

'Leading' as a strategy in the performance-practice of contemporary solo violin music

Maria Puusaari
Arts University, Helsinki, Finland

ABSTRACT: The starting point for the present practice-based study was my observation of the diverse conditions regarding the focus-of-attention that occurs during chamber ensemble and solo performances of contemporary art music. As the violinist leader of a contemporary music ensemble, I focus my attention externally on multidirectional musical interactions with my fellow musicians and the audience. In contrast, when I am in a solo performance, I tend to focus more on my own internal, physical actions. More satisfactory musical results in leading interactive ensemble performances induced a hypothesis that ensemble leading practices can also be applied as a strategy to improve a solo performance. In this article, I provide a leading-based approach to explore ways in which leading can be used as a strategy in the performance-practice of contemporary works for solo violin and address which specific ensemble leading gestures can be applied in a solo performance. I suggest that leading in a solo performance serves two purposes: leading my own actions, and leading the audience to perceive the music and participate in the listening.

Both *Toccatina* for solo violin by Helmut Lachenmann and *Gesti* for violin, electronics and video by Jouni Hirvelä feature soft dynamics and extended playing techniques that demand innovative performance strategies. I reflect on the performance-practice of these two works and demonstrate how leading can be used to emphasize temporal structures, dynamics, articulation, phrasing and embodied narratives of music. The concepts of attentional focus and musical gestures inform the theoretical context for this study.

KEY WORDS: Attentional focus, contemporary music, gestural communication, leading, listening

INTRODUCTION

The starting point for the present practice-based study was my observation of the discrepancies between my performances as a leader of a contemporary music ensemble and as a solo violin performer. When performing as the leader in a contemporary music ensemble¹, I focus my attention externally on the multidirectional musical interaction within the ensemble, which reduces my nervousness and excessive control over my own performance. In a solo violin performance, however, I noticed that I tend to focus my attention internally on controlling my physical actions, playing techniques, intonation and sound quality, which sometimes increases my sense of nervousness. As a consequence, the musical results are affected by these different modes of attentional focus, and I have noted that I am often more satisfied with the ensemble performances than my solo performances.

My observation is in line with studies which show that focus-of-attention, in other words, what one is thinking about when performing, has a great impact on motor learning and the performance of different skills (Wulf, McNevin, & Shea, 2001; Vance, Wulf, Töllner, McNevin, & Mercer, 2004; Wulf, Töllner, & Shea, 2007; Mornell & Wulf, 2019). Under the external focus-of-attention condition, attention is directed to goals that are further from a performer's own body, whereas under the internal focus-of-attention condition, attention is focused on inner sensations or on goals in close proximity. The *constrained action hypothesis* by Wulf, McNevin, and Shea (2001) suggests that focusing attention externally on the effect of a movement promotes more unconscious, efficient, effective and automatic movements than focusing attention internally on a bodily movement itself. Moreover, internal focus-of-attention may cause conscious interference with the motor control processes that constrain automatic control processes (Ibid. 2001).

Leading an ensemble and playing together with fellow musicians seemed to be the crucial factor in generating better performances. That led me to wonder whether I could use leading and the leader's attitude as a performance-practice strategy and a mode of interaction and communication with the audience. A solo performer does not need to lead anyone in the same manner as an ensemble leader does; therefore, leading in a solo performance seemed to be a rather abstract, metaphorical concept. I further wondered which chamber ensemble leading techniques could be applied to leading in contemporary works for solo violin.

Leading refers to conducting or directing fellow musicians and synchronizing chamber ensemble performance with physical gestures while playing an instrument. Leading is a multimodal, crossmodal and multidirectional gestural skill that simultaneously employs various senses and bodily gestures to share and elicit information on performed music. Leading can be divided into temporal and expressive leading techniques and gestures according to its functions in expressing several musical features. Temporal leading indicates features such as pulse and beat patterns, beginnings, endings, tempi and time change, whereas expressive leading indicates features such as articulation, affects and characters of music, dynamics, musical gestures and phrases². (Puusaari, 2021).

¹ Normally, a leader uses physical leading gestures to cue, guide and synchronize ensemble playing both in chamber music groups and in conductor-directed ensembles.

² In the context of this article, 'expression' refers to the expressive and affective qualities that characterize a

My extensive experience in leading varied ensembles suggests that the complexity of musical material in contemporary and Western Art music³ demands more diverse leading skills than those required in leading the standard repertoire of Western Classical music⁴. For example, a contemporary work may not have a clearly perceivable pulse or rhythmic and harmonic patterns that would support the leading and synchronization of the ensemble. Generally, the need for leading depends on the experience of the group and the familiarity of the music performed. (See Puusaari, 2021). For example, an experienced, professional string quartet specializing in contemporary music has developed its internal leading strategies and may not need indicated leading. In contrast, an inexperienced ad hoc group may need indicated leading of the pulse and beats throughout the work.

My first experiences as a leader were rather discouraging. While still a student, I joined a contemporary music ensemble to expand my chamber music repertoire. However, playing the violin and simultaneously indicating the pulse, beat patterns and changing time signatures felt extremely difficult. Moreover, the physical requirements of extended playing techniques constrained my leading gestures. Gradually, I acquired a more multifarious leading technique by embedding the leading gestures into my personal playing style as one instrumental playing technique among many. For example, I used the metronome to measure my leading gestures to their correct pace and amplitude. Currently, I divide my professional activities between playing in a symphony orchestra as a permanent member and playing in a contemporary string quartet and a contemporary music ensemble. Occasionally, I perform more traditional Western Classical chamber music in various line-ups. In my solo violin projects, I focus on music composed after the Second World War. Moreover, I expand the repertoire by commissioning and performing contemporary works for solo violin, often featuring electronics, video, vocalization or other performative elements.

Hence, the present study emerges from my insider position as a regularly performing professional violinist specializing in contemporary music. My aim is to expand and enhance this specific field of performance by verbalising my tacit knowledge. I ground my study in music-related research on gestures and attentional focus in order to structure a framework for leading in a solo violin performance-practice.

My methodological framework is influenced by Barbara Lüneburg (2021), who combines her artistic performance-practice as a violinist with a careful qualitative methodology and data collection as an artistic researcher to produce new aesthetic and performative knowledge through music performance. According to Lüneburg, a performance is a powerful method to gain cultural, social, creative and philosophical knowledge since ideas,

performance or a piece of music. Performers' performative skills are based on their musical imagination and the ability to apply their playing techniques to implement phrasing, dynamics, articulation, agogics and timbral colours of the performed work.

