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Making Dementia Matter Through Sound:
The Stem&Luister Project of the Genetic Choir

Marjolein Gysels [1*], Chris Tonelli [2], Thomas Johannsen [3]

[1] No Affiliation, Faro, Portugal
[2] University of Groningen, Groningen, The Netherlands
[3] Genetic Choir, Stichting Here and Now - Interdisciplinary Instant Composition, Amsterdam, The Netherlands
* Mhgysels@gmail.com

Abstract

This paper investigates the working practices of the Genetic Choir and the "Stem&Luister" project, in which the ensemble uses voice, sound and improvisation to explore and develop ways of connecting with people with dementia, thereby seeking to improve the experience of care. Their musical sessions are multilayered. First, through listening they develop a sense of the people and the environment. Then through introducing their vocal practices, they breach the prevailing sonic regime. Second, through immersing the residents in sound-making and singing, they draw on the material and sensorial qualities of sound. This gives access to those who were difficult to reach and offers both an alternative means of communication and enables the recognition of selves. A third layer concerns the strategic use of improvisation, of which the deployment of "ensemble" and "instant composition" are analysed. Recognising the compositional efforts in improvisation shows their work to be a form of design. It facilitates attention to personhood, relations, and diversity. This specific practice appears as an untapped resource for the health and wellbeing of people with cognitive and speech impairments. Theoretically, the findings have implications for the notion of care and provide support from practice to existing neurological evidence of the significance of music as a fundamental faculty for survival and wellbeing.

Keywords: voice; sound; improvisation; dementia; self; relations

Introduction

Genetic Choir

Genetic Choir is an Amsterdam-based ensemble that takes improvisation as its basic working principle to explore anything that lies within the reach of voice, from asemantic vocal sounds to melodic songs (see http://www.genetic-choir.org/). The ensemble's core consists of a loosely organised group of professionals who collaborate with a wider group of participants, including interested amateurs.

The vision that the ensemble propagates implies a clear position in regard to society as well as to music. It deviates from the more common assumptions of what music is and its possibilities for being and knowing. The Western academic approach, based on a cognitivist approach of the mind (Dennett, 1978), considers music as an abstract, disembodied process. In analogy to the functioning of a computer, such a cognitivist view understands the mind as a rule-following machine, that makes representations of a pre-given external world. Genetic Choir, however, opts for a more holistic view that opens up towards the people who practise and experience music in the environments they are actually living in, developing an expanded understanding of the role of music from what it is traditionally thought to be capable of. In fact, their work brings into practice the insights that have been gained from scientific research in a variety of disciplines such as neuroscience, biology, psychology, economic theory, and philosophy (Ball, 2001, 2004; Krueger, 2014; Oyama, 2000; Serres, 2011; Trevarthen, 1999; Varela & Rosch, 1991).

The choir also brings its way of working with its focus on sound and music outwards into the social world, to engage with complex societal issues. This paper focuses on the work they conducted in a long-term care setting with older people with dementia. The specific media they deploy in their work, the voice and improvisation, give access to meanings that speech or reasoning do not generally reach. While explicitly seeing their interventions in the care home as "instant compositions" – and therefore as an artistic product, generated together with residents and carers, rather than a form of therapy, they come to approaches similar to those described in the field of music therapy, where a strategic approach to *atmosphere* and using a subtle entry point from the daily environment in order to generate interaction and content is applied more often (Muthesius et al. 2010, Sonntag 2016).

The Project: "Stem&Luister"

"Stem&Luister" is a project by the Genetic Choir which started as a pilot under the name "House of Sound and Song" back in 2016. It has been running as a weekly activity in a care home for elderly residents with late-phase dementia (the Flevohuis/ZGAO in Amsterdam) since 2019. The project is still active and growing at the time of writing, with several pilots conducted at other care homes and effecting longer term interests from different care organisations. The data that this paper concerns has been gathered in the first half year of structural activity at the Flevohuis (2019, January to June).

The Flevohuis consists of fourteen living units for people with dementia, each comprising between five to seven residents. Next to the medical doctors, there are about sixty nurses and other care workers, as well as a team of seven activity coordinators. As they have great concern for the quality of life of their residents, they approach meaningful occupation as an integrated part of maintaining health and wellbeing. They also have a team of "hosts" who provide for those daily personal needs at the residences for which the current care workers team have insufficient time, due to their busy schedule of nursing tasks. Before COVID-19, they supplemented their staff by employing several artists to develop creative ways of approaching care.

Genetic Choir was welcomed in the care home to conduct the project, and they were grateful to be able to work in a context where creativity is recognized as something that needs freedom for experimentation in order to be successful. In consultation with those responsible for the daily running of the care home, the singers were assigned to two care units, as the people living there were thought to be likely to benefit most from the intervention.

The project consisted of weekly sessions in the afternoon after lunch. On a usual afternoon, two living units are visited for a period of 50–80 minutes each. The Genetic Choir singers active in the project in 2019 consisted of a core team of eight people: Thomas Johannsen, Geeske Coebergh, Marjolijn Roeleveld, Yinske Silva, Yanki Biçakçi, Moira Mirck, Kristien Sonnevijlle and Chandana Sarma. Generally, five singers were active per session. Depending on their wish to participate in the project, other Genetic Choir members joined in, which added additional expertise and fresh angles from which to explore their ways of approaching people through the use of voice and improvisation.

Detrimental ideas persist about the loss of self in dementia which affects the behaviour of others. Family may distance themselves from the person in question which leads to social death (Sweeting & Gilhooly, 1997), or care workers in care homes may not attend to someone's needs as they fail to recognize their expressions of self (Crawshaw, 1996). In practice, it is still possible for people, even in the later stages of dementia who have lost their verbal proficiency, to enact a position and assert a self, which is a process that is co-produced within relationships (Kitwood, 1997; Phinney et al., 2002).

Due to their philosophical underpinnings and specific skills, the Genetic Choir singers were equipped to explore and develop ways of connecting and engaging with the people on the wards as sentient social beings. Their holistic approach to musicality resonates with the ideas that self and communication are embodied and performative experiences.

The Field of Research on Singing and Music for People with Dementia

The evidence base on the benefits of music in the care for people with dementia is growing. The number of studies that have been published has become so extensive over a relatively short time span that several literature reviews have been undertaken to draw the findings together to assess the achievements in this field and decide where it needs to be taken next. Taking a closer look at four of the more recent prominent literature reviews on music for people with dementia, it becomes clear that this research consists of a multiplicity of disciplines, each approaching this question from a different angle.

These four reviews sum up the main points that characterise the evidence in this area. While having the focus on music and singing in common, each reports on different aspects of the interventions. A review by Clift et al. (2010) assessed the benefits of the music and singing interventions in dementia and several other chronic conditions. Their aim was aggregative and they did not commit to any further analysis of this work as the results would be largely premature due to the rapidly evolving evidence-base. However, three main conclusions could be drawn from these papers, that: group singing leads to an increase in social behaviours, is an effective tool for participation, and reduces anxiety and agitation. But, the authors stressed the high variability between studies in terms of scope, design, methods, samples and especially the way the singing activity is delivered.

A comprehensive review (Daykin et al., 2017) on music and wellbeing in general also dedicated a part to the effect on people with dementia. It reported that there is a paucity of studies that evaluate music and singing interventions with the aim of promoting the subjective wellbeing of people with dementia. Their key findings were that music and singing can promote dimensions of subjective wellbeing, social connections and the maintenance of identity. However, the authors noted the inconsistency in the methods of the different studies, and advise further situated research.

