

# Hybrid Conductor

## Case Study and Analysis of Alexander Schubert's *Point Ones*

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### Abstract

At the premiere of *Point Ones for small ensemble and augmented conductor* (2012) by Alexander Schubert (1979-), I had a front row seat to Daan Janssens' impressive performance as the augmented solo-conductor. There was an observable and palpable tension between the live electronics and live musicians, created both by Janssens' performance and Schubert's programming and composition. During the compelling solo-conductor's cadenza, Janssens completely released control of the live musicians and freely explored the virtual realm afforded the conductor by the electronics.

In this paper, I will briefly explain Schubert's score and my analysis thereof. The usage of the live electronics is considered as well as the balance that the conductor must maintain between the electronics and the live musicians. Comparable pieces are then reviewed. I will conclude this paper by determining that there are five detectable artistic and socio-economic criteria for utilizing a conductor in *Point Ones*.

**Keywords:** New Music, Conducting, Live Electronics

### The case: Alexander Schubert's *Point Ones for small ensemble and augmented conductor*

*Point Ones for small ensemble and augmented conductor and Ensemble (Point Ones)* was premiered in 2012 by Nadar Ensemble with Daan Janssens as that conductor in Centralstation, Darmstadt, Germany, and commissioned by the Darmstadt Summer Course for New Music. The piece is orchestrated for clarinet or saxophone, piano, electric guitar, drums, violin, cello, augmented conductor, electronics technician, and audio engineer. This case study and analysis will refer to the score that was published by the composer in 2012.<sup>1</sup>

The conductor is augmented with two enhanced WiiMotes attached to their wrists. The user interface (UI) tracks specific motions and gestures made by the conductor. The tracked (mapped) gestures trigger prepared and pre-sequenced live electronics. The (conductor's) score has also been augmented. On top of each stanza, Schubert has written four additional (as it relates to today's conventionally accepted orchestral/ensemble scores) horizontal lines. These lines are used to instruct and guide the conductor throughout the piece. The lines are labeled and read from top to bottom:

Right hand: choreography for the right hand;

Left hand: choreography for the left hand;

Electronics: a description of the live electronics produced by the right and/or left hand (or manual jump);

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<sup>1</sup> Schubert, *Point Ones* (2012), score:  
<https://www.dropbox.com/s/c3crop3ee9j32xf/Point%20Ones.pdf?dl=0>

**Instruments:** a final line intended to clarify the instrumentation of the live electronics. (For example: 'synth drums,' 'cresc.,' and/or 'held notes.')

Alexander Schubert, in his legend and performance instructions attached to the score explains this special notation as follows:

This piece is notated in a slightly different way. The idea is that the piece is not conducted in a traditional way. The conductor is supposed to give mainly just cues - by that indicating to go to the next passage. These cues are notated by black arrows in the score / parts. Sometimes a cue goes on over a few measures - in that case the bar lines are dashed (and not solid). The solid bar lines indicate that a new cue starts after this measure. (Schubert 2012)

In the program notes on Schubert's website, the composer explains the utilization of these gestures (cues) as follows:

In *Point Ones* the conductor is equipped with motion sensors and through this is able to conduct both the ensemble and the live-electronics. Most of the piece is not realized with traditional conducting but with cue gestures that mark [the] beginning of new passages – hence the title *Point Ones*. The aim is to be able to experience the live-electronics in an embodied way and to create a fully controllable instrument for the conductor. Because of that the piece does not use a click track or other timeline-based fixed approaches. (Schubert, Last visit 16.07.19)

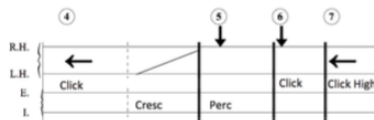


Figure 1: Example indications from the conductor's part.

When performing the material in Figure 1, the conductor would first point to the left with their left hand, then with the same hand show a crescendo. Next, the conductor will show two downbeats with their right hand. And finally, with the left hand s/he swipes left again.<sup>2</sup> The sounds these gestures produce are, from left to right: an electronic click, a synthesized crescendo, a woodblock, an electronic click, and lastly a higher electronic click.