³ In the present article, I follow the categorization by Rähälä (2021) and use the term 'contemporary music' to describe music composed by living, active composers. Hence, I categorize Helmut Lachenmann's *Toccatina* composed in 1986 as contemporary music. Generally, I use the term 'Western Art music' to describe the paradigm shift and development of new music composed after the Second World War. Hence, contemporary music belongs to the development of Western Art music. (Rähälä, 2021; see also Griffiths, 2011).

⁴ I use the term 'Western Classical music' to describe the era and music composed before the Second World War (Rähälä, 2021).

insights and bodily experiences emerge during the artistic researcher's creative process.

In the following sections, I begin with a brief review of the literature on physical gestures in music. Then I survey relevant music-related findings from the literature on focus-of-attention, and set out a theoretical framework from which to approach leading actions in a solo music performance. Finally, I reflect on my performance-practice through two case studies, *Toccatina* for solo violin (1986) by Helmut Lachenmann (b. 1935), and *Gesti* (2020) for violin, electronics and video by Jouni Hirvelä (b. 1982). My practice-based research methods are grounded in introspective first-person perception and reflexive comprehension to parse the phenomena arising from my performance-practice. Hence, the most important reference material I use is my body knowledge gained over the course of multiple rehearsals, presentations and performances: observations that emerged during practice were followed by a careful analysis that in turn led to testing new ideas in practice in order to achieve the performance goals. The data collection of the performance practice was based on self-reflective rehearsal diaries, audio and video recordings and annotated scores, against which I reflected on my embodied knowledge and aspirations on leading in a solo violin performance. I combined three perspectives: immediate observations made during the rehearsal process, the self-reflective perspective of the diary text, and the outsider perspective of the video recording.

PHYSICAL GESTURES IN NOTATION AND PERFORMANCE – CONVEYED BY PERFORMERS AND PERCEIVED BY THE AUDIENCE

According to Godøy (2006), musical sound is fundamentally related to and understood through physical gestures. Those gestures are used in multiple ways to produce and communicate music between the performers and with the audience. Physical gestures are by nature multifunctional, and a single gesture may have varied functions or metaphorical significations (Jensenius, Wanderley, Godøy, & Leman, 2009). In terms of embodied human cognition, perception of a sound evokes a mental simulation of multimodal gestural-sonorous images (Godøy, 2006). This means that multi-sensory features of bodily gestures “combine auditory information (hearing the movement) with implied visual information (imagining the movement), somatosensory information (feeling the movement) and emotional information (interpreting the movement)” (Kühl, 2011, p. 125). Moreover, gestures are organised in holistically perceived “chunks” (Godøy, 2006; Godøy, 2011), which form groups and sequences and shape the musical form and narrative (Kühl, 2011).

To better understand the multiple functions of physical performing gestures, Jensenius, Wanderley, Godøy, and Leman (2009) categorize them into sound-producing, communicative, ancillary, sound-facilitating and sound-accompanying gestures. Sound-producing gestures include both excitatory gestures such as hitting, stroking, bowing, blowing, and singing as well as modifying gestures such as modulations of pitch and timbre. Since communicative gestures are used to communicate with both the other performers and the audience, leading gestures can be regarded as a subset of communicative gestures. Multiple sound-facilitating and ancillary gestures are not directly involved in tone production, but they may support sound production. Sound-accompanying or sound-tracing gestures may include, for instance, dancing or marching and following musical features such as melodic, rhythmic and textural patterns or timbral and dynamic processes.

Instrument-specific playing gestures are learned during instrumental practice. In principle, optimal sound production is based on well-executed sound-producing gestures, and other gestures are preferably avoided and diminished from the gestural vocabulary. However, in addition to intentional and rehearsed gestures, a musical performance also includes unintentional physical gestures (King & Ginsborg, 2011). Along with sound-producing gestures, musicians also need a variety of communicative, ancillary, sound-facilitating and sound-accompanying gestures in order to perform with their fellow musicians and to communicate their musical ideas. For example, professional string quartet musicians use a wide range of bodily gestures, facial expressions, instrument movements, breathing, listening and reacting to aural information as well as a direct and peripheral gaze to “sense others” to communicate and interact with their fellow musicians and the audience (Boyle, 2015).

In Western Art music, musical sound and musicians’ performing gestures are essentially related with notation. Schuiling (2019) argues that the visibility of notation activates and mediates the performer's musical knowledge, sensorimotor skills and habits of listening. Furthermore, notational practices modify and restructure performers' relation to and understanding of their instruments.

The history of Western Art music gives evidence to the fact that new inventions in sound and playing techniques cannot always be expressed by means of the traditional, descriptive staff notation of Western Classical music. Instead of merely describing how music should sound, a more detailed prescriptive notation system was developed to enable composers to describe the method of making music and the performative process of “what to do with the mind, body or instrument in order to produce the sound of a musical work” (Kanno, 2007, p. 235).

Both descriptive and prescriptive notation provide multiple possibilities for variable gestural performances. For example, the violinist Peter Spisky (2017) approaches the traditional descriptive notation of Baroque music through two distinct gestural and sonic performance-practice strategies which he calls the *Soundist* and *Gesturist* approaches. A *Soundist* performer realizes notation through optimized sound-producing playing gestures that avoid unnecessary movements. For a *Gesturist* performer, performing gestures are an essential part of the interpretation, and notation is translated into variable bodily gestures and instrument and bow movements that express the musical structure and narrative of the work. Moreover, a *Gesturist* performer intentionally uses gestures to interact with the fellow musicians and the audience.

Typically, prescriptive notation is used to dramatize the articulation of visual and sonic features, such as theatrical playing gestures in Luciano Berio’s music (Kanno, 2007). In discussing the performance practice of Helmut Lachenmann’s *Pression* for solo cello, Orning (2012) argues that prescriptive notational practices emphasize physical gestures as the primary musical material rather than sound. She argues that prescriptive notation provides an opportunity for an intuitive visceral relationship between notation and performance, which “shifts the focus from the score as musical text to the action embodied in performance” (Orning, 2012, p. 16). This idea is developed further by the guitarist Stefan Östersjö (2016), who provides a gesture-based approach to the performance-practice of a contemporary music work by combining a thorough analysis of the score to exact measurements of his physical playing gestures, measured by motion capture technology.

After analyzing his performing gestures, Östersjö transcribed these same gestures into traditional Vietnamese instruments, performance choreography and video art. Hence, the original performing gestures generated by prescriptive notation were used as source material for a new sonic and visual art work.

