uses Berliner as a point of departure in her influential study on the sociocultural dialogics of improvised jazz performance, *Saying Something: Jazz Improvisation and Interaction* (1996). Monson asserts that the interactive role of improvisation in jazz performance lends itself specifically to the metaphor of conversation and reveals much about the musical process, explaining that "the conversation metaphor used by jazz musicians operates on two levels: it simultaneously suggests structural analogies between music and talk and emphasizes the sociability of jazz performance." Taking cues from W.E.B. DuBois' notion of African-American double-consciousness and Henry Louis Gates, Jr.'s Theory of Signifyin(g), she considers how the musical, cultural, and linguistic systems of diasporic Africans in America affect how jazz is perceived and understood by performers and listeners alike, in terms of metaphors and tropes. Monson posits that analyzing the interaction between improvising musicians in performance reveals that musical sounds can refer to the past and offer social commentary through cultural irony or parody. Through what she calls intermusicality, musicians convey both cross-cultural and intra-cultural ironies by manipulating previous forms, whether in transforming European-American popular song, referencing classical repertoire, inserting humor, or quoting other musicians and styles within or outside the jazz tradition.

In this presentation, I draw from Ingrid Monson's theory of intermusicality in order to untangle the complex web of musical and sociocultural interplay inherent in the sonic

material of collaborative improvisation, as exhibited by piano trios during the late 1950s and early 1960s. With particular emphasis on piano trios led by pianists Ahmad Jamal and Bill Evans, these groups inspired seismic shifts in jazz during this period by challenging conventional practices pertaining to instrumental roles, structural framework, and harmonic and metric freedom, and redefining the ways in which musicians utilize improvisation as a vehicle for interaction in jazz performance. I reference my personal transcriptions of three live performances of Cole Porter's *All of You* to delineate the overall conceptual framework employed by each trio and notate the improvised interplay between piano, bass, and drums for intermusical analysis. With emphasis on the communicative properties of improvised performance, the musical analysis of this study pivots on instrumental relations within the context of the trio, rather than individual displays of virtuosity. In doing so, I hope to entice further considerations of intermusical concepts in jazz scholarship, pedagogy, and performance, so to better comprehend the musical, social, and cultural relationships enacted between improvising musicians, their audience, and the tradition of jazz performance itself.

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Julie Mansion-Vaquié.
Création et re-création, les enjeux du changement de support

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Dans le champ des musiques actuelles et de la chanson, coexistent deux types de supports : le disque (ou version phonographique) et le concert (ou version scénique). Si ces supports cohabitent, leur statut ontologique ainsi que leur processus de création diffèrent. Notre propos concerne les différences de création entre ces deux supports d'un point de vue musicologique mais aussi performatif. En effet, dans le cadre spécifique du passage d'un support à un autre et particulièrement donc du disque à la scène, ce processus de création prend en compte plusieurs paramètres musicaux (instrumentation, orchestration, arrangements, présence ou non de sampleurs...) mais aussi des paramètres extra-musicaux (lieux, lumières, scénographie, performance...). Je défends l'idée que le passage sur scène implique une re-création de la performance originelle (c'est-à-dire la performance en studio). Notamment car en studio, les possibilités de mixage, de montage, d'effets, d'inserts etc. sont illimitées (ou presque). Cette re-création induite comporte ou non des modifications structurelles, mélodiques, harmoniques, mais inclut de fait des modifications agissant sur le son, la performance vocale ou les improvisations. C'est dans l'optique de saisir les degrés de re-création que je propose une grille de critères afin d'évaluer les degrés de re-création d'une chanson.

Les notions abordées, l'ontologie, la performance, l'interprétation par le prisme d'une analyse musicologique et interdisciplinaire (texte, scénographie, performance studies, sociologie…) s'appuie sur des exemples d'analyses puisant dans différents styles musicaux, particulièrement le rock français (Noir Désir), la chanson française (Léo Ferré, Alain Bashung) et l'électro-dub français (Ezekiel). Les objectifs de cette présentation comparative est double : comprendre quels sont les enjeux du passage sur scène et donc des processus créatifs pour chaque artiste, mais aussi comparer les stratégies mises en jeu en fonction du style musical défendu.

La méthodologie employée s'appuie sur mes travaux de recherches défendues dans ma thèse (« Le passage sur scène, vers une re-création musicale ? L'exemple du groupe Noir Désir » soutenue en 2011). Elle s'appuie sur l'analyse musicologique, l'analyse scénique et l'analyse comparative de version phonographique avec des versions scéniques. J'entends par analyse musicologique d'une part, la prise en compte de la hauteur, du rythme, de l'harmonie et du timbre : ce que l'on pourrait désigner comme les éléments de la musicologie traditionnelle. Et, d'autre part, la prise en compte des paramètres technologiques développés par les analystes tels que Richard Middleton, Alan F.Moore, Serge Lacasse, qui tiennent compte des éléments propres aux musiques enregistrées c'est-à-dire l'espace, la dynamique, le temporalité (boucle, overdubbing), les effets etc. Les différents outils peuvent se combiner. Par exemple, une notation en grille d'accord sur un rythme ou une structure. Il est important de comprendre que dans ces musiques la question du « son » est primordial ainsi l'analyse des paramètres de mixage ne sont pas à négliger. L'analyse scénique comprend plusieurs paramètres : le positionnement des musiciens, leurs mouvements, leurs masques ainsi que les éléments extra-musicaux tels que les lumières, les fumigènes, les décors mobiles ou non, les vidéos projetées… Tout ce qui peut interagir avec les musiciens sur scène et influencer de près ou de loin leur prestation, y compris le public.

Les analyses comparatives entre supports, c'est-à-dire entre le disque et le concert (ou entre version phonographique et version scénique) ont pour principale ambition de mesurer la re-création musicale lors du passage d'un support à un autre. J'entends par re-création un objet comparable à un objet existant (l'œuvre créée) mais fabriquée différemment. C'est-à-dire qu'un objet est créé et que par un processus remettant en jeu les outils de la création, cet objet va être transformé sans pour autant s'éloigner de l'essence du morceau. Les critères étudiés sont regroupés dans un tableau que je développerai dans ma présentation.

Les résultats de l'étude sont multiples, en relation avec de nombreux facteurs. Dans le cas de Noir Désir par exemple, les morceaux les plus connus par le grand public sont les moins sujets à re-création. Parallèlement, certains morceaux peu connus du grand public mais appréciés des fans sont joués tout au long de leur carrière et sujets à re-création. Enfin, les circonstances de création du dernier album a provoqué une incidence sur la pensée de la mise en scène et en son lors des concerts, du à l'ajout d'un musicien ("sampleur"). Chez Léo Ferré, la question de l'accompagnement du chanteur est un élément primordial pour comprendre d'une part son évolution esthétique et d'autre part pour dénouer les enjeux de la création scénique de son œuvre. Pour le groupe Ezekiel, la question de la performance musicale est imbriquée dans la performance vidéo principalement ce qui implique une différence fondamentale entre ce groupe et les autres artistes cités. Principalement, car c'est un groupe qui pour certains albums a fait appel à un orchestre (Naphtaline Orchestra) dans le but de re-créer son répertoire ; qui a travaillé avec le CEA-LETI de Grenoble dans la visée de l'IRCAM (fusion art et science) pour la création de nouveaux instruments (Les mécaniques poétiques).

Daniel Martín, Benjamin Frantz and François Pachet.
Assessing the impact of feedback in the composition process: an experiment in leadsheet composition

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The musical composition process has been studied so far mostly from an individual perspective (e.g. Donin07). Alternatively some studies have addressed the issue of collaborative composition (Donin06). In this study, we are interested in a somewhat intermediary activity: composition with peer feedback. This type of composition is becoming prevalent with the increase of on-line music composition systems and pedagogical tools (e.g. Nuernberg13). To which extent is feedback useful, relevant, or creativity enhancing? To which extent peer feedback can affect, positively or negatively, the quality of a musical composition? To which extent the impact of a feedback is related to the musical skills of the commentator? (i.e. do better composers produce better feedback?).

In this study we propose a quantitative study to address these questions (and others) through an experiment in leadsheet composition in popular music genres and we report on the findings obtained so far. Leadsheets are monophonic melodies associated with chord labels. Leadsheets are routinely used in many styles of popular music such as songwriting, jazz, or bossa nova. In order to study the composition process, we consider the case where a composer creates an initial version of a leadsheet, and then tries to improve it based on feedback received by commentators. The feedback we consider here is modeled as a set of suggestions to modify certain notes or chord labels.

The first question addressed here concerns the effect of feedback. Peer feedback, in general, has been claimed to yield beneficial effects (Rollinson05). However, this effect depends on many factors (valence, source, timing, etc.). Therefore we can expect that peer feedback has a beneficial effect, e.g through an enhancement of the subjective appreciation of the composed song.

Another question is to understand what makes a commentator a good one, i.e. who makes good musical suggestions. We can distinguish here composition skills, which can be evaluated from judgments of the original compositions, from the commenting skills which can be evaluated from comparisons of different versions of songs (before/after taking suggestions into account). We can expect only a weak link between these two skills, in spite of their musicality proximity, because composing is a creative activity with low constraints compared to suggesting which implies strong constraints from the original composition (style, tempo, rhythm, key, etc.). Constraints are known to have a large impact on final production (e.g. Smith93), and might explain some of the differences between the composition skill and commenting skills.

Protocol

In a first phase, a group of subjects are asked to 1) compose an original leadsheet and 2) suggest modifications to leadsheets composed by others. In a second phase, each subject of a group reviews the suggestions received for his composition and has the possibility to modify his leadsheet (with the goal of improving it). All subjects are asked to answer an initial questionnaire about their musical composition skills. The experiment is carried out by means of a web-based software for collaborative score edition. The subjects are divided in two groups:

Group 1 is the control group. Subjects write a composition and later, without receiving suggestions, may improve it by themselves.

Subjects of the experimental group (group 2) write a composition and later receive suggestions on their composition from two other subjects. Then, they compose an improved version after reviewing those suggestions.

In this experiment, modifications are anonymous and subjects cannot discuss with each other, even though subjects can explain their musical suggestions when providing feedback. To quantify the impact of feedback we evaluate the quality of a composition as well as that of the improved version. The quality of a composition is estimated from a social consensus, obtained by asking the opinion of the participants. They evaluate the quality of each pair of original and improved compositions. We track how many times they listen to each original song. Rating is an integer in [1, 5] obtained from a consensual evaluation method (Baer04).

Results and discussion

Preliminary results confirm our expectations about the general impact of feedback: the experimental group does show a larger improvement in quality between their first version and their final version, as well as on the subjective evaluation of the composer. These findings suggest that anonymous peer feedback can produce an improvement on both the consensued quality of a composition and on the composers' satisfaction.

Further, we have checked whether the experience of a subject can influence his evaluation when judging other subjects' compositions. We have found that subjects tend to give higher marks to compositions of other subjects with a similar musical experience. This finding is in line with Bonnardel05, who showed the influence of experience in evocation processes in creative tasks. Other questions are investigated. For example, we can identify which suggestions are useful to a composer by, on one hand, tracking which ones the composer used when trying to improve the song (in the second phase), and on the other hand, by computing automatically the similarity between the final version and the ones suggested using various MIR-based distances.

Conclusion

Music composition is a creative activity which, as such, might benefit from inspiration from peers. Feedback provided by peers can be seen as inspiring examples and seems to enhance the quality of the final production. More generally, this study is a step towards a quantitative analysis of the impact of peer feedback on the music creation process. More sophisticated forms of suggestions could be taken into account (e.g. not only on local structures). Ideally, insights about optimal groups of commentators (in terms of skill level or variety for instance) could have direct benefit to the design of on-line musical composition and training systems.

Baer04 "Extension of the consensual assessment technique to nonparallel creative products" CreatResJ 113–117

Bonnardel05 "Towards supporting evocation processes in creative design: A cognitive approach". IntJofHumCompStud 442-435

Donin06, "Domesticating Gesture: the Collaborative Creative Process of Florence Baschet's StreicherKreis for 'augmented' string quartet" CreatImprAndColPerspPerfContMus

Donin07 "Theoretical and methodological issues related to long term creative cognition: the case of musical composition". CognTechWork 233?251.

Nuernberg13 "Behind the Scenes with MOOCs: Berklee College of Musics Experience Developing, Running, and Evaluating Courses through Coursera". TechRep

Rollinson05 "Using peer feedback in the ESL writing class". ELTJ 23?30

Sawyer06 "Group creativity: musical performance and collaboration". PsychofMus 148?165

Smith93 Constraining effects of examples in a creative generation task. MemCogn 837-845

Nicolas Misdariis, Andrea Cera and Sebastien Gaxie.
Créativité et design sonore : étude de cas.

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Le design sonore est un champ du design relativement récent qui consiste principalement à prendre en compte la dimension sonore d'un objet au cours de son processus de conception – le terme objet pouvant être pris au sens d'objet tangible (produit manufacturé), d'objet numérique (interface homme-machine) ou d'objet spatial (environnement). Le design sonore concerne donc la création sonore appliquée à des domaines où penser le son, l'imaginer, le fabriquer et l'intégrer s'avère nécessaire, comme notamment : l'industrie, l'architecture, l'urbanisme, le cinéma, les arts numériques, et même le marketing lorsqu'il s'agit d'associer le son à une identité de marque ou de produit.

Sur la base de différentes études de référence et en relation avec sa discipline parente (le design), le design sonore peut être vu comme le fruit d'une pratique collective [Ozcan et al., 2009], répondant à des exigences de plusieurs natures (cahier des charges), le cas échéant assujettie à des règles de composition (transcription du cahier des charges), et finalement tendue vers un objectif relevant de critères esthétiques et/ou fonctionnels (la recherche du beau son ou du meilleur son). En d'autres termes, une création interdisciplinaire, contrainte, informée et ciblée ; ces propriétés faisant du design sonore, une pratique objectivement « différente » d'une démarche purement artistique – selon les propres termes de Vial [Vial, 2011].

Dans ce contexte, une démarche de recherche en design sonore peut se formaliser sur la base d'un processus standard en trois phases : Analyse, Création et Validation. La phase d'Analyse recueille les contraintes et spécifications du problème issues de différentes origines (ergonomie, technique, usages, etc.) et les étudie d'un point de vue scientifique – le plus souvent expérimental – pour les transposer en termes de propriétés sonores. La phase de Création intègre ces spécifications dans le processus de composition ; elle est idéalement assumée par un 'homme de l'art' du son, à savoir compositeur ou designer sonore. La phase de Validation examine la pertinence de la production résultante au regard des spécifications initiales.

