

Learning to Un-sing

*A study of free improvisation vocalists'
ideas, strategies, and techniques*

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Song of Myself, 51

*The past and present wilt—I have fill'd them, emptied them.
And proceed to fill my next fold of the future.*

*Listener up there! what have you to confide to me?
Look in my face while I snuff the sidle of evening,
(Talk honestly, no one else hears you, and I stay only a minute longer.)*

*Do I contradict myself?
Very well then I contradict myself,
(I am large, I contain multitudes.)*

I concentrate toward them that are nigh, I wait on the door-slab.

*Who has done his day's work? who will soonest be through with his supper?
Who wishes to walk with me?*

Will you speak before I am gone? will you prove already too late?

— Walt Whitman (Whitman, 1855/1924, p. 75)

Abstract

Despite its name, free improvisation is a musical practice saturated with spoken and unspoken rules. This is especially true for vocalists, but such rules have not yet been formalized, nor are such tendencies much documented in academic writings.

This thesis aims to identify criteria and values that inform the development of vocal sounds in free improvisation and some of the strategies that performers use to cultivate the sounds they work with. Through in-depth interviews with Tone Åse, Agnes Hvizdalek, Andreas Backer, and Live Sollid Schulerud, the thesis documents experiences, opinions, and methods related to the vocal practice of four free improvisation vocalists working in Norway.

The thesis draws on theory from embodied music cognition and the psychology of voice and improvisation to unpack the data collected from the performers. Thus, it tries to understand how the mechanisms of voice perception work in free improvisation and how free improvisation works in voice perception.

With its eclectic tendencies and kinship to other genres, free improvisation is a distinct musical tradition that – at its core – explores the boundaries of musicality and instrumentality. Within free improvisation, the voice has a prerogative equal to all other musical instruments because of experimental techniques and the juxtaposition of the ambiguous with the concrete in the sounding expression.

Preface

When I embarked on a master's degree in musicology, I had been working with vocal free improvisation in Oslo for about four years. Around this time, I experienced a technical and artistic stagnation as a performer, and the thesis work provided an opportunity for such self-development.

My attraction to free improvisation vocality has been triggered by

1) the notion of 'everything is allowed' and the adrenaline-infused and dopaminergic activity of composing on the spot – risking failure but rewarding effort – and 2) the desire to expand the domain of the voice as an instrument.

In particular, I have been fascinated by what is often called 'extended techniques', the sounds that do not occur in the traditional sense of musical vocal expressions. Often, this work is physically demanding and extreme sounding – a kind of vocal athleticism.

I want to extend my gratitude to Elin Rosseland, legendary teacher of voice, jazz, and free improvisation. Without her, this thesis would not exist. By including me in the Oslo 14 vocal ensemble in 2013, she gave me the privilege of participating in her meticulous process of teaching and calibrating 14 vocalists to create meaningful improvised music together. During this process, I rediscovered my voice and how to music.

Equally, I am thankful and humbled to have had Professor Alexander Refsum Jensenius as my supervisor, as his academic prolificness and kind critique has been a crucial part of this process. In addition to faith in the material, he has continuously validated my ability to see it through.

I am grateful, too, that The Department of Musicology at UiO embraces such a wide span of traditions and disciplines, offering students many perspectives, and enabling new schools of thought.

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1 Introduction

In this chapter I will share the motivation for my thesis and outline the necessity of this particular research. From there I take the reader through my aims and research question, scope and limitations, before presenting a structure of the thesis.

Motivation

“By studying free jazz voice, we can learn important lessons about what we expect from the voice and what happens when those expectations are violated.” (Tonelli, 2019, p. i)

So opens the first proper work on vocal free improvisation, *Voices Found*, and aptly frames what I find so deeply fascinating and frustrating with free improvisation and voice. Four years into my performance practice on vocal free improvisation I hit a plateau on my technical and artistic development. A few years earlier I had already begun to notice certain techniques, sounds and structures that were used by several performers, and experienced in several projects that some sounds were more desirable than others. The experience of not being as free as I thought I was, created friction and a sense of insecurity.

Therefore I decided to spend my thesis on developing my personal vocabulary while at the same time helping others in my situation. Taken by methodological possibilities from the hard sciences, and inspired by projects such as the [Pink Trombone](#) (Thapen, 2017b, 2017a) and Ivar Grydeland’s [Encyclopedia](#) for musical improvisation (2017). I dreamt of developing software, or some systematic way, to map and discover one’s voice. However, my limited coding skills quickly put a stop to that.

Nonetheless, I had gained wide-ranging experiences, working thoroughly with solo and duo voice performance, ad hoc instrumental groups, multidisciplinary acts as well as with Oslo 14 vocal ensemble. The sum of these experiences gave me many impressions of spoken and unspoken fundamentals for desired sounds, form, and expression. My primary focus became to uncover rules, dogmas and aesthetic preferences present in my musical community, and the mechanisms behind. Early on, the academic literature left me mostly empty-handed, making the need to document the perceived aesthetic rules of concrete performers a more imperative and far-reaching job than mapping all the vocal sounds possible. I needed to circle in exactly what in free improvisation, voice and technique I found so fragmented, or even paradoxical.

Premise

Impossible freedom and the non-singer

In the canonical *Making Popular Music*, Jason Toynbee discusses genre-cultures and a fallacy of “free improvisation as free from idioms and codes”. He identifies could potential idioms and states that “the *practice* of free music cannot be exempted from what I now want to call the inevitability of genre.” (2000, p. 108) Toynbee goes on to analyze some of Derek Bailey’s statements as proof of idiomatic music-making.

He points to the mention of vocabulary, a judgement of balance and pace, a “desire for maximum variation”, as well as an assumption of the listener’s ability to recognize “ ‘the usual basic stuff’ ”. He places the idiomatic tendencies in “intensional (sic) and extensional modes of musical organization” borrowed from Andrew Chester (Chester, 1970a, 1970b), and further identifies idioms under the slightly demeaning epithet of *squeaky bonk*.

Free musicians deploy a range of instrumental tropes such as thinning (to produce squeaks) or coarsening of timbre (to make bonks), pitch bending (slides from high squeak to low bonk or vice versa), and the playing of flourishes of notes (squeaky bonk tone clusters or licks) (Toynbee, 2000, p. 109)

Albeit Toynbee’s discussion has a light reductionist flavor, it is the most precise description of idioms I have found so far, and it is more than 20 years old.

Internationally, improvisation as a phenomenon has been covered in the sciences for decades, with Jeff Pressing’s psychological model (Pressing in Sloboda, 2001/1988) being the landmark on which most academic theory on improvisation has been built. In *free* improvisation, notable non-academic works include Derek Bailey’s *Improvisation* (1980/1993) Keith Johnstone’s models and glossary for theater improvisation in *Impro* (1981) and *Impro for Storytellers* (1999/2014) being important influences. In Norway, apart from master’s theses (Berge, 2009; Bjerkan, 2020; Dillan, 2008; Skei, 2012), it seems that mostly artistic researchers (Åse, 2014/2015; Dillan, 2015; Grydeland, 2017, 2017, 2022) have examined the dynamics of improvisation. I have yet to find prolific descriptions on how free improvisation is “‘supposed’ to sound, much less descriptions on how free improvisation *voice* is supposed to sound – aesthetic principles.

Aesthetic principles are ideas but also concrete sounding parameters we relate to as performers in developing our instrumental skills, and I suspect that the principles I am looking for is an integral part of how and why the voice functions as a musical instrument within free improvisation. In many musical genres, including jazz, art music and folk music, the vocalist is not equal, but parallel to other musicians, the ‘real’ instrumentalists. It implies a different role for the vocal performer in the music. We also see the voice-instrument dichotomy expressed by a poor, or even lacking organological categorization of the voice. One example of this is how the voice is left out of the Hornbostel-Sachs taxonomy of instruments (Hornbostel & Sachs, 1914/1961)

What is voice?

Within vocal free improvisation and other free-voice musical expressions, many of the sounds that are used do not, or only slightly, include vocal cord vibrations. But does that make them something other than vocal sounds? Many of these sounds are referred to as part of an ‘extended technique’. Since the sounds are produced in the vocal apparatus, I choose to incorporate them in a broad understanding of the voice, including the entire body as the space where the sound is produced and resonated within. Such sounds may include wheezing, vocal fry, percussive tongue, lip sounds, etc. However, I choose to exclude sounds made with other body parts (clapping, tapping, stomping, etc.) that do not involve the respiratory system or oral cavities at all. If one adopts a relativist perspective, one could even include the context that the voice moves in: the room or the reflective space (room, stage, etc.) the sounds travel through, or if the performer is using a microphone or electronic device to amplify their sounds.

While microphone and live electronic techniques are both detectable and widely applied in the field of free improvisation, I find that an understanding of these might constitute different levels of extension from the instrument. For instance, in the case of the former, I would say that the microphone becomes a filter, or possibly a new instrument. This is because I understand the sound produced, and the sound producer, to be limited by the vocalist’s body. The sound may be produced independently, take on a new meaning, and gain widened agency in the context of filters and interfaces such as different performance spaces (a church vs. a dry cupboard), amplification, and electronic processing. However, these filters and interfaces could not produce the vocal sound signal on their own.

Making this claim is of course a simplification for the sake of clarity, all the while I do not mean to reduce the computer as an instrument or live electronic processing to being just a filtering process – it is too complex for that – and has different meanings for individual performers.

Embodied cognition and voice perception

The voice possesses an extraordinary power to override almost any musical context, and to immediately instill a mood or an emotion. I suspect that the urge to expand the voice's domain is driven by the same mechanisms that keep our perception locked to concrete connotations – an exploration of the self and its surroundings, pushing or dancing around the boundaries to see where they are.

The way that the voice is taught today is through words and sometimes by drawn models, but most of the learning happens through mimicking, which makes me wonder if vocalists are even more apt at interpreting signals of emotion. This is especially true for extended vocal techniques, as there is a lack of formalization in this field. My entry point to these reflections were inspired by reading embodied music cognition, which I will describe in more detail in Chapter 2.

Research question, aims and objectives

The most important aim of this project is 1) to examine how vocal free improvisers develop their vocal techniques, 2) which sounds they approve of, and which ones they do not, and what shapes this process 4) to see if there is a difference between their vocal technique, their vocabulary of sounds, and improvisational skills.

In the process of developing a sound (sic) research question, I worked with several renditions of the same subject, including:

How does the vocal free improviser discriminate between technique sounds and musical sounds?

The first version was also the one in effect at the time of data collection. Despite the clarity of what the question sought, I found it a little too instrumental, and forsaking aspects of the research could have ambiguous or obscure sides to them.

This version of the research question was formed from the assumption that many, or at least some of the common extended techniques, in my personal experience, have been drawn from technical exercises such as warm-ups and those used to perfect vocal ideals within traditional genres such as opera. My view at the time was that this is a starting point for many extended technique developers, since it comes from a space of exploration, and of testing the limits of the voice while striving for maximum control. They can be airflow-control, fricative, glottal, and timbre exercises that are expanded to create a musical form.

The current version of the research question I found had the potential to encompass a broader understanding of experimental vocality as well as free improvisation as a socio-political, psychological, and physical phenomenon:

How do free improvisation vocalists choose which sounds to use when making music?

- How do vocal improvisers develop their library of sounds and techniques?
- How is voice perception related to the perceived musicality of vocal sounds?
- How do the dogmas present in free improvisation shape the choices of performers?

The most direct way to get information on how vocal free improvisers develop their techniques and libraries was to talk with them directly. Through qualitative, semi-structured interviews with carefully selected performers, I hoped to get nuanced reflections on such a process.

In this study, the performers were Tone Åse, Agnes Hvizdalek, Andreas Backer, and Live Sollid Schulerud (pilot). The interviews also provided the opportunity to ask follow-up questions and get to know what has shaped the performers; this offered context for their statements. I then compared my findings using literature on free improvisation, and neuroscience of voice and improvisation, as well as key concepts from embodied music cognition.

Scope and limitations

For practical reasons, I chose to not examine the use of live electronics or to go deep into collective or solo improvisation. While solo improvisation was my initial focus, I later chose to take a more general look at the mechanisms, all the while acknowledging that different dynamics rule the respective formats. I would also have loved to give a more detailed historical tracing of free improvisation, but due to the wide focus already taken, I find that the historical line would be better covered in a separate (or even a future) project.

Transparency and plagiarism

Over the course of this degree, I have chosen courses and activities – curricular as well as extracurricular – that would lead me deeper and closer to the research on free voice and improvisational perception. The courses I completed were MUS4320 Music Psychology, MUS4218 Methodological Topic: Music Cognition, MUS4831 Sound Analysis. In obligatory courses such as MUS4226 Thesis Seminar, and MUS4225 Fagtradisjon i musikkvitenskapen, I tried to angle my course work towards free voice and embodied cognition. Outside of classes I attended RITMO events, MusicLab workshops, and the like. During the fall of 2018 I did an exchange semester at IPEM, University of Ghent, where I gained some experience with motion capture technology, but most important of all, got to know Ghent's jazz and free improvisation scene.

I am happy that I had the chance to spend my courses doing relevant research, and it includes that I will be writing about some of the same topics that I chose for these courses.

Structure of the thesis

First, I give a literary review on improvisation, voice, and embodied cognition in Chapter 2. After that, I reflect on the methodological approach I have taken as well as the design of the study in Chapter 3. Second, I analyse the interviews with a bricolage approach. Third, I compare the findings across interviews, give descriptive analyses of music the performers in the study have released, and discuss it alongside the literature presented in Chapter 2. Fourth, I determine in Chapter 6 if my research question has been sufficiently answered through my thesis work and contemplate the reasons for the sufficiency or lack thereof. Finally, I propose what others can take away from my work, what I would like to see examined in future studies, and how other researchers can proceed.

2 Theory

This chapter will present theoretical frames informing my aims and research question. Developing the thesis, I have been inspired by ideas from embodied music cognition and combined this with improvisation psychology and voice perception. To support my data, I interweave it with a critical discourse on free improvisation, vocal technique, and experimental vocal practices to provide context and establish the presence of some key premises.

Embodiment

“The question here is not one of a simplistic development of vocal virtuosity. Rather, it involves a redefinition of a most accurate sound representation of thought via the most accessible, direct, and sophisticated music-making apparatus.”

— Diamanda Galás on “intravenous” song” (1981)

Embodied music cognition has spurred many cycles of pondering and awe in my work as an academic student, but also as a performer and critic. While I am not implementing embodied music cognition as my main theoretical grounding, I will in the following sections highlight some of the concepts that have inspired my work before I move on to psychological and perceptual aspects and literature on free improvisation.

I find that Galás’ words above distill a grasp on experimental vocality that embodied cognition might offer — as a process where the cerebral and the visceral come together.

Through the last twenty-odd years, embodied cognition has advanced and gained traction in various interdisciplinary fields, including musicology. The abandonment of the Cartesian divide and shift towards understanding body and mind, not as a dichotomy but as a necessary and perpetually interlinked unity, provides us with a whole new opportunity to lift a previously impermeable veil between our assumptions and empirical knowledge of the human experience.

With the discovery and conceptualization of *mirror neurons*, (di Pellegrino et al., 1992; Gallese et al., 1996) the increasing interest in embodied music cognition as a scientific paradigm was catalyzed into astronomical growth. Our understanding of the *perception-action cycle* (Neisser, 1976), *gestural affordances* (Gibson, 1979/1986), and the internal simulation

of events, including those of sound production and related movements, were all consolidated by the discovery of mirror neurons. This discovery has also bridged a gap between systematic musicology, phenomenological and cultural studies offering testability on theories posed decades earlier (Honing, 2004).

Embodied music cognition is a paradigm wherein the body and its “corporeal processes” *mediate* our exterior and interior world, environment, and minds. It enables us to make prediction models to base our future actions upon (Leman, 2007). Godøy (in Leman & Godøy, 2010, p. 108) holds that one such is the *motor theory of perception* on articulatory movements in language production relying on processes of mental imagery (Liberman & Mattingly, 1985). The successive merging of the paradigms, trading back and fourths (pun intended) between the various disciplines involved in connecting the dots of many different theories, is succinctly presented by Rolf-Inge Godøy (Leman & Godøy, 2010, pp. 103–125). From an art science perspective, one such consolidation of theory has been the concept of the sonic object (Schaeffer et al., 1966/2017). The sonic object further enabled investigation on music as a phenomenon and an activity, and an understanding of sound as a physical manifestation with multi-modal properties.

In recent years, the *Dynamic Attending Theory*, originally proposed by Mari Riess Jones (1976) has proven to be one of embodied music cognitions' most important theoretical frameworks to study our ability to perceive and predict musical events in time, and is especially relevant in free improvisations use (and misuse!) of repetition.

Dynamic Attending Theory endeavors to explain how real-time predictions are made through *entrainment* while listening. Jones defines entrainment as “a biological process involving adaptive synchrony of internal attending oscillations with an external event.” (Jones in Hallam et al., 2016, p. 128).

She stresses that different metric levels, and accents stimulate a periodicity, and that an “oscillator’s persistence creates temporal expectancies that are “tuned” by correcting its period and phase to expectancy violations”. From this I read that the human mind-body will automatically seek periodicity and be hypervigilant to changes or lack thereof. Further, I read that “different metric levels” might mean units of subdivision, pulse and even the greater form of a sound event or a musical piece – even an entire concert could be included in the understanding of metric levels.