In addition to notational practices, performers' ability to produce auditory and visual cues depends on their personal gestural styles and instrumental constraints (Davidson, 2012; Puusaari, 2021). Furthermore, performance contexts such as the venue and its size, performance format and the presence of the audience all evoke intuitively varied performing gestures. In an intimate space, the audience is closer to the performer, and even small performing gestures are effective and easily perceptible, whereas a large stage may elicit larger gestures (Caruso, Coorevits, Nijs, & Leman, 2016). To demonstrate the different musical outcomes provided by different performance formats, Kanno (2021) performed the same solo violin work both in the standard performance format in front of an audience as well as in a seated position among the audience. In the sitting performance position, Kanno projected the sounds less than in the standing performance position because she sensed less space around her. The seated position also reduced her sense of strength and control and led to a faster performance than that in the standing position.

Seeing a performer's movements may change how the performance sounds to the observer. In their meta-analysis of 15 studies based on the audio-visual perception of music, Platz and Kopiez (2012) argue that musical perception is based on the complex multi-sensory interaction of auditory and visual features, and that the visual elements of performance enhance the perception of music. Moreover, the study by Juchniewich (2008) underscores the importance of a physical gesture on listeners' perception of a musical performance. A professional pianist was videotaped performing along with a pre-recorded excerpt of Frederic Chopin's Etude, performed by Vladimir Ashkenazy. The pianist was asked to perform with three types of physical movement to explore the listeners' perception of the musical elements (phrasing, dynamics, and rubato) as well as the overall performance. The results indicate that the increase of the pianist's physical movements significantly influenced the performance ratings given by the listeners. Even though the audio recording remained the same in all performances, the "full body movement" performance received the highest total and overall musical performance scores, the "head and facial movement" performance received the next highest scores and the "no movement" condition received the lowest scores.

To study visual kinematic information⁵, Vuoskoski, Thompson, Spence, and Clarke (2016) explored the role of auditory and visual kinematic cues and the effect that sound and sight have on the observer's subjective experience of a musical performance. In their study, the observers evaluated video and audio recordings by two pianists who performed in three different performance styles. The "deadpan" performances received significantly lower ratings for emotional impact than the "normal" and "exaggerated" performances. Visual kinematic information also had an impact on ratings of loudness variability. Again the "deadpan" performance received the lowest and the "exaggerated" performance the

⁵ Visual kinematic information refers to visual information about performers' body movements and gestures (Vuoskoski, Thompson, Spence, & Clarke, 2016).

highest ratings. According to the scholars, non-auditory cues may communicate musical and emotional content of a performance because visual kinematic information affects the listener's evaluation of auditory performance cues.

Dahl and Friberg (2007) explored how musicians' bodily gestures express the four different emotional states of fear, anger, happiness and sadness. The observers were asked to watch video clips and rate the emotional content and perceived character of each performance. The results showed that happiness, sadness and anger were clearly conveyed through the performer's body language, whereas fear was not. Each emotion also had a characteristic movement style: anger was expressed by jerky movements, happiness with fast movements and sadness with slow and smooth movements.

These studies provide strong evidence of the impact that visual performance gestures may have on an interactive, multidirectional performance of music.

FOCUS-OF-ATTENTION IN MUSICAL PERFORMANCE

Even though defining different performing gestures may help develop an effective and articulated body language, focusing solely on gestures may interfere with or even prevent a musician from achieving an expressive and interactive musical performance (see Wulf, McNevin, and Shea, 2001). Complex skills and tasks in particular appear to benefit more from the external focus-of-attention condition (Wulf, Töllner, & Shea, 2007), which allows for faster and more economical movements (Vance, Wulf, Töllner, McNevin, & Mercer, 2004).

In the field of music performance, Duke, Cash, and Allen (2011) explored the extent to which an experienced performer's focus-of-attention affects the evenness of motor movements on a piano keyboard when the attention is focused on their own finger movements, the piano keys or hammer movements, or on the sound of the keyboard. They report that temporal evenness was affected by different focus-of-attention conditions and that the greatest evenness was achieved when attention was focused externally on sound. The sound produced in the performance provided immediate feedback for the performers and functioned as a movement goal similar to other physical movement goals. Therefore, attention focused on sound and auditory goals produced an effect on motor behaviour that was similar to focusing on distal physical goals. Interestingly, there was a significant difference between more experienced and less experienced pianists. The direction of the attentional focus had less effect on the experienced than on the novice pianists, whose performances clearly benefited from the external focus on sound and auditory goals.

In a study by Atkins and Duke (2013), the expert listeners evaluated the novice singers' tone quality better when their attention was focused on more distal targets such as directing their sound to the microphone, to their fingertips placed on their face or to a point on the wall. An internal focus-of-attention condition to sense the vibrations in the throat and the baseline condition without focus-of-attention instructions gained the lowest ranking. In a later study by Atkins (2017), the expert listeners concluded that the performances of trained singers were better when the performers directed their sound towards the back wall of the concert hall and aimed to fill the room with their sound than when they focused on internal targets and directed their sound to shorter distances. Atkins remarks that most of the performers were familiar with the instruction to focus distally on

their sound. In the earlier study by Duke, Cash, and Allen (2011), several participants actually had difficulty ignoring their own aural feedback on sound while performing. These observations demonstrate that experienced performers have learned to listen to and adjust the sounds they produce; i.e., they already use external focus-of-attention as a performance strategy.

The implication of these findings is that teaching strategies have a great impact on the activation of students' automatic and efficient motor processes and less conscious control processes. Treinkman (2021) suggests that vocal teachers should promote metaphorical, externally focused instructions before offering more explicit descriptions of internal body gestures. Using a metaphor may automatically focus attention externally since the description does not make a direct reference to the body. Furthermore, modifying even one word of the instruction may externalize the focus-of-attention. For example, rather than giving an explicit instruction on the position of the soft palate, the vocal teacher may instead provide a metaphor of smelling a beautiful rose, which automatically affects the position of the palate without conscious interference of body gestures.

Interestingly, a study by Stambaugh (2017) provides inconsistent results with those of previous studies. Stambaugh explored the effects of different focus-of-attention conditions on pitch accuracy, evenness and volume among the novice and experienced clarinetists. In both groups, more errors occurred when the attentional focus became more distant from the body. However, the experienced clarinetists were able to produce an even performance under all focus-of-attention and control conditions, even though the internal focus produced more accurate performances and the most consistent breath pressure and volume. In contrast, the results of novice performers differed from those of experienced players. On the first test day, the breath pressure of novice clarinetists was most consistent in the external focus condition on sound, and most inconsistent in the internal condition on fingers. On the second day, breath pressure became less consistent under more external focus conditions. Furthermore, the performances of novice clarinetists were more uneven under the external focus condition on sound. According to Stambaugh's original hypothesis, the external focus condition on sound should have produced more consistent volume. It was thus an unexpected finding that the internal focus condition on fingers provided more consistent volume. Stambaugh explains this finding through the *constrained action hypothesis* by Wulf, McNevin, and Shea (2001): internal focus on fingers liberated experienced players' other automatic movement mechanisms, such as embouchure and breathing. Stambaugh remarks that focus-of-attention has been extensively studied in gross motor but less so in fine motor skills such as performing music, and the results of the limited research focused on fine motor skills have yielded conflicting results on the effects of internal and external focus conditions.

