

RESEARCH ARTICLE

Mapping or Choreographing?: Redefining Musical Notation

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This paper deals with aspects of musical notation in my compositional practice that cast the physicality of instrumental performance as one of the basic principles of compositional work. Choice of notation system relates directly to the process of musical creation; it defines the creative concerns to be dealt with in a particular composition. The composer has to determine the nature of information to be transmitted and the mode of communication to be applied in each case. Whether it is traditional notation or an alternative system that is found most suitable in the end, the composer today needs to be aware of the myriad possibilities available. It follows then that certain processes in composition centred on physicality can be seen as charting the instrument in different terms, choreographing the movements of the performer or mapping out new thought processes for him. However, defining the function of notation in this context is a more complex issue than simply deciding in favour of transmitting one or another kind of information.

Redefining Musical Notation

The composer's main creative concerns in a particular piece are revealed in the notation. Indeed, notation can show the defining features of an entire musical culture.

Composer and music critic Hugo Cole (1974: 8) points out that '[a]reas of interest in a musical culture are reflected in its notations'. Furthermore,

The influence of the structure of language and notations on the modes of thought of users is profound but immeasurable. By its structure, any system limits development in certain directions. (Cole 1974: 12)

Choosing a particular form of notation, therefore, allows one's compositional thought to flourish in certain areas, at the same time cutting off possibilities for discovery and refinement in others. By deciding in favour of any notational system, composers set themselves limits, and confine themselves to operate within that framework. The last six decades have seen a large number of composers question the paradigm of traditional Western musical notation, aspects of which that had until then been taken for granted have now repeatedly been placed under scrutiny. Numerous scores written over recent decades show the degree to which the choice of a notation belongs directly to the process of creation. The musician's debate does not simply revolve around the distance to be taken from the norms of traditional notation; it is a question of rethinking the level of information to

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be transmitted by each score and the mode of communication to be chosen for any particular piece (Bosseur 1993: 26). Choosing a form of notation and operating within the ensuing limits has become an integral component of the compositional process.

In recent years there has been a movement towards casting the physicality of instrumental performance at the centre of the compositional process. This is explored in various ways by an entire younger generation of composers represented by, for example, Simon Steen-Andersen¹, Aaron Cassidy², Neil Luck³, or myself. In this paper I explore how different composers approach this concept and how they relate to my work, primarily by looking at the specific notational choices they have made.

My piece *Planes* for string quartet and dancer (2012) most explicitly demonstrates the physicality of instrumental performance in relation to choreography. The idea behind *Planes* was to unite the string players and the dancer through the common denominator of movement; all material, whether musical or choreographic, was generated by focusing on physicality. The tablature-like⁴ notation system for string instruments reflects this approach, indicating the physical actions of the performer, as opposed to musical pitch, which is prioritized in traditional Western staff notation. Its recent use owes much to the oeuvre of Helmut Lachenmann⁵, who could be regarded as one of the pioneers who brought music from the abstract into the concrete realm of physical actions.

Lachenmann substitutes the previously prevalent abstracted view of composition with a new approach to music that strongly underlines the unavoidable and unquestionable physicality of sound production. His profoundly innovative concepts manifest in his notational inventions, notably in the use of the tablature-style bridge clef – *Stegschlüssel*⁶ – and its various derivatives, which informed my approach to developing my own notational system. By incorporating tablature into his notation and sometimes

even illustrating the score with drawings of the player's hands on parts of the instrument, Lachenmann maps out the instrument with unprecedented precision, enabling sound production to be described in much greater detail than traditional notation could render possible. It may even be said that in some instances he choreographs the performer; perhaps most noticeably in *Pression* for cello (1969), where the traditional clef is mostly substituted by various forms of the bridge clef and the player is instructed in the execution of unconventional playing techniques by drawings of hands on the strings, fingerboard and bow (Lachenmann 1969).