En reprenant les termes cités par Schafer (en référence a O. Laske [Schafer, 1977]), cette approche articule donc un « savoir » (celui du scientifique) et un « savoir-faire » (celui du compositeur). Plus globalement, cette approche considère le design sonore comme une activité à la fois scientifique, technique et artistique qui s'intéresse au son en tant que vecteur de sens (fonction) et de forme (esthétique), ou bien encore qui relève d'une « démarche visant à penser la composante sonore dès la phase de définition d'un objet afin de faire entendre une intention » soit au niveau de la forme (le son participe à une qualité globale de l'objet), soit au niveau de la fonction (le son communique une information nécessaire à l'usage de l'objet) [Susini et al., 2014]. Cette formalisation fait donc apparaître une définition a priori du processus de conception ainsi qu'une séparation chronologique entre l'identification des contraintes de création et l'exercice même de la créativité artistique. Ce sont les propriétés de ce processus créateur, et leurs implications musicales et sonores, qui seront mis en évidence à partir de deux études de cas.

En effet, au travers de projets appliqués, la mise en œuvre de cette recherche a permis d'étendre cette articulation art / science à un triptyque art / science / industrie et d'éprouver

ainsi les concepts généraux de la démarche au contact d'une réalité de terrain possédant ses propres contraintes de production et ses exigences de résultat, notamment en termes de faisabilité, de réalisme et d'acceptabilité. Parmi d'autres, deux projets emblématiques constituent donc deux études de cas idéales pour instruire la problématique des relations entre créativité et design sonore afin, par exemple, de répondre à des questions du type : comment les processus de création en design sonore s'affranchissent-ils des nombreuses contraintes inhérentes a cette pratique ? Dans un cadre potentiellement restrictif et borné, la création sonore peut-elle dépasser le stade de l'imitation / l'extension de l'existant et produire des formes réellement nouvelles ? L'inouï est-il possible en design sonore ?

Chacun de ces deux projets porte sur un objet d'étude et une approche de création relativement différents : d'une part, la conception d'une signature sonore d'un véhicule électrique pour l'industrie automobile, et d'autre part, une création en design sonore pour l'industrie horlogère, intégrée à la mécanique d'une montre.

Le projet concernant la signature sonore du véhicule électrique relève initialement de la problématique suivante : un objet silencieux évoluant dans un environnement sonore à priori bruyant et auquel il est nécessaire de donner une présence, à la fois pour des raisons de sécurité – à l'encontre des piétons et autres personnes évoluant dans son voisinage proche –, mais aussi pour des raisons ergonomiques – le silence influant sur le comportement du conducteur et notamment sa perception de la vitesse. Les contraintes sont nombreuses et variées, intégrant des spécifications acoustiques, techniques mais aussi de l'ordre de l'image de marque. De plus, dans ce cas précis, les références sont quasiment inexistantes puisque le sujet est nouveau et que peu de réalisations existent par ailleurs. La phase de création donne lieu à des étapes successives de prototypages qui, à l'issue de plusieurs compromis et ajustements, convergent finalement vers une solution moyenne mais implémentée à l'échelle d'une production en série.

Le projet concernant le design sonore pour l'horlogerie répond à une demande relevant d'une fonctionnalité spécifique : la « répétition-minute » qui permet de lire l'heure en aveugle sur un boitier de montre ; il comporte également une dimension relative à l'image de marque : le son doit retranscrire une identité industrielle forte. Les contraintes sont également importantes notamment par rapport aux mécanismes de production du son, assimilables aux instruments mis à disposition du compositeur pour réaliser son œuvre. La phase de création permet de formaliser et de représenter avec des moyens scientifiques la quête taxonomique du compositeur qui, avant d'être créateur, est d'abord collectionneur de matériaux sonores. Le processus de création – puis de validation – permet finalement de sélectionner deux sons parmi plusieurs centaines de spécimens initialement réalisés ; ce processus en entonnoir étant construit sur des principes scientifiques de modélisation acoustique des sons.

Ces deux projets seront présentés conjointement par le chercheur et par les compositeurs respectivement impliqués dans leur réalisation.

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Chloë Mullett.
Life through a lens: a case study evaluating an application of the concepts of affordance, effectivities and the hallmarks of human behavior to an experiment in 'intuitive' composition for voice and accordion.

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The goal of this practice-led research is to apply concepts drawn from ecological psychology, namely affordance and effectivity (J. Gibson, 1979), and also the hallmarks of human behaviour (E. Gibson and Pick, 2003), to the author's composition to derive new insights into the creative process undertaken. The discussion will include processes of musical valorisation and decision-making. For those unfamiliar with the concepts, hereafter is a brief introduction to them, followed by an outline of the methodology and key findings.

James Gibson defines an affordance as a property of an event or an object, which represents its potential for action. A whistle might afford blowing, a stone, throwing. Affordances are perceived through the apprehension of structured information, which may be available through any of our senses, singly or in combination.

The concept of affordance has also been influential within the field of design (Norman, 1988), which is pertinent in terms of the 'tools' employed in this composition. Man-made objects such as a whistle invite recognition of particular affordances: a whistle blown demonstrates the 'fit for purpose' design of the whistle for human mouths and breath, and what is played demonstrates the breath capabilities of the blower, the pitch possibilities afforded by the whistle, as well as more socio-culturally informed choices such as the choice of rhythm and the volume at which it is played- all of which exist in a specific set of relations in a particular environment.

The musical associations of the composer in this case study are also conceived as affordances, after Windsor: 'affordances are relational, and depend both on the structure of the environment and of the perceiving and acting organism. Hence, interpreting a sign becomes not a matter of decoding, but a matter of perceiving an affordance.' (Windsor, 2004: 183). In this way affordances can embrace the associations music affords the composer; the feelings aroused by the music composed is also included in this definition in this case study.

An effectivity is an actioned affordance; an effectivity set is a means by which behaviour produced by an individual constitutes and even constructs affordance networks. Consequently, if a composer has a particular effectivity set, that would be evident in the skills and means by which s/he composed. This research identifies existing effectivity sets in play, and also emergent effectivities of decision making in relation to musical valorisation on the part of the composer.

Eleanor Gibson and Anne Pick's work (2003) identifies characteristics of human behaviour, in their research into learning from an ecological psychology perspective. The characteristics are given as agency, prospectivity, (the hunger for) order, and flexibility. These characteristics provide a complimentary means by which to probe and to categorise the effectivities identified. The hunger for order has been found to be particularly relevant to musical valorisation in this case study.

The creative process for this case study, resulting in the piece Accord/Doloroso, was documented with video recording, Logic Pro 9 files, and versions of the score produced in

Sibelius 5. The video recording shows the two initial improvisations (accordion and an overdubbed vocal improvisation). The analysis of these audio-visual resources is structured around evidence of the concepts outlined above, addressing the music created in terms of 'person' (the composer-author), the project's goals, socio-cultural aspects, place and tools. The 'environment' provided by the composer's autobiography and skill base (effectivity sets) is represented in autoethnographic writing that also historicises aspects of the practice. The effectivities (and limitations) of this composer-performer reflect the environment she has created for her compositional practice over an extended period of time, this project was deliberately designed to afford her a blend of familiar, unfamiliar and novel experiences.

The findings of the case study include that affordances in the relationship between the performer-composer and the instrument resulted in a distinctly different compositional outcome for the composer, compared to her previous works. The qualities of the accordion are apparent in the final composition, arranged for the ensemble Scottish Voices, and include e.g. phrases limited by the air-capacity and strength of the performer-composer with a full-size accordion.

The experience of the composer-performer as a jazz musician were central to the process, not least through the authenticating affordance of improvisation, with a high value placed upon particular forms of emotional engagement. Improvisation afforded an affective dimension which was felt to inculcate the music made with a sense of 'present' listening. The improvisation techniques learned on other instruments were transferrable, demonstrating a pragmatic effectivity set for which the affordances include phrase structures (e.g. 'call and response') and motivic development.

The accordion itself, as played by the composer, had a significant impact upon creative affordances, including i. associations of the accordion as a folk instrument and also 20th century classical organ music, due to the cluster chords that are produced when more than one chord button was pressed; ii. higher facility with the keyboard afforded relatively controlled improvisation with the right hand, making use of its full range performing chordal as well as melodic parts. This last afforded varied textures to respond to in the vocal improvisation.

Editing the improvisation demonstrated how fine-grained affordances can be, as editing a melodic phrase to have e.g. one note changed had the effect of significantly altering the affordance of that melody in the mind of the composer. This demonstrates learning i.e. the search for and achievement of compositional 'order', for specific affordances. Further, prospectivity and flexibility are an innate part of the editing process, as trying out ideas afforded by the music outside of the initial improvisation (in which an idea has to be selected to keep the music flowing) could be asynchronously explored, enabling valorised ideas (affective affordances) to be more clearly defined.

The prior musical experience of the composer resulted in perceptual affordances that have shaped her practical engagement with and valorisation of musical ideas, which are also shaped by her ability to adapt the creative environment to her musical needs. Therefore James Gibson's assertion (Gibson, 1979: 130) that humans can change their environment to be richer in desired affordances, making 'more available what benefits … and less pressing what injures' has been found to be applicable in a compositional context.

Ultimately, it is the goal of the PhD research from which this paper is drawn, to develop a research-informed methodology for analysing and developing compositional practice.

Main sources used:
i. Single video recording of the performances which generated the raw material of the composition (and the vast majority of the final composition).

ii. Autoethnographic writing.
iii. Logic Pro 9 files.
iv. Sibelius 5 files for the arrangement of Accord/Doloroso for Scottish Voices.

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Lodewijk Muns.
Musical Grammar and the Creative Process

Lodewijk Muns, currently active as an independent scholar, has received his PhD in musicology from Humboldt University, Berlin. He has taught at Utrecht University and the Royal Conservatoire of The Hague. Current research focuses on the border areas of language and music and on 18th Century aesthetics and rhetoric.
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New things are made with old things. In this sense, all creation is basically a combinatorial process – though not just that. It also implies novelty; but novelty comes into play in a dynamic space between random indeterminacy and routine regularity. This raises two basic questions about human cognition: how rules of combinatoriality arise, and how the freedom beyond the rules may be exploited.

It is plausible that these questions can be generalized over various domains. A particularly tempting hypothesis is that certain forms of musical, hierarchical-temporal ordering share cognitive resources with linguistic syntax. This has particular relevance for the metrical-harmonic tonal system which has come into being before 1600, and has been in use and constant transformation ever since. As a collaborative creation which has emerged from numerous interrelated individual practices, tonal organization has at least a superficial analogy to linguistic grammar. Empirical evidence favoring such a cognitive overlap (Patel 2013, Koelsch et al. 2013) has been contested (Bigand et al. 2014). Much depends however upon the definition of 'syntax', which varies between the musical and linguistic frameworks.

On the basis of these considerations I propose the following hypotheses.

(1) Tonal music has a harmonic-metric syntax which extensively exploits certain standard patterns (schemata).

(2) In this particular aspect (and possibly other), Western tonal music shares cognitive resources with other domains, in particular linguistic grammar.

(3) The development of a cognitively plausible theory of musical syntax may therefore benefit from the study of linguistic grammar.

(4) At a basic level, the creative imagination takes off from the surfaces and interfaces of these musical-grammatical schemata.

(5) The study of these schemata may allow us to interpret the musical score as partial evidence of the composition's genesis.

The most influential attempt to model a theory of music upon linguistic grammar is Lerdahl and Jackendoff's *Generative Theory of Tonal Music* (1983). Of many possible points of criticism, the most pertinent for present purposes are the following. (1) The theory follows Generative Grammar in its minimization of a possible cognitive overlap between domains. (2) Following Generative Grammar, which analyses and explains sentence structure, it pictures the composition as a huge sentence, an idealized and timeless totality constructed in the listener's mind. (3) Despite its stated aim of being a cognitive theory of music, it heavily relies on non-explicated concepts from traditional didactic music theory. (4) As a parser, rather than a fully developed grammar, it attempts to account for passive understanding only.

Generative Grammar constitutes one paradigm within linguistic theory. Its aim is to be strictly algorithmic and self-contained. Its potential attraction for music theorists depends on the formalist aesthetics of 'absolute music', paradigmatically embodied in the work of Heinrich Schenker.

Various alternatives in linguistics may be broadly characterized as 'functionalist'. These include Cognitive Grammar, Construction Grammar (Goldberg 2006), and Emergent Grammar (Hopper 2011). With different methodologies these study language in terms of its

functions and of general principles of cognition and behavior, rather than as the product of an innate, inalterable and highly specialized faculty. Viewed as a process of giving and recognizing meaning, language appears to be something makable and in the process of being made. The clue to linguistic creativity is the ability to adopt and apply patterns or schemata at various levels of complexity and abstraction: from the word (a phonological-syntactic-semantic schema) up to the full sentence cliché.

Within music theory and historical musicology, appreciation of the constructive-combinatorial element involved in musical creativity has steadily grown since the 1970's. The first comprehensive (re-)construction of a thesaurus of musical compositional commonplaces or schemata (Gjerdingen 2007) is based on a didactic tradition of the 17th -19th centuries, and has been reintroduced effectively as a tool in improvisation. Its theoretical underpinnings and analytical application are however under debate. Most problematic are (1) questions of the structural levels at which these schemata are situated, and of their interrelations; and (2) the precise definition of 'schema', as against 'prototype' or 'model'. These are problems which call for a broader scientific, and particularly comparative musicolinguistic framework.

Many musical patterns imply certain restricted combinatorial possibilities. To the extent that the structure of the composition can be explained as a realization of these possibilities, the compositional process becomes transparent (Dreyfus 1996). Music most valued in the classical-romantic repertoire involves many complexities not reducible to these combinatorial factors. But with sharper distinctions between the individual-particular and the general-schematic, and a consistent rooting of surface schematism in the foundation of tonality - in other words, with a musical grammar - score analysis may provide fragmentary insights into the creative process.

The composition, as symbolized in the score, reflects its genesis only indirectly and incompletely. Still, there are secondary factors which lend the composition some transparency towards its creation. Trivially (but importantly), the factors time and labor have often precluded extensive revision and rethinking, in particular in the Baroque and Classical eras. Under such stress, composition approaches improvisation on paper. Less trivial is the fact that Classical-Romantic aesthetics favors a view of the composition itself as a kind of discourse or thought process. This, to be sure, is an imaginary discourse or thought process; essentially a piece of fiction, not a direct reflection of the composer's actual musical thinking. Even as such it implies an idealized image of 'musical thought' which may have guided the composer in his actual thinking. Following this discursive 'thought' attentively, the listener is (ideally) recreating the composition. Since all thought is closed off from the world, we may feel privileged in sharing this act of creative communication.

The argument outlined above will be illustrated with the analysis of an excerpt from the works of Beethoven or Schubert.