Typically, musical tasks designed for research purposes are rather short and simple, lacking the expressive potential and musical interaction communicated in concert performance situations (Duke, Cash, & Allen, 2011; Stambaugh, 2017). A concert performance demands a different kind of preparation and concentration than short excerpts performed in research contexts. To broaden the generalizability of the previous music-related studies (Atkins, 2017; Atkins & Duke, 2013; Duke, Cash, & Allen, 2011), Mornell and Wulf (2019) studied experienced singers and instrumentalists who performed a well-rehearsed, complex musical work of their own choice before a test audience under

internal, external and control focus-of-attention conditions. The video recordings of the performances were evaluated by two expert listeners, who were not informed of the focus instructions received by the participants. The performances were rated in terms of technical precision and musical expression. The performances were considered better when the performers' attention was focused externally to produce an expressive sound for the audience instead of focusing their attention internally on finger or lip movements. Moreover, external focus of attention led to more musically expressive performances and higher technical precision.

Buma, Bakker, and Oudejans (2015) explored how elite musicians focus their attention and thoughts when performing under pressure. In their study, concept mapping and verbal reports were sorted into six categories: (1) "focus on physical aspects", (2) "thoughts that give confidence", (3) "worries/disturbing thoughts", (4) "music-related focus", (5) "narrow focus" and (6) "other". Results showed that in order to maintain a top-level performance under pressure, the most important focus categories were "music-related focus", "focus on physical aspects", and "thoughts that give confidence". Those three categories were essential for task execution, the latter two helping to deal with pressure. The category of "music-related focus" included a vast array of focus-of-attention conditions. The performers altered their focus from an internal focus on controlling technical and physical aspects of playing an instrument to a more external attentional focus including creative and communicative thoughts about their fellow musicians and enjoying the music itself. The reports indicated the importance of preparation, a good bodily playing posture and breathing as methods to feel physically grounded and confident. Altogether, elite performers seem to be able to utilize and alternate internal and external focus-of-attention conditions as a performance strategy to achieve and maintain a superior performance level under pressure.

To sum up, a performer's external focus-of-attention appears to produce more automatic, effective and efficient movements. Results in music-related studies on attentional focus are at times contradictory, but in general, performances under the external focus-of-attention condition were estimated as better both technically and musically compared to those that were performed under the internal focus-of-attention condition. Professional musicians are capable of subtly alternating between internal and external focus-of-attention conditions to reach their performance goals. However, to optimize attentional focus as an effective performance strategy, awareness of different focus-of-attention conditions should be included even in early stages of practice.

CASE STUDIES

Next, I explore physical gestures and focus-of-attention conditions within my performance practice of Helmut Lachenmann's *Toccatina* (1986) and Jouni Hirvelä's *Gesti* (2020). *Toccatina* uses a variety of extended techniques on the violin, and it has greatly affected both the aesthetics and performance practice of contemporary violin music. However, the field of writing for violin alone has diversified; hence, *Toccatina* is represented here as "a contemporary classic" of the solo violin music repertoire in Western Art music. *Gesti* by Jouni Hirvelä provides a very recent example of extended violin techniques, combined with electronics and video as well as performative elements such as theatrical gestures.

Prescriptive notation in both works provides an excellent opportunity to explore performing gestures as leading in a solo performance. In addition, both works engage with the “poetics of soft sounds”, which Kanno (2020, p. 6) defines in her article. Following from the idea that the performer’s focus-of-attention has a great impact on sound projection and quality, the full expressive power of soft sounds also depends on the performer’s performance strategies and instrumental, tactile and listening skills, which invite the audience to participate in the listening experience (see Kanno, 2020).

TOCCATINA BY HELMUT LACHENMANN

Helmut Lachenmann’s compositional concept *musique concrète instrumentale* describes the process of recreating instrumental playing techniques, where the instrumental practice of creating new sounds through experimentation with the instrument becomes the most essential compositional material (Lachenmann, 1996). The performance practice of Lachenmann’s music is based on meticulous attention to detail. It requires a twofold approach: a thorough understanding of the physical execution of playing techniques and gestures (Orning, 2012; Pace, 2005; Wilson, 2013), and concentrated listening and awareness of the significance of sound, which directs the execution of gestures (Albermann, 2005). However, to simply study the production of sounds in Lachenmann’s music is insufficient because “one has to live them to understand them” (Arditti & Platz, 2013, p. 11). According to Wilson (2013), Lachenmann’s innovations in sound and instrumental techniques re-build both the instrument and the instrumentalist.

The score of *Toccatina* is notated on two staves. The upper staff describes the actions of the right hand, while the lower staff describes the actions of the left hand. The indicated pitches are tapped and plucked with a bow screw, and the action produces delicate soft sounds. The strings are damped with the left hand chord. In the latter half of the piece, the violin body, bridge, tuning box and pegs are played with different bowing techniques.

Toccatina

Helmut Lachenmann, 1986

Example 1. Helmut Lachenmann: *Toccatina – Study for Violin Alone* (1986), opening section Edition Breitkopf 9174. Used by permission of Brietkopf & Härtel, Wiesbaden.

The challenge in *Toccatina* is to implement the prescriptive notation in the extended playing techniques that produce the delicate soft sounds and timbral colours. The successful execution of these violin techniques demands a concentrated interplay between the extreme listening and the control of the right hand technique such as balancing the weight of the arm, bow angle and intensity of the bow tapping. Not having perfect pitch, I had to learn the pitches as “atonal melodies” and to “sing” and “hear ahead”⁶, that is, to anticipate the forthcoming pitches in order to find their correct placement on the string with the bow screw. The execution of the extended playing techniques disturbed my internal sense of pulse and the temporal flow of the musical gestures because I had to carefully measure and practice the placement and touch of the bow screw to avoid accidental hits on the violin deck. I observed that ‘nodding’ the pulse with bodily gestures helped me to stabilize the overall temporal structure and to time the musical gestures. To strengthen my internal sense of pulse, I also practiced *Toccatina* with a metronome.