However, by looking at his *String Quartet No. 2 'Reigen seliger Geister'* (1989), for example, we see that in addition to giving each performer almost tablature-like instructions, he adds a layer showing the resulting sound and clearly defined pitches, therefore making it evident that the precise sonic result is very important for him and that, in contrast to the younger generation of composers, the physicality of performance is a means of obtaining that result and not the focus of attention in itself (Lachenmann 1989). My notation in *Planes*, on the contrary, explicitly prioritizes movement over sound, compromising the communication of precise sonic results as well as exact rhythm. As can be seen from the following example (**Fig. 1**), the score does not specify sounds, but only movements. Rhythm is indicated proportionally and not in terms of precisely determined units.

The notation attempts to convey the actions the string players are required to execute on their instruments as exactly as possible. Bow angle, placing, speed, and pressure are carefully indicated by a combination of movement diagrams, symbols denoting bow length, and dynamic markings. Left hand movement is also choreographed, although the notation remains simpler than that of the bow. The basic left-to-right, to-and-fro, circular, and diagonal movements that constitute the string parts also form the basis of the dancer's language. The notation

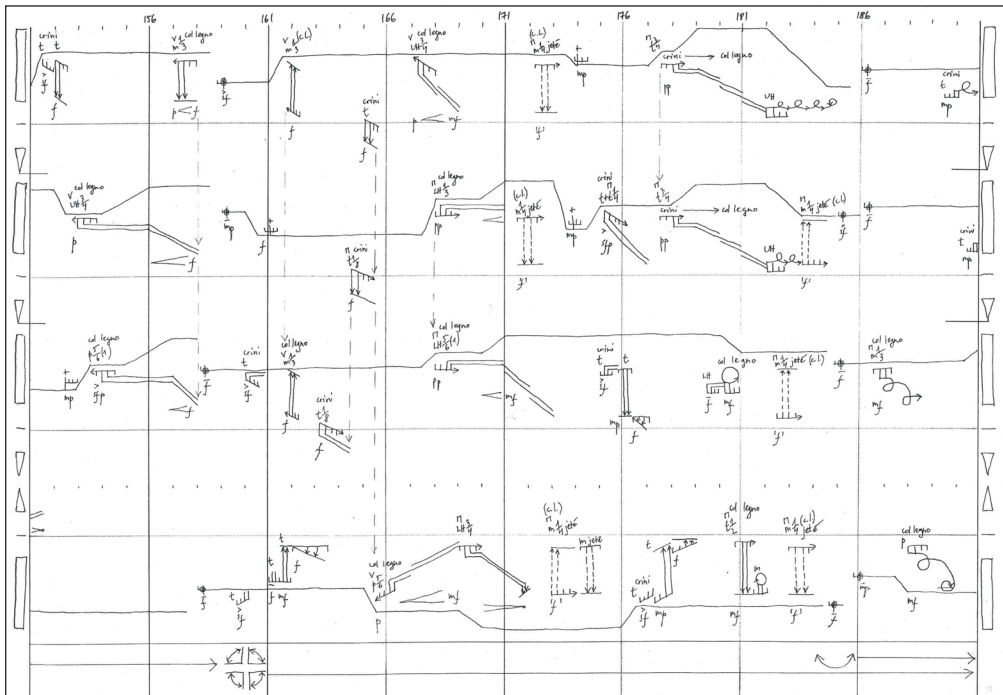


Fig. 1: Elo Masing *Planes* for string quartet and dancer, page 10.

invites the musicians to think spatially like a dancer would, as it attempts to control their movement three dimensionally - not only on 'lateral' and 'horizontal' planes, but at a minimal level also 'vertically' by determining bow pressure⁷. This way of thinking is developed in more complex terms by Aaron Cassidy, whose work I will discuss later. By using this type of notation I was redefining string playing for the performer, making him see it primarily as concrete physical actions that happen to result in sounds, thereby reversing the usual relationship in which action servient to the sonic result. As all material in *Planes* were initially conceived as movements, the physical actions may be seen as taking precedence over sound in this piece, although none was incorporated if the resulting sound was not satisfactory to me. I assumed that if the instructions regarding movements were followed accurately, the sonic result would be as I had imagined.