In 2018, a Cochrane review and meta-analysis appeared (van der Steen et al.), assessing the efficacy of music and singing for people with dementia. Their inclusion criteria were more exclusive than those in previous reviews. The rigorous methodological considerations and the strict focus on interventions with a clear therapeutic goal resulted in the conclusions diverging from results that had been previously reported. The review concluded with moderate confidence that the music-based treatments improved symptoms of depression and overall behaviour problems. It reported with less confidence on an improvement in anxiety and emotional wellbeing, including quality of life. There was little or no effect on cognition.

An umbrella review of systematic research reviews of music-based interventions for people with dementia by Hanser (2021) confirmed the findings from the van der Steen et al. (2018) review about the variability of the quality of research methodology of many articles. However, the authors stated that the findings are nevertheless impressive regarding a variety of positive results for music and music therapy.

These very different reviews reflect the heterogeneity that characterises the body of evidence that exists on music and singing with people with dementia, but raise important questions on the evaluation and measurement of music and singing interventions. Overall, the existing research in the health sciences has focused predominately on music for therapeutic purposes to address the various problems and symptoms associated with dementia. However, the processes of the interventions and how they work have received less attention. This is what we aim to address in this paper.

Methodology

The aim of this paper is:

- To analyse the development of the singers' approach to how they use auditory and acoustic practices in relation to people with dementia who are living in a nursing home environment.
- To describe their way of working through ethnographic exemplary case material.

We specifically focus on which elements of listening, voice, and improvisation the Genetic Choir singers found helpful in engaging the residents socially and musically and how these resonated with the environment. We also discuss and analyse to this aim what the affordances were of listening, voice, and improvisation for the various residents to their day to day living conditions.

Research Approach

This study took an ethnographic approach, using participant observation to provide a close-up and detailed description of multilayered contexts. This approach which is directed to empathic engagement with the study subject as part of their environment, as well as its flexibility, makes it particularly suitable for use with this group of participants. The researcher was present at most of the meetings concerning the project in order to develop an overview of its intentions and dynamics. She took part in practically all the visits of the singers to the residences to develop in-depth understanding of what happened on the ground and to track progress of the project. Insights are mainly based on participant observation.

Significant issues were written down as fieldnotes in a notebook as soon as there was an occasion. Parts of the discussions in the team meetings immediately after the visits, which were held to reflect on what had happened on the floor, were audio recorded. Relevant instances of those discussions were transcribed and analysed. The weekly diaries the singers kept of their exchanges with the residents were uploaded to Google Docs for free

access to all the team members. These were read and analysed as soon as they appeared. During the vocal work on the floor, the musical events were video recorded where the situation permitted. This allowed for the review of the downloaded footage and the close analysis of meaningful exchanges.

Analysis

Analysis followed the principles of Grounded Theory (Strauss & Corbin, 2008). Accordingly, we aimed to discover hypotheses about the relevant phenomena by grounding them in data, especially in practical interactions and social processes. The ethnographic process gave insight into the development of the work processes throughout the project. They were taken as the basic elements that organised the analysis. The texts of transcribed material such as interviews and discussions were read and coded in several stages. This revealed the distinctive (but often overlapping) work practices which were experimented with throughout the different phases through which the project evolved. From there, different broader themes and categories could be inductively generated. These were continually compared to newly emerging themes and categories.

A reflexive and self-critical attitude is part of the ethos of Genetic Choir and was apparent in the way the singers approached their work with the residents. The diaries they kept fulfilled an important role in this respect. They were uploaded after every session and provided evidence of the sensitivity and professional curiosity with which the singers approached their interactions with the residents. When needed, this led to joint meetings where the issues that were found challenging or required attention were further considered and discussed. This not only served to help identify the approaches that were both caring and inspiring, but also fulfilled a supportive function among the singers in circumstances where they were confronted with illness and suffering.

Ethics Approval

Ethical permission for the study was obtained from the Flevohuis before the start of the project. In this article, we used pseudonyms for the residents involved in this study to protect them from any harm. The names of the singers from Genetic Choir are their real names, for which they gave permission.

The Intervention: Genetic Choir in the Care Home

Three Layers of Practice

Below, I will sketch the process in which Genetic Choir developed their working practice during their search for ways of making contact with the residents through the use of the voice, listening and improvisation. This account starts from the first encounters in the Preparation stage, and then moves towards the later stages when the singers had become a familiar part of life in the living rooms. The three layers that characterise their working practice – research, immersive vocal work and ensemble improvisation – are arranged sequentially in this paper. In describing these layers, I discuss key processes and concepts within the layer and provide illustrative case descriptions.

In the first sessions, the singers used a tentative sensing and probing. This formed the basis for the second layer of practice in which the participative use of sounds and singing prevailed. This gave way to the third layer of more adventurous experimentation and ensemble singing in which the singers drew fully on their improvisation skills.

While these three layers appeared during each visit in mutual interaction with each other, there was a general progression during the observation period and presenting them in this

order best reflects the progress of the project and the elements that prevailed at the different stages with the type of interactions these afforded. Still, it is important to stress that this work was an ongoing emergent and transforming process in which all these layers were constantly in play in a mutually influencing manner.

Preparation: Tuning-in, fading out

Before the singers entered the living rooms and started the voice work with the residents, they had a preparatory meeting of about 30 minutes. This turned out to be a significant and continuous part of the intervention. First, they would start with a moment of reflection by writing down their personal goals for the day and their state of mind at that particular moment. This served to encourage a reflective and investigative mindset with regard to the events to come. It was a moment to interrogate their positionality, critically and affectively, which would enable bracketing habitual ways of perceiving, listening. Then a joint singing moment followed, in the form of an "instant composition" (see below) among themselves.

These instant compositions cleared this preparatory meeting from one's everyday concerns and prepared them for what was to come in the living rooms. They formed a realm apart for which one needs a different set of sensitivities, such as being ready to grapple with the unexpected. This preparatory meeting was somehow a liminal moment where a mindful approach opened the singers up towards themselves and others. (I have heard the compositions once being called an "intimate composition.") It added a dimension to their investigative and reflective minds, which they had rehearsed before through writing, and it granted them with an attentive presence. This is a disposition where the senses are sharpened towards one's self in connection with others, and towards the surfaces and spaces from which sounds are formed and transformed.

The Stem&Luister Sessions

Layer 1: Research Through Listening

The first visits of the singers to the living rooms were oriented towards meeting the residents, getting an idea of what type of people they were, and in what kind of an environment they were living. They introduced themselves by having a casual chat and presented themselves as singers while looking for opportunities where they could actually start attending to sounds and sing something for or with them. They enquired about their likes and dislikes in music from which they started sonic or musical interactions. Those people who had lost the capacity to express themselves through language were approached by sitting next to them and communicating through chat or other non-verbal means such as gestures, glances or touch. Where there was no response, they could opt for silent accompaniment, continue with some humming or soft singing while paying attention to any bodily reactions, or involve them in the instances where another singer was already singing with the more socially responsive people in the room. Care staff were often asked to help out, to remind singers of the names of the people who did not react, or to provide background information of a person as they knew them better from their daily caring routines. This is how the singers became acquainted with the residents and developed insight into their personalities and relationships.