## Live electronics

The conductor is augmented with adapted (by the composer) WiiMotes; these are controllers for the Nintendo Wii entertainment and gaming system. The UIs' accelerometers have been fixed to two wristbands and the conductor wears one on each arm/wrist. The accelerometers track and map the conductor's movements and using the UIs' Bluetooth technology, delivers this information to a MacBook laptop running OSCulator and a Max patch. The composer has also prepared these two patches. The Max patch reads the mapped movements and, where appropriate, translates them to triggers. These triggers then initiate the pre-programmed and occasionally live recorded sounds audible to the audience. This all occurs with little or no detectable (by the audience) latency.

Schubert's use of these particular interfaces offers the conductor the opportunity to present a very realistic illusion to the audience. The conductor's arms appear to be either generating the electronic sounds themselves, or a virtual orchestra really is responding to the, sometimes wild, gestures choreographed by the composer. This use of the WiiMote, an augmentation and extension of human possibilities, seems to be in line with the inventor, Ako Ikeda's intention:

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<sup>2</sup> 'S/he' – When appropriate, the author will use the non-binary gender pronoun 'they' and its forms. However, in instances in which this presents ambiguity, 's/he' (and its forms) will be used. Please read this as intended as a continuum rather than a binary label.

Of course, when playing a game, the nearest thing to the player is the controller. The controller should therefore be regarded as an extension of the player rather than as part of the console. I always bear in mind the importance of the fact that the player will have far more contact with the controller and UI than the console itself. (Ikeda and Iwata 2006<sup>3</sup>)

## Personnel

In addition to the staged performers (the live musicians), Schubert also insists on two extra personnel for performances and rehearsals:

In order to run the piece a **technician** should take care of the connection with the sensors, the USB-repeater and the Bluetooth-receiver and should be familiar with setting up the connection in the computer and routing the signal from OSCulator to MAX/MSP. During the rehearsal and performance one person (can be the technician or a musician not playing in the piece) should sit at the computer and monitor if everything [is] working well. This means checking if the CUEs are triggered correctly. A **sound technician** should handle the amplification of the piece. (Schubert 2012)

Just as in pieces such as Karlheinz Stockhausen's (1928-2007) *Oktophonie* (1991) and Luigi Nono's (1924-1990) *das Atmende Klarsein* (1980-83), in *Point Ones*, the electronics technician is vital to the performance. S/he follows the score and ensures that the cueing of the electronics occurs as it should – and if it does not, corrects the situation. S/he is also present to perform four live “manual jumps.” Manual jumps are moments in the score at which the electronics technician must cue the electronics by hand by pressing the space bar on the computer running the live electronics. The presence of these personnel is representative of “ubiquitous electronics” (Collins, 1998) in new music. Technicians are now considered regular members of any ensemble performing within this genre.

## Analysis Method

It can be argued that in *Point Ones*, the conductor finds her/himself directing both a live and virtual ensemble. Sometimes both ensembles are conducted simultaneously and conjunctly (meaning there is some sort of suggested cooperation). When simultaneous, the balance between the two ensembles shifts between favoring either the live or virtual ensemble. There are moments in the piece in which the conductor is completely focused on the live ensemble, conducting every detail and showing every beat. There are also times when s/he is completely in the virtual world. And finally there are points at which the conductor is in the virtual world and the members of the live ensemble must conduct themselves.

To better understand and visualize the conductor's changing roles, I created a chart. Each of the six above-described situations was assigned a number. I used the number '1' to represent the conventional conductor-ensemble relationship. The number '5' represents the times at which the conductor has stepped completely into the virtual realm. The numbers between ('2, 3, and 4') represent degrees present in the piece between these two outer extremes. To indicate the moments at which the conductor is completely conducting the virtual ensemble and the live ensemble conducts itself, I have classified this situation as both a '1' and a '5.' The full chart can be found in the appendix linked in the footnotes.<sup>4</sup> I have consolidated the information found in the chart into a bar graph shown directly below (figure 2):

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<sup>3</sup> Ako Ikeda, responsible for the accelerometer hardware in the Nintendo Wii™, in an interview with Satoru Iwata, *WiiLaunch website*, Summer 2006.