The challenge in this notation was finding the balance between the physical and aural

information I was transmitting. In this sense, *Planes* is similar to Simon Steen-Andersen's *Study for String Instrument #1* (2007), which faces the same problem, although the movement material in the latter is more straightforward, enabling the performer to estimate the sonic result more easily. The fact that the transmission of sonic information has been compromised in the notation is much less of an issue in that piece than in *Planes*, which, after having been performed a few times, leaves me wondering whether more precision in the notation of sound would have been beneficial to the outcome.

Steen-Andersen's work, like my own, shifts instrumental choreography to the centre stage, and in *Study for String Instrument #1* this is done in a particularly straightforward way. The performance notes read:

The piece is notated only as movements (and can therefore be played on any string instrument and maybe even on other instruments), and is

Fig. 2: Simon Steen-Andersen. *Study for String Instrument #1*, bars 1–3. Reproduced with permission of Edition S music sound art.

just as much a choreography for the player as it is a sounding piece for the instrument. A choreographic game – or even a kind of dance, accompanying itself. (Steen-Andersen 2007)

It is clear from the notation that the composer is not interested in pitch or timbral subtleties, but in certain seemingly simple parameters of the movement of the performer's hands. Steen-Andersen is reminding the player of the basics of string technique – left-to-right, to-and-fro motion, shifting the weight of the right arm and observing the ensuing variations in bow pressure and dynamics – asking the player to reconsider the way he habitually thinks about playing the instrument. The visual aspect of performance is as important as the sonic result and is carefully controlled, the movements being choreographed even at instances when it would make no difference to the sound whatsoever. Consider the following example in (Fig. 2).

As *Study for String Instrument #1* carefully works with rather limited material, the compromises made in the transmission of information regarding sound are much less of an issue than in *Planes*, where the gamut of movements is wider and demands actions that differ more overtly from traditional string playing.

Cassidy's *The Crutch of Memory* for indeterminate string instrument (2004), which I briefly mentioned above, can, like Steen-Andersen's *Study #1*, be played on almost any bowed string instrument. In the programme notes to the piece, available on his website, Cassidy states that he has grown

increasingly frustrated with the tendency of composers to initially generate material through physical, choreographic systems but then to conceal these structures in the notation, which still seems to prioritize pitch as a primary parameter. In *The Crutch of Memory*, he claims to have endeavoured to strip away the pretence for pitch in an effort to more directly prioritize the performative actions in the notation (Cassidy n. d.).

It is clear from the notation that Cassidy has decided to remove precisely determined pitch completely (Fig. 3). All hand and finger positions are rather relative, depending on which instrument the piece is played on, the size of the player's hand and his decisions in interpreting the indicated parameters. In the performing instructions Cassidy asks for *scordatura*⁸, but does not determine precise tuning, although he gives suggestions and instructions on how to detune the instrument so that the result would still be what he intended. However, Cassidy does control the quality of the sound by meticulously describing bow position, pressure and angle, as well as left hand and finger movement and finger pressure. He also prescribes articulation and dynamics in great detail. Together, these parameters create a three-dimensional grid in which the player operates, similar to my approach in *Planes*.

Although this is equally true of the pieces discussed previously, it is particularly evident that Cassidy's notation forces the performer to completely rethink his way of approaching the instrument. The multi-layered choreographic score independently controls various parameters of performance, parameters that