Meanwhile, as specialists in sound, they acquired a sense for the specificity of the sonic environment in the living rooms and the surrounding spaces of the care home. The sounds signal an institutional environment due to the architectural layout and associated acoustic properties. It makes a sonic regimen that resounds the efficiency of care provision. The spatial arrangement in the room meets the requirement of easy accessibility and are set

up to accommodate the residents' care needs and encourage their mobility. The care home has embraced the thoughts of the social model of disability which stresses the role of the material environment as either having a disabling or enabling effect on people (Shakespeare, 2006). Over time, the model's premises merged with the ideals that had formed around dementia care. The social model which aims for people's reintegration into normal life was translated in dementia care into the aim of providing people with a supportive environment that resembles ordinary life as much as possible, in which they can feel comfortable and safe. Accordingly, a lot of effort was invested in giving the living rooms a homely feel.

Sonic wilderness

The sounds, noises, resonances brought forward by this sonic environment formed the material for the singers' voice work. But they soon found that some sounds were less than ideal for the purpose of making contact with people. These were generated by the different technologies, of which the television was the most intrusive. Apart from the constant and deafening noise it produced, which not only overwhelmed practically all other sounds in the room, the television demanded blank attention as the screen was placed in such a position that the flashes of moving figures were in reach of everyone's vision. The first intervention the singers made when they started their work was to discretely switch off the technological devices that reduced people to a state of suspended animation. Some people became so absorbed by the television that it was impossible to make contact with them. Once it was switched off they appeared to become very sociable. The absence of the TV was noticed only later, sometimes casually remarked on, but not missed.

   This lack of sonic awareness is not specific to the care home but is a broader phenomenon deriving from sound's perceptual conditions and the broader ideas that frame the aural field. That sound is so often disregarded is because sound is everywhere; it can easily escape attention due to its pervasiveness in an environment. At the same time, there is a general lack of literacy about the role and workings of sound due to sedimented categorisations such as its place in the sensorium and its relation to rationality, the dualistic understanding of nature-culture, as well as some narrow technical approaches that have discredited its role and potency (Augoyard & Torgue, 2006; Alley-Young, 2013).

Calibrating instruments

The inconspicuous approach Genetic Choir decided to use in this sonic context is significant in this respect. Instead of casting the intervention into a workshop mould, which is standard for most participatory musical work in care contexts, the singers chose to disperse and mingle with the environment. This afforded them a range of conditions that enhanced their artistic research. They could build on a basis of preliminary insights, which they approached in an ethnographic-like manner. In regard to the vocal experimentations for the socio-esthetic ends they aimed to realise, their rejection of the workshop format was in line with their key premises that musicality should not be considered as a "thing" that can be produced for a passive audience, but rather an experience. They think that the former view deprives it of its meaningfulness. Therefore, they consider *performing* music to be only one of a range of modes in which music-making can happen. Their specific way of working "breached" (Garfinkel, 1964) the usual situation in the living rooms. This revealed the prevailing sound regime, which made the sounds they introduced dissolve into the noise produced by technology. This was not conducive to an aware state of mind nor to interpersonal contact. The lack of sound literacy among the staff added to this situation.

   The free way in which the singers mingled with the people, outside a more formal workshop frame, made an initial hesitancy on their part apparent as some had mentioned

feeling uncomfortable about switching from talking to singing. They were not completely convinced when exactly it was appropriate to make this transition, and how. But this was only a temporary issue as they were such experienced and dedicated communicators through singing. Again, this showed how breaching the conventions of what is considered proper social interaction–through the creative use of sound material as a basis for contact–can reveal the privileged status of representational verbal language (Bauman, 2003; Ehrlman, 2004). It showed its normalising function, the general acceptance that this is seen as the only possible and acceptable mode of communication.

Layer 2: Vocal Immersion

On the other hand, the free mingling with people, without any formal borders, made it possible for the singers to practise their vocal work in a way where it could not immediately be classified as either speech or music, and thus also escape the conditioned patterns that are associated with it as appropriate behaviour. It gave them the basis of making contact with people in a completely uninhibited way. The floor was open to exploration and the possibilities were unpredictable.

The singers spread out among the residents in a mindfully-aware state, open and sensitive to possible meetings. Initial encounters were received in a range of ways. There was for example the woman at the window who beckoned anyone, hungrily for contact, from the moment she saw someone entering the room, or there were people who appreciatively joined in a chat, which then evolved into more musical connections. But there were also those who were less approachable, either because they were unwilling to connect, or just closed in on themselves. And if this was the case, people could also unlock in a variety of ways. Some became attentive and social, but others only betrayed their attentiveness through non-verbal or indirect signs, and still others appeared to be completely away from the world. The following examples give an idea of the different ways in which the singers' vocal practices engaged (or failed to engage) the residents and how this worked.

Case description I (Layer 2): A collective singing session

Those people who were the most social were easy to involve in singing and a little probing generated a repertoire of well-known songs: traditional local songs, such as "De Amsterdamse Grachten" (The Amsterdam Canals), children's songs or popular (Dutch) songs from their earlier lives. Such a joint singing session developed during one of the first occasions the singers came to visit the residents. The conditions were favourable, the residents were having a cup of tea at the big table and the singers had placed themselves among them. The joint singing had started from the contact between Geeske, one of the singers, and the woman who sat next to her. The woman had mentioned something about the two cups in front of her on the table, which Geeske had then associated with the song "Twee emmertjes water halen" (Getting two pales of water, a traditional Dutch children's song). When she started singing the song, Geeske got stuck with the words after the first two lines, but the woman carried on and Geeske could sing along as she was supported by the woman.

This was the beginning of a very pleasurable afternoon where one song triggered another one, and also the other people who did not sit at the table joined into the singing. Everybody had a great time together; in between, anecdotes came to the surface, and there was a lot of laughter. The different personalities became visible in this sociable event, and the afternoon passed by smoothly. It showed what is so often noticed when music latches on in contexts with people with cognitive or speech impairments: that knowing, being, and perceiving are embodied and relational phenomena (Latour 2005). The event was

created as a joint effort in which everyone could take part – whether by taking on a lead role, or by active listening – and the singing resonated with the creative needs of the moment. Everyone joined into the songs wholeheartedly, and the singers then took it to a next level, as they started playing with canons and countermelodies which added to their virtuosity. And here they were provided with the support from the residents who were singing the songs as they were supposed to be sung. In the discussions afterwards, Geeske told how she had enjoyed the event and how this also connected to her own past:

> G: *I was really feeling like in my childhood. I came from a family with four children, and we sang a lot, like all these children's songs… and I thought, I am just doing what I did when I was a child. With another consciousness, but I felt like making countermelodies. I was always doing things like that. Well, then, I was already practising for what I am doing now.*
>
> Y: *…it felt like family or, easy a bit, or something,*
>
> G: *Yeah, yeah*
>
> Y: *nice*
>
> G: *like having fun together and…*
>
> Y: *…it was so beautiful actually*

This was indeed an easy-going event. The situation provided the perfect conditions, at the right time of day, and with the people in the right mood; and the singers had skillfully made use of this opportunity to create an opening for the vocal explorations, they were planning to bring more of in the future. They had allowed to let things take their course here and stayed within the familiar repertoire of traditional songs.