The aptness of prediction and complex rhythmic “intelligence” of a performer may possibly interact with the mirror neurons' activation of muscle activity, and the gestural affordances of sound objects gives the performer, listener and performer-listener an extremely rich and nuanced mass of information, involving structural elements, tempo, tonality, and the musical potential, but also emotional and communicative cues.

Particularly interesting for this study is *the speech-to-song illusion*, which was coined by Diana Deutsch. While processing an audiotape with the phrase “Sounds sometimes behave so strangely”, but chopped up as “Sounds...” and then the following phrase repeated: “sometimes behave so strangely” suddenly made her hear it as music. (Deutsch, 2019, p. 151). The speech-to-song-illusion relates to the mechanisms described Dynamic Attending Theory, especially how the phrase is repeated precisely each time, creating periodicity.

In an article following experiments on the speech-to-song illusion, Deutsch et al. hypothesize that “characteristics of the speech stream that are essential to meaning, i.e., consonants and vowels” (2011, p. 2251) will be favored by our neural circuits by inhibiting pitch salience, and that verbatim repetition of a speech phrase might disinhibit the same neural circuits, resulting in enhancement of pitch salient features. Such hypotheses make my mind wander, and I ask myself if the dismantling or ambiguity of meaning enables perception of sound as music.

Repetition, as found in free improvisation, could similarly create familiarity, and thus offer organizational affordances and accumulating cues “to treat the phrase as sung rather than spoken.” (Deutsch, 2019, p. 169). My reading of Deutsch here is that “song” is a synonym for music, and “spoken” is a synonym for language communication. Deutsch adds that memory plays a role in this and assumes “that there exists in the brain a database of well-remembered pitch patterns, and another database of well-remembered rhythms, and that we recognize songs by accessing these databases.” (2019, p. 169)

The models and databases that Deutsch refers to contributes to predictions of what is about to happen. We need to understand where sounds come from, however, expectancy as a result of *action-sound-couplings* (Jensenius, 2007) becomes a problem when ambiguity is concerned.

Critical organology

In free improvisation, as the recontextualization of sounds and their origins are highly present, the cycling between salient and ambiguous action-sound-couplings is one of free improvisation's significant processes, providing the grounds for extended vocal technique.

New technologies allow for more physical dislocation, new sound realities, and audiences that are starting to adapt to the idea that a concert can encompass a vast array of possible sounds. While these possibilities for expanding one's instrument are becoming increasingly accessible, it still seems an important part of a vocalist's formative journey is about cultivating these extended techniques, or rather, one's awareness and negotiation of the action-sound-couplings.

After all, much of the motivation of vocalists to pursue free improvisation or avant-garde comes from a need of democratizing one's instrument, being equal to other performers. In part, due to the majority of female musicians being vocalists. Thus, many vocalists have had need to distinguish themselves or at least the activity of "singers" from "vocalists", myself included.

Norwegian composer and vocalist Maja Ratkje wrote the book *Eksperimentell kvinneklam* (2013) as part of series *Stemmer* ("Voices") published due to the centennial jubilee for women's right to vote. She writes that it was important for her to be uncompromising in her early years. She felt more like an instrumentalist than a singer, and was annoyed when compared to vocalists who she thought belonged to the role of the "singer". She needed to demonstrate that all instruments were equal. Showing energy, strength, endurance, and brushing the borderline of physical limits was important too (2013, pp. 38–39)

In a series of reflection excerpts Ratkje (2013, pp. 18–22) also recounts several episodes where the structural inequality between genders and genres — including being called the "Barbie" of the Norwegian Society of Composers — steered her toward strangeness and unorthodoxy. This book is excellent documentation of how structural imbalances in society, extreme expressions, and artistic movements that challenge power structures go together.

One symptom of structural imbalances has been the lacking categorization of the voice as an instrument whatsoever, not even in the gold-standard instrument taxonomy of Hornbostel & Sachs (1914/1961), structured by order of sound production. In recent years the exclusion of the voice as an instrument has been addressed by several researchers, including Nina Sun

Eidsheim in *Sensing Sound* (2015), and Alexander Refsum Jensenius in *Sound-Actions* (2022).

This work is important, both as a means of political work, but also because comprehensive research on how the voice functions, and how it is produced, is minimal beyond the fields of medicine and linguistics. Additionally the work of these researcher-performers contributes to the growing recognition of the voice as an embodied instrument, as well as embodied cognition as a transcendental paradigm that opens new doors of insight into what is natural and what is useful.

According to Jensenius, there is still no unified agreement on the definition of an instrument. He advocates for the definition “Vehicle for exploring and expressing musical ideas and feelings through sound” (Libin, 2014/2018) as the sound-producing noun over “tool or device” as a nuanced understanding, as it enables for the inclusion of “the human body and human voice as instruments”. (Jensenius, 2022, p. 43)

Additionally, he argues that the word “vehicle” invites an “active and embodied thinking about musicking” while embracing “both ideas and feelings, acknowledging that musick covers both structures and emotions.” (2022, p. 43). In this way Jensenius couples the nouns of musick and instrument to the verb *musicking* which encompasses the entire relational plethora of music as a human activity, and how it forges meaning in between people and between people and our surroundings.

Eidsheim holds as a premise that music is a “corporeal action rather than as a sonic product”, and given “that the singing body ex-tends beyond” the sounds of the vocal cords, she defines vocal production as an invisible, “internal corporeal choreography” (Eidsheim, 2015, p. 111). She stresses also, the relationship with the listener, and how it may in turn shape the sound production of the vocalist. In her doctoral thesis she wrote that the choreography “is rather discreet. Its utterance is singing and its first desire is to seduce the ear.” (2008, p. 268).

Eidsheim proposes the paradigm of studying music as an *intermaterial vibrational practice* because “the object of study is not only the vibrations but also (...) the material that vibrates”. (Eidsheim, 2015, p. 161)

Voice as materiality is also subject of discussion in Franziska Baumann’s recent book *Embodied Human Computer*. She points to the issues of “significant difference between vocal and instrumental materiality” by virtue of the voice’s connecting of “the person and the body

with emotion, meaning and communication.” (Baumann, 2023, p. 10) Further she weights the value of intrinsic versus extrinsic listening modes, as proposed by Schaeffer (Schaeffer et al., 1966/2017).

With different listening modes and the separation of voice and internalized concepts enables performers to “shape and compose the vocal material in a purely sonic approach and thus open up new creative and aesthetic experiences.” (2023, p. 15).

Baumann proposes “listen to the nakedness and immediacy of the voice in its pure materiality” and stresses that we must examine the distance required “to enable a de-subjectivation and to free its sound from the “human in the voice”. (2023, pp. 15–16)

The way we as humans have understood and treated the production of sound and musical material is essential to the rebellion of free improvisation against social restrictions on expression — including who has access to doing what — making the discourse on the embodied voice and its implications very relevant when also looking at the more clinical and biological understanding of voice as an evolutionary instrument.

Before I divulge into the discourse on free improvisation, its dogmas and relationship with formalization, I wish to iterate on current findings in the psychology of improvisation and the perception of voice.

Psychology of improvisation

Despite the very resilient conception of improvisation as something that is made up right there on the spot, The notion that improvisation is an acquired (and intrinsic) human skill that needs practicing is supported by a growing body of literature.

One of the key educators of jazz musicians in Trondheim (NTNU), Bjørn Alterhaug, even made great efforts for the Store Norske Leksikon (“The Great Norwegian Encyclopedia”) to edit their definition of improvisation from an everyday-perspective of “something that is completely unprepared and taken on the spur of the moment” versus the musical understanding “where improvisation is the result of thorough preparation” and “the participants have experience and training in this "unforeseen" way of communicating.” Alterhaug further stresses that “intuition and presence become governing in the process.” (Alterhaug, 2021)

The need for transdisciplinary fields, especially for art sciences, to counter reductionist perspective on improvisation has helped birth scientific evidence for Alterhaugs claim of improvisation as prediction based on evidence and perceptio. The first proper psychological model was proposed by (Pressing, 1988/2001) and this way of understanding improvisation as a phenomenon has since become an important scientific foundation in both artistic research (Grydeland, 2017), theses (Dillan, 2(Åse, 2009; Backer, 2010)008) and academic research alike (Beaty, (Beaty, 2015; Iyer, 2016; Loui, 2021; Trump, 2020)2015);(Loui, 2021); (Trump, 2020);(Iyer, 2016).

Along with Beaty and Loui, celebrated jazz pianist and researcher Vijay Iyer are one of the academics working to create solid evidence on improvisation “listener experiences some kind of empathy for the embodiment of the performer, or some kind of understanding of the effortfulness of real-time performance. Iyer links this “to the foundations of rhythm perception, since the sound of a humanly generated rhythm (i.e., the sound of a body in motion) can activate an analogous body motion in a listener.” (2016, p. 87)

At the turn of the century, simultaneously with the confirmation of mirror neurons, neuroscientific researchers started to gather computational evidence to support Pressings model of improvisation. Three interesting findings include

- 1) very different activations in the brain during fMRI-scanning of “improvisation, compared to nongenerative recitation” (López-González & Limb, 2012)

- 2) recruitment of “brain regions linked with executive processes (e.g., strategic memory retrieval and pre-potent response inhibition)” and “relative deactivation of executive control networks in experts increased functional connectivity” for “efficient access to pre-learned motor patterns and generative strategies stored in long-term memory” (Beaty, 2015, p. 110)

3) A sophisticated activation of the systems for prediction and reward:

“At the highest level, musical improvisation serves the computational goal of using musical knowledge to generate auditory-motor patterns that are rewarding...The cognitive algorithms also include idea generation and evaluation, and flexibly switching between the perception of auditory targets and the motor production of those targets.” (Loui, 2021, p. 111)

It is unclear to me if the studies conducted included experimental expressions such as free improvisation, or other types of experimental improvisation, however they do make a distinction between collective and solo improvisations (Beaty, 2015, p. 113).

From this we see that improvisation may be a more cognitively demanding musical task compared to performing a rehearsed piece. The cognitive demands may both apply in terms of available headspace to musical events, but also to the social aspect of creating music. On top of this there rests a responsibility on the improviser for the result. In free improvisation, responsibility is equally distributed between all performing parts. In comparison to a performer of a pre-composed piece, wherein the responsibility for the piece is largely placed on the composer, and the execution of the work on the performer.

Voice perception

The brain is hardwired to recognize human voices, in fact, “We are all voice experts”, due to the fact that we – or at least most of us – “produce and understand speech” (Latinus & Belin, 2011, p. R143). From voices we can extract a multitude of information – while not always, but often

1) identity: gender, age, 2) states: mood, health, emotions or 3) qualities: attractiveness, fitness, mating compatibility (Kreiman & Sidtis, 2011) 4) as well as communicative signal and cues: speech, cries, laughter. (Pisanski & Bryant, 2019, pp. 271–282)

In addition, our brains are more sensitive to the sound of the voice, and that “low-level sound features are extracted in the primary auditory cortex and then encoded in” the middle subcortical temporal sulcus” (Belin et al., 2000, 2004; in Pisanski & Bryant, 2019, p. 270). It is therefore suggested that we use the same systems to process faces as we do voices, despite

the missing knowledge about the mechanisms responsible for the face-voice-connection. “Within seven months of birth our voice-selective areas develop (Grossmann et al. 2010),” and by our first day of life our “perceptual biases toward speech sounds over similar nonspeech sounds appear” (Vouloumanos & Werker, 2007).

The extensive meta-survey that I have based much on the sections of voice perception, “The Evolution of Voice Perception” has been provided by Pisanski and Bryant, and noticeably includes many of the abovementioned findings.

Of pertinence to this thesis especially, is the section they cover on “communicative *signals* and informative *cues*” (Maynard Smith and Harper (2003) in Pisanski & Bryant, 2019, p. 270).

Signals are defined as adaptive behaviors or structures shaped by selection to influence the behavior of others in a way that is beneficial to the sender (e.g., a vocalizer), and often coevolve with the adaptive responses of the receiver of that signal (e.g., a listener). Typically, signal production must benefit both senders and receivers to be evolutionarily stable. Cues, on the other hand, are any predictive behaviors or structures that influence receivers but were not designed to do so. Receivers might have evolved sensitivities to the predictive information, but the cues did not evolve to have that effect (Pisanski & Bryant, 2019, p. 271).

They use the example of a baby’s crying to demonstrate the difficulty of discriminating between a signal or a cue. If a signal, crying from a baby signals the caretaker to tend to its needs. If a cue, the baby’s crying could expose the social groups vulnerability to predators. The acoustic features are designed to trigger fear and revulsion to make the crying stop. (2019, pp. 271–272).

The successful application of such basal vocal sounds in music is, as previously mentioned, is extremely intricate. In light of the voice’s many signals and cues, we can argue that experimental voice practices have to relate to this perceptual feature in one way or another, depending on what the goal of the performance is. I would argue that in free improvisation, one generally tends to avoid aversive sound profiles or examine them carefully to avoid aversion in the listener.

The attributing of good personality traits to a voice is considered to stem from the “classical halo effect” (Nisbett & Wilson, 1977), and include “relatively powerful, confident, emotionally stable, intelligent, kind, and socially competent” whereas strange vocal qualities “affect perceptions of breathiness, creakiness, and smoothness in the voice and that at some level can be suggestive of vocal pathology, illness, smoking, or alcoholism” (Kreiman & Sidtis, 2011).

The signals and cues in our voices, as one of the most important tools we have to distinguish good and bad intentions, and to recognize deception, and who to trust.

Humans seem to be unique in our particular sensitivity to recognizing ostensive intentions to communicate (Scott-Phillips [2014](#)). That is, we can recognize informative intentions (**p. 287**) (i.e., the content of what one intends to convey), as well as communicative intentions (i.e., the intention to convey anything at all). From a listener’s perspective, the perception of intention in the voice requires the separation of vocal signals of emotion from related linguistic and pragmatic prosodic signals (i.e., pitch, loudness, rhythm, and spectral information). It is not currently understood how all of these sources of vocal information interact to convey intention (Pisanski & Bryant, 2019, pp. 286–287).

Formalization

Reiterating Pressing, he summarizes improvisation as “considered as a vehicle for consciousness expansion and the tapping of deep intuitions” (1988/2001, p. 142). Although he applied a systematic in the approach of his model, he still retained an openness to players’ voices and spiritual aspects that could be relevant.

I often meet many confused faces when I tell them I work with free improvisation. Many think it has something to do with jazz due to the ‘free’ and the ‘improvisation’ which is not exactly untrue, nor quite right. While (American) free jazz has some kinship and close cousins in free improvisation, it equally has kinship to contemporary art music in both Europe and America. In addition, free improvisation draws on a multitude of other genre expressions and improvisational practices (including folk music, noise, punk, krautrock, art musics from other parts of the world), and sometimes appears in multi-modal planes with dance, theater and

film. The ideas and conceptions in free improvisation have in common that they seek to explore the limits of musicality and physicality (which points to both acoustics, technical ability and ability to create novel artistic material). The performers emancipate themselves from a set of norms governed by specific (musical) cultures. In place of these cultures, the performers themselves become strict governors of their own individual practice. In the following sections I will highlight a selection of discussions that demonstrate the much polarized opinions of free improvisation.

In *Musikkvitenskap* (“Musicology”) Even Ruud writes about how a collection of explorative genres have the privilege of exploring the forming of opinion, making us reflect in new ways about music. He emphasizes both *Musique Concrète* and John Cage’s nulling out of musical meaning as examples of listening to our surroundings with musical intention. He further mentions how sound art, noise and avantgarde music exploits the limits of musical categorization to challenge hierarchies of taste and power structures. In this Ruud points to themes that are central also in free improvisation, namely those of ‘listening’, ‘musical intention’, ‘exploring’, ‘limits’ and the challenging of “taste hierarchies and power structures” (Ruud, 2016, pp. 226–227).

Some of the earliest literature on free improvisation was published in 1980 (reissued 1993) from the late Sheffield-born guitarist Derek Bailey, who played in UK dance bands in the 1950s. Gradually Bailey started experimenting with avantgarde music and over the years became a pioneer of the field together with Evan Parker, Paul Dutton, Phil Minton, Jaap Blonk, Ronnie Scott, John Zorn, John Butcher, Paul Lovens, and the list goes on. The reader may note that there are multiple ‘generations’ of free improvisers in the UK (Eyles, 2018), and that it started as a “cohesive movement in the early sixties” (Bailey, 1980/1993, p. 84) (Bailey, 1993, p. 84). Bailey’s obituary in *The Guardian* of 2005 read him “a Frank Zappa for the world of spontaneous performance.”, speaking to his expansive legacy and eclectic body of work (Fordham, 2005).