<sup>4</sup> Appendix:

<https://www.dropbox.com/s/dfm27pxnegjwmxp/Appendix%20Alexander%20Schubert%20Point%20One%20s.docx?dl=0>

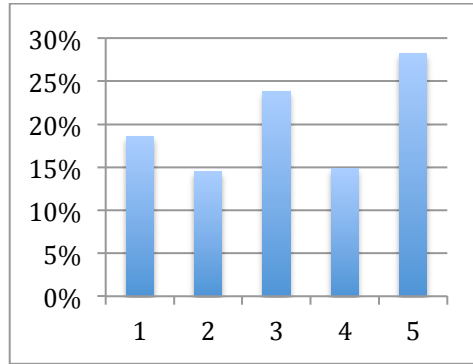


Figure 2: This chart shows what percentage of the measures falls into which category.

1 = Conventional conducting / no virtual orchestral conducting

2 = Conventional conducting / some virtual orchestral conducting

3 = Conventional conducting is the equal to virtual orchestral conducting

4 = Some conventional conducting / virtual orchestral conducting

5 = No conventional conducting / (all) virtual orchestral conducting

In analyzing this piece, it was also important that I consider Schubert's handy and pragmatic use of measure structure (bar lines and time signatures). The composer's approach is made apparent at the outset of the piece. The first four measures (measures 1-4) can be described as having an up-tempo (quarter-note = 120 bpm) 4/4 rhythmical structure. Arguably this is easily accessible for the audience. The example illustrated below begins in the fifth measure and continues through to measure 11. Schubert's measure structure for these seven bars reads: 5/4, 5/8, 7/8, 7/8, 5/8, 5/8, 5/8. The audible rhythm occurs on the first and third beat of the first measure (measure 5), and then consistently begins on the downbeat of every subsequent measure.

If we close our eyes and just listen to the piece starting from the beginning using the upbeat 4/4 structure as the frame, we could conceivably rewrite the audible rhythmical structure (bar lines and time signatures), beginning in measure 5 in the following manner:

Original: 5/4, 5/8, 7/8, 7/8, 5/8, 5/8, 5/8 = 44 eighth notes

Audible: 5x 4/4, 1x 2/4 = 44 eighth-notes

Figure 3: Measures five through eleven as written by the composer

Figure 4: Measures 5-11 rewritten; this example shows the rhythm as the audience would perceive it if they were to close their eyes.

By using Schubert’s version (the actual written measure structure), the composer conceivably has delineated a clear distinction between the conductor’s responsibilities to their solo instrument and those duties they have to the live performers. By being so (apparently) pragmatic, he has also decoupled the conductor’s responsibilities to utilize conventional conducting gestures to represent the measure structure. This grants more freedom to the conductor to instead command the virtual instrument.

### Category 1 – Completely live

Schubert opens *Point Ones* with a four-measure phrase that is conducted in a universally recognizable conventional manner. Written above the composer’s part (the four lines as described above) is the phrase “*traditional conducting with right hand.*” (Schubert, 2012) This is also one of the rare moments in the piece in which the conductor must also cue the electronics technician. The first cue for the virtual ensemble/live-electronics is not given/triggered by the movements of the conductor. It is instead a “manual jump” (generated by the electronics technician pressing the space bar) initiated at the very start of the piece and given/shown by the conductor. The conductor beats the first four measures, showing all, including the electronics technician, simply the effective time. The live electronics and the playing thereof are as yet, not under the conductor’s direct physical control.

The universally recognizable conventional conducting gestures that are employed in the first four measures include a visible downbeat (a movement from up to down that rebounds at a visible ictus) per measure and three additional gestures per downbeat that include ictuses at regular (temporally speaking) intervals.

### Category 2 – More live than virtual

Starting in measure 23 and continuing to the end of measure 31, the balance between the live ensemble and the virtual ensemble shifts to favor the former. Up until this point in the piece there was either an equal treatment of both live and virtual ensembles, or complete attention (from the conductor) for the virtual ensemble. Again,

Schubert writes an indication to “traditionally conduct” in the conductor’s part. This section also represents a relatively long period of live ensemble combined with a (static) live electronic soundscape.

The live ensemble is influenced in these measures by the conductor’s gestures. S/he indicates time, gives cues, and can assist in interpreting any spontaneous expressivity (from the live musicians). The electronic soundscape is initiated by the conductor’s gesture in measure 23. However, the conductor is locked out (through the piece’s accompanying software) from adjusting the playback of the electronically produced material. While the audible balance of the entire ensemble (live and virtual) is the conductor’s responsibility, the only group that can actually be adjusted is made up of live musicians.