My first experience of performing *Toccatina* was in a rather large concert hall as a part of a mixed contemporary music program. Despite my scrupulous practice and experience of performing alone, I could not find a convenient performance strategy to perform *Toccatina* before an audience. That led me to wonder how I could improve my performance. I began to conceptualize leading as a mode of interaction in a solo violin performance after listening to and watching Jennifer Choi’s concert performance of *Toccatina*. The YouTube video of Choi’s performance underlined the significance of clearly articulated bodily gestures in emphasizing the musical phrases and the production and projection of soft sounds.

Since then I have performed *Toccatina* five times. The performances have included duo recitals in chamber music halls, an intimate art gallery performance as a part of a mixed contemporary music program as well as presentations in scholarly communities. I have observed my changing performance-practice of *Toccatina* ever since the first performance through memory, rehearsal diaries, score annotations and audio and video recordings of the concerts and rehearsals.

Approaching *Toccatina* through physical gestures expanded my images of sounds. This approach is comparable to Godøy’s concept of gestural-sonorous objects (see Godøy, 2006; Godøy, 2011), where sounds are understood through gestures. Following the gesture categorization by Jensenius, Wanderley, Godøy, and Leman (2009), I first clarified the function of different physical gestures. That helped me to emphasize useful performing gestures and to diminish nonfunctional and disturbing ancillary gestures. Finally, I began to group sounds and gestures in larger gestural patterns and sequences (see Köhl, 2011), which helped me to learn *Toccatina* by heart.

Technically, I improved the sound projection by integrating sound-facilitating and sound-accompanying gestures as part of my sound-producing gestures. For example, due to the subtle playing techniques required (see Ex. 1), the sound production, dynamics, agogics and phrasing cannot be emphasized by bow speed and pressure. Therefore, the illusion of different dynamic and articulation levels in music has to be created through gesture. On the second line (Ex. 1), I shaped the phrase by preparing the sound-producing tapping gestures

⁶ In this article, “singing” and “hearing ahead” in quotes refers to the internal realization of music, i.e., being able to sing and hear the melodies in one’s mind. Singing without quotation marks refers to singing with sound.

of the bow screw with gentle round-shaped, sound-supporting and sound-facilitating wrist and elbow gestures. There, I tried to create an image of an ascending phrase by increasing the amplitude of these right hand and arm gestures, the top of the phrase indicated with the largest gesture; however, the amplitude of a controlled gesture had to be relatively narrow. Moreover, my right hand and arm gestures helped me to maintain the overall pulse and to create subtle *accelerandi* and *ritardandi* to articulate the shape of the phrase. I also emphasized the beginning of the phrase by nodding on the upbeat and lifting the bow high off the string at the end of the phrase. This gestural leading was meant to support my own sensing of time and shape in performance and to communicate my interpretation of the musical flow to the audience.

The attentional focus plays a critical role in constructing musical shapes in this piece. In order to achieve a technically and musically articulated performance of *Toccatina*, my attention had to be partly focused on my playing gestures to ensure accuracy and intonation in the pitches, temporal structure and phrase direction. Focusing attention solely on the controlled playing gestures could have interfered with automatic movement processes (Wulf, McNevin, & Shea, 2001), but in addition to internal and near-internal focus-of-attention, “singing” the melodies ahead of playing and simultaneous listening to the sounds directed my focus-of-attention further from the body (Duke, Cash, & Allen, 2011). This also provided me with constant aural and tactile feedback on my performance (see Stambaugh, 2017).

The different performance venues had a great effect on my performances of *Toccatina* and evoked different kinds of performing gestures, which varied in quantity, size and quality (see Kanno, 2021; Orning, 2012). Following the suggestion by Atkins (2017), an attempt to project soft sounds to the last row of a large concert hall helped me to focus my attention externally, further away from my own physical gestures and towards the audience. However, in a large concert hall, this approach led to an attempt to produce louder volume with excessive performing gestures, which in turn led to a technically uncontrolled performance and disrupted the intimate atmosphere of the music. Therefore, in this instance, I found it more helpful to conceptualize leading metaphorically as “breathing” with gestures, with the aim of “breathing together” with the audience. Performing in a chamber music hall where the audience were sitting near me, the metaphor of “breathing” also relieved my concern about the actual volume and allowed me to seek the more subtle qualities of soft sounds. Even though the amplitude of performing gestures had to be narrow, using a metaphor of communicative leading gestures rather than sound-producing gestures changed my conceptualization and enabled a more external focus-of-attention condition for the performance (see Treinkman, 2021). The metaphors of leading and “breathing” gave me a physical sensation of involving the audience in the performance, which helped me to focus on the performance itself and to the interaction with the audience. In other words, shifting my attentional focus from one dimension or location to another in relation to my body helped to create an expressive performance that was more than the sum of the acoustic parts.

GESTI BY JOUNI HIRVELÄ

To further explore the concept of leading as a performance-practice strategy and a mode of interaction and communication, I commissioned a new work for violin, electronics and video from Jouni Hirvelä. Since *Gesti* was commissioned for research purposes, I have observed and documented the process from the very first workshop with the composer. The research material includes rehearse diaries, score annotations and audio and video recordings.

The collaboration with the composer included workshops and rehearsals during which Hirvelä demonstrated how to execute the extended playing techniques and how they should sound. This immediate gestural-sonorous approach expedited the rehearsal process. Moreover, since the performance-practice of *Toccatina* (Ex. 1) had expanded my gestural capacity, I was able to transcribe the performing and leading gestures utilized in *Toccatina* into a new set of performing gestures demanded in *Gesti*.

So far, there have been two public concert performances of *Gesti*. The first one was a half-length recital of solo violin works with electronics and video. The second performance was a part of a mixed concert program where I featured solo violin and chamber music composed after the Second World War. In addition, I have given three private performances of *Gesti* as well as presentations in research seminars and conferences.

In its four movements, *Gesti* (2020) compares the physicality and materiality of violin playing with craftsmanship (*Gesti* in Italian: gestures, movements). Each of the first three movements introduces a traditional hand tool, a hammer, saw and drill, all of which are featured in the fourth movement. Electronic knocking, hammering, drilling and sawing sounds are visually amplified with video art that features the composer playing the violin and the traditional hand tools. Other essential objects in the video are a pencil and a feather. Electronic sounds and video material inspired me to use my tactile knowledge in imitating the sounds of using these hand tools. Moreover, the hand tools, pencil and feather provided rich metaphors that inspired my interpretation.