Improvisation (1993) is a short, but wide-spanning seminal work that includes improvisation in traditions such as the Balinese *gamelan* and Indian (both Hindustani and Carnatic) music, Baroque music and Flamenco, catching ties with American jazz, as well as reflections on compositional and instrumental matters. In fact, it covers very little about *free* improvisation, which Bailey partly resists to define. He speaks of ‘idiomatic improvisation’, referencing the

styles above, and ‘non-idiomatic improvisation’, the latter which “has other concerns” and “while it can be highly stylized, is not usually tied to representing an idiomatic identity”. (Bailey, 1993, p. xii) He states that “Diversity is its most consistent characteristic.” And that those characteristics “are established only by the sonic-musical identity of the person or persons playing it.” (Bailey, 1993, p. 83) It is worth noting that Bailey himself, as well as most of the performers of free improvisation were (and are) highly skilled, often auto-didact players without formal training (Fordham, 2005). At times the free improvisation scene has been thought to disregard formal musical training as part of their philosophical approach to music. In his book, Bailey mentions, regarding the differing, strong opinions on free improvisation of Leo Smith and Cornelius Cardew, that “wishing for a direct, unadulterated involvement in music, the way to free improvisation was the obvious escape from the rigidity and formalism of their respective musical backgrounds”. From this we can intuit some important moral values in free improvisation to be ‘direct’ and ‘unadulterated’, or ‘honest’ and ‘pure’, yet somehow with the appearance of being grained and unpolished (hence pure, raw). We can make the assumption that this moral value is somehow elicited through the musical practice, and thus heard in the music.

As mentioned in chapter 1, Jason Toynbee puts forth the claim that free improvisation “cannot be exempted from [...] the inevitability of genre” (Toynbee, 2000, p. 108). Albeit the critique seems a little charged, Toynbee has some interesting points. I will refrain from repeating the entire section from chapter 1, but for clarity I will summarize:

Toynbee juxtaposes Bailey’s claim of ‘non-idiomatic improvisation’ to parts in the book he declares as contradictory, and also makes his own musical analysis of idioms (“tropes”) under the epithet *squeaky bonk*, as useful vocalizations of what the musical language in free improvisation can sound like. Toynbee also brings forth the temporal and structural shaping of the sounds, with repetition and recognizability as essential for musical quality (Toynbee, 2000, p. 109).

A more balanced read can be found with John Corbett (1995), pointing to Bailey’s statements of non-idiomaticity and personal musical language, he says “although these statements are perfectly valid” and further refers to two primary things that are missing: “First, the essential element of risk involved in improvising and, therefore its accompanying reliance on temporality; and second, the repositioning of knowledge in relation to the musician and,

therefore, history.” (1995, p. 222) In this, and in his further elaboration Corbett provides a striking description of the dynamics at work when “surrounded by codes, improvisation dares to defy code while it simultaneously runs the risk of becoming fully codified” and that this potential “attempt to destabilize codes” creates an “all-consuming desire...for the unknown” (1995, pp. 222–223). The nature of destruction in free improvisation likens nature’s own self-destruction as a means to create new life. However, despite the anti-normative approach, Corbett notes the presence of discipline (of body and mind), co-existing with anti-discipline (or at least an openness to disregard discipline and virtuosity). He concludes his analysis stating that free improvisation exists, not in orthodoxy, but in *paradoxy*, allowing for “differing strategies, different points of application. It takes as its maxim: there can be no generalizations. It is the harbinger of heterogeneity.” (1995, p. 236). In this, we see a balanced understanding of the dynamics and values of free improvisation, and possibly why Corbett is famous for the following citation: “A compromise between order and disorder, improvisation is a negotiation between codes and their pleasurable dismantling.”(1995, p. 237)

One such who have used this very citation is David Borgo (2002) who similarly has been much cited from his journal article *Negotiating Freedom: Values and Practices in Contemporary Improvised Music*. Borgo makes many different and novel observations, one of which is the presence of two distinctive perspectives in free improvisation: an “Afrological perspective” and “Eurological perspective”. These are terms Borgo borrows from the writings of George Lewis (Lewis, 1996). The Afrological perspective implies “an emphasis on personal narrative and the harmonization of one's musical personality with social environments, both actual and possible. The Eurological perspective “implies either absolute freedom from personal narrative, culture, and conventions – an autonomy of the aesthetic object – or the need for a controlling or structuring force in the person and voice of a composer.” (Borgo, 2002, p. 171)

Borgo writes that “Contemporary free improvisers often struggle with the issues implied by Lewis's Afrological/Eurological model.”, explaining that Evan Parker “clearly sees himself as a part of the African-American jazz tradition” while Gavin Bryars “‘abandoned’ improvisation” and focused “exclusively on the Eurological approach.” While Derek Bailey betrayed the Eurological perspective with his ‘non-idiomatic’ approach (Borgo, 2002, pp. 171–172). Borgo further points to the performing and the experiencing of freedom as means to achieve something. He concludes his article saying, “more than four decades of recorded

documents and live performances attest to a growing tradition and reveal certain shared traits to the music.”

Sabrina Chang (Chang, 2018) has made similar discoveries on idioms and values in the discourse of the ‘free’ and ‘non-idiomatic’ in free improvisation, citing both the slightly arresting tone of Jason Toynbee (2000) and Chris Atton (2012), and the more relativist tones of Raymond MacDonald and Graeme Wilson. According to MacDonald and Wilson “Viewing musical events as ambiguous and open to multiple interpretations by both performers and listeners challenges the importance of a canon of skills as a prerequisite for successful improvisation.” (Chang, 2018, p. 112; Wilson & MacDonald, 2012, p. 567) (Chang, 2018, p. 112)

A take-away from the polemics of the discourse on free improvisation. It is my impression that the challenging of power structures goes hand in hand with the resistance of formalization in free improvisation, and thus falls in line with the values of ‘direct’ and ‘un-adulterated’.

Simultaneously with Derek Bailey et al. the improv theater scene developed, and the ideas, writings and glossary of Keith Johnstone have become important process-oriented models that the musical free improvisation has drawn on. Johnstone’s books *Impro* (1981) and *Impro for storytellers* (1999/2014) have both been used to generate several extensive online encyclopedias for improv theater (possibly including methods from other famous instructor such as Viola Spolin), that resembles the work of Ivar Grydeland (2017).

Assuming a similarity in approaches to sound in several experimental musical expressions, we can consider the moral values and the understanding of sound in a broader perspective. In his section on musical noise in *How Music Works* (Bader, 2021) Rolf Bader exemplifies Ornette Coleman (American free jazz), Derek Bailey (British free improvisation), Throbbing Gristle (British art rock) and Merzbow (Japanese noise inspired by dadaism) next to each other as assorted utilizers of noise (2021, p. 99). He specifically mentions Evan Parker’s excellent technical skills producing multiphonics and “several inharmonic tones at the same time” (Bader, 2021, p. 100). He claims that “In the domain of contemporary classical music, these uncommon playing techniques are called extended techniques. In other contexts, they have no special names.” (Bader, 2021, p. 100) (Bader, 2021, p. 100), which seems ill informed to me. If one considers formalization in a musical practice as criteria for defined techniques, Bader’s assumption may seem logical.

Free improvisation, as mentioned above, resists formalization, in contrast to western classical music, that has a tradition for a high degree of formalization. Understanding playing techniques and aesthetic ideals as a binary, and not a spectrum of nonlinearity, would surely support a separation between ‘traditional’ and ‘extended techniques’ that corresponds to or challenges some predefined aesthetic ideal. As Charissa Noble writes in her PhD dissertation *Extended From What* “once any vocal sound other than bel canto singing technique enters into the context of classical music, it becomes an extended technique.” (Noble, 2019, p. 52) (Noble, 2019, p. 52)

In my personal experience however, extended techniques are applied and understood as unformalized ways to explore one’s instrument, and that those ways are shared by many players in a musical practice – while they can also be the unique playing technique of a specific musician – and a term that is often used to point to uses of the voice that are not part of one’s basic vocal training. In that way, one could suggest that the extended techniques that seem essential to vocal free improvisation, actually serves as a set of traditional techniques rather than extended techniques. However, Bader makes many other interesting points about commonalities in experimental musical expressions, such as the notion of understanding music as information, nihilistic and shifting, but often highly intellectual understanding of their own musical practice. Breaking everything down to build new things, like lego-blocks. Chaos and order co-existing in an equally dependent relationship, like formalization and the resisting of formalization.

In the abovementioned sections I have mostly mentioned British players (except Jaap Blonk from the Netherlands). The focus on the British movement has been in part because they have largely interacted with the musical scene in Norway, in part because they have served as a middle ground between the (Afro-)American and det European lineages, and in part because the British scene is prominently described in the literature. Other relevant European players have surged from Germany (Peter Brötzman, Alexander von Slippenbach, Manfred Schoof, Albert Mangelsdorff) the Netherlands (Han Bennik, Misha Mengelberg, Maarten van Regteren Altena, Willem Breuker) and notable Norwegian players are those that also were the early importers of free jazz, such as Karin Krog, Sidsel Endresen, Frode Gjerstad, Jan Garbarek, Arild Andersen, Espen Rud, Terje Rypdal, Svein Finnerud and Bjørnar Andresen (Berge, 2009, pp. 25–28). Other notable players I can personally think of as directly

influencing the Norwegian scene are Axel Dörner (Germany) and Jon Christensen, Elin Rosseland from the earlier generations, and (focusing mostly on vocalists) Maja Ratkje, Lisa Dillan, Sofia Jernberg (Sweden/Ethiopia), Audrey Chen (US/Taiwan/Germany/Norway), Guro S. Moe, and of course the informants you will meet later: Tone Åse, Agnes Hvizdalek (Austria/Norway) and Andreas Backer. For further mentions of performers, see Tonelli (Tonelli, 2019, pp. 106–107) (2020, pp. 106–107).

What I have been aiming to draw out of this section on free improvisation, are the *core values* that make the foundation of the practice free improvisation and the (physical and musical) demands it puts on the performer. In addition, I have outline of relevant people who have contributed to influencing the field, both abroad and in Norway.

Summarizing, apparent core values seem to have the tint of ‘honest’, ‘unfiltered’, ‘pure’, ‘questioning’, ‘nonconformism’ and high, but humble morals. With a general approach to the destabilizing of codes while at the same time cultivating technical finesse and a perpetual artistic development that enables the performer to quickly navigate their material to create interesting music. From this, we can also read that a goal is to create interesting music, while mediating the tangent of musicality.

Cultivating Chaos

Coming from the notion of free improvisations resistance of formalization, and normativity (formalization) of vocal styles as prerequisite for something to be ‘extended’ or experimental, I would like to elaborate on the general development of vocal technique in the western art music tradition. In many ways western art music can be seen as a cradle for extended and experimental techniques – also by the musical expressions critiquing western art music. Thereafter I will look at the specific pretext for the development of experimental voice techniques. I see this development as linked to the western art music tradition (classical and contemporary), the instrumentalization of the voice and the breeding of experimentality between art music, jazz, free improvisation and performance art.

The development of voice technique is inherently linked to the production of sound to meet a specific aesthetic ideal and work with (or around) physical limitations the instrument may have. In the history of vocal technique we can especially point a few different aspects that

drive and influence the aesthetic-technical development: the composer (agency of the performer) the performance space (acoustics and amplification), money (who are funding, and what do they want) at last formalization (virtuosity and refinement).

If we consider history a cave painting, the mural of free improvisation in Norway has been heavily influenced by the colors of performers active in the free jazz scene of the 60s and 70s. Some with connection to Bailey's free improvisation in England, like Sidsel Endresen. In the picture of aesthetics belongs Endresen's work for the growth of a brand new generation Norwegian jazz vocalists since the 1990s. Among her students are Solveig Slettahjell, Beate S. Lech, Hanne Hukkelberg, Lisa Dillan, and others. Torgrim Sollid describes Endresen's radical exploration of the vocal improvisational sound language as having a profound positive impact on the development of vocal experimentality (Weisethaunet, 2021, pp. 38–39).

Erling Aksdal holds the most important task of the institution of NTNU is not to model a correct way, but to help students with the foundations of musicality development, enabling independence. Still, Weisethaunet wonders if a certain tension between the formalized and the artistic performance seems yet present (2021, p. 40).

Vocal Technique

According to Salzman and Desi in their comprehensive book *New Music Theater: Seeing the Voice, Hearing the Body* "Early opera singing was a kind of chamber music designed to reimagine ancient Greek theater in relatively small indoor performance spaces." (Salzman & Desi, 2008, p. 15) Looking at this we can gather that the acoustic demands of the voice did not require much amplification. Further Salzman et al. write that the preferred "vocal qualities ...were focused tone, delivery of text, flexibility, expressivity, and the ability to ornament and improvise" and make the comparison of a proximity towards jazz rather than opera. In addition, singers were expected to ornamentalize through improvisation and elaborate parts of the score that were not written out.(Salzman & Desi, 2008, p. 16) Thus, we can consider this a process of co-creative composing with similarities of that with the modernist vocal repertoire, when 'extended vocal techniques' started to develop.

With larger concert halls, larger ensembles, different instrumentation, development of instruments, and opera buildings creating a demand for vocal amplification. Interchangeably,

with the influence (and possibly the need) for orchestration and fixating of the vocal performance in such a potential acoustic chaos, the role of the composer became more important for the execution of musical works, with notable figures here being Rossini and Gluck (Salzman & Desi, 2008, pp. 16–17). At the same we can see this as cementing of the composer's place in the musical hierarchy, indirectly making improvisation play second-fiddle. “ironically”, writes Salzman et al. “they now had to be taught by singing teachers as part of the score rather than actually improvised.” Specifically, in this change of operatic culture we saw the disappearance of *castrati* and the *voci bianchi* (white voice) that was likely predominantly making use of head voice and “simple tone production” (2008, p. 17). With the need for amplification the development of the ‘supported voice’, the chest/mixed voice registers and use of vibrato changed. Vibrato, in earlier times more resembled what we now know as tremolo. The requirements for the singers to meet great physical demands also facilitated for a later teaching economy. For purposes of scope and limitations, I will not go into literature on microphone amplification and the use of electronic processing, even though it has been, and still is, an important part of vocal technique and vocal expression – especially for experimental vocality.

Extended Vocal techniques

Not accounting for the many vocal expressions (including sami yoik, inuit song, yodeling, Korean p’ansori, Bulgarian vocal music, and so on and so forth), that has been used in folk music traditions for centuries, that due to their non-formalization or non-westernness are considered experimental or unusual we can say that ‘extended techniques’ saw its early beginnings around the 1500s (Crump, 2008, p. 13). Experimental voice practices as we know them today, can roughly be traced back to two different origins, namely 1) in the early modernism in western art music and 2) in the philosophies of Alfred Wolfsohn and Roy Hart (student of Wolfsohn). The former practice we see in the early 1900s with works such as Arnold Schoenberg’s *Pierrot Lunaire* (1912) and the technique *sprechgesang/sprechstimme*, Alban Bergs *Wozzeck* (1925), in addition to sound poetry such as Kurt Schwitters’ *Ursonate* (1922-1932), and cubist-futurist influences. For the purpose of limitation, we will have to make do with highlights. For a more exhaustive overview, see the dissertations of Melanie Crump (2008) and Linda Ann Brown (2002).

Notable performers following the modernist movement include Cathy Berberian, who worked (and married) composer Luciano Berio, and is seen by many as the pioneer of extended vocal technique in modern time. Not counting Karheinz Stockhausen's *Gesang der Jünglinge* (1955-56), *Visage* (1961) by Berio and *Stripsody* (1966) by Berberian are among the first works to apply extended vocal techniques, or "extranormal voice" (Brown, 2002, p. 5).

Other sizable composer-performers in the intersection between the avant-garde and art music include Joan La Barbara, Meridith Monk, Deborah Kavasch, Diamanda Galás, Yoko Ono, Laurie Anderson, and Pamela Z – mostly American performers – just to name a few. Later performers include Kristin Norderval and Ruth Wilhelmine Meyer, who both currently reside in Oslo.

Extended from what?

"Hart did not like the term extended voice, as he insisted that what seemed to be an extraordinary extension of the vocal powers was in fact part of the natural, if neglected, human vocal repertoire." (Salzman & Desi, 2008, p. 282)

In a short documentary film Sigurd Ytre-Arne and I made for Moldejazz 60th anniversary, Maja Ratkje was featured together with one of her great inspirators, the late Kurt Schwitters who lived in Molde intermittently for several years and created a *merzbau*¹ there. Ratkje points to the influence that the Dadaist movement has had for experimental music, and for vocality, with his sound poem *Ursonate*, later recorded by Jaap Blonk (1986).

"Making collage works, putting together elements with seemingly no anchorage [...] We as improvisational musicians keep on spinning in a relation to that [Dadaist] tradition that has been very important." (Ratkje in 2022 Jerve & Ytre-Arne) modernist treatment of the voice as an object of musical study aligned with the value system of the avant-garde, and that this new kind of extended vocal virtuosity cast avant-garde singers and extended vocal technique specialists in a prestigious, intellectualized light akin to their composer counterparts.

1

A similar remark is made by Baumann, who also points to sensitivity towards claiming cultural idioms as extended techniques, or “abstract”, when certain vocal features may, in fact, be a common trait of an old musical tradition.