Communicating through the materiality of sound

In the next sessions, the singers were soon confronted with situations where the usual media, either speech or song and the associated socially approved regulations, in terms of who was supposed to speak/sing out in what way, how long and for which purpose, were no longer functioning the way they were supposed to. The living room in its daily routine showed again a clearer picture of the people and the challenges they have to cope with due to dementia. Speaking is not a given when living with dementia and there is a range of ways the usual ways of communication can be compromised. It is here that the singers had to resort to the skills they are best at and which they have been able to hone in their careers, mostly for artistic purposes. They use the voice along the whole continuum, from speech, to its cross-over to sound, and into song. And it is in that middle space of sound where the singers became the most active. Sometimes they could also draw equally on all these levels, but they dwelled especially in these in-between areas as these appeared to grant the most potential in terms of creating openings for reaching people.

Case description II (Layer 2): Rachel

One of these instances that such a significant moment could be created was through a play of sound with Rachel who was wandering in the corridor, just outside the living room. Her mobility was poor, so she was closely followed by a carer. She was usually quite absent, staring at a point in the distance. When you addressed her, it took a while before her eyes met yours, and even then, she gave the impression she was not always totally there.

The singers encountered her when they were about to enter the living room. They approached her playfully, in the process of tuning in, to start their work for the afternoon. She reacted so responsively that three of the singers stayed on a bit longer with her. They

set in a rhythm with gently rocking tunes and swing-along bodies. The woman pitched in with single affirmative words when the sounds came to a breathing pause, saying "*ja*" (yes) and "*fijn*" (nice) while she intensely looked into the singers' eyes. The rhythm intensified, and the carer who was still there started dancing along to the tune. It was a concurrence of impulses that set off new actions and that added to the excitement.

When the climax had passed, the carer became self-conscious, and it was visible from her body language that she wanted to return to her routine tasks. Rachel sent out different signals and her affirmations persisted. She continued the same intense focus on the eyes, nodded rhythmically and created broad smiles, so the singers stayed with her. When she went to sit down in the two-seater coach in the corridor, Geeske sat next to her. Moira and Yinske sat on the ground looking up at her, singing, humming, playing with tones while she received their undivided attention. Visually, it looked like a 16th century Madonna-with-angels portrait; the line going upwards, the movement musical. She still repeated "yes" and "nice," which the singers wove into their tonal composition, and the words Rachel interjected became more aspirated and emphatic "hhhjahhh" and "fffijn" as the interaction went on, which added to the delight Rachel showed. She acknowledged our togetherness by moving herself to each of us, starting to count and setting off a counting game between us, pointing at each other in turns. We laughed and became absorbed by the total trust and peace among us, that led Yinske to start the song "Zo Heerlijk Rustig" (So Nice and Quiet) by Wim Sonneveld.

Moira wrote in her diary afterwards:

> We stayed a long time with Rachel and had a session that was very moving. What contact, what profundity! The emotion was totally mutual.

Here, and in the following examples, it was the voice that connected. The words that were uttered came secondary to everything else the voice communicated, at least the aspect of their semantic content. The whole event was only possible through wordless sound. Instead of having first asked Erie: "Shall I sing a song for you?" Moira had approached Rachel through singing and Rachel and the others had gone along. The single words Rachel had uttered were indeed affirmative, but it was as much their persistence as the way they were pronounced that led to the building up of the intimacy of this gathering and to the feeling of peace and quiet the four of us shared at that moment.

Sounds through the voice not only have this capacity of pervading through space, bodies and objects (Kapchan, 2015), but also of providing them with a vocality that signifies something, either iconically or indexically. One can choose not to listen to them but at first they are heard, and as voices carry personality, they become filled with meaning. Sounds were able to reach those people who did not use language in a socially conventional way as well as those who were turned inward most of the time.

Case description III (Layer 2): Nelleke and Rianne

There was Nelleke, for example, a tiny woman who sat sunk away in her wheelchair, only partially visible behind the table edge. "Nelleke sleeps a lot," a carer told me, "not because she's tired, but there is nothing happening anymore." When the singers attended to her, they would approach her carefully with soft songs, then making them more interesting with variations, sound effects, whistles and other vocalisations that require more active attention as she intermittently dozed off.

This quality of the voice that makes it stand out against a background of noises was also used to make contact with Rianne. This lady was also stationary in her wheelchair, typically bent forward, eyes closed. Still, the singers did succeed in getting a response from her. In the discussion after the living room work was finished, Marjolijn told about her encounter with Rianne. She told about the long time she had sat next to her, either singing

or in silence, but without a sign of having reached her. She said:

> *I had no idea if she liked me being there, it was a matter of guessing. But when I went away I asked her if it had been OK that I had been there, and I asked her if I could have a handshake. Without her looking up, she then lifted her hand towards me. For me, that is a sign of acceptance, a first step towards contact.*

The vocal body

How well the medium of sound through voice works in establishing contact also became apparent from how the singers engaged Rosa. Rosa was an Antillean lady who was progressively withdrawing from social activities. She mostly sat at the window at the same table, dozing for considerable periods during the day. However, when she was addressed while awake, she was quite sociable in her responses, in a non-verbal way. Rosa was particularly sensitive to music and this made it very pleasurable and rewarding to work with her. One incident in particular showed how the materiality of voice is not limited to the senses of the voice and ear, but implicates sound itself, as well as the whole body while producing and attending to the voice (Kapchan, 2015).

Case description IV (Layer 2): Rosa

Yanki had developed an especially good bond with her, a kind of joking relationship. He called her groovy lady, as she reacted so responsively to rhythm. As Rosa was shy, she did not communicate in a direct way, she tended to avert her eyes, but in the process of getting musical, she definitely became more uninhibited. One afternoon, Yanki had vocally been developing a jazzy beat while sitting next to her. Slowly she came into the groove. Geeske had joined him and caught on to the rhythm with a sustaining percussion beat. While Yanki produced the bass drumming tones, in Geeske's sounds, the metal was unmistakable. Rosa started moving her body, ever so slightly. At the start, I had to recalibrate my eyes, to verify if what I thought I had seen was really happening; that her movements synced with the music. At first, she integrated them with picking up her cup of tea, but the initial single movements became more coordinated with those of other parts of the body, the blinking of the eyes, a flick of her hands. And as the singing became more intense, her movements became more explicit till she performed a subtle dance on the beat created for her. In the end, due to the playfulness with which Yanki brought this to her, they burst out laughing several times. This vocal work, by recognizing her subjectivity, had afforded Rosa to partake in a rewarding social event, from which her musical self emerged, and where she became an equal partner in the jazz band of three.

Sound and emotion

This relational work through vocality also proved its merit on the affective-emotional level. Sound is processed through the senses and felt and experienced (through vibration) in the body, as it passes through the bones, tissues and cavities of the body (Ihde, 1976). The voice performing and the body experiencing sound is a process mediated through sensory perception, and it is closely intertwined with affect-emotion (Kapchan, 2015).