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Shierry Nicholsen.
The Speculative Ear Tracks Musical Creativity: Adorno's Response to the Dilemmas of Hearing the New

Shierry Weber Nicholsen is a psychoanalyst in private practice in Seattle, Washington, USA. She studied briefly with Adorno in the 1960s, has translated several of his books, and is the author of Exact Imagination, Late Work: On Adorno's Aesthetics (MIT, 1997). Recently she has been working on Adorno's musical thought.
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When Adorno characterized the introductory measures of "Entrueckung" in Schoenberg's *Second String Quarter* as something "never yet heard," he pointed to a caesura that was both a breakthrough and also a rupture in the history of music. A decisive break with tonality had occurred. The nature of this break and its consequences for the possibility of grasping meaningfulness in music are a central focus in Adorno's writings about music The rupture poses a dilemma for those working to track musical creativity, or, in Adorno's terms, to listen authentically. For, as we shall see, Adorno thinks of such listening as a form of co-composing (mitkomponieren).The dilemma pertains both to the nature of the creative and to the means of tracking it. On the one hand, if creativity by definition involves the new, but not everything new is necessarily creative, how does not tell the difference? How does one distinguish the new in the sense of a creative advance from the new that is merely arbitrary or mechanical? Further, if something has never yet been heard, how does one "hear" it when the familiar schemata through which one has previously listened are no longer appropriate?

My paper is a reading of Adorno's writings on music from the 1960s and 1960s as a "discourse on method" with regard to these issues. Adorno's thought works dialectically, always mindful of the relationship between the subjective and the objective, the universal and the particular, the identical and the non-identical, and always acknowledging the historical specificity of phenomena. Accordingly, for Adorno methods of analysis are not independent of their objects. Adorno's method as I will outline it here is formulated specifically with the music of the Second Viennese School in mind, and would not necessarily be appropriate for music operating with different fundamental assumptions. With these limitations in mind, I will outline Adorno's conception of the authentic, i.e. creative, in music, the criteria by which it is to be identified, and his method of tracking it via the combination of analysis and spontaneous experience which is the work of what Adorno terms "the speculative ear" and "exact imagination." In this work the listener tracks the creative process in the music by simultaneously immersing himself in it without reservation and actively "co-composing" or "re-constituting" it. I will also discuss the methodological difficulties inherent in this enterprise of "authentic listening," difficulties Adorno would ascribe to the objective situation of post-tonal music. I will provide examples of Adorno's approach in connection with his discussion of passages from two of Schoenberg's works.

To elaborate on some of the above: At the most abstract level, Adorno speaks of genuine, i.e. creative music as unfolding an idea, as taking up a problem not solved before and not evading but rather laying out its dialectic, the tensions and contradictions involved in it, in the substance of the composition itself. (For this he uses terms like "auskomponiert" and "durchkomponiert," i.e. thoroughly composed.) In this sense he speaks of the composition as a force-field, a field of the forces involved in the problem it has taken up. The music of the Second Viennese School takes up problems left unresolved in what Adorno calls "traditional," i.e. tonal music. In this sense it has critical intent. What is new in it is a determinate negation, in Hegelian terms, of what came before and what has now become dead weight.

As negation of the essentially stereotyping schemata of the tonal system, what Adorno calls "the new music," i.e. the music of the Second Viennese School, is necessarily specific and individual. As critical, further, the works themselves involve and require reflection and technical analysis if they are to be grasped in their specificity. Given their uniqueness, analysis of what is creatively new in such works, then, has to be immanent analysis – analysis of the composition itself. But at the same time, precisely because of their individual character, to some extent each work sets up its own organizational principles. One sees the dilemma: what principles and categories can be used to analyze something that is a unique case? How can one avoid reducing the new to the old in the very act of analyzing it? This dilemma is articulated in Adorno's discussions of the relations between music and language. He advances the tentative notion of a "material theory of musical form," in which the language-like categories of coherence in traditional music are extended into more general ones, historically specific but still language-like, though at a higher level of generality. His examples of such categories include statement, continuation, contrast, dissolution, succession, development and recurrence. In other words, some categories representing the general or universal can be used in analyzing the new music. At the same time these categories help to illuminate what Adorno calls the "subcutaneous" structuring in traditional music, that which lies beneath the tonal facade (and is also mediated by and with that facade to bring it to life). As determinate negation of aspects of tonal music, the new music is grasped in part through its similarities and its unanticipatable differences with traditional music.

Ultimately, the creative in music is tracked in the process of listening itself, the living experience of the music. Genuine listening must recapitulate the creative process in the music by what amounts to re-constituting it as it unfolds. Here the difficulty is, how can the ear that is formed by the tonal system hear the genuinely new, precisely what is deviant with regard to the tonal system, as meaningful? Without the familiar scaffolding to establish expectations, what does listening attend to? Adorno's answer formulates an ideal which can only be approached asymptotically. On the one hand, analysis helps to sharpen and refine the listening capacity. Analysis and experience shape each other recursively to develop the capacity for what Adorno calls "structural listening," which works multi-dimensionally, vertically and horizontally, backwards and forwards, to grasp the relationships between the parts and the parts and the whole created in the new music's technique of radical variation. This is the work performed by the speculative ear. But the work of re-constituting the composition also involves a subjective component that is the correlate of the objective musical process. Adorno's term "exact imagination" points to the combination of objectivity and the subjectivity in the work of listening. Exact imagination not only grasps connections that are not immediately apparent; it is also a receptive organ for the music's expressiveness, so that the authentic listener's subjective response is the correlate of the music's expressiveness. In talks he gave during the 1950s and 1960s Adorno illustrated this conception of authentic listening with analyses of specific musical passages which he played, either on the piano or in recordings. One in particular, the "Anweisungen zum Hören neuer Musik," or "Guidelines for listening to modern music," outlines the nature of the demands made on the listener by the new music's transformations of the elements of, for instance, harmony, counterpoint, and melody. Adorno's aim is to show the listener the pathway from "tonal laziness" to the kind of multi-dimensional listening the new music requires. My examples of Adorno's approach will be taken from this talk.

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Gerhard Nierhaus.
Patterns of Intuition: Musical Creativity in the Light of Algorithmic Composition

Gerhard Nierhaus studied composition with Peter Michael Hamel, Gerd Kühr and Beat Furrer. Working within both traditional and contemporary digital and intermedial formats, his compositional output includes numerous works of acoustic and electronic music and includes visual media. He works at the Institute of Electronic Music and Acoustics (IEM) at the University of Music and Performing Arts Graz (KUG), Austria, and teaches Computer Music and Algorithmic Composition.
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The talk will present findings of Patterns of Intuition, an arts-based research project (2011-2014) hosted by the University of Music and Performing Arts Graz and funded by the Austrian Science Fund (FWF). The project investigated the creative process of composing by means of algorithmic composition in collaboration with 14 European composers. See http://point.kug.ac.at/

If the fundamental methodological approach of this project were to be summarized in one sentence it might read: "Clarification of compositional strategies and musical intuitions through the fragmentation and objectification of the creative process within the framework of generation-evaluation cycles." Such generation-evaluation cycles can be understood as an "artistic laboratory" in which my colleagues Daniel Mayer, Hanns Holger Rutz and myself stood in a creative dialogue with numerous composers, seeking to trace important facets of their respective individual compositional approaches. In all this, the composers themselves chose a point of departure, whereupon we focused on researching a specific aspect or compositional principle, proceeding thereafter in a dialogical manner with the artists. Generally, the procedure was thus:
- Presentation of a compositional principle.
- Formalisation of the approach and implementation in the form of a computer program.
- Computer generation of musical material.
- Evaluation of the results by the composer.
- Modification of the strategy of formalisation with respect to the identified objections.

Entry into new and further cycles of generation and evaluation until correlation between the computer generated results and the composers' aesthetic preferences is sufficiently high, or the limits of formalisation have been reached (which might be the case for various reasons). As indicated by the latter limits of formalisation, compositional decisions beyond this point are reached intuitively, and are thus outside the reach of a meta level representation. The project Patterns of Intuition was therefore not aimed at addressing musical intuition as a whole in completely formalizable terms; rather, the project aim was to shed light on those particular aspects of intuitively made decisions that can be related back to implicit rules or constraints applied by the composer.

The basic approach of the project, with its generative and evaluative cycles, obviously describes an idealised model. Clearly, within the framework of such processes there appear numerous side effects, which feed back into the results of the analyses. To give some examples: composers are generally unfamiliar with a situation in which they discuss their compositional work during its origination and, at same time, evaluate generated structures with respect to their own goals. Besides, the criteria for evaluation can change during the course of such a process, even those refering to their own work, so that it can seem appealing not only to analytically observe the results of what was computationally generated, but to

introduce them into the ongoing creative process. In broad allusion to quantum mechanics one might say that the observation changes the outcome.

In each case of collaboration with the composers the approach taken was markedly different, and it did not follow the described cycles of generation and evaluation in every case. The same diversity was present in the individual compositional practices and aesthetic positions of the composers. There were a large range of different approaches, starting from Elisabeth Harnik's working with improvisational structures, through the attempt of an automatic classification of personal preferences in the case of Matthias Sköld, to Bart Vanhecke's and Peter Lackner's work with interval- and tone-rows.

Some results:

Next to being a composer, Elisabeth Harnik is a well known piano improviser. In her project, she sought to understand some of the stylistic choices she makes in her chosen musical constellations. For this, we recorded improvisations and generated new ones using prefix- and suffix-trees within a variety of context based methods.

Clemens Nachtmann's aesthetics avoids tonal associations. Together with the composer we arrived at a system by which we computationally determined significant criteria matching Nachtmann's choice of chord materials and aesthetic practice and verified by Nachtmann in various stages of evaluations. The system combines a method of exclusion with complete enumeration of all solutions. A part of Clemens Gadenstätter's work is based on a complex system of intertwined metaphoric expressions. We aimed at modelling this network of relations by way of a generative grammar, and to compare possible derivations of the system with the solutions he arrived at himself. Aspects of weak synesthesia and metaphor theory are of further relevance to Gadenstätter's work. Thomas Eder contributed a linguistic perspective to the composer's research.

Orestis Toufektis at times works with harmonic processes, shaping them more or less intuitively. Based on genetic algorithms, we developed a system which enabled Toufektis to generate different chord sequences. He then evaluated these chord sequences as to their compositional adequacy under different criteria. Seeking to keep the evaluation criteria flexible and to provoke surprising solutions, a human fitness rating was used rather than an algorithmic fitness function. With Mattias Sköld we investigated whether machine learning might assist our understanding of what makes musical structures 'interesting' rather than 'unininteresting'. Bart Vanhecke uses 54-tone intervall-rows as a basis for compositional elaboration; central to the present project was the question whether "optimal" rows computed via brute force procedures would be of additional compositional value when compared to those rows already considered optimal by the composer.

Jessie Ann Owens.
Cipriano de Rore's Setting of Petrarch's Vergine Cycle and the Creative Process

Jessie Ann Owens is Professor of Music at the University of California, Davis. Author of Composers at Work: The Craft of Musical Composition 1450-1600 (1997), she has published extensively on Renaissance music and composers' working methods. She is currently Robert Lehman Visiting Professor at Villa I Tatti.
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The music of Flemish composer Cipriano de Rore (1515/6-1565) was eagerly sought by patrons and printers alike. One of the most coveted of his compositions was the monumental setting of the eleven-stanza canzona in honor of the Virgin Mary by Francesco Petrarca. In an era when few compositions, apart from settings of the mass, were longer than three or four minutes in performance, the Vergine cycle stands out for its size and complexity, lasting for over half an hour in the 1982 performance by the Hilliard Ensemble.

De Rore's setting of this text has an unusual history. According to Martha Feldman, stanzas 1-6 were probably finished by 1547, and they appeared in print in 1548 in competing editions by two Venetian printers, as well as in a Venetian manuscript now in Wolfenbüttel. Mary Lewis has shown that these three contemporaneous sources were not copied from one another but stem from three distinct branches of transmission. In the following year, both printers issued supplements containing the remaining stanzas (7-11), and these stanzas were then also copied into the manuscript. But the composition was not quite finished: in 1552 De Rore published the final version of all eleven stanzas, with revisions in three of the early stanzas.

The revisions are of more than passing interest because they come at a critical moment in the development of De Rore's style. Martha Feldman has speculated that the break between stanzas 1-6 and stanzas 7-11 found in the sources also mirrors a break in the composition, and she finds evidence of significant stylistic change between the two parts. And yet the music seems to have been planned as a whole, with an overarching tonal plan.

In *Composers at Work: The Craft of Musical Composition 1450-1600* (1997), I explored one approach to understanding the creative process in early music by analysing composer autographs—the sketches, drafts and fair copies that reveal the stages a composition passed through. Unfortunately, no autograph materials survive for De Rore's setting of the Vergine cycle. We must therefore take the approach that John Milsom has called "recomposition," and compare the two completed (and published) versions of the same composition for evidence of a composer's changing conception.

Until now, scholars and performers have had only the 1552 version available in modern edition, and the revisions have been studied primarily as evidence for the dating and relationship among sources. I would argue, however, that the changes between the two versions offer an unusual window not only into De Rore's creative process but also into his compositional priorities.

Main sources:
- Di Cipriano Rore et di altri eccellentissimi musici il terzo libro di madrigali a cinque voce novamente da lui composti et non piu messi in luce. Con diligentia stampati. Musica nova & rara come a quelli che la canteranno & udiranno sara palese (Venice: Scotto, 1548) (RISM 15489)
- Musica di Cipriano Rore sopra le stanze del Petrarcha in laude della Madonna, et altri madrigali a cinque voci, con cinque madrigali di due parte l'uno del medesmo autore

bellissimi non piu veduti, insieme quatro madrigali nuovi a cinque di Messer Adriano. Libro terzo. (Venice: Gardano, 1548) (RISM 154810)
- [Il terzo libro di madrigali a cinque voci], supplement [Venice: Gardano, 1549?] (Munich copy of 154810 has the Gardano supplement)
- [Il terzo libro di madrigali a cinque voci], supplement [Venice: Scotto, 1549?] (Scotto supplement found only in Santa Cecilia copy of 154810)
- Di Cipriano Rore il terzo libro de madrigali a cinque voci dove si contengono le Vergine, et altri madrigali novamente con ogni diligentia ristampato. (Venice: Gardano, 1552) (RISM 155225)
- Wolfenbuttel, Herzog August Bibliothek, mss. 293 mus. hdschr. (a mid-16th century Venetian manuscript copied by a member of de Rore's circle; study by Mary Lewis forthcoming)

Cipriani Rore *Opera Omnia*, edited by Bernhard Meier, *Corpus musicae mensurabilis* 14, vol 3 (AIM, 1961).
Alvin Johnson, "The 1548 Editions of Cipriano De Rore's Third Book of Madrigals," in *Studies in Musicology in Honor of Otto E. Albrecht*, edited by John W. Hill (Kassel, 1980), 110-24.
Mary S. Lewis, "Rore's Setting of Petrarch's "Vergine Bella": A History of Its Composition and EarlyTransmission," *The Journal of Musicology* 4 (1985 - 1986), pp. 365-409.
Martha Feldman, *City Culture and the Madrigal at Venice* (Berkeley,1995)

Emily Payne.
Historically informed? The creative consequences of period instruments in contemporary compositions

Emily Payne is a PhD candidate at the University of Oxford, investigating the creative processes of performance in contemporary concert music. She holds a BMus in clarinet performance from the Royal Welsh College of Music and Drama and an MMus in Advanced Musical Studies from Royal Holloway, University of London.
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The study of collaboration between performers and composers is a flourishing area of research, but an aspect of creative work that remains unexplored is contemporary compositions that employ period instruments. These projects add another dimension to the collaboration between composer and performer. All musical instruments have their own histories, but period instruments magnify them by bringing the musical past into the present through their particular historical and cultural baggage.