The prescriptive notation of the score consists of four staves: the lowest two staves describe the violinist's left and right hand actions and the two upper staves describe the actions of the audio and video files. The numeric figures above the violin staves indicate when the violinist has to press the pedal to launch the audio and video files (see Figures 2, 3 and 4 for an example). The violin part is preferably performed acoustically, but depending on the acoustic circumstances of a concert venue, a light amplification of the violin sound may be used to increase volume. Following Kanno's (2020) suggestion, the performer should adapt a sonic sensibility to soft sounds and to create performance strategies accordingly.

The first movement of *Gesti* is played with a pencil instead of a bow, which is used in the last three movements. As an atypical instrument, a pencil is lighter than a bow and is held differently in the hand. The playing techniques of a pencil include percussive tapping on the strings and knocking on the bridge, string holder and chin rest, as well as gentle *tremolo* rubbing along the strings. Pencil tapping must be light enough to produce precise pitches and articulated sound. Only at the end of the movement are the pencil strokes played furiously in *fortissimo*. The left-hand techniques include left hand *pizzicati* and

tapping and hammering of the strings. The left-hand fingers must be strong and active to produce audible sound. To emphasize tapping and hammering, I lifted the left-hand fingers higher than necessary to give the audience a visual image of sound with the aim of aiding the perception of sound, and to underscore the connection with the hammering featured in

Gesti
Dedicated to Maria Puusaari

I Jouni Hirvelä 2019

the electronics and video.

Example 2. Jouni Hirvelä: *Gesti* for violin, electronics and video (2020). I movement, measures 1-7. MusicFinland MF34658. Used by permission.

Foot pedal actions as musical gestures

Typically, a work including electronics and video material is first practiced acoustically, without the electronics that provide the actual sonic and visual situation, and also without technical devices such as a foot pedal that is used to launch the electronic files. Foot pedal actions often influence body posture and balance, which may also affect the execution of other performing gestures. Therefore, I embedded a pedal-pressing gesture into my body language by practicing it as a side step of the right foot. Following the gesture categorization by Jensenius, Wanderley, Godøy, and Leman (2009), the pedal-pressing gesture is first a silent ancillary gesture that becomes a sound-producing and sound-facilitating gesture only when playing with the electronics and video.

In the score of *Gesti*, the quality of the pedal-pressing gesture is an integral part of the interpretation, comparable to the process observed in the piano music by Lachenmann (Wilson, 2013). Following the claim by Dahl and Friberg (2007), the quality of a pedal-pressing gesture can be used to lead the audience to perceive different emotional states of the work. Therefore, the performer must learn different pedal-pressing gestures: theatrical, rhythmically timed, accentuated and audible gestures as well as quiet and hidden pedal-pressing gestures without pulse. Moreover, the score even combines the pedal-pressing gestures with theatrical gestures such as stamping the foot on the floor. My approach to pedal-pressing gestures was comparable to the execution of temporal and expressive

leading gestures, which have to be practiced and embedded into the body language as separate, instrument-specific playing techniques (see Puusaari, 2021).

The example from measures 159-177 (Ex. 3) provides a compact representation of a delicate rhythmic co-operation between the violinist, electronics and video. Even though I timed the launching of the files, I also had to synchronize my playing with the electronics and video. Typically, it was difficult to estimate the exact onset timings of the launched files and to synchronize my playing accordingly. The onset timings of the files were often delayed, and the sound came late compared to my pedal press.

The image displays a musical score for violin, measures 159-177, from the piece *Gesti* by Jouni Hirvelä. The score is written in 3/4 time and includes various performance instructions and dynamic markings. Key features include:

- Measure 159:** Starts with a violin part marked *pp* and a piano part marked *pp*. The violin part includes a section labeled 'IV s.t.' and a circled measure number '38'.
- Measures 160-161:** The violin part features dynamic markings *sfz*, *pp*, *sfz*, and *f*. Performance instructions include 's.p.' (sustained pedal), 'p.o.' (pedal on), and 'III'.
- Measure 162:** The violin part is marked *p* and includes a circled measure number '39'. Performance instructions include 'm.s.p.' (medium sustained pedal), 'II', and 'a.s.t.' (after-sustained pedal).
- Measures 163-164:** The violin part includes dynamic markings *pp* and *f*. Performance instructions include 's.p.', 's.t.' (sustained tremolo), and 'm.s.p.'.
- Measures 165-166:** The violin part includes dynamic markings *pp* and *f*. Performance instructions include 'm.s.p.' and 'IV s.t.'.
- Measure 167:** The violin part is marked *fpp* and includes a circled measure number '40'. Performance instructions include 'm.s.p.' and 'p.o.'.

Example 3. Jouni Hirvelä: *Gesti* for violin, electronics and video (2020). III movement, measures 159-177. MusicFinland MF34658. Used by permission.

Therefore, I had to adapt to the alternating and variable ensemble roles of follower, leader and co-leader (see Puusaari, 2021). In measure 159, the violin, electronics and video form a continuous line of thirty-two note rhythms. I could not sense the internal pulse if I only listened and reacted to the electronics and video as a follower. That made my reactions slow and unpredictable, and it was challenging to estimate the correct timing of the pedal press and to synchronize my playing with the electronics and video. Therefore, I began to use leading gestures as an “inner metronome” to control the pulse and measure my actions. First, I led an upbeat to figure 38 (Ex. 3) with a tightly-controlled bowing gesture. The leading cue gave me a stronger sense of the internal pulse and energetic character of the music, which helped me to time the pedal-pressing gesture with my playing. Next, I adapted to the interactive ensemble role of a supportive co-leader with the aim of timing and synchronizing my entrance with the electronics and video after figure 38. My attentional focus was very external and outward in this phrase, while the internal focus ran in parallel and came to the fore for a split second whenever needed.

The section between measures 162 and 172 (Ex. 3) is the longest period of low energy and peacefulness in the whole of *Gesti*. To express the calm and intimate character of the music in figure 39, the foot pedal must be pressed with a silent and invisible gesture in order

to avoid attracting the audience’s attention. The electronics and video feature a dense pencil colouring, which is emphasized by the violin sound timbres alternating between *alto sul tasto* and *molto sul ponticello tremoli*. When watching the performance video afterwards, I observed that I was emphasizing the subtle changes in pitch and timbre by shifting my weight from one foot to the other and turning my body and violin towards the audience. This simple example describes the multifunctional nature of performing gestures. Those weight-shifting and body-turning gestures could have been categorized as ancillary gestures without musical function or sound-accompanying gestures since they were not needed in a technical execution of the passage nor in leading myself. However, I began to use them consciously in order to lead the audience to perceive the character of the music. Those unconsciously executed, non-intentional physical gestures became intentional leading gestures only during the practice, when I began to organize them in gestural groups to shape the musical narrative of emptiness and peace.