This balance of more live than virtual does not return in any substantial way in the piece until we approach the ending. (It returns briefly in measure 100.) In measure 237, Schubert revives the introductory material (A) with slight variations (A-Variations). These eight measures (m. 237-244) commence with a conductor-given cue (triggered via the UIs) for a static live electronics playback. During the following measures, the conductor, using conventional conducting gestures, must ensure that the live ensemble progresses smoothly in time with the pre-programmed electronic material. The conductor’s gestures (except for the initial cue in measure 237) are completely intended for the live musicians. I have classified these measures as balance cypher 2 (see chart) because while the gestures and the consequences thereof are primarily for the live performers, the conductor must still reckon with the tempo dictated by the pre-programmed (live) electronics.

The situation that commences in measure 262 (the *coda*) is similar to measure 23. The conductor’s gestures at the beginning of measures 262, 271, 288, 292, and 293 trigger a static (in regards to tempo) electronic soundscape with a pre-determined length over which the conductor has little or no influence. The soundscapes can be ended earlier than the indicated time. However, the composer has written a specific quantity of measures in a specific tempo (quarter-note = 120 bpm) and the soundscapes have been pre-programmed to match this duration. It can therefore be argued that the conductor should perform these measures as written, with one ear still in the virtual realm while s/he guides the live performers through to the ending.

The image shows a musical score for measures 262-276. The score is arranged in a multi-staff format. At the top, there are labels for R.H., L.H., E., I., CL BB, PI, G., DR., VI, and VC. The conductor's part is at the top, with three specific cues marked with arrows and circled in red, labeled 156, 157, and 158. The score includes various musical notations such as notes, rests, and dynamic markings. The conductor cues are positioned at the beginning of measures 262, 271, and 288. The score also includes a section for 'Electronic Soundscape' with labels like 'Reverb Downfall', 'Micotonal Piano Sounds', 'Cresc Noisy Sound', 'E-Upsh', 'Reverb Upfall', and 'Cresc Noisy Sound'. The conductor cues are marked with arrows and circled in red.

Figure 5: measures 262-276; the measures circled in red are two instances, as described above, in which the conductor triggers a static electronic soundscape that has a duration equal to that of the distance between each consecutive trigger.

### Category 3 – Equally live and virtual

In much of *Point Ones* the conductor has equal command of the virtual ensemble (the “solo” instrument/live electronics) and the live ensemble. Measures 5-14 provide a representative example of such a balance. In measures 5 and 9 the conductor cues both the virtual and live percussion part. In measure 8, the clarinet and strings (both live) join the virtual synthesizer. In measure 12, the live piano, guitar, and drums are cued together with a larger virtual ensemble and in measure 14, the piano has a duet with a synthetic percussion instrument. In each of the

examples cited, the conductor has full control over the timing, duration, and effects (crescendos and sonic variations) of the electronic samples. The conductor also displays the exact timing for the live musicians (deploying conventional conducting techniques) and cues their entrances. S/he is thus also in full and equal (to that of the virtual ensemble/live electronics) control of the live ensemble’s performance. The exact same situation can be found in measures 32-41.