Case description V (Layer 2): Tiny

Singing showed to be an effective medium to solve the deeply felt upset which one of the women (Tiny) was experiencing when we were in the living room. She came in crying, telling everyone that she had received the news that someone in her family had died. She had heard the news indirectly and was waiting for further news of who had died. She then told her recurrent story of the circumstances when she had suddenly lost her husband, as

well as a few other close family members. The uncertainty about who had died this time was unbearable for her and her sobbing intensified her emotions. She was there on her own in the middle of the living room and did not have a listening ear to direct her sorrow to. The singers were asking what the matter was and the care staff said that they already told Tiny that what she was saying was not true. "It's all in her head," they said. Marjolijn sat down next to Tiny and listened to her. Then one carer went to Tiny and addressed her. The carer was at a three-meter distance and told her firmly and emphatically that what she was telling was *not* true, that she needed to stop crying and that she could relax now. She then turned around and went back to work in the other room.

Tiny kept on sniffling and repeating the upsetting news. Although Marjolijn tried her best to confirm that everything was cleared, Tiny stayed inconsolable. Marjolijn then resorted to humming and singing songs for her. The sounds were gentle, soothing, and gradually they permeated through to Tiny, who stopped talking and crying. Marjolijn connected the songs to the actual feelings of Tiny. They were about love and being loved; the narrative recognized its profundity and importance. Tiny surrendered to the sounds, which made her listen to the narrative. Slowly, Marjolijn was able to reach her. The feelings communicated through the vocal tones and timbres and which were enhanced by the narrative caught on through affect. They carried the message through feeling, and Tiny was eventually not upset anymore. At the end of our stay, I noticed that Tiny was back at the communal table, involved in a chat with the other ladies. The incident showed how the semantic content of the words conveyed by the carer did not get through to Tiny, while Marjolijn's compassionate approach eventually found resonance with the embodied sadness of loss that Tiny keeps on reliving. It showed the significance of the bodily and affective aspects of the voice, not only influencing what we think about or through it, but also what we know by feeling it.

Layer 3: Improvisation as Design or Technology

In the previous part, we focused on the sonic experiences in which the singers involved the residents, as a way of exploring what their vocal practices afford and how they operate. In this part, we look at how they are perceived by the different subjectivities as they are mediated through listening. We attend not only to what these unfamiliar sounds evoke, but also to their potential for reordering or shaping new relations between people, and people and their environment. Where the previous part focused on how sound was handled in an exploratory way, we look here at how sound is deployed strategically – despite it being an iterative process. We discuss how the Genetic Choir uses improvised music as a form of design or technology to reach certain ends.

Situating the terms of design and technology

For this discussion, we follow the insights of Ingold (2010, 2013) who argued for a broader understanding of *design* than the way in which it is utilised in contemporary discussions of art and technology, as the imposition of form upon the material world by an agent with a design in mind. He proposed assigning primacy to the processes of formation rather than the final products. This opens up design as social action, as the many ways in which people intervene, directly and indirectly, in the lives of others. In this conception, it becomes possible to recognize the voice work by the singers as design. This shifts the overly materialist focus of design and places interventions that work with less tangible media as sound on an equal footing with disciplines such as product design and architecture,that receive such high esteem in "design thinking" (Dorst, 2011).

The possibility to view improvisation as technology is argued by Dell (2004) who discerns between first order and second order improvisation ("Improvisation 1. und 2. Ordnung"). The first is what Dell calls "improvisation in repair mode," which is when we

have to improvise because things don't go as planned. The second order however, is the action model ("Handlungsmodell") of improvisation, or improvisation technology. "Improvisation as a technology recognizes disorder and attempts to deal with the potential that exists in a situation to act. Improvisation then means using the materials of reality to work and at the same time help shape this reality" (Dell, 2004, p. 9).

The crucial difference is that within improvisation as technology, disorder is embraced and recognized as a constant part of reality, not as something to be repaired. While accepting the situation as it is, the actors involved work proactively towards finding new, and often surprising forms of order and meaning with the material at hand.

The main devices that the Genetic Choir employs within the Stem&Luister project on a strategic level are *ensemble singing* and *(instant) composition* – of which the latter is the ensemble's central working principle.

Ensemble: Transforming atmosphere

In the first example we present here, we focus on deploying the singers as an ensemble. It refers to working with multiple singers, as in the sense it is customarily used in practical choir work. But here, it is launched as a term to cover the singers' particular way of developing resonance with the surroundings, and all the elements it consists of, whether inanimate or human, as an intentional process to eventually create the conditions for relationship and meaning.

A critical dimension in the singers' work is awareness and transformation of atmosphere. The first few times they had visited the living rooms, they used to trickle in and mingle with the residents as naturally as possible, which was according to their ideas about music and their intention to investigate its merits beyond performance. At the same time, it aligned with the general concern that people living in institutions do not receive sufficient individual attention. Yet, they were slowly starting to change their approach in how they entered the living rooms, as they wondered if that would make a difference. It showed that coming in as a group, either silent or singing, made it possible to affect and operate on the atmosphere. While the trickle-and-spread approach had led to individual exchanges or clumps of concentrated activity, it also had the advantage of accommodating the necessary sensitivity to the existing atmosphere.

Their ensemble presence, on the other hand, had a far wider reach into the environment, as it generated a feeling that enveloped the entire space. This ensemble attention could be generated by the singers either entering gradually during the visit (starting from the trickle-and-spread approach) or by a collective entry that still could be inconspicuous but in which the singers applied a spatial and auditory awareness of being an ensemble from the start. With this ensemble presence, it was thus possible to transform the daily-space (atmosphere) into a performance-space (atmosphere) where something is happening on another level, and which is perceived by everyone in that space. Their change in approach should not be confused with performance in the traditional sense, as unidirectionally presenting a song to an audience. Rather the singing was in constant resonance with everybody and everything present in the room. Each and all played an active part in the eventual shaping of the song, through the way people responded to it as well as how, for example, the walls echo off the sound or how the furniture channels it through the interior. But this attention or presence of being an ensemble could even be sensed when no sounds were uttered (yet).

Case description VI (Layer 3): The "sleeping" living room

On one occasion, when I was able to follow such a process, the situation itself already demanded a different entrance from the singers. Before they went in, they peeked and saw that everyone was asleep. The people appeared all the more inaccessible as the music from

the radio was playing in an otherwise empty space. After discussing what to do, they took the decision to start with the other living room, but when they arrived there, they were confronted with exactly the same situation. There was no radio to accentuate the felt absence, but the air was thick and the atmosphere heavy. The singers then decided to enter as a group while singing and see what would happen.

They started very softly, tasting the atmosphere, tuning in to each other as their voices filled the space. They carefully looked at the residents' reactions, adjusting the tones while they moved further into the room and allowing themselves to become part of the scene. I was struck by the beauty of the sounds and felt how increasingly charged the space became. There was a certain strangeness about the event, caused by the dissonance between the singing and the people who did not show any sign of waking up. The sounds seemed to be taken to a higher, spiritual level. Susanne, one of the care home's artists (a dancer), was there as well and later she put into words what she had felt:

> *Being united, only by listening already, and this awareness of … vibration that can be felt there. And when it suddenly becomes so harmonious, then it becomes almost divine. I thought: "Oh they are sleeping, but then, what if they go along (with the sounds), then they are leaving. Yes, then perhaps they are dead then." Sometimes it gets at me a little…*

Thomas: [laughs]

> *Susanne: It does have such a dimension for me, yes, the infinite … and that moves me. It gives me goose pimples. Beautiful, so beautiful, that dimension that is touched on.*

> *And they, who are also coming so close to that dimension already … I don't know…*

What Susanne described was that the singing had created a space, and mood that seemed to affect everyone present (Böhme, 1993). The singers had started from the situation as they encountered it, taking care not to disturb the residents when waking them up. However, as they adjusted their voices to the surrounding conditions, and each other, their singing changed and took on a different feeling. Through such a process of attunement (Stubley, 1995), they did not surrender to what the atmosphere originally emanated but were slowly transforming it. At first letting themselves become affected by the situation but at the same time saying perceptive to their own sensations, they increasingly projected their voices and selves into the room. What was first more a process of attentive discovering changed to purposeful composing and this enabled them to modulate the slumbering and still atmosphere to a moving and imaginative experience.