“When we experiment with our voices, we may end up using vocal techniques reminiscent of a particular musical tradition. (...) By considering these explorations as abstract vocal phenomena, we may create an apparent conflict between cultural codes and new ways of listening to and composing with such sounds. This conflict can be perceived both as a friction and—on a meta- level—a communication that goes beyond cultural idioms.” (Baumann, 2023, p. 15)

Baumann’s urges the performer to be aware of the idioms present in the music. Idiomatic sounds may both evoke something different in the listener than the performer intends and create otherness on sounds and musics that have been denied normalcy for centuries. This thinking goes hand in hand with Eidsheim’s project of decolonizing musical sound.

Charissa Noble challenges the term “extended vocal technique” by pointing to that strangeness or extension must exist in relation to normativity, and that few have addressed the “ambiguities and potentially ethnocentric undertones” that come with accepting extended vocal technique as an axiom. Particularly this axiom places *bel canto* on the top of the hegemony. Conversely, the term “also offers musicians the possibility to challenge *bel canto*’s hegemony from within” and by awareness to such issues “be positively re-imagined”. (Noble, 2019, p. 207)

The codification and formalization of extended techniques are thus not without challenges, however, a few have tried. I have found mentions on extended vocal technique in an essay by Ted Szántó (1977), and another by Trevor Wishart (1980). While they offer valuable descriptions and mentions of former and current work, they are but mere glimpses into a universe of sounds and current discourse.

Szántó mentions the work of Alfred Wolfsohn (1956/2004) and scream therapy, and connects extended vocal technique to the avant-garde, calling the jazz scat-song “a forerunner” to the same artistic development that was named “extended vocal technique”. Wishart on the other hand give concrete examples of sounds in technical and concrete terms, reflecting on sound production, compositional limitations and possibilities (Wishart, 1980).

While Szántó and Wishart both give descriptions that are saturated with information of performers, characteristics and relations between, the most exhaustive work in mapping and categorizing sounds uniquely for the purpose of codifying extended vocal technique, were members of the Extended Vocal Techniques Ensemble. They were researchers belonging to University of California San Diego and the *Center for Music Experiment* (notably, to which Diana Deutsch and George E. Lewis belonged at some point),

Before moving on to Chapter 3 Methodology, I wish to briefly cover said taxonomy, called *The Lexicon of Extended Vocal Technique* (1975). The lexicon was created by The Extended Vocal Technique Ensemble, founded in 1973 whose members included Ed Harkins, Phil Larson, Linda Vickerman, Warren Burt, Ann Chase, Martin Grusin and Deborah Kavasch. The ensemble systematically explored different techniques that had “salient extended” features, that they defined, and then ordered according to pitch frequency in Hz. In a paper published a few years later, Kavasch summarize five technique categories that include::

“ "reinforced harmonics," "ululation," vocal fry," "chant," and "complex multiphonics." They represent those techniques which: 1) can be learned most quickly; 2) have been used most extensively in compositions written for EVTE; and 3) are basic techniques which can be applied to- many sounds and/or from which distinctive variations can be produced.” (Deborah Kavasch, 1985, p. 1)

In recent years the same lexicon has been digitalized and uploaded by Cal Arts alumni Arthur Kegerreis (Arthur Kegerreis, n.d.), keeping the recordings from potentially being lost in the future. On his web page he has included an extensive index that accompanied the original cassette tapes from 1975.

3 Methodology

In this chapter, I describe my methodological approach before and during the design of the study and the considerations taken in the process. Further I describe my data collection method through four qualitative interviews, and briefly summarize the analysis method at the end of the chapter.

Methodological approach

With a human activity such as music, development and learning is made by the sharing of ideas and skills. This kind of sharing may happen either through modal representations such as books, audiotapes, video, but also – and possibly most importantly – by talking to each other or by means of demonstration. In researching human activity, especially one that exists in a particular context, I find it necessary and practical, to approach my research in an ecological manner.

Examining the unique musical practice of free improvisation vocality – a specialized skill and conceptual art – requires the research data to come from the sources directly. In other words, speaking with the performers. Little has been documented about this musical practice outside of artistic research and music press in Norway, and internationally the topic has been fragmentarily covered.

Personally, I learned most of what I know about free improvisation by going to concerts, performing at concerts, recording by myself, and in the studio, being at rehearsal, and talking to colleagues and other musicians in these contexts. These experiences were in the context of performing solo voice (with or without electronics), in ad hoc groups and in Oslo 14 Vocal Ensemble, that works with fully composed, semi-structured and free improvisational music.

However, I could hardly transfuse my embodied knowledge from years of listener-concert-rehearsal-conversation directly into a thesis. Neither could I solely base the thesis on my own experiences. Despite that these experiences gave me an excellent opportunity to understand what I was studying, they were also a perfect bias – a blinding proximity – to my own critical gauge and for other's reading of my research.

I needed a way to collect data that would ensure me some control in the process, while maintaining an ecological and academic balance.

Methods of data collection

Interviews and phenomenological reflections

To test my hypothesis on dogmas and idioms in the field of free improvisation vocality, that I could not find sufficient hold in the scientific literature that my assumptions were actually the case or just a hunch. Therefore, I chose to conduct interviews with performers from the field. Thus, gaining firsthand knowledge of the performer's opinions, habits, and values.

In addition to opinions, habits, and values, the information given affords the possibility to trace markers that may have informed their development, both instrumentally, musically, and personally. I consider their development, a playing key role in understanding later choices. By looking at the performer's history, people they have met, places they've lived, school's they have attended, and family background, we may identify patterns that explain their need to explore the voice in the way, while documenting current streams of musical practice.

By combining the elements of their histories and their experiences, the data outcome has both an anthropological and a phenomenological perspective. In addition to the expertise the performers have and their competence, the level of insight they have on the field of free improvisation vocality.

If we assume that music and musicality develop within ourselves, while at the same time in relation to other people and our environments, we can argue that the combination of anthropological and phenomenological perspectives gives a richness and complexity to the data that serves our understanding better than choosing just the one perspective.

I believe that it may enable us to see nuances that we have not yet isolated and identified. Interpreting these data and the findings with a "hard" science theoretical frame in the future, further enhances the nuance in understanding.

Preliminary studies and preparation

Learning to understand the mechanisms that may affect the process of qualitative interviews as a relational research tool and a means to get first-hand knowledge, I drew on different inputs. While planning, I relied heavily on *Det Kvalitative Forskningsintervju* (Kvale & Brinkmann, 2015) but also the guiding advice from my supervisor on how to effectively

collect data that could point me in the direction I wanted to go. In these two resources, I found valuable insights on interview technique, how to practice doing interviews, methods of recording, and transcribing, how to best facilitate for an interview situation the explorative nature of this master's projec. I too found valuable preparation in the process of applying to the Norwegian Centre for Research Data (NSD), as the details of the assessment from demanded a meticulous contemplation.

Such discussions were also important in forming the interview, and understand all the little bits of what I wanted to research through my research question on how free improvisation vocalists choose sounds when making music.

Reflections on personal practice

While I was still trying to figure out what I was going to look for in experimental voice work I did much exploration with my own voice, in addition to searching the literature and talking to my peers about my project.

How could a seemingly unmusical sound become a musical sound, while at the same time making the transition from a sound that the voice apparatus could produce, to a sound integrated as an extended vocal technique.? One of the ways in which I explored the terrain of my curiosity was to do a phenomenological exercise. The approach was suggested by my supervisor but had a form of my own creation. The session was videorecorded and a reflection sheet was written as a way of documenting and analyzing the process. The reflection sheet has been added to the appendix. (Albrigtsen, 2018).

Phenomenological self-report: Breath control exercise

I chose a common warm-up exercise for breath support, where one inhales to the near full capacity of the lungs, and exhales while creating a high resistance on the airflow. In this case resistance was made with the consonant 's', allowing for a stable and slow release of air. While doing this, one generally tries to keep the diaphragm stable and ribcage open, often placing one's hands in the side or a scarf around the torso.

While producing the 's' sound, I started manipulating it after a while, both rhythmically and timbrally. The near unnatural elongation of the breath allowed for much time to develop a musical form and to continuously analyze what happening. I tried to pay attention to the process, searching for new ways to manipulate the sound, how many sub-levels I could find in

the sounds, and at which moment I felt that I was making music. In other words, when I transitioned from practicing a technique (a tactile reconnaissance) to composing (a conceptual exploration).

As I was familiarizing myself with the manner of sound production, I was priming myself to allocate affordances in the sound, and became aware of the *intention to create/compose as a possible focus* for the interview (pardon the typing errors):

I then started to play with mouth positions and placement of the tone in the oral and sinusoidal cavities, as well as the glottal area, even breaking up the airflow (especially with the glottis), exploring rhythmical patterns. It occurred to me how many sounds this breath exercise affords, and that if you try to go into every cell of the sound, you are able to extract many different features to play with. This action/process felt, after a while, both conscious and intuitive. Later, watching the video recording I made, I became even more aware of how this exercise can be utilised, leading me to think that exercises themselves are a great way of priming the vocal apparatus for making musical material. Maybe this is why I have a hard time separating them? Despite the very clear distinction I also have (I know when I feel that I am making music)? Is musical/conceptual idea only the only a forced stress and expectation to achieve something? The technical exercise felt liberating in the sense of relieving the pressure of not breaking the “bubble” I often feel I must keep when improvising a piece of music. It also felt as if the transition from technical to conceptual came naturally, maybe because of my tendency of associating. In any case, it was very inspiring. More of this! (Albrigtsen, 2018)

The exercise lit a spark for further development of the project. It also made me reflect on the differences in creating a solo improvisation (internal musical interaction?) versus musical interaction (internal-external-internal interaction?) and a group/ensemble improvisation.

Possible examples of differences I could think of: increased/decreased relational and social noise or stress, having to take responsibility for the developmental form and musical ideas (or not), amount of control of the content, ability to remain open for impulses (relaxing, freeing capacity to listen and analyze). Differences that could be related to executive processing and capacity to shut out irrelevant information to generate new information.

Pilot: Live Sollid Schulerud

Following the phenomenological exercise, I started preparing for qualitative interviews. I created a structure of four main themes: background, improvisation, idea, and voice technique. I recruited my colleague and friend Live Sollid Schulerud (b. 1993), who was a part of the Oslo 14 Vocal Ensemble at the time. She had a varied background, a well developed extended technique and a way of analyzing the musical process that made her a suitable candidate. It also seems worth mentioning that Live’s father, Torgrim Sollid, is a

renowned free improv/jazz musician, who also founded the jazz programme at the Norwegian Academy of Music (NMH).

The interview was conducted on Friday April 6th, 2018, in Live's apartment, and documented by videorecording. I explained her about the four major themes, my research question and about informed consent, which she gave orally, on videotape.

The mood was light and relaxed, while concentrated on examining the questions closely. I had made an interview guide, and the computer in front of me (which I made note to avoid in the future). I practiced withholding comments and interruption, often succeeding and sometimes not. It was a valuable experience. I also made an effort to expose myself if I asked leading or closed questions, reminding Live not to please me if she had another opinion. In sum, her responses seemed spontaneous and balanced.

Initially, the interview was not meant to be included in the main data set. However, certain terms and concepts proved to be too relevant to leave the pilot study out of the main dataset. Further, I used it in the term paper for the course MUS4218 Methodological topic: cognitive musicology, analyzing the interview

The interview proved very useful in testing the design and interview technique as well. I kept most of the structure in the final interview design but added several sub questions and, and refined the structure, creating a firmer timeline so that I could have more control in steering the conversation, supporting the interview technique.

Interview Design

The final interview design comprised of semi-structured interview with a carefully thought out interview guide written in Norwegian. The interview guide may be found enclosed, in the appendix.

The interview was set to last about 1,5 to 2 hours, and were recorded by video. I provided refreshments such as fruits, biscuits and mineral water. Pen and paper to draw any relevant structures or processes. There were no toilet breaks. In hindsight, I would have made it a task to draw relevant structures and processes, so as to get visual representation from the performers and the sound structures of which they spoke. Be they clichés or other salient units worthy of mention. I am makein a mental not of this for the future.

Recruitment, practicalities and formalities

Participants/performers were approached at rehearsals, concerts or by email. I would tell them about my master's project

Submitting the project Norwegian Centre for Research Data, and got approval to conduct the interviews just in time for my appointments with the participants.

I made considerations to ensure a comfortable, but not too personal atmosphere. I emphasized the seating placement of the participant in the room, and in relation to me and the camera. This, in trying to avoid confrontational stances and distracting visual surroundings, for example too much activity out side the window or a noisy street.

Therefore I made sure curtains were partly closed, the room well ventilated and lighted as comfortably as possible. I consciously made appointment during a convenient time of day, ensuring the performers were in decent form. I chose a calm, but not sterile location.

Conveniently, the Department of Musicology is situated by a quiet arboreal avenue in the periphery of the Campus, making conference rooms at the ZEB building an suitable choice..

Selection and participants

The main criteria for selection were that the participants should have:

- 10 years experience, or more, as a professional performer, preferably 10 of them working with vocal free improvisation (eminence)
- Teaching experience, on voice, improvisation, or both, allowing them the perspective of voice didactics, maintaining a healthy voice, and a thorough reflection on their practice which I necessity for teaching
- Worked with extended techniques and/or electronic or electroacoustic processing
- The pilot study did not meet the criteria, however, the data that surfaced was important and relevant, and there were only small changes in how the interview was conducted, so I decided to include it with the rest of the interview, bearing in mind that the performer lacks 10+ years of experience and teaching experience at the time of the interview. A formal consent was collected a few weeks before handing in the thesis, both in regard to be included and have their name published in the final thesis.

Several other performers were contacted, but either declined or did not reply. The source material gained from the (primarily three, later four) interviews conducted proved to be so rich that more interviews may have been too much, considering the length and the depth of the interviews.

Most of the recruited were approached in a setting of rehearsal, at a concert or a social event where I would tell them a little about the project and air the possibility of them joining the project. In hindsight I realize that an interview with my first hand source of improvisational training, Elin Rosseland, would have been of interest. However, at the time the artistic director in place was Andreas Backer, and it felt a little more

They all have a different approach, not streamlined., all ‘outsiders’ in a sense, marginalized even. In that way, they may offer a different perspective than more ‘streamlined’ performers who have started at point A and ended up at point B.

- Tone Åse: classical, jazz and improv + live electronics
- Agnes Hvizdalek from violin via jazz/pop/choir to free improvisation. Specialized in solo voice, and extended techniques.
- Andreas Backer from trumpet to jazz voice and free improvisation + some electro acoustic work
- All some teaching experience

In extracting data from each interview, I have created a structure that is partly copied from the structure of the interview guide. In addition, I have included a short biography at the beginning of each section, to give unfamiliar readers a short context, but also in order to include data that originally did not appear in the interview situation.

In hindsight, I realized that I needed to include the data from my pilot interview as well, despite that the interview did not qualify according to the set criteria of 10 years of experience as a performer + teaching experience. Some of the concepts that arose in the pilot interview has been key in understanding some of the important reasons for how the aesthetic principles within free improvisation has developed.

In this chapter I describe my methodological approach before and during the design of the study, and considerations taken in the process. Further I describe my method of data

collection through four qualitative interviews, and briefly summarize the method of analysis at the end of the chapter.

Considerations

Flexibility

Since I was exploring a somehow underexplored topic, I did not know what to expect of my data, and thus decided to keep an open mind. I wanted to be flexible. Both in regards to timeline, mixing methods, and how I chose to interpret the data the methods could provide. I felt privileged to be surrounded by an academic milieu that values the combination of qualitative and quantitative research, while simultaneously having access to the musical scene as a performer and critic, which further facilitated the ecological perspective. The potential of external validation of the (qualitative) research and greater possibility for generalization through mixed methods were important factors in deciding upon a mixed method approach as well.

One could argue that such an approach seems a little chaotic and difficult to reproduce, perhaps if the validity and potential for generalization should rely on standardized methods of approach. While standardized methods have their benefits, I have a firm belief that experimental arts benefit from experimental and customized approaches, while maintaining a continuous critical assessment – much like the art of free improvisation.

Open-ended, semi-structures and fixed

By guiding advice from my supervisor, and following the methodological approach to Steinar Kvale and Svend Brinkmand (Kvale & Brinkmann, 2015), I chose to do semi-structured interviews as method of primary data collection.

Semi- structured interviews allowed me to thoroughly prepare, but at the same time give the performers the privilege of not having to prepare so much. Having a simple, overarching structure and a research question ready meant that I could keep my own assumptions close to my chest, while being able to steer the interview, reducing stress for all parties. I wanted the performers to be able to speak freely, spontaneously, and to give them the opportunity to reflect, and express their opinions as we went on. The spontaneity the semi-structured

interview offered could also reveal non-verbal and implicit cues to inform the verbal and the explicit content that appeared.

I could, of course have chosen to do completely open-ended interviews, offering many possibilities. Due to the fear of creating a lot of data of which to make sense, and risk not getting any useful information, I chose not to use open-ended interviews. Also, I wanted to avoid losing the steering of the interview, and to keep from forgetting to cover or pursue useful topics. Considering my own inexperience as a research interviewer, realizing my limitations were key in the decision to avoid open-ended interviews.

At the other end of the scale, I could have chosen a completely fixed structure. However, I feared that I would miss out on important nuances, and explanations that I would otherwise get. Maintaining an energy, much like with successful improvisation, was important. On the other hand, applying a fixed structure could have made the conducting and possibly the analysis more predictable, reproducible, and possibly easier to analyze.