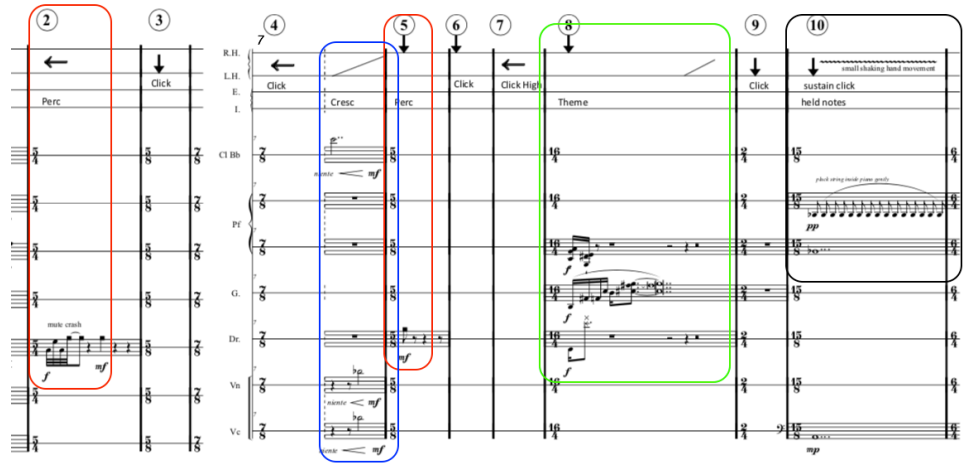


Figure 6: measures 5-14; In red, the duets between virtual and live percussion; in blue the quartet between synths, strings, and clarinet; in green, the initial motive played by the live piano, guitar, drums, and virtual band; and in black, the duet between conductor (live electronics) and piano.

### Category 4 – More virtual than live

The composer’s indicated conductor’s choreography from measures 107-121 is quite extensive and difficult to perform for both conductor and live performers. While in most measures, the conductor in some fashion or another, is instructed to display the downbeat, there are two measures in *Point Ones* in which this is not the case: measures 116 and 122. The conductor also gives a double signal in measures 118 and 119. To play correctly, the musicians must be attentive, sure to not ‘step in a hole,’ playing when they should not. During these measures the conductor is especially restricted in movement. Schubert indicates every single cue’s trigger-direction and he adds extra shaking gestures twice to the conductor’s part (see excerpt below). The composer does not explicitly deny the conductor the freedom of movement to assist the live musicians, but it can be argued that the musicians, based on the regularly given downbeats, must organize themselves throughout this passage.<sup>5</sup> The composer writes in his introduction:

The idea is that the piece is not conducted in a traditional way. The conductor is supposed to give mainly just cues - by that indicating to go to the next passage (...) Occasionally a normal conducting will be necessary - in these cases it is written in the score (...) The final decision in which parts traditional conducting will be necessary will be decided during the rehearsals. (Schubert 2012)

<sup>5</sup> I have performed this piece a number of times and have found ways in which to continue to conduct the live ensemble throughout this passage. My interpretation of these measures, as indicated in the linked chart, is that the conductor is mostly focused on the virtual instruments and assists the live instrumentalists in the accompaniment thereof.

Figure 12: measures 115-199; in blue, the solo-conductor’s “solo” movements; the red arrow in m. 116 indicates a moment in the piece when the musicians must begin after the conductor has given the cue. In measures 118 and 119, we see in blue and red the conductor’s double cue and the red arrow in measure 119 indicates the piano’s entrance together with the conductor’s second cue.

## Category 5 – Completely virtual

*Point Ones* lives up to its subtitle (*for augmented conductor*) at multiple times throughout this piece, and especially in measures 179-184. During these measures the conductor launches completely into the virtual realm, improvising a cadenza. Their gestures, read by the accelerometers, are translated directly into electronic sounds. Gestures trigger along three axes and the conductor has the opportunity in these measures to demonstrate in full view of the audience their connection (binding) to the virtual world. The lack of latency between movement and audible sound blurs the line between synthetically and humanly produced sounds. In the video linked below, Enno Poppe conducts Ensemble Mozaik in *Point Ones*. This excerpt shows him performing the conductor’s cadenza.

Schubert, Alexander, *Point Ones for Augmented Conductor and Ensemble*, performed by Ensemble Mozaik and Enno Poppe (conductor): <https://www.youtube.com/watch?v=3JB8qcTwDJw>

Prior to the conductor’s complete solo in their improvised cadenza, a section of the piece can be found in which the conductor abandons the live musicians and performs an improvised solo independent of the live musicians’ written part. In measures 133-149, the violinist is instructed to cue the ensemble and the conductor is instructed to “*NOT CONDUCT THE ENSEMBLE. DO NOT follow the dynamic of the ensemble - act as a soloist and fill the gaps of the ensemble with electronics.*” (Schubert, 2012) Because the live musicians are still playing and being conducted, although this time by the violinist, I have categorized this section of *Point Ones* with the balance cypher 1 (Completely live). The conductor is completely in the virtual realm, conducting/triggering the live electronics with little or no regard for the live musicians. Therefore, these measures have also been categorized with the balance cypher 5 (Completely virtual).