Luis was the first to wake up. The subsequent events revealed another characteristic of an atmosphere, its precariousness (Böhme, 1993). This showed the work it requires in order to control or use atmosphere. Maintaining or transforming atmosphere involves effort and is intentional. Although invisible, and at times extremely mutable and therefore intangible, it is an important carrier of social and environmental conditions that can influence wellbeing. Atmosphere is an unmistakably important ingredient for the relational and communicative conditions the singers are aiming at and to which they increasingly target their experimental work. As the singers aim with their performative-ensemble approach to make interactions possible that would not (quickly) happen in a day-to-day atmosphere, it matters whether their strategic manipulations on this level are recognised by the care staff, as the following example shows.

Luis, the former jazz percussionist, was straightening up from his forward leaning position and made a noise that was difficult to place. It could be interpreted as a cough, but then again, its timing did not match an involuntary cough. The sound seemed to somehow follow the pattern of the music. The carer in the room had just retreated to the sofa and was busy on her phone. When she heard Luis, she got up and hurried towards

him, asking him if he was alright. He looked up at her, dazed, for a moment. She asked him if he wanted something to drink and he started telling her something, but she did not understand what he meant. She went to the fridge and came back with two kinds of juice from which he could choose. Again, he tried to tell her something, but she did not understand him. She held up the two juices for him and eventually he pointed at one of them. This incident also showed how atmospheres, although creating an enveloping feeling, requires active participation for people to become affected. The carer had been absorbed into the virtual world of her phone and had no attention for the sounds in the room, considering what was going on as outside her field of work. She did immediately react to what she perceived as coughing by Luis and thus falling within her responsibility. Her actions were normalising, as she resorted to the routines of her care practice, with which she wanted to bring Luis back to the everyday. But she was oblivious to the meaningful resonances that the artistic work unmistakably had for Luis.

The discussion afterwards showed the following exchange between the team of singers:

M: *… when we switched slowly to the room with Luis, he was somehow, I felt he was crying, but the nurse thought he was choking.*

Y: *myself and Th: he was coughing…*

M: *He was …*

Y: *…but he was also making music with his coughing I saw.*

G: *K: Yes.*

K: *Yes it was amazing.*

G: *… he was moved.*

Y: *It was intentional for sure. He could not do it by accident in that way…*

G: *Yes.*

Y: *He didn't do it by accident, it was a pattern. He was coughing…*

Th: *Really?*

Y: *… in a pattern.*

Others: *Yes, yes…*

Y: *… like uh h uh uh [reconstructs it rhythmically]*

G: *I also had that feeling.*

M: *… can I correct, …because we came in first…. he was moved as far as I am concerned. It was not coughing, it was… so confusing, he reacted as if he was coughing but, and thought oh, I'll let it go …*

K: *… and he was …I think he was moved, that was my feeling… She [the carer] was: "Oh, well yes, OK, I just give him something to drink, not that tension now." She wanted to just break the tension somehow….*

S: *…it was rather clumsy. I also felt it, she carried on with these juices, like I have to do my work, that's how I felt it… So I thought eh, we just tried to create such a nice atmosphere, and all of a sudden that reality became so tangible. I did realise, she also needs to do her work, because I am*

aware of what she does. But is she also aware of what we are doing? That is a big question mark.

(Instant) composition

The main principle which underpins the choir's vocal experimentation is improvisation, in which they find both a conceptual foundation and a working device for their vocal practice. Improvisation enables them to tackle the varied materials that make up their work that crosses the boundaries of music and social life. The improvisatory stance is also reflected in the wide variety of people the choir attracts. The diversity of backgrounds, skills and personalities the singers bring with them are seen as resources to stretch, amplify, bend or to be used in any way they add most creatively to the compositional process. By preferring the term "instant composition" above "improvisation," as explained further below, the singers stress that they understand their interventions as belonging to the realm of performance, rather than the realm of, for example, arts-based therapy. This has far-reaching implications for the way they see themselves in relationship to the residents, seeing them not as receivers of their interventions, but as co-builders of a moment, or of a piece of performance art.

For Genetic Choir singer Kristien, when she took part for the first time in this project, she had to find out how she would best fit in. In her case, that became rather to stand out in the collective effort. This already started when the singers made a composition among themselves before they entered the living rooms, which prepared them with the necessary mindset and sensitivity for the vocal work on the floor. Kristien has a particular interest in music's relation with language and especially in these in-between areas where language and music can be creatively played with. So already in this preparatory improvisation, she showed to be actively probing what her contribution could be later in the living rooms. She made her presence felt, softly, by pronouncing something that sounded like a word, sensing how it would fall in between the sounds of the other singers. While they became all ears as they continued with the composition, Kristien added her material to it. First, she uttered a single sound sssssssssssssss, which developed into a ssssssscccccchhhhhhhhh, tasting every letter in her mouth, and with a low voice, she released the word that she was vocally shaping: sssssssssssscccccchhhhhhhuuuuuuuuuuuuuurrrrrrrrrrrrpapier (sandpaper). She felt, tested out, her particular addition to this situation, which eventually resulted in a fascinatingly dissonant composition, which started to crack and screech and scour and howl from all sides.

The improvisations that the Genetic Choir sings, whether amongst themselves during warm-up or in interaction with the elderly in the living room sessions, are what they call *instant compositions*. This term implies a break with the traditional musicological ontology of music that conceives of music as a "work," an ideal self-contained object, taking the form of the written score (Clarke, 2012; Nettl, 1974; Small, 1998). The term instant composition states that for them, improvisation is not in opposition to composition, which means that they operate from a totally different understanding of what music is and what its values are. For them, music originates in performance, where it is composed and instantiated by the same person. This view recognises those characteristics and values that were attributed to composition, in fact to play an equally significant role in improvisation. And by acknowledging those same structural and musical operations in improvisation, it brings improvisational practice onto the same level of esteem as composition.

Case description VII (Layer 3): A hear play

In what follows, I describe the musical encounter that took place when Kristien went along to the residents. For more clarity in the interplay of roles we will add here an (R) behind each name if it concerns a resident rather than a Genetic Choir singer.