This paper examines the interactions between composer Evan Johnson and clarinettist Carl Rosman in the making of a new work, *indolentiae ars, a medium to be kept* (2015) for nine-key basset clarinet. This is the first contemporary commission composed for such an instrument, and a significant aspect of their collaboration has been to develop a new instrumental rhetoric, and, correspondingly, to find ways of notating it. The commission forms a case study that is part of a wider research project that aims to consider the nature of creativity and the ways in which performers experience opportunities for creativity across different contexts.

The particular instrument employed in this collaboration, a reconstruction of the instrument associated with Mozart's collaborator Anton Stadler, has its own distinctive qualities: huge flexibility of colour, yet limited ergonomic and mechanical properties and greater intonational instabilities. Period instruments are connected to particular repertoires and practices, and raise aesthetic questions such as the extent to which contemporary composers embrace or reject these historical associations. As Johnson put it, 'To what degree is this just an exotic quasi-clarinet, and to what degree is it a specifically *eighteenth-century* instrument?'

Through analysis of episodes from the compositional trajectory of the piece, the paper illustrates how the particular historical, cultural, social and ergonomic affordances of the instrument are gradually enmeshed into the 'here and now' of the present collaboration. The findings present an alternative interpretation of what it means for composers and performers to work together; an understanding of creative work that is bound up with history as well as co-presence. The paper also demonstrates the ways in which musical skill is grown and developed through shared experience, and sheds light on the symbiotic nature of creative collaboration, since Johnson was reliant upon the technical expertise of the performer in order to create a relationship with an unfamiliar instrument and performance practice. Equally, Rosman was compelled to interrogate his conventional performance practices in order to develop skilled practices and a fluency that is specifically tailored to this specific instrument and the musical work. *Indolentiae ars* could ultimately be characterised as a diachronic encounter between performer, composer and instrument that brings to the surface the interdependence of the latent histories and practices that lie within musical instruments.

Conceptually, this paper takes an ecological perspective (Ingold 2011; Clarke et al 2013), proposing that creativity is a distributed phenomenon, entangled within a complex interweaving of social, material and historical influences. It also draws on Richard Sennett (2008) and Tim Ingold's (2013) work on craft and material engagement, suggesting that the

interaction between a practitioner and a tradition entails a synthesis of action, perception and prior experience. The methodology employed is ethnographic in approach, using as its foundation thematic analysis (Braun and Clarke 2006) of a significant body of qualitative data gleaned through semi-structured interviews with composers, performers and instrument makers, and audiovisual footage of a number of workshops (undertaken with the analysis software nVivo). Close analyses of sketch material and score annotations are also presented. This approach draws on the work of Amanda Bayley (2009; 2011) and Eric Clarke et al (2013) who have used similar observational methods to examine the creative processes in the sphere of contemporary concert musics.

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Cayenna Ponchione-Bailey.
The Authorship of Orchestral Performance

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It has been well argued that 'the score' underdetermines performance in significant ways, leaving room for unique performance outcomes (Cook 2004, Clarke 2012), the products of which underpin the current classical music economy. The attribution of creative authorship in performance is critically important where livelihoods, careers and reputations are at stake as the parade of glossy CD and DVD jackets and concert publicity materials vigorously brandishing performers illustrates. Research investigating the collaborative relationships between composers and performers as well as the creative process involved in improvisation or semi-improvised scores has drawn out the interwoven nature of composition and performance, but as yet little attention has been given to the creative process in large ensemble performance, and in particular that of orchestras.

There are some practical concerns that make studying orchestras difficult, but an additional factor is the presence of an explicit leadership hierarchy that masks a more complex web of interactions. For example, Stacy DeZutter and Keith Sawyer acknowledge the potential for distributed creativity in symphony orchestras but maintain that 'the creativity of an orchestra performance resides, in large part, in the creativity of the composer and of the conductor' and that 'such individuals, and their creative processes, can be successfully studied using individualistic methods' (DeZutter & Sawyer 2009, pg. 91). In contrast, a recent study of professional orchestral musicians by Melissa Dobson & Helena Gaunt, found that orchestral musicians' actions in performance depended significantly on adapting to and synchronizing with their colleagues in rapid exchanges within an intricate web of allegiances and hierarchies, of which the conductor only played a small part. Such complex levels of communication and negotiation cannot be reduced to a uni-directional flow of communication, and their participants devoted greater attention to describing the 'skills required for communicating and interacting with colleagues than to those required for following the directions of the conductor' (Dobson & Gaunt 2013).

Furthermore, previous studies of leadership in orchestras show a disparity between the reports of orchestral musicians who cite the dictatorship of the conductor as one of the overwhelming components that together contribute to a lack of personal artistic satisfaction; and those reports that indicate that orchestras are quite often dealing with incompetent conductors who are best ignored. Leadership by the conductor is just one component in a complex network of relationships between orchestral musicians, in which explicit authority structures do not always map onto musical dependencies, which may change from moment to moment based on musical context and immediate need.

I have sought to track the creative process in orchestral performance through a series of case studies of individual orchestras rehearsing and performing in specific contexts. The goal of the case studies is to reveal the often hidden processes at play during the accomplishment of orchestral music-making. The approach is broadly ethnographic with an emphasis on detailed description, focusing on short segments of music in order to capture the nuances in player experiences. Unlike traditional ethnographic methods which rely primarily on interviews and observation, I have worked with a team of computer scientists at Cornell University to develop an online computer program that enables the collection of qualitative data form a large group of musicians simultaneously, soliciting phenomenological

information from all of the players in a single orchestra about very specific parts of their rehearsal or performance.

MERID (Media Enabled Research Interface and Database) allows the researcher to post video clips of a recent rehearsal or performance and invite all members of the orchestral to leave time-stamped comments about their experience tagged to the video footage. Participants are asked to allow the video to take them back to that part of the rehearsal and comment on how they, the conductor, or their colleagues may have contributed to the creative shaping of the music. Did they see, hear or sense something that made them respond in a particular way? While the participants themselves are unable to see each other's commentaries, the researcher is able to triangulate perspectives to draw a richer picture of what may be happening as a particular passage unfolds. Although this method of data collection has some limitations, notably the lack of researcher-participant dialog, it is extremely successful in obtaining detailed information from many musicians simultaneously and relatively immediately, and facilitates the teasing apart the complex web of interactions, enabling a more global perspective to be acquired.

The data is exported from MERID and imported into NVivo (qualitative analysis software program) in order to facilitate thematic analysis. As comments coalesce to form traceable exchanges, vignettes are extracted and form part of the descriptive analysis.

Theoretically, my research draws on Mihaly Csikszentmihalyi's 'systems model' (Csikszentmihalyi 1988) of creativity combined with a sociocultural approach to creativity articulated by Vlad-Petre Glaveanu in which 'creativity is considered social in nature and located in the space "in between" self and others' (Glaveanu 2011, pg. 480). Such a perspective rests on the premise that individual agency is dialogically constructed, and that language, culture and agency are located 'in the interstices between people, rather than within individuals themselves' (Ahearn 2001, pg. 129). From these theoretical stances, the unique profile an orchestral performance is an inherently distributed and collaborative product that obtains creative status through selection in the 'field'. The question is not whether orchestral performances can be judged to be unique or creative, but rather: How can the authorship of the artistic profile of an orchestral performance be described?

The analysis to-date extends the findings of Dobson & Gaunt by detailing the multiple and changing locations to which the instrumentalists direct their attention in the course of rehearsal and performance. Amongst other things it reveals how much players rely on previous experience and of 'knowing how it goes' in order to successfully accomplish group performance from notated scores, suggesting a reliance an aural tradition frequently overlooked in classical music research. My paper will present findings from the case studies, the strengths and limitations of the MERID system, and avenues for future research.

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Amandine Pras, Caroline Cance and Gilles Cloiseau.
Improvised meetings between New York and Kolkata: A collaborative analysis of a transcultural study

Titulaire d'un doctorat sur les pratiques de l'enregistrement musical à l'ère numérique (McGill, 2012) et diplômée de la Formation Supérieure aux Métiers du Son (CNSMDP, 2006), Amandine Pras enseigne les pratiques du studio à l'université de New York et produit des enregistrements de musiques contemporaine, électroacoustique, expérimentale et free jazz.
Membre du Laboratoire Ligérien de Linguistique, Caroline Cance enseigne à l'Université d'Orléans. Elle s'intéresse aux relations entre langues, perception et cognition. Son goût pour les phénomènes sonores (paroles, rythmes, bruits du quotidien…) l'ont amenée à collaborer avec Amandine Pras ainsi qu'à s'impliquer dans ESLO (Enquêtes Socio-Linguistiques à Orléans).
Gilles Cloiseau est membre du Laboratoire Ligérien de Linguistique (UMR 7270 - CNRS & Université d'Orléans, France). Franco-britannique, les contrastes prosodiques, sonores, et musicaux des langues l'ont conduit à une thèse à partir d'enregistrements de musiciens de jazz/blues, portant sur une redéfinition de la métaphoricité à l'oral. Aussi il est membre d'ESLO (collecte d'un paysage sonore de la ville).
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Following a cross-disciplinary approach, we will explore two different musical improvisation cultures, one issuing from the jazz tradition in the United States, the other from Northern Indian classical named Hindustani music. At the crossroads of ethnomusicology, anthropology, and cognitive linguistics, this trans-cultural study stems from an ethnographic project lead within the New York free improvisation scene, carried out through the analysis of interviews and listening sessions following studio and public performance recordings (Cance & Cloiseau, 2015; Pras, in revision). In January 2015, two of the most active musicians taking part in the ethnographic study, Jim Black (drums), and Mickaël Attias (saxophone), improvised for the first time with two Indian masters, Subhajyoti Guha (tabla), and Sougata Roy Choudhurym (sarod), both accustomed to improvising in musical contexts outside the Hindustani tradition. The gatherings mainly aim at bringing under scrutiny how these outstanding improvisers adapt to a totally novel situation.

The idea of bringing into contact both these improvisation cultures came from a personal observation of the first author—listening to 60s' Afro-American free jazz and traditional Hindustani music provided her with a similar type of energy, which is part and parcel of both musical genres. Both genres have met several times in the past, with the famous example of John Coltrane who went to study in India towards the end of his life in order to stretch out the limits of his improvisations (Turner, 1975), and that of the sitar player Ravi Shankar who might have described jazz as a child's game (quoted by Farrell, 2000, p.189), but whose collaborations with American musicians significantly influenced Hindustani musical traditions (Slawek, 1993). Our transcultural study was conducted in close collaboration with Jonathan and Andrew Kay, two Toronto born jazz saxophone players who have been living for eight years in Kolkota where they are the students of a Hindustani music guru. In the wake of John Coltrane, J. and A. Kay are searching for an improvised music that transcends tradition and culture.

Before the joint improvised sessions, the first author carried out individual interviews with the two Indian masters to investigate their personal improvisation processes. Our interview guide was made up of questions quite similar to those used for the New York study,

which enables us to compare the answers on both musicological and linguistic grounds. However, on consulting J. and A. Kay, some terms were adapted so that our questions might take into account the specificity of local improvisation tradition. The questions go over the earliest improvisation experiences, the current motivations of the musicians to keep on playing, and how their improvisation might be tied to their personal lives.

« Improvised meetings » consisted of four duos each of which brought together an Indian and a New York musician, followed by a quatuor session and a quatuor concert. The experimental procedure for duos—an alternation of improvisation, listening and individual and collective interview phases was elaborated from Jacques Theureau's (2010) self-assessment interview approach, from the meeting of two instigators of free jazz with a young artist from the New York noise scene (Pras & Lavergne, en révision), and from two psychology case studies about understanding and misunderstanding between improvisers who play together for the first time (Pras et al., 2015 ; Schober & Spiro, 2014).

Our collaborative analysis of verbal descriptions is carried out simultaneously along three axes. The first author looks into the contents of the data, mainly for musicological and cultural aspects linked with the musical excerpts selected by the musicians. The second author focuses her linguistic and cognitive analysis on expression modes used in the discourse about musical improvisation as a practice and a synesthetic experience, and on how the musicians position themselves in relation with their discourses so as to identify their individual and/or collective conceptualisations of musical improvisation. The third author analyses the verbal data with a prosodic-semantic outlook, using prosody analysis tools developed by using contrastive oral corpora. Reusing the cross-disciplinary approach designed within the framework of the New York study makes it possible to shed light on different facets of the improvised meetings and to compare our results between the different studies.

The four musicians showed remarkable open-mindedness all along the meetings during which unexpected musical moments took place. Notions of language and vocabulary kept cropping up in individual interviews and listening sessions as tools the improvisers could use to communicate with another culture. Differences in the relationship with the audience and the way to go about concentration also emerged from the data.

Thanks to the mixity of verbal and musical data collected through different complementary protocols, our transcultural study fits in the theoretical framework of musical practice and creative process analysis according to Nicolas Donin and Jacques Theureau's approach. It is part of a larger scale research project aiming mainly at analysing the improvisation practices of outstanding musicians from different cultures. We take note of how these personal practices and culture-dependent learning practices are related, without going into detailing these traditions. On the contrary, we aim at charting the state of affairs in a current musical context where the boundaries between musical genres are thinning out. This transcultural study will therefore be followed by other improvised meetings, the next one being scheduled in Argentina next year.