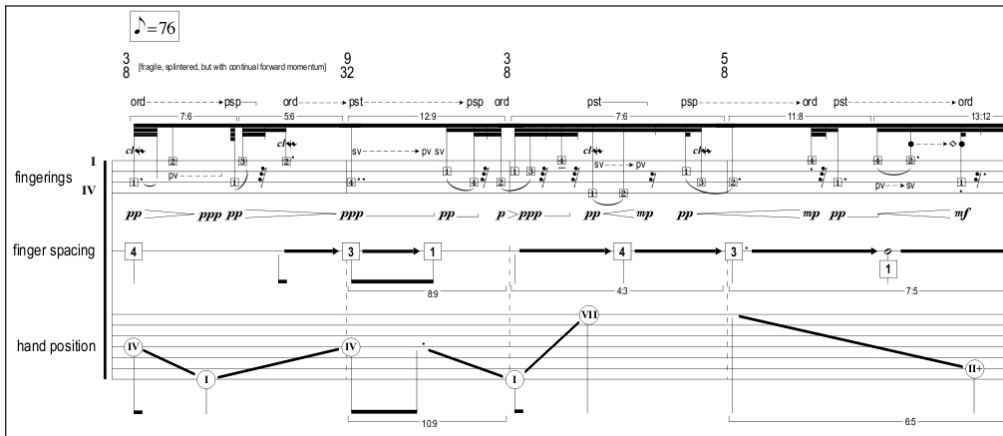


Fig. 3: Aaron Cassidy *The Crutch of Memory* for indeterminate string instrument, bars 1–4. Reproduced with permission of the author.

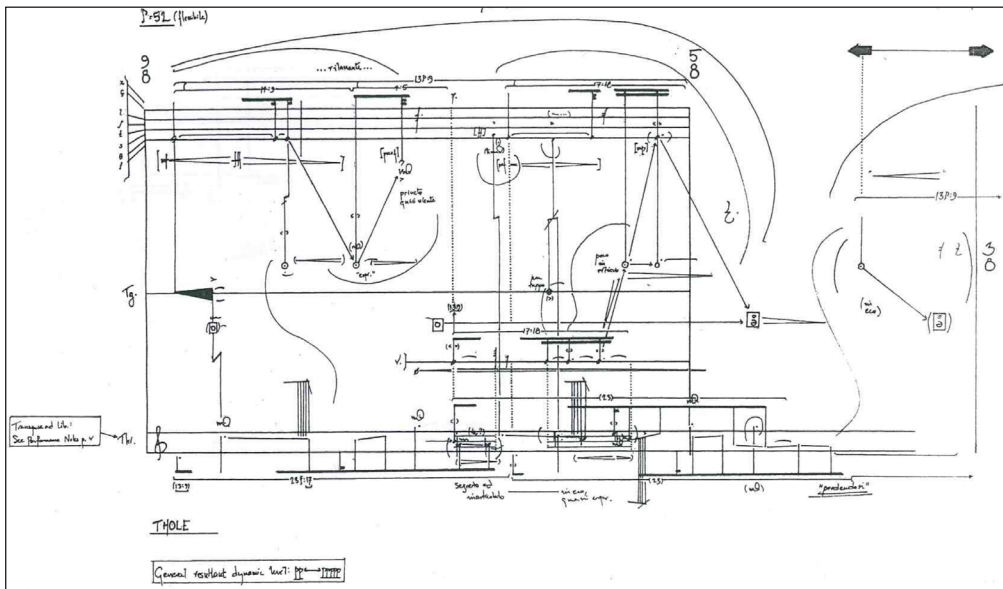


Fig. 4: Evan Johnson *A general interrupter to ongoing activity* for solo voice, bars 1–2. Reproduced with permission of the author.

would traditionally be thought of as one. For example, hand position, finger spacing and placement would, in more conventional scores, be marked simply as pitch. Therefore, Cassidy is not only choreographing the performer, but mapping out new thought processes for him.

Similarly to Cassidy's work, Evan Johnson's⁹ clearly asks musicians to reconsider the way they think of using their instruments. In *A*

general interrupter to ongoing activity for solo voice (2011), Johnson notates the vocal part on seven different staves, separating breath, engagement of vocal chords (voicing) and throat constriction (pitch) – which would traditionally be thought of as one activity in singing – as well as consonantal and vowel sounds, tongue activity, and teeth clicks (Fig. 4). The performer becomes aware of his vocal apparatus in a completely new way as the

The image shows a musical score for piano, bars 77-78. It consists of two staves, treble and bass clef. The notation is highly complex, featuring many notes, rests, and dynamic markings. Performance instructions are written above and below the notes, including 'fg', 'hl', 'fst', 'hnd', 'p', 'mf', 'f', 'ff', and 'sub. p'. There are also some numerical markings like '5', '6', '7', and '8' which might refer to fingerings or specific techniques. The score is written in a 3/4 time signature.

