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The philosophical fiber Rethinking ensemble conducting in light of a record producer's practice

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Abstract

The overall aim of this single case study is to find aspects of musical leadership relevant to ensemble conducting, using the theory of practice architectures to analyze a record producer's practice. Data generation is performed mainly through transcripts and reflection logs based on YouTube interviews and videos. Insights into ensemble conducting are offered by exploring the following question: "What aspects of musical leadership relevant to conducting can be identified by applying the theory of practice architectures to an analysis of record producer Daniel Lanois's practice?" The materials are analyzed based on three contexts of interpretation of meaning in hermeneutics. The theory of practice architectures serves as the analytical lens for the third context of interpretation. Main findings from this study are extracted into nine concepts that may serve as aspects of musical leadership relevant to conducting: a fast communication system, a self-adjusting act, black dubs, locations, operating by limitation, master station, the philosophical fiber, preparing, and sonic ambience. These and similar concepts may offer new insights into ensemble conducting in contexts similar to recording situations.

Keywords: *musical leadership, ensemble conducting, record producer, practice architectures, musical concepts*

Introduction

Background and previous research

This study is designed to discover aspects of musical leadership relevant to ensemble conducting, using the theory of practice architectures (Kemmis et al., 2014, p. 31) to analyze record producer Daniel Lanois's practice. The concept of the *ensemble* may be understood in several ways. In common language, the term ensemble refers to a cooperative whole of different persons, powers, or the like (Ledang, 2018). Perceptions of ensemble

conducting include different methods of instruction for communicating musical intentions, such as basic conducting techniques (Labuta & Matthews, 2017). D'Ausilio et al. (2012) studied conducting methods that relied on non-verbal communication between violinists and conductors. The authors showed that the conductor's non-verbal communication influences the quality of the musicians' execution (2012, p. 1). Communicating with musicians as conductor requires a different approach than communicating with musicians as a fellow musician because of the leader versus follower hierarchy and the different movements the two execute (D'Ausilio et al., 2012, p. 4). Veronesi (2014) studied various aspects of interaction and conducting by highlighting conduction as both a performative and pedagogical practice (Veronesi, 2014, p. 468). She examined the phenomenon of correction of musical action in the interplay between audible and visible resources and modalities by examining ensemble music workshops. Veronesi concludes that "analyzing correction within the musical practice of *Conduction* has allowed to shed a new light on phenomena that are relevant both for the musical domain and for pedagogy as such" (Veronesi, 2014, p. 486).

Research concerning ensemble conducting and leadership also includes studies that explore the conductor's role by focusing on choral conduction (Jansson, 2013, p. 4). According to Jansson, there is an established practice of a single, non-singing leader as a conductor within the domain of musical leadership in choral ensembles. Jansson argues that a lot of research on conducting utilizes quantitative research methods, but that such studies would also benefit from being qualitatively pursued. Jansson suggests further investigations of how leadership is shaped and understood via the formation of conductors' identities, among other approaches. Investigating the identity formation of a record producer, which is the focus of the present study, may challenge established views of conducting and contribute to new understandings of the conductor's role. Alternative perceptions of leadership may be developed when looking specifically at contexts of musical interplay that demand competences such as technological and improvisational interactional knowledge and skills in addition to traditional conducting. Ølnes (2016) analyzed improvised interaction by studying the use of semiotics and how musical intentions are communicated. In the absence of a written score, improvisational skills may also be central in audible and visible interactions between musicians and the conductor. So, how can analyzing the practice of a record producer contribute to discovering aspects of leadership relevant to ensemble conducting? Howlett (2012) argues that "the concept of the record producer as a 'nexus' between the creative inspiration of the artist, the technology of the recording studio, and the commercial aspirations of the record company" (Howlett, 2012, p. 1). This nexus is about engagement with otherness, which requires empathy. According to this definition, the role of the producer entails a much broader perspective on leadership than just relating to musical aspects. Probably, most conductors will have to tackle interpersonal concerns in interacting with musicians. Given the different contexts a conductor and a record producer

operate within respectively, investigating the producer perspective on interpersonal relations may provide a supplement to the understandings already developed within the conductors' domains.

Massey (2000, 2009) interviewed 79 top producers and presented the interviews in book form. One of these producers, Titelman, shows an openness to dialogue, where both process and product are developed through interactions between musicians and producers. As such, the producer role can inform understandings of musical leadership by representing an exploratory attitude to both musical form and product, where the hierarchy between leader and musician is blurred. Titelman further suggests that producers must act flexibly and be able to depart from their own ideas when introduced to new concepts. They create an atmosphere in which the product is made to sound as good as it can by focusing on feelings of trust and excitement. As producers, they must be conscious of their special relationship with the musicians: "The collaboration between artist and producer is extremely delicate, and it's a very special and powerful relationship" (Massey, 2009, p. 61). Olson, another producer interviewed by Massey, focuses on preserving musicians' interests and emphasizes the importance of taking collaborators' wishes into account in a recorded production for the integrity of both the process and product: "Well, you don't ever win by intimidating the artist; you might get what you want, but you're not going to get what *they* want" (Massey, 2009, p. 126). Filipetty, another of Massey's interview subjects, says, "Always be prepared to improvise, to say, 'Nah, that's not working out, let's try something else'" (Massey, 2000, p. 195). This openness to how the final product may sound differs from the idea of dealing with a score, whether it be open or rigidly interpreted by the conductor and the musicians. Massy (2016) raises the idea of exploring techniques that fall outside the norm as follows:

I'm a designer of experience, a documentarian who captures fleeting moments of audio that I transform into an enduring legacy. I write from the perspective of an operator who is creating an audio postcard to the future. It was a shared experience when it was recorded, and you get a sense of those special moments every time it's played back.