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Robin Preiss.
Codification of the Concord Sonata: Editorial and Performative Composition

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Charles Ives began formulating literary and musical ideas that would evolve into *Concord Sonata* as early as 1902. The piece was first published in 1921, and significantly revised to the point of being "re-written" in 1947. Throughout those years, the work was manifested in alternative iterations, notably *A Set of Proposed Movements*, *Emerson Overture for Piano and Orchestra*, and *Four Transcriptions from "Emerson"*. This project will trace the editorial development of the *Concord Sonata* over the twenty- six-year span between the two editions. Fundamentally, Ives did not believe that the *Concord* should be played through exactly the same way every time. Rather, he clearly identified with Ralph Waldo Emerson's observation that "forever wells up the impulse of choosing and acting on the soul. Intellect annuls fate. So far as man thinks, he is free." (Emerson, Ralph Waldo."Fate" from *The Conduct of Life*. Cambridge: Harvard University Press. 2003. 12-13.) His feelings for the piece changed with the seasons and with his mood on any given day, a factor that probably was strongly influenced by his health, which was in a constant state of flux. In short, composing was a seemingly never-ending and constantly unfolding process for the composer. Considering Ives's original intent to leave the work unfinished, how did the publication processes impact the codification of the Ives's *Concord Sonata*? To what extent did the canonization of the work, both in print and performance, affect Ives's compositional style with regard to the piece?

Taking a paleographic approach, my research focuses particularly on the intersection between publication processes and creative aesthetic, including the notational variance among copyists, the necessity for firm deadlines, and technological limitations of offset lithography that prevented excessive revision of printing plates. The opposing nature of editorial and improvisatorial methods illuminates an overall dichotomy in artistic creation: the need both to solidify a creative work for dissemination, appreciation and longevity and the need to stay true to one's aesthetic impulse. This tension was mediated by a revolving cast of interlocutors who were deeply and intimately involved in the codification of Ives's work. Performers, editors, copyists, scholars, friends and family members of the composer impacted his creative process and production, to the degree that I argue that they should be considered as his 'collaborators.' Chief among these collaborators was the pianist John Kirkpatrick, who premiered many of the composer's pieces including the *Concord Sonata*. Kirkpatrick openly expressed discomfort with Ives's improvisational style of composing. Around the time that he was preparing the *Concord* for its 1938 premiere in Cos Cob, Connecticut, the pianist expressed in a letter : "I have to decide what notes I'm going to play and play just those, short of the kind of relearning that takes some time. I suppose all that is in a way the very antithesis of your creative action, bringing in the element of a well rehearsed circus act, which always goes off like clockwork and always exactly the same." (Kirkpatrick, John. "To Ives, Charles." 25/Oct/1935. Letter 302 of . Ed. Tom C. Owens. Berkeley: University of California Press, 2007. 238-239.)

Copyists and editors including George F. Roberts, Emil Hanke, Lou Harrison, and Harmony Twitchell Ives, also actively contributed to the composer's creative process in less

direct but equally interesting capacities. George F. Roberts wrote and notated exceptionally clearly and possessed the patience and attention to decipher Ives' messy hand. Even though his manuscripts were very hard to make out, causing Roberts to make many initial mistakes, Ives was very meticulous about proofing engravings of his works before they were sent off to the printing press. Over the years they developed a solid working relationship as well as sound personal friendship.

This paper will transcend traditional paleographic methodologies that have already been employed by Ives scholars Geoffrey Block and Gayle Sherwood, whose work addresses the transformation of the Concord in terms of thematic development, formal structure, and musical borrowing. Instead of relying exclusively on published scores and manuscript sketches, I broaden the purview of sketch studies to include other varieties of source materials. Many of the collaborative relationships already discussed are documented in extensive exchanges of correspondence. While selections of Ives's correspondence were recently published in a dedicated volume, many materials remain only accessible in manuscript form. My work uniquely draws from both published and unpublished sources of personal correspondence that enriches our understanding of the genesis and eventual dissemination of this now canonized work.

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Ingrid Pustijanac.
Analysing Improvisation: A Composer-Improviser Role in the Gruppo di Improvvisazione Nuova Consonanza and New Phonic Art Experience

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This paper will present the core role of improvisation groups in the late Sixties / beginning of the Seventies in the process of building the new status of music material in the post-serial context. Analysing some "Gruppo di Improvvisazione Nuova Consonanza" (GINC) and "New Phonic Art" recordings, specific interaction models will be detected and discussed as phenomena of a larger creative process of exploring new music resources. Sound material limitations, exclusion of specific "motivic" treatment, using prepared instruments and avoiding all "traditional music" references are all elements of a specific music aesthetic shared by composers/improvisers involved in this experience. A particular attitude to the written trace for the improvisation can also be detected. Both groups carried the increasing freedom from the "dictatorship" of the score and the great involvement of the interpreter in the musical shaping of the piece to its logical extreme: no score at all was used. But there exist the so-called "esercizi (exercises)". What is the status of those activities? Are they a kind of a "pre-compositional" process of studying the material possibilities? the interaction dynamics? the formal shaping? the mutual listening process?

The fact that the members were not only performers, but in first line composers gives to the absence of a score a very specific meaning. Here Lydia Goehr's categories of improvisation extempore or impromptu can represent a starting point, but a deep understanding of the structure of the improvisations, the limited choice of the sound material, the position of individual actions are also highly linked to the composers' experience with written music. The individual poetic expressed trough written works by Franco Evangelisti, Mario Bertoncini or Vinko Globokar, among others, has to be introduced as a part of the analytical process. The pallet of one's position in the group and one's action/reaction model (built ultimately on one's personal preferences) is something that influences the global result and is not simply predictable (even if acting in a range of finite possibilities, as will be shown). Famous improvisations as GINC's RKBA 1675/I from the 1966 LP Album or New Phonic Art's 1973 Free Improvisation Album will offer the opportunity to examine some of the mentioned question in detail.

The research focuses on 1) analytical and theoretical problems of improvised music in relation to the graphic dimension. (Free improvisation has the doubtful reputation of having no structure, presuming no theoretical background and being not suitable to analysis, but some models developed in the filed of sound analysis as for instance Lasse Thoresen's, Spectromorphological analysis of sound objects or Pierre Couprie's, EAnalysis can be discussed as possible ways to solve the question); 2) the research investigate a possible way to track a single improviser's action in the context (adopting a revised version of Regula B. Qureshi analytical model); 3) and examine the relationship between improvisation and written music by observing the improvisation as a part of a larger creative process on the path of music language transformations of the Sixties and Seventies.

The research is based 1) on archive material study (Paul Sacher Fondation – Vinko Globokar; Nuova Consonanza Archive – GINC, Archive Franco Evangelisti, Mario Bertoncini private archive) in order to investigate information coming from correspondence,

writings or music autograph sketches, schemata, recordings, etc; 2) on developing new analytical tools in order to analyse (recorded) improvised music from the point of view of the listener as well as that of the performer; 3) on comparative historiographical method due to reconstruct the global context.

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Marida Rizzuti.
"All the songs in the picture have to be taken from the score of the original show" When a Broadway musical becomes a Hollywood film

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I intend to address the creative process in the transition of Kurt Weill's *One Touch of Venus* from stage musical to film musical. In 1943, *One Touch of Venus* was a sellout in Broadway, and as early as three weeks after its première the composer started working on making a movie from it, which will be released in 1948 by Universal. Kurt Weill played a central role in the creation of the soundtrack, not only what the musical aspects concern, but also from a legal perspective: he got the copyright on his own music and held the supervision on the newly composed music, having the power of defining its stylistic characteristics. The musical language of *One Touch of Venus* stage version has its specificities, and he ensured through legal means that these remained untouched in *One Touch of Venus* screen version. The Universal supported the composer with an arranger, Ann Ronell. Kurt Weill worked closely with her during the creation of the soundtrack for the film *One Touch of Venus*. The sources to be considered, in addition to music manuscripts, are the numerous correspondences between Kurt Weill and Ann Ronell, between Kurt Weill and his attorney Leah Salisbury, and with the producers Lester Cowan and Irving Paul Lazar, and with director William Seiter: these letters explain the precise authorial intention of Kurt Weill on this new partnership with Hollywood.

In this paper I intend to argue that the change of the productive process, from Broadway to Hollywood, exerted a strong reflection on the creative process of Weill and the arranger Ronell: *One Touch of Venus* screen is totally different from *One Touch of Venus* stage. This is not the simple film version of a Broadway hit show. Indeed the songs are here used as soundtrack and thus they do not perform their usual function as they did in the stage version. Moreover, I concentrate my attention on the case of the song (*Do not Look Now, but*) *My Heart is Showing*, the original song composed by Ann Ronell and approved by Kurt Weill that was inserted in the soundtrack. This song represents the double authorship of the *One Touch of Venus* soundtrack. In fact, through the study of the multiple steps of the song composition, I identify from one hand the Weill authorial interventions on the Ann Ronell composition, and from other hand I am able to recognize Weillian expressive characteristics in the stylistic choices operated by Ann Ronell for the composition of the soundtrack in general and, especially, for the song *My Heart is Showing*.

Why is this song so important? Because it shares much of the musical material with *Foolish Heart*, another song of *One Touch of Venus* stage, rejected by the censors of the Motion Picture Association of America for some inappropriate aspects in the text. Ann Ronell, then, rewrote the text of *Foolish Heart* with a new title, (*Do not Look Now, but*) *My Heart is Showing*. As a matter of fact the element of satire, the socially critical themes of urban alienation and the one-dimensional boredom of domestic life in suburbia, that was predominant in the stage version, now in the screen version is toned down. However the reaction of Weill against the MPAA action was a sarcastic one: the strict collaboration with Ann Ronell and *Foolish Heart* masquerade as *My Heart is Showing* testifies to it, it demonstrates that. Furthermore thanks to a broader vision on the whole soundtrack

composition I am able to analyze the peculiarities of the Weill - Ronell creative process. The aims of this paper are twofold: first of all I'll define the type of authorship and the awareness of the composer, Kurt Weill in this particular case, when his work changes expressive language, from stage to screen. Already with *Lady in the Dark* (1941), Weill had experienced the transition from stage to screen; however that case was for him a failure, and therefore in 1943 he preserve his work and his position through legal aid. In the case of *One Touch of Venus* the composer exerts more control on every single piece of music written for the film: through stylistic and musical analysis I show how the expressive language of Ronell reflects the expressive characteristics of the style of Weill. I also intend to show how the compositional work of Ann Ronell has conveyed, albeit in a more softened way, sarcasm and social criticism, that characterized the original stage version.

My second goal is to specify how the creative process in film musicals is the result of a shared creativity, in this case the creative act of Ann Ronell and the creative supervision of Kurt Weill, which hold both the peculiarity of the stage version dramaturgy and the resources of film musical. The creative process is the result of two specific skills: from one side it is Kurt Weill, composer for musical theater, from the other side there is the arranger Ann Ronell, also known as composer of soundtracks. In 1948 *One Touch of Venus* screen is in fact a most unusual example of that particular combination: both for the kind of soundtrack and the unconventional use of the songs, but even more for the different typology of creative and productive realization, that characterizes it.

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Alexandre Robert.
Analyser la sociogenèse d'une manière d'écrire singulière : l'exemple de l'écriture improvisatrice chez Déodat de Séverac

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Entre 1903 et 1904, le compositeur Déodat de Séverac (1872-1921) écrit une suite pour piano intitulée *En Languedoc*, dans laquelle un ensemble de procédés compositionnels relevant de ce qu'on peut nommer une "écriture imrpovisatrice" envahit le discours musical : la mise en place de silences et de points d'orgue pour marquer les transitions entre sections au sein de chaque pièce, la présence récurrente de traits pianistiques typiques de l'improvisation (gammes et arpèges rapides, glissandos) et surtout la prolifération de schèmes d'ornementation mélodique (appoggiatures, broderies, acciacatures, petites notes...). Cette manière d'écrire pour le piano est remarquable à double titre. D'une part, elle est quasiment absente au sein des compositions pianistiques antérieures de Déodat de Séverac telles que la *Sonate en si bémol mineur* (1898-1899) ou la suite *Le Chant de la Terre* (1899-1900) alors qu'elle continuera d'être mise en oeuvre dans les suites pianistiques ultérieures telles que *Cerdaña* (1908-1911) ou *Sous les lauriers roses* (1919). D'autre part, elle constitue une marque de fabrique, une manière d'écrire propre à Séverac au regard des autres productions pianistiques du champ musical français des années 1900.

Comment Déodat de Séverac en vient-il à élaborer cette manière d'écrire pour le piano ? Dans cette communication, nous tenterons d'apporter des éléments de réponse à partir d'un cadre d'analyse socio-musicologique centré sur les phénomènes de socialisation - c'est-à-dire, pour aller vite, la façon dont la société, les institutions, les groupes forment et transforment les individus. Loin de nous en tenir à une perspective graphocentrée, il s'agira, à la croisée de la musicologie et de la sociologie, de voir comment il est possible d'articuler la description du matériau musical et la reconstruction d'expériences socialisatrices du compositeur pour saisir la façon dont se constitue un "faire" compositionnel singulier.

Au cours des années 1900, Déodat de Séverac se situe à l'intersection de trois principaux cadres de socialisation : la Schola Cantorum (cette école religieuse de musique fondée par Charles Bordes, Alexandre Guilmant et Vincent d'Indy) ; les cercles de littérateurs régionalistes situés à Paris ; le groupe des "Apaches". Au cours de ces expériences se sédimentent chez le compositeur des schèmes de pensée et d'action, des représentations esthétiques, des manières de faire, d'écouter, de jouer, des dispositions. À la Schola Cantorum, en premier lieu, Déodat de Séverac s'approprie à partir de 1896 unelogique singulariste. Vincent d'Indy et Charles Bordes l'enjoignent en effet à se révéler par la composition, à exprimer et à développer ce qui serait sa "personnalité" à travers ses oeuvres. C'est auprès des cercles littéraires régionalistes, en second lieu, que Séverac trouve des ressources qu'il juge adéquates à une telle expression de soi. Par sa fréquentation des membres parisiens du Félibrige, à la toute fin des années 1890, se constitue peu à peu le projet d'une esthétique musicale régionaliste. En endossant le rôle de "musicien paysan", selon ses propres termes, il s'agit pour Séverac de célébrer par la composition musicale les valeurs d'un monde rural qu'il idéalise et qu'il fantasme, notamment la "spontanéité" paysanne. Enfin, à partir de 1902, le compositeur intègre le groupe des Apaches. S'inspirant du rapport hédoniste et relâché à la composition qu'ils promeuvent, Séverac en vient à travailler ce goût de la spontanéité par l'écriture en faisant dialoguer improvisation et composition, c'est-à-dire en réinvestissant des schèmes d'improvisation dans l'écriture de ses œuvres pianistiques. Sa

confrontation au matériau musical populaire relevé par les folkloristes languedociens joue également un rôle déterminant dans son travail sur les schèmes d'ornementation.

Ces résultats provisoires s'appuieront sur un travail de thèse en cours, entamé en 2012 au sein de l'UFR de Musicologie à l'Université Paris-Sorbonne. La démarche méthodologique repose sur une mise en lien étroite de trois éléments : une reconstruction des cadres de socialisation dans lesquels s'inscrit le compositeur ; une analyse de contenu de ses écrits ; une analyse musicale de ses oeuvres pianistiques. Les principales sources exploitées sont ainsi les nombreux écrits de Déodat de Séverac, conservés dans les archives familiales mais publiés en partie par Pierre Guillot (Séverac, 1993 ; 2002), ainsi qu'un corpus d'analyse comprenant l'intégralité des pièces pour piano de Séverac.