## Comparable pieces

In an article about the creation process of a similar piece, Jesper Nordin’s (1971-) *Sculpting the Air* (2015) for enhanced/augmented conductor and ensemble, researchers and fellow musicians Bacot and Féron remark:

There are a number of pieces in which the conductor is given an unconventional role by making the gestural component a central part of the performance (...) To that extent, Nordin’s concept in *Sculpting the Air* is part of a musical trend that concentrates on the conductor’s gestures, although the number of pieces (...) is quite small. (Bacot and Féron 2016)



They cite *Nostalgie (or Visible Music II)* for Solo Conductor (1962) by Dieter Schnebel (1930-), *Light Music* (2004) by Thierry de Mey (1956-), *Black Box Music* (2012) by Simon Steen-Andersen (1976-), and *Point Ones*. I would add two more works to this list: Alexander Khubeev's (1986-) *Ghost of Dystopia* (2014, rev. 2019) and Schubert's own *Serious Smile* (2018).

The Schnebel, Khubeev, and *Serious Smile* are all clearly written for solo-conductors. In the Schnebel, the conductor is the only person on stage and the choreography is an exaggerated 'mimed' *tour-de-force* of various cliché conductors' gestures. Khubeev literally binds his conductor to an instrument of the composer's own design. This piece forces the audience and musicians alike to question the role of the person standing in what they assumed to be the conductor's position. In *Serious Smile*, Schubert takes the conductor's instrument from *Point Ones* a step forward and augments all the performing musicians, giving them command of a wider pallet of virtual instruments.

The de Mey and Steen-Andersen are arguably not necessarily for a conductor, though these pieces do utilize and focus on the conventionally accepted conductor's gestures and movement repertoire. Bacon and Féron write:

In *Light Music* (2004), for solo performer, video projection, and interactive device by Thierry de Mey, the interpreter – who can also, in a way, be considered a conductor – is equipped with sensors that enable him to trigger and process electronic musical events and display his movements' traces on the screen. This piece, focusing on the relationship between gesture, music, and their visualization, is the prolongation of the composer's reflection on gestural music. In *Black Box Music* (2012), for percussion solo, amplified box, and 15 instruments, the composer Simon Steen-Andersen also works on the audio and visual situation from the point of view of the soloist's gestures. On stage, a screen displays in real time the inside of a soundproof black box equipped with microphones and various sounding objects. The percussionist puts his hands inside the box and performs gestures, conducting groups of musicians displayed around the auditorium, and producing different sounds processed and played through loudspeakers. This work also accentuates the percussionist/conductor's gestures with regard to its visual and sonorous aspects: hands are almost considered as theatrical characters. (Bacot and Féron 2016)

## Motivations for utilizing a hybrid conductor

The hybrid conductor in *Point Ones* is a crossbreed between two different cultures and realms. As has been argued above, the conductor finds her/himself in command of both live instrumentalists and an electronic ensemble, triggering both groups with (sometimes) unified gestures. Below I will determine five criteria for the motivations behind this deployment of the conductor.

### Artistic and Substantive input

Schubert grants the conductor a significant amount of space for interpretation in *Point Ones*. The composer indicates in the legend (instructions on performing the piece) attached to the piece that this is in line with his intention:

The length of the measures and the time signatures are therefore not very precise and can be interpreted longer or shorter by the conductor. The piece is not intended to be counted through - as you would do in another piece. The final decision in which parts traditional conducting will be necessary will be decided during the rehearsals. For rhythmically complex passages maintain the indicated tempo and time signatures will be helpful though.

This concept also implies: If you [the musician] reached the end of your measure you will continue to play this note until the conductor gives the cue sign for the next passage. This is easy for long, held notes. If the end of the measure is a fast phrase / pattern - then you'll have to continue this one till the next cue sign. The exception is, if there's a pause at the end of the measure - that means you finish your phrase and then stop playing when you reached the last pause. (Schubert 2012)

In other words, the conductor is free to determine the length of a large majority of the measures throughout the piece, either spontaneously during a concert or predetermined together with the musicians during rehearsals. As a performer, I have found great significance in the pragmatically chosen (by the composer) measure structure and thus strictly adhere to it. However, that is my artistic choice and that freedom/burden is essential to this piece. Other conductors choose to freely interpret the length of the measures, either in tempo or rhythm. When ensembles decide to employ a conductor in order to perform *Point Ones*, they are utilizing their chosen conductor's artistic and substantive input. It is notable for such a 'young' piece that every performance varies greatly in interpretation (and duration) depending on the performing conductor and ensemble.