Fig. 5: Elo Masing *studies in resonance II* for piano, bars 77–78.

composer maps out areas that have not traditionally been described in such precise terms.

The performance notes read:

A general interrupter to ongoing activity is comprised of overlapping, mutually imbricated, sometimes self-cancelling structures laid out over a landscape of several different independently treated types of more or less vocal, muscular action [...] not all of which is necessarily audible as such. (Johnson 2011)

What is important is the action, not always the sonic result, or even whether there is any perceivable sonic result at all. So, in addition to novel thought processes, an almost hidden micro-choreography emerges that manifests in the tension of the performance.

In my own piece *studies in resonance II* for piano (2013) a somewhat similar tension can be observed, although it manifests differently than in Johnson's work. The notation of *studies in resonance II* is quite traditional, therefore seemingly transmitting the message that whichever way the performer is asked to produce the written notes – on the keys or on the strings, either with arm, elbow, palm, fist or fingers – adherence to precisely notated pitch, rhythm and articulation is expected (**Fig. 5**).

Subverting the immediate effect of the meticulous notation, however, the performance instructions read:

Instead of becoming restricted by the notation, the performer should let

himself go in the physical act of playing, the raw energy and playfulness inherent in it. If in this process a few notes should be missed, it would not harm the general outcome as much as an overly restricted performance. (Masing 2013)

The result of this seeming contradiction could be called 'controlled inexactitude'. If the performance is to maintain the necessary momentum, precision should be aimed for, but not prioritised by the pianist. The notation influences the performer's trained responses as he tries to negotiate these contradicting instructions. An internal conflict emerges between what is required by the exactitude of the notation and the demand for a wildly energetic and playful performance manner given by the performance instruction.

In fact, the central goal of notating precise pitch, rhythm, and articulation is a compositional tool for choreographing the pianist's movements on the keyboard and inside the piano. Most musical material is generated from physical factors that automatically shape the player's actions. For example, clusters are determined by the size of the player's arms, hands and palms; chords in the last section by the flexibility of his thumb. Sequences of musical material stem from the choreography inherent in the movement of the arms and hands of the player and were all conceived at the keyboard. Traditional notation, in this case, proved more efficient in transmitting the precisely determined choreography than would some form of tablature

The image shows a musical score for solo viola, bars 1-4. The score is written on a single staff in 3/4 time, with a tempo marking of ♩ = c.60 and a performance instruction of 'con vib.'. The key signature has one flat (B-flat). The score includes dynamic markings: 'mf' (mezzo-forte) and 'p' (piano), with a crescendo hairpin between them. The performance instruction 'molto espress, legato' is written below the staff. The score is interspersed with three black and white photographs of a hand in various positions, likely representing specific playing techniques or hand shapes. The first photo shows the hand with fingers spread, the second shows the hand with fingers curled, and the third shows the hand with fingers spread and thumb extended. The score includes various note values and rests, with some notes marked 'sim.' (sordini).

Fig. 6: Neil Luck *Club* for solo viola, bars 1–4. Reproduced with permission of the author.

or graphic notation. In addition to enabling me to choreograph the performer's movements in more precise detail, it adds tension to the performance, making it a more concentrated one than if the notation had implied a freer response.

Instrumental choreography that results in a tangibly tense performance is also characteristic of some of Neil Luck's music. In the work discussed here, the tension mainly stems from the deliberately 'incompetent' performance techniques forced upon the player through the score; techniques, which in the process of performance – alternating with conventional playing modes – have to be turned into an artistic statement. In *Club* for solo viola, Luck has taken a rather literal approach to the role of the score as a set of instructions, including photographs of required hand shapes (Fig. 6). His approach is somewhat similar to my idea in *Planes* – using notation to choreograph the performer by having him reproduce on the instrument the visual shapes he sees in the score. However, while I endeavour to determine the sounds as precisely as possible – at the same time connecting them with visually engaging choreographic movements – Luck does not appear to be particularly concerned with the sonic results.