Par ces pistes d'analyse, nous voudrions surtout ouvrir une fenêtre de dialogue : l'analyse des phénomènes de socialisation a-t-elle quelque chose d'intéressant à dire sur les processus de création musicale, aux côtés d'approches d'inspiration pragmatique prenant en compte les interactions entre le compositeur et son environnement matériel et symbolique, d'approches socio-économiques attentives à la compétition par l'originalité et aux stratégies d'acteurs bayésiens, ou encore d'approches interactionnistes centrées sur la dimension collaborative de la fabrication des oeuvres musicales ? Pourrait-elle leur être complémentaire ? Cette communication a également pour but de discuter les spécificités d'une analyse à partir de sources historiques, lesquelles autorisent notamment un élargissement de la focale temporelle d'observation et l'appréhension d'un processus de création musicale sur le long terme.

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Federica Rovelli.
The Genesis of Beethoven's Piano Sonata op. 101. "Lost sketches" and "Working Autograph"

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The researcher who desires to reconstruct the genesis of a particular work of Beethoven often bumps into the problem of the lack of correspondent sketches or drafts. Several examples – such as the op. 27, no. 2 piano sonata (first and second movement) and the Introduction of the op. 53 piano sonata – are mentioned in the scientific literature with regard to this question and lead to the conclusion that a significant quantity of Beethoven's preliminary materials is unfortunately lost. This unexceptional and unsurprising situation is observable also in the case of the *Piano Sonata in A major* op. 101, published in February 1817. The composer couldn't work uninterruptedly on this sonata, probably due to other important musical projects – for instance the *Cello Sonatas* op. 102 and the arrangement of several airs for George Thomson – and because of the events in his private life related to the death of his brother and the resulting custody of the nephew Karl. In any case, op. 101 represents a turning point toward Beethoven's so-called "late style," and therefore such a long gestation could also be related to new and important compositional problems, faced probably for the first time.

A reconstruction of the genesis of this *Piano Sonata* op. 101 is offered by Sieghard Brandenburg in his commentary of the Facsimile-Edition of the working autograph preserved in Beethoven-Haus. According to Brandenburg's reconstruction, the earliest surviving sketches for this work date from the summer of 1815. These sketches are located on two separate leaves and a small fragment today in private collection. All of these leaves originally formed part of the Scheide sketchbook and concern the first and the last movement of the sonata. The last section of the first movement *Allegretto, ma non troppo* is here in a particularly good state of completion, but the work for the main theme – probably quoted from the "Rondeau pastoral" of the *Sonata* op. 3, no. 2 of Henry Jean Rigel – is not traceable. A leaf preserved in Paris reveals that Beethoven wrote out at another time the entire recapitulation of the first movement. This leaf doesn't come from the working autograph, as several characteristics of the paper and the type of draft seem to suggest; for this reason Brandenburg supposed that it reflects a stage of the composition between the sketches in Scheide sketchbook and the writing of the working autograph. The leaf should be to date from the summer of the 1815 and would be used immediately after the other sketches documented for the sonata in the same Scheide sketchbook. Beethoven would return to the *Sonata* again in April or May 1816, shortly after completing the song cycle op. 98, *An die ferne Geliebte*, and would concentrate this time on the second movement, "Vivace alla Marcia". In this case there is no trace of continuity drafts for any part of the movement, and although Brandenburg supposed that something similar should be present in working copies outside the sketchbook itself, no material with such characteristics are preserved today. A similar situation is also recognizable for the slow introduction leading into the *Allegro finale*, through the *Tempo del primo pezzo,* and for the finale itself. Several sketches for these sections are contained in two different sketchbooks: the so-called Autograph 11/1 and a pocket sketchbook partially preserved in Cracow and in Paris. According to Brandenburg's reconstruction, these other materials were used in autumn 1816 and precede the final phase of composition.

To sum up: in the case of the first movement of op. 101, the preliminary materials reflect a late stage of the composition, whereas the sketches for the other movements are related to the first and intermediate stages. Can we really suppose that other materials related to the missing phases were lost, or do we instead have to imagine that the strategies used by the composer permitted him to sketch only a part of his composition and to elaborate the other one directly in his working autograph? Do we have enough information about the different phases of Beethoven's creative process to suppose that he regularly drafted the whole composition before writing the correspondent "fair copy"? Several characteristics of the sketches for op. 101 and their comparison with the work-autograph in Beethoven-Haus permit us to develop some hypothesis. Some drafts show, for instance, that Beethoven sometimes used the same materials in different stages of his work: a first time to define the melodic-horizontal profile of a particular section and a second time to define its inner vertical structure. This praxis was also used in writing the working autograph, however is still not understood how many sections were composed in this way. Other materials seem otherwise to indicate that during the composition, some bars were better defined than others and that the correspondent connections were conceived in a second moment. Also in this case, some traces of this praxis can be found in the working autograph today in Bonn. This paper explores these questions as to the precise relationship between working autograph, sketches, and other drafts in Beethoven's composition of op. 101, in order to give a clearer understanding of the variety of working methods he could use in fashioning a completed work.

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Rob Schultz.
Melodic Variation and Improvisational Syntax in an Aka Polyphonic Song

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Simha Arom and Susanne Fürniss (1992) assert that Aka polyphony is fundamentally pentatonic, yet does not operate under any sense of absolute pitch or fixed interval size. Their groundbreaking study of this phenomenon documents various instances in which the realization of a particular scale degree can vary by up to a full semitone. In order to investigate the governing principles behind this variability in pitch, Arom and Fürniss presented a group of Aka with ten variously tuned versions of a song. What they found— much to their surprise—was that the Aka accepted every single one of them as authentic. The authors therefore surmised: "the key relevant to the structure of [an Aka] song is not to be found in the scale…[but] according to the melodic contour belonging to that song" (168).

Arom and Fürniss then presented the Aka with versions of the song that went beyond variation in tuning and actually distorted the contour of the melodic line by inverting some or all of its pitches. The Aka immediately identified the alterations, thus confirming the authors' hypothesis. This in turn led Arom and Fürniss to propose the use of pitch contour graphs in place of western staff notation in transcribing and representing Aka melody.

In her later analytical study of Aka vocal polyphony, Fürniss reiterates this idea, declaring outright: "a graphic representation as proposed in Arom and Fürniss (1992) may be closer to the vernacular conception than transcription in staff notation" (2006, 169). Nevertheless, melodic contour does not play any discernible role in her paradigmatic organization of variants for each vocal part in the song, despite being an extremely salient byproduct of the principle of commutation she describes whereby a given note may be replaced by another located a scalar neighbor, fifth, or octave away.

This paper provides an alternative paradigmatic organization of this material using Robert Morris's (1993) Contour-Reduction Algorithm (CRA) as the primary criterion for comparison. Based on the Gestalt principle of boundary salience, the CRA deduces both a basic shape and a variable number of intermediary levels for a contour by marking peaks and valleys as structurally significant, and removing "passing tones" and repetitions in successive stages until no further reduction is possible.

This alternative paradigmatic ordering of variants suggests a new organizing principle based on two prevalent syntactic constraints: (1) new contour variants are introduced in strictly descending paradigmatic order; and (2) leaps along the paradigmatic axis only skip over variants that have already occurred. These constraints ensure that the pitch contour transformations in the sequence are introduced in a more gradual and carefully prepared manner than the quasi-random unfolding suggested by Fürniss's orderings.

Nevertheless, it is important to note that these syntactic constraints do not represent explicit musical rules the Aka self-consciously adopt as they are learning and performing their songs. Such a thing would be anathema to the Aka, who, as Fürniss notes, rarely, if ever explicitly acknowledge even the basic parts and patterns of the polyphony. "Indeed, they are immanent concepts that are never taught to the musicians as such. Many singers don't know them and learn about the parts only when there are too many errors in the performance" (176). As Fürniss rightly points out later on, however, "As in language, musical rules are neither necessarily explicit nor formally taught, but the fact that people don't speak about them doesn't mean that they don't exist" (202).

Moreover, the overtly linear thematic developmental processes that these syntactic constraints entail—not to mention the quasi-Schenkerian, Gestalt-based analytical methodology from which they emerged—undoubtedly raises the specter of colonialist "armchair analysis"; that is, the blind imposition of western preconceptions onto a musical culture in which they have no rightful place. On the other hand, both Kofi Agawu (2003) and Martin Scherzinger (2001) have called attention to the implicit dangers of othering African musics and cultures by exaggerating their differences and minimizing their commonalities with the west, thus unwittingly undermining any genuine attempt to meet them on their own terms. Scherzinger drives the point home with a rather striking rhetorical analogy, asking "Is the concept of human rights an export imposing one sector's views onto others?... Does the West have a monopoly on the construction of humanitarian principles?" (40).

Digging a little deeper into Aka musical practice, one finds a particularly vivid illustration of this dynamic at work. Again, though rarely used, it seems the Aka do have a term for the specific melodic variation technique employed in these variants: kété bányé. This literally translates as "take a small path alongside of the large way." The metaphor resonates surprisingly well with the underlying principle of the syntactic constraints, suggesting that perhaps our western teleological inclinations might not be so unfamiliar to the Aka after all. To immediately dismiss the contour-based syntactic constraints on grounds of a de facto western bias would be just as misguided as blindly accepting them out of sheer cultural ignorance.

This paper thus proceeds to further examine improvisational process and melodic syntax in Aka musical practice through the lens of the CRA, focusing in particular on important issues surrounding considerations of cultural context, analytical methodology, and interdisciplinary research.

Talita Takeda and Cecilia Salles.
How are creation networks configured in contemporary Brazilian opera?

Talita Takeda received her bachelor's degree in Opera from Santa Marcelina College (Sao Paulo, Brazil). She is now a Master's student at Pontificia Universidade Catolica (PUC-SP, Brazil), under guidance of Prof. Cecilia Almeida Salles. Talita is currently a member of the Cration Process Study Group at the same institution. Her research focus on Brazilian contemporary opera creation process.
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The present conference aims to study the creative trajectory of the Brazilian contemporary opera confection and also how the creation networks of opera work, within a communicational and semiotical approach.

It also aims to explore the indissociability of the many artistic languages other than the music that coexist in opera. We are considering here the concept of Gesamtkunstwerk ("total work of art" or "universal artwork") used by German philosopher K. F. E. Trahndorff and German composer Richard Wagner.

Starting there, this research seeks an analytical proposal in the complexity of the archives. This proposal is mostly based on the process criticism theory developed by Brazilian author Cecilia Almeida Salles.

Salles regards what we call in Portuguese "tramas do pensamento", or "the thought's weft" (trama in Portuguese means both woof/weft or plot). Therefore, the creative environment is thought as an interconnected and interactive network. Salles is interested, also, in the consequences of this network: how does it generate new possibilities? The researcher is, thus, contrary to an idea of the creativity being something isolated and at rest.

This research presents an interdisciplinary perspective of the multidimensionality in the music analysis field. It can be, therefore, a contribution to the Tracking the Creative Process In Music congress, as it brings some Brazilian points of view about the subject.

This investigation displays the necessity of analyzing the composers' works from the perspective of opera being a sign system (or sign network) in process, and not merely a product. It relies on the semiotics theory of Charles Sanders Peirce dialoguing with theoreticians of the complexity path, such as Edgar Morin; musicologists who study genetic criticism in music, such as Nicolas Donin; theorizers of the network concept, such as André Parente and Brazilian opera theorizers, such as Sérgio Casoy and Lauro Machado Coelho. Recent publication made by specialized critics and journalists concerning the music of the 21st century will also be considered, such as Alex Ross and João Luiz Sampaio.

The concept of this study began with an opportunity to observing closely the process of composing and rehearsing the opera O Menino e a Liberdade (2013), from Brazilian composer (resident in Sao Paulo) Ronaldo Miranda. The author also made some documents available for the researcher, which will be crucial for a creative process analysis.

O Menino e a Liberdade's music was based on Brazilian writer Paulo Bomfim's chronicle of the same name, and libretto by writer, professor and researcher Joge Coli. The opera was included in the 2013 Theatro São Pedro season and was conducted by maestro Roberto Duarte (premiere: november 2013).

This opera is a secluded sample of a contemporary Brazilian opera that was actually staged. Presentations with these characteristics are very rare in Brazil, since the opera theaters in the county prefer to privilege overpast compositions - hoping they will attract audiences more easily than newer compositions.

During the period I was watching O Menino e a Liberdade's rehearsals, I was able to collect important data that will eventually help to understand this piece, this genre and will

also be helpful in mapping expression layers of the creative process, such as: 1) the production context; 2) procedures of creation; 3) multiple interactions; 4) the part each subject takes in a collective process; 5) what part does the manager institution of an opera theater plays.

The latter topic is essential to understand how the opera seasons are set in Brazil and why is it so difficult to perform new compositions here. The lack of a cultural public policy associated with deficient investments of the private sector in classical music, and also the absence of articulation between new composers make it difficult to premiere contemporary work in Brazil.

In addition to the five items cited previously, this research will also discuss specific mode of action within Ronaldo Miranda's project, specific matters of opera and general creation issues.

This analysis does not consider only musical elements, but seeks to incorporate all the aspects cited. It may lead to a broader discussion about opera, that goes beyond a merely musicological analysis.

It is not my objective, however, to exhaust every analytical and interpretative possibility when reading a creative process. It is, otherwise, a possible glance from a general theory that carefully ponders about communication objects.

The results of this research may indicate new forms of approaching the genre opera (and, also, the classical music) from a semiotic askance within the theory of creative process in networks.

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Bianca Temes.
Ligeti and Romanian folklore: Citation, Palimpsest and Pastiche as creative tools

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The paper aims to gain fresh perspectives and to challenge standard thinking on Ligeti's appropriation of Romanian folk music, drawing on very recent findings at the Sacher archives. By absorbing Romanian folk music in various ways during the different stages of his creative activity, Ligeti achieved a wide range of acoustic results which encompass citation, allusion, palimpsest, parody, and pastiche.

Therefore the topic requires an extended methodological tool kit, enabling the researcher to navigate their way through the multidimensional rhetoric of this composer. Only by calling upon a set of overlay techniques could one simultaneously explore the different layers of meaning, combining sketch studies, analysis, history and ethnomusicology.

A study of the documents at the Sacher archives reveals in detail the constancy of Ligeti's relationship with Romanian folk music, from the early years of his youth in his native Transylvania to the end of his creative life. A clear temporal and stylistic trend emerges, in which the cities of Cluj and Bucharest are landmarks.