In addition to projecting soft sounds, I used leading as a sound-facilitating gesture when playing loud sounds. In measures 161 and 173 (Ex. 3), I produced a loud volume by combining maximal bow movement with extreme bow pressure. I led my actions with visual body movements to emphasize the musical gestures, dynamics, character, and phrasing. In those measures, the absence of electronics and video also provided more temporal and gestural freedom to express the dynamic and timbral changes.

Intentional leading through theatrical gestures

There is a type of leading which I call ‘intentional leading’ that uses theatrical gestures to support musical expression, as explored by Spissky (2017), which can be seen to amplify the gestures resulting from the internal focus-of-attention. In the beginning of the fourth movement (Ex. 4), the string holder bowing technique imitates the gestures of a feather featured in the video. The playing technique produces almost inaudible sound. Therefore, I used theatrical leading gestures to shape the phrase and to help the audience to imagine and perceive the soft sounds.

IV

The image shows a musical score for measures 192-196 of the IV movement. It consists of two staves: Violin (Vln.) and String Holder. The Violin staff is marked 'Calm and delicate, ♩=60' and has a 'feather' gesture indicated above it. The String Holder staff is also marked 'Calm and delicate, ♩=60' and 'like the feather in the video', with a dynamic marking of 'mf'. A measure number '43' is enclosed in a box. At the bottom right, there is a performance instruction: 'tap top plate with index finger'.

Example 4. Jouni Hirvelä: *Gesti* for violin, electronics and video (2020). IV movement, measures 192-196. MusicFinland MF34658. Used by permission.

According to Köhl (2011), musical gestures are based on a metaphorical mapping of a combination of a musical element and a physical gesture. In the beginning of the fourth movement (Fig. 4), the simile “like the feather in the video” provides a gestural-sonic approach to the interpretation. I conceptualized the bow movement as a soft bird wing that lands lightly on the string holder and smoothly strokes its surface. To make a musical

phrase, the length and character of each bow stroke had to be planned gesturally. The first stroke was simple, the second more airy and present with more body movement. The culmination of the phrase was achieved with the third bow stroke, which was an accentuated, tightly-controlled but immediately released down-bow attack. I emphasized the culmination by leading an upbeat with a sharp body twitch. The fourth bow stroke was a bouncing *ricochet* bow technique. Since the string holder does not allow the bow to bounce like a string would, the bounce had to be exaggerated with the head and body gestures. Finally, I led the released tension at the end of the first phrase with a relaxed body posture.

CONCLUSION AND FURTHER THOUGHTS

In the beginning of this article, I briefly explained the phenomenon of leading in a chamber ensemble to provide a framework against which to structure the concept of leading in a solo violin performance. First, I reviewed the literature on the performer's physical gestures and described their diverse functions in a musical performance. Next, I surveyed music-related studies on the focus-of-attention. Through the two case studies, I explored how varied physical gestures can be used to articulate a musical narrative by consciously shifting attentional focus from one moment to the next, and how leading could be used as a strategy in performing a contemporary work for solo violin.

Based on the experience and evidence gained in the performance practice of *Toccatina* by Helmut Lachenmann and *Gesti* by Jouni Hirvelä, I provide a leading-based approach to expedite and enhance the performance practice process of a contemporary solo violin work. I propose that leading in a solo performance is not only a metaphor but an actively chosen gestural strategy in one's performance practice.

A solo performance requires a different performance strategy than a chamber ensemble performance. In a solo performance, the interpretative decisions depend solely on the performer. Hence, I suggest that leading in a solo performance has two purposes: leading my own actions and leading the audience to perceive the music and participate in the listening. The basic concepts of temporal and expressive leading techniques in ensemble leading (see Puusaari, 2021) can be applied for the purposes of the solo performance to support the technical and expressive execution of a solo violin work. In the complex interaction network between the performer and audience, leading can be used as a method to make the musical interpretation more expressive and communicative.

The leading-based approach comprises the entire performance practice process. First, the notational practices of a score play a fundamental role in generating performing gestures (Kanno, 2007; Orning, 2012; Östersjö, 2016; Schuiling, 2019). Therefore, a performer has to classify the performing gestures (see Jensenius, Wanderley, Godøy, & Leman, 2009) in order to expand their gestural-sonic understanding of different physical gestures and their function in leading and creating a communicative performance (see Godøy, 2006; Godøy, 2011; Östersjö, 2016). To rehearse the gestural models of leading, the temporal and expressive leading gestures are immediately applied and integrated into the practice. Metaphorical creativity is needed to enrich the musical imagination of sound, to explore and expand the quality and character of the performing gestures and to improve the overall performance. Finally, different focus-of-attention conditions are altered during the practice in order to create more variable performance strategies. Next, I will take a

closer look at each of the key points presented here.

Many of the extended techniques presented in this study require a reconceptualization of instrumental conventions (see Wilson, 2013). Often these techniques also have a relatively low tolerance for failure. Therefore, to learn the correct execution and expression of an extended playing technique requires a conscious approach and control of playing gestures. Especially in the beginning of the practice of *Toccatina* and *Gesti*, executing new sonorities by extended techniques constrained my physical gestures and disrupted the sense of the pulse and rhythmic structure. Therefore, I first used the temporal leading technique of leading beats in order to stabilize the overall pulse, which also helped me to shape the temporal structure of the work. Unlike leading in a chamber ensemble, it was not necessary to lead beat patterns to myself; nevertheless, I used beat-pattern leading to support my own performance during the practice. Hence, I used leading as an “internal metronome” to measure and stabilize my own playing actions. Altogether, temporal leading techniques included indicating pulse and beats and emphasizing important upbeats, downbeats, rhythmical gestures, and the beginnings and endings of phrases. In my effort to further refine the musical expression, I varied the speed, amplitude, direction and character of physical gestures as well as my body postures to more closely support the sound production and projection; some of my effort was unconscious but often served to emphasize the musical structure, dynamics, articulation, timbre, character of the music and the direction of phrasing.

The most surprising finding in this study was the significance of alternating ensemble roles, to which I had to adapt in order to synchronize my performance with the electronics and video in *Gesti* (Ex. 2, Ex. 3). The different roles provided different musical outcomes, and alternation between the leader, co-leader and follower roles happened quickly and even unconsciously. In the follower role or no specific role, I had no sense of an internal bodily pulse, which slowed down my reactions. Typically, the onset timing lagged, and I was not able to synchronize my playing with the electronics and video. To succeed in synchronization, I had to alternate between the leader and co-leader roles and try to play together with the electronics and video. In the leader role, I led and controlled my own performance similar to when I lead a chamber ensemble, which also gave me a feeling of being deeply engaged with the performance.