At first, Kristien had been scanning the surroundings, taking in the peculiarities of the

place and getting to know some of the residents. Later on, she moved to the table where I was sitting with Marjolijn, who was trying to make contact with Nelleke (R), while at the same time attenuating the verbal presence of Elsa (R) at her other side. At the opposite side, Arnold (R) was sitting and, in his characteristic distanced way, was observing what was going on. When Kristien arrived, she looked at Arnold (R) and showed her admiration for his enormous moustache that reached down to the corners of his mouth and took this as an opportunity for a chat with him. After a while, she went to sit down at the table and had a few more exchanges with all of us. At one point, the moustache triggered the song: "Al die willen te Kaap'ren varen" ("All those who want to sail to the Cape," a traditional Dutch song). The refrain goes:

> *Al die willen te kaap'ren varen, moeten mannen met baarden zijn*
>
> [All those who want to sail to the Cape]
>
> *Jan, Piet-Joris en Corneel, die hebben baarden, die hebben baarden*
>
> [Jan, Piet-Joris en Corneel, they have beards, they have beards]
>
> *Jan, Piet-Joris en Corneel, die hebben baarden zij varen mee*
>
> [Jan, Piet-Joris en Corneel, they have beards, they sail along]

We sang the song with deep, rough voices. The atmosphere was set, everyone was involved and enjoying the singing session. At that moment, both Thomas and Yankı arrived, who also happened to have (although more subtle) beards that day, and the song was sung again. Their low voices added to the effect and we started pointing at the three bearded men next to each other at one side of the table, when we sang "Jan, Piet-Joris and Corneel." But the end of the song was not the end of the musical encounter. It continued, but in a different form.

The transition to the next phase was set by Thomas' dark exclamation:

> *Hoooooooo!!!!!*
>
> *Yanki laughed*
>
> *Thomas carried on mimicking the waves: Sssshhhhh, pssssssjhhhhhh*
>
> *And the wind: ffffffwwwiiiiiiieeeeee*
>
> *Waves stirred up by the howling wind: Tshoeoeoeoeoeoe- whoeoeoeoeoe!*
>
> *The sounds of the ship's wooden structure, creaking in the restless conditions: Njeeeeeeeee-eeeeeeeeeuuuuuw- weeeeeeh-hmmmmmmm*
>
> *Yanki added some forceful waves to the picture: Zzzzzzzjjjjjhhhhoeoeoeoeo wwww woommmmmmm*
>
> *Kristien: Tsssssswwwssssshhhhhhh*
>
> *While producing the sounds, their upper bodies made circling movements following the rhythmic movements of the sea.*
>
> *Then Kristien made a bowl of her hand next to her mouth and dramatically shouted with a subdued voice: Watch out, otherwise we'll capsize!!!!!*
>
> *Hoist the sails men!!!*

Thomas and Yanki continued to support her with the surround sound: Pssssshh, sssshhh, wwwshhhhsssssshhhhwwsssss

Elsa (R): Nooo-oooo. Then leaning toward Nelleke (R): We are leaving now, are you coming along?

She beckoned with her head: Are you sailing with us?

Kristien: *Step on boaoaoaoa-* (downward glissando) *oaoaoaord!* Kristien shouted again while creating an echo: *Come sail aloooo-oo-oo-oo-oo-oong….!!!*

Yanki created an ominous *Eeeeeeeeeeee-eeeeeeeee-eeeeeeeeeee-eeeeeee*

Kristien hoarsely chanted: *On to the feroOcious, and wIld sea*

Thomas acted out the lapping waves onto the ship's hull: *Oeoeoeoe-waaaaah, shh, ppppsssshhhhssss, ffffffppppphhhhhoooo-wwoooo*

Marjolijn sang meanwhile to Nelleke in a melodic tone: *Where are you going, where are you going….*

Thomas: *Psssshh, sssshhh, wwwshhhhsssssshhhhwwsssss.* He then interjected the sharp calls of the gulls: *ah -aaaaaaah!*

And the growing force of the swelling waves on the hull: *duuuum duh doe -oemmmduuh, oeffff-uuuuumhhh duh duuuuumh-uuuuh*

Kristien shouted: *In – the – dis-tance – an – is-laaaaaand!!!!*

In – the – dis-tance – the – sunnnnnnnnn

In – the – dis-tance – a – palm – tree, and – a – beach

In – the – dis-tance – a coco-nut – on – a – tree

Chop – it – DOWN

And drink it whole

On the brown broth

Gaaa-aaaaa

Maaaaaa-aaaaarrrrrrrr with your whip

If you want to die

Watch out – ssssssssshhhhhhh

René (R) opened the door from the garden and entered the living room.

Arnold (R) shouted to him: *They're just as well letting you drown in here!*

Kristien: *We just as well let you drown in here, if you don't watch out.*

Then Arnold (R) to René (R): *Watch out, but not on your birthday, these jokes!* (It was

Rene's birthday that day.)

Everyone was laughing

Elsa (R) commented about Nelleke (R): *She loves this.*

She fell silent, looked towards the corridor and shouted: *René are you coming to listen some more?*

This gathering had developed into a true acoustic play. It had developed from the material at hand, with at the centre a silent man with an impressive moustache, the people at the table who were already open to the unusual sounds that Marjolijn had offered them, and the lighthearted atmosphere that Kristien had cultivated on the basis of her casual approach in meeting Arnold. The association of beards with toughness triggered the traditional song, with which most are familiar in the Netherlands. When Thomas and Yanki joined in, the singing developed into a dramatic performance, with the table functioning as boat and the people around it as passengers. It was "found material" that provided the basis for the instant – and gradually evolving – composition, which then allowed to be further developed with sonic effects, and a lyrical plot which was co-produced with all who participated.

This empirical description provides a very different perspective on the nature of music, its function and value, compared with the work-based understanding of music (Clark, 2012; Small, 1998). The singers' practice showed that they take the existing conditions in which they operate as their material. From there, they build a musical encounter. This limits them in the way that a care institution is socio-historically conditioned, but on the other hand provides them with a unique context full of unheard voices. During the process of the acoustic performance, the flow of the plot was co-constructed through Elsa, Nelleke and Arnold's active participation. The play entailed a variety of emergent interactions that moved the narrative and the sonic meanings forward. What would traditionally count as extra-musical digressions, such as the verbal commenting or the gestural qualifications, here clearly appeared as essential constitutive components of the event. These musical encounters afford agency in a jointly produced musical experience, and make it possible to recognize them for what they are: part of social interaction. And lastly, the notion of instant composition not only informs the idea of improvisation as technology (see above), but in reverse, improvisation sheds light on the meaning of composition as well. This improvised play was in fact an exercise of designing. It was carefully composed, but in an iterative process that developed progressively, without anyone knowing where it would take us.

Discussion

Now that there is greater awareness around dementia, a lot of adjustments have been made in care homes to accommodate the specific needs of older people with dementia. The models through which these new care ideals were formulated were best at providing guidance on a more theoretical level. The translation and actual implementation of the ideals they had formulated were happening on the ground, in practice, with or without accompanying research, to match the specific local circumstances. Finding solutions for the challenges that arise in the daily care for people with dementia care is an ongoing process, and this often requires skills and sensitivities that are not just a matter of simple application into practice (Dewing, 2004; Eggenberger et al., 2012).

The challenges one encounters in practice tend to be more complex than the guidance in theoretical models is capable of tackling. In such complex situations, Genetic Choir can help loosen those issues that are stranded in habituated understandings. Their holistic approach can operate at multiple levels, which we have unravelled through the analytical presentation of the findings into the three layers where the focus is initially on research and questioning the existing environment, then on the engagement of people through

vocal experiences beyond verbal rational exchanges, and third, where this is taken a step further through more strategic modulation by means of, for example, ensemble, atmosphere and instant composition.