The analysis will chart how Ligeti's pieces moved throughout the decades from folk music towards modern compositional disciplines, a journey from the villages of rural Romania to the concert hall, as shown by many of the composer's manuscripts at the Sacher archives. Therefore the purpose of this research is mainly to emphasize an aspect that has hitherto attracted insufficient attention, as well as to retrace the stages in this process of transformation.

The music Ligeti heard on historic wax cylinders at the Folklore Institute in Bucharest during the years 1949-50, together with real-life performances in the Romanian countryside, had a long term effect on his writing. He began with some simple arrangements (*Baladă şi joc*, *Romanian Concerto*), where citation was the main artistic tool, and only later, once he had left the Eastern European bloc, placed it within a more global context.

The language of these pieces derives directly from Ligeti's engagement with folk instruments through evocations of timbre (bucium signals evoked in the symphony orchestra), rhythmic patterns, extemporized figuration and ornamentation of local folk dances, and in some cases micro-intervallic intonation in imitation of the original aural sources. Distilled in the score, these elements provide an additional dimension in terms of an awareness of the techniques and sound world to which Ligeti is referring.

Baladă şi joc, *Romanian Concerto*, fragments from the *String Quartet no. 1* and *Musica ricercata* all show Ligeti's attempt to mimic the traditional manner of a Romanian folk song accompaniment or to reproduce asymmetrical rhythmic patterns typical of the folklore of this country.

A turning point in Ligeti's use of ethnic music is represented by his only opera *Le Grand Macabre*, which is strongly influenced by two Romanian writers of the absurd: Ioan L. Caragiale and Eugen Ionescu. The opera marks the dividing line between Ligeti's reliance on borrowed folk music (abandoned once he left the Eastern European bloc, in 1956) and invented or 'synthetic' folk music, as defined by the musicologist Simon Gallot. The utterly grotesque collage from the third scene of his opera is emblematic (here Ligeti superimposes on Scott Joplin's ragtime the melodic line of Podoleanu's version of the Orthodox Paschal

Troparion *Christ Has Risen from the Dead*). Both themes are rendered grotesque by distorted intervals while still being easily recognizable, proving a parodic, if not sarcastic way of handling the sources.

The end of the 70s was a time when the stylistic reconfiguration of Ligeti's work was in full swing, when the composer expanded the sources of his inspiration, staking everything on a novel ars combinatoria of completely non-homogeneous elements. Ligeti resizes his creative lens to a larger geographical radius, overlapping disparate layers of material. From now on his compositional technique employs a wide array of folk reminiscences from different continents, cleverly disguised and hidden behind a kaleidoscopic mask of sources. Resulting in a rich cultural counterpoint of interlocking dialects, pieces of this period still retain Romanian folk elements in the background, as an imperfectly erased canvas, setting in his scores a palimpsest of memory, time and space.

Using an enriched lexicography during the last two decades of his creative life, traces of Romanian music linger and recur like blurred autobiographical echoes, in tandem with Hungarian folk music. This reminiscence, which we may call an anamnesis of his hybrid cultural roots, marks the revisiting of this Eastern European region, as well as of other world folk musics, used in a thoroughly novel combination. The original elements become unrecognisable, and are fused into a "new universal grammar", as observed by Romanian composer Ştefan Niculescu (in a letter kept at the Sacher archives). As Ligeti himself emphasized, he recreated a global imaginary folklore, through the melding and deconstruction of many musical idioms. In his music the influences are filtered and reconfigured, affording strange, often cryptic, yet always fascinating reflections of his imaginary "Brueghellandia", as a kind of musical tower of Babel.

By means of his *Trio for Horn, Violin, and Piano*, Ligeti built a bridge over time back to his Romanian research period, recalling in its manuscript sketches the folk dance melodies from Covăsinț village. Moreover, in describing the piece, he speaks of the layers of cultural connotations, a synthetic folklore of the Latin America and the Balkans – we could call it a striking "Balkanamera", considering the aksak limping rhythm the common denominator of both musical cultures. The sketches of the Piano Studies kept at the Sacher archives reveal unexpected evocation of aksak rhythmic patterns from different dances of Dobrogea region; the Violin Concerto recalls the Romanian Căluşari dance, while the Viola Sonata proves, according to Ligeti's manuscript notes, overt and covert connections with the folklore of Maramureş region, in the north part of this country. Pastiche, allusion, and even citation are the adopted means by which Ligeti reimagines the Romanian heritage, showing how folk tradition permeated the very fabric of the music, emerging in the last two decades in an original way.

All these, together with echoes of Romanian laments, carols, ballads, doinas, and hora lungă, show how the folk tradition, in its sublimated form, permeated the very fabric of the music within the notated framework of Ligeti's works.

By toying with tradition and playing with acoustic geographies in his compositions, Ligeti found an original way of permanently blurring the line between the modern and post-modern. Grasping this ethnic angle in its diachronic unfolding, the researcher discovers a new facet of Ligeti's chameleonic profile; one which relies on citation, palimpsest, parody, and pastiche as ideal tools for encoding a fundamental yet lesser-known root of his complex language: Romanian folk music.

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Sean Williams.
Technical influence and physical constraint in the realisation of Gesang der Jünglinge

Sean Williams is a practice-led researcher based at the University of Edinburgh, focusing on the performance practice of electronic music. He balances research into historic practices at the WDR Studio in the 1950s with building new hybrid analogue/digital instruments for live electronics and sound projection. Co-founder of LLEAPP, the Monosynth Orchestra, and the ensemble Grey Area, he performs his own compositions and electronic and structured improvisation repertoire internationally.
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Since the digitization of the realization tapes of Karlheinz Stockhausen's *Gesang der Jünglinge* (Stockhausen, 1955-56) and their availability for research from 2012 it has been possible to gain new insights into the creative process of the piece to the level of individual sounds. These insights lead to a greater understanding of the performance practice used in the realization process, and the extreme level of detail shown by Stockhausen's extension of the composition process down to the level of each element of each sound. In turn, they illuminate the influence of the particular instruments available at the West Deutsche Rundfunk Studio for Electronic Music (WDR Studio) and the performance practice developed there on the compositional process itself.

This paper describes the realization process of specific groups of electronic sounds in *Gesang der Jünglinge* using examples of my own to illustrate their development and change during the lengthy time period of realization from 1955-56. By combining a detailed examination of the realization tapes alongside Stockhausen's sketches (Stockhausen, 2001), and using a combination of original 1950s technology and digital audio tools I have been able understand how each sound used in the piece was created. The only way to verify this has been to recreate each electronic sound type using historic equipment where possible, and creating digital models only when no other solution was available. Interviews conducted with Gottfried Michael Koenig who assisted Stockhausen in the realization of this piece have provided an additional source of detail, as has my previous realization of Stockhausen's *Studie II* using period technology. Using period technology has allowed me first, to work out the physical processes and performance practice of sound production, and second, to experience and solve similar problems that Koenig and Stockhausen encountered during their work in 1955-6. It has allowed me to observe through experience the evolution of the creative process as each successive sound element in a certain series (for example the "Impulse Complexes" in Sections A and B) becomes more and more elaborate in their construction up to the technical limitations of the equipment. I can therefore show through experience where and how the technology influenced the compositional process. I suggest areas where compositional pressure forced new technical practices to evolve and where technical limitations modulated compositional practices. The sketches provide clues as to how the sounds were constructed, but they are far from complete and have required considerable effort to decode. Several different realization methods were tried for various sounds, but the use of historic equipment helped to encourage an overall methodology which made the reconstruction process easier and easier as the project has progressed. I built up a tacit knowledge of the tools so that simple, short instructions which at the start of the project would have been undecipherable, with experience, became quite straightforward to understand. This knowledge consisted of a feel for each machine's capabilities, and an appreciation of favoured combinations of instruments, and reliable systems or meta-instruments. Experience with certain devices and their parameter values and ranges enabled many parts of the sketches to be more easily decoded. This enables a much deeper

understanding of how Stockhausen used serial methods to compose each of the sound elements.

Careful study of the sketches has helped to form a theory of which sound elements were created first, and at which point the realization processes changed. Working through the realization process of each sound type brings practical insights which help us understand the significance of the changes and evolution in working methods. I show how these methods and techniques evolved during the two year realization process, leading from *Studie II* to *Kontakte*. The use of digital audio technology to measure frequencies of sound elements has allowed me to observe the deviations and tolerances between what is specified in the sketches and what was achieved in the studio. When a sine wave of 1133 Hz is specified, for example, there is no scope for interpretation but some scope for error. However, as Koenig sets out in his score for *Essay* (Koenig, 1960), when patterns of statistical sounds such as the "Impulse Complexes" are given, or "strong distortion" is specified, there is considerable scope for interpretation and a strong need for qualitative judgment. Realising such sounds often requires physical performance, with both musicians actively controlling the instruments, rehearsing and repeating until "getting it right". On the one hand there are technical influences on the accuracy to which the sketches are followed, and on the other hand there are interpretative influences. Both affect the results, but only through reconstruction can we get a feel for the relative weight of each influence.

Pulling back to look at the construction of the piece as a whole I have been able to observe the somewhat flexible approach to timing of individual events. I show a number of instances where Stockhausen has allowed events to take longer to unfold than the serial values in his score specify, and I show significant places where pauses have been inserted, deviating from the serial structure, in order to make the piece sound right. Taken together with the insights into individual sound production methods I demonstrate that the compositional process in *Gesang der Jünglinge* has been strongly influenced by the technology and practices used in realizing the individual sounds.

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Mark Wraith.
The Body in the Composition and Performance of Art Music.

Mark Alexander Wraith was a principal soloist with Ballet Rambert. He recently completed an MA in Music at the Open University. His dissertation won the Antrobus award (2014). His essay Composing in the Dance Studio *can be found in* Sound, Music and the Moving-Thinking Body *(Wyers and Glieca). Website: markwraith.com*
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Serious art music may seem to have lost its relational aspect and to be veering off into modernist oblivion lost in the noise of exponential technological development. Whether or not this is fanciful, there's no doubt there are challenges — the challenges of engaging audiences with art music, of devising creative process aimed at presentation, and of dealing with the gulf between art music and other musics that seem to only benefit from ever-spreading and changing technologies.

One composer who has relentlessly claimed to ignore these, has, paradoxically, been solving them throughout a long career that is now establishing him as one of the most important living musical minds. Harrison Birtwistle claims he is unable to care for the audience, yet paradoxically, his audiences are often strikingly engaged, despite the hard edges of the sound. What is happening; and how does it work?

For relational music in the sociological sense, there are many examples: the call and response of our black musics, our concertante forms, religious musics of all denominations. But Birtwistle is more interested in the 'relational' inside the musical process. The relationships Birtwistle preoccupies with are not social, but those of the senses — the negotiations that occur between sight, hearing, and most significantly, touch in musical performance. The body, long split off from art music, has been quietly (actually not so quietly) integrating back via Birtwistle's musical thinking.

Harrison Birtwistle's *Pulse Field* (1977), was an innovative collaboration that reformulated the traditional relationship of music and dance movement. Birtwistle took paper and pencil into the studio and composed, as he put it 'on the floor of the theatre'. The piece has been referred to by several of the Birtwistle scholars, yet has remained little understood. I believe Pulse Field to be an important creation, not only from a theoretical, and aesthetic point of view, but above all, as a model of creative process aimed unlocking the power contained in pure musical attention of performers (and listeners). In its present form, the score can only be fully understood by taking into account the creative process which took place during the collaboration period. The secret of this process has been locked in the Rambert Archive until this year as the newly established facility opened at London's Southbank. The Rambert Archive makes available materials extending back to Marie Rambert's relationship with Stravinsky/Diaghilev, and incorporates the continuing tradition of composer/choreographer collaboration into the present century.

Birtwistle's notion of ritual applied to the performance of abstract music is now highly developed. *Pulse Field*, by no means the first instance of this development, none the less represents an early experiment that clearly demonstrates how fundamental musical elements and theatrical intuition can work together. I have described and explained this in my study, incorporating ideas from Nicholas Cook's *Analysing Musical Multimedia* (1998).

Since Birtwistle was focussed on attempting a reformulation of the traditional relations between dance and music in western classical dance, I proposed a theory of interaction that links the notion of tactus with the fundamental essence of balletic movement drawn from its major theorists: Noverre, Blasis, and, in the twentieth century, Lopukhov. I found that there was a significant relationship between the two media through movement in the vertical plane.

I have described the aural and visual context of *Pulse Field* and applied the proposed theory as a way of understanding the composer's approach to composition and performance. The research established that the theory of interaction at the level of tactus not only provides a key to understanding the 'common practice' of traditional ballet, but makes clear Birtwistle's radical reformulation of this practice.

What is particularly interesting about Birtwistle, is the inherent theatricality in his musical thinking. *Pulse Field*'s abstract musical and physical elements, illustrate musical innovation that need not rely on text for drawing attention. Investigating the collaboration, revealed a model that allows for the widest possible range of media relationships without completely losing all connection beyond the incidental, as with the Cage/Cunningham approach. The array creative processes included the relationship of entrainment, of independent elaboration of the media, of the incorporation of theatrical effects, of improvisation — the possibilities are wide open. The key question of musical attention involves the senses including that of touch so that the focussed, physical self, is written into the music.

The theoretical approach involving the work's functioning as spectacle, has repercussions for the presentation and reception of art music. The way in which Birtwistle engaged his performers with the notes and with each other, produced a powerful engagement with the listener/viewer.

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Miloš Zapletal.
Between sports and ideology: Janáček's *Sinfonietta* and Petrželka's *Štafeta*

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The paper is an attempt for reconstruction of coding (creative) and decoding (reading) process, both dependent on temporary collective imaginative patterns, which funded the historic-ontological status of two significant works of the Czech interwar music: *Štafeta* [The Relay] (1927), a string quartet by Janáček's pupil Vilém Petrželka (1889–1967), and *Sinfonietta* (1926) by Leoš Janáček (1854–1928). It is based on two case-studies, which emphasize the relationships between both of these two works – but also other texts and discursive practices, which formed their historical creation and reception – and sports, typical cultural phenomenon of the 1920s. Both compositions are likely to be included in the temporary wave of compositions reflecting and representing sports, such as Honegger's *Rugby*, *Half-time* and *La Bagarre* by Bohuslav Martinů, *Start and Stadion* by Pavel Bořkovec, because they use very similar musical-semantic methods. The paper also focuses on ideological aspects of creation and reception of these compositions, especially in the relation to the official ideology of the First Czechoslovak Republic and to the ideology of interwar avant-gardes, which was to a large extent subversive against the former one.

Methodological background of my paper is represented by the critical theories of Michel Foucault, "new historicism" in literary studies (Bolton 2007) and post-structuralistically oriented Anglo-American musicology after 1980 (Burnham 1995; De Nora 1997). While the methodological base of both case studies is the same, the concrete used methods are different: the case-study on *Štafeta* is focused on a semio-pragmatic analysis of the composition itself, whereas this substantially subjective interpretation is emended by the analysis of context; on the other hand, in the case-study on *Sinfonietta* I have focused on the analysis of textual traces of receptive acts (the context) and interpreted these traces with regard to the text of the composition.