The artistic input from the conductor-soloist is also utilized to generate the intended (by the composer) experience:

The aim is to be able to experience the live-electronics in an embodied way and to create a fully controllable instrument for the conductor. Because of that the piece does not use a click track or other timeline-based fixed approaches. (Schubert 2012)

Schubert expands upon this freedom at two points in the piece in which the conductor must improvise a solo. The first solo is in combination with the live performers and has a relatively fixed duration. During the second solo, however, the composer relies solely and substantively upon the artistic input of the conductor. No other live performers participate and not even the length of the solo (cadenza) has been predetermined. This is entirely the choice of the improvising solo-conductor.

When an artistic director or concert organizer programs this piece, they are also making a conscious choice to utilize a conductor for artistic and substantive reasons that are more practical in nature. The musician in question is asked to make a significant time investment above and beyond the normal requirements for conducting a piece. The utilized conductor must not only learn and interpret the score, they must also learn and master a new instrument.

## Conductor as subject

The conductor is clearly the subject of *Point Ones*. The conductor's gestures trigger the live electronics, as well as conventionally cue the musicians. There are two long improvised solos, heavily focusing on the conductor and their link with the live electronics. The subtitle of the piece includes the words "augmented conductor." And, as argued below, it is the composer's obvious intent to focus on the conductor's role as interpreter between the audience, live musicians, and live electronics.

Having a performer serve as both the soloist and subject of a piece appears to be a trend in Schubert's compositions. In *Serious Smile*, the musicians' performance gestures become a focus of the piece as they separate from their physical instruments and yet continue to generate sounds. In *Star Me Kitten* (2015), for presenter and ad-hoc ensemble, the presenter plays the main role in a parody of a lecture on "the relationship between sound and content." (Schubert, 2015)

## Economy

When looked at in a broad sense, "the economy is defined as a social domain that emphasizes the practices, discourses, and material expressions associated with the production, use, and management of resources." (James, 2015) There is a tradition of conducted (new) music ensembles. The "practices, discourses, and material expressions" of such an ensemble would include the relationship between the musicians and a conductor – two of its resources. This relationship is defined by certain keywords and key-gestures. For example, as Paul Verhaege explains it in his book "Identity," within a group of musicians, when one suggests that the music should be more *agitato* or when a conductor prepares and then gives a downbeat gesture, all present would comprehend. (Verhaege, 2012)

Without this tradition and the group's (conductor and musicians) universally recognizable keywords and gestures, *Point Ones*, would be meaningless. It relies on the audience's understanding that there is a traditional relationship between the cue-giver (the conductor) and the cue-followers (the musicians). In this sense, the economic utilization of a conductor by the composer is present and detectable in *Point Ones*.

## Audience/musician perception

It has been argued above that the conductor is leading (at least) two ensembles. One of them is live and is made up of a clarinet, piano, drums, electric guitar, violin, and cello. The other is virtual and is made up of synthetic, digital, and pre- and live-recorded instruments. During a performance the audience can perceive a clear link between gesture (cues) and sound (both produced by the live performers and the triggered live electronics). A visually attentive audience will associate the movements of the conductor with the movements (and sounds) of the live musicians. They will also begin to associate the movements of the conductor with the sounds made by the live electronics (triggered sounds), especially when the live musicians are not playing.

This appears to be an intended utilization of the conductor by the composer based on both the text in the legend and on the analysis above. Here is the specific text from the legend:

The movements of the conductor trigger and change the live-electronics of the piece. (...) The [indication] arrows give a general idea for the movement - the detailed movement can be chosen by the conductor - and also depends on the electronics triggered by it. (...) The movement of the conductor has not only a technical but also a theatrical side. Think of the conducting for this piece as a choreography! (Schubert 2012)

Measures 1-12 offer a clear introduction to the roles of the conductor throughout this piece. In the first four measures, the conductor is fulfilling their conventional role and using key-gestures to show a 4/4 measure in the indicated time and musical intensity. In measures 4-12, the conductor switches rapidly, but perceptibly, between serving as the trigger for the live electronics and her/his functional role conducting the live musicians while simultaneously triggering the virtual ensemble.