The performance instructions read:

The sonic results of these hand positions can, and ideally should be in contrast to the notated material. The player should not be concerned about

producing notes, or chords which are in tune, clearly sounded, or particularly 'beautiful' in any way. (Luck 2012)

Luck's notation seems to reflect certain methods of dance choreography, as the performer is invited to imitate with his or her body a concrete visual image of an actual body part. Luck is defining sound mainly through the negative – what it should *not* be – instead of describing in detail what it should be, leading us to assume that the exact sounds corresponding to the photographic elements in the score are not a priority for him. Rather, he is interested in the visual aspect of performance and in the way the conflict between traditional playing techniques and unconventional performance methods creates a physically perceivable tension in the performer.

As can be seen from the examples of my own work, I have become acutely aware that choosing a notation always seems to involve a compromise. Areas of interest are not unequivocally determinable, but rather overlapping and ambiguous. What is more important – sound or action? Reconditioning the ears of the performer or his thought and behavioural patterns? Mapping out the instrument in precise terms to be able to convey sound in an exact way, or choreographing the player's movements through the score? When focusing on the physicality of instrumental performance, a carefully adjusted balance is required between physicality-related instructions and information regarding aural results in the score.

Acknowledgements

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Notes

- ¹ Simon Steen-Andersen (b. 1976) is a Danish composer, performer and sound artist currently based in Berlin.
- ² Aaron Cassidy (b. 1976) is an American composer currently based at University of Huddersfield in the UK.
- ³ Neil Luck (b. 1982) is an English composer and performer currently based in London.
- ⁴ Tablature – a form of musical notation indicating the physical positioning of the musician's hands and/or fingers (actions) rather than pitches (desired results), used traditionally in music for fretted string instruments (for example, lute or guitar).
- ⁵ Helmut Lachenmann (b. 1935) is a prominent German composer best known for inventing a musical language based on unconventional playing techniques for traditional Western instruments.
- ⁶ Bridge clef – a clef that, instead of showing the position of a particular pitch on a staff, shows an outline of a string instrument with the fingerboard, bridge and the area below the bridge, offering the performer a map of the instrument to locate his actions
- ⁷ I am aware that choreographing performers also has strong implications for the audience, but because of the many issues this immediately raises I will not be dis-

cussing it here. Rather, I will focus solely on the composer-performer experience.

- ⁸ *Scordatura* - an alternative tuning of the open strings of a string instrument
- ⁹ Evan Johnson (b. 1980) is an American composer whose music focuses on the physical and bodily underpinnings of instrumental performance, extreme notational situations, and the structural potential of conflicting repetitive and canonic structures.

References

- Bosseur, J Y** 1993 *Sound and the Visual Arts: Intersections Between Music and Plastic Arts Today*. Paris: Dis Voir.
- Cassidy, A** 2004 *The Crutch of Memory*. Buffalo, New York. Music score.
- Cassidy, A** n. d. Available at <http://aaron-cassidy.com/music/crutchofmemory.htm> [Last accessed 10 June 2013].
- Cole, H** 1974 *Sounds and Signs: Aspects of Musical Notation*. Oxford University Press.
- Johnson, E** 2011 *A general interrupter to ongoing activity*. Music score.
- Lachenmann, H** 1969 *Pression*. Breitkopf & Härtel. Music score.
- Lachenmann, H** 1989 *String Quartet No. 2 'Reigen seliger Geister'*. Breitkopf & Härtel. Music score.
- Luck, N** 2012 *Club*. Music score.
- Masing, E** 2012 *Planes*. Music score.
- Masing, E** 2013 *studies in resonance II*. Music score.
- Steen-Andersen, S** 2007 *Study for String Instrument # 1*. Edition S music sound art. Music score.

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