Štafeta was a work of art belonging to the official "democratic" culture of the First Czechoslovak Republic, which was intended to consolidate different social classes of the young state. The popular potential of the composition depended on its three main qualities: (1) a realization of formal "relief" of Schoenbergian string quartet, in a way of song cycle with string quartet accompaniment; (2) the musicalisation of poetry by Jiří Wolker, the most popular temporary poet, whose posthumous cult, initiated mainly by upper-middle class, was culminating when *Štafeta* was composed; (3) the comprehensibility, based on such semantic and syntactic progressions which were cognitively amenable for relatively wide corps of temporary recipients. *Štafeta* had however also the potency to claim the status of avant-garde work of art, thanks to exploitation of typically avant-garde structuring methods and contextual circumstances of its origin, performance and reception.

In a close-up semio-pragmatic analysis, I have shown that the creation and reading of this composition was basically determined by two main imaginative factors, sports and collectivism, which were strongly bounded in temporary social discourses. The representations of sport, which is semantic relevant aspect of the historical content of *Štafeta*, is – similar to other expressions of 1920s mentality – jointed with the representations of unbounded sexuality. Just like in other temporary "sport compositions" (Bateman 2009),

mainly the motional aspect of sport is represented here, using motorial music structures and other convenient methods of the late 19th century programmatic music. Structure of this composition contains intensive and extensive semantic impulses, which, as I will show, are the two conceptual patterns in the very basis of the process of creation and also reading of the piece. The intensive one relates to structural regularization by the dominant of "running model" and principle of rhythmic ostinato. The extensive one refers to public relay races, carnival feasts (Bachtin 1971; Gurevič 1996) of recycling of the collective national body of the First Czechoslovak Republic. According to these factors, the composition tended to be read as an ideological impetus to faith in collective "new man".

Janáček's *Sinfonietta* functioned in ideological practices of interwar Czechoslovakia mainly as an apotheosis of three important aspects of the official ideology: (1) the idea of paramilitary youth sport and gymnastic movement called Sokol [Falcon], (2) Czechoslovakian army and (3) the idea of "new man" and new republic – his Umwelt, which was produced by him as well as producing him. The composition was presumably created and read according to these intentions, and thence its temporary content oscillated between these three positions. According to a detailed analysis of the discourse on *Sinfonietta* and its author, the group of contents ascribed to this composition had a relatively coherent, systematic form in the interwar Czechoslovakia, whereas the dominant modus of reading of *Sinfonietta* was determined chiefly by premiere of the composition during the mass gymnastic action called *Sokol-Rally* in 1926. The composition was also created and read as a representation of sports, as a realization of "aesthetics of disinfection" (Česálková 2006), which was typical of both official and avant-garde culture of the 1920s. All these correspondences between intended and empirical content of *Sinfonietta* were in principle provided by the discourse of temporary music criticism.

Laura Zattra.
Computer Music et collaboration: enquête sur le rôle créatif des assistants musicaux à partir d'entretiens semi-structurés.
Collaboration in Computer Music. An analysis of the role played by Musical Assistants obtained through semi-structured interviews

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Collaboration has been a constant feature of electroacoustic music, due to the complexity of the technology. Since the beginning, all laboratories and electronic music studios have involved the presence of different individuals with diverse but intertwined competencies. This is true for the Milan, Cologne, Paris and San Francisco centres during the first analogue generation and has continued with the digital revolution and in New Media productions. Yet, the notion of collaborative composition or distributed creativity, has been unreasonably neglected up to now, both in the literature and by music listeners, with the exception of few ground-breaking projects [Donin-Goldszmidt-Theureau 2009]; [Fourmentraux 2011]; [the project 'Music, Digitisation, Mediation: Towards Interdisciplinary Music Studies' http://musdig.music.ox.ac.uk/, funded since 2010 by the European Research Council's Advanced Grants scheme, principal investigator: Professor Georgina Born].

In 2012, I undertook a research project funded by French CNRS (chercheuse invitée CNRS INS2I) within the APM-IRCAM research group in Paris, from June to October 2012, which is still in progress. The object of this project is to assess the infrequently studied network of agents and processes involved in music making with New Media, the implications of Musical Mediation and the music's changing ontology [this reflection is based on Born 2005].

In particular, the embedding of technological tools into the process of musical creation, has resulted in the emergence of a new "agent" with new expertise, whom I am specifically considering. This is called the Musical Assistant, the technician, the tutor, the computer music designer, the Music mediator (a profession that has been described and defined in different ways over the years) – who can work in the phase of writing, creating new instruments, recording and/or performance. Previous results have allowed me to trace the history of the name of this profession as it developed at IRCAM (Musical Assistant and RIM, *Réalisateur en Informatique Musicale*) [Zattra 2013a] and to outline the analysis of an anonymous survey submitted to different musical assistants [Zattra 2013b].

In this communication I will report findings from semi-structured interviews held in two stages, at different times. I will report a qualitative investigation of the Musical Assistants' self-knowledge, role and visibility.

In the first methodological stage I interviewed 10 Musical Assistants. I conducted 8 face-to-face and two online interviews throughout the course of this period. The first group of interviews were held at IRCAM in Paris, in October 2012 (8 interviews: most of the interviewees, not surprisingly, were French), and then two other online interviews in February and March 2014 (French and German). Individual interviews focused on the temporal/chronological perspective in self-describing themselves (autobiographical narrative history), and their own career, their skills, how they handle the assistant/composer collaboration, their perception of this emerging profession, the future of this profession, how they describe themselves to non-insiders.

In this section of my communication I will present the main findings in this regard, clustered according to different concepts rather than in strict chronological order: their perception of necessity to obtain parallel musical/scientific education, their relationship and perception of the assistant/composer collaboration (composers' expertise, the Musical Assistant as an "investigator" of choices and aesthetical paths, …), their role in the musical research process, realisation and performance (and the stress involved in this role), their common double identity Musical Assistant / artist. In this scenario, some interviewees saw their career as a "vocation", others as a natural evolution of their career (the result of repetition), some interviewees are living their present situation as a rupture (this model extends from [Demazière, 84]).

The second part of my communication deals with a new series of interviews I am conducting. As such, I am using the findings from the first group of interviews to refine the interview protocol questions and probes and, especially, I am developing a new set of concepts derived from the analysis of the anonymous survey (Zattra 2013b). The questionnaire gave rise to specific trends in this profession such as the deep liason between the evolution of the technology and the specific tasks of the different generation of Musical Assistants; the temporary nature of this professions; the somewhat unclear legal statutory definition of the musical assistant, the oral nature of this profession, the diversified quality of recognition they receive; the combination of artistic, scientific and technological skills.

This conceptual framework gives rise to the following research questions: is it possible to finally identify the Musical Assistant profession? Is there a new generation of Musical Assistants? If there is, does this new generation lead to a new breed of Computer Music Designer or mediators, who are different from their predecessors?

These questions arise from two considerations. First, that the Musical assistant career is now widely distributed. I will interview students and the founder of the RIM course (Musical Assistant course) at Université Jean-Monnet, Laurent Pottier. This is going to provide my research a more focused vision on the perception of the necessity of this professional figure, the outcoming profile for future jobs, the types of collaboration engendered (contacts have already been established). I will also interview other young Musical Assistants (four from Italy, USA, Great Britain have already agreed to be contacted after some initial messages).

The second consideration is the presence of this profession in New Media productions, where the introduction of electronic instruments and software has improved massively, and the ubiquity of electronics is a major factor driving change in live performances and instrumental improvising. I will interview alternative electronic music assistants (electronica and live sets) where technology is involved and needs the collaboration between musicians-composers-assistants, some students and new graduate assistants at the University of Applied Science St.Pölten in Austria, one of the new schools where young musical assistants become contributors to the international music scene. Contacts with students and professionals have already been established with the aim of studying this professional figure.

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Tasos Zembylas.
The Interplay of Various Forms of Artistic Knowing

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In my presentation I will elucidate the interplay of several forms of knowledge in composing process in art music. As a general term, "knowledge" includes forms of explicit, propositional knowledge as well as several forms of implicit, embodied practical knowing. My main epistemic aim is to move from the description of artistic practices to a deeper understanding of artistic agency.

The empirical material originates from a research project called "Tacit Knowing in Musical Composition Process", which I recently carried out in Vienna together with two sociologists and two musicologists. Using qualitative empirical methods we accomplished five case studies to document composition processes in actu, that is to say from the beginning of the work up until the last rehearsal before the first public performance. The data set include com¬position diaries, various sketches, interviews, photos and in some cases observation protocols and videos of rehearsals. Additionally, we carried out 15 interviews with further composers. The coding and analysis of the empirical data was done according to Grounded Theory.

My theoretical approach differs from psychological research as well as from a lot of research on expertise and competence. The term "creativity" as is understood in psychological research leaves my central question regarding the development and manifestation of artistic agency unanswered. In most of psychological theories "creativity" appears as an inherent power, property, or disposition that acts as a "ghost in the machine" (Gilbert Ryle) and guides a creative person who lives in a creative milieu. I am similarly sceptical towards the concept of skills, which suggests artistic creation primarily implies practical challenges and problem-solving tasks. My main objection is that artistic challenges are not only related to "how-to-do-it" but also the "what". Because, in my view, the concepts of creativity and skills only focus on some important aspects but fail to promote a comprehensive understanding of the artistic process of inventing and creating new works, I am trying to develop a third way.

At the moment I cannot anticipate the results of my analysis, which is still ongoing. However, I can broadly outline the third way that I would like to propose: a threefold configuration of knowledge (which includes different forms of knowledge and practical knowing), cognitive tools (such as notational systems) and material tools (such as music instruments and music computers). This configuration is efficacious and generative, that is to say it initiates and sustains artistic creative processes. Because knowledge and tools are per definition socially shared – there is no "private intelligibility" or "private know-how" (see also Wittgenstein's argument against the existence of private language) – the configuration mentioned above is always embedded in socially established musical practices. Thus an individualistic approach to artistic creative processes is not viable within this conceptual framework. Theoretical musical knowledge, beliefs including aesthetic ideas, formal knowledge of notational systems become "actionable knowledge" (Chris Argyris), because in the particular case of music composers all these kinds of explicit knowledge are established in "regimes of competence" (Etienne Wenger) and specific "artistic paradigms" (Nathalie Heinich) that shape the actual role of explicit knowledge. Furthermore, the vast sensory and instrumental experience of composers sustains an intelligent "embodied mind" (George

Lakoff) that becomes manifest in tacit understanding and intuitive reasoning, which is usually expressed in words like "I feel it fits", or "you hear, it's perfect now". Such experiential, practical feeling or sense also applies to the concept of "affordances" (James Gibson, James Greeno) with relation to music instruments or music computers that are used to create intended or unintended sounds. All the various forms of knowledge and knowing are bounded in a "teleo-affective intentionality" (Theodore Schatzki) that is related to the object of composer's efforts: the final artwork. Affects (emotions, sensations, etc.) therefore accompany the creative process on various levels and guide thinking and acting. Finally, as Nicolas Cook among others underlines, every particular composition process is practically and socially situated, and thus context-bounded. Taking contextual aspects seriously will promote an understanding of the particularity of creative artistic actions.

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Monika Żyła.
Agata Zubel's Not I at the festival Warsaw Autumn (2014) – tracing collaborative dimensions of the creative process within the festival context

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This paper theorizes and investigates the role of new music festivals, currently among the leading institutional impulses for the creation of contemporary art music. During the last few decades those festivals have gained increasing prominence as an actor in facilitating the creation and performance of contemporary art music. They have provided specific modes of its presentation within a framework of special events, which imposed on composers and performers particular conditions of collaboration (Vera John-Steiner, 2000). Through the practice of commissioning new pieces and growing collaboration within the new music festivals network itself, festivals have come to occupy a new importance in the creation of art music. They became not only mediators between composers, performers and audiences but also are prominent agents for the negotiation and framing of creative processes within the context of live music performance. They provide a contextual framework in which contemporary art music is mediated, distributed, delivered, performed and experienced. These issues shall be discussed in the first part of my paper. Being one of four researchers in the International project "New Festivals as Agorai…" at the University of Salzburg, I provide in this paper some sample perspectives on such processes in more recent years at the festivals Warsaw Autumn, Wien Modern, and Festival d'Automne à Paris.

The main focus of this paper is a specific case study, showing how interactions between several agents like the composer, performers, a visual artist, a sound engineer and the audience are structuring elements that change the possibilities of the creative process itself. In order to do so, I turn to the performance of the piece *Not I* by Agata Zubel during Warsaw Autumn 2014, tracing collaborative dimensions of the creative process in her piece within the festival context. The piece was composed in 2010 by Agata Zubel, a Polish female composer and a representative of the young generation of composers born after 1970. *Not I* was written for a soprano, chamber ensemble and electronics to the words of Samuel Beckett's dramatic monologue with the same title from 1972. The piece was commissioned by the Sactrum Profanum festival in Cracow and premiered there in 2012 by Klangforum Wien and the composer herself as a soloist (soprano). It was performed again by different musicians and technicians at Warsaw Autumn on September 22nd 2014 in the space of the former vodka factory in Praga – the infamous district of Warsaw.

A performance of *Not I* is multilayered, consisting of intertwined textual, musical and visual elements, directly appropriating Beckett's stage concepts for the play in which the mouth of the protagonist would be spotlighted while the rest of her body would remain darkened out (as in the memorable creation of Billie Whitelaw with whom Beckett collaborated on the piece's premiere in 1972). The collaborative performance of *Not I* at Warsaw Autumn is the result of a collaboration between Zubel, in the double role of composer-performer, with the chamber ensemble New Music Orchestra conducted by Szymon Bywalec, a sound engineer (Ewa Guziołek-Tubielewicz) and a video artist (Marcin Bania). As a visual layer for the piece Zubel's movements of her mouth were filmed and shown in a video projection on a screen situated above the ensemble.

My research on the creation of *Not I* draws on my participatory observations during the Warsaw Autumn festival, where I attended the dress rehearsal and the performance of

Zubel's piece. Also a detailed audience survey on this performance was conducted by me as part of a larger study. Besides I pursue ethnographic investigations of modes of communication between the composer and the artists and technicians involved in the piece as observed during the dress rehearsal on the same day. Additionally, I supplement this with my personal interviews with the composer and a thorough study of documents like sketches on her compositional process. I will also draw on performance theory and specifically the approach of "Music-As-Performance" (Auslander, 2006) in order to situate Zubel's *Not I* and its specific collective and collaborative dimensions in a dialogue between composer-performer and an ensemble.

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