With improvisation, the result is often more concise and fruitful with a few limitations. The same could be said of my thesis work. The semi-structured interview proved to be a good way to prepare for the conducting of the interviews in many ways.

The technical aspects: writing the interview guide, consent form, information letter, applying for the Norwegian Centre for Research Data (NSD), selecting, and recruiting participants, and practicing interview techniques.

The directional aspects: it made me reflect more thoroughly on my own thesis work, what I was building my work on, how and where I wanted to go. It also provided a useful structure in the analysis stage of the project, navigating and organizing themes, reminding me of my aims.

Risks

Aside for the many benefits of a qualitative interview there were also a few risks to consider. My professional and personal relation to the participants, combined with inexperience could turn the interview into more of a discussion than an interview. In addition, the participants could feel inclined to humor me, and give me the results I wanted in order to help me. I therefore paid attention to this while planning and conducting the interviews.

As far as ecology goes, a two-sided discussion is closer to the manner in which exchange of ideas happen in the real-lifeworld of vocal free improvisation. One could therefore argue that this is not necessarily always negative, but may contribute to the ecology of the study, as well as the depth of the examination in question. Critical, nonetheless, was the room for disagreement. As far as I could, I refrained from using personal examples, experiences and statements, to avoid coloring the performer's answers.

Another risk to consider, is the one of interview design, on which technicalities I will further elaborate in the section on data collection. The risk I will address here is the one where the interview design could be flawed in such a way that I would end up: not collecting relevant data, the way it was collected was wrong, or I would fail to recruit the proper candidates.

Lastly, I considered the benefits and the risks of how the interview design would affect the responses of the performers, such as time of day, length of the interviews (fatigue, or too short/shallow answers), the general mood in the interview, how the questions were asked, how the interviews were recorded, what type of room we would be in, temperature, ventilation, having access to food, drink and a WC. All of these considerations were a part of the interview design, which I will return to in the section on data collection.

Descriptive music analysis is the way through written text to understand how a sound may be experienced. Despite the possible subjectivity in the textual representation, the commonly shared vocalicity we have as humans, and the strength of association may give an understanding of the sound representations. However, I found descriptive music analysis of entire musical works to be too exhaustive, and settled on giving sound representations of concrete actions drawing on the wordings I encounter myself, and the wordings in the discourse of extended vocal technique as well as onomatopoeia.

- In case music examples will be hard to access, descriptive music analysis may offer a chance to understand the music without hearing it (making it more accessible, even)
- The kind of music that is examined is hardly if ever notated by other means, except for graphic scores or other kind of written instructions or schemata.
- Experience from musical training, playing, and working as a critic will be supporting this process.
- Why not:
- Superfluous, might seem redundant, and could possibly have served us better with spectrogram or trusting that the findings in the interviews will be enough
- No textual representation
- Gives another phenomenological perspective, how the music is experienced by me, the listener-performer-researcher, experiences the music.

Methods considered and discarded

- Surveys, but the material itself was so rich that it would be better suited for future studies
- Spectral analysis of sound files, feature extraction
- fMRI, or other neurological methods attracted me, but would be too exhaustive at this stage, where there was still a lot of groundwork to be done in regard to documenting the genre in academia.

Ethical considerations

Knowing the participants professionally and personally could make it hard to decline participation in the study, however I trust in the participants integrity to speak up, and their capability to withdraw consent if needed. I of course expressed a respect for their right decline or withdraw their consent at any time. In addition, I perceived they had a keen interest on exploring the topic at hand, which made me confident that they were participating in full wits.

It is reasonable to raise the question of my being too close to the topic of investigation, and the scrutiny of my research design as part of the ethical consideration. As with all research, it is a system that ultimately resting on our trust oin each other to work and report in a truthful and transparent manner, however proximal we may be to the topic of investigation. All I can do is try my best to apply a critical lens to all of my actions, as I would do with improvisation.

Reliability and validity

As mentioned, knowing the participants in the study could challenge both the reliability and the validity of the study. The processes of designing, conducting, and analyzing the interviews relied on careful and conscious consideration. Adding to this, the potential power imbalance in the relation, could potentially affect the results.

Since all of the main participants (except for the pilot-study) are my senior colleagues, whom I admire, there could arise multiple conflicts of interest harming the study. Some the participants them have a teacher/instructor/director relation to me, creating a potential conflict of interest regarding future work and reputation. Aside from the economic/career aspect, my accepting their reflections as senior colleagues *because* they are senior to me, is potentially there. By reflecting on these aspects here I hope to show transparency and an ability to think critically that will outweigh any conflict of interest caused by the relation to the participants.

Knowing the participant bears the risk of ‘cherry picking’ and ‘navel-gazing’, by selecting of participants that that would most benefit my research, and confirm my assumptions, instead of challenging them.

While doing all these reflections, I am reminded of the importance of keeping an open mind in the research process, being aware of my different roles, as a student-researcher, performer and person in the music scene beyond the writing of this thesis.

Method of analysis: Bricolage

Narrative, ethnographical and phenomenological perspectives

Granted being a niche, (vocal) free improvisation does not exist in a vacuum. Characteristics that appear in free improvisational practice may be similar to adjoining musical practices. The practices, and the musicians that carry the practices may be juxtaposed to each other or the practices may bleed into one another. For instance, there are many similarities in sound-language, in idiomatic likenesses, between contemporary art music and free improvisation, and many of the same performers within a jazz community, are both performers of jazz and free improvisation. The same goes for contemporary art performers playing free improvisation. Still there seems so be a culture, a set of values that is (but not limited to) to free improvisation. I am fascinated by this breeding of musical cultures, while also very confused. How can we talk about idioms and dogmas within free improvisation if we cannot identify what (and who and when) free improvisation is? Although the literature may give us some pointers, particularly regarding the international scene for free improvisation, it stops short when it comes to the scene in Norway.

I am stressing the location of musical practices because different places may elicit different cultural markers, for instance influencing musical streams, recurring techniques and dogmas. These cultural differences may be informed by what kind of music institutions, concert venues and people who frequent these places, and even what kind (if any) funding that is available.

Therefore, an important side of my research is the collection of factual information that may help us trace these markers to the tradition of free improvisation. This is the context in which

the phenomenological work is placed. The ethnographical information also provides an opportunity for future research to pursue, and I consider it an important contribution of documentation and mapping of free improvisation as a sovereign musical practice. So, even if the initial method of collection was qualitative, the data collected could be analyzed in a quantitative way at a later stage.

I decided on the collection of factual information at an early stage in the methodological process, when the frustration from lacking such (unambiguous) information revealed a documentational gap in the field of musicology, and I discovered that I had to collect this data myself in order to move on. As I went along, I perceived that connecting the facts to the performers in the study could offer a correlational value.

Secondly, but maybe most importantly, I was looking to collect data that provided information on the performer's own experiences, thoughts and opinions about improvisation, the voice and technique, both musical and instrumental. With emphasis on how a vocal sound goes from being 'just a sound' to being a musical vocal sound, and why they have chosen voice as their expression – offering both a narrative and a phenomenological aspect.

Lastly, I was looking for data on what the given musical sounds, dogmas, tendencies and techniques de facto sounded like, and if they could be put into a system. Whether a system of the performer's own creation, an already existing system or a system that I myself could build. This information could come from the performer, from my own analysis or from external sources (literature).

Approaching my data, I initially watched and listened to the video recordings repeatedly for familiarization purposes. Next, I transferred the files to a device enabling me to take the recordings with me on the go. Compared to sitting at a desk, I tend to make other connections whilst moving or staring out of the window.

One of the purposes for this approach was to try to get a grasp on the meaning behind words, and what was between the lines, especially in regards to my aim of aesthetic principles. Connecting the subliminal to the hard facts present was another. I tried to find likenesses and differences, to examine if something in the performers' background could explain the way

they were thinking, if there was a pattern to be discovered regarding development as an individual but also the development of musical skills.

I wrote a short and concentrated biography of the performer, with highlights from their upbringing, their musical education if any, their discovery of improvisation and extended techniques. And used this as reference points in the more ephemeral segments of my analysis process.

In the process of developing the interview analysis, I turned to the theory in Chapter 2 for inspiration on themes, understanding, and supplementary information that could help me unpack my data. For a long time, I cycled between literature, audio recordings, going to concerts, listening to new music, working as a performer and critic, and discussing the concepts with friends and colleagues.

From the intuitive work I developed a table of qualities that I picked up by means of association, that could be useful as a way of understanding the backgrounds of the performers, and their personalities. The same intuitive process was applied to see if there were character traits present that could align with literature on evolutionary psychology.

The intuitive process I too was was the case for the themes, although I was inspired by my theoretical readings as well, especially Corbetts triad of *power-freedom-knowledge* and his idea *paradoxy*, of “differing strategies, different points of application. It takes as its maxim: there can be no generalizations. It is the harbinger of heterogeneity.” . (1995, pp. 236–237)

In the following chapter, I will discuss my data findings consecutively with relevant theory from Chapter 2.

4 Findings and Discussion

In this chapter, I present my findings from the four qualitative interviews conducted with Live Sollid Schulerud (pilot), Tone Åse, Agnes Hvizdalek, and Andreas Backer. Analysis was done through a blend of techniques (bricolage) resembling narrative, thematic, and content analysis. I also try to exemplify sounds the performers use by descriptive representation and follow up on theoretical discoveries that have emerged from the interviews. Throughout the Chapter, I discuss my findings with the material presented in Chapter 2 Theory.

Backgrounds

Live Sollid Schulerd (b. 1993)

Live grew up in Oslo, capital of Norway. She describes herself as a musician, songwriter, and producer. At the time of the interview, she had recently finished a bachelor's degree in music performance of jazz and improvisation at the Norwegian Academy of Music (NMH), with voice and electronics as her instruments, and a year-long study of live electronics at NMH.

She has grown up in a musical and artistic environment. She is the daughter of musician Torgrim Sollid, who was crucial in establishing and calibrating the Jazz Department at The Norwegian Academy of Music.

Live played multiple instruments growing up, including violin, guitar, and orchestral harp. She did not consider herself a particularly talented singer. While attending the high school music program (Foss videregående skole), she changed her main instrument and worked hard on classical singing technique, significantly expanding her range. She also worked with twang (nasality).

She attended Sund Folk College, where she discovered free improvisation, and successively completed a bachelor's degree in vocal jazz and improvisation performance at the Norwegian Academy of Music and a one-year study of Live Electronics. At Sund, Live discovered that the voice could have more instrumental qualities and realized she preferred to use the voice in a way that did not sound like a voice. However, she now likes to work in many different styles, such as in the progressive rock band Fervent Mind and various improvisation projects (Æva, Pa.), with and without using live electronics.

She was a part of Oslo 14 from it was founded in 2014 until 2018. Since 2018 she has been living in London, where she has been focusing on electronic pop music under the name Mörmaid.

Tone Åse (b. 1965)

Tone grew up in Bergen, the largest city on the west coast of Norway. She was raised in a family that liked to play records but was “not a musical family.” She describes singing in school as very important. She mentions that especially one teacher encouraged her a lot to sing, and this teacher often gave her solo parts.

Growing up, Tone mostly participated in the musical scene in Bergen that had ties to Christian communities (i.e., Ten Sing). Friends from these crowds brought her to blues and jazz concerts. She explains the music scene as characterized by jazz fusion and west coast rock (referencing Koinonia, Steely Dan, Spyro Gyra, and Mezzoforte), that were very skilled instrumentalists, “albeit a little settled.”

In the mid-1980s, Tone embarked on a teaching degree with an additional specializing course in music for primary school teachers. She then shifted to a part-time conservatory program in Tromsø. Embedding her former courses, she earned a degree as a classically trained vocal pedagogue. While she primarily had classical vocal training, Tone also had some experience with jazz, musicals, and fusion (without improvisation). While attending the part-time program in Trømsø, she lived in the peripheral northern town of Vadsø, where she taught in the public music school (“kulturskole”). Tone was encouraged by her supervisor, Inger Anne Westby, to pursue music further.

While living in Vadsø, Tone heard musician John-Paal Inderberg (founder of the Jazz Department at NTNU in Trondheim), who was on tour. This meeting was crucial for going to Trondheim for her last year of classical training while at the same time receiving lessons with Inderberg in jazz improvisation.

Subsequently, Tone Åse moved to Trondheim, where she became a part of the music scene for improvised music while teaching in public music schools. She befriended vocalist Eldbjørg

Raknes. Together they attended the summer jazz course in Søgne, outside Kristiansand the south of Norway.

This is a course where many famous musicians have started their careers. Tone defines their attendance at the summer jazz course as a pivotal moment of insight into what musical possibilities were available to her in free improvisation. She points to drummer Audun Kleive (band instructor at the camp) as one of the most important reasons for this change.

Earlier, Tone had encountered British music pedagogue Tom Gamble as part of her teaching degree. Gamble had introduced Tone to improvisation in classical composition, and she felt she met the same attitude once again at the jazz camp in Søgne. It was something different than “standard jazz improvisation”. The kind of collective improvisation that bands JøKleBa and Veslefrekk were doing, attracted Tone.

Tone realized that she wanted to shift from her trajectory within classical music. In bands practicing collective improvisation, she became aware of the power that the voice inhabits “to cut through almost any musical context” and also that this could be a limitation for blending in and taking on different roles in the music. This was her motivation for starting her work with live electronics.

With her trio BOL, they worked interchangeably with music flowing between words/no words/fixed and non-fixed composition/”song”. Later, inviting in guitarists Stian Westerhus and Hans Magnus Ryan, they gradually worked with a more prog rock-oriented approach. Together with Raknes, among others, she was a founding member of the vocal ensemble Kvitretten (quartet) in which she worked for 10 years with a Capella free improvisation and a format that combined the free, open and the arranged, and then Trondheim Voices.

In Trondheim Voices she continued the work with the a capella improvisation, but in 2011 she initiated the implementation of live electronics in the ensemble, the work with this has developed through the years and has become an important part of the ensemble’s aesthetics. She says that she has worked with “the entire range” of genres as a singer and that she does not label herself with any genre coordinates, but thinks of herself as an improvisational singer. Åse has since the late 90’s been teaching various subjects at the Department of Music, NTNU, where she is now a professor with a focus on improvisation, live electronics, and artistic research.

Agnes Hvizdalek (b. 1987)

Agnes grew up in Vienna, the capital of Austria, and moved to Oslo, the capital of Norway in 2008. She has since been a notable figure in the scene for experimental music in Norway and Northern Europe. She described an upbringing in which she was surrounded by music from an early age, yet on a superficial level. She attended a music kindergarten, where she was exposed to the recorder flute and glockenspiel. She had violin lessons from approximately age 6 to 15, both solo lessons and orchestra rehearsals.

Agnes described her family as not particularly interested in music, however, they “thought it would be nice if the daughter played an instrument”. The exception to the lack of musical interest was Agnes’ grandmother, who would take her to the Vienna State Opera every week. She had an opera subscription from the age of 5, and from the age of 15, she would go to concerts (not genre-specific) several times a week as she had started working for a live music organizer.

Agnes’ violin teacher was strict. The teacher focused on technique, not really explaining why they would do things in a certain way or did not teach Agnes how to develop a healthy practice routine. Agnes described a culture where she was not allowed to express herself until she knew all the techniques, an idea that she internalized for a long time.

Growing up, Agnes could never picture herself as a musician, “they were other beings”, she said. She would sing in secret and taught herself to play the guitar and piano.

While at an orchestra summer camp, she was “headhunted for a prestigious children’s choir” belonging to the conservatory, and after that “getting external validation”, she became “extremely absorbed in singing”. Later, she also had the artistic and administrative leadership of the (catholic) school choir, and curated their repertoire for Mass, even though she was non-religious and non-baptized.

After the Catholic school choir, she sang in several other choirs. One source of inspiration at the time was a Cirque de Soleil album, with mainly instrumental music but also wordless vocal music. Agnes described the music as very “kitsch and dramatic – and French! – which I did not understand at all at the time, but it helped me a lot”. She said that a lot of her “process and approach of using the voice in music comes from listening to that album”.

While she could be fascinated with pop and rock music, Agnes never had a favorite type of music. She always had the sense that a lot of music was manipulative. “I felt the music was fooling people to believe and feel things, it is a really strong tool”, especially in regard to lyrics. This was a problem for her, taking lessons in jazz vocals and singing church music in choirs because she could not identify with the lyrics or the message in the music.

However, Agnes noted that she was also very strict with herself and the world at this time. She enrolled in single courses at the University of Music in Vienna. She took ensemble lessons taught by free improvisation trumpeter Franz Hautzinger and went to concerts. Agnes described these lessons as exciting and stimulating, “especially when he told us about what was going on in the world out there”. However, there were many inexperienced and nervous students in the class, making the improvisational environment unproductive.

Simultaneously with Hautzinger’s lessons, Agnes took private lessons in jazz voice. There was only one woman who taught jazz vocals at the public music school in Vienna, and thus some prestige following acceptance as one of her three students that year. With this vocal teacher, Agnes got her basic vocal technique training, a method called *speech level singing* (SLS), with the mantra “if you can say it, you can sing it”. She was also taught jazz scales and jazz theory by this teacher.