(Massy, 2016, p. 2)

Philosophical approaches, such as Massy's idea about capturing and transforming audio into an enduring legacy, may represent a way of thinking that could also be valuable when it comes to conducting. This research may offer understandings of ensemble conducting by examining the concept of conducting in an extended sense, focusing on more untraditional approaches such as philosophical reflection on musical interaction, which seems to be an unexplored perspective within the literature. So, how does one make a sensible choice of a relevant representative for the study of aspects of leadership relevant to conducting? Daniel Lanois, the subject of this study, is recognized as one of today's premier record producers. Pharrell Williams provides a summary of Lanois's accomplishments:

Daniel Lanois is a legendary music producer that has taken home the Grammy on three separate occasions for the album of the year. *Rolling Stone* magazine called him the most important record producer to emerge in the 80's. A list of artists he has worked with includes U2, Peter Gabriel, Bob Dylan, Neil Young, Emmylou Harris, and Willie Nelson. He's also an accomplished musician.

(*Reserve Channel*, 2013)

As an established and recognized authority in his field, Lanois may be a less relevant research subject for this study. So, then, how can a leading professional be a relevant representative of his peers for the purpose of this study? When the purpose is to get the most information about a given phenomenon, a representative case or random selection is not necessarily the most appropriate strategy (Flyvbjerg, 2010, p. 473). Flyvbjerg (2010) argues that atypical or extreme cases often provide more information as a result of their nature (2010, p. 473). Lanois's multifaceted practice may serve as an atypical or extreme case, and the fact that he operates as a producer, musician, artist, and songwriter can offer pluralistic perspectives regarding possible aspects of musical leadership that may be relevant for identifying aspects of leadership specific to conducting. Based on the method of generating data from YouTube, access to relevant material also played a role in choosing a producer to investigate. On YouTube, the searches «Daniel Lanois» and «Daniel Lanois Interview» resulted in more than 60,000 hits and more than 11,000 hits, respectively. These videos, which are mostly of good sound and picture quality and, for the most part, contain relevant content, are well suited for generating empirical data for this study. Furthermore, the purpose of this study is not to conclude on what works best (Biesta, 2007a; Biesta, 2010; Steinsholt, 2009), nor to articulate best practice, but rather, to contribute to a field of continuous development. Steinsholt and Juul (2019) discuss best practice as the next practice and emphasize that practice must be understood based on contextual terms with regard to what is good and right to do (2019, p. 188). The following question will guide this study in contributing to the knowledge base on and building a deeper understanding of conducting: "What aspects of musical leadership relevant to conducting can be identified by applying the theory of practice architectures to an analysis of record producer Daniel Lanois's practice?" For the purpose of this study, ensemble conducting is viewed in the broad sense, and the research will provide insights thereof based on the understandings that develop along the way.

Theory of practice architectures

In addressing the concept of practice, one can go back to ancient Greece and specifically Aristotle's writings about practice and poetry (Small, 2006, p. 11) and the trichotomy of *episteme*, *phronesis* and *téchne* (Bartlett & Collins, 2012; Gustavsson, 2000). Small (2006)

challenges Aristotle's thoughts on *praxis* and *poiesis*: "Or, to put it in Aristotelian terms, the material of music history resides not in *praxis*, or social action, but in *poiesis*, the creation of forms" (Small, 2006, p. 11). In Small's concept of music, social interaction is central: "social action, which is to say performance, that is central to the experience of music" (2006, p. 11). In a Nordic perspective, according to Hanken and Johansen (1998, p. 29), we can distinguish between three different music didactic starting points. Positioning depends on whether the music pedagogue is focused mainly on a scientific approach to music (corresponding to *episteme*), a general pedagogical approach to music as total professional competence (corresponding to *phronesis*) or a practical approach as creator/performer of music (corresponding to *téchne*). These starting points are based on a theory that suggests that music as a teaching subject rests on the aspects of arts, crafts and science (Nielsen, 1994, p. 110). Johansen (2006) looks at how knowledge cultures are negotiated through tense dialogues based on four directions identified as: one musicology culture, one general education culture, and two creative and performative knowledge cultures (the *performing* pedagogue and the *performing pedagogue*). Based on these understandings, performative and pedagogical practices can provide relevant opportunities for one another in view of the potential to transfer knowledge and skills.

With this context as a backdrop, my understanding of the term practice is further informed by the theory of practice architectures (Kemmis et al., 2014). The theory of practice architectures provides an analytical lens for this study by focusing on key concepts of the theory, such as the activities of *sayings*, *doings*, and *relatings* (2014, p. 31). Kemmis et al. suggest that practices are composed of sayings, doings, and relatings: "In our view, these sayings, doings and relatings hang together intersubjectively in the project of a practice" (2014, p. 33). Lanois's practice is elucidated by observing him at work, focusing on his actions and know-how of the practice through the lens of relationships that inhibit or promote interaction based on the following dimensions: (1) *cultural-discursive arrangements* in the medium of language and in the dimension of semantic space, (2) *material-economic arrangements* in the medium of activity and work and in the dimension of physical space-time, and (3) *social-political arrangements* in the medium of power and solidarity and in the dimension of social space (Kemmis et al., 2014, p. 32). Examples of this can be found in the way Lanois conceptualizes his practice in the medium of language and in the dimension of semantic space when he talks about (1) "black dubs" (Neilyoungchannel, 2010), (2) his philosophy about the choice of "locations" (Reserve Channel, 2013) in the medium of activity and work and in the dimension of physical space-time, and (3) how he focuses on relationships to human beings using the concept of "the philosophical fiber" (D. Lanois at the Punkt Festival, September 1, 2017) and non-human objects, such as the "master station" (Reserve Channel, 2013), in the medium of power and solidarity and in the dimension of social space.

For this study *practice* is interpreted based on *elements*, *arrangements*, and *dimensions* from the theory of practice architectures (Kemmis et al., 2014, p. 31–33). Although this theory was developed to understand educational practices, it may serve as an appropriate perspective to examine other practices from, such as the record producer's. In an extended sense, the producer's practice may be understood as constructed by similar dispositions, such as knowledge, skills, and values, and thus may represent an interesting perspective for investigating conducting in light of the aforementioned theory:

Different people and objects may be involved at different stages or in different episodes or in different aspects of the practice, and they may participate in different roles or from different perspectives. Some object not apparently relevant to the activities (the ceiling, for example) may in fact play a role in enabling or constraining the practice and in this way be enmeshed in the activity-timespace of the practice.

(Kemmis et al., 2014, p. 39)

In other words, by applying the theory of practice architectures (Kemmis et al., 2014) to read record producer Lanois's practice, the analysis may be informed in a way that enables the discovery of aspects of musical leadership relevant to conducting in a broader sense.

Methodology

This single case YouTube study is positioned within a qualitative research paradigm that has become more important in recent decades, one in which new research methods and technologies are used in combination with one another. According to Kara, such a multi-methodological paradigm provides a basis for useful ways to explore the world around us (2015, p. 34). Some place case studies on the methodological level, as a strategy of inquiry (Creswell, 2014, p. 18), while others define them on the method level (Crotty, 1998, p. 5). In this study, I refer to case studies on both levels, as I employ the approach as a strategy of inquiry and as a method of generating data material. One of the criticisms of case studies is that knowledge and understanding developed therein are too contextually conditioned to produce reasonable generalizations. Flyvbjerg (2010) challenges this criticism by claiming that all learning and development relies on contextual practical knowledge. Based on this line of thought, this case constitutes a basis for developing insights in light of the power of the example (Flyvbjerg, 2010, p. 473).

Data were generated based on a review of more than fifty interviews with Lanois and his accompanying observations on YouTube; I wrote abstracts of twenty-six interviews,

comprising nine hours of data material. Based on the criteria of relevance, saturation, and sound and image quality, I sorted and reduced (Rennstam & Wästerfors, 2016) the number of YouTube videos, and further transcribed five of the twenty-six interviews in their entirety (Los Angeles College of Music, 2016; Louisiana Channel, 2015; Neilyoungchannel, 2010; Reserve Channel, 2013; Shure, 2014). These five interviews, and an interview I conducted with Lanois at the Punkt Festival (2017), are used as data in this study. Two of these interviews (Los Angeles College of Music, 2016; D. Lanois at the Punkt Festival, 2017) consist of musical interactions between Lanois and other musicians. They, therefore, also serve as observation material when transcribed as logs and reflections. I myself only briefly interviewed Lanois at the Punkt Festival (2017).

Research ethics and challenges

Throughout this study, I constantly reflected on central consequences and ethical challenges. The umbrella term *online video research* refers to all research that uses videos or other visual data as, essentially, data material (Legewie & Nassauer, 2018, p. 3). While web access to videos and video sharing platforms through sources like YouTube, Facebook, Twitter, and Instagram open unique opportunities to generate data with significant analytical potential, these opportunities also provide ethical implications for the researcher. Whoever is researched can no longer be referred to as a research participant or informant, but as a research subject, because the researcher has no direct interaction or contact with the person studied. This study generates data material primarily from YouTube: an open access channel with no restrictions. After consultation with the *Norwegian Centre for Research Data* (NSD), the study was, therefore, not reported to NSD. The *Norwegian National Research Ethics Committees* (NESH) recommends that research data should be as open as possible, and as closed as necessary. Lanois, as a research subject, is not anonymized because I consider it more ethical to announce both his name and the video sources, to create transparency and verifiability. The video sources are openly available on YouTube. This is also common practice in other countries, such as Germany: if the access has no restrictions, the law does not require the researcher to obtain the consent of the research subject (Rat Marktforschung, 2014, p. 2). Such laws, however, does not exempt the researcher from ethical reflection. This study's data material is generated from YouTube as a public digital platform and not from private social media channels. Nevertheless, I must always consider the different phases of the analysis against the risk of doing harm. Thus, the focus of the study becomes crucial, and I have no intention of criticizing Lanois as a person, producer, or artist. This study's focus is on aspects of his practice that can inform the research question instead of exploring how personal characteristics or a practice can be criticized.

Process of analysis

The analysis phase of this study is based on Kvale and Brinkmann's (2015) three contexts of hermeneutic interpretation, which are as follows: 1) self-understanding through the whole reading, in which the interpreter tries to formulate what the interviewees themselves perceive as the meaning of their statements; 2) critical understanding based on common sense, within the context of what is a generally reasonable interpretation; and 3) theoretical understanding, where a theoretical framework is used in the interpretation of a statement (2015, p. 241–243), in this case, reading data through the theory of practice architectures (Kemmis et al., 2014).

In the first step of the analysis, I relied on the two contexts of *self-understanding* and *critical understanding* (Kvale & Brinkmann, 2015, p. 241). In this phase, I *sorted* and *reduced* (Rennstam & Wästerfors, 2016) the empirical material using color coding. Aspects of musical leadership that may be relevant to conducting are shaded, like “conducting” and “the philosophical fiber” in the example below, and subordinate statements are marked with the same color as the aspect they represent. Here is an example from the interview I conducted with Lanois at the Punkt Festival (2017):

Well, you saw it earlier on. I was **calling up chords** to Tim, and I was conducting Kyle, and you know: “**Okay, let’s bring it up, and bring it down,**” so that’s the conducting, which **replaces an awful lot of talk** ... And then, that **establishes trust**, you know, **if someone believes that you’re really looking out for them, and that you want the best for them, then that establishes, you know, a nice feeling of exchange**, and that becomes the philosophical fiber that we operate by.

(D. Lanois at the Punkt Festival, September 1, 2017)

In the second step of the analysis, I examined the empirical data from the third context, *theoretical understanding* (Kvale & Brinkmann, 2015, p. 241), by applying the theory of practice architectures (Kemmis et al., 2014) as a theoretical framework. Through extensive interaction with the data material, this part of the analysis resulted in six main categories (see Table 1), some of which have a high number of subordinate musical concepts. Finally, these concepts are summarized as nine musical concepts, which constitute the findings of this study. These are concepts that may serve as aspects of musical leadership relevant to conducting. The main categories were identified by reading the data in light of the elements *sayings*, *doings*, and *relatings* in the dimensions of cultural-discursive arrangements, material-economic arrangements, and social-political arrangements (Kemmis et al., 2014, p. 32). Despite the modest sample of this example, it gives an indication of how step two of the analysis grew:

Table 1: Matrix based on analysis by applying the theory of practice architectures

S1 (Sayings) Conceptualization (pp. 9, 22, 32)	S2 (Sayings) Communication (pp. 21, 22, 30, 34)	D1 (Doings) Activity (pp. 2, 10, 16)	D2 (Doings) Creativity (pp. 4, 5, 36, 37)	R1 (Relatings) Relationships—people (p. 28)	R2 (Relatings) Relationships—non-human objects (pp. 6, 9, 12, 18, 19, 26, 42)
Black dubs: Manipulating existing material (pp. 21, 25, 32, 33, 35, 45)	Verbal conducting: calling up chords (pp. 21, 22, 27, 29, 30, 34, 44)	Hearing the moment: “a waiting game” (p. 37)	Location: Library, Hamilton Ontario, Canada (p. 17)	Philosophical fiber: establish trust—a built-in filtering mechanism (pp. 28, 43)	Technology: Sound station (pp. 9, 30)
A fast communication system: Establish a fast communication line (pp. 17, 30, 34)	Non-verbal conducting: The Nashville number system (p. 27)	Preparation: “my whole thing” (to avoid “thin air”) (pp. 8, 23, 29)	Location: Slane Castle, Ireland (pp. 4, 5, 16)	Philosophical fiber: Care about people (pp. 3, 5, 7, 11, 16, 20, 23, 28, 30, 40, 43)	Technology: Microphones (pp. 9, 15, 18, 19, 42)

The distinctions among sayings, doings, and relatings (Kemmis et al., 2014, p. 32) can be difficult to define, as the three concepts cannot be neatly separated from one another. They are interconnected and it is only in theory that they can be completely separated. The aspects of musical leadership, presented as musical concepts in the analysis, were retrieved from the full version of the matrix, and some of them are, therefore, not shown in the example above.

Findings

D. Lanois (Punkt Festival, 2017) led his two musicians with both verbal and non-verbal communication. He shouted out chord changes to the musicians, indicated shifts in dynamics with his body movements and variations of intensity in playing his guitar, and showed chord changes using the Nashville number system, which depends on assigning numbers to fingers (1 = tonic, 4 = subdominant, 5 = dominant, and so on). By applying the theory of practice architectures (Kemmis et al., 2014) to read Lanois’s reflections in the color-coded example above, which includes verbal communication as a conducting strategy, and establishing trust that becomes a philosophical fiber to operate by, new aspects of leadership in conducting emerge. Cultural-discursive arrangements enable and constrain the *sayings* characteristic of a practice (Kemmis et al., 2014, p. 32), which, in this case, is the practice of a record producer. According to Kemmis et al. (2014, p. 32), the cultural-discursive arrangements, in the medium of language and in the dimension of semantic space, are the resources that make possible the language and discourse used in and about a practice. In light of this theory (Kemmis et al., 2014), aspects of musical

leadership in Lanois's practice may influence perceptions of what conducting could be in a more general discourse, such as the example of calling up chords during musical interplay.

D. Lanois (Punkt Festival, 2017) talked about “the power of the triangle,” a concept that positions the band (trio) physically into a tight, intimate triangle for the best possible audiovisual communication. How Lanois placed the musical equipment and himself in relation to his fellow musicians is a significant step regarding arrangements that enable and constrain the *doings* characteristic of the practice, such as physical set-ups of various kinds of rooms (Kemmis et al., 2014, p. 32). Furthermore, he himself plays instruments with those he produces during recordings, which he argues opens up another form of musical communication (Shure, 2014). In addition, musical interaction principles inspired from live stage performances are explored in different recording contexts. The direct communication, proximity, and energy that arise in musical interactions with the musicians give him a system for communicating quickly, which is referred to in category S1 of table 1 as the concept “a fast communication system”:

I put myself in the room with the band, and I play guitar with the band, and by proximity I have a certain kind of communication or language with them, and so this allows me a fast communication system. I don't have to be on a talk back.

(Shure, 2014)

As a social-political arrangement in the dimension of social space that enables and constrains the *relatings* of the practice as a communicative requirement (Kemmis et al., 2014, p. 32), this aspect of musical interplay, as an ensemble leader, may also be relevant to conducting in light of the medium of power and solidarity.

D. Lanois (Punkt Festival, 2017) used what can be described as a language and thus helps to develop a vocabulary in the form of what I have chosen in the matrix in table 1 to categorize as conceptualization (S1). In this way he may enable and constrain the *sayings* characteristic of the practice when it comes to perceptions of conducting by representing “what language or specialist discourse is appropriate for describing, interpreting and justifying the practice” (Kemmis et al. 2014, p. 32). As mentioned above, some of the subordinate musical concepts may interfere with several of the main categories, and “black dubs” (see Table 1 category S1) is one such example. This is a semantic term, or concept, which is part of the Lanois vocabulary. “Black dubs” are also an example of activity and creativity (D1) in interaction with technological knowledge, skills, and creative approaches (R2) (see Table 1). In addition, the concept of “black dubs” touches other musical concepts, such as “sonics”, as Lanois elaborates when referring to the process of producing the song «The Hitchhiker»:

If you put on cans and listen to “The Hitchhiker,” you’ll realize how many delights, sonic delights, exist in there. I put days and days in of work into that song, building what I call my black dubs. He hits a certain chord, you think, how did that sound ever happen from a guitar? It happened that way because I extracted; I manipulated and put back in. I did not overdub—I didn’t put a piano on or another guitar or add a bass or anything like that. No, I took what was already there. You can think of it like, a dressmaker makes the most beautiful dress, and then takes the, the motive of the material, blows it up, cuts off a pocket and sticks it right back on the dress. It’s gonna look like a different thing, but it’s cut from the same cloth. It’s arrived from the source itself. It’s not an addition—it’s an expansion: that’s what you’re hearing on this record. I’ve invented this black dub technique, so that I have a chance to apply my creativity to a new angle, which allows me to extract from existing material. You can think of it like cloth material, extracting from existing material. I put it on the operating table, and I can work with it in the absence of the song, and I manipulate that piece if you like. I might add a low octave; I might add a harmony to it; I might fluff it up; I might turn it into cashmere; I might turn it into a subsonic; I might turn it into a lightning ball, but I will turn it into something, and then I put it back into the song surgically in harmonious ways.

(Neilyoungchannel, 2010)

The concepts of “black dubs” and “sonics” add a creative and technological aspect of musical leadership, especially in recording contexts, where not all musical elements need to be represented in real time, as they can be added afterwards by manipulating the existing recorded material. Technological knowledge and skills allow the producer to process the product after the musical interaction ceases, which may lead to another focus along the way. According to Kemmis et al. (2014, p. 32), the social-political arrangements that make possible the relationships between people and non-human objects are the resources that enable and/or constrain the *relatings* of the practice. In certain contexts, this may also be the case for a conductor, both in terms of concert and studio situations. With regard to arrangements that enable and constrain the *doings* (Kemmis et al., 2014, p. 32), black dubbing requires high technological competence, the ability to work and think creatively, and a clear idea of how the finished result will sound, or a conscious reflection of the final product. In principle, the process of extracting “black dubs” can last forever. Lanois focuses on, for example, being innovative (D1), preparing (D1), paying attention (D1), hearing the moment (D1), and experiencing (D1), and he puts all these musical concepts into play when he explores sound (see Table 1).

Social-political arrangements that enable and constrain the *relatings* of the practice (Kemmis et al., 2014, p. 32) are a dimension central to Lanois, both in relationships to other people and to non-human objects, as well as in the context of abstractions of a melodic, timbral, and rhythmic nature:

If the bassline is strong, I may choose to make that the melody and put, when I play you this track a little later you'll see that the bass line is outlined with an opera voice. And, so, the two together, then shell, a little bit like Jimi Hendrix's "Manic Depression": Do-de-de-n-de-do-do... [sings the bass line from "Manic Depression"]. Guitar and bass in unison, there is something very powerful about that, so I've, so if something raises a hand and says: "I have, I am the hook, or the melody, or I am the front of the picture," then I will pay attention to that and try and, and add to it, either in unison or by harmonic complement.

(Reserve Channel, 2013)

Here, Lanois paid attention to what appeared in front of the composition. The music was allowed an opportunity to speak on its own and was not predetermined from Lanois's ideas. Making space for the sounding self to define its foreground or background indicates something about Lanois's view on music and himself as a producer. He evinces no signs of seeing music as a pliable lump of clay that takes the form the producer wants; instead, he gives the music space to define the agenda for its form and expression in collaboration with his own preferences. This open-minded approach to musical leadership may be a fruitful perspective for developing insights into conducting.

One of the concepts that Lanois mentions frequently is "sound" (Reserve Channel, 2013). In the same way that the various components of the song are emphasized and given the right to speak, sound also has a central place in Lanois's thinking. His many years of sound experimentation affect his entire work on both an artistic and a philosophical level. Like other subordinate musical concepts, the semantic concepts of sound and sonics create several tangential terms. In the matrix (see Table 1), "sound" is located below S1 but also affects D1, D2, and R2. In addition, the concept is put into play in conjunction with other musical concepts, such as the concept of "preparing," which he highlighted as one of the most important concepts in his practice (Reserve Channel, 2013). Together, these concepts also represent aspects of leadership that may be relevant to conducting. Here is a longer quote describing Lanois's thinking about sound based on his work on Neil Young's album *Le Noise*, a title Young gave the album in honor of Lanois:

He [referring to Young] walked in the door; I put a guitar in his hands. It was my Guild acoustic. Mark Howard and I had worked on building sound on that little acoustic, and that's the sound that you hear on "Love and War" and "Peaceful Valley Boulevard." That's not a simple sound; it's a very, very multi-layered acoustic sound. I wanted him to understand that there are years and years of dedication to my house sonics. And I, I wanted to present him with something so that he understood that I was bringing something to the table. He picked up that instrument—it had everything. As acoustic sound, it, it would have electronica in it, had bass sounds; it was a new sound. We had taken the acoustical guitar to a new level, and he knew that as soon as he played it. Sat down, first song we recorded was "Love and War," and he heard a bang. He says, "That's amazing, never heard anything like it." We brought the acoustic guitar to another level.

It's a hard thing to do, to come up with a new sound at the back end of fifty years of rock 'n' roll, but I think we did it.

(Neilyoungchannel, 2010)

Regarding material-economic arrangement in the medium of activity and work that enable and constrain the *doings* characteristic of the practice (Kemmis et al., 2014, p. 32), Lanois in this context had been preparing for the construction of a sound based on a Guild acoustic guitar. He put this instrument in the hands of Neil Young as he entered the studio, and in this way some of the premise was set before they started recording the song "Love and War." Both the philosophical and technological, i.e., sonic preparation, as well as the way he met Young in the studio, testify to a conscious strategy for musical leadership, which may also be relevant to conducting.

Through working and exploring sound with Brian Eno, Lanois discovered the value of working with limitations, both economically and technologically. "Operating by limitation" (S1) is a concept connected to several musical concepts from R2, such as boxes, tools, and gear. According to Lanois, by relating to technological and economic constraints, musicians can develop their creativity and ability to exploit the potential of each object: At the peak of my sonic experimentations with Brian Eno, we only ever used four boxes. And that's when we started getting these really beautiful textures and human-like sounds from machines. We got to be experts at those few tools, and it was a limitation in my studio. We didn't think that we should be operating by limitation [laughing]. It's just what we had, and we got good at working those boxes, and, by familiarity, and we knew what to expect, we just got better and better at working the few things that we had, so it's... Maybe it's harder to operate that way in these fast times because there's so much available to everyone, but I can imagine that if you had limitation, even financial limitation, that might be okay, man. You don't have to have everything that the other people have. I think, a financial limitation or a technological limitation, may free up the imagination in such a way that you could maximize what these boxes have to offer.

(Louisiana Channel, 2015)

As a social-political arrangement that makes relationships between people and non-human objects possible (Kemmis et al., 2014, p. 32), the concept of "operating by limitation" may serve as a practical agreement about what to and/or not to do. According to Kemmis et al. (2014, p. 32), such arrangements enable and constrain the *relatings* of the practice. Working with limitations may also be an aspect of musical leadership, and being able to free up the imagination as a result of having to work with limited resources can be a useful experience, also when it comes to conducting. Conductors may not always have access to all the musicians they need, or all the microphones an ensemble needs, or access to the perfect sounding room. However, being able to work using the resources they are given, and

maximizing the potential of what they have available, may affect both the musical process and the product.

Something else Lanois explains is the importance of engaging in a philosophical and emotional plan with musicians. A philosophical bond establishes trust and acts as a philosophical fiber they can work from, which, again, is an important component of what ends up on the record:

Yeah, we have philosophical exchanges obviously because driven by life, and travel and humanity, and I think the... What never gets talked about really is who the people are, what they're going through emotionally and being smart enough to pay attention to who they might be and what, what they're on about is a very big part of what gets into a record. And then, that establishes trust, you know if you, if someone believes that you're really looking out for them, and that you want the best for them, then that establishes, you know a nice feeling of exchange, and that becomes the philosophical fiber that we operate by. Yeah, we talk about life, and we talk about favorite records and all that, but ultimately, as a record producer, as a friend really, that's what I... I never call myself a record producer. Other people call me that. I'm a friend to people I'm working with, and if you have that, then you have a built-in filtering mechanism that's, it's not gonna be driven by stylistic confinement. And we don't care about style when we make records, or I don't, anyhow. I care about the people I've been working with, and how to do the very best of what we have to work with.

(D. Lanois at the Punkt Festival, September 1, 2017)

According to the theory of practice architectures, social-political arrangements that enable and constrain the *relatings* of the practice are the resources that make possible the relationships between people and non-human objects (Kemmis et al., 2014, p. 32). Establishing trust as a philosophical fiber to operate by may be seen as such an arrangement. The principles that underlie Lanois's thinking about the concept of "the philosophical fiber" can be understood as a collection of basic attitudes on a deeper philosophical level, which aim to establish trust by showing empathy for the people he works with. Lanois underlines that having philosophical exchanges and paying attention is important regarding what ends up on the record. In this way, being a friend to the people one works with can be an important aspect of musical leadership that influences both on an interpersonal and artistic plane, and is thus a concept that may also be relevant to conducting.

In this section of the article, the process of analysis is elucidated by presenting concepts that may serve as aspects of musical leadership relevant to conducting. I further summarize these concepts as the findings of the study.

Summary of the findings

By using the theory of practice architectures to analyze record producer Lanois's practice, this study reveals nine concepts that may serve as aspects of musical leadership relevant

to conducting on which this chapter will provide further elaboration. The concepts will be categorized within the three subtopics *sayings*, *doings*, and *relatings*.

Sayings – “Conceptualization” (S1) and “Communication” (S2) (see Table 1)

Cultural-discursive arrangements, in the medium of language and in the dimension of semantic space (Kemmis et al., 2014, p. 32), largely comprise conceptualization. The conceptualization includes a nuanced and well-developed language in the form of a vocabulary that articulates vital parts of Lanois’s practice. Conceptualization describes both his thinking and working methods and his creative experimental approach to the role of record producer, which further characterizes the way he conducts and leads musicians in recording situations.

1. *A fast communication system* (Shure, 2014) is a concept embodied by Lanois when he works in the same room as the musicians, playing with the band, and does not use the talk-back microphone, thus establishing a faster line of communication between him and the musicians.
2. *A self-adjusting act* (D. Lanois at the Punkt Festival, 2017) is a concept that entails raising the awareness of the musicians so that they adjust the sound, using the ear as a navigation instrument, as in the recording of Emmylou Harris’s record *Wrecking Ball*. The principle is also to “lay off” the playing when the lead vocalist sings, so that a natural space is given to text rather than having to compensate in the mix.
3. *Black dubs* (Neilyoungchannel, 2010) is a concept that refers to creating sonic extractions in the form of audio samples that are processed and manipulated after recording. This principle also introduces a form of leadership where the result does not have to be achieved during the recording session; instead the technique allows the recording to serve as a starting point for further experimentation.

Doings – “Activity” (D1) and “Creativity” (D2) (see Table 1)

Material-economic arrangements, in the medium of activity and work (Kemmis et al., 2014, p. 32), relate to Lanois’s creative thinking and use of technological aids and locations in the dimension of physical space-time, to exploit opportunities and limitations associated with economics, technology, time, and space in his role as record producer.

4. *Locations* (Reserve Channel, 2013) is the concept of choosing suitable recording locations (the studio, the basement, the library, the barn, the castle, the kitchen), a strategic aspect of leadership that further affects both process and product. Lanois argued that the choice of location, or “laboratory”, as he refers to it, affects the product because different locations require different recording techniques and afford different creative approaches. Locations can inhibit or promote creative processes. For example, U2 chose to record the albums *The Unforgettable Fire* and *The Joshua Tree* at Slane Castle

in Ireland, for inspiration and the possibilities for sonic experimentation that were afforded by the location.

5. *Operating by limitation* (Louisiana Channel, 2015) is a concept used for exploiting the creative potential that limitations can provide. Limitations may be economic, technological, or time-related constraints that can ultimately strengthen the product through their ability to release previously untapped creativity and technological expertise. According to Lanois, the sounding result is not about available equipment and resources but rather the expertise of the person who will use the equipment, which comes with work experience. He often speaks of the importance of mastering equipment and learning to get the most out of the few effects that are available. According to Lanois, musicians only need one specific effect to create something unique, provided they make the most of what they have to create their sound. “The third voice” is an example of operating by limitation by which Lanois shows his utilization of the musical resources available by playing a third voice on the guitar together with the two part vocal harmony sung by him and the bassist (D. Lanois at the Punkt Festival, 2017). Despite having only two vocal voices available, polyphonic harmonies occur by utilizing the melodic potential of the guitar. Lanois also referred to a recording with Emmylou Harris, where she pointed out that their two vocal voices sounded like a three-part vocal harmony as a result of the guitar’s third voice (D. Lanois at the Punkt Festival, 2017).
6. *Master station* (Reserve Channel, 2013) is a concept of developing a sound station that may consist of an instrument, microphones, cables, pre-amps, and other relevant recording equipment. Lanois nurtures a *master station* like a “living, breathing station”, and when something qualifies as a master station “then it exists, and then it is never touched again”, meaning the recording set up is left untouched so that the sound remains the same throughout the whole production process. I understand the idea of developing a master station as an aesthetic strategy to create a unique sound for the recording. This gives Lanois the opportunity to explore the sonic potential of an artist, and thus the concept may work as an aspect of leadership by pushing creative and sonic limits.

Relatings – “Relationships—people” (R1) and “Relationships—non-human objects” (R2) (see Table 1)

Social-political arrangements, in the medium of power and solidarity and in the dimension of social space, are resources that enable relationships between people and non-human objects (Kemmis et al., 2014, p. 32).

7. *The philosophical fiber* (D. Lanois at the Punkt Festival, 2017) is a concept of establishing trust to operate by that acts as “a built-in filter mechanism” between Lanois and the musicians. For Lanois, the philosophical fiber creates an atmosphere of mutual trust and friendship that permits the musicians to exceed their custom.

8. *Preparing* (Reserve Channel, 2013) is a concept that points to how preparation is his “whole thing”, according to Lanois. He emphasizes that preparation symbolizes engagement and commitment. For example, when he arrives at the studio in the morning, he prepares the recording room, and programs beats, makes sound collages, and more, so that when the band arrives in the afternoon, they are not entering an unprepared recording room, or, as he puts it “they are not just walking into thin air” (Reserve Channel, 2013).
9. *Sonic ambience* (Los Angeles College of Music, 2016) is a concept that refers to atmospheric sounds and different kinds of sound manipulation. These aspects form parts of what is also referred to as the *Lanois sound*. Lanois claims that the collaboration with Brian Eno set a new standard for his sonic development. This is an example of a concept developed in relation to both human and non-human objects. The way Eno and Lanois related to each other and to the non-human objects, in the form of social -political arrangements in the medium of power and solidarity and in the dimension of social space (Kemmis et al., 2014, p. 32), established an environment that enabled them to explore new sounds instead of constraining each other’s creative development.

Discussion

In this study, the aim was to find aspects of musical leadership relevant to conducting by applying the theory of practice architectures (Kemmis et al., 2014) to analyze record producer Daniel Lanois’s practice. In light of this, nine concepts are presented as findings. The resultant understanding of Lanois’s practice was thus developed through a thorough analysis of data in light of the theory of practice architectures (Kemmis et al., 2014), from which it became clear that Lanois’s practice and the architecture thereof are crucial to his success in leading musical interaction situations as a producer. He stated this explicitly, as did the musicians he works with, but the principle can also be understood implicitly from the position he has earned in the music industry due to his experience and productions. By rethinking conducting based on insights developed about skills required for successful leadership when recording, this study may contribute to increased knowledge and widen the frames for ensemble conducting in an extended sense. Leadership of musical interactions in recording situations often require musical skills beyond traditional conducting and score comprehension. By analyzing Daniel Lanois’s practice through the lens of practice architectures, the findings of this study reveal aspects of musical leadership relevant to conducting, not as an alternative to the traditional understanding of conducting but in addition to a multifaceted music field. In light of this, the study by D’Ausilio et al. (2012) on conducting methods that rely on non-verbal communication

and Veronesi's (2014) study that examines correction in the interplay between verbal and visible modalities in the absence of a written score constitute valuable perspectives. It is also important to acknowledge that perceptions of ensemble conducting include different methods of instruction, such as basic conducting techniques (Labuta & Matthews, 2017).

Nevertheless, to shed new light on conducting, the discourse may benefit from investigating how the leadership is shaped and understood from different perspectives. I strongly support Jansson's (2013, p. 387) suggestion to further investigate how musical leadership is shaped and understood via identities, among others. Ensemble conducting is a wide area that may be examined from different perspectives in terms of choice of practice, theories, and questions. In an extended sense, the producer's practice may, as mentioned above, be understood as an educational practice. Small's concept of music's meaning as practice and listening leads him to use "music" as a verb: "To music is to take part, in any capacity, in a musical performance" (Small, 2006, p. 12). The term "musicking" may partially outline the possible dividing lines between music pedagogy and performative perspectives. In the meeting between various performative and music educational practices, knowledge and knowledge-based traditions, diversity, development, and changes are central components. The cultural diversity of knowledge may thus be in motion among a triumvirate comprising the main components of *episteme*, *phronesis* and *téchne* (Bartlett & Collins, 2012; Gustavsson, 2000). The three different music didactic starting points (Hanken & Johansen, 1998), the aspects of arts, crafts and science (Nielsen, 1994), Aristotle's trichotomy (Bartlett & Collins, 2012; Gustavsson, 2000), and the four cultural directions (one musicology culture, one general education culture, and two creative and performative knowledge cultures) identified by Johansen (2006), can be characterized as constructions of identities and knowledge. To the extent that it is expedient to use such terms as music pedagogical practices and knowledge, these can be conceptualized according to one's overall professional experience basis. Lanois's practice is further elucidated by focusing on his sayings, doings and relatings under the lens of the theory of practice architectures (Kemmis et al., p. 34).

Ways to identify aspects of musical leadership relevant to conducting may be furthered through the insights gained by examining a record producer's practice. Some of the understandings that emerge in this study are articulated explicitly in the form of findings, while others appear more implicitly and require further reflection before they can be offered as clear contributions. An example of what this study's findings may offer is based on Lanois's notion of trust as a prerequisite for any musical collaboration. Lanois's concept of establishing trust that becomes the "philosophical fiber" to operate by designates itself as one of the main findings of the study and is, therefore, a natural choice of title for this article. Based on a view that acknowledges the idea that different practices "feed" one another (Kemmis et al., 2014, p. 47), hopefully, this study can contribute to further challenging and investigating perceptions of ensemble conducting.

About the author

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