



Timing-Sound Interactions in Traditional Scandinavian Fiddle Music: Preliminary Findings and Implications

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June 10, 2019

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ABSTRACT

This paper reports from a study of concepts and practices of microrhythm among skilled performers of traditional Scandinavian fiddle music, particularly the so-called *springar* tradition which features non-isochronous and variable beats and subdivisions within a triple meter framework. In this context, microrhythm refers to the overall shaping of musical events at the micro level, encompassing both timing (temporal placement and duration) and sound (shape/envelope, timbre and intensity). A particular focus is to explore how these musical features interact and how timing-sound interactions in turn are understood in terms of groove-forming elements. The referred study consisted of semi-structured interviews with five expert musicians, focusing on the defining features of a good groove, and how aspects of sound are envisaged to affect aspects of rhythm and timing, and vice versa. It was found that groove is largely conceptualized in terms of movement and embodiment; that musical features (timing, accentuation, ornamentation, tone production) are seen to interact and overlap, suggesting a multiparametrical and dynamic concept of groove; and that variation in the overall melodic-rhythmic crafting of the tunes is an important groove-forming element. To further highlight some of these findings, the paper also presents an analyzed sample of a springar tune.

1. INTRODUCTION

This study is part of the larger project TIME: Timing and Sound in Musical Microrhythm.¹ The project conducts comparative investigations of four different rhythmic genres – jazz, electronic dance music, R&B/hip-hop and Scandinavian fiddle music – in order to gain new insights into the relationship between temporal and sound-related aspects of musical perception and performance. The present