Even though she now had more competence, Agnes did not feel at ease. She felt unfulfilled, depressed, and wanted to get away. She described it as a turning point, moving to Oslo, getting a clean cut from her past and the expectations of others. She felt liberated that nobody knew her and was free to explore whatever she wanted. In Oslo, she became familiar with the community surrounding Sound of Mu, Fritt Fall, Café Mir, Konsertforeninga, and Dans for Voksne, consisting of both trained and autodidact experimental performers from the scene for free music, including jazz, contemporary, and noise.

Andreas Backer (b. 1981)

Andreas grew up in Oslo, the capital of Norway. Both his parents were teachers, and he described his home as filled with song and music. As a child, he started playing the trumpet in

a marching band. In his teens he got serious about music, and started playing trumpet in a hip-hop group, which led him to discover jazz in the last year of secondary school.

In his high school years at the music programme at Foss Videregående Skole, he started practicing a lot on the trumpet to become a jazz musician. He described a lack of basic trumpet technique, leading to over-practicing and poor use of muscles, some of which had medical causes.

After high school, Andreas spent a year at Toneheim Folk College studying jazz, and experienced many problems with playing the trumpet making it painful and to play and affecting the ability to express himself.

Andreas started seeing a trumpet instructor who taught a special rehabilitation technique for trumpeters. The instructor's goal was to break down and rebuild the right muscles, particularly in the face, and build them up again correctly. Andreas saw this instructor for about three years, but the method did not work for him, because getting to playing took too long. Still wanting to do music, Andreas started to sing a little. Still not sure if he wanted to become a singer, he applied to the University in Stavanger

Andreas completed a Bachelor's degree in jazz voice, and studies in piano and composition. He described the transition as very big, both mentally and physically. With the trumpet technique, he used much more power and pressure, and realized he had to unlearn his muscular (breath) support, in addition to learning to sing.

Sidsel Endresen as was his main teacher, and Camilla Myrås his technique teacher, the latter who taught Complete Vocal Technique (Cathrine Sadolin, 2021), abbreviated called CVT. Andreas wrote songs and a mix of pieces between free improvisation, melodies and chords. After finishing his studies in Stavanger, he still did not quite identify as a singer.

Later, Andreas was accepted to the Master's programme in music performance at the Royal Conservatory in Stockholm, which meant a lot to him personally, but also fortified the notion of being vocalist in body and mind.

In Stockholm, Andreas devoted himself to free improvisation, especially various voice techniques. Among his important collaborations in Sweden, was a duo with multi-instrumentalist Daniel Miguel Karlsson. Karlsson used electronics a lot, which led Andreas to work with sounds that relate to electronic sounds. In later years, Andreas has

shifted from performing and focused more on teaching, due to medical issues, and because he and his wife had children, which has made touring difficult.

Andreas has taught theory classes and voice at Jessheim High School for several years, in addition to working with ensembles – such as Oslo 14 Vocal Ensemble. At the time of the interview he was the artistic director of Oslo 14 Vocal Ensemble.

Comparative reflections

For all of the performers, working with free improvisation was catalyzed by a change in location, and thus a transformation of their identity, offering new sets of rules and agency to explore boundaries. Live discovered free improvisation at Sund Folk College, together with a class of musicians who were equally thirsty to learn as her. Tone met people in Vadsø (John-Paal Inderberg), Trondheim (Eldbjørg Raknes) and Søgne (Audun Kleive) exposing her to a different approach to music. She became acquainted with Elin Rosseland and Sidsel Endresen after she moved to Trondheim in the late 1980s. Agnes moved from Vienna to Oslo in her early 20s and became familiar with the community surrounding Konsertforeninga, Mir, Blå and Dans for Voksne (“Dance for Adults”). Andreas moved from Oslo to Stavanger in his mid 20s, and then Stockholm, also changing his main instrument.

The performers seemingly felt like outsiders, or restricted in some way, which triggered a need for expansion, which aligns with the notion of rebirth or reconstruction of self.

For instance, Live did not want to sing “scooby dooby doo”, referring to scat-singing as something that quickly becomes an imitational art (a gimmick). Tone became aware of possibilities not accessible within Western art music, and Agnes felt like she was not able to be herself or express herself. Andreas was restricted by firstly, being unable to express himself on the trumpet, and secondly being unable to use his range of musicality in the role of a singer. He therefore sought a more instrumental approach.

All for performers have diverse musical backgrounds, instrumentally and stylistically. Live, playing harp, violin, guitar, piano, laptop, music production. Stylistic/technical background from western art music, complete vocal technique, speech level singing, jazz and pop/rock while also giving workshops in live electronics. 2) Tone had a background playing piano, guitar, laptop. classically and pedagogically trained. Singing in choirs, tensing (gospel),

pop/rock/jazz. 3) Agnes playing classical violin (solo and orchestral), singing in choirs, organizing festivals and seminars, volunteering, taking private lessons with jazz and improvisational musicians (showing initiative). Teaching voice workshops and private students. 4) Andreas started playing the trumpet, but had to stop because of muscular problems, and approached singing from a trumpeter perspective (with all the technical, stylistic and structural aspects that entails). Much teaching experience as ensemble leader, teaching voice and theory.

The entire group seems to elicit an urge to express themselves as truly and truthfully as possible. The performers needed to explore codes and boundaries, and alludes to honesty, genuineness, musical intention, immediacy, and conciseness in playing as important. That urge attracted them to free improvisation and instrumental vocality. Most of performers continue to practice traditional and idiomatic expressions, such as prog rock, pop, singer-songwriter, jazz, electronica, noise, choir music, but do so with the mentality of free improvisation.

Regarding the organization of sounds, they had differing approaches and understandings of organizing sounds and techniques. Tone, Live and Andreas, who have all had Sidsel Endresen as a teacher, mention that she uses the word “sound cell” to describe a salient musical unit”. This understanding is described as “building blocks” in Lisa Dillan’s master’s thesis where she has interviewed Endresen on the subject. According to Endresen, investigation and limitation of the sound cells are pivotal to the development of technique, and avoiding *automated solutions* (clichés), thus keeping the music alive. (Dillan, 2008, pp. 85–91) Live and Tone seemed to subscribe to much of the same logic, whereas Andreas was more concerned with the different levels in the music, foreground, middleground, background, and his function as a performer-composer.

However, they did all have reflections on the distinction between the terms “vocalist” and “singer” as identities that limits or expands a performer’s range of possibilities. The importance of this distinction is exemplified by Andreas’ hesitation “to become a singer” after considering himself as an instrumentalist when playing the trumpet. The same notion of is exemplified by an increase in the confidence of the performers, as they felt more equal with other instrumentalists.

They were all concerned with the position of the voice in the musical and perceptual hierarchy. pointing to the role of the voice (singer) being limited and specific, how the vocalist relates in an ensemble, and how the strong effect of the voice sound is. The performers take this awareness with them in their music-making.

They all think that practicing improvisation is a craft. The craft determines whether the music becomes meaningful and enables constant self-evaluation of critical importance, while having the strength to be confident in their own ideas. The performers seem to agree that composing and improvising are the same process, just with different temporal scales. They are all concerned for the listener's experience, and adjust the expression according to audience, for instance for children. Here we can draw a connection to Schaeffers intrinsic and extrinsic listening modes, that Fransizka Baumann also mentions

The performers have different specializations. Tone and Live both work extensively with live-electronics. In addition Tone works a lot with (vocal) ensembles, but also as a performer and an instructor. Agnes works almost exclusively with her body and the room, sometimes with microphones, and sometimes with ensembles. Andreas has worked a lot with different small constellations (duo, trio, quartet) and with loop station, electroacoustic processing and effect pedals. Some of them have had collaborations with dancers, actors, and live visuals.

They all have had encounters with or mentions Sidsel Endresen. Live had Endresen as her main teacher at the Norwegian Academy of Music. 2) Tone had Endresen as her first jazz vocal teacher (along with Elin Rosseland). Agnes mentions that the vocalists that are growing up and being educated today are influenced by Endresen's way of approaching sound and voice. Andreas had Endresen as his first voice teacher along with Camilla Myrås. All of the above speak to the claim of Torgrim Sollid in Chapter 2 that Endresen's radical exploration of the vocal improvisational soundlanguage as having a profound positive impact on the development of vocal experimentality. (Weisethaunet, 2021, pp. 38–39)

In the sections above I have tried to make connections between the performers I have interviewed to make foundations for generalization. Although one would need a larger scale study or quantitative means to make actual generalizations, I find that they may support the more intuitive and associative processes I have undergone while analyzing my data.

In the following sections, I will present a table that could shed light on the psychology of free improvisation vocalists, based on wordings and tone of voice from the interviews.

Characteristics of performers

The table below was developed by means of association, keeping in mind evolutionary beneficial/disadvanting traits that could permeate into our judgement pleasantness or revulsion in musical sound. I particularly have thought about voice perception signals and cues as described by Pisansky & Bryant, especially in regards to the sensitive recognition of intentions. The recognition of communicational and informative intentions is important, and for the listener “perception of intention in the voice requires the separation of vocal signals of emotion from related linguistic and pragmatic prosodic signals (i.e., pitch, loudness, rhythm, and spectral information). (Pisanski & Bryant, 2019, pp. 286–287)

From this we can suspect that free improvisation vocalists are not only actively working around ambiguity to maintain musicality, but that they might also develop a sensibility to the same, possibly increasing the chance of revulsion if an undesired sound would occur.

Table of traits

Traits in performers and performances of (vocal) free improvisation	
Desired	Undesired
Attentive (considerate, trustworthy)	Unobservant
Subtle (shows clarity, assertiveness, control, fine-tunement)	Exaggeration (lacks clarity, direction)
Considerate (attentive, giving space, taking space/responsibility)	Egocentrism (untrustworthy, selfish, not contributing, lacks analytic perspective, inexperienced)
Novelty, originality, risk (braveness)	Clichés (inexperienced, lazy, lacks direction, stagnation)
Responsible (clarity, giving/taking space, direction, trustworthy)	Immature, untrustworthy
Letting go of one’s ego (trustworthy, high morals, work ethic)	Falseness/posing (untrustworthy, shallow)
Experienced (knowledgeable, trustworthy)	Randomness (lacks direction)
Genuine, real, true	Drama/Theatrics (emotional noise, exaggeration, falseness)
Able to stay in flux, always looking to evolve, practices a lot (integrity, good work ethic)	Stagnation (laziness, clichés, unengaged, blazé, untrustworthy)
Meaningful musical passages, collected, precise (skilled, trustworthy)	“Transport stages” or “jive talking” (meaningless information/conversation, blah blah, boring, laziness)
Inquisitive, curious, explorative	Uninterested, blazé, self-absorbed
Musical intention (clarity, honesty, knowledgeability/skill)	Indifference, randomness, lazy, weak
Humble	Over-confident (self-possessed, self-congratulatory, untrustworthy)

Traits in performers and performances of (vocal) free improvisation	
Awareness (attentive, work ethic, analytic)	Ignorance (lack of knowledge, lack of interest, laziness, untrustworthy)
Able to surprise/reinvent their own ideas (good work ethic, experience, expertness, virtuosity, flux)	Predictable (boring, uninteresting)
Analytical, critical (integrity, trustworthy, knowledgeable)	Unaware (lazy, amateur, untrustworthy)
Both varied and specialized skills, references, styles (work ethic, expertness, knowledgeable, trustworthy)	Varied and unspecialized skills (indecisiveness, poor work ethic)
Decisiveness (integrity, control, trustworthy, knowledgeable, analytical)	Indecisiveness

Based on the interviews of the performers, and the themes that emerged in the familiarization process, I have drawn out what I call *associative virtues*, a kind of tropes. By this, I mean that we (mostly unconsciously) associate virtues and qualities from interacting with each other to discriminate what and who is, essentially, good for us. It might also have connection to the crossing of boundaries. When in a concert situation, listeners bestow trust to the performer and make themselves vulnerable, thus breakin

These virtues are by no means the explicit opinions of the performers, but could be part of the underlying perceptual cues that help us distinguish the good from the bad in an evolutionary perspective. By these associative virtues we can extract qualities that are valued or desired in a performer or performance, and oppositely, qualities that are unvalued or undesired. See table below.

Characteristics of performers

What can these recurring themes tell us about the characteristics of the (vocal) free improvisation performers?

Based on the table of desired/undesired qualities, we can carefully suggest that the (vocal) free improvisers are apt interpreters of social and emotional cues. Studies on voice perception supports this notion, being that music and the voice ultimately are means to communicate emotion and evolutionary relevant information. (Pisanski & Bryant, 2019)

Characteristics of sounds

The findings from the interviews also speak to the criteria of the sounds that are ‘allowed’ or regarded as high quality. The sounds should elicit a fine balance in emotional and social

activation in order to maintain a musical quality. Otherwise, the sounds will transgress into a realm of theater or performance art where the parameters and dimensions of investigation are set up differently. For example, in regard to (emotional and physical) intimacy or multimodal experimentation that goes beyond the auditory. It seems that, to be able to remain in the ‘bubble’ of musical experience, the emotional and social cues need restraining, causing a minimum of emotional activation.

Musical intention

In the interviews, I often came across the term “musical intention”, which in our daily language seems perfectly natural and did not attract too much attention at first. Possibly, I took it for granted. Though, looking at it more closely, I find that it is a phenomenon that is woolly and (at least to my knowledge and bibliographic competence) not very well described.

In the interviews it was merely described as:

“making sound or listening to sound with the intention of making or experiencing music” or “looking for musical quality” in sound. A kind of perceptual conditioning.

Looking at the table of desired/undesired, there is especially one word that keeps resurging: “trustworthy”. A potential implication of “trustworthiness” as a performer/performance quality that rises to mind is the question: “Can I trust what you communicate?”.

The concept of musical intention may thus be an expression of clarity in motive, and as such, be an expression of trustworthiness. Trustworthiness, knowledgeability, and integrity seems to be some of the most important qualities the performers/performances can have, and must communicate to the listeners. The identification of musical intention in their actions is therefore crucial to the experience of the sound as musical.

Therefore, the short answer to my main research question, on *how vocal free improvisers discriminate between musical sound and technical sound*, is by musical intention. Either by communicating an inner musical intention that manifests in the sound, and further is experienced by the listener, or that they as listeners meet the music with the intention of finding musical qualities.

The Uncanny Valley

Consider the iconic laughter of Vincent Price in Michael Jackson's "Thriller" (Michael Jackson, 1982/2009).

It is the stencil of "the evil horror laughter", solidified by decenniums of tropes and ultimately becoming a caricature.

"more sensitive to the sound of the voice" "we use the same systems to process faces as we do voices" if we seven months before birth develop "our voice-selective areas" and "perceptual biases toward speech sounds over similar nonspeech sounds appear" by our first day of life, it seems to make sense that our ability to recognize voices and communication is hyperalert (Pisanski & Bryant, 2019, pp. 269–270)

"different brain areas are activated both when producing different types of laughter and when listening to them". Prefrontal "areas associated with deliberate control of behavior are implicated in these laughter production mechanisms, as well as the neural system underlying the detection of others' mental states."

A

Duchenne versus non-Duchenne laughter (Gervais and Wilson 2005). Bryant and Aktipis (2014) found that judges can distinguish between these laugh types, and there are predictable acoustic differences between them as well, mostly attributable to the

"arousal in the emotional triggering of spontaneous laughter, but also due to the differential role of breath control"...

A disturbing notion indeed. No wonder we find strange laughers so frightening when we, as humans, are so attuned to other people's intentions and mental states.

While The Uncanny Valley is not a properly developed theory, it definitively supports the evidence from recent studies on voice perception and evolution.

Laughter is a prime example of how a phylogenetically ancient behavior has been shaped by recent selection in the context of language communication, and now operates at multiple levels in complex human social interaction.

Themes

Liberation

Being born (again), being opened, saved, discovering, cliches, being a beginner. authenticity, paradoxy, self-evolving, self-expansion, anti-elitism, hard working-ness.

“Harry – yer a wizard [...] an’ a thumpin’ good’un, I’d say, once yeh’ve been trained up a bit.” – Rubeus Hagrid (Rowling, 1997/2014, p. 55)

For me, finding free improvisation was like finding a magical world. Feeling both special and suddenly fitting in. There is both great conformity and individuality and egocentric aspects to this.

In this section I want to illuminate on the liberating side of free improvisation, for the instrumental performer and as a musical language. The freedom from rules and “normative confines”, the vast array possibilities possible, and the problems this poses. Freedom invites chaos, and as the rest of my analysis will show, chaos is undesired. After all, we are still humans, with the need to categorize, which I will draw in to discuss my findings with.

All of the performers I interviewed seemed to have experienced an artistic awakening when they encountered free improvisation. Either from the chase of performing a genre a certain way, or from instrumental limitations. This phase is endowed with hope for the future, and the world becomes wider. They discover that there is a place for them in the musical order.

I find the revelation of Harry Potter as, not just an ordinary (orphaned, less fortunate, invisible) boy, but a *wizard*, an amusing analogy in this regard. Some of the performers may not agree with me here, but I permit myself to impose the feeling of suddenly becoming a wizard, doing magic.