The gestural communication of a performer also has a great impact on the audience’s perception of the performance and its expressiveness (Dahl & Friberg, 2007; Juchniewich, 2008; Platz & Kopiez, 2012). The measurable size of a physical gesture affects the performance; for example, the listeners’ perception of volume is affected by the size and the physical energy of the performer’s gestures (Vuoskoski, Thompson, Spence, & Clarke 2016). Therefore, I combined temporal and expressive leading techniques to underline the musical structure and project the soft sounds in *Toccatina* and *Gesti*. Concurrently, the idea of leading the audience to perceive the soft sounds helped me in sound projection. However, if I solely focused on leading a musical passage with articulated leading gestures, the actual sonic result was disrupted. Therefore, it was more beneficial to focus attention externally on the intended effect of leading gestures, and to listen to the sounds, dynamics, articulation and phrasing, and to simultaneously project the sound outward to the hall.

A conscious practice of multifunctional performing gestures combined with the embodiment of a variety of new violin techniques expand the performer’s overall gestural

capacity. That provides better skills to execute and communicate different sonorities in music and enables faster learning of new repertoire and its novel playing techniques. Therefore, I suggest that both sound-producing playing gestures and communicative, temporal and expressive leading gestures must be rehearsed by consciously varying their quality and character. That will expedite the learning of a specific technique, clarify the sonorities of music and reveal which musical or gestural details need more practice. Moreover, varying the quality of performing gestures expands the gestural capacity in leading the performance. In addition, I propose exploring the possibilities of variable ensemble roles during practice. In addition to improved synchronization, this approach will diversify the character and quality of the performing gestures, which affects the overall expressivity of the performance. This kind of gestural-sonorous approach to leading one's own actions and the audience closely resembles the *Gesturist* performance strategy in Baroque music (see Spissky, 2017). However, each performer must adapt to performing gestures that are appropriate and natural to their personal gestural style and performance strategy. Along with conscious practice, the performing gestures become an automatic, efficient and unconsciously executed part of the performance that allows for the interplay and interactions between the performer's musical expression and the audience. Moreover, personally varied gestural performances provide the audience with alternative ways to experience the work and its sonorities.

Moreover, metaphorical concepts have a great impact on physical gestures and the performance. For example, the score of *Gesti* (Fig. 4) provides unambiguous verbal metaphors that must be executed by clearly planned and practiced theatrical gestures. Following Kühl's (2011) concept of metaphorical mappings, I combined the sound and body domains by imagining the sound and physical movement that the metaphor described before transcribing the metaphor into a performing gesture, which then led to the sound production. Furthermore, the metaphor of leading automatically activated my internal models of communicative leading gestures and provided new insights into the interpretation of music. The leading-based approach extended my focus-of-attention from internal gestural targets of how to play towards more externally focused, interactive performance models that also generated more effective and successful performances (see Atkins, 2017; Buma, Bakker, & Oudejans, 2015; Mornell & Wulf, 2019; Wulf, McNevin, & Shea, 2001). Creating my own metaphors for leading, such as "breathing with gestures" and "breathing with the audience" changed my conceptualization of the whole concert situation and helped me to find a successful performance strategy for *Toccatina*. Furthermore, I conceptualized myself with the audience as an ensemble with which I interacted and to whom I communicated my musical ideas. The 'leader's attitude' in leading my own actions provided a third-person perspective on my playing and helped me to treat myself as an ensemble member. When I tried to listen to my performance as an ensemble member, I felt greater distance from my physical actions, which helped me to listen to the musical outcome and to focus my attention on the audience. I did not feel as though I was performing alone for the audience, but rather performing together with the audience. This increased the sense of connectedness and also increased my self-confidence onstage.

These observations concerning the effects of different focus-of-attention conditions are in line with findings in studies of singers and instrumentalists by Atkins (2017), and Mornell and Wulf (2019). I observed that using an external focus-of-attention as a performance

strategy improved the performance of extended playing techniques in particular. However, sometimes a successful execution of extended playing techniques such as tapping a precise pitch with the bow screw in *Toccatina* (Fig. 1) required internal focus-of-attention on tactile feedback of my physical gestures, as suggested by Stambaugh (2017). Altogether, I found it beneficial to focus attention both internally and externally during the performance, and this observation corresponds with findings in studies with professional performers by Buma, Bakker, and Oudejans (2015). Notational practices also had a great impact on attentional focus. In *Gesti* (Fig. 4), the metaphor of a feather automatically made me focus my attention further from my physical gestures, which facilitated the execution of extended techniques and generated better sonic results. This is in line with Treinkman's (2021) observation about the efficacy of metaphorical language, which automatically produces the same bodily effect as explicit advice but without conscious interference and constraint by motor control processes. Hence, my body use was more effective and efficient and there was less internal control over and conflict with the playing techniques.

Even though I was able to use different internal and external focus-of-attention conditions in my performance, the alternation between different focus-of-attention conditions often happened unconsciously. Watching the video recordings of rehearsals and performances of *Gesti* revealed bodily gestures that indicated different focus-of-attention conditions. When practicing alone, I was internally focused on executing extended techniques, pitches and sounds. This is equivalent to the *Soundist* approach, which lacks the dramatic gestural shaping of music (Spissky, 2017). When the composer was present in the rehearsals, I alternated between internal and external focus-of-attention conditions. Concentrating on the quality of the playing techniques turned my attention to internal targets, but the presence of the composer also provided me with a sense of performing for the audience and helped me to focus externally on my performance. The presence of the audience, whether real in the concert hall or virtual on social media, seemed to be the decisive factor in adapting to the external focus-of-attention condition. In concert performances, I used a conscious external attentional focus to communicate gesturally with the audience. A surprising finding was how automatically I adapted to the performance mode and emphasized the same interactive bodily aspects of music when shooting a short video clip, "a work in process" for social media, where the audience is not immediately present. Therefore, when using attentional focus as an effective performance strategy, I propose that to optimize awareness of different focus-of-attention conditions, they should be included even in early stages of practice.

In this study I have provided various examples of the practical and metaphorical possibilities that the leading-based approach provides in the performance practice of a solo violin work. There is a need for more practice-based studies to further our understanding of the diverse strategies that musicians use in performing contemporary music. It is my hope that my own study will add insight to this field.

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Violinist **MARIA PUUSAARI** is an artistic doctoral student in the DocMus Doctoral School at the Sibelius Academy, University of the Arts Helsinki. Her research topic is leading in the performance-practice of contemporary music. Puusaari is a member of the Finnish Radio Symphony Orchestra and Uusinta Ensemble.