In the first phase of the project, the singers proceeded in an ethnographic way to explore the living rooms. They initially blended in the usual routines that regulated the afternoon and they developed a sense for the people and the environment, mainly through listening. Gradually, they familiarised the people with the voice work that they had come for, which caused a breach with the usual sounds heard in the living rooms. In these carefully arranged spaces, based on a considerate effort to accommodate the needs of the people, a lack of sonic awareness (Augoyard & Torgue, 2006) became obvious.

This provided a critical stance towards the issue under examination and revealed what is taken to be self-evident in the day-to day care context. The focus on representational verbal language is maintained here (Weidman, 2014), despite most residents having severe speech and cognitive impairments. Although carers learn to interpret a great deal from the residents' non-verbal behaviour, this situation still prevents them from exploring more creative ways of communication, that would allow them to get through to those who are difficult to reach.

The second layer we described was directed towards involving the residents in a sound-making and singing experience, which the singers based on meaningful engagement with residents and the environment. They elicited songs and other musical materials from the residents' pasts, while listening to how these resonated with embodiment and feeling. The singers created variations to these songs, or introduced sounds that were less familiar in an institutional context. In particular, they exploited the material aspects of sounds, their sensory qualities, to get through to those people who were more socially withdrawn. These exchanges facilitated mutual recognition and provided them with agency (Weidman, 2014). They were often effective means of communication on an affective-emotional level.

The third layer of the Stem&Luister interventions can be described as strategically-directed experimentation and composing. This entailed a dialectic process of attunement where the voice and the existing conditions mutually influence each other. In this way, the artful use of sound (or silence) and song can modify atmospheres and eventually have an impact on mood or create a feeling of belonging. Drawing on the characteristics of the ensemble – as opposed to working one-on-one with a resident – offers unexplored opportunities to use atmosphere strategically to affect and transform an environment. This process starts off from sensing an existing atmosphere and works by applying the attitude of an improvisers' ensemble towards transforming the atmospheric conditions. It results in a tangible shift of the environment where other things can be expressed and experienced than in the day-to-day atmosphere that governs most moments in a care home. Improvisational practices (Bailey, 1993) which are key to their way of working, gives them the opportunity to connect to sudden openings that allow for contact with people who are otherwise difficult to reach, and to respond creatively to unexpected engagements. The ensemble's philosophy of musicality as social practice is embraced by the notion of instant composition, which is an essential notion and skill to address personhood, relations and diversity. Recognising the strategic and compositional efforts that go into their use of improvisation allows one to view their work as a design or technology, in the sense that it realises a change in relationships among people and between people and the environment. However, here, different from what is mostly associated with these terms, this is happening through well-chosen human interaction devices (ensemble, instant composition) and through subjective musical contact between real-life people.

The improvisatory exchanges that occurred between the singers and the residents attest to how meaning was taking shape from the various relationships that came into being during the event through the dynamic and changing interactions between the participants and the particular opportunities afforded by the situation. These improvisational

exchanges could develop from the insights the singers had gained from the sonic research they had been doing in the living rooms, through the attentive listening to the acoustic surrounding, and the gathering of sound materials from their interactions with the residents. The latter were utterances or sounds associated with particular persons, or derived from their pasts, which emerged sometimes intact and actively recalled, or as scraps that had materialised apparently accidentally. These could be straightforwardly musical, such as rhythms, techniques or melodies, but also found physical or social materials that the singers turned into music.

This improvisatory practice, in close and immediate interaction with the lives of the residents, and the routines of the place where they spent their remaining days, can easily be mistaken for another frivolous initiative to give the residents perhaps a momentary distraction to get them through the day. This is how the activities appear from the various discourses that dominate traditional discussions of music. These reify music to an independent *work* (Clarke, 2012; Small, 1998) with objective formal characteristics and consider it as distinct from the relational context in which it is created and experienced. However, the accomplishments from these activities rather underscore the critical perspectives that have been formulated by scholars such as Small (1988), who claims that music is not an objective thing, which contains the musical material, but rather is an activity. He argues that music can be best understood as a verb instead of a noun and introduces the term "musicking." He explains: "To music is to take part, in any capacity in a musical performance, whether by performing, by listening, by rehearsing or practising, by providing material for the performance (…) or by dancing (p. 9)."

Such a view breaks with the cognitivist perspectives on the mind, as asserted by Pinker (2009) and others, who maintain a firm separation between the mind and external environmental factors. These are models that reflect the mechanistic and technological worldview in which musical experience is understood in terms of a stimulus-response procedure: it comes from an *a priori* existing environment and then gets processed within the brain. In these models where music is relegated to a separate cultural domain, music is supposed to fulfil an inessential role compared to other capacities as language or rational thinking, which are necessary for survival. Pinker summed up the significance of music by comparing it to cheesecake, as being pleasing but essentially meaningless.

Small's (1998) view, however, recognizes music as a relational experience that emerges and transforms through active and embodied engagement with one's surroundings. Here, music is part of the way living organisms interact with the environment and that enables them to enact a viable habitat (Maturana, 1980, 1992). Musical experience then appears from the evidence that supports such an inactive approach, as a fundamental way of creating a world that is conducive to our survival and wellbeing. In this line of thought, this paper sees the significance of the work conducted by the singers of Genetic Choir with the people with dementia with whom they worked. With the musical experiences in which they involved the residents of the care home, they touch on those sensory faculties they still have available to participate in social life, to communicate, and to maintain and assert a self. The way the singers have connected with the residents and made them part of a sonic performance environment attests to musicality as an untapped resource for the health and wellbeing of people with dementia, and other conditions that involve cognitive or speech impairments. Taking such initiatives seriously rather than simply as pleasure technologies can help question engrained assumptions about what is understood as good care and about the merits of music, and of the arts more broadly, that are deployed to help solve societal problems.

About the Authors

Marjolein Gysels is an anthropologist with 30 years of research experience. Her background spans health care research, social science, arts and humanities, with the common thread of the focus on care in her work. She gained experience in global health through her work in multidisciplinary research programmes on HIV/AIDS care, and malaria prevention across Africa and PNG. At King's College London she developed expertise in palliative care, long-term care, care for older people, and people with dementia. She developed collaborations in the field of the arts and artistic research. She led and conducted numerous projects with artists and other stakeholders on societal challenges as ageing, dementia, diversity and inclusion.

Chris Tonelli is Assistant Professor of Music in the *Popular Music, Sound and Media Cultures* specialization of the *Arts, Culture and Media* program at the University of Groningen. His book *Voices Found: Free Jazz and Singing* (2020, Routledge) examines the history of improvisational soundsinging and theorizes the social effects of human vocal sounds audiences hear as non-human. Other recent work includes articles on video game music and identity (for the *Cambridge Companion of Video Game Music*) and reception of scat singing (for the Cambridge volume *Jazz and American Culture*). Dr. Tonelli is also active as a community music practitioner and researcher through his conducting and organization of improvisational "Vocal Exploration" choirs.

Thomas Johannsen is a performer, teacher and researcher in the field of interdisciplinary improvisation, with a special focus on the human voice and self-organisation. He is the artistic director of Amsterdam-based vocal improvisation ensemble the Genetic Choir. His work often connects questions of relating to the world around you with artistic questions about sound and music. Thomas teaches internationally and has brought his take on embodied voice improvisation and instant composition to countries such as France, Italy, Czech Republic, England, Germany, the United States and Japan. He is also co-founder of WhatIIIF? – an international research festival of interdisciplinary improvisation that is nomadic, with a yearly edition in a different European city.

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