All of the performers I interviewed had a start doing jazz, western art music or both, but felt limited. Andreas was limited by muscular issues preventing him from pursuing the trumpet. Tone Åse had a need for expansion and play, and Agnes felt wrong doing music that she did

not feel truthful expressing. They all have a strong need to express themselves, and truthfully so.

Live describes that the many possibilities of free improvisation attracted her. At the same time she problematized how one could be left ditto paralyzed by all the possibilities. Live mentions Sidsel Endresen as an important teacher of voice and free improvisation, working with what Endresen calls *sound cells*, and stresses that Endresen is relentless on using limitation as a way of expanding one's toolbox. Live goes on to say that there is "much freedom in these small frames", and that it stimulates to create form, new ideas. Freedom in limitation.

Similarly, the vast array of opportunities was what appealed to Tone "For me it was redeeming to be in a place where the conditions are pretty open. I have taken that with me into my teaching. It made me realize that the improvisation is inside me, it is not just there if I know how to do this or that – it was there, latently." Tone explains that the epiphany of the inherent capability to improvise has been her *forza* "because I know what it is like to be a classical student and not have anybody explain to you how to do it." This enabled Tone to "develop a methodical approach that does not frighten people."

In regard to practicing free improvisation Tone also stresses the familiarization, stating that the "exploration of the material is a preparation and practice before improvisation. Because before you know what possibilities you have, it can result in a random jumping between ideas."

It seems here that Tone distinguishes the practicing of sounds and exploration of material from the act improvisation, meaning that "the improvisation" inhabits an element of performance and an intention to express something. In contrast "exploration" would be similar to unstructured play with sound material or structured exploration through etudes and scales. -- undesired

While etudes, set to parameters of the performer's creation is drawn forward in the interviews, it seems lack of curiosity and expressional premise might null out the value of such etudes. Agnes described with disillusionment how she was not stimulated with sincere interest from her violin teacher – despite the teacher being very focused on technique – and her family's overall indifference to music.

In essence, she told of a lack of instilling of the tools that she would need to perpetuate her own musical growth – including how to practice on her own to improve. Instead of breeding individual expression her surroundings taught her to replicate a product, or become commodity for social status. Moving to Oslo, and away from other peoples expectations in Vienna was a pivotal moment for Agnes, and liberated her from the psychological and environmental confines she experienced in Vienna, so that she was free to reconstruct herself.

The openness, however, could be very frightening. She experienced while taking classes with Franz Hautzinger in Vienna that especially students of classical music were panic stricken when asked to play without sheet music. At the same time, she described how inexperienced improvisers sometimes follow the same trajectory in what kind of ideas they try out, often with an overzealous eagerness that is potentially off-putting to more experienced performers.

For Agnes, limitation is necessary in the music making process, but she usually works from a sound to a limitation, and not the other way around, and similarly when developing techniques.

Discipline

“This mirror is the key to finding the Stone” – Professor Quirrell (Rowling, 1997/2014, p. 312)

Establishing an artistic practice, becoming an individual through trial of fire. The conflict.

Limitation and exploration go hand in hand because the knowledge of one’s limits enables a continuous expansion of them. I suspect that the interesting music, for these performers, happens in the zone where the risk of failure is present. Tone compares it to top athleticism, because performers of free improvisation often work with techniques that are physically extreme, and sometimes potentially harmful. This risk is partly in the thrill.

Agnes never liked the risks, but she too enjoys being close to the border of risks, where she does not have full control, and if she plays around the border a lot, she gains more control. Knowing where the limit is, is very useful, and she has a plan for anything. Mistakes are not dangerous, she says.

Andreas: Having Sidsel Endresen as a teacher liberated him. The years in Stockholm provided refinement of his craft and techniques.

Andreas: “Learn the craft and skill of improvisation”

“If none of the musicians have the right mindset that ideally one should have to be able to improvise well, and freely, you need some kind of tool box to just pick something, that you know, from experience, can trigger something....Often, what happens when you have not improvised much yourself is that you try to do everything at once.”

Listening and attention

“Listening” is a word that keeps repeating itself in all interviews. It is often presented as a virtue as well as a working strategy. To listen well, to shift between listening and not, to analyze and to refrain from analyzing – keeping in flow.

With free improvisation, Live says that “You’re kind of forced to get into a more intense listening mode.” She sometimes has felt that she has been “very, very present in the music”. But what do the performers listen for? Live listens to see if she should join, refrain from joining, for development, what is happening in the music, how and if she should contribute. She is continuously paying attention to the other performers and finding her place in the musical landscape. Whether there is something captivating. It is a process of deciding and non-deciding, where one tries not to think too much, however the analytical mode has the potential to take over and kill the improvisation.

Live comments that one can start thinking more than listening, resulting in the performers sounding a little like testing they are grounds due to poor listening. “At least I felt like this in the beginning, that it was a lot of navigating, listening, and trying to get to the core. I’ve noticed that I like it more when there is a direction, that I detect that this is going somewhere.” Live here points to several of the themes that I have detected: limitation, intention and listening. For the music to be interesting there seems to be a desire for artistic intention, that there is some unless it might be perceived as nonsense.

In regards to concerts where “the musicians are playing for themselves” Tone said that it is possible to get something out of it, but that it is depending on the listener’s capability to listen with intention, looking for things that they themselves find exciting. However, she says, that the way the performer invites the listener may affect the way the listener project intention to the sound or sound-producing action :“Maybe if I find the musician’s sounds exciting, I will perceive an intention too?”

Agnes is “more concerned with what I hear than the sound I make... Listening is sometimes about peeling away the layers, and one sound that can contain so much information.”

Listening

She tells about a concert she went to with Junko Hiroshige from the Japanese noise band Hijokaidan. It consisted of Junko screaming uninterruptedly for 70 minutes inside a stone church, until the first person rose up to walk out. How the sound changed over time was fascinating, said Agnes.

Andreas: “You can picture different scenarios. If you are playing together with someone you have played with a lot, you will know and recognize each other’s way of making music and react to each other’s suggestions.

“You have to communicate as if you are on the same planet, if you want that [equal] interaction in a band, compared to a band where the vocalist is the front figure. It quickly becomes theater or cabaret.”

“If put in a situation with a person you have never met before, you will act differently. Then, the premise is different even before you start improvising. The quality of the improvisation will depend on the initiatives of the musicians, ability to take into account the contributions of the others, their own technical and musical palette. How experienced and secure you are in yourself will influence how you play.”

Responsibility and consideration

In many ways, through these themes, we are also touching in on expectation and violations of said expectations – whether the violations are intended or not. With the freedom from idiomatic confines that come with free improvisation, it seems that many performers expect a ditto considerate and responsible treatment of sounds and the musical development within a performance. And, as the interview shows, expectations from performers and audience alike, will vary.

Tone recounts an episode from a concert her husband Ståle Storløyken and Thomas Strønen (Humcrush) did at Moldejazz, where they kept on going after a point where she thought they would end their improvisation. “I almost left the concert because was I so pissed off since they did not give me that pause, that space to breathe and digest the music. They could have easily stopped and then kept going afterwards if I had just gotten that break.” As Tone clearly

describes, expectations matter. “If you are waiting for something else than what appears, you will be disappointed.

Similarly, Agnes mentions the social contract between an audience and a performer,

Location and influences

Tone “Although I have not attended the Jazz Department at NTNU, I see myself as a part of that milieu.” Andreas : Places himself what he calls “a unique North European improv tradition”, and names both Sidsel Endresen and Phil Minton as important influences, in addition to his instrumental background as a trumpeter.

“Whether everything is lined up for a best possible improvisation, without having played together before or having played together too much, it is important that the improvisation itself can develop, that the improvisation sets the premise, not your own fixations – in an ideal situation. Each and every one will have their affinities, strengths and weaknesses, things that can come in the way, sitting and thinking about something else, you are more or less present, serving the improvisation.”

Experiences with teaching has too contributed to developing of one’s own opinions. “Finding out what you yourself can identify with and working towards that basis and challenging yourself while on your own. Teaching helps with that. Andreas: “You have to be ‘on’, both as a singer, teacher and guide. Be awake and pay attention to what happens.”

Intention

“You see, only one who wanted to *find* the Stone – find it, but not use it – would be able to get it, otherwise they’d just see themselves making gold or drinking Elixir of Life.”(Rowling, 1997/2014, p. 323)

For Live it is

“It is for me, at least, when I feel something. When I feel something while I am making it. More than ‘now it is this or that technique’ or, well, that I acutally feel what I am playing. That it gives me some kind of feeling. That I feel...well, get a kick out of it. And feel that ‘oh, this was good!’.

Live believes that it is possible to sometimes hear or sense musical intention, and on how it may sound like to hear musical intention, she wonders:

“It’s energy, I guess... There is an energy there. And... that the performer really, really wants this out. And there are a lot of emotions in it.”

Tone instantly thinks about about sounds as music if she intends to make music. “To me, the exploration of the sound only makes sense when I try to think about it as music, and that is because I have worked so much with sound.”

Andreas prefers that there is no proposal to the audience, and that performances. That can be theatrical. He prefers music is not too invasive. The experience feels more genuine, then. The “other surrounding stuff” is distracting and does not serve the musical expression. He Emphasizes Chet Baker and Miles Davis as good examples, because of their clearness, the pure sound and a kind of distance and singability in their playing. Davis’ playing as “very collected”, and Baker singing as very ”instrumental but immediate”.

Power of the voice

Live:” I have come to prefer to refrain from sounding like a vocalist. Working with sounds that is not like an instrument in any way, that you can recognize, but that it is more like sound textures. It might be that I have found some sounds that I use a lot, that has become characteristic for my type of improvisation because [...] it takes more for vocal improvisation to be cool, because it can easily become...I can’t find any other word that awkward.”

She mentions Chet Baker as a jazz musician who uses his voice in an instrumental way, without many ornaments. Live stresses that it is important to balance the vocal expression and says that the improvisation can become like musical theater when the vocal expression is exaggerated.

“When you start to use work with your voice in a way that – as I have said before –the focus is on not ‘this is a voice’ but ‘this is an instrument’ you can use as a starting point to make sounds. That the focus isn’t on which instrument it is, but that it is a source of sound.” She also says that extended technique can be voice-like. She emphasizes a kind of distortedness

and ambiguity in the quality of the voice as important for it to be non-traditional, and to pique her interest.

“There is talk about something that is called ‘uncanny valley’. That when something is almost – but not quite – like something you’re used to, like if something looks almost human, except there is something that’s a little eerie. Like, it sounds like a voice, but there’s something not quite right there.”

Tone: “What I noticed in the instrumental context, was that the sound of the voice has a power of its own. The voice attracts focus before all other instruments. When a singer opens their mouth, you immediately want to try to understand what they are saying. If it’s a woman or a man, what it means, we’re used to the voice meaning something. It is supposed to tell us something. And from we are little, to survive, we have to recognize our mother’s voice, and we prioritize over any other sound. And that is fantastic in many ways, it means that the voice has tremendous power. But it also means that as an instrumentalist, the voice has some big limitations, because it is always riddled with meaning. I realized that was one of the most important reasons why I started working with electronics.”

Agnes: “The meaning of the sound is there always, but sometimes it is so over-dramatized. In a negative way, it makes people take themselves so seriously, and that ‘it it I who am singing’, so that they can’t do it! They are so afraid of what comes out.”

“I don’t need to exaggerate being sad. A human can hear that, it is enough that I breathe, and they will know. We get so much information from the voice. It is an extremely exciting and wonderful phenomenon. And that we can recognize humans, just by hearing their voice, whatever they are saying, we can tell how they are and know a lot about their life. Without thinking about it.”

We are raised to have control of our bodies, and especially with voice in music. If there is a mistake, everything feels wrong, *you* feel wrong.

Andreas: “With the voice and the body, there will be so much, from emotions and personal expression, and all that comes with presenting something that it will come across anyway. Building a good structure in a musical improvisation is a form of storytelling. But taking roles...you can take different musical roles but taking the role of a goat or a character...I have worked a little with that to test it out, but I found that kind of disturbing and that I lost focus

on what I thought was important. To be able to play those characters, you have to be very skilled for it to not to disturb the musical communication.”

Strategies, techniques, tendencies

In the following sections I give examples of concrete strategies, techniques and tendencies that the performers have drawn out.

Live: Record yourself, and listen to it, note what works and what does not! Recurring form: crescendo-climax-decrescendo. Has worked a lot with “backwards”-sounds.

Tone:

- “One of my exercises for students is to choose one sound, one tone on your instrument, and see how many timbre variations you can make, and then you’ll stop thinking about whether it’s a ‘c’ or a ‘g’, but how the tone sounds. I know that Sidsel Endresen has worked a lot with that, narrowing down the material immensely, because that compels you to explore that material. She has also talked about Keith Johnstons expression “wimping”, introducing an idea and the cowering on it, changing your mind and introducing something else instead. If you do that five times, nothing happens. ‘Wimping’ is to not dare the pursuit of the idea that you started with.” (listening, energy collapsing, indecisiveness).

Agnes:

- Make maps (actual geographical) maps of where your sounds come from.
- Memorize and learn to produce the international phonetic alphabet, and work between the letters in the alphabet. For instance, [this one](#). (IPA I-Charts (2022), 2018)
- “To think about the voice, technically, how it works as an instrument, is something that I have missed in all vocal lessons and music lessons I have had. And to think about the sounds, not as a random result of a jazz scale or an exercise, but as an acoustic phenomenon. That the sound happens like so, and then can be shaped in these or those ways – there are places, muscles, air, vibrations – they all have names! They are linked to emotions, but you can think it completely the other way around. It has meant a lot to figure that out.”

Andreas:

- Having a toolbox with selections you know can trigger something.
- When lost – just do something – pick that up and go from there.
- React to immediately to what is happening, try to generate new ideas to where take this. Through your own toolbox and what the others are doing: keep building in the same landscape, or make clear contrasts, being confident in making contrasts.

- Another approach is to just let everything flow, no structure and no preset. In most cases it is a combination of everything. It usually develops in one direction or another, whether it is chaos or some kind of structure.
- Recurring forms and clichés: starting slow and cautiously, building it up to a climax, and slowly decreasing again until it quiets down. Or that you start very strongly, and “toots along, each on their own”, possibly meeting each other from time to time, a groove, then someone plays a little solo over the groove. Dynamic stuff that will repeat itself. If one persons starts playing loudly, everybody follows. Or similarly if someone plays fast. This is why security is important, be confident to keep on developing your idea. Being clear.
- The idea must be that you have many possibilities to develop what you have started with in different directions.
- Andreas thinks we organize our sounds and concepts individually

The Uncanny Valley

In the process of conducting the interviews, clues of information arose that was unexpected and seemed too interesting to discard. In the following sections I would like to pick up some of the various clues that I came across, or that seems fit to touch on before moving on to discussion.

I would like to first paint a picture to place free improvisation in a historical and geographical context. A literary review on relevant texts regarding vocal free improvisation will be relevant in this instance. A few examples of performers will be relevant as well.

The Uncanny Valley and musical intention

One of the most interesting findings in my study, apart from much confirmation brought forward about core values that can be surmised from existing literature, a hypothesis made by roboticist Mashahiro Mori in 1970, that gained traction and has been cited in thousands of articles and books ever since Moris article was translated to English by researcher Karl MacDorman (Mori, 1970/2012).

The way I understand it, the Uncanny Valley essentially demonstrates a spectrum of our affinity in a non-living-living dichotomy, where the dip in the Valley represents a mismatch in the cues and signals we are perceiving. The cues and signals are our warning signs for danger

(madness, psychopathy, disease, bad intentions), and thereupon triggers revulsion so that we may (fight-flight-freeze and) survive – in the most dramatic interpretation. Mori warns that our perceptual bindings may override our knowledge of the uncanny event/object as unarmful, in our case, prompting a feeling of a vocal free improvisation as ingenuine if exaggerated, lackadaisical or inept. Even if the uncanny event/object is not revolting, we also want to avoid tiresome people, jive talking and taking up all our private space, and as we know, improvisation is conversation.

Deviations (or exaggeration of vocal expression into the banale) creates an “uncanny effect. How movement is made, also effects the uncanny effect, and as we know, sound is both image and movement. The uncanny can be an expression for danger, and he divides it into two categories, proximal and distal. However, the uncanny effect can also induce a dreamy, pondering and empathetic state:

“For example, when presented with an anthropomorphized lion character in an animated film, we are easily able to empathize with the lion because of its human-like features, easily overlooking the fact that lions are predators. However, if we are instead faced with a CGI animation of a humanoid creature bearing strong resemblance to a human, we feel a sense of betrayal when the character acts outside of our expectations, however subtle the error might be.” (Diels, 2016, p. 4)

MacDorman emphasizes 1) cross-modal mismatch (cold hand), 2)temporal mismatch (jerky movement),3) contingency (inadequate response) as important factors for our revulsion. (Karl MacDormand & Hiroshi Ishiguro, 2006)

The Uncanny Valley, though extensively cited, is not a ready accepted theory, nor was it ever meant to be one, as Jennifer Robertsen points out. Robertson (Robertson, 2020), who is adamant in her criticism of the translation and the traction the hypothesis has gained despite the instructions of Mori to not see his article as a theory proposal. However, “existing evidence neither completely refutes nor corroborates the uncanny valley hypothesis.”(Wang, 2015, p. 403). This does not mean that we should treat it as “as a selfevident truism.”(Robertson, 2020, p. 1), but we can still see the uncanny effect as an interesting effect of perceptual ambiguity that arises in the mind of the perceiver, and the valley, not as a real-life model, but a visual representation of what it feels like to enter the Valley. After all, there is some poeticism to it.

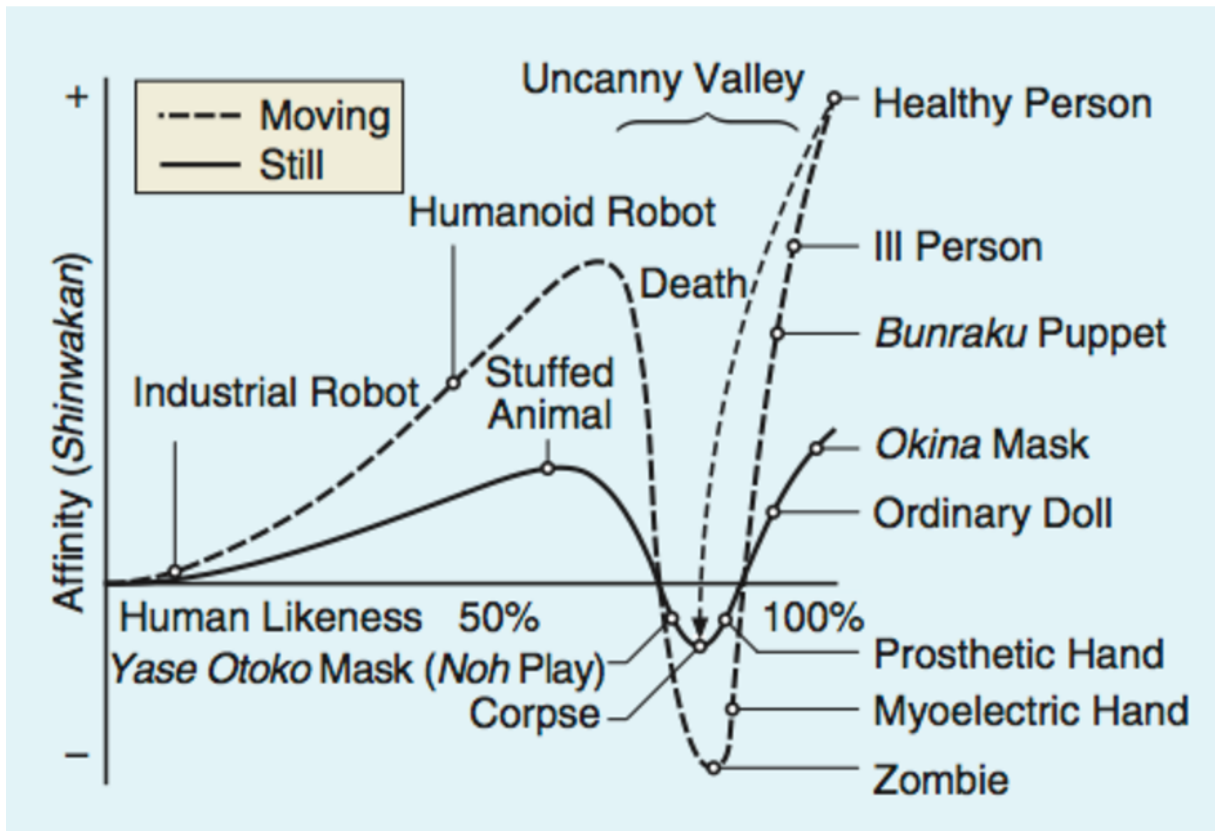


Figure 1: «Figure 2. The presence of movement steepens the slopes of the uncanny valley. The arrow's path in the figure represents the sudden death of a healthy person. [Translators' note: Noh is a traditional Japanese form of musical theater dating from the 14th century in which actors commonly wear masks. The yase otoko mask bears the face of an emaciated man and represents a ghost from hell. The okina mask represents an old man.]» (Mori et al., 2012)

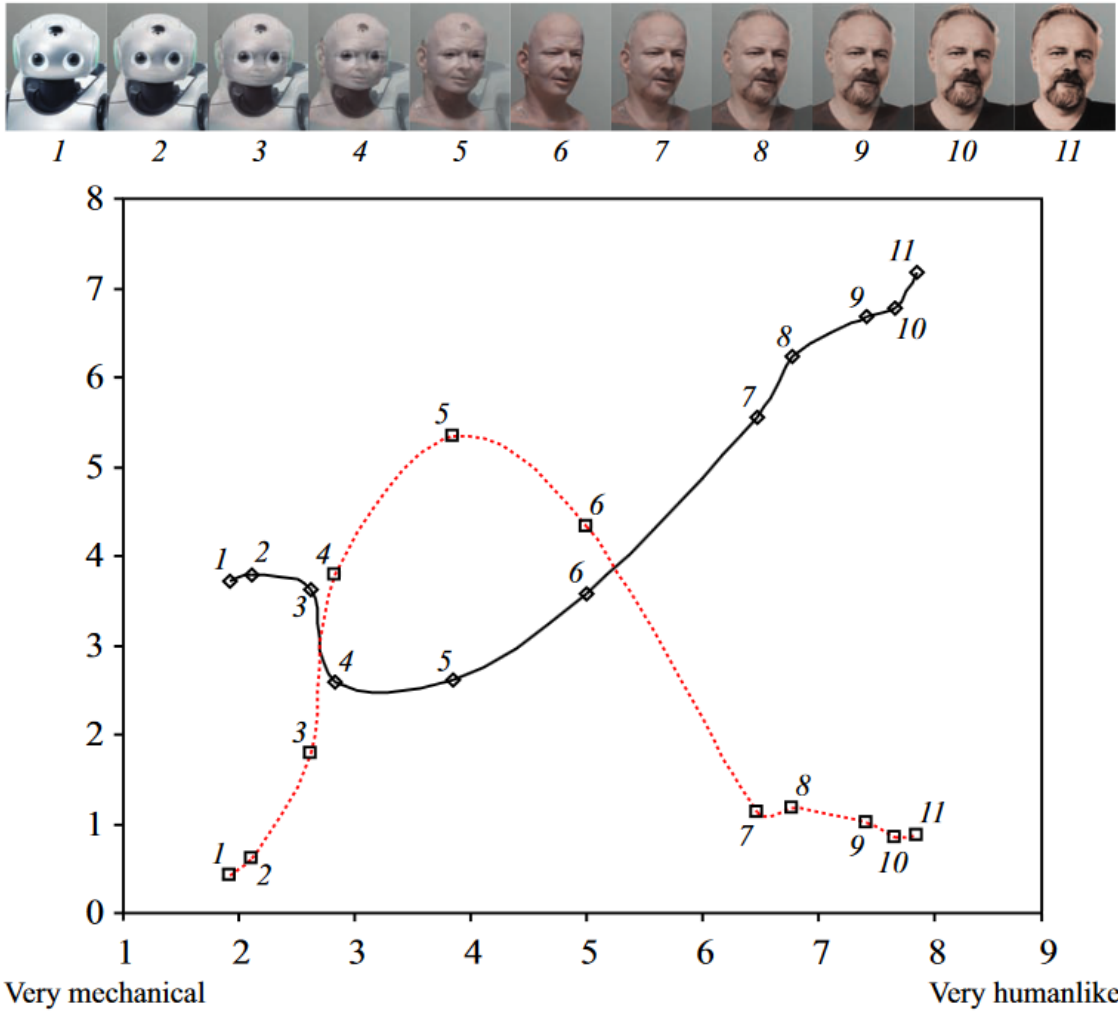
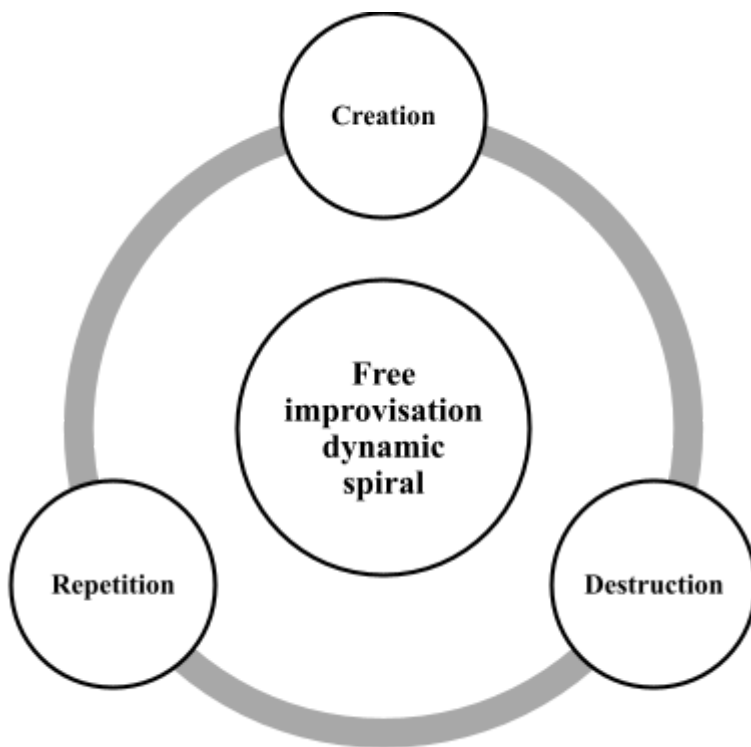


Figure 2: «Figure 2: Average ratings for strange versus familiar (solid line) and eeriness (dashed line) were plotted against mechanical versus humanlike for images morphing from the robot Qrio the Philip K. Dick android to Philip K. Dick himself. The plots reproduce Mori’s hypothesized uncanny valley and indicate a corresponding region of eeriness.»

(MacDorman, 2006)

Creation–Destruction–Repetition: A Model



Spiral of free improvisation

Creation:

(Liberation, Freedom, Release, Signal Generate)
The generating of ideas

Destruction:

(Discipline, Power, Control, Form, Modulate) –
The building up of vocabulary
Refinement of instrument control
Consolidation of identity

Repetition:

Magic, Knowledge, Peace, Reverberate
Dissolvment, maturity, disconnection with security

The way I understand Baumann, searching for “the nakedness and immediacy” and “pure materiality” of the voice is key to experience the sound as separate from the person. Bauman stresses that we must examine the distance required “to enable a de-subjectivation and to free its sound from the “human in the voice”. (Baumann, 2023, p. 16)

5 Conclusive Thoughts

In this chapter I try to tack together and generalize from the spectral discussion of Chapter 4 Findings and discussion. Finally, I ask further questions and make suggestions for further research.

A Norwegian perspective

We are only human animals, we are simple, complex, and contradictory – we contain multitudes. In this thesis, I have investigated, through a broad and multifaceted perspective, how free improvisation vocalists develop their vocal technique and repertoire, and how these processes are influenced by genre-culture and embodied cognitive mechanisms. One important notion has been the paradox of formalization within a genre that historically has rejected formalization, of which performers to an increasing extent are produced through formal music education.

Perhaps it is a case of the slightly worn expression “it’s typically Norwegian to be good”, coined by former prime minister Gro Harlem Brundtland, but perhaps not. By anecdotal evidence, I know that jazz education abroad often focuses on the quantitative, the correctness, and brilliance, and by the very same is defying the essence of jazz. Contrariness and rawness controlled. Such a ‘new public management’-approach to carry on the legacy of musical knowledge and development of musicians who can think for themselves and know who they are, might serve the students who will later enter a world that has no space but for the normative. However, in Norway students and performers are fortunate enough not to have to worry about market value, placing less responsibility and stress on the educators to produce performers for the market. Rather the performers are producing the market. This means, however more responsibility on the individual performer to ‘find their own true voice’, which can be a tremendous burden for the young and (truth)seeking. The young tend to want to belong even whilst they rebel.

Call and respond

Through the process of literature studies, collecting data from performers of vocal free improvisation, and the ponderings thereof, I have gained many new insights. There were many surprising similarities between the performers, such as their approach to the vocal

instrument, multi-instrumentality, and expanding of habitus, despite their different specializations, ages and voice types, that pointed to the presence of general tendencies. I also found grey areas where I previously had more rigid assumptions, such as their conceptualizations (or lack) of sound categories ('sound cells', 'musical idea', 'technique') and terminology ('sound library', 'palette', 'vocabulary of sound'). However, I did find that there was a harmony in their reflections regarding the main research question, on *how* vocal free improvisers discriminate between technique sounds and musical sounds.

The short answer is: by musical intention – by choice and goodwill to listen for musical qualities in the sound. The musical intention, according to the performers, is primarily a subjective and volitional act, but also something that can be communicated through clear and assertive deliverance of the musical material, while expressing a vocal ambiguity. The perception of musical intention is dependent on many things, like expectations of the performance (either as performer or audience), current state (emotionally, energy-wise), coding abilities, interests, preferences, and the social-emotional signals and cues that can be sensed from the musical expression. This is where the Uncanny Valley (Mori, 1970/2012) comes in. As mentioned in the summary of the pilot interview with Live Sollid Schulerud, the concept of the Uncanny Valley is one of my important findings. It confirms that there is some sort of link between the ambiguity that the vocal free improvisers aspire to, and perceptual processes (Mori, 1970/2012) (Diels, 2016).

Future studies

Returning to the dream of creating an app for the purpose of technical and musical development, I find that, although it did not appear within reach in this round, the findings I have made through qualitative interviews, musical and literary analysis, make a useful and informative knowledge base to which one can.

Further down the road, I would be interested in larger scale studies, possibly also neurological studies on the processes of experimental vocal expression, both in performers and the receiving part (audience, fellow musicians) to test if the theory of The Uncanny Voice is indeed a scale which is important for the musical experience. Including artistic research to a larger degree than before in scientific studies. The performers are the people closest to the material and the experience.

When I first started out on the journey of this master's project, I had some preconceptions of hierarchies and organizational structures for sounds and concepts 1) in terms of perceptual grouping with a potential for generalization, and 2) in terms of hunches I had about a shared or similar terminology.

These preconceptions were possibly too rigid and too wanting of simplicity, My formative improvisational education took place in a large, homogenous ensemble, compared to the performers' very autonomous and multifaceted capacities, showing me that all the concepts were more spectral than universal.

Trying to find aesthetic ideals in, pardon my hyperbole – a haystack of denial – proved to be a more enjoyable and fruitful process than I had imagined. My hope is therefore that someone can find my work and take it further into organizing vocal sounds.

I still believe that there is work to be done in the mapping of our perceptual organizing processes, that can benefit both performers and have a great transfer value to other sciences – while keeping in mind that the greatest value is that of knowledge itself (not how we can monetize it).

While I have not acquired the necessary skillset myself at this point, I still find that making connections between so-called soft sciences with their interpretative “noise” – or rather intuition or subverbal logic, as I would call it – with evolutionary and embodied cognitive concepts as they provide “a framework for specifying the nature of these adaptive perceptual problems. “(Pisanski & Bryant, 2019, p. 270)

Open-ended but close

Or as the Golden Snitch would have it: “I open at the close” (Rowling, 2007, p. 698).

As Harry Potter becomes ready to sacrifice his life, the golden Golden Snitch opens, and lets him be safe while in pain, with the presence of the people closest to him, who have died. In a performer perspective, one can apply old versions of oneself, or discarded ideas and strategies. The performers must kill their ego in order to evolve, to grow. Closing something means the possibility of new openings. Like spring, like mother nature. This is true also in art and in free improvisation vocality.

Despite the slight time-worn gust that envelops it, there are commonalities between “Song of myself, 51” and the ways of free improvisation. The subject in the poem is an active observer, much like the free improvisation performer, there is a form of crypticness, ambiguity, but also an invitation. As one navigates the spiral of creation–destruction–repetition in seemingly erratic and asymmetrical patterns, one can also move through the “Song of myself, 51” in intermittent cycles, back and forth, jump in between, start in the middle or in reverse. Therefore, I permit myself to conclude, open-ended, with the following:

— Walt Whitman (1855/1924, p. 75):

will you prove already too late? Will you speak before I am gone?

*who will soonest be through with his supper? Who wishes to walk with me?
Who has done his day's work?*

I wait on the door-slab. I concentrate toward them that are nigh,

*(I am large, I contain multitudes.)
Very well then I contradict myself,
Do I contradict myself?*

*(Talk honestly, no one else hears you, and I stay only a minute longer.)
Look in my face while I snuff the sidle of evening,
Listener up there! what have you to confide to me?*

*And proceed to fill my next fold of the future.
The past and present wilt—I have fill'd them, emptied them.*

Song of Myself, 51

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7 Appendices

- I. Reflection sheet from phenomenological exercise (in English)**
- II. Letter of invitation and consent (in Norwegian)**
- III. Interview guide (in Norwegian)**
- IV. Assessment from the Norwegian Centre for Research Data (in Norwegian)**
- V. Resources on voice**
 - A. Lexicon of Extended Vocal Techniques – Index**
 - B. IPA Charts (interactive web page and pdf-file)**
 - C. Pink Trombone (web page)**