For these reasons, it is demonstrable that the composer has utilized a conductor to enhance the audience's perception of the live electronics. By having the conductor trigger/cue both "ensembles," it can also be argued that the composer has intentionally drawn even more attention (from the audience) than usual to the conductor's gestures.

The first twenty-six seconds of the video linked below contain the first twelve measures of *Point Ones*, performed by Nadar Ensemble with Daan Janssens as the solo-conductor. This video serves to demonstrate the arguments made in the preceding two paragraphs.

Schubert, Alexander, *Point Ones for Augmented Conductor and Ensemble*, performed by Nadar Ensemble and Daan Janssens (conductor): <https://youtu.be/CN-rIluyNbY>

## Visual component – movement repertoire

The presence of the conductor in *Point Ones* is no secondary phenomenon of the music. Recognizable and conventional conductor's movement repertoire is a central theme of the piece and it is ubiquitous throughout the whole. A trained conductor is utilized for the visually apparent conventional key-gestures associated with the role. This also appears to be the intention of the composer. Schubert writes in the legend:

At the end of the piece most of the cues should be - even more extreme than in the beginning of the piece - interpreted as "traditional conducting cue gestures". This can include for example: Giving an instrument or a group of instruments a cue, a stop gesture, a fade-out gesture or anything you can think of. This is partly true for other cues as well (do as it works for you) but asked for in the cues with the "■"icons." (Schubert 2012)

Schubert ensures that the universally recognizable conductor's movement repertoire and key-gestures become central to his piece by the attaching UIs (two WiiMotes) to the conductor's wrists. The movement repertoire is literally mapped live and gestures themselves have become artistic stimuli. This differs from previous works because there is no fixed-media (requiring a click-track) and seldom does a secondary person (a technician) trigger the electronics. It is the conductor's gestures themselves that cue both live musicians and the live-electronics. It is therefore evident that a conductor and conductor's movement repertoire is deployed in *Point Ones* by the composer.

## Conclusions

The role of the conductor in *Point Ones* has inherent responsibilities that differ and go beyond that of the conventional conductor. In the first section, it was demonstrated that the conductor spends the largest quantity of measures in this piece conducting the virtual instrument. The word conducting is used instead of playing because universally recognizable key-gestures present in the conductor's movement repertoire are artistically utilized by the composer to trigger the live electronics. By employing exactly these conductorial key-gestures, the conductor's conventional responsibility to direct and cue the live musicians is not limited, but rather augmented and enhanced. Their gestures cue both live performers and trigger virtual musicians, sometimes at the same time.

This paper has also argued that *Point Ones* is a part of trend in new music in which the conductor's role, and the enhancing thereof, plays a central part.

And finally, five criteria for utilizing a conductor in new music are present in this piece. When programmed, the presence of the conductor is not a secondary phenomenon of the music, but an essential aspect of the piece and a clear artistic choice made by the composer and programmer/concert organizer. The conductor is deployed for their artistic and substantive input. S/he is the subject of the piece. And, the tradition of the conducted ensemble and its universally recognizable key-gestures and movement repertoire (a visual component) lend meaning to the piece both economically and in assisting the audience's perceived perception of the live electronics.

## Notes

1. When the term "new music" is used in this paper, it refers to music that has been written since 1950 and in the Western art music tradition.

2. This research is part of a larger PhD-research trajectory. The central hypothesis of that trajectory states that artistic directors', musicians' and composers' decision(s) today to utilize a conductor in new music ensembles are for reasons that can be divided into one or more of the following five non-exclusive criteria:

- the **artistic and substantive input** of the intended conductor;
- the presence of the **conductor as subject** being central to the piece;
- **economy** (as in required or available rehearsal time, difficulty of the music, and tradition);
- the **perception** of the audience of a piece, program, and/or conductor;
- **recognizable conductors' movement repertoire** is integral to the piece – both musically and visually, his/her presence is not a secondary phenomenon of the music.

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