

Understanding musical leadership in light of performative and pedagogical practices from a hermeneutic practice ecological perspective

Ola Buan Øien

THE FACULTY OF EDUCATION AND ARTS

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PhD in the study of professional praxis
Faculty of Education and Arts
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About the Author



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For further information, visit <https://www.nord.no/no/ansatte/ola-buan-oeien>.

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Abstract

This article-based thesis consists of an extended abstract and three articles. The thesis is divided into two parts with a total of four texts and focuses on developing knowledge of musical leadership. In Part I, a synthesis is presented in the form of an extended abstract, and in Part II, the three articles constituting the substance of the synthesis are presented. The author recommends reading the articles first as they constitute the background of the synthesis. The following is an overview of the two parts of the thesis.

Part I - The extended abstract is a synthesis of CS1-3 that consists of an introduction, previous research, theoretical framework, methodology and method, findings, discussion, and conclusions. In this synthesis, a hermeneutic practice ecological perspective serves as a theoretical lens for the comprehensive investigation of CS1–3. The conclusions suggest the *Perpetual Practice Dialogue Complex* as an approach to combine performative, pedagogical and research practices in the means to reveal, develop and articulate understandings in and on musical leadership.

Part II - The articles for each component study (CS) are attached as they were published or available in manuscript form at the time of this thesis submission. Through CS1-3, understandings of musical leadership were developed at the intersection of qualitative research and arts-based research (ABR). Nine concepts that served as aspects of musical leadership relevant to conducting were revealed by investigating a record producer's practice (CS1). Through ABR, six of the nine concepts were transformed into sonic extractions (CS2), and live looping through loop station conducting (LSC) as an ensemble conducting approach offered several perspectives relevant to ensemble conducting in a pedagogical context (CS3).

Keywords: musical leadership, record producer, hermeneutic practice ecological perspective, arts-based research, music teacher education

Sammendrag

Denne artikkelbaserte avhandlingen består av en kappe og tre artikler. Avhandlingen er delt i to deler med til sammen fire tekster og retter søkelyset mot å utvikle kunnskap om musikalsk ledelse. I Del I presenteres en syntese i kappen, og i Del II presenteres de tre artiklene som utgjør substansen for syntesen. Forfatteren anbefaler å lese artiklene først da de utgjør bakgrunnen for syntesen. Her følger en oversikt over de to delene.

Del I - Kappen er en syntese av delstudie 1-3 og består av en introduksjon, tidligere forskning, teoretisk rammeverk, metodologi og metode, funn, diskusjon og konklusjon. I denne syntesen fungerer et hermeneutisk praksisøkologisk perspektiv som en teoretisk linse for den overordnede studien av CS1–3. Konklusjonen foreslår *det evige praksisdialogkomplekset* som en tilnærming i skjæringspunktet mellom utøvende praksiser, pedagogiske praksiser og forskningspraksiser for å avdekke, utvikle og artikulere forståelse i og om musikalsk ledelse.

Del II - Artiklene for hver delstudie er vedlagt i sin helhet slik de ble publisert eller tilgjengelig i manuskriptform på tidspunktet for innlevering av avhandlingen. Gjennom delstudie 1-3 ble forståelser av musikalsk ledelse utviklet i skjæringspunktet mellom kvalitativ forskning og kunstbasert forskning (ABR). Ni konsepter som fungerte som aspekter av musikalsk ledelse relevant for dirigering ble avdekt ved å undersøke en plateprodusents praksis (CS1). Seks av disse konseptene ble videre undersøkt i en musikerpraksis gjennom ABR ved å transformere dem til lydekstraksjoner (CS2), og sanntidslooping i form av loop station conducting (LSC) som ensembleledende tilnærming tilbød flere relevante perspektiver i en pedagogisk kontekst (CS3).

Nøkkelord: musikalsk ledelse, plateprodusent, hermeneutisk praksisøkologisk perspektiv, kunstbasert forskning, musikk lærerutdanning

Acknowledgements

As this study draws to a close, I would like to express my gratitude to everyone who participated along the way. Thanks to Nord University; over the past four years, I have not felt lonely and isolated, but rather included and privileged. I could not have had a better place to carry out my research project.

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Thanks to all of my great colleagues at Nord University, especially those of you at the Research Division for Arts and Culture and the PhD program in the study of professional praxis. My three closest leaders have been Nils Halse Kanestrøm, Geir Berg-Lennertzen, and Hans-Kristian Øyan. My collaboration with you has been enriching and inspiring, and it has been a joy for me to be employed. You all focus on education, research and development work with a keen interest in people, which was crucial for my well-being in the workplace.

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The most demanding and educational job of completing my doctorate was publishing the three accompanying articles. I am therefore incredibly grateful for such fruitful and

inspiring collaboration with the editors of the journals who graciously published my articles. A big thank you goes to Øyvind Johan Eiksund, Elin Angelo, and Jens Knigge (*Music technology in education - Channeling and challenging perspectives*); Guro Gravem Johansen, Anna Houmann, Danielle Treacy, and Olle Zandén (*Nordic Research in Music Education*); and Ketil Thorgersen (*European Journal of Philosophy in Arts Education*). I would also like to thank all my opponents and readers during conferences, seminars, and peer reviews. A special thank you to Tone Pernille Østern, Eirik Askerøi, and Sven-Erik Hansén for your instructive and valuable input. By meeting with you during the mid-term and final seminars, I was able to see my project in a new light.

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Levanger, December 11, 2020

Ola Buan Øien

Table of Contents

About the Author	iii
Abstract	v
Sammendrag	vii
Acknowledgements	ix
List of Abbreviations	xiii
List of Figures and Tables	xiii
List of Articles	xv
Outline of the Thesis	xvii
Part I: The Extended Abstract	1
1 Introduction	3
1.1 Motives and Background	4
1.2 Aim and Research Questions	6
1.3 Context of the Study	7
1.4 Research Design	9
2 Previous Research	13
2.1 On Musical Leadership.....	13
2.2 On Arts-Based Research	16
2.3 On Live Looping.....	18
2.4 Summary and Challenges.....	19
3 Theoretical Framework	23
3.1 Hermeneutical Perspectives	23
3.2 Practice Ecological Perspectives	29
4 Methodology and Method	35
4.1 Scientific Framework	35
4.2 Methodological Approach	38
4.3 Generating Empirical Data.....	41
4.4 Analytical Approach	43
4.5 Ethical Considerations	45
5 Findings of the Component Studies	49
5.1 Component Study 1: On Ensemble Conducting in Light of a Record Producer’s Practice	49

5.2	Component Study 2: On Transforming Theory into Music	52
5.3	Component Study 3: On Live Looping as an Ensemble Conducting Approach.....	53
6	Discussion	55
6.1	The Hermeneutic Practice Ecological Perspective	55
6.2	Unfolding Findings through the Perpetual Practice Dialogue Complex.....	61
6.3	Methodological Considerations.....	65
6.4	Further Research.....	66
7	Conclusions	69
	References	71
	Part II: The Articles.....	77

List of Abbreviations

- CS 1: component study 1 (Øien, 2020a)
CS 2: component study 2 (Øien, in press)
CS 3: component study 3 (Øien, 2020b)
ABR: arts-based research
ABMI: arts-based meaning interpretation
ABT: arts-based transformation
LSC: loop station conducting

List of Figures and Tables

Figure 1: <i>The Overall Research Design</i>	10
Figure 2: <i>The Ecological Interconnection of Practices</i>	58
Figure 3: <i>The Hermeneutic Practice Ecological Funnel</i>	60
Figure 4: <i>The Perpetual Practice Dialogue Complex</i>	63
Table 1: <i>Search Summary of Musical Leadership Literature Review</i>	15
Table 2: <i>Search Summary of the Arts-Based Research (ABR) Literature Review</i>	17
Table 3: <i>Search Summary of the Live Looping Literature Review</i>	19

List of Articles

Article 1

Øien, O. B. (2020). The philosophical fiber: Rethinking ensemble conducting in light of a record producer's practice. *Nordic Research in Music Education*, 1(1), 167–187.
<https://nrme.no/index.php/nrme/article/view/2639>

Article 2

Øien, O. B. (in press). Sonic extractions: On developing understandings through arts-based research in a performative context. *The European Journal of Philosophy in Arts Education*.

Article 3

Øien, O. B. (2020). Loop station conducting (LSC): A study on live looping as an ensemble conducting approach. In Ø. J. Eiksund, E. Angelo, & J. Knigge (Eds.), *Music technology in education – Channeling and challenging perspectives* (pp. 131–150). Cappelen Damm Akademisk.
<https://doi.org/10.23865/noasp.108.ch5>

The articles are reprinted in Part II with kind permission of the publishers.

Outline of the Thesis

This is an article-based thesis consisting of an extended abstract (Part I) and three articles (Part II). The following is an overview of the two parts of the thesis¹.

Part I - The extended abstract consists of an introduction, previous research, theoretical framework, methodology and methods, findings of the component studies, discussion, conclusions, and references.

1) The introduction clarifies the study's motive, background, aim, and research questions. The study is contextualized from an educational perspective before an account is given of its research design and structure.

2) I predominantly focus on one field of previous research per component study (CS): "musical leadership," "arts-based research," and "live looping." I conclude this chapter by a summary and discussing review challenges.

3) This chapter highlights hermeneutical and practice ecological perspectives, which form the theoretical perspective of the extended abstract (Part I).

4) This chapter outlines the study's scientific framework, methodology, empirical data, analytical approach, and ethical considerations and challenges.

5) I have chosen to refer to the results of CS1-3 as *findings*, as I consider this a more precise term at the intersection of qualitative and performative research paradigms. This chapter offers a brief overview of the findings of the three component studies.

¹ Reference style for the extended abstract is in accordance with APA 7th edition. The articles' formatting and references are in accordance with the journals' guidelines. The thesis is structured in accordance with *Regulations for the degree of philosophiae doctor (ph.d.) § 10-1, Supplementary rules related to the study plan of 2016*, and the guidelines for the design of the extended abstract given by the program for *PhD in the study of professional praxis* at Nord university (2020a).

6) I continue to unpack the findings from a hermeneutic practice ecological perspective before reflecting on methodological considerations and suggesting further research.

7) Having established this, I offer conclusions in light of the main research question of the overall thesis.

8) All references used in the extended abstract are listed at the end of Part I.

Part II - The articles for each component study are attached in their entirety as they were published or available in manuscript form at the time of this thesis submission. Through these component studies, knowledge is *developed, implemented, and operationalized* through an examination of different practices at the intersection of qualitative and arts-based research paradigms.

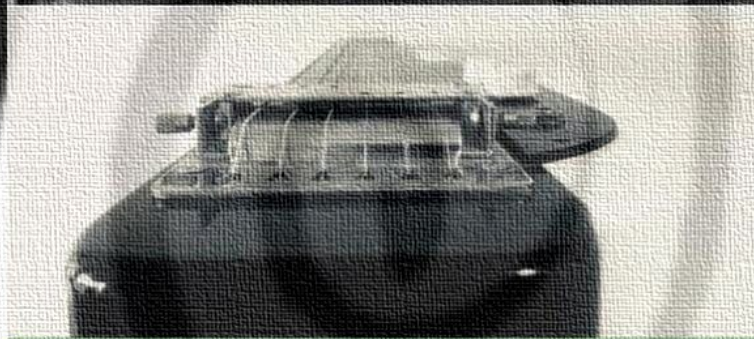
Component study 1 (CS1) resulted in the article *The philosophical fiber: Rethinking ensemble conducting in light of a record producer's practice* (Øien, 2020a). This was a single case YouTube study. It aimed to develop knowledge by understanding which aspects of musical leadership relevant to conducting could be identified by applying the theory of practice architectures (Kemmis et al., 2014) to an analysis of record producer Daniel Lanois's practice. Empirical data was mainly generated through transcripts and reflection logs based on YouTube interviews and videos of the research subject, Lanois. The data material was analyzed using a hermeneutic interpretation of meaning in light of the aforementioned theory. The main findings were extracted into nine concepts relevant to conducting.

Component study 2 (CS2) was articulated and disseminated through the article *Sonic extractions: An arts-based self-study on transforming theory into music* (Øien, in press). Here, six of the nine concepts in CS1 were transformed into sonic extractions. By *implementing the concepts* in my own performative practice through arts-based meaning interpretation (ABMI) and arts-based transformation (ABT), I examined how

arts-based research could contribute to developing understandings of six identified concepts in a performative context. Besides the aforementioned analytical approaches (ABMI and ABT), the sonic extractions summarized in the composition “Supro Nova” constitute the main findings of this study.

Component study 3 (CS3) was a practice-oriented, qualitative self-study outlined in the article *Loop Station Conducting (LSC): A Study on Live Looping as an Ensemble Conducting Approach* (Øien, 2020b). By exploring what perspectives relevant to conducting live looping could offer as an ensemble conducting approach, I *operationalized knowledge* developed through CS1 and CS2 in a music pedagogical context. LSC gave an overall impression of the final result of the song rehearsed and served as an effective supplement and creative ensemble conducting approach. It also created anticipation, and evoked a sense of mastery and security for the research participants.

Part I: The Extended Abstract



1 Introduction

The title of this thesis is Understanding musical leadership in light of performative and pedagogical practices from a hermeneutic practice ecological perspective. The study is contextualized within music teacher education in Norway, with an emphasis on studying performative and pedagogical practices.

In this study, I investigate three different practices: a record producer's practice, a performative practice, and a music pedagogical practice. By examining these practices, my doctoral study supplements prior research on musical leadership with new perspectives rather than offering an alternative best practice. This study was motivated by various challenges within the field of musical leadership, such as the disparity between the education offered and the education needed (Darling-Hammond et al., 2017; Forzani, 2014). This also applies to music teacher education, where recording technology appears underresearched in the field of didactic practice, despite its increasingly important role in professional practice (MusTed, 2019).

The steps from developing knowledge to operationalizing it in a pedagogical context are articulated explicitly from both a theoretical and performative perspective. The study's main research question and overall aim examine musical leadership through investigating Daniel Lanois's performative practice, my own performative musician practice and in the context of music teacher education. A keyword for this research approach is "changes." Such changes pertain to the focus of music teacher education, the way higher education is conceived and organized, and how performative and pedagogical practices intersect. Therefore, I will apply the theory of ecologies of practices by focusing on how different practices feed one another (Kemmis et al., 2014). By challenging existing notions of musical leadership, this study develops insights of musical leadership that are of interest to both performative and pedagogical practices within the multifaceted fields of research in music, music education and music teacher education.

1.1 Motives and Background

Due to ongoing developments in various fields of music teacher education, an understanding of how education should answer societal demands is constantly subject to change (Kaschub & Smith, 2014; Angelo et al., in press). Sound recordings have existed for 140 years, and recording technology and music distribution have prompted new forms of valuing music (Kaschub & Smith, 2014). From broadcasting music through gramophones, the radio, and television to contemporary musical interactions online, historic changes have increased access to music. Kashub & Smith (2014) highlight creating, performing, and listening to music as central aspects of twenty-first century music education. Consumers have greater access to recording technology and music through the internet and streaming services such as Spotify, Tidal, and Apple Music.

The fact that music now exists for posterity challenges a leader professionally, personally, and ethically. A different leadership approach may be needed for teaching situations that involve recording. An awareness of the recording process is needed to fully address participants' ideas, intentions, and ambitions for the musical product, considering it ends up as an artistic product. Moreover, the recording process sets out the final product requirements for musical leadership in terms of its framework (e.g., time available, technological competencies, dialogue/communication) as well as the leader's potential participation (as a producer and possibly a fellow musician with various ensembles). A teacher's way of understanding musical leadership in a recording context is thus similar to the practice of a record producer. As such, this study investigates musical leadership at the intersection of performative and pedagogical practices by investigating a recording practice (Øien, 2020a), a musician's practice (Øien, in press), and a pedagogical practice (Øien, 2020b). This examination also increases the knowledge base and extends the framework of ensemble conducting by foregrounding musical knowledge and skills that extend beyond established conducting techniques and score comprehension. There is a wide range of different conducting techniques (D'Ausilio et al., 2012; Jansson, 2013; Hanken & Johansen, 1998;

Labuta & Matthews, 2017; Veronesi, 2014; Ølnes, 2016), but little research on how a record producer's technology and practice sheds light on musical leadership.

My personal and educational motives for this study were based on my experiences in leadership roles as a musician, producer, music teacher, and music teacher educator. My instructional and creative practices were enhanced by recording music within a variety of artistic contexts and educational settings at different levels. The role of a music teacher is constantly evolving (Kaschub & Smith, 2014; Angelo et al., in press) and various post-secondary courses combine ensemble conducting with recording technology (Nord University, 2020b; NTNU, 2020). The literature contains extensive research pertaining to ensemble conducting, including methods of instruction for communicating musical intentions via basic conducting techniques (Labuta & Matthews, 2017). In light of the CS1 review (Øien, 2020a), I argue that previous research on ensemble conducting does not sufficiently address all the leadership knowledge and skills that music educators need today.

The pedagogical perspectives on musical leadership are diverse and intriguing, as they seek to enable musical participation, such as those developed by Emile Jaques-Dalcroze, Carl Orff, Shinichi Suzuki, Zoltan Kodaly, and John Paynter (Hanken & Johansen, 1998). A review of the literature revealed a lack of information on alternative forms of musical leadership relevant to conducting, thus providing the research motive for this study (Øien, 2020a). Sometimes, musical leadership expertise beyond choral and orchestral conducting is required. The recording studio and a record producer's practice have acted as a natural arena for teacher education programs (Nord University, 2020b; NTNU, 2020). The perspectives on musical leadership gained therein served as the basis for this study. These component studies are disseminated through separate articles (Øien, 2020a, 2020b, in press) that constitute the substance for the extended abstract (Part I) and are presented in their entirety in Part II of this thesis.

1.2 Aim and Research Questions

The overall aim of this study was to contribute to a multifaceted field of research by examining how to develop understandings of musical leadership vis-à-vis various interdisciplinary practices. This constituted a three-step process that examines the interplay between different practices:

- 1) developing knowledge by studying a record producer's practice,
- 2) further developing knowledge and skills by implementing arts-based research (ABR) in my own performative practice, and
- 3) operationalizing the knowledge and skills by investigating a music pedagogical practice.

The aim of this doctoral investigation was guided by the main research question:

- “What understandings of musical leadership can be developed by hermeneutically examining a record producer's performative practice, a musician's performative practice, and a music teacher educator's pedagogical practice from the perspective of an ecological practice theory?”

I began by researching the possibilities for *developing* theoretical knowledge on musical leadership by applying the theory of practice architectures to my analysis of producer Daniel Lanois's practice (Kemmis et al., 2014). In parallel with this study, I investigated certain concepts by *implementing* them into my own practice – by transforming the theoretical knowledge into sonic extractions through ABR. In addition to these research approaches, I completed the sequence by *operationalizing* the knowledge and skills developed by exploring live looping as an ensemble conducting approach in a pedagogical context.

The three component studies (CS 1-3) were guided by the following research questions:

- CS1: “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?”
- CS2: “How can arts-based research contribute to developing understandings of six identified concepts in a performative context?”
- CS3: “What perspectives relevant to conducting can live looping offer as an ensemble conducting approach?”

The core of the ecological dialogue offers insights on the interplay between different practices. The synthesis brings the component studies into dialogue with each other from a hermeneutical view with the perspective of an ecological practice theory. The application of the latter theory (Kemmis et al., 2014) strengthens the investigation of the interaction between different practices. Thus, this study may contribute to the literature because it highlights possible relationships within fields of performative and pedagogical practices where interdependent landscapes have overlapping functions.

1.3 Context of the Study

It is worth highlighting that this PhD study was conducted in Norway at a university that offers music teacher education, although parts of the empirical material and research design were internationally informed. In Norway, an extensive merger of universities, conservatories, and university colleges has occurred in recent years (Meld. St. 18, 2014–2015). Higher music education in Norway and other Nordic countries was previously divided between universities, conservatories, and music teacher education programs. Teacher education programs prepared teachers for elementary and secondary schools, universities prepared those who would teach in high schools, and conservatories directed teachers to music schools as well as voluntary cultural and

professional fields (Nielsen, 2001). As a result of the aforementioned mergers, the Norwegian educational context reinforces the intersection of pedagogic and performative traditions within the field of music teacher education.

Due to the recent mergers, political intentions, and local cooperative initiatives in the field of practice, the teaching demarcations are no longer as clear as they were previously (Angelo et al., in press). In a broader sense, these demarcations are not just about education and professional fields, but practices that compete for the hegemony of research and knowledge development. Against this background, I argue that different educational and research traditions meeting under “the same roof” has strongly contoured the development of Norwegian music teacher education. This does not necessarily mean that the traditions have a unified trajectory; rather, these changes have allowed them to challenge the prevailing discourse of music teacher education. In other words, artistic, pedagogical, and scientific practices have been given the opportunity to interact and influence one another in new and different contexts. Through critical discourse and reflection, music educators and professionals can now use alternative identities, views of knowledge, and institutional traditions to develop new insights for professional practice, further justifying the investigation of musical leadership.

In this study, Lanois's producer practice and my own practice as a musician enter a dialogue with my own pedagogical practice and students' reflections. Recording technology in this context largely deals with digital knowledge and skills and is conceived as music software/hardware used for musical leadership. Such knowledge and skills may be relevant to ensemble conducting in terms of composition, digital recording, music creation, and the development of a music pedagogical approach to leadership. Examples of the software/hardware include Pro Tools (Avid, 2020), Boss RC-300 Loop Station (Boss, 2020), Garage Band (The Garageband Guide, 2020), Ableton Live (Ableton, 2020), and Band-in-a-Box (PG Music Inc., 2020). In this study, Pro Tools and Boss RC-300, are explored through CS2 and CS3.

Government.no (2020) highlights how society is changing due to new technology, knowledge, and challenges, which place demands on schools of the future. In Norway in 2020, digital skills were privileged in the new curricula, as digital competence is recognizably subject to change and must constantly be renewed (The Norwegian Directorate for Education and Training, 2020). Digital judgment, information security, and programming skills are all part of developing digital competence. Moreover, a renewed interest in the subject at school has fostered teachers' collective commitment to digital competence. This means that they have to use digital tools, teaching aids, and resources to improve students' learning. Teachers are also expected to be capable of interpreting, understanding, and using the curriculum to incorporate digital skills in subjects like music. Teachers admittedly have different degrees of digital competence, operationally and didactically. According to The Norwegian Directorate for Education and Training (2020), digital skills in music are manifested by one's ability to use music technology to practice, compose, and experience music. Digital tools may be employed to make recordings, process and manipulate sound, and program music, which ranges from using simple digital tools to shape musical works to strategically achieving creative musical expressions.

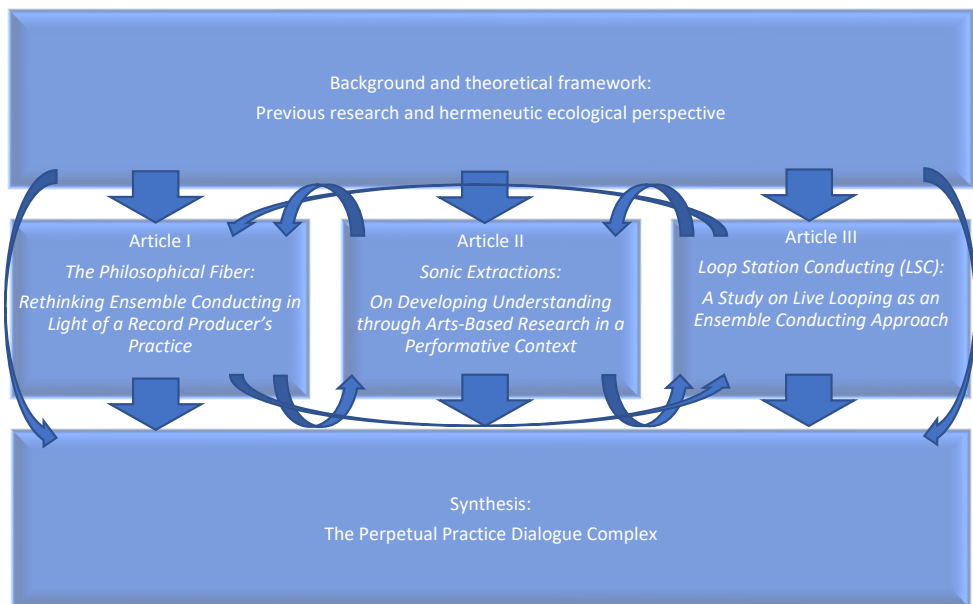
1.4 Research Design

A review of previous research formed the basis for the study's main research question from which three additional questions were derived (CS1, CS2 and CS3). In a synthesis of the findings of the three component studies, possible connections between practices were examined hermeneutically. By applying the lens of an ecological practice theory, the extended abstract further elucidated the interrelationships between the three phases of the investigation (the practices of a producer, musician, and an educator). In CS1, musical concepts were extracted by applying the theory of practice architectures (Kemmis et al., 2014, p. 31) to an analysis of record producer Lanois's performative practice. In CS2, I transformed these concepts into sonic extractions in my own performative practice through ABR and ABT. Finally, I developed

and investigated the LSC approach in a music pedagogical context in CS3 based on the findings of the first and second component studies. In the extended abstract, I alternated between intuitive (unconscious), silent and/or hidden (conscious), and articulated (conscious) knowledge. In this way, a circular and spiral process led to reflexive development around understandings of musical leadership within different practices. The overall research design is illustrated in Figure 1:

Figure 1

The Overall Research Design



Here, the different contexts and perspectives of the component studies and the thesis were interconnected in a hermeneutic process, where understandings were mutually developed by putting relationships into play. Thus, intuitive knowledge was realized and consciously articulated, first as silent/hidden knowledge, and gradually as articulated knowledge. Over time, the insights developed constituted the basis for meta-reflections. That is, insight emerged from the path through which intuition led to

silent/hidden knowledge, which was then articulated, evolved into wisdom, and, ultimately, formed new intuition. From a meta-perspective, this can be understood from the concept of ecologies of practices as “‘living’ systems”, in which also non-human things are included, together with the practitioners/people that serves as the “‘motors’ for practices” (Kemmis et al., 2014, p. 47). Considering practices as living things, the practices and practitioners represented throughout the study established the potential of developing understandings of musical leadership in that it shaped and were shaped by each other.

2 Previous Research

The study's overall review of previous research has revealed an apparent lack of perspectives on musical leadership at the intersection of performative and pedagogical practices (Øien, 2020a, 2020b, in press). Concerning the discussion on the discrepancy between the education available and the education needed, the present study sought to contribute to the literature and the field by illuminating and further developing musical leadership knowledge and skills. This resulted in the three component studies (CS1-3) which serve as the basis for this chapter and pertain to the following subjects: musical leadership/conducting (CS1), arts-based research (CS2), and live looping (CS3). The literature reviewed was identified through searches on the databases Google Scholar, Oria, and ERIC. Relevant and/or gray source material was hand searched by “snowballing” (Krumsvik, 2016) on Google Scholar, Google, and YouTube.

Krumsvik (2016) divided the literature reviews into four main types while emphasizing that there exist far more variants. Roughly speaking, I positioned the study's reviews within the type referred to as an *overview review* (Krumsvik, 2016, p. 58). I operationalized the study's search by summarizing characteristics and describing results from the research literature. In the following section, I provide detailed information on keywords, search threads, and hits for each individual study.

2.1 On Musical Leadership

First, I present the database searches related to the keywords for CS1 (Øien, 2020a): (a) “musical leadership” and (b) “record producer.” These searches were conducted in December 2017 and further updated until the submission of the article. The searches were limited to publications from the last ten years written in English, Danish, Swedish, or Norwegian. I also present (c) hand searches and gray literature searches.

(a) To capture the nuance of “musical leadership,” the search thread was complemented by similar terms: “leadership in orchestra” OR “ensemble conducting” OR “conducting techniques” OR “techniques used by the conductor” OR “ensembleledelse” OR “dirigering” OR “orkesterledelse.” A Google Scholar search resulted in nearly 1,400 hits. To narrow down the number of hits, I searched for texts in which the keywords appeared in the headline. This search resulted in 10 hits, three of which were referred to in the final text version of the study. An Oria search resulted in 116 hits, narrowed by applying the filters “from peer-reviewed journals.” Three of those results were referred to in the final text version of this investigation (two coincided with the Google Scholar search results). An ERIC search resulted in three hits, none of which were referred to in the study. Early in the course of the study, eight research references were cited in the text based on the keywords “musical leadership.” However, as the text was challenged by other readers at different stages, this list was shortened to the work of D’Ausilio et al. (2012), Jansson (2013), Labuta & Matthews (2017), and Veronesi (2014).

(b) The following terms accompanied “record producer” in the search thread: “record producer as a” OR “recording producer” OR “record producing” OR “musical interplay” OR “innspillingsprodusent” OR “plateprodusent” OR “musikalsk samspill.” A Google Scholar search resulted in approximately 3,190 hits. To narrow down the number of hits, I searched for texts in which the keywords appeared in the headline. This search resulted in six hits, one of which was referred to in the final text version of the study. An Oria search resulted in 503 hits (refined by applying the filters “from peer-reviewed journals” and “record producers”), resulting in 25 hits, none of which were referred to in the final text of this work. An ERIC search resulted in one hit, which was not a reference for the study. Early in the study, four research references were represented based on the keywords “record producer.” As the textual process evolved, this list was shortened to include only Howlet (2012) as a reference.

(c) A hand search in the form of “snowballing” (Krumsvik, 2016) of relevant and/or gray literature was conducted based on input from supervisors, anonymous reviewers, anonymous professional academic proofreaders, conference participants, and contributors to various research networks on music-related learning processes (e.g., NAFOL, MusPed:Research). A Google Scholar search resulted in Massy (2016) and Ølnes (2016); a Google search resulted in Massey (2000, 2009); and an extensive YouTube search resulted in more than 50 interviews with Lanois, narrowed down to 25 videos fulfilling relevance, saturation, and sound and image quality criteria. I wrote abstracts of the 25 videos. I then sorted and reduced the number of videos and further transcribed four of the 25 interviews in their entirety from the Los Angeles College of Music (2016), Neilyoungchannel (2010), Reserve Channel (2013), and Shure (2014). I also interviewed and observed Lanois in Kristiansand (Norway) at the Punkt Festival (2017). The literature references are summarized and presented in Table 1.

Table 1

Search Summary of Musical Leadership Literature Review

Keywords/ Hand search	(a) “musical leadership”			(b) “record producer”			(c) Hand search		
Search threads	“musical leadership” OR “leadership in orchestra” OR “ensemble conducting” OR “conducting techniques” OR “techniques used by the conductor” OR “ensembleledelse” OR “dirigering” OR “orkesterledelse”			“record producer” OR “record producer as a” OR “recording producer” OR “record producing” OR “musical interplay” OR “innspillingsprodusent” OR “plateprodusent” OR “musikalsk samspill”			Searches on relevant and/or gray literature were based on input from supervisors, anonymous reviewers, anonymous professional academic proofreaders, conference participants, and contributors to various research networks.		
Databases	Google Scholar	Oria	ERIC	Google Scholar	Oria	ERIC	Google Scholar	Google	YouTube
Hits	10	116	3	6	25	1	2	2	25
Used	3	1	0	1	0	0			4

Summarized	4	1	8
	A total of 13 references		
References	Google Scholar: D'Ausilio et al. (2012), Jansson (2013), and Labuta & Matthews (2017) Oria: Veronesi (2014)	Google Scholar: Howlet (2012)	Google Scholar: Massy (2016) and ØInes (2016) Google: Massey (2000, 2009) YouTube: Los Angeles College of Music (2016), Neilyoungchannel (2010), Reserve Channel (2013), and Shure (2014)

2.2 On Arts-Based Research

In this section, I first present the database searches related to the keywords for CS2 (Øien, in press): (a) “arts-based research.” These searches were conducted from October 2019 until the submission of the article and were limited to texts published in English, Danish, Swedish, or Norwegian over the past five years. I also present (b) hand searches and gray literature references.

(a) To capture the nuances of “arts-based research,” the search thread included the following similar terms: “arts based research” OR “kunstbasert forskning.” A Google Scholar search resulted in approximately 5,630 hits. To narrow down the results, I searched for texts in which the words appeared in the headline. This search resulted in 225 hits, two of which were referred to in the final text version of the study. Both references were anthologies: Leavy (2018) contained 38 texts, and Almqvist & Vist (2019) contained five texts. An Oria search resulted in 171 hits, narrowed by applying three additional filters (“from peer-reviewed journals,” “arts-based research,” and “arts based research”). Two of the hits (the same references found in the Google Scholar search) were referred to in the final article. An ERIC search resulted in 41 hits, none of which were referred to in the final version of the article.

(b) A hand search in the form of “snowballing” (Krumsvik, 2016) on relevant and/or gray literature was conducted based on input from supervisors, anonymous reviewers, anonymous professional academic proofreaders, conference participants, and contributors to various research networks. The search resulted in seven references: Angelo et al. (2019) from Oria; Massey (2009) and Østern & Rønning (2019) from Google; and Neilyoungchannel (2010), Reserve Channel (2013), and Shure (2014) on YouTube. Øien (2020a) was used for gray literature. The literature references are summarized and presented in Table 2.

Table 2

Search Summary on Arts-Based Research (ABR) Literature Review

Keywords/ Hand search	(a) “arts-based research”			(b) Hand search				
Search threads	“arts-based research” OR “arts based research” “kunstbasert forskning”			OR	Searches on relevant and/or gray literature were based on input from supervisors, anonymous reviewers, anonymous professional academic proofreaders, conference participants, and contributors to various research networks.			
Databases	Google Scholar	Oria	Eric	Oria	Google	YouTube	Gray literature	
Hits	225	171	41	1	2	3	1	
Used	6 references received from 2 anthologies		0					
Summarized	6			7				
	A total of 13 references							
References	Google Scholar/Oria: Almqvist & Vist (2019), Holgersen (2019), Freeman (2018), Gergen & Gergen (2018), Leavy (2018), and McNiff (2018)			Oria: Angelo et al. (2019) Google: Massey (2009) and Østern & Rønning (2019) YouTube: Neilyoungchannel (2010), Reserve Channel (2013), and Shure (2014) Gray literature: Øien (2020a)				

2.3 On Live Looping

Here, I first present the database searches related to the keywords for CS3 (Øien, 2020b): “live looping.” Searches were conducted and results were updated from December 2019 until the submission of the article (limited to texts published in English, Danish, Swedish, or Norwegian over the past ten years, except from ERIC, where there were no year restrictions). I then present the hand search literature references from lists of articles that appeared in the search for “live looping.”

I specifically consulted the reference lists of articles that appeared in the search for “live looping” to perform hand searches in the form of “snowballing” (Krumsvik, 2016) rather than developing a search thread. The results for “looping” were extensive, as the concept is central to other disciplines such as engineering, medicine, chemistry, computer science, and information technology. A Google Scholar search for “live looping” resulted in 144 hits, one of which was referred to in the final text for the study (Marchini et al., 2017). An Oria search resulted in ten hits, one of which was referred to (Mattsson, 2015). An ERIC search resulted in two hits, neither of which were used in the final version of the article. The hand search resulted in five references: Heyworth (2011), Knowles & Hewitt (2012), and Mitchell & Heap (2011) from Google Scholar and Kjus & Danielsen (2016) and Renzo & Collins (2017) from Oria. The literature references are summarized and presented in Table 3.

Table 3*Search Summary of Live Looping Literature Review*

Keywords/ Hand search	(a) "live looping"			(b) Hand search	
Search threads	No search thread, only one keyword phrase			Searches on relevant and/or gray literature were based on reference lists in articles that appeared in the search for the keywords "live looping"	
Databases	Google Scholar	Oria	ERIC	Google Scholar	Oria
Hits	144	10	2	3	2
Use	1	1	0		
Summarized	2			5	
	A total of 7 references				
References	Google Scholar: Marchini et al. (2017) Oria: Mattsson (2015)			Google Scholar: Heyworth (2011), Knowles & Hewitt (2012), and Mitchell & Heap (2011) Oria: Kjus & Danielsen (2016) and Renzo & Collins (2017)	

2.4 Summary and Challenges

Through the three component studies (CS1-3), I conducted a critical review of relevant literature. Collectively, these reviews illustrated that studies on musical leadership have only focused thus far on ensemble leadership (that mainly concerns conducting methods and score comprehension), and the intersection of performative and pedagogical practices has received little attention (D'Ausilio et al., 2012; Jansson, 2013; Labuta & Matthews, 2017).

A review can be conducted in various ways (Krumsvik, 2016), and my competence increased in step with the work, which subsequently affected the review process. The problems I experienced along the way informed this text as I adopted a self-critical perspective for discussion. While this work has been enlightening and educational for me as a novice researcher, certain challenges presented themselves along the way. First, I began to prepare this study's project description by reviewing the results of a

search on the keywords “musical leadership” and “ensemble conducting.” As the project evolved, the need for updated reviews arose at different stages. I reassessed and adjusted research questions and empirical material along the way. Based on the research questions for CS1-3 in this doctoral study project, I entered the aforementioned keywords and related search terms on the Google Scholar, Oria, and ERIC databases. This form of review is not necessarily comprehensive; rather, it offers a qualitative summary of the results from a recent research literature search to which inclusion and exclusion criteria were applied. Therefore, I did not make selections based on rigorous criteria, but read abstracts from all peer-reviewed and journal-published articles according to the definitions noted. I then sorted, reduced, and selected research literature based on the abstracts; those I deemed relevant were carefully and critically read and evaluated in light of each research question. The number of selected articles was further reduced based on peer reviewers’ comments and input. The extent to which my prejudices and pre-understandings may have biased my selection of literature for the study is a valid concern. As this is a qualitative and arts-based study, it is important to be transparent rather than trying to assume a completely objective research role. I herein acknowledge my subjective research role, as I am aware of the possible implications it may have had on the study.

Keywords were sorted, reduced, and selected from the above criteria and further revised as a result of peer review. Nevertheless, it is important to reflect on the reasons this particular review emerged and acknowledge that there are other fields that were not represented in CS1-3. Furthermore, I would like to highlight the existence of other relevant references for my work that I did not focus on, especially the keywords that follow. Zak (2001) and Bennett (2018) use the term “recordingist.” An established term in the field, this keyword provides more than 6,000 hits in Google Scholar. Other examples include “producer as composer” (Moorefield, 2005), “engineering producer” (Askerøi & Viervoll, 2017), “digital signatures” (Brøvig-Hanssen & Danielsen, 2016), and “engineering and technologies in sonic cultures” (Greene & Porcello, 2005).

The review work was a continuous process throughout all phases of this PhD course. If I were to complete the process again, I might have chosen different keywords, search threads, databases, and inclusion and exclusion criteria. However, it is impossible to determine in which ways the studies would be affected by an alternative selection of research literature. As a doctoral student, a reflection upon my own limitations and potential for development emerged as key outcomes of this work. Although fellows must possess knowledge to meet certain requirements prior to initiating such a project, I would like to emphasize that I do not merely consider my PhD study a research project; I also consider it research education. This study's review process was a reflexive exercise that continuously required both time and work. Through attending courses, reading literature, writing, and meeting with experienced researchers, I constantly challenged and expanded my own horizons, which also revealed weaknesses in my work – some of which could be and were corrected while others were not. Overall, I found it valuable to learn how to conduct a review, operationalize that knowledge, and recognize what it added to a study. As a result of this experience, a vague and intangible concept became a clear and concrete aim as I positioned myself in the field. I developed both approaches to conducting the actual review and insights on how my studies could be contextualized in relation to third-party research. Completing this study was educational and enriching, as I developed knowledge and skills related to research as a craft and as a reflexive and creative exercise. This was particularly evident in the various review phases (e.g., planning, sorting, reducing, and selecting the number of sources) and the process of adjusting selections based on feedback from experienced researchers. In sum, the reviews contextualized this study and acted as a basis for further discussions. Little research has been done on musical leadership from the perspectives of a record producer's practice or at the intersection of qualitative and arts-based research paradigms. The overall review of this study may contribute to begin filling a gap in the literature and the process associated with this work has been invaluable in my development as a scholar and a researcher.

3 Theoretical Framework

In this chapter, I will elucidate the theoretical framework of this study: performative and pedagogical practices examined from hermeneutic ecological perspectives based on Gadamer's (2008, 2012, 2017) thoughts on the concept of horizon fusion. *Practice* is a pervasive concept, in terms of both the fields being investigated and the use of the theories of *practice architectures* and *ecologies of practices* (Kemmis et al., 2014).

3.1 Hermeneutical Perspectives

Hermeneutics serves as a consistent theoretical backdrop for all component studies associated with this PhD project; specifically, hermeneutics from a Gadamerian perspective. Over time, it evolved from dealing exclusively with textual interpretation to include more general interpretation. Before I go any further, I therefore wish to outline this development. Hermeneutics derives from the Greek word *hermeneuein*, which means "to interpret" or "to understand," and this disciplined approach to interpretation can be tracked back to the ancient Greeks' Judeo-Christian tradition (Crotty, 1998, pp. 88-89). Initially, hermeneutics was about interpreting the message of authoritative or sacred writings to gain a valid understanding of their meaning (Alvesson & Sköldberg, 2008). A central concept of this process is the hermeneutic circle, where a part of the text can be understood from the whole and vice versa. Wilhelm Dilthey (1833–1911) emerged in the late 1800s as one of the founders of modern hermeneutics (Crotty, 1998). He built his basic hermeneutic ideas on the research work of Friedrich Ast (1778–1841) and Friedrich Schleiermacher (1768–1834; Crotty, 1998). The idea of using a general theory to prevent misinterpreting texts is attributed to Schleiermacher. He introduced a distinction between a grammatical and a psychological interpretation (Crotty, 1998). In the 1930s, Martin Heidegger (1889–1976) and Hans-Georg Gadamer (1900–2002) continued to develop the hermeneutics concept existentially, dealing with a general doctrine of understanding where hermeneutics was not primarily regarded as a method but a general philosophical

theory of all human understanding (Crotty, 1998, p. 92). This shaped my understanding of hermeneutical interpretation, which is based on a more philosophical and aesthetic application.

How do practices feed into each other in relation to Gadamer's concepts of horizon fusion and prejudice? Is it possible to think that the outcomes of one practice can serve as inputs for another? Can we understand each other by approaching each other's worlds and further expanding our prejudices? According to Gadamer, man cannot be explained, only understood; therefore, hermeneutics constitutes a response to the methodological approach of natural science. Gadamer argues that all interpretation presupposes people's preconceptions of the world that they carry with them (Alvesson & Sköldbberg, 2008). In this study, CS1-3 addresses and investigates individual elements of the totality of my prejudices and preconceptions (as a musician, producer, researcher, teacher, and music teacher educator). Gadamer claims that our preconceptions are never without preconditions but lie within a horizon. We are not trapped in the horizon, but our preconceptions are constantly evolving through encounters with others and their worlds, which can be further understood through the concept of horizon fusion (Gadamer, 2012). The content of the horizon does not remain primarily individual; rather, it is a premise shared among members of a culture – something the performative and pedagogical practices examined in this study conceivably represent. In this study, the hermeneutic circle becomes a relationship between the horizons of the practices and practitioners meeting each other. This fusion parallels the ecological concept of "living systems" (Kemmis et al., 2014, p. 47). From an ecologies of practices perspective, horizon fusion can be understood as pedagogical, performative, and research practices feeding one another through dialogue. Gadamer (2012) presents prejudice as something positively associated with understanding, insights, experiences and perceptions by conceptualizing it as the knowledge and baggage we carry with us as we encounter the outside world. On that premise, the more prejudices people possess, the greater our ability to understand

other horizons. Therefore, I understand the potential interplay between the study's three mentioned fields of practices from my own background as a musician, producer, researcher, and educator.

Gadamer (2012) views hermeneutics as more than a scientific method of understanding, as philosophy, art, and history (the humanities) reveal truths and confirm understandings through experience. Texts by philosophers such as Plato, Aristotle, Kant and Hegel give readers the opportunity to acknowledge truths to which they would not otherwise have access. According to Gadamer (2012), experiencing works of art gives readers a similar opportunity to experience truths that could not be witnessed in other ways. This is also reflected in my study, where philosophical hermeneutics (Gadamer, 2008) serves as the theoretical basis for investigating concepts through ABR (Øien, in press). In my study, the musical experience corresponds to a holistic hermeneutic experience, transcending the realm of methodological cognition. The historical transmission of knowledge can benefit from being assessed in a modern context under a critical hermeneutic gaze. Through a hermeneutic circle, one explores, discusses, understands, evaluates, and acquires new insights and understandings as a result of practices' horizons nourishing each other through ecological interaction. In this way, one moves upwards in an eternal hermeneutic spiral, achieving new realizations in the face of the outside world. As a result of continuous encounters between different horizons, I too developed new understandings of this study's empirical material from different perspectives.

By understanding others, entering their worlds, and seeking their opinions, new horizons are discovered. The horizon can thus be understood as a flexible variable that changes over time from interaction with others, as "no one starts from the tabula rasa, not even the one who tries to understand." (Alvesson & Sköldberg, 2008, p. 245). Gadamer's focus on history and the dissemination of tradition also applies to the actual interpretation of horizons. Interpretation is contextually conditioned, and therefore relative (i.e., subject to the interpreter's frame of understanding, preconceptions, and

prejudices). Interpretation is connected to the amount of prejudices people possess; they further ascend in the hermeneutic spiral as their own horizons merge with other horizons. The movement between whole and part in the hermeneutic spiral consequently frames their own pre-understanding. According to Gadamer's (2012), understanding of existential hermeneutics, this movement constitutes an eternal cycle on the path to increased insight, cognition, and understanding. This theoretical starting point, together with the theory of ecologies of practices (Kemmis et al., 2014, p. 43), forms the basis for the concept of the Perpetual Practice Dialogue Complex (see Figure 4), which I present in the discussion chapter.

Based on the concepts of horizon fusion and prejudice, people are conceivably influenced on their way to new insights and understandings in encounters with others. Their prejudices and the expansion of their own horizons facilitate the development of individual insights. This, of course, presupposes the recognition of others' views. Such an acknowledgement is based on the fact that there are possibilities for different practices to feed each one another, through possible horizon mergers as well as an expanded supply of prejudices. Developing insights about hermeneutics from a humanistic perspective, however, does not result in generalizable knowledge through knowledge of laws. Gadamer (2012) puts this into words when he discusses the nature of the humanities and the ideal of historical cognition. The real problem that the humanities face in thinking is that we have not understood the nature of the humanities as long as we use the progressive recognition of laws as a yardstick. The experience of the social and historical reality cannot be brought up to a scientific level by means of the inductive approach of the natural sciences. No matter how much general experience it is based on, the goal is never to confirm and expand these general experiences to reach recognition of a law, for example about how people or states develop, but rather to understand how this these people, this state have come into being or how it came to be this way (Gadamer, 2012, p. 30). If prejudice is viewed positively, it can be used to develop insights as we encounter the horizons of others,

which I would argue was the case in my encounters with the empirical material in CS1-3.

As a result of the merger processes of recent years, performative, pedagogical and research practices in Norwegian universities commonly intersect. The role of an ensemble leader can be interpreted differently by music teacher educators with different positions based on their backgrounds (e.g., a jazz pedagogical background, a background in choir and/or orchestra conducting, or a background in primary school where the pupils form the ensemble). Different positioning also applies to music teacher educators with almost the same education as a natural consequence of individual differences beyond educational background. A variety of practices may constitute a unique starting point to expose music student teachers to a wide range of sayings, doings, and relatings that generate meaning. In the next chapter, I will present the theory of ecologies of practices (Kemmis et al., 2014) as a possible starting point to operationalize a theoretical discussion on practices intersecting.

Although I recognize the possibility that practices can shape and be shaped by each other, Gadamer's thinking about the fusion of horizons has been challenged by several scholars, including Habermas. I will now shed light on some of the criticism based on Habermas's (1985, 1996) communication theory based on the potential of language. Habermas challenges Gadamer's idea of horizon fusion using critical hermeneutics (Alvesson & Sköldborg 2008). The historical transmission of traditions and the interpretation of others' horizons is disturbed by the power and social barriers represented by the basic ideological ideas of the individual. This limitation affects the extent to which Gadamer's merging of horizons will take place. In other words, it is likely that individuals will try to influence opponents through argumentation as well as trying to absorb their knowledge.

Nevertheless, Habermas is nuanced in his critique and sees further opportunities to reach consensus through the concept of uninterrupted communication, or

communicative rationality, which he views as the widest and most reflective form of rationality one can achieve (Alvesson & Sköldberg 2008, p. 298). Here Habermas's thoughts differ from Gadamer's fusion of horizons. Habermas argues that understanding and opinions cannot be transmitted through meeting and dialogue alone, unless consensus is reached through communicative rationality (Alvesson & Sköldberg 2008). The opposite of undisturbed communication is the systematically distorted communication. Power imbalances and ideological dominance can affect communication so that it will be difficult, perhaps impossible, to question one another's claims in a discussion. This relates to Foucault's (1999) thinking about power and knowledge as well as Gadamer's (2012) view of how power structures can be constructed in professional practices vis-à-vis horizon fusion. Considering a person with a hierarchically higher position can represent an authority in the discourse to exercise power, it may be difficult for someone in a lower position to speak critically to the authority. Habermas refers to this as illegitimate asymmetric power relations, which further deteriorate the discourse through, among other things, the dominance of ambiguity, mystifications, rhetoric, misinformation, and manipulation (Alvesson & Sköldberg 2008). In the discourse on culturally diverse knowledge in professional practices, illegitimate asymmetric power relations are a significant concern.

Habermas' theory of communication (1985, 1996) has been met with criticism from various domains. Disruptions in communication are impossible to avoid. Furthermore, the various disagreements and conflicting preferences that may have been revealed in the discourse may not always be resolved. Habermas suggests that compromise can be just as fruitful to discuss as the ideal state of genuine consensus. This creates further questions about how one should enter a compromise and on what basis positions should be able to be modified (Alvesson & Sköldberg, 2008). In the search for Habermas' ideal state (genuine consensus) or even compromise, polarization of fronts through communication can just as well occur as achieving fusion of horizons.

3.2 Practice Ecological Perspectives

In order to investigate the overall research question of this study I operationalized the theory of ecologies of practices (Kemmis et al., 2014) in my project to carry out meta-reflections in the extended abstract. By precisely applying an ecological lens to the hermeneutical perspectives prevalent in CS1-3, I synthesized a compilation of the component studies from a holistic scientific perspective. Before I deal with the theory of ecologies of practices (Kemmis et al., 2014), I will first contextualize and illuminate my understanding of the concept of practice.

This project's theoretical perspectives on practice navigate the scope of the path from its research questions to the findings and their dissemination, forming what Schatzki et al. (2001) refer to by the title of the anthology "The practice turn in contemporary theory." They claim that knowledge is mediated through people's practical understanding of events and interactions, which is consistent with Gadamer's (2012) fusion of horizons. These traditions form a "family" of theoretical perspectives linked by historical and conceptual similarities (Nicolini, 2012). Small's (2006) concept of the meaning of music as practice and that which is through listening leads him to use "music" as a verb: "To music is to take part, in any capacity, in a musical performance" (p. 12). The term "musicking" partially demarcates music pedagogy and the artistic perspective. Knowledge and knowledge-based traditions, diversity, development, and changes are central to the encounter between various artistic, performative, and educational identities.

In ancient Greece, a diversity of practices specifically existed in Aristotle's trichotomy of *episteme*, *phronesis*, and *téchne* (Gustavsson, 2000), which can be applied to the Nordic perspective of Hanken and Johansen (1998). In this view, the approach to teaching depends on whether the music pedagogue is focused mainly on science (the scientific approach to music corresponding to *episteme*), a general pedagogical approach to music (total professional competence corresponding to *phronesis*), or *ars*

(the practical approach as a creator/performer of music, corresponding to *téchne*). These are didactic starting points based on a theory that suggests that music pedagogically relies on aspects of arts, crafts, and science (Nielsen, 1994, p. 110). The *ars* and *scientia* dimensions (Hanken & Johansen, 1998) and the general pedagogical approach, like Aristotle's trichotomy (Gustavsson, 2000), are constructions of identities and knowledge that appear here in music pedagogical form and are conceptualized according to one's overall professional experience.

Johansen (2006) examines how cultures of knowledge are negotiated through dialogue from four directions: one musicology culture, one general education culture, and two creative and artistic performative knowledge cultures (the *performing* pedagogue and the *performing pedagogue*). The distinction between *performing* pedagogue and the *performing pedagogue* is decided on the basis of whether the performative or the pedagogical aspect is put in the foreground/background. I would argue that it is not possible to draw sharp distinctions between the latter practices; rather, performative and pedagogical cultures and identities are intertwined. Kemmis et al. (2014) argue that practices exist and change under practice architectures in which they are composed of sayings, doings, and relating that hang together in projects (p. 33), and where the practice architectures enable and constrain preconditions for conduct (p. 31).

There are several terms adjacent to practice that have been omitted from this study; for example, the field of music is in many ways *interdisciplinary* (both performatively and pedagogically), and I fully recognize the concept. Nevertheless, I have chosen to relate to practice over other possible concepts due to its central place in the theory of practice architectures (Kemmis et al., 2014) and to limit the scope of the study. The theory of practice architectures originated from Kemmis and Grootenboer (2008), and has been further developed within the international Pedagogy Education Praxis (PEP) network with researchers from Australia, the Netherlands, Norway, Sweden, Finland, and Colombia (Mahon et al., 2020). The theory is well established in research on school

and education (Kemmis et al., 2020); e.g., Aspfors's (2012) study in which it is applied in research on teachers' induction practices.

Different practices may offer relevant perspectives and contexts in terms of their skills/knowledge transfer potential. The case study of Lanois (Øien, 2020a) provided an empirical basis for developing an understanding of a recording producer's practice as it relates to musical leadership. In this study, the concept of practice was composed of Lanois's sayings, doings, and relating. Lanois's activities of *saying*, *doing* and *relating* that constitute enabling and constraining preconditions depend on:

(a) *cultural–discursive arrangements* in the medium of language and the dimension of semantic space,

(b) *material–economic arrangements* in the medium of activity and work and the dimension of physical space and time, and

(c) *social–political arrangements* in the medium of power and solidarity and the dimension of social space (Kemmis et al., 2014, p. 32).

Schatzki's (2005) theory of site ontologies considers practices as they are perpetually situated in time and space. Practices are composed in the site where they occur and of resources found or brought therein (Kemmis et al., 2014, p. 33). In this way, practice architectures constitute enabling and constraining preconditions on the basis of Kemmis' aforementioned dimensions (semantic space, physical space and time, and social space). The three categories of arrangements are in the medium of resources that enable the:

(a) language and discourses used in and about the practice,

(b) activities undertaken in the course of the practice, and

(c) relationships between people and non-human objects that occur in the practice (Kemmis et al., 2014, p. 32).

The cultural–discursive arrangements that facilitate the language and discourses used in and about Lanois’s practice can enable/constrain the *sayings* characteristic of his practice. In other words, applying the theory of practice architectures (Kemmis et al., 2014) to interpret Lanois’s practice reveals aspects of musical leadership relevant to conducting by acknowledging the potential of performative and pedagogical practices to provide relevant opportunities (i.e., transferring knowledge and skills). In this context, *sayings* are perceived as what exists in the practice between sayings and the cultural–discursive arrangements in the medium of language as well as the dimension of semantic space.

Material–economic arrangements (Kemmis et al., 2014) consider the resources (e.g., physical spaces, technological equipment, and processes) that enable and constrain Lanois’s activities and work – the *doings* of the practice. In other words, various forms of resources are available (or unavailable), such as a recording studio, other recording rooms, or recording equipment.

Social–political arrangements make up the third part of the resources that enable/constrain the *conduct* of practices (Kemmis et al., 2014). These resources make relationships between people and non-human objects possible; they occur in the medium of power and solidarity and the dimension of social space (Kemmis et al., 2014, p. 32). A social–relational project might involve producing records for others in a situation where individual will, understanding, and action is orchestrated in a collective social space. In Lanois’s case, it was interesting to examine how these resources enabled relationships and interactions between humans and non-human objects and was expressed through power and solidarity. According to Kemmis (2019), changing practices requires more than changing participants’ knowledge, it also requires changing the structure of the practice (i.e., considering new cultural-discursive,

material-economic, and social-political arrangements). Only when new practice architectures are in place can new practices survive.

This study examines the possibilities for practices, practitioners, and practice architectures to nurture one another in ecological arrangements. The *theory of ecologies of practices* establishes the existence of connections between different practices. Some practices can be developed to become practice architectures for other practices (e.g., teaching for student learning), and practices can exist on many scales (Kemmis et al., 2014, p. 43). For example, on a general level, there is the practice of teaching; on a more particular level, teaching musical leadership; next, teaching by the use of Loop Station Conducting (LSC); and, at a very granular level, an individual teacher's practice of asking or answering questions (see the research context of CS3; Øien, 2020b).

To explore what knowledge can be developed by synthesizing prior research and the main findings of CS1-3, I use the theory of ecologies of practices (Kemmis et al., 2014) to investigate how Lanois's practice can inform my own performance and further my teaching, which may ultimately become a practice architecture for student learning. A key element of the theory of ecologies of practices is that practices can travel from site to site. In this way, the form and content of one practice can become part of and transform the next practice (Kemmis et al., 2014, p. 50). In the current context, the Perpetual Practice Dialogue Complex (see Figure 4) parallels the education complex of Kemmis et al. (2014, p. 51). The Perpetual Practice Dialogue Complex, together with the hermeneutic practice ecological funnel, forms the theoretical perspective for examining the main research question of this study by unfolding the findings of CS1-3, (see Chapter 6.2).

4 Methodology and Method

This section of the text highlights the study's scientific framework and methodological approach. Furthermore, I shed light on how I generated empirical data through qualitative and arts-based research approaches in the form of interviews, observations, logging, and transforming theory into sound. Finally, I offer my thoughts and ethical reflections on the study's analytical approaches in light of its positioning.

4.1 Scientific Framework

To answer the study's research questions, I investigated how an understanding of musical leadership could be developed, implemented, and operationalized by examining the practices of a record producer, musician, and music teacher. The study presupposes a view of knowledge that recognizes that meaning is developed in the face of the world around us. The study's research design was informed by Crotty's (1998) four elements that inform one another: (1) epistemology, (2) theoretical perspective, (3) methodology, and (4) methods (p. 4). *Epistemology* is understood here as the theory of knowledge embedded in the theoretical perspective and its subsequent methodology. The theoretical perspective represents the philosophical stance informing the methodology and grounding the research process in its context (Crotty, 1998, p. 3). It is important to focus on the way these elements relate to one another rather than merely ranking their perspectives (Crotty, 1998, p. 3). In this chapter, I will illuminate the epistemological and theoretical perspectives of the study. Chapter 4.2 treats methodology and method.

On an epistemological level, this study is informed by what Crotty (1998) refers to as constructionism in the sense of "the making of meaning" (p. 42). In constructionism, "epistemology" (what it means to know) and "ontology" (what is) are nearly synonymous, and the construction of meaning invokes meaningful reality (Crotty, 1998, p. 10). Recognizing this similarity makes it difficult to separate ontology and epistemology on a conceptual level. The research questions and the framework thus

provide the necessary lens appropriate for further analysis, delimitation, and presentation. The realist philosophy (that reality exists outside of thought) and the objectivist philosophy (that meaning exists in the object regardless of any consciousness), therefore, do not capture the epistemological and ontological dualism implicit in a constructionist understanding of the world. The same applies to a purely subjectivist view. According to Crotty (1998), constructivism teaches us that meanings are “at once objective and subjective, their objectivity and subjectivity being indissolubly bound up with each other” (p. 48). It is precisely at the intersection of the subjective and the objective that this study seeks to answer the research questions. My understanding of the term “meaning” is informed by Crotty’s notion that meaning is not discovered but constructed by people in their encounters with the world they interpret (e.g., the performative and pedagogical practices examined in this project). In this study, meaning was not produced as purely objective or subjective truths but as contextually *constructed understandings* in interaction with others through hermeneutical interpretation, further justifying the scientific theoretical foundation of hermeneutics, which is precisely about developing understandings through interpretation of the interaction between the subject and the object.

Hermeneutics serves as the theoretical perspective behind the methodology (see chapter 3.1). Some researchers find it more appropriate to position arts-based research (ABR) in post-humanist, post-modernist, or post-structuralist contexts. Rosiek (2018) endorses a post-human perspective by arguing Barad’s (2007) agential realism is a better fit for arts-based inquiry. This view is challenged by Almqvist and Vist (2019), who find Rosiek’s claim irrelevant “especially in the context of Barad’s ideas that favour sensitising oneself over seeking final clarity” (p. 10). By recognizing ABR as a human practice for developing knowledge, constructionism becomes an even more suitable perspective:

What, then, is constructionism? It is the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being

constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context (Crotty, 1998, p. 42)

I further assert that my doctoral study differs from post-human, post-modern, and post-structural views as it relies on philosophical hermeneutics as a scientific frame of understanding its analytical findings. Gadamer (2012) emphasizes the importance of interpretation as an explicit form of understanding rather than merely succeeding it at times. Gadamer (2017) recognizes developing languages and concepts through an interpretation process as an internal structural aspect of understanding, which involves an internal fusion of understanding and interpretation (pp. 45–46). In terms of the interpreter's connection to the tradition to which he or she relates, understanding is emphasized as an event in itself (Gadamer, 2012, p. 353). Gadamer (2017) also highlights that no singular element holds the whole truth; nevertheless, the truth can accommodate interpreters together (p. 32). Lanois's understanding of his own practice compared to what I found as a researcher through this study is, therefore, not the core of the project. The aspects of musical leadership discovered during my research may be considered possible supplements, not alternatives, to other understandings.

It is only when prejudices are at stake that they are actually put into play (Gadamer, 2017, p. 43). In this context, the pluralistic methodological strategy chosen was a necessary result of the recognition that emerged in the face of the hermeneutical circle and the reciprocal motion between the whole and the part (Gadamer, 2017, p. 39). Acknowledging my own understandings and prejudices encountering data gave me additional opportunities to develop insights into ensemble conducting as soon as the knowledge was articulated and/or embodied (both in the analysis phase and as a presentation). I, therefore, argue that the philosophical hermeneutical exercise that takes place at the intersection of performative and theoretical interpretations helps develop and articulate fruitful insights that would not otherwise be revealed.

4.2 Methodological Approach

Hermeneutic interpretation and understanding were also consistent at a methodological level in CS1-3 as a strategy that informed both qualitative and arts-based approaches to research (Øien, 2020a, 2020b, in press). CS1 was a single case (Creswell, 2014; Crotty, 1998; Flyvbjerg, 2010) YouTube study positioned within a qualitative research paradigm, and I referred to case study as a strategy of inquiry and as a method of generating data material. The analysis phase was informed by Kvale and Brinkmann's (2015) three contexts of hermeneutic interpretation: a) self-understanding through the whole reading, in which I tried to formulate what the research subject himself perceived as the meaning of his statements; b) critical understanding based on common sense, within the context of what was a generally reasonable interpretation; and c) theoretical understanding, where a theoretical framework was used in the interpretation of a statement, in this case, reading data through the theory of practice architectures (Kemmis et al., 2014). CS2 followed a methodologically arts-based research direction (Leavy, 2018). I investigated how an ABR perspective could contribute to developing understandings of six specific concepts through arts-based meaning interpretation (ABMI), through an arts-based transformation (ABT) analysis, and finally, through the arts-based presentation of the composition "Supra Nova" (Øien, 2019). ABMI was a term developed through CS3 which dealt with an analysis process at the intersection of ABR and philosophical hermeneutics. I explored the six concepts by expanding the interpretive perspective to embrace both a performative embodied and cognitive approach to how six concepts could be understood. CS3 was methodologically considered as a practice-oriented self-study (Bleijenbergh et al., 2011; Cochran-Smith & Lytle, 2009). In this study I was engaged as both participant and researcher in a study related to my own field of practice. The analysis phase of this study was also informed by Kvale and Brinkmann's three contexts of hermeneutic interpretation, and the empirics were examined from a theoretical understanding context by applying the concepts of "preparing" and "operating by limitation" (Øien, 2020a). Thus, the synthesis of the study is positioned

at the intersection of qualitative research and ABR. Such a positioning has become increasingly popular in recent decades in environments where new research methods and technology are used in combination with each other (Leavy, 2018), which are not without challenges. By placing the performative movement within the family of ABR, Gergen and Gergen (2018) illuminate its role in the social sciences as a cultural transformation towards pluralism and the confluence of domains within research paradigms (p. 54). This serves as the backdrop for the methodological approach of the present study at the end of the chapter.

Methodological pluralism or *multimethodology* both address new research technologies and methods of exploring the world (Gergen & Gergen, 2018; Kara, 2015; Leavy, 2018). The present study is informed by a reflexive creative methodology (Alvesson & Kärreman, 2011; Alvesson & Sköldbberg, 2008, 2018) and philosophical–empirical research (Kemmis et al., 2014). This can also be seen in the context of reflexive interpretation (Alvesson & Sköldbberg, 2008), where perceptions of ensemble conduction are identified and challenged before the study finally offers new understandings – following the steps from a case study on Lanois, a self-study of my own performative practice, and an empirical study in a music pedagogical context. One criticism of case studies is that the knowledge developed therein is too contextually conditioned to generate generalizable findings. Flyvbjerg (2010) challenges that criticism by claiming that all learning and development is dependent on contextual practical knowledge. As such, the present case may form a basis for developing general understandings, considering the power of its specific examples.

Methodological questions deal with principled ways of thinking and forms of understanding that inform one’s choice of methods. The method becomes a means of achieving a goal, often generating knowledge. Opportunities and challenges related to the phenomenon of methodological pluralism are linked to creativity, new perspectives, and individual approaches. I would argue that all research holds creative potential. Kara (2015) reconceptualizes creative research methods by dividing them

into four main categories: 1) ABR, 2) research that employs technology, 3) mixed methods research, and 4) transformative research frameworks (p. 3). Kara (2015) emphasizes that no automatic link exists between creative and innovative research; however, the use of both new and traditional methods can be applied creatively (p. 5). The complex concept of creativity is difficult to define and measure, according to Kara, who contends that there is too little research on this topic (p. 11). Kara examines creativity by reviewing research topics/questions, methods for generating and analyzing empirics, its presentation, and dissemination (p. 13). Nevertheless, journals, conferences, and other research-related forums provide evidence that researchers are becoming more and more comfortable with integrating multiple methods into their research work to generate and analyze empirical data (Wertz et al., 2011, p. 75). Wertz et al. (2011) argue that there is a common consensus that philosophy is important and relevant in empirically-based research with humans (p. 79). The context of this study focuses on developing, or constructing, understanding rather than prescribing it ontologically, epistemologically, or ethically.

Practice-based research in the form of a/r/tography (research in the roles as an artist, researcher, and teacher) may offer fruitful perspectives to develop knowledge and skills at the intersection of performative, pedagogical, and research practices. Throughout the project, my roles as a musician, researcher, and educator were in constant dialogue and together these roles constituted an overall practice-based framework for the synthesis that may be considered as an a/r/tographic perspective: "A/r/tography is a form of practice-based research that recognizes making, learning, and knowing as interconnected within the movement of art and pedagogical practices" (Irwin et al., 2018, p. 37). To me it served as a dynamic force that was perpetually entangled in the materiality of the research subject (CS1), the research participants (CS3) and the nonhuman objects (CS2). Altogether, the a/r/tographic methodology of this study may be considered an overarching multimethodological research approach which facilitates that practices are put into dialogue by and with each other.

Regardless of whether ABR (Leavy, 2018) is understood as a separate research paradigm, the performative movement (Gergen & Gergen, 2018) is in dialogue with established research paradigms in the synthesis of this study. There are also different understandings of the term mixed methods. Mixed methods may address qualitative and/or quantitative methods, and, in recent times, it has specifically addressed the combination of the two (Bryman, 2016, p. 693). Since the late 1980s a broader interpretation of the concept of mixed methods research has increased in popularity, and the term “covers a whole host of different approaches to the research process” (Kara, 2015, p. 26). The overall multimethodological approach can thus be understood as an a/r/tographic mixed methods study at the intersection of qualitative and arts-based research and from a hermeneutic ecological perspective. The argument for this methodological positioning can be summarized by the fact that the study embraces my practices as an musician (artist), researcher, and educator (teacher) by investigating performative and pedagogical practices at the intersection of qualitative and arts-based research paradigms.

4.3 Generating Empirical Data

CS1 was based on a review of more than 50 YouTube video recordings of interviews with Lanois alongside my related observations; I wrote abstracts on 25 of those videos (based on relevance, saturation, and sound and image quality criteria) and transcribed four in their entirety. All 25 interviews were part of the data material; more than half also contained examples of musical interplay suitable for observation material. This material was transcribed in the form of logs and reflections. Except for a short interview and observation at the Punkt Festival 2017 in Kristiansand, I did not interview nor did I personally observe the research participant. The choice to generate empirics from YouTube videos was part of a creative research methodological strategy.

In CS2, I investigated my own performative practice in consideration of the CS1 findings by transforming musical concepts into sonic extractions in the form of the composition

“Supro Nova” (Øien, 2019). By exploring and trying to understand theory from a performative perspective through ABR, I created a research context in which musical concepts were sonically interpreted and transformed through my own performative practice. In this way, examining my own practice helped produced insights on Lanois’s practice.

The empirical material in CS3 was based on reflection letters submitted in writing by a focus group of nine music teacher students after a teaching class at a Norwegian university. I had conducted the song “Three Little Birds” by Bob Marley and the Wailers using LSC, taking a pre-instrumental and by ear conducting approach without the use of a written score, using real time looping to support the voices in the ensemble and offer a holistic understanding of the song arrangement. After the session, the group gathered in a discussion circle where I informed them of my research project and they shared their reflections on the LSC session in a 15-minute group discussion. Immediately thereafter, the group assembled for 90 minutes in a computer lab, where each focus group member individually wrote a reflection letter guided by four questions I provided (the questions are translated from Norwegian to English):

1. Describe today's workshop with live looping as an ensemble conducting approach;
2. Reflect on how you as a participant experienced live looping as an ensemble conducting approach;
3. Discuss in which teaching situations live looping may/may not serve as an appropriate ensemble conducting approach; and
4. Other

The reflection letters, delivered to me anonymously, generated 4,477 words of data material for further analysis, in addition to data collected during the 15-minute conversation. It can therefore be understood that this empirical data material was

generated through a focus group discussion/interview combined with data-supported interviews (Kvale & Brinkmann, 2015) in the form of individual reflection letters written and submitted anonymously by the nine research participants.

4.4 Analytical Approach

Based on the three component studies, I developed insights that significantly contributed to a holistic understanding of the synthesized study. A qualitative analysis encompasses several ways of approaching data material to understand, explain, explore, structure, clarify, interpret, and theorize (Rennstam & Wästerfors, 2016, p. 11). They further suggest common points of contact summarized in the form of three problems: 1) the chaos problem (systematizing the empirical material through sorting), 2) the representation problem (selecting what will be included in the study by reducing the material), and 3) the problem of authority (dealing with what the researcher can argue on the basis of the material represented; p. 12).

In order to provide a broad overview and deep understanding of the empirical data, the hermeneutical interpretation of meaning (Kvale & Brinkmann, 2015) works within the following three contexts:

- 1) self-understanding through the whole reading, in which the interpreter tries to formulate what the interviewees perceive as the meaning of their own statements;
- 2) critical understanding based on what is a generally reasonable interpretation; and
- 3) theoretical understanding, where a theoretical framework is used to interpret a statement (see CS1, where data is read through the theory of practice architectures; Kemmis et al., 2014).

According to Kemmis et al. (2014), individual and collective practice shapes and is shaped by what they describes as practice architectures where the sayings, doings and

relatings hang together intersubjectively in a project that exists in three parallel dimensions. By investigating Lanois's practice in light of this theoretical perspective (CS1), the practice architecture that enabled and constrained the practice appeared in the form of (Kemmis et al., 2014):

(a) *sayings*: cultural–discursive relationships in the medium of language and semantics and the dimension of semantic space;

(b) *doings*: material–economic conditions in the medium of activity and work and the dimension of physical time and space; and

(c) *relations*: socio–political conditions in the medium of power and solidarity in the dimension of social space.

In CS2 understandings were developed through listening, composing, developing technological skills, and playing music to better understand six concepts that were identified in CS1. Arts-based meaning interpretation (ABMI) and arts-based transformation (ABT) served as an analytical lens of the study at the intersection of ABR and philosophical hermeneutics. This perspective provided a performative approach to developing understandings and skills of the six specific concepts: sonic ambience, master station, operating by limitation, locations, preparing, and black dubs.

The analysis phase of CS3 was also based on Kvale and Brinkmann's (2015) aforementioned three contexts of hermeneutic interpretation, generated mainly through reflection logs from the focus group of music student teachers. In the third context of hermeneutic interpretation, a theoretical framework was used to interpret statements of the students by applying the concepts of "preparing" and "operating by limitation" that were developed in CS1. Findings generated from CS1 and CS2 served as theoretical perspectives for the analytical phase of CS3. I moved between the different layers of a nonsequential hermeneutical circle at the intersection of

performative and pedagogical perspectives. This process created a foundation for my assertion (based on the study's main research question) that understandings on musical leadership can be hermeneutically developed by examining the performative practices of a record producer, musician, and music teacher from an ecological perspective.

Analyzing the empirical material of this study was a time-consuming and creatively challenging exercise. Human behavior and communication are not organized according to forms, points, boxes, or categories, and social situations represented in the form of YouTube videos are multifaceted. Sorting through qualitative material to extract or refine a concentrate of the text answers was what Rennstam and Wästerfors (2016) referred to as the problem of chaos (p. 69). Qualitative material can be sorted according to both content (what emerges) and form (how it emerges) by applying the theory of practice architectures to view CS1 material from different angles. Relating to the material by alternating between data in the foreground and background was an important aspect of this study's analytical bracketing to systematically reveal theoretical categories. Uncovering the potential of the material required me to circumvent and refine the material over time through different approaches after gaining an overview of each component study. Furthermore, I argued the findings by making my own assertion (see chapter 6).

4.5 Ethical Considerations

CS1-3 was conducted in line with the Norwegian Guidelines for Research Ethics in the Social Sciences, Humanities, Law, and Theology formed by the Norwegian National Research Ethics Committees (NESH) and guidelines and requirements from the Norwegian Centre for Research Data (NSD). Internet research (CS1) is thematized in both these guidelines. After consultation with the Norwegian Center for Research Data (NSD), the study was not reported to NSD since the empirical data was generated from an open access channel without restrictions. The Norwegian National Research Ethics

Committees (NESH) recommend that research data be as open as possible yet as closed as necessary. Lanois was not an anonymous resource source because I considered it more ethical to announce both his name and the video sources (openly available on YouTube) in order to create transparency and verifiability. This is common practice in other countries, such as Germany: if access to the content is not restricted, the law does not require the researcher to obtain consent from the person being researched (Rat Marktforschung, 2014, p. 2). However, laws and recommendations do not exempt the researcher from ethical reflection; throughout the research period, I assessed the different phases of the study against the risk of harm. Although the empirical material was mainly generated from publicly available video material, I was still ethically obliged to consider obtaining Lanois's consent, due to the possible consequences of the study negatively affecting him. I worked to ensure that the samples presented were representative of Lanois in terms of what was said (content) and how it was said (form). The study required a loyal transcript of Lanois's statements to ensure transparency and verifiability. Since I did not intend to criticize Lanois as a person, producer, or artist, I highlighted aspects of his practice that could inform the research question. A verifiable research and analysis of the data material has been in focus to safeguard the study's trustworthiness. Through CS1 (Øien, 2020a), data material was primarily generated from YouTube. I did not personally interview Lanois nor did I have any direct interaction or contact with him, except for a very brief interview at the Punkt Festival (September 1, 2017), so it was not appropriate to designate him as a participant or informant. Therefore, I refer to him as a research subject. These considerations also applied to CS2, where the analytical phase was based on the same data material. In CS3 data material was generated primarily from written interview responses by nine research participants in a focus group. With the approval of the Norwegian Centre for Research Data (NSD), the study was not reported to NSD because it did not reveal sensitive personal information that can be traced back to the research participants. Nevertheless, I strived to present my research position and analysis process in a transparent and verifiable way.

Based on my experiences, I will now reflect on the ethical challenges and choices required for my research and their consequences. Moral philosophical theories, such as consequentialism or utilitarianism (Kvale & Brinkmann, 2015, p. 100) and Aristotle's virtue ethics (Bartlett & Collins, 2012) are frameworks for more comprehensive ethical and moral considerations; in this study, I chose to view ethics and morals in relation to each other. Kara (2015) points out the connection between ethics and creativity in several areas, arguing that both are essential to the research process (p. 22), particularly when ethical dilemmas arise (p. 55). According to Kara (2015), it is likely that developing our creative thinking skills will also improve our ability to make ethical decisions (p. 57); therefore, we cannot rely on rules alone to ensure ethical research. Ultimately, we need to think ethically before, during, and after research projects to be considered ethical researchers (p. 54). Forecasting possible ethical dilemmas was, therefore, a vital creative exercise associated with ethics throughout this project, during which time I observed clear connections between ethical and creative thinking. I relate to ethics at a micro-level in the relationship between the researcher and the research participants/subject and at a macro-level in the relationship between the different practices. It is my responsibility as a researcher to treat data material with respect so that claims are not potentially overridden by my own conscious or subconscious agenda. Integrity is central to the practice of responsible research behavior. Furthermore, I sought to clearly explain the research design so that its processes and findings could be understood contextually, as research reports and articles often lack clarity (Kara, 2015, p. 99). Ethics originated from the Greek *ethos* (character) and was translated into the Latin *mores* (morality), which also means "character, custom, or habit" (Kvale & Brinkmann, 2015, p. 95). I address ethics and morality here at a micro-level, reflecting on the guidelines, consequences, and role of the researcher rather than discussing the broader societal effects of the research from a macro-ethical perspective. Professional ethical rules can aid reflections on our own ethical decisions. Moral philosophical theories, such as consequence ethics (utilitarianism) and Aristotle's virtue ethics, provided a framework for more

comprehensive ethical and moral considerations (Kvale & Brinkmann, 2015, p. 100). The ethical principle of beneficence means that the risk of harming a participant should be as low as possible (Kvale & Brinkmann, 2015, p. 107). During CS1-3, I continuously reflected on central consequences and ethical challenges to avoid inflicting harm on the research subject/participants by focusing on beneficence.

5 Findings of the Component Studies

I have chosen to refer to the results as *findings*, as I consider this a more precise term at the intersection of qualitative and arts-based research paradigms. In this chapter, findings from all three component studies are presented as a backdrop to unfold the studies in the next chapter. The main findings from CS1 (Øien, 2020a) were extracted into nine concepts that served 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*. The main findings of CS2 (Øien, in press) were the analytical approaches to arts-based meaning interpretation (ABMI) and arts-based transformation (ABT) and the *sonic extractions* summarized in the composition “Supro Nova” (Øien, 2019). The main findings of CS3 (Øien, 2020b) were several perspectives relevant to conducting: LSC can create anticipation, evoke a sense of mastery and a sense of feeling secure, serve as an efficient supplement to conducting, create an immediate and holistic impression of the final result, and serve as a creative and/or pedagogical approach.

5.1 Component Study 1: On Ensemble Conducting in Light of a Record Producer’s Practice

The overall aim of this study (Øien, 2020a) was to identify aspects of musical leadership relevant to ensemble conducting, using the theory of practice architectures to analyze record producer Daniel Lanois’s practice. The main findings from this study were extracted into nine concepts (i-ix).

(i) A fast communication system

This is a principle of musical interaction that gave Lanois a system for communicating quickly with the musicians. The concept involved an approach where he worked in the same room as the musicians and played with them. He did not have to be on a talk back microphone, thus establishing a faster line of communication between him and the others involved in the recording session (Shure, 2014).

(ii) A self-adjusting act

This entailed raising the awareness of the musicians to adjusted the sound level using their ears as navigation instruments. The principle involved “laying off” and making natural space for the melody sung by the vocalist when recording rather than having to compensate in the mix for drowned out vocals/instruments (D. Lanois at the Punkt Festival, 2017).

(iii) Black dubs

Building sonic extractions in the form of audio samples that were processed and manipulated after recording (rather than recording new tracks) was a concept that Lanois referred to as creating black dubs. This principle also introduced a form of musical leadership where the result did not have to be achieved during the recording session. The technique allowed the recording to serve as a starting point for further experimentation (Neilyoungchannel, 2010).

(iv) Locations

Choosing suitable recording locations was a concept that represented a strategic aspect of musical leadership that further affected both the recording process and the artistic product (Reserve Channel, 2013). Locations can inhibit or promote creative processes; for example, a library or a castle may influence creativity and inspiration differently from a studio consisting of a control room and a recording room.

(v) Operating by limitation

This exploited the creative potential of economic, technological, or time-related limitations (Louisiana Channel, 2015). According to Lanois, such limitations could ultimately strengthen the product through their ability to release previously untapped creativity and technological expertise. “The third voice” was an example of operating by limitation by utilizing the musical resources available by playing a third voice on the guitar in conjunction with a two part vocal harmony. Lanois referred to a recording with Emmylou Harris, where she pointed out that their two voices sounded like a three-

part vocal harmony as a result of the guitar's third voice (D. Lanois at the Punkt Festival, 2017).

(vi) Master station

This concept was about developing a recording setup that consisted of an instrument, microphones, cables, pre-amps, and other relevant equipment. Lanois explained how he nurtured a *master station* like a “living, breathing station;” when something qualifies as a master station, “it exists, and then it is never touched again” (Reserve Channel, 2013). In other words, after discovering a unique sound, the recording setup was left untouched so the sound remained the same throughout the whole production process. The concept facilitated an exploration of the artist's sonic potential and functioned as a leadership skill by pushing creative and sonic limits.

(vii) The philosophical fiber

Lanois explained the importance of engaging in a philosophical and emotional plan with his collaborators to establish trust. This philosophical bond acted as “a built-in filter mechanism” between Lanois and the musicians/band. By caring about the people with whom he worked, Lanois created an atmosphere of mutual trust and friendship, and the philosophical fiber permitted the musicians to exceed expectations and do their very best (D. Lanois at the Punkt Festival, 2017).

(viii) Preparing

This concept emphasized how preparation symbolized engagement and commitment. When Lanois arrived at the studio in the morning, he prepared the recording room, programmed beats, made sound collages, and more, so that when the band arrived in the afternoon, they were not entering an unprepared recording room, or, as Lanois put it, “they [were] not just walking into thin air” (Reserve Channel, 2013).

(ix) Sonic ambience

The concept of sonic ambience refers to atmospheric sounds and different kinds of sound manipulation (Los Angeles College of Music, 2016). These aspects formed parts of what also has been referred to as the *Lanois sound*. Lanois's collaboration with Brian Eno set a new standard for his sonic development as they established an environment that enabled them to explore new ambient sounds instead of constraining each other's creative development.

5.2 Component Study 2: On Transforming Theory into Music

The aim of this study (Øien, in press) was to investigate how ABR can contribute to understanding the process of transforming concepts into sonic extractions in a performative practice. The six specific concepts under study were *sonic ambience*, *master station*, *operating by limitation*, *locations*, *preparing*, and *black dubs*. Main findings were summarized into two analytical approaches and *sonic extractions* (i-iii).

(i) Arts-based meaning interpretation (ABMI)

Through CS2, I developed ABMI as an abstract interpretive analytical approach to researching and interpreting six specific concepts in a performative context. At the intersection of ABR and philosophical hermeneutics, ABMI also constitutes a research finding itself.

(ii) Arts-based transformation (ABT)

On a method level, the study was informed by ABR, which developed into the analytical lenses of ABMI and ABT. ABT dealt with the transformation process from the six specific concepts to the extraction of sound in the analytical phase of the study. ABT was a concrete operationalization of the understandings developed through the performative transformation process of the analysis.

(iii) Sonic extractions: *Supro Nova*

The findings of CS2 were disseminated in the form of sonic extractions as both works of art in the composition “*Supro Nova*” (Øien, 2019) and the results of a research process. Through ABMI and ABT, the six concepts of *sonic ambience*, *master station*, *operating by limitation*, *locations*, *preparing*, and *black dubs*, were interpreted and further transformed into music.

5.3 Component Study 3: On Live Looping as an Ensemble Conducting Approach

The aim of this study (Øien, 2020b) was to investigate which perspectives relevant to conducting live looping offered as an ensemble conducting approach in the context of music pedagogy. The research participants were nine music student teachers at a Norwegian university. I found that live looping through Loop Station Conducting (LSC) offered several relevant perspectives to conducting; the main findings will be presented in the following text (i-v).

(i) LSC can create anticipation.

The teaching class, or workshop, was characterized by the research participants’ anticipation for LSC and the ensemble conducting approach. The music teacher students responded positively to the preparation of the room and the use of the loop station pedal.

(ii) LSC can evoke a sense of mastery and a sense of feeling secure.

The research participants perceived the use of LSC as time-saving and effective, and it appears to have boosted their sense of mastery and security. LSC seems to have provided both a motivating initiating impulse and an overall picture of the song arrangement; the students’ feeling of mastering the song arrangements seemed to persist even after the loop pedal was switched off. Several of the participants claimed that it felt safe to have a recorded voice in the background to lean on, and all of the participants expressed an overall positive experience.

(iii) LSC can serve as an efficient supplement to conducting.

Live looping as an ensemble conducting approach was an effective and comprehensive way to introduce the group to the arrangement of a song that was to be learned a cappella. The student teachers were supported by LSC as the voices in the song arrangement were looped one by one in addition to receiving instructions sung while the tracks were played. LSC also provided support through the repetition of the voices. The participants ultimately experienced LSC as useful in terms of tempo and pitch. The fact that the voices were played in the background made it easier for them to follow, maintain a steady tempo, and navigate pitch by ear.

(iv) LSC can create an immediate and holistic impression of the final result.

The LSC approach impacted students' perception of conducting by giving them an immediate and holistic impression of the final song arrangement along the way. One cannot take it for granted that everyone will always be able to form a picture of the final song arrangement; therefore, LSC has a supporting function in this area as well.

(v) LSC can serve as a creative and/or pedagogical approach.

What further characterized LSC was that the approach could be experienced as a fun and creative way to learn a song arrangement. The students also perceived it as an appropriate and useful pedagogical approach for a number of different teaching contexts (e.g., in school choirs, group teaching in music schools, and music lessons in primary school).

6 Discussion

In the previous chapter, I presented the findings from the three component studies, which will be used in this section to examine the main research question of the thesis. First, the dialogue between the findings of CS1-3 will shed light on what understandings of musical leadership can be developed by hermeneutically examining a record producer's performative practice, a musician's performative practice, and a music teacher educator's pedagogical practice from the perspective of an ecological theory. The concept of the Perpetual Practice Dialogue Complex will then be discussed. Finally, I end this chapter by presenting implications and suggestions for further research. The conclusions of the thesis are addressed in chapter 7.

6.1 The Hermeneutic Practice Ecological Perspective

In CS1, aspects of musical leadership were identified by applying the theory of practice architectures to analyze record producer Lanois's practice (Øien, 2020a). A review showed that previous research on ensemble conducting focused mainly on conducting methods and score comprehension (D'Ausilio et al., 2012; Jansson, 2013; Labuta & Matthews, 2017). Øines (2016) analyzed improvised musical interaction (e.g., non-verbal communication of musical intentions between musicians) with the help of aural sonology and Veronesi (2014) highlighted conduction as both a performative and pedagogical practice. In this study, nine concepts that may serve as aspects of musical leadership relevant to conducting were revealed: *a fast communication system, a self-adjusting act, black dubs, locations, operating by limitation, master station, the philosophical fiber, preparing, and sonic ambience*. Furthermore, in CS2, an ABR review revealed a field of research under development that offered important performative perspectives on tapping into the power of the arts to create new ways to see, think, and communicate (Leavy, 2018). This field also illuminated the role of the performative movement in the social sciences (Gergen & Gergen, 2018). Six of the findings from CS1 were further explored in my own performative musician practice in CS2, which led to

the findings of *arts-based meaning interpretation* (ABMI), *arts-based transformation* (ABT), and *sonic extractions*. The latter were summarized in the composition “Supro Nova” (Øien, 2019), where philosophical hermeneutics (Gadamer, 2008) served as the theoretical basis for investigating concepts through ABR (Øien, in press). The sonic extractions were composed through a performative exploration of recording technology to develop knowledge and skills by the use of a loop machine. Live looping by loop station conducting (LSC) was further investigated in CS3 in the pedagogical context of music teacher education (Øien, 2020b). A review in CS3 revealed that live looping primarily focused on studio recording and performative practice contexts (Kjus & Danielsen, 2016; Knowles & Hewitt, 2012; Marchini et al., 2017; Mattsson, 2015; Mitchell & Heap, 2011; Renzo & Collins, 2017). CS3 was thus motivated by an apparent gap in the music technology literature on both performative and pedagogical practices. By investigating the benefits of live looping as an ensemble conducting approach, I found that LSC was able to create anticipation, evoke a sense of mastery and security, create an immediate and holistic impression of the final result, efficiently supplement conducting, and serve as a creative and/or pedagogical approach.

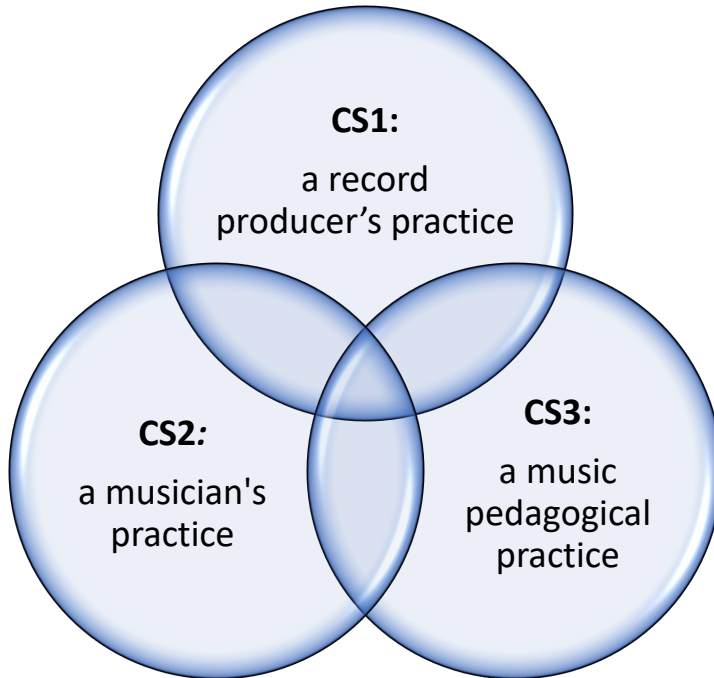
The findings of CS1-3 are viewed from an hermeneutic practice ecological perspective. While the articles focus on three specific practices, I will synthesize the overall findings in this chapter. Various practices co-exist on a site (Kemmis et al., 2014, p. 50), as exemplified by this project. The knowledge of musical leadership revealed in CS1 constituted the basis of the investigation. Lanois's sayings, doings, and relatings (and the three associated dimensions) informed an ABR process that emerged as a core element to understand the nine concepts revealed in CS1. The concepts were not copied and/or integrated into the performative practice investigated in CS2; rather, opportunities were explored to further develop understandings on what they could entail from a performative point of view. In this way, ABR served as a creative impulse that prompted perspectives to develop and implement understandings and disseminate research without using numbers and words. Furthermore, developing

knowledge and skills related to sound, timbre, atmosphere, and creative experimentation in the form of LSC became a practice that could operationalize understandings of musical leadership from a technological point of view while remaining informed by other practices. Such an approach is consistent with a hermeneutic view of developing understandings in line with the concept of the fusion of horizons (Gadamer, 2012), and the theory of ecologies of practices (Kemmis et al., 2014). The general theoretical positioning for synthesis of this hermeneutic study is thus informed by a practice ecological perspective.

By applying a hermeneutic practice ecological perspective, this study provides knowledge on key components of the discussion that feed, challenge, and transform each other as part of an ecological system in order to develop understandings of musical leadership. Furthermore, intersecting knowledge and practices are understood as potentially tangible, not isolated from each other. According to Kemmis et al. (2014), individual and collective practices shape/are shaped by practice architectures composed of sayings, doings, and relating that exist in three dimensions: cultural-discursive, material-economic, and social-political arrangements. In the context of this study, both the practices that are investigated through the CS1-3 and the research practice that is constructed along the way can be thought of as interconnected practice architectures that shape/are shaped by one another and as an approach to developing understandings of musical leadership. CS3's experimentation with live looping was informed by understandings developed at the intersection of Lanois's (CS1) and my (CS2) practices. By challenging and channeling concepts both methodological and theoretical, performative and pedagogical knowledge and skills were developed as understandings of musical leadership through CS1-3. I will highlight that these understandings of musical leadership were therefore contextually constructed and developed in the horizon fusion between me and the research subject/participants, which were in constant flux (see Figure 2).

Figure 2

The Ecological Interconnection of Practices



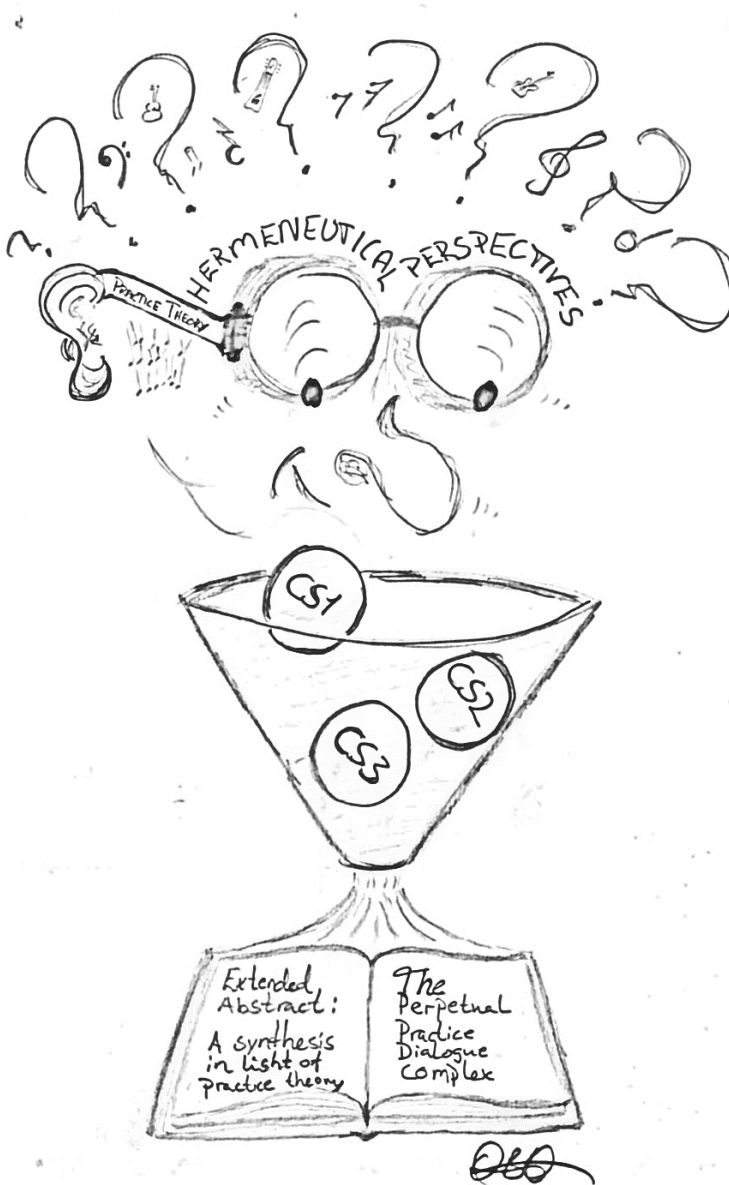
The overlapping fields between two circles constitute the meeting point from which understandings of musical leadership respectively develop. The knowledge and skills that facilitate the practices to feed one another are at the core of the figure where the three circles meet. Although the practices are presented separately in Figure 2, I would like to emphasize that they are inextricably linked to adjacent practices not investigated in this study. Figure 2, therefore, may provide a visual representation of the interconnection of practices textually articulated in this chapter.

From this starting point, the hermeneutic perspective serves as a lens for operationalizing the process of understanding musical leadership at the intersection of CS1-3. The fusion of horizons (Gadamer, 2012) is made possible by acknowledging our potential for self-understanding by understanding others – seeking their experiences and opinions and exploring their practices. Developing a larger repertoire of prejudices in an upward hermeneutic spiral extended horizons in this study. Ecologies of practices as living systems demonstrate that “practices *depend* on one key kind of living thing: the people who enact them” (Kemmis et al., 2014, p. 47). The “living systems” metaphor refers to the organic connection between practices (seen from a macro perspective) and practitioners. Non-human/non-living things (e.g., locations, music technological equipment, theory) also enable and constrain the way different practices may develop and relate to one another. The process of unfolding the findings of the three component studies (see chapter 6.2) can be conceived as a hermeneutic practice in an ecological funnel. CS1-3 constitute an entity that ultimately forms the basis of the comprehensive investigation while the hermeneutic practice’s ecological perspective serves as an overall theoretical lens for the synthesis, which I have further illustrated in Figure 3.

Figure 3 attempts to illustrate the overall research design for the synthesis, consisting of research questions and previous research, qualitative and arts-based research processes (with pauses, playing, reading, and writing), theoretical perspectives, the findings of CS1-3, and the extended abstract. The area between the funnel and the book (the extended abstract) is hermeneutically informed by an ecological perspective from which understandings of musical leadership can be further developed. The short lines represent the knowledge developed by examining the three practices in question (CS1-3). This research design operationalizes the synthesis in order to investigate what understandings of musical leadership can be developed further by combining CS1-3 (see Figure 3).

Figure 3

The Hermeneutic Practice Ecological Funnel



6.2 Unfolding Findings through the Perpetual Practice Dialogue Complex

I now seek to further develop understandings of musical leadership by assessing findings in light of an ecological complex at the intersection of performative, pedagogical, and research practices. Key aspects of musical leadership identified in CS1 focused on building trust through dialogue and emphasizing relationships (the philosophical fiber); engagement and commitment (preparing), knowledge and skills about communication and perception of musical intentions (a fast communication system, a self-adjusting act); the necessity of developing technological skills (black dubs, sonic ambience); and creative experimentation (locations, operating by limitation). Furthermore, CS2 showed that ABR fueled further understanding through ABMI and ABT as an interpretive approach by transforming concepts into sonic extractions (“Supro Nova”). Such knowledge and skills formed the basis for investigating a didactic practice in the form of live looping through LSC.

In CS1-3, the output gained from researching a record producer’s practice became the input to understand musical leadership in subsequent practices. The study evaluates musical leadership from perspectives where ecological interaction is considered living systems in organic connection with practices and practitioners (Kemmis et al., p. 47). Such a hermeneutic perspective highlights the importance of being receptive to other horizons. Receptivity alone presupposes neither objective neutrality nor self-destruction; rather, its acquisition emphasizes our preconceptions and prejudices (Gadamer, 2012, p. 306). By acknowledging and announcing my preconditions and prejudices as an artist, researcher, and educator, I was able to interpret and synthesize the findings of CS1-3. Together, performative, pedagogical, and research practices form an interdependent complex. The record producer’s practice thus served as a starting point (CS1) to develop knowledge that was further explored through ABR (CS2), where performative work, professional learning, and research as its principle contributed to developing the LSC approach in a pedagogical context (CS3). A

qualitative and arts-based approach to researching a record producer's practice and a musician's practice could inform different stages of planning and developing understandings of musical leadership in pedagogy. Through a broad interpretation of what the "ecologies of practices in the education complex" (Kemmis et al., 2014, p. 50) can conceivably accommodate, I elucidated how performative, pedagogical and research practices have the potential to shape/be shaped by each other. The interplay between practices is nourished by dialogue. To refer to it as a *perpetual dialogue* is perhaps somewhat exaggerated; nevertheless, this study exemplifies how artistic, educational and scientific practices have the unique potential to continuously inform each other over time. Previous research primarily focused on conducting methods and score comprehension, and this study's adjacent findings are on key aspects of musical leadership (e.g., in teaching situations that involve recording music, the principle of building trust through dialogue, establishing relationships, and emphasizing commitment and engagement are central aspects of musical leadership). In addition to the concept of the philosophical fiber in an educational context, interpersonal aspects of musical leadership (e.g., caring for the people) are crucial precisely because recording contexts can involve vulnerable teaching situations. Understandings of musical leadership developed in CS1-3 reflect knowledge and skills that are open to individual approaches to practical action, or *praxis* (Kemmis et al., 2014, p. 26), in specific *sites*:

The practices that we observe in real life are not abstractions with an ideal form of their own; they are composed *in* the site where they happen, and they are composed *of* resources found in or brought to the site: cultural-discursive resources, material-economic resources, and social-political resources (Kemmis et al., 2014, p. 33).

An investigation of interrelated sites, practitioners, and practices enabled a stream of meaning in the emergence of new insights in light of the aforementioned *resources* mentioned in the quotation. The implications of unfolding the findings are summarized in an illustration of the Perpetual Practice Dialogue Complex (see Figure 4).

Figure 4

The Perpetual Practice Dialogue Complex

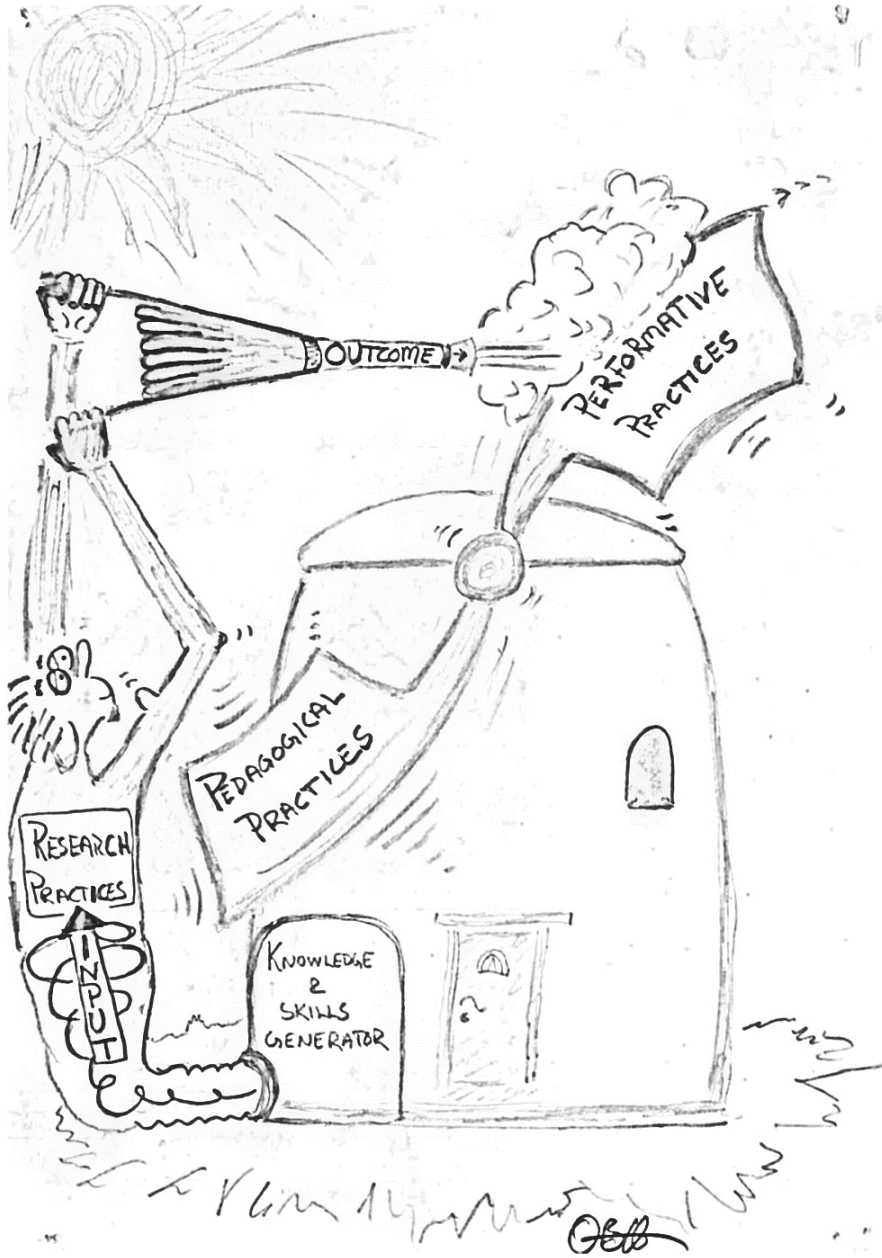


Figure 4 illustrates how investigating pedagogical and performative practices generated input for further research. The research outcomes were subsequently developed into understandings that were channeled back to performative and pedagogical practices. The process is a perpetual interplay between interrelated practices.

From a hermeneutic practice ecological perspective, the Perpetual Practice Dialogue Complex established understandings of musical leadership connected to site-based praxis in the mediums of language, activity, work, power and solidarity, where actors enacted interrelated practices. Three key findings emerged:

1. Musical leadership reflects the development of praxis at the intersection of sites, practitioners, and practices.
2. Musical leadership encompasses individual and collective dimensions across fields of practice, which influence the broader society alongside individual praxis.
3. Musical leadership involves interplay between practices by interpreting and contextualizing research experiences culturally, politically, and socially.

The meanings generated in this study shed light on specific cultural-discursive resources, material-economic resources, and social-political resources that hold practices together. Furthermore, this study evokes insights on how performative, pedagogical, and research practices can feed one another by investigating their collaborative potential to further musical leadership in an ecological dialogue. By rethinking musical leadership in music education, the boundaries between artistic, educational, and scientific practices can be challenged and abolished.

6.3 Methodological Considerations

The extent to which my prejudices and pre-conceived notions may have biased my selection of literature and methodological approach to the study is a valid concern. Informed by McNiff (2018), this study focused on trustworthiness rather than the scientific measure of validity (Bryman, 2016). Trustworthiness can be considered “a set of criteria advocated by some writers for assessing the quality of *qualitative research*” (Bryman, 2016, p. 697). In light of the constructionist (Crotty, 1998) epistemological perspective of the study, understandings of musical leadership were not discovered, but rather constructed. I deem the qualitative and ABR approaches of the study trustworthy, considering the transparency and integrity of the conclusions generated from CS1-3. Understandings of musical leadership arose by developing, implementing, operationalizing, and synthesizing knowledge.

Gadamer’s (2008, 2012, 2017) hermeneutics served as an overall theoretical perspective for the study. Agential realism (Barad, 2007) and new materialisms (Rosiek, 2018) also informed the orientation of my ABR (CS2). The conceptual apparatus of these theories did not offer insights which prompted me to take another theoretical turn. Furthermore, it is important to emphasize that I understand hermeneutics in a broad sense in terms of the concept of interpretation; e.g., investigating and understanding performative practices through ABR.

Another methodological consideration pertains to my interaction with the music teacher students in CS3, where my roles as a researcher and educator could have possibly affected the balance of power. In light of Foucault's (1999), Gadamer's (2012), and Habermas's thoughts on power and knowledge, power structures, and illegitimate asymmetric power relations, it may be difficult for students to speak critically to a researcher/teacher. Therefore, from a micro perspective, I aimed to reduce this potential obstacle by giving the students the opportunity to write and deliver the reflection letters anonymously. Nevertheless, the data material showed that the

students were mainly positive towards the LSC approach. Whether this reflects the conditions of the teaching situation or their actual experience is difficult to conclude. In any case, the possible implications of power structures are worth highlighting from a macro perspective in one's quest to establish dialogue between interdisciplinary practices. Such meetings can reveal hierarchical conflicts of interest between different cultural identities. Diversity enable practices to meet in a mutual dialogue by thoroughly acknowledging one another.

6.4 Further Research

Based on the findings, I find it relevant to further investigate how the record producer's practice could inform other musical subjects at the intersection of performative and pedagogical practices (e.g., composition, improvisation, and musical interaction). In addition to examining this content for my doctoral studies, I also incorporated my findings into a chapter I wrote as a contributing author to a Norwegian book on practice architectures scheduled for publication in spring 2021 (Øien & Aspfors, accepted). Here, we further investigated the findings of CS3 from using Kemmis et al.'s (2014) theory of practice architectures and theory of ecologies of practices.

A brief search shows that the literature on digital technology in music education emphasizes the changing power of technology (King et al., 2019; Ruthmann & Mantie, 2017); for example, challenging the concepts of *teacher* and *student* and speaking exclusively about *learning communities* or *participatory communities* where people are simply expected to contribute. Rather than following a procedural how-to approach, King et al. (2019) created an overview of technology, musicianship, and pedagogy from a philosophical, theoretical, and empirically-driven perspective – a potential theoretical starting point to further investigate the considerations of the present study.

From a philosophical view, further research might investigate how the hermeneutic ecological perspective can help develop and inform discourses on identities and diversity within music teacher education. Gadamer's (2012) concepts of horizon fusion

as well as Buber's (1923) thoughts about the actual concept of meeting may provide an appropriate foundation to discuss opportunities and challenges that arise when performative, scientific, and pedagogical fields meet in music education and research. Possible outcomes of such encounters could even be elucidated by applying the concepts of power and knowledge (Foucault, 1999) and the communication theory (Habermas, 1985, 1996) to problematize the concept of consensus. As educational fields expand, I find it interesting to explore the possibilities of how practices could nourish rather than polarize each other. The title of Kemmis et al.'s (2014) book, "Changing Practices, Changing Education," might be interpreted as a claim – the nuances of which could be further explored and challenged if a study were proposed to investigate possible outcomes enabled and/or constrained by changing educational practices.

YouTube is the third most popular website after Google and Facebook, and there are now thousands of research projects being disseminated via YouTube (Kara, 2015). In a popular science perspective, I consider it relevant to further explore the potential of social media platforms such as YouTube, Pinterest, Facebook, and Twitter. I consider this important and relevant both in terms of generating empirical data and in order to disseminate research and contribute to the dynamic, social and complex process of knowledge exchange.

7 Conclusions

The purpose of this study was to examine what understandings of musical leadership could be developed by examining a record producer's practice, a musician's practice, and a music teacher educator's practice. ABR and qualitative research paradigms were used to address this study's research questions. The cross-disciplinary and intersubjective spaces at the junction of performative, pedagogical and research contexts represented in CS1-3 took the form of an ecological complex known as the "Perpetual Practice Dialogue Complex" — a response to the established "education complex" of student learning, teaching, professional learning, leading, and researching (Kemmis et al., 2014, p. 51). It hermeneutically constitutes a dialogical living system.

This study does not offer recipes for music teacher education on musical leadership. By developing a broader understanding of what musical leadership can accommodate (through an investigation of performative and pedagogical practices), this study serves as an example of how different practices can be informed by and with each other in accordance with the theory of ecologies of practices (Kemmis et al., 2014) and Gadamerian (2012) hermeneutics. As previously mentioned, a hermeneutic perspective is not necessarily considered the most suitable for arts-based inquiry. Nevertheless, I argue that this study shows that the aesthetic and philosophical character of hermeneutics carries great potential, precisely in its encounter with ABR.

This study does not seek to develop or offer a best practice; rather, it specifically explores the concept of ensemble conducting in various contexts to answer the main research question: "What understandings of musical leadership can be developed by hermeneutically examining a record producer's performative practice, a musician's performative practice, and a music teacher educator's pedagogical practice from the perspective of an ecological practice theory?" The framework was designed to elicit musical leadership insights that may be relevant to music teachers' education, volunteer/professional settings, performing, and other educational or music practices.

I argue that this synthesis illustrates how performative, pedagogical, and research practices can inform one another, and the hermeneutic practice of an ecological perspective offers a fruitful theoretical view to synthesize insights. By examining fragments of entirely different research perspectives, the precise interactions between parts and the whole offer possible approaches to further discourse. Of course, this dialogue is multifaceted and does not end here; indeed, it needs to continue in the fields of music and research.

The overall study investigated understandings of musical leadership through performative and pedagogical practices, and hermeneutically from a practice ecological point of view. This synthesis reinforced how performative and pedagogical practices offered relevant input for research practices, the outcomes of which may be channeled back to their starting point. The interrelated nature of specific practices (in dialogue with each other) generates perspectives and contexts from which knowledge of musical leadership can be developed in the Perpetual Practice Dialogue Complex. This thesis, *Understanding musical leadership in light of performative and pedagogical practices from a hermeneutic practice ecological perspective*, thus emphasizes critical and creative reflection in the face of the unforeseen. With this, I conclude my contribution to the ongoing discourse within the multifaceted performative and pedagogical fields of research in music, music education, and music teacher education.

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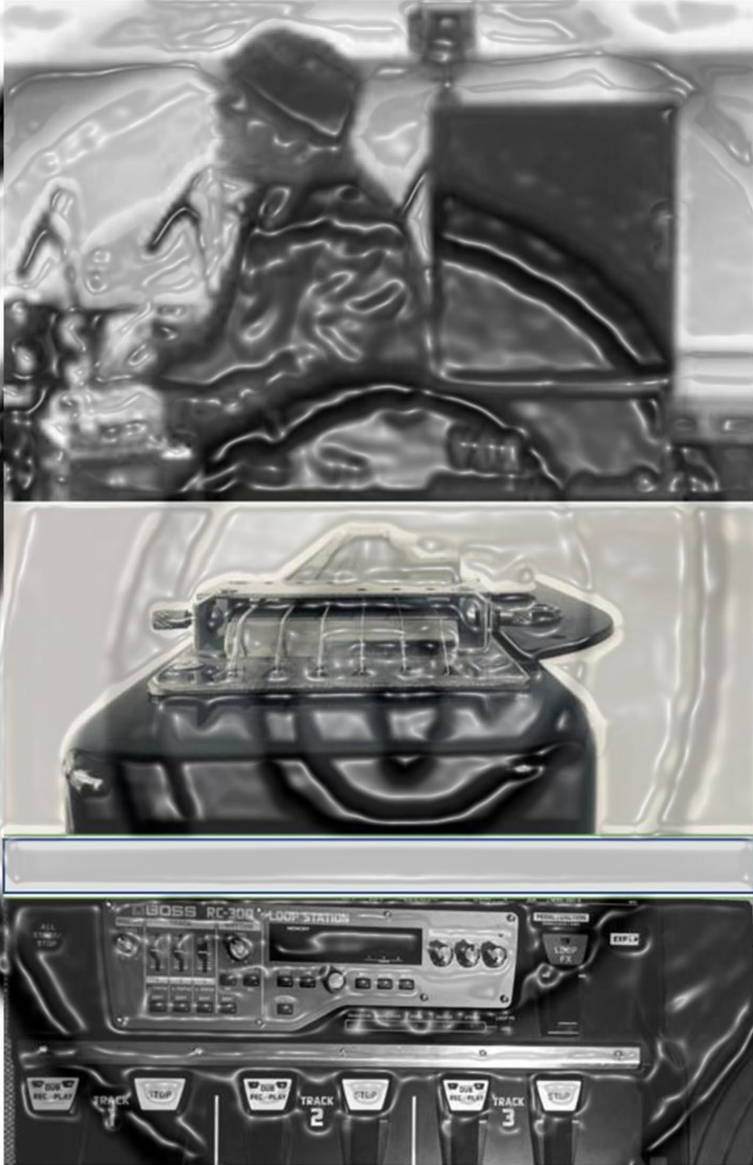
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Part II: The Articles



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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

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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. Massey (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.

(Massey, 2016, p. 2)

Philosophical approaches, such as Massey'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 & Wåsterfors, 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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Article 2

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Sonic Extractions:

On developing understandings through arts-
based research in a performative context

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Abstract

The aim of this study is to investigate how arts-based research can contribute to developing understandings of six concepts in a performative context: *sonic ambience*, *master station*, *operating by limitation*, *locations*, *preparing*, and *black dubs*. The research is methodologically informed by arts-based research, and the empirical material is based on the main findings from a previous study on record producer Daniel Lanois's practice. In the present study the empirical material is explored through my own practice, the performative process of which is informed by the six concepts noted. The study is guided by the following research question: "How can arts-based research contribute to developing understandings of six identified concepts in a performative context?" The primary findings are the analytical approaches *arts-based meaning interpretation* and *arts-based transformation*, as well as the *sonic extractions* summarized in the composition "Supro Nova". The findings establish a basis for further discussion through which to discover how the study may contribute to developing understandings relevant to other practices.

Keywords: arts-based research, philosophical hermeneutics, sonic extractions, music teacher education

Sonic Extractions

On developing understandings through arts-based research in a performative context

Ola Buan Øien¹

Preface

Anova is a star that transforms from its normal state to illuminated and back to its normal state again, just as this composition's ABA form changes from minor to relative major and back to minor again. The nova star, often called a white dwarf, is a small star that can be "lit" because matter flows to it from a nearby red giant. Life's many meetings with power sources, such as other people and objects, can result in illuminated periods. A meeting with Daniel Lanois and a 50s Supro lap steel gave rise to creativity and provided me with an enlightened and productive period: therefore, I dubbed the resulting composition *Supro Nova*.

Introduction

Background and previous research on arts-based research

This study investigates how arts-based research (ABR) can contribute to developing understandings of six specific concepts in my own performative practice. ABR is a growing research movement that may strongly support comprehension of various

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complexities within educational settings, such as in arts education (Almqvist & Vist, 2019, p. 3). Leavy (2018, p. 3) suggests that research that taps into the power of the arts should do so to create new ways to see, think, and communicate. McNiff (2018, p. 22) reflects on the paradigm of tensions within the academic community by suggesting that artistic ways of knowing are contrary to prevailing institutional mindsets and values. He defines research in the arts as a transdisciplinary way of knowing and as an egalitarian and universally accessible process (p. 24). Freeman (2018) enters this discourse via the field of psychology by claiming that, through a more artful approach to inquiry, psychology might become more, rather than less, scientific (p. 125). He emphasizes that no one has a lock on the form science must take (p. 134) and that perhaps scholars are obliged to contribute to the continuous development of research domains by challenging conforming traditions.

Gergen and Gergen (2018) illuminate the role of the performative movement in the social sciences by placing it within the family of ABR (p. 54). They highlight the need to maximize ways to view the world by considering scientific progress a matter of increasing the potential for action, not as a march toward truth (p. 57). These authors further suggest that the addition of artistic expression into the sphere of scholarly study is significant “because it moves beyond the traditional paradigms of representation” (p. 57), a view that is supported by others. “Enormous riches are therefore offered as social scientists explore the ways social life can be understood through the lens of dance, painting, music, and so on” (Gergen & Gergen, 2018, p. 57). According to Gergen and Gergen, the performative movement and development of the performance studies represent a cultural transformation towards pluralism and confluence of domains within research paradigms (2018, p. 58).

In this study I find myself in an arts-based paradigm, where consciousness is developed within a performative framework of understanding that extends beyond traditional models of representation. In a special academic journal issue on

community arts and arts education, Østern and Rønningen (2019) contribute to discussions on the merging of scientific and artistic works. They observe that the Nordic countries, through their United Nations Educational, Scientific and Cultural Organization (UNESCO) memberships, have committed to following recommendations presented in policy documents regarding arts education. They note that these recommendations establish art as a core area in education and society and arrange for learning to take place in art, about art, and through art (Østern & Rønningen, 2019, p. 18), which I consider to be the case in this research context.

Muijen and Brohm (2017) argue that art evokes different senses by simultaneously generating new perspectives from which to communicate and create: “In other words, art does not provide just illustrations and subtitles for communication processes, but it does communicate in its own ways. It creates” (Muijen & Brohm, 2017, p. 2). ABR includes research “where topic and results may go beyond the arts, but where arts-based research processes constitute a major contribution to the project” (Almqvist & Vist, 2019, p. 5). The aesthetic attitude and participation strategies may be transferred to research in several areas, and validity in ABR “should be considered a matter of meaningfulness rather than measurability” (Holgersen, 2019, p. 50). In the research context of this study, all the senses are recognized as part of a holistic hermeneutic apparatus, which I elaborate on in the theory and method sections of the text.

Aim and research question

The overall aim of this study is to investigate how ABR can contribute to developing understandings of six specific concepts in a performative context. In other words, six terms, in this context referred to as concepts, are examined performatively to explore how ABR can help understand the concepts through my own performative practice.

From such a view, the study may develop insights with relevance in the fields of research, education, and performative practices.

Angelo et al. (2019) highlight changes in higher education regarding notions of mandate, knowledge, and research in a Norwegian context. Research on teacher education in Norway has placed increased focus on technology and pedagogies (Acta Didactica Norge, 2019; MusTed, 2019). Both researchers and politicians in the Nordic countries and internationally have devoted much attention to teacher education (Darling-Hammond et al., 2017). Although challenges in the field of teacher education differ across countries, a common significant issue is the gap between the education offered and the needs of the educational systems. From this perspective researchers argue for strengthening teacher education and teaching practices (Darling-Hammond et al., 2017; Forzani, 2014). An earlier study (Øien, 2020) that focused on foreground ensemble conducting through a single YouTube-based case study investigated what aspects of musical leadership relevant to conducting could be identified by applying the theory of practice architectures to an analysis of the practice of musician, songwriter, artist, and producer Daniel Lanois. A question that is not explored in that study is how such concepts can inform my own artistic practice. Therefore, to fully understand the potential of the concepts, I examine them in a performative perspective and context. The present study, thus, investigates six of the concepts examined in that research by foregrounding transformation through ABR (Leavy, 2018) in the form of arts-based transformation (ABT), using the performative approach as an analytical lens.

This study explores possibilities for transforming the concepts from terms to sound by investigating my own performative practice. As a researcher, music teacher educator, and musician, I seek to contribute to the field by bringing the performative and qualitative paradigms into dialogue. This is attempted by recognizing ABR as a possible methodological and analytical context and perspective for interpretation

based on an understanding of philosophical hermeneutics in a broad sense. From such a perspective, it is important to emphasize that I recognize embodied interpretation through music as a possible approach to developing an increased understanding. As such, I argue that the study offers understandings that may be relevant to other practices, such as within research, teaching, learning, and performative contexts.

The six concepts I investigate, on which I later elaborate, are *sonic ambience*, *master station*, *operating by limitation*, *locations*, *preparing*, and *black dubs*. A theoretical analysis (Øien, 2020) offers, as I experience it, only certain aspects of the perspectives needed to develop understandings in the context of Lanois's practice. I, therefore, explore the six concepts noted through an embodied approach to gaining nuanced insights into the converging of research paradigms. The knowledge contribution such a triangulation can help develop on a methodological level may also be relevant to others who seek to operate at the intersection of the performative and qualitative paradigms. This potential is investigated further in the discussion section, which is intended to encourage further discourse. This study is guided by the following research question: "How can arts-based research contribute to developing understandings of six identified concepts in a performative context?"

Theory

Epistemologically and ontologically, this study is informed by Crotty's (1998) concept of constructionism; consequently, this article is written from a constructionist perspective, wherein the researchers take as their point of departure the philosophy that meaning is a socially formed phenomenon; that is, meaning is not something we discover, but rather something we construct in meeting with other human beings, objects, and the world around us. The same applies to the concept of understanding, which implies that meaning and understanding are neither purely objective nor purely subjective (Crotty, 1998, p. 43) but are created at the intersection of the

two perspectives. One way to understand constructionism is that the terms epistemology (what it means to know) and ontology (what is) are nearly synonymous:

Ontological issues and epistemological issues tend to emerge together. As our terminology has already indicated, to talk of the construction of meaning is to talk of the construction of meaningful reality. Because of this confluence, writers in the research literature have trouble keeping ontology and epistemology apart conceptually (Crotty, 1998, p. 10).

In this manner, constructionism invites a pluralistic perspective considering all stages of a research design. Rethinking how music is constructed and articulated with reflections about epistemological and ontological juxtapositions rooted in the recognition of pluralism can suggest that music may be something other than an *object* about which one thinks or can think. Bearing this in mind, this pluralistic position and understanding offers a suitable supplement for a framework through which to understand the music in this study as a *subject*, in that it contributes to placing me, as a researcher, at play with the material being analyzed.

Because I recognize the inherent power of art both inside and outside a research context, the philosophical hermeneutics serves the study well as a philosophy of science framework. This choice is further informed by Gadamer's (2008) philosophical development in his contribution to aesthetics and art:

But I hope to have placed it on a new and much broader footing linguistically, ontologically, and aesthetically; for the experience of art can answer the prevailing presumption of historical alienation in the humanistic disciplines, I believe, with its own overriding and victorious claim to contemporaneousness, a claim that lies in its very essence. (Gadamer, 2008, p. 18)

Positioning an ABR study in philosophical hermeneutics is not a matter of course, and some researchers find other frameworks more appropriate, such as, for example,

Rosiek (2018) endorsing a post-human perspective by referring to Barad's (2007) agential realism. Other researchers challenge this view, arguing that such a claim is irrelevant (Almqvist & Vist, 2019, p. 10). The understanding framework of this study is based on what philosophical hermeneutics may offer in light of Gadamer's thoughts on its potential in the face of art:

As universal as the hermeneutical idea is that corresponds to Goethe's words, in an eminent sense it is fulfilled only by the experience of art. For the distinctive mark of the language of art is that the individual art work gathers into itself and expresses the symbolic character that, hermeneutically regarded, belongs to all beings. (Gadamer, 2008, pp. 103-104)

The idea that the experience of art can answer the prevailing presumption of historical alienation in the humanistic disciplines is largely based on the recognition of art's demands for contemporaneity, about which: "contemporaneity and this linguistically point to a truth that goes questioningly behind all knowledge and anticipatingly before it" (Gadamer, 2008, p. 19). This view of interpretation, as it is built of art and philosophical hermeneutics constitutes a framework that unhinges the hermeneutical tradition through emancipatory reflection, as it takes as its task the opening up of the expository dimension in its full scope (Gadamer, 2008, p. 18).

Daniel Lanois is a musician and producer with a professional resume that includes producing records for artists such as U2, Bob Dylan, and Peter Gabriel, among others (Massey, 2009, p. 14). By using the theory of practice architectures (Kemmis et al., 2014, p. 31) to analyze Lanois's practice through a single YouTube-based case study, nine concepts of musical leadership potentially relevant to conducting were revealed (Øien, 2020). The present study investigates six of those concepts and aims for the findings to feed a discussion on how ABR can contribute to developing insights relevant to other practices.

As noted, six concepts (Øien, 2020) are explored through this study. *Sonic ambience* (Los Angeles College of Music, 2016) is a concept that encompasses atmospheric sounds and various kinds of sound manipulation that form part of the basis of what is also referred to as the “Lanois sound.” The concept of *master station* (Reserve Channel, 2013) involves developing a sound station that may consist of an instrument, microphones, cables, pre-amps, and other relevant recording equipment; when a sound station qualifies as a master station, it is left untouched such that the sound remains the same throughout the whole production process. *Operating by limitation* (Louisiana Channel, 2015) refers to exploiting the creative potential provided by limitations, which may be economic, technological, or time-related. *Locations* (Reserve Channel, 2013), or choosing suitable recording locations (the studio, the basement, the library, the barn, the castle, the kitchen), is a strategic aspect of leadership that further affects both process and product. *Preparing* is highlighted as one of the most important concepts in Lanois’s practice, where preparations are essentially his “whole thing” and his “best friend” (Reserve Channel, 2013) and, as Lanois emphasizes, symbolize engagement and commitment. The sixth concept, creating audio samples by manipulating previously recorded material, is termed *black dubs* (Neilyoungchannel, 2010).

Method

Methodology

At times one must step into the unknown and travel what Steinsholt and Juul (2018) refer to as the *necessary path* (p. 10). In this study, the necessary path for developing and presenting understandings follows a methodologically ABR (Leavy, 2018) direction. Leavy uses ABR as an umbrella category that encompasses all artistic approaches to research—she lists 29 different terms within this multifaceted field

(Leavy, 2018, p. 5). These likely are just some of the approaches that deal with research on, about, and with the arts. In this study I focus on the transformation process; consequently, I offer the lens of ABT as a possible way to explore concepts in a performative context.

Kara (2015) recognizes creative research practices yet also emphasizes that arts-based methods are subject to criticism (pp. 22, 154). Despite the criticism, however, some researchers choose the risk of negative reactions and implement arts-based methods. In this study the choice of the arts-based methodology is not motivated by a lack of respect for scientific traditions but, instead, can be perceived as a contribution to the development of the qualitative research paradigm. This *performative movement* (Gergen & Gergen, 2018, p. 54) may possibly represent a third research paradigm or a methodological shift (Leavy, 2018, p. 4), or it may be the qualitative paradigm that expands its own framework. It is not certain that researchers can or should agree on understandings of the performative movement's position within this discourse. Bearing this in mind, I do not seek to identify static truths, although I consider it appropriate that understandings and insights be developed and articulated as a contribution to further critical and creative reflection. Perhaps the concept "maybe" could also be recognized with regard to the paradigmatic discourse within research fields in constant and continuous motion, in which prejudices are put both into play and at stake.

Analysis

The arts offer several perspectives that may enrich the analytic process regarding both experience (Gadamer, 2008, p. 18) and creativity (Kara, 2015, p. 117). In this study I investigate how an ABR perspective can contribute to developing understandings of six specific concepts through arts-based meaning interpretation (ABMI), through an ABT analysis, and finally, through the arts-based presentation of the composi-

tion “Supro Nova” (Øien, 2019), in which the performative approach serves as the analytical lens. ABMI is a term developed through this study, which deals with an analysis process at the intersection of ABR and philosophical hermeneutics. In other words, I explore the six concepts by expanding the interpretive perspective to embrace both a performative embodied and cognitive approach to how concepts can be understood. ABT is another term developed through this study, which relates to the concrete exploration of the concepts, where terms are transformed into music/sound in the form of sonic extractions. Considering this, “Supro Nova” is both a work of art and a result of a research process. By interpreting and transforming concepts through ABMI and ABT, this arts-based (Leavy, 2018) practice-oriented self-study (Bleijenbergh et al., 2011, p. 147; Cochran-Smith & Lytle, 2009, p. 154) explores the aesthetic potential within theoretical concepts by examining them through a performative approach that aims to contribute to the research field by renegotiating possible frames of developing understandings within research practices.

Research ethics and challenges

In this study I investigate my earlier findings (Øien, 2020) through an ABR approach by entering a research process at the meeting point, in an extended sense, of two practices: Lanois’s and mine. Thus, the concepts are mainly extracted without Lanois’s participation but also without the intention to impose my understandings and prejudices upon his work. Instead, I allow my interpretation of his practice to guide me along the ABR process that follows. In this way, I aim to treat Lanois respectfully to understand what the concepts can accommodate from a performative perspective. As a researcher, music teacher educator, and musician, I seek not to criticize Lanois’s practice but, rather, to examine how understandings can develop over the course of converging his practices with mine; as a result, I am in danger of claiming that I know Lanois better than he knows himself. Here openness becomes relevant; openness in this research context means I agree with what Lanois says by recognizing his practice

as an opportunity that can inform my understandings, and I explain various ethical challenges that emerge throughout the research process to equip the study with a necessary transparency. Leavy discusses this issue according to ethical practices and value systems within ABR regarding the potential of advanced caring and democratic participation in the research experience and the outcomes of research (Leavy, 2018, p. 11). In a study like this, it is not possible for me to achieve complete objectivity and totally avoid bias regarding how my interpretations are shaped by my gender, my cultural, historical, and socioeconomic origin, and other background factors, nor is it my intention to do so. Instead of trying to distance myself from my own prejudices, it is more important that I acknowledge my own understandings and make them visible in a transparent way. My background as a white male musician and music teacher, combined with my role as a researcher, creates bias in interpretations at all stages in this study. Furthermore, I stand by the ethical choice not to anonymize Lanois or the video sources. Generating data material from an open access channel with no restrictions (YouTube) does not infringe on his privacy since access to the source is open to the public, and I consider it more ethical that I announce both his name and the video sources in order to create transparency and verifiability.

Findings of the study

Arts-based meaning interpretation (ABMI) and arts-based transformation (ABT)

In my previous study (Øien, 2020), I did not fully understand the scope of Lanois's concepts. There was, therefore, a need to explore them in a complementary context. I developed ABMI as a possible approach to researching and interpreting six of the concepts musically. ABMI is, thus, an analytical approach that was developed to interpret the concepts performatively. Hence, I argue that ABMI is one of the findings

of this study, even though it has served as an analytical lens. The same applies to ABT, which deals with the transformation process from concept to sound in the analytical phase of the study. ABMI can then be understood as an abstract interpretive analytical approach through which the concepts are interpreted at the intersection of ABR and philosophical hermeneutics, while ABT is a concrete operationalization of the understandings developed through the performative analysis. Consequently, transformation through ABT is at the core of this study. The possibility of transformation can clearly be debated, but the principle of transforming text into another artistic expression is nothing new in the arts, exemplified by, for example, Bleken's transformation of Kafka's (2012) literary work "The Trial" in the form of the charcoal drawings "Prosessen (Triptykon)" (Hansen, 2011, pp. 148–150). In this way, the study is informed by ABR, which develops into the analytical lenses of ABMI and ABT. Furthermore, the findings are disseminated in the form of sonic extractions as both works of art and results of a research process.

Sonic extractions

In this section, I elucidate the findings extracted by interpreting and transforming concepts into sonic extractions summarized in the composition "Supro Nova" (Øien, 2019). Through ABMI and ABT, the six concepts, which are *sonic ambience*, *master station*, *operating by limitation*, *locations*, *preparing*, and *black dubs*, are interpreted and further transformed into *sonic extractions*. These six concepts comprise a random selection of findings from a previous study (Øien, 2020). The aim of this study is to investigate how ABR can contribute to developing understandings of the concepts in a performative context; therefore, I do not consider it decisive which of the previous findings/concepts I focus on in this study, so I will not elaborate on this further. The *sonic extractions* are presented using quick response codes (QR codes). The use of QR codes is becoming a common way to disseminate multimedia information

in research articles, as Knudsen, for example, does in his study on performative learning spaces on digital scenes (Knudsen, 2017, p. 6).

Sonic ambience is a comprehensive concept that contains elements such as sound, timbre, atmosphere, and creative experimentation (Øien, 2020). I especially experienced the exploration of the Boss RC-300 loop station as a key tool in this context, which I return to later in this section. In my performative interpretation and understanding of the concept, I encountered several other terms that relate to it, one of which is *sound station*, about which Lanois stated the following:

Yeah, I'm very neat with my tools. This is a beautiful, upright Steinway piano that I love the sound of ... So, that's a very beautiful, reliable piece, and great for songwriting, and just an all-round good instrument to have in the studio. If I find a piece like this and nurture it and it becomes a sound station, then I cherish it and respect it. (Reserve Channel, 2013)

A sound station can be developed into a *master station*, which represents the point at which the sound is considered optimal. At this stage in the production process, all involved instruments, as well as the recording and production equipment and conditions, are solidified such that the sound remains the same throughout the duration of the production process. Lanois explains it as follows:

And I would never change it, don't change the cable, don't change the preamp, nothing. It's a living, breathing station, and once it has reached that state where it's the finest that it can be, then it's never touched again...when something qualifies as a master station, then it exists, and then it is never touched again. (Shure, 2014)

By experimenting with numerous instruments over time and trying to understand the concepts by interpreting and applying them in my own performative practice, I have been searching for sound stations and master stations as a strategy for creating a

starting point from which concepts can be transformed into sonic extractions. Lanois talks about the importance of the pedal steel guitar in his work: “I always keep my steel guitar handy because it’s very liquid sounding and can provide me with a certain kind of direction for a day” (Reserve Channel, 2013). According to Lanois, the melancholy that occurs when playing the steel guitar may have as much to do with him as with the instrument itself, but he emphasizes the way the nature of the pedal steel guitar allows the notes to sustain (Shure, 2014). I have experienced the lap steel as a manageable compromise between the electric guitar and the pedal steel guitar. For this reason, I bought an early 1950s upright Supro lap steel with six strings. Its simplicity opened an easy and understandable entrance to a fretless slide instrument. For me, this guitar enables creative approaches for exploring sound, timbre, melodies, and harmonies. The setup with the lap steel, Boss RC-300 loop station, a limited pedal board, and Magnatone guitar amplifier (see Figure 1) has become a master station of mine.



Figure 1: Master Station Created by Researcher

Exploring *sonic ambience* through the sound station and master station principles is an example of how I have developed a performative understanding by allowing the earlier identified concepts to inform my artistic practice.

Operating by limitation is another key concept for Lanois (Louisiana Channel, 2015), who focuses on the enabling factors that various forms of limitations can represent. According to Lanois, the artistic product is not a result of available equipment and resources but, rather, a product of the competence of the one who produces the work. If one operates by economic, technological, or other limiting factors, the limitation(s) may free up creativity such that the potential of what is available becomes more fully utilized than it may otherwise have been. After thirty years as a musician in a rather wealthy European country, I have had both time for and access to a comprehensive technological palette. Nevertheless, I wanted to test the idea of how a small selection of effects might free creativity to more fully exploit the potential of some of my equipment. I scaled down my pedal board from twenty guitar effects to a smaller board comprising four effects; I used to take a dozen electric guitars, guitar amps, and pedals to concerts or to the studio. After examining the principle of operating by limitation, I altered my solo rig to include only a lap steel, a baritone guitar, and a guitar amp in combination with the scaled-down pedal board and Boss RC-300 loop station. This can be perceived as a dogmatic and unnuanced approach, wherein minimalism becomes a point in itself, a point that could have been carried even further, as Lanois, during his career, has experimented with countless instruments and instrument groups. Nevertheless, in this context, it was necessary that I investigate the concept to see what creative possibilities the principle of operating by limitation enabled. Due to the interactions made possible through the concept, creativity was released in the encounter with the performative context. I argue that my understanding of the concept expanded as a result of the performative interpretations that I ex-

explored throughout this study, an acknowledgment that may be relevant to others as well. Furthermore, I explored numerous variations of equipment and setups. Other limitations I explored were related to *locations*. I wanted to fully pursue the principles of operating by limitation and locations by establishing a master station at my 8 m² office (see Figure 2). This constitutes some of the frames for investigating the concept of operating by limitation in this study.



Figure 2: “The Researcher’s Laboratory” Consisting of a Master Station and Writing Room in 8 m² office

Lanois’s philosophy of minimalism encouraged me to limit myself compositionally as well. Lanois described his fascination with the steel guitar as a liquid-sounding instrument, noting that the atmosphere created by playing very few notes on the steel guitar promotes a certain kind of melodic journey by responding to the harmonic interplay (Shure, 2014). Based on this, I wrote two chord progressions. The first progression became the basis of my composition’s A-theme, while the second became the basis of the B-theme, as illustrated in Figures 3 and 4.

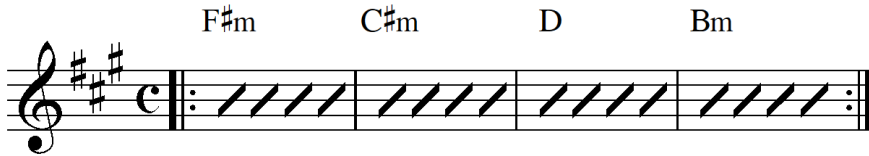


Figure 3: First Chord Progression: A-Theme in the Key of F# Minor

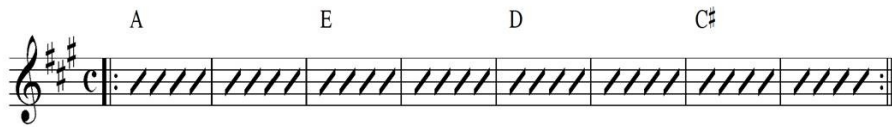


Figure 4: Second Chord Progression: B-Theme in the Key of A Major

These chord progressions developed into different harmonies that ultimately laid the groundwork for a melody based on the chords' top notes, here presented through sonic extractions as the A_I-theme and the B_I-theme, which can be heard by scanning the QR codes in Figures 5 and 6 or by clicking on the hyperlinks below the codes.



Figure 5: Sonic Extraction: A_I-Theme of the Composition:

<https://mediasite.nord.no/Mediasite/Play/1ff3172do422493cb9b9c59ab7b5d34d1d>



Figure 6: Sonic Extraction: B_I-Theme of the Composition

<https://mediasite.nord.no/Mediasite/Play/6fo2c2d8c4ca47be807adoe1ac3601e1d>

Preparing seems to be the core of Lanois's practice: "So, the preparation is pretty much my whole thing" (Reserve Channel, 2013). This principle symbolizes both engagement with and commitment to those with whom he works (Reserve Channel, 2013). He explained that preparation is his best friend and that he prepares the re-

recording room, programs beats, and makes sound collages, along with performing other preparatory tasks, such that when the band or artist arrives, they never enter what he describes as “thin air” (Reserve Channel, 2013). Although the first phase of the recording process for this study was conducted in my office absent any collaboration other than with Lanois’s concepts and the musical exploration I conducted, I largely relate to the preparation principle in several ways. Initially, I prepared for half a year by experimenting technically (technical skills on the instrument, such as the slide technique) and technologically (equipment/gear/tools) with the instruments and effects. To challenge my own understandings and prejudices, I examined unknown instruments, technological gear, and possible constraining limitations to discover and acknowledge their advancing potential through an ABR perspective. While it may be an exaggerated claim that this led to a fusion of horizons, I argue that my horizon has expanded as a result of new understandings that I developed through a performative exploration of the concepts. The same principle applies to the actual recording situation: I can easily relate to being constrained in the recording phase due to poor preparation. Therefore, I have challenged my recording practice, wherein the entire composition is recorded on different tracks on the loop station before I visit a studio. By doing so, I have time to refine all parts of the composition within frames that provide space for handling time-consuming technical, technological, creative, and reflective challenges. In this way, the limitations involved in the project initiate creativity. Preparing goes along with planning the recordings; in view of this, the *locations* concept serves as a key principle in choosing a recording room (Reserve Channel, 2013), a principle that also influenced the “Supro Nova” composition. Lanois has experimented with sound and different locations by recording in such settings as a basement, library, barn, castle, and kitchen, as well as in traditional recording studios. In the process of recording “Supro Nova,” combining use of my office and the recording studio became an important factor for the resulting sound. The loop station itself may operate as a limitational recording factor to create an intermediate link that

sonically adds a unique compression, overdrive, and frequency response. Plugging in and playing the loop station back from a guitar amplifier produces a sound different than does connecting the lap steel directly to the amplifier. The sound quality is affected by the technological detour the loop station represents in a way I find pleasing. This limitational aspect, among others, equips the “Supro Nova” composition with the necessary elements to achieve a sonic result. In addition, the loop station emerges as an important element in the process of transforming theoretical concepts into sonic extractions in terms of both sound and technical experimentation.

Black dubs deal with the manipulation of previously recorded audio instead of recording over dubs (Neilyoungchannel, 2010). After a recording, new instrument tracks do not need to be recorded if further nuances are required. Instead, Lanois manipulates extractions of previously recorded tracks and puts them back in:

I put days and days...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 over dub, 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 ... It's not an addition, it's an expansion. (Neilyoungchannel, 2010)

I experienced the concept of building black dubs during the mixing phase for “Supro Nova.” The composition is recorded using a Supro lap steel, a Fender Jaguar six-string baritone guitar, and a Boss RC-300 loop station. The baritone is tuned in a string range from “A₃” (220 Hz) to “A₅” (880 Hz) and the six-string lap steel from “E₄” (329.63 Hz) to “E₆” (1318.51 Hz). This means the lowest available tone is “A₃” (220 Hz), which is located between the lowest pitch on a four-string bass guitar (“E₃” / 164.81 Hz) and the lowest tone of a six-string electric guitar (“E₄” / 329.63 Hz) based on an equal-tempered scale (Physics of Music, 2018). To create a sound, I recorded an underlying drone using a double bass bow on the baritone guitar's lowest A-

string (220 Hz), which can be heard by scanning the QR code in Figure 7 or by clicking the hyperlink below the code.



Figure 7: Sonic Extraction: The First Drone (220Hz)

<https://mediasite.nord.no/Mediasite/Play/8563f89b443a410dbec5fd4a7c7ecf31d>

The mixing phase of “Supro Nova” revealed a low frequency lack. I could have re-recorded the drone using an octave effect and lowered the lowest string on the baritone guitar by one octave to “A₂” (110 Hz) to address this. Instead, black dubbing the baritone track became the solution; this was accomplished by copying the track and lowering the drone a whole octave using a pitch scaling plug-in effect in Pro Tools (music software by Avid) and then pasting the copied lowered track into a new track. The tracks were then played together, creating a sound more complex than the sounds they produced individually. The sound produced by playing the tracks together can be heard by scanning the QR code in Figure 8 or by clicking the hyperlink below the code.



Figure 8: Sonic Extraction: The Second Drone (220 Hz and 110 Hz)

<https://mediasite.nord.no/Mediasite/Play/d44ficcee4fe4c5182ceaa4e249662a11d>

Lowering the frequency added a depth of sound. An additional black dub example in this context is the use of the reverse effect. The drone, originally recorded on the loop station, was played from the loop through the guitar amp and recorded on a third track in the studio, but this time in reverse. The reverse function is a built-in effect in the loop station that can be activated or deactivated before or after a track has been recorded. As a result, both possibilities are available during playback. The reverse

track was additionally pitch scaled down to “A2” (110 Hz). Together, these tracks make up a three-dimensional timbre that creates a low frequency atmosphere, which can be heard by scanning the QR code in Figure 9 or by clicking the hyperlink below the code.



Figure 9: Sonic Extraction: The Third Drone (220 Hz, 110 Hz, and 110 Hz in reverse).

<https://mediasite.nord.no/Mediasite/Play/b82ba91e9obo45bba8c39b85b69732f61d>

Figure 10 shows the waveforms of the three recorded baritone tracks. The green waveform is the original track (220 Hz), the blue is pitch scaled an octave down (110 Hz), and the red waveform is an octave down in reverse (110 Hz in reverse). In this context, black dubs affect timbre, volume, intensity, and dynamics. It was interesting to experience how the process of exploring the concept of black dubs gradually expanded my understanding of the term.

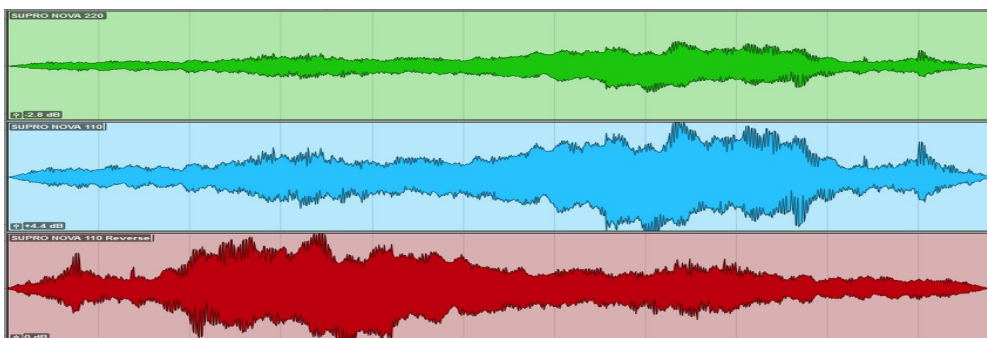


Figure 10: Waveforms of the Three Recorded Baritone Tracks

For this study I chose to relate to the six concepts of *sonic ambience*, *master station*, *operating by limitation*, *locations*, *preparing*, and *black dubs*. This process expanded my understandings of the concepts by exploring my performative practice through ABR in the form of ABMI and ABT. Examples of this are as follows: (a) creating black dubs by pitch scaling and reversing the recorded tracks of the baritone guitar to

a low frequency drone; (b) investigating the principle of operating by limitation using the Boss RC-300 loop station as a central part of the recording of “Supro Nova”; (c) exploring sonic ambience by creating overtones played by flageolets on a lap steel guitar combined with reverse effect; (d) string scratching with my fingernails, combined with delay and wah-wah effects; and (e) palm strokes against strings, combined with chorus, reverb, wah-wah effects, and the sound from playing with the baritone guitar’s double bass bow between the saddle bridge and the stopbar tailpiece. These examples additionally address the principle of developing understandings of the concepts in focus in this study in a performative context, exemplified by the introduction of “Supro Nova” sonic extraction, which can be heard by scanning the QR code in Figure 11 or by clicking the hyperlink below the code.



Figure 11: *Sonic Extraction: Introduction of “Supro Nova”*

<https://mediasite.nord.no/Mediasite/Play/f24b2966907044e8a86648d38b9c23b71d>

This study investigates how ABR can contribute to developing understandings of six specific concepts in a performative context, where the concepts are investigated and explored through ABMI and ABT and presented in the form of *sonic extractions*. Contextual frameworks are offered by ABMI and ABT for both analysis and presentation, allowing further triangulation of and nuanced insights into the concepts developed along the way from a performative perspective. By developing and implementing ABMI and ABT as analytical lenses, the findings of this study are further constructed as *sonic extractions* summarized in the form of the composition “Supro Nova,” presented in its entirety in the “Supro Nova” *sonic extraction*, which can be heard by scanning the QR code in Figure 12 or by clicking the hyperlink below the code.



Figure 12: Sonic Extraction: “Supro Nova”

<https://mediasite.nord.no/Mediasite/Play/2coe300091364795b98617a649213bcd1d>

Discussion

ABR as a philosophical hermeneutical impetus for developing understandings

In this study I examine how ABR can contribute to developing understandings of six identified concepts in my own performative practice. By applying a philosophical hermeneutical perspective, I explore the six concepts through ABMI and ABT, both in the study’s analysis and through the construction and dissemination of the research findings. This approach, thus, also affects how understandings of my performative practice are developed. In this way, both my research practice and my performative practice are challenged through a hermeneutical and arts-based learning process that has broadened my horizon both as a researcher, musician, and music teacher educator. The study also shed light on how the findings can contribute to developing understandings relevant to other practices: in other words, how the practice of my own learning through an arts-based practice-based self-study can inform other practices, such as teaching and learning. Furthermore, this study can offer knowledge that informs cross-disciplinary intersubjective spaces at the junction of performative and pedagogical perspectives, which seems to be an under-researched field. From such a view the study may develop insights by emphasizing the performative approach as a possible inspiration for creating practical and creative learning processes. By examining how ABR can help to develop understandings of the six concepts discussed in this study in a performative context, knowledge developed can also be relevant for

teaching and learning in general and music education in particular. The purpose is not motivated by a desire to adapt or copy Lanois's thinking and practice but, rather, to investigate how understandings can be developed through ABR; in this investigation, my perceptions and prejudices are challenged. Here, I do not focus on how my understandings can be merged with Lanois's; instead, I focus on how his thinking can inform my practice. Although developing understandings in this context occurs on a micro level between Lanois's practice as manifested in YouTube clips and me, it may also occur on a macro level in the meeting between art and theory by investigating how ABR can help to develop understandings of both my research practice and my performative practice. Thus, I argue that this study offers understandings on how horizons can be expanded, such as how my horizon has expanded by developing understandings new to me through a performative exploration of the six identified concepts. This study's employment of ABR may be viewed as an academization of the arts, which, according to Angelo et al. (2019, p. 96), seems to challenge attitudes, hierarchies, positions, disciplines, and profiles in performing programs. However, it can also be understood as a tentative impetus to bring performative and academic traditions into dialogue by recognizing a potential for knowledge development when put into play by and with each other.

Implications of applying ABR to this study

ABR does not necessarily strengthen the artistic or performative results by articulating the research process, and artistic performance practice is not always research. The purpose of this study is to develop understandings on how concepts can be transformed into a performative practice using an ABMI and ABT analysis and through an arts-based presentation of the sonic extractions in the form of the composition "Supro Nova." While the theoretical dissemination of knowledge risks providing purely cognitive-based understandings, an arts-based approach opens the communication of multi-dimensional understandings by challenging affective and cognitive as-

pects. Muijen and Brohm (2017) argue that art is about evoking different senses by simultaneously generating new perspectives to communicate and create: “Art addresses qualitative nuances in (social) situations; evokes empathy and compassion; generates new perspectives on old patterns of interaction and routines; helps create awareness of our feelings rather than cognition” (p. 2).

In this view the essence of art may contribute a perspective for developing understandings in the interaction between cognition and affectation through its creative, reflexive potential. This recognition, along with the findings, may be the implications of applying ABR to this study. Some examples of how the findings of this study can contribute to developing insights relevant to other practices follow.

Contribution and relevance of the study

In this study *ABR* serves as a creative impulse that offers different perspectives for developing understandings of concepts and disseminating *research* than is possible using numbers and words alone. This approach is not presented as an alternative but as a supplementary perspective to more traditional research domains. Some examples of how arts-based research can contribute to developing understandings of six identified concepts in a performative context follow. (a) *Sonic ambience* relates to sound, timbre, atmosphere, and creative experimentation that can be relevant as an aesthetic approach that becomes a practice for *teaching* and *learning* techniques. This can, for example, be operationalized by challenging students’ understandings of possibilities that lie in unexplored approaches and the use of instruments, recording methods, and creative experimentation with musical styles. (b) The *master station*, which can serve as a relevant approach for exploring potentials within instrumental *teaching* and *learning*, is a principle that may contribute to developing student identity regarding sound and artistic expression. Students’ understandings of their own instruments can be challenged by exploring playing styles and technology with which they are not

familiar. For example, applying guitar amplifiers and effects may be a new approach to some who play wind instruments and strings. (c) *Operating by limitation* can inspire a creative impetus in the face of economic, technological, or other limiting factors in educational contexts that may free up creativity such that the potential of what is available regarding *teaching* and *learning* becomes fully utilized. A limitation in the form of a four bar ostinato can be an example of such a limitation in a teaching context, where student creativity can be challenged within a limited musical context. (d) *Locations* are considered in the context of this study related to the selection of suitable recording rooms. As a principle of challenging conventional perceptions, this concept may be relevant to other practices as well. What happens when children practice musical interaction at a mall or in a church? How does an open environment affect a professional ensemble recording? Conventional understandings of what locations are suitable can be challenged in different contexts in light of this concept, which is likely to affect both process and product. (e) *Preparing* can inform different stages of planning associated with practices of *teaching* and *researching* that symbolize both engagement with and commitment to those with whom one works. How a teacher prepares a classroom for teaching, or a conductor prepares a concert hall before rehearsal, may affect the group participating and, thus, also the outcome of the session. (f) Finally, *black dubs* deal with the manipulation of previously recorded audio. This is a principle that may represent a philosophical approach to developing creative *researching*, *teaching*, and *learning* environments in educational contexts, such as in music education. The principle of exploring existing material may contribute to offering understandings relevant to other practices and contexts. An example is exploring the principle of manipulating existing sound/music combined with recording a new part, such as when rap artists manipulate original recordings and combine them with new textual/harmonic/rhythmic/melodic elements. These examples are presented as opportunities and starting points for exploring further possibilities.

Final reflections

In this study, understandings on transforming concepts into sonic extractions through ABR are developed in a performative practice, thus constituting a basis for further examining how ABR can develop understandings relevant to other practices. In light of cross-disciplinary research paradigms wherein different perspectives can offer nuanced and multi-faceted understandings, practices can be investigated and challenged as a further contribution to engage ABR in the ongoing research discourse. By involving the whole sense apparatus, ABR may offer a unique space for developing understandings in a philosophical hermeneutic perspective, something I experienced throughout this study. Hopefully, the articulation of these understandings can serve as a contribution to methodology and analysis as well in the ongoing research discourse. In addition, ABR can potentially open the path from dissemination and communication to understandings in the sense that it affects those aspects in another way through an embodied approach of developing understandings. Gadamer (2017) claims that the essence of the question involves opening opportunities and keeping them open (p. 43), while Steinsholt and Juul (2018) assert that through new experiences, our expectations are tested by unrest and uncertainty (p. 6). Considering these reflections, I choose to keep the question open to encourage further discourse on art's own premises by presenting the composition "Supro Nova" at the study's digital starting point YouTube, which can be accessed by clicking (Ctrl + click) on the image in Figure 13 to follow the YouTube link or clicking on the hyperlink (Ctrl + click) below it.



Figure 13: Cover art (Sand, 2018): "Supro Nova"

https://www.youtube.com/watch?v=s3kH5VHx_eE

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Article 3

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Loop Station Conducting (LSC): A Study on Live Looping as an Ensemble Conducting Approach

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Abstract: This practice-oriented self-study is motivated by an apparent gap in the literature on music technology research in both performative and pedagogical practices. Thus, the aim is to investigate live looping as a style of ensemble conducting guided by the following research question: “What perspectives relevant to conducting can live looping offer as an ensemble conducting approach?” Using three contexts of hermeneutic meaning interpretation to analyze empirical material collected during interviews with a nine member focus group of music teacher students at a Norwegian university, I find that live looping through loop station conducting as an ensemble conducting approach offers several perspectives relevant to conducting, in that it can achieve the following: Create anticipation, evoke a sense of mastery and a sense of feeling secure, serve as an efficient supplement to conducting, create an immediate and holistic impression of the end result, and serve as a creative and/or pedagogical approach.

Keywords: live looping, loop station conducting, musical leadership, ensemble conducting, musical concepts

Traditional conducting comprises part, but not all, of the musical leadership knowledge and skills needed in performative and pedagogical practices (Øien, 2021). Based on the continually evolving state of such practices, this study investigates loop station conducting (LSC) as a

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possible ensemble conducting approach. The purpose of this investigation is to examine what this approach can contribute in meeting the current need for musical leadership expertise regarding technological development within the field of music.

Aim and Research Question

The overall aim of this study is to develop new knowledge and practices to address current musical leadership needs by examining live looping as a possible approach to developing insights relevant to conducting in academic, voluntary, and professional music performance contexts. The aim of this study is motivated by an apparent gap in the literature on live looping in musical ensembles (Mattsson, 2015). As a result of technological shifts, production literacy has changed on a broad level, and performances, both on and off stage, have become more technically creative, as recording and performance practices trend towards each other (Knowles & Hewitt, 2012). If knowledge relevant to conducting is offered through both research-based and practice-relevant teaching, these trends can guide efforts to strengthen and shape professional practices. From this perspective, one possible contribution is to develop the competence needed to integrate various technologies into ensemble conducting, in the music teacher education and voluntary and professional music performance practices. The lack of research at the intersection of pedagogy in music, combined with the technological shifts within studio and performance practices, and an increased focus on research-based and practice-relevant education, may validate the relevance of this study. Knowles and Hewitt (2012) provide an overview of emerging trends in the adaptation of recording studio practices into live music performance; this study seeks to supplement their work with a specific focus on exploring the adaptation of technology into ensemble conducting practices, as indicated by the following research question that guides this study: “What perspectives relevant to conducting can live looping offer as an ensemble conducting approach?” The findings will be relevant to conducting practices in academic, voluntary, and professional music performance contexts.

Background and Previous Research on Live Looping

In recent decades, researchers and politicians across the world have devoted much attention to teacher education (Darling-Hammond et al., 2017). While each country faces its own unique set of challenges in addressing teacher education needs, a significant aspect of those challenges pertains to the gap between the education offered and the education needed in school systems and academic institutions. Researchers continue to argue for the strengthening of teacher education and teaching practices to address this disparity (Darling-Hammond et al., 2017; Forzani, 2014). In the Norwegian context, this is expressed through an increased focus on quality and collaboration in teacher education, emphasizing that teacher education programs provide teaching based on research of high quality and relevance to the teaching profession (Kunnskapsdepartementet, 2017, p. 7). The same trends are seen in Denmark (Ministry of Higher Education and Science, 2019) and partly in Sweden (Weisdorf, 2017, p. 20). Research on teacher education also reflects that the international focus on pedagogies of teacher education has increased (Acta Didactica Norge, 2019). Both music teacher education and music technology scholars argue that music technology is an under-researched subject in didactic practices, despite its increasingly important role in music education and society in general (MusTed, 2019). Within the voluntary and professional music performative fields, the boundaries between recording studio and live stage have gradually blurred, as trends from these arenas continue to cross borders (Knowles & Hewitt, 2012). An example of this is the use of live recording and live looping on stage related to composition and arrangement (2012). Sounds, physical movements, and visual elements offer many opportunities to guide and adjust an audience's interpretation and appreciation of music (Kjus & Danielson, 2016, p. 324). Still, this potential has been essentially unexplored in voluntary and professional music performance, particularly pertaining to live looping and ensemble conducting. Considering the need for new knowledge about instructional practices in teacher education, especially regarding music technology (MusTed, 2019), combined with

an increased focus on pedagogies of teacher education (Acta Didactica Norge, 2019), this study can also contribute to the field of research-based and practice-relevant teaching in the field of music.

A search in the databases Oria and Google Scholar reveals that prior research on live looping primarily focuses on studio recording and performative practice contexts (Kjus & Danielsen, 2016; Knowles & Hewitt, 2012; Marchini et al., 2017; Mattsson, 2015; Mitchell & Heap, 2011; Renzo & Collins, 2017). Live looping in this study is considered a real-time recording of patterns of sound that are repeated, a tradition that has its origins all the way back to Pierre Schaeffer's use of gramophone records to capture sound effects in the late 1940s, as well as Lester William "Les Paul" Polfuss and Karlheinz Stockhausen's tape recordings of their experiments with recording, layering, and manipulating sound during the 1950s (Mattsson, 2015, p. 53). Terry Riley was the first musician to use tape loops and delay/feedback by developing the Time Lag Accumulator system, the prototype for the live looping technology we use today (Marchini et al., 2017; Mattsson, 2015). In the 2000s, the expanded availability and use of real-time sound processing recording tools led to the development of devices with features and interface pages designed and directed towards both studio recording and performative practices, also referred to as *threshold technologies* (Knowles & Hewitt, 2012). Artists are using these looping technologies in what is referred to as "a hybrid of studio and performance practices" (Renzo & Collins, 2017, p. 409), where the performance is mediated by a technological artifact that brings multitrack recording from its traditional studio domain into the live arena (2017, p. 410). A larger range of musicians are using digital studio technology to create and rework their music in live stage performances (Kjus & Danielsen, 2016, p. 320). Examples of such technological devices include the software production tool Ableton Live (Knowles & Hewitt, 2012) and the digital loop pedal Boss RC-300 Loop Station (Mattsson, 2015, p. 55). These products appear to be industry standards for software and hardware products in loop technology. Live looping is usually practiced as a solo performance (Mattsson, 2015, p. 61); starting from scratch and allowing the loop composition to emerge as an improvisation in dialogue with itself is the classic form of live looping (2015, p. 58).

Making production methods more obvious may lead to a new level of transparency that matters partly because it affects the listeners' aesthetic judgments (Renzo & Collins, 2017, p. 418). In light of this principle, technological innovations that extend and expand upon previous practices can enhance opportunities to better understand conducting techniques and, thus, the somewhat opaque production process (2017, p. 415) may become more transparent through performative and pedagogical practices. Many music pedagogical concepts seek to enable musical participation; some of the best known were developed by Emile Jaques-Dalcroze, Carl Orff, Shinichi Suzuki, Zoltan Kodaly, and John Paynter (Hanken & Johansen, 1998, p. 99). The use of loop technology in music education teaching has been researched in the past (Heyworth, 2011, p. 54), and a possible next step is to explore portable technologies as a means of further engaging teachers in creative music making (p. 61). Furthermore, research on live looping in musical ensembles is an unexplored field (Mattsson, 2015, p. 51), which also seems to be the case within the music pedagogical context. In this study, live looping as an ensemble conducting approach is investigated in a music pedagogical context using a *Boss RC-300 Loop Station*.

Theory

Various theoretical perspectives form the basis of this study. Together, these perspectives provide a framework for investigating live looping as an ensemble conducting approach, which, in this case, is examined in a music teacher education context.

Constructionism

This study is informed by constructionism as a fundament for the making of meaning (Crotty, 1998, p. 42). Crotty argues that meaning in the humanities cannot be detected; instead, it is constructed through interactions between people and the outside world in social contexts (1998, p. 42). Based on the constructionistic point of view, meaning-making is not purely objective or subjective, and meaning is not discovered or created but contextually constructed in interaction with others through

interpretation: “What constructionism claims is that meanings are constructed by human beings as they engage with the world they are interpreting” (Crotty, 1998, p. 43). Meaning is constructed, according to Crotty (1998, p. 43), at the intersection of the objective and subjective. This corresponds, as I see it, with the way I seek to make meaning of empirical data material through interpretation.

Hermeneutical Philosophy

In analyzing the empirical data of this study, I find Gadamer’s (2008) hermeneutical philosophy appropriate relative to interpreting research participants’ opinions. Gadamer argues that all interpretation presupposes that we carry with us an understanding of the world (Alvesson & Sköldbberg, 2008) and that our prejudices and understandings constitute a whole, where we can take individual elements, and not the whole, into critical testing (Krog, 2014). Prejudice here is considered in a positive light, as the condition of understanding (Gadamer, 2012, p. 314). As such, our understanding is never without preconditions that are somehow disengaged and unbiased but also are within a horizon that carries the potential to expand. This further implies the possibility of being transformed in the face of new understandings, which, in turn, presupposes the ability to truly listen to the understanding and point of view of others. Gadamer (2012) further argues that we are not caught in a horizon but that our understandings and prejudices constantly evolve through meetings and dialogues with others and with the world that surrounds us, as was my experience in meeting with the research participants and engaging with the empirical material of this study. The content of the horizon is not primarily individually conditioned; it is better described as a shared premise that is common to members of a culture, a principle that can conceivably be transferred to the study’s focus group. In this way, the hermeneutic circle (Gadamer, 2012, p. 302) may be understood as a relationship between different horizons meeting with one another, where meaning and understanding are constructed through dialogue and interpretation. By thinking of the concept of prejudice as the knowledge we carry with us in our meetings and interactions with the outside world,

Gadamer (2012) argues that the more prejudices we possess, the greater our capacity for understanding other horizons. According to this point of view, prejudice may be considered as something positively related to making meaning in the form of developing understandings, insights, experiences, and perceptions.

Musical Concepts

Producer, musician, artist, and songwriter Daniel Lanois's multifaceted practices offer pluralistic perspectives on possible aspects of musical leadership relevant to conducting (Øien, 2020, p. 7). The research question of this study is examined in view of his concepts of "preparing" and "operating by limitation." "Preparing" is highlighted as one of the most important concepts in his practice, where preparations essentially constitute Lanois's "whole thing" and are his "best friend" (Reserve Channel, 2013; Øien, 2020). 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 just walking into 'thin air.'"
(Øien, 2020, p. 27)

This principle is worth investigating in an educational context as well, especially in light of the potential opportunities the use of live looping allows. "Operating by limitation" (Neilyoungchannel, 2010) is about exploiting creative potential disguised as limitations that may be economic, technological, or time-related (Øien, 2020, p. 25). By working within constraints, musicians can develop their creativity and ability to exploit the potential of boxes, tools, and gear that are available (2020, p. 21) that may not otherwise have been considered. Conductors may not always have access to all desirable resources. However, from the "operating by limitation" perspective, the working process and the sounding result is not only about available equipment and resources but, rather, the expertise of the person who uses the equipment. Lanois proposes that musicians need only one specific effect to arrive at a unique outcome (Øien, 2020, p. 25), which in this study is represented by the digital loop pedal *Boss RC-300 Loop Station*.

Method

In this part of the text I explain the research framework, the process of generating and analyzing empirical material, and ethical considerations of the study, to illuminate the study's research design and process in a transparent and verifiable manner.

Framework

My epistemological and ontological frame of understanding for this article is based on the concept of constructionism (Crotty, 1998, p. 42); my positioning is based on a constructionistic view where opinions, understandings, and insights are developed in meetings between people. This constructionist positioning further grounds my scientific theoretical foundation in hermeneutics. Gadamer (2012) points to hermeneutics as something more than a logical method of understanding, placing the spiritual sciences' experience closer to philosophy, history, and art than to science. In light of such perspectives, Gadamerian hermeneutics may constitute areas of experience where prejudices are revealed and horizons are transformed and expanded through dialogue, during which we put our preconceptions at risk. This approach seeks to develop understanding which is not necessarily confirmed by traditional scientific methods. In other words, through expanding our horizons, we may develop insights to better understand ourselves and others. Methodologically, I consider this a practice-oriented self-study (Bleijenbergh et al., 2011, p. 147; Cochran-Smith & Lytle, 2009, p. 154), engaging me as both participant and researcher in a study related to my own field of practice and informed by a constructionistic viewpoint, where the making of meaning is understood as being constructed at the intersection of objectivism and subjectivism. I found this an appropriate framework for this study in the making of meaning, interpretation, reflection, and ethical considerations.

On Generating the Empirical Material

This study is based on a teaching class during which I conducted the song "Three Little Birds" by Bob Marley and The Wailers for a nine-member

focus group of music teacher students at a Norwegian university. The conducting was performed pre-instrumental and by ear without use of a written score, using live looping as an ensemble conducting approach. After the 15-minute session, the focus group gathered in a circle where I informed them about my research project and invited them to share their reflections on the loop station conduction (LSC) session jointly for 15 minutes. Immediately afterwards, the focus group was assembled in a computer lab for 90 minutes, during which time they individually wrote reflection letters about their LSC experience by answering 4 questions I provided; they submitted their letters to me anonymously. This generated 4,477 words of data which together with data collected during the 15-minute teaching class and the 15-minute conversation formed the empirical basis for further analysis. The empirical data material can, therefore, be understood as generated through focus group discussion/interview (Kvale & Brinkmann, 2015, p. 179) combined with data-supported interviews (2015, p. 178) in the form of individual reflection letters written by the nine research participants and submitted anonymously. An audio-visual clip briefly demonstrates the use of live looping through the LSC conducting approach, which can be viewed by scanning Figure 1 with a QR scanner or by following the link below. Even though this video example was filmed without the research participants present, it will provide the reader with an impression of the approach carried out during the teaching session.



Figure 1: Video Demonstrating Live Looping as an Ensemble Conducting Approach.
<https://mediasite.nord.no/Mediasite/Play/85af8b4968264216b2e8b108255967391d>

On Analyzing the Empirical Material

The analysis phase of this study is based on Kvale and Brinkmann's (2015) three contexts of hermeneutic interpretation, which are as

follows: (a) *self-understanding* through the whole reading, in which I as researcher/interpreter try to formulate what the interviewees themselves perceive as the meaning of their statements; (b) *critical understanding* based on common sense within the context of what would be considered a generally reasonable interpretation; and (c) *theoretical understanding*, where a theoretical framework is used in the interpretation of a statement (pp. 241–243). In the first steps of the analysis, I rely on the self-understanding and critical understanding contexts (Kvale & Brinkmann, 2015, p. 241). Furthermore, I examine the empirics from the theoretical understanding context (Kvale & Brinkmann, 2015, p. 241) by applying Lanois’s concepts of “preparing” and “operating by limitation” (Øien, 2020). The three interpretative contexts offer different research perspectives and lead to different interpretations and understanding, which further form the basis for the findings of this study.

Research Ethics and Challenges

This study generates data material primarily from written interview responses by nine research participants in a focus group. With the approval of the Norwegian Centre for Research Data (NSD), the study has not been reported to NSD because it does not reveal sensitive personal information that can be traced back to the research participants. Nevertheless, I always consider the different phases of the analysis against the risk of doing harm. To do this I highlight the process of generating and analyzing data material in a transparent manner. The focus of the study is crucial in this process. I had and have no intention of criticizing the research participants. Therefore, this study focuses on expanding horizons by developing understandings in dialogue with the data material from a perspective that can inform the research question instead of assessing personal points of view. Furthermore, the question of who owns the opinions that emanated from the analysis is not just about interpretative validity, but also about ethics and power and about the right to impart specific meaning to the opinions of others (Kvale & Brinkmann, 2015, p. 244). Here, I am in danger of taking on an all-knowing role, something I can never be sure to avoid. This is an important challenge

to be aware of as I present my research position and analysis process in a transparent and verifiable way, which I strive to do throughout this text.

Findings

By using the three aforementioned interpretation contexts of self-understanding, critical understanding, and theoretical understanding (Kvale & Brinkmann, 2015) and applying the concepts of “preparing” and “operating by limitation” (Øien, 2020) to analyze the empirical material, I found that live looping using the LSC approach offered several perspectives relevant to conducting which are elaborated on later in this article. In this part of the text the findings are presented briefly, supported by excerpts of the data gleaned from the focus group participants’ written reflections. Further considerations on the findings are made in the discussion and conclusion sections. Fictive names are employed to refer to the individual student.

Based on the evidence, this study revealed that live looping through LSC may offer several perspectives relevant to conducting in that it can:

A) Create Anticipation

Having to conduct “Three Little Birds” by ear for a nine-person ensemble based on limitations such as time (15 minutes) and equipment (no instruments) required a great deal of preparation. The teaching class, or workshop, began with the group being exposed to music played through the loop station as they entered the room, “which probably helped to set the group on what nature the work in the workshop would be of” (Anna). Of course, a similar room preparation could have been accomplished in a lesson without the use of any technological equipment, but I still chose to mention it, as the loop station seemed to affect the session already at this stage by catching the attention of the research participants and creating anticipation: “Today’s workshop in LSC started with a quiet attendance at Black Box. Background music was played [through the loop station] as we entered, creating a social and relaxed atmosphere” (Dina). Another research participant described his expectations, which apparently were created by the loop station and concepts of “preparing” and “operating by limitation”:

The room was tidy, the stage curtains were pulled back, and in the middle of the room was a loop machine [playing music] and a microphone on a stand ... When I walked into the classroom, I realized that something was out of the ordinary. (Adrian)

B) Evoke a Sense of Mastery and a Sense of Feeling Secure

The participants seem to have perceived the use of LSC as time saving and effective, and it appears to have impacted on their sense of mastery: “My sense of mastery came earlier, since the time we spent learning the material was so short” (Adrian). In addition, live looping seems to work well in providing both a motivating start-up impulse and an overall picture of the arrangement of the song, as well as in creating a sense of mastery and security: “I think it was really fun to see how to create music using only the voice” (Benjamin). The feeling of mastering the song arrangement seems to have persisted even after the loops were turned off: “And then you get a great AHA experience when the loop is turned off at the end, and the assembly/ensemble experiences itself regardless of the recording” (Dina). Several of the research participants claimed that it felt safe to have a recorded voice in the background to lean on. It did not take long before they stood there as an ensemble and performed a section of “Three Little Birds” without support from the loop station or an ensemble conductor:

The whole session took maybe ten to fifteen minutes, and then everyone was comfortable with the voice and the rhythm. You did not become insecure when the loop station was turned off. The approach also felt very effective, as we did not have to feel insecure about our own voices. It was just listening to the loop possibly supplemented by small corrections to some tones that could be difficult to hear. (Elaine)

C) Serve as an Efficient Supplement to Conducting

Live looping as an ensemble conducting approach was experienced as a very effective and at the same time comprehensive way to introduce the

group to the arrangement of the song that was to be learned a capella: “I think that if you did this without the help of technology like the loop machine, you would end up spending a lot more time introducing the focus group into the arrangement and in teaching the different groups their voice” (Anna). Time may be one of the framework factors and resources in a conducting situation. In light of this, LSC has potential as a possible approach: “Based on what I observed in the focus group, the loop machine shows great potential in increasing the efficiency of music teaching and can, therefore, help increase what you are able to teach in a single lesson” (Anna).

Although this study was conducted in a pedagogical context, LSC can offer perspectives relevant to ensemble conducting in a more general and broader sense as a result of how the approach impacts on the rehearsal of different voices: “LSC also works well to learn the voices quickly and efficiently” (Benjamin). LSC can also influence how the ensemble is effectively included throughout the rehearsal process. Following are three data excerpts illustrating how the research participants experienced the approach as efficient: (1) “Due to the repetitive nature of the method, it will be easy to include all participants from the first second ... As a participant, I feel that this was an effective way to work” (Cathrine). (2) “Live looping can work, for example, for a bandleader as a faster way to get everyone to learn their voices” (Beatrice). (3) “This was a great and effective way to learn the voices, and within minutes, we didn’t need the looper to keep the song going” (Dave).

The research participants experienced LSC as a supporting function when the voices and the arrangement were looped one by one, as well as when being given oral instruction in the form of singing while the track played. Following are reflections from four participants that support this finding: (1) “It was much easier to work pre-instrumentally with a loop track playing in the background than if we only had ourselves and the teacher to support us during the rehearsal” (Adrian). (2) “But the looper was a very good tool for learning the voice, because the voice I was singing repeated” (Beatrice). (3) “If you lose the voice you are singing, you can quickly navigate by ear by listening to the loop” (Collin). (4) “LSC makes it much easier to relate to both tempo and pitch when

you have a reference ... It worked as a very good support tool. Live looping works very well when a group is rehearsing an arrangement” (Dave).

The fact that the voices were played in the background seemed to make it easier to keep up and maintain a steady tempo, which may conceivably serve as an efficient supplement to conducting: “I think it is easier for younger/less musically experienced students to understand rhythm/voice when you hear it in the context of the new rhythm/voice being introduced continuously” (Dina).

D) Create an Immediate and Holistic Impression of the Final Result

The process was affected by the fact that the LSC approach can also impact how the product is perceived: “The most obvious thing I came across is that it will immediately sound like music” (Cathrine). This may also be relevant for choir conducting: “I also imagine that this can be very useful in the choir context. If the conductor had used it to teach the voices, we would have heard what the final result would be” (Benjamin). One cannot take it for granted that everyone will always be able to form a picture of the final song arrangement along the way; therefore, LSC can have a supporting function in this area as well: “It was cool to hear how the different voices together become an accompaniment when they are put together in layers” (Adrian).

E) Serve as a Creative and/or Pedagogical Approach

The participants’ feedback indicates that LSC has educational potential, which I argue is a key component of ensemble conducting in most contexts. The research participants emphasize this in their reflections on the approach:

It was very creative, and in my opinion, a very pedagogical way to present a choir arrangement. I especially liked the learning by ear approach, where one had to focus (zoom in) on one recorded voice/loop at a time to learn it in

relation to the other voices ... I think LSC can work well in teaching situations with larger groups and relatively simple arrangements ... For example, in conducting school choirs, group lessons in schools of music and performing arts, and music lessons in primary school. (Dina)

As a conducting approach, LSC can be experienced as a creative and new way of learning a song arrangement:

I experienced the approach as fun and creative ... I think LSC can be very good to use in conjunction with workshops, or as part of courses (for example, rhythmic choral conducting courses?). It is an innovative (in my eyes) approach that fits well with shorter exercises/events—just the kind of exercises one does at a workshop or course. Maybe it works well for some choir groups to use as part of their exercises ... It was a new way of rehearsing an arrangement that was creative, that kept you working, and was generally fun to perform. (Elaine)

As an educational approach, LSC can represent different perspectives relevant to conducting. Three participants articulated this idea well: (1) “I envision that live looping is a great fit for experienced music students, such as secondary or high school. It is a very convenient way to teach rhythmic compositions” (Collin). (2) “It is also easy to combine singing with rhythmic elements, such as hand clapping and/or foot stomping ... I think this can work in several educational teaching contexts” (Cathrine). (3) “I experienced this experiment as overwhelmingly positive and hope to see it more used in ‘real’ teaching situations ... and I hope that the work with the focus group will help inform others about this tool and its potential” (Anna).

Summary of the Findings

To summarize the findings, live looping through LSC as an approach offers several perspectives relevant to conducting in that it can achieve the following: a) create anticipation; b) evoke a sense of mastery and a sense of feeling secure; c) serve as an efficient supplement to conducting; d) create an immediate and holistic impression of the final result; and e) serve as a creative and/or pedagogical approach.

Discussion

Prior to conducting this experiment, I considered the concepts of “preparing” and “operating by limitation” in many ways and for many reasons, such as organizing the classroom so that the students would not just walk into “thin air” (Reserve Channel, 2013; Øien, 2020, p. 27). Ten minutes before the lesson started I opened the door of the classroom so I could welcome everyone as they entered the room. The students walked into a tidy room, emptied of tables and chairs, to find only a microphone on a stand, a loop station, and speakers providing background music played through the loop station. The lesson began at 12:30 p.m. without any pre-session comments or conversations. As mentioned, a similar room preparation could have been completed in a lesson without the use of any technological equipment, but the loop station seemed to affect the participants already at this stage, both visually and audibly. As part of the preparation, a short arrangement was created of only the chorus of “Three Little Birds” by Bob Marley and The Wailers, which was to be rehearsed pre-instrumentally by ear. This way of relating to both technology and the concepts of “preparing” and “operating by limitation” seems to have evoked a sense of mastery, among other things. Also, preparing an arrangement and recording it on the loop station while conducting the ensemble may have given the participants an immediate preview of what the end result may be like, of course, with room for interpretation. In this way, the technology, together with the concepts of “preparing” and “operating by limitation” (Øien, 2020), may have impacted on the outcome of the ensemble conducting in certain cases. “Preparing” is, according to Lanois, a concept that presents preparation as a symbol of engagement and commitment, for example, by preparing a recording room, programming beats, making sound collages, and more, so that when the band arrives, they are not just walking into “thin air” (Reserve Channel, 2013; Øien, 2020, p. 27). In this study the concept of “preparing” asserted itself through actions, such as the preparation of the classroom, the song arrangement, the use of the loop station, and the process of generating data material.

“Operating by limitation” involves exploiting the creative potential that limitations, such as economic, technological, or time-related constraints,

can provide (Neilyoungchannel, 2010). Thus, exploiting limitations may strengthen the product through its ability to release creativity. Lanois highlights the importance of mastering equipment and learning to get the most out of the few effects that are available. According to Lanois, musicians need only one specific effect to produce a unique outcome, provided they make the most of what they have available to create their sound, such as the use of a loop station in this case. LSC is an example of utilizing the musical resources available to achieve a desired outcome. For example, in this study, by exploring the melodic potential of the voices of the research participants to recreate the instrument functions in the original recording, polyphonic harmonies occurred. Despite the use of only human bodies and voices and one technological tool, we see an example of how the resource utilization principle can facilitate the creation of expression.

Live looping may ease the process of learning and remembering voices and keeping track of musical elements, such as tempo and pitch. However, conductors who choose to implement music technology into their practice are not exempted from possessing conducting skills. Indeed, the opposite is true, as the preparations now also include the implementation and use of what may be a demanding technology to use. It is a broad trend that musicians reanimate their studio practice as a result of incorporating new forms from recording practices into live performances (Kjus & Danielsen, 2016, p. 320). One possible contribution of the adoption of live looping into a conducting practice may be implications that arise from technology, such as reanimating studio practice in light of the concept of the hermeneutic circle. The circle carries with it a positive opportunity for recognition through the preparation of structures based on the cases themselves (Gadamer, 2012, p. 303). Perhaps principles of using technology derived from studio and performative practices that are transferred into conducting practices may contribute as part of a hermeneutic spiral where horizons meet, interpret, and develop by being put into play by and with each other. In a hermeneutic view, bringing a technological tool like the loop station in dialogue with the musical concepts of “preparing” and “operating by limitation” may offer perspectives relevant to other fields or practices, such as, in this case, conducting.

By examining the musical concepts noted previously from new perspectives and in new contexts, and by further challenging understanding of live looping, this study contributes as an example of how different practices can be informed by each other. On the other hand, rigid use of the technology, as shown in this experiment, surely offers a limited potential for developing insights. It may even negatively impact different aspects of conducting, for example, aesthetically and creatively. Nevertheless, this study does not seek to develop or offer a best-practice method but, rather, to investigate the use of music technology in an ensemble conducting context, specifically, by exploring live looping through LSC as an ensemble conducting approach. This implies that LSC is not suggested as an alternative to traditional conducting; instead, it may be a supplement that can support various forms of conducting. To further explore potential live looping techniques within various practices there is clearly a need to investigate different technologies of music and their use from other perspectives. This is, of course, a multifaceted dialogue that I address as part of an ongoing discourse. Therefore, I welcome other researchers to continue and expand this important discourse within the performative fields of research and music.

To articulate a clear conclusion is both demanding and possibly something to the side of the purpose of this study. This study is designed to investigate the research question: “What perspectives relevant to conducting can live looping offer as an ensemble conducting approach?” The main aim is to investigate LSC as a possible approach to develop insights into conducting relevant to the contexts of music teacher education and voluntary and professional music performance practices. The findings are presented and discussed from a hermeneutic point of view on how different practices can inform each other. I argue that the study shows that different practices can inform each other in a way that may offer new insights and understandings, although this cannot in itself be addressed directly back to the research question. By narrowing the focus to exploring live looping as an ensemble conducting approach, insights were gained on only a very limited part of the technological and performative fields of music. Precisely by examining fragments of a whole, different research perspectives may constitute the interaction between parts and

the whole and offer possible contributions to further research discourses. Therefore, the closest I can come to a reasonably clear conclusion for this article is in the form of a quote from one of the research participants: “Essentially, I think the loop machine is a technology that needs to be investigated more thoroughly” (Anna).

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This article-based thesis consists of an extended abstract and three articles. The thesis is divided into two parts with a total of four texts and focuses on developing knowledge of musical leadership. In Part I, a synthesis is presented in the form of an extended abstract, and in Part II, the three articles constituting the substance of the synthesis are presented. The author recommends reading the articles first as they constitute the background of the synthesis. The following is an overview of the two parts of the thesis.

Part I - The extended abstract is a synthesis of CS1-3 that consists of an introduction, previous research, theoretical framework, methodology and method, findings, discussion, and conclusions. In this synthesis, a hermeneutic practice ecological perspective serves as a theoretical lens for the comprehensive investigation of CS1-3. The conclusions suggest the *Perpetual Practice Dialogue Complex* as an approach to combine performative, pedagogical and research practices in the means to reveal, develop and articulate understandings in and on musical leadership.

Part II - The articles for each component study (CS) are attached as they were published or available in manuscript form at the time of this thesis submission. Through CS1-3, understandings of musical leadership were developed at the intersection of qualitative research and arts-based research (ABR). Nine concepts that served as aspects of musical leadership relevant to conducting were revealed by investigating a record producer's practice (CS1). Through ABR, six of the nine concepts were transformed into sonic extractions (CS2), and live looping through loop station conducting (LSC) as an ensemble conducting approach offered several perspectives relevant to ensemble conducting in a pedagogical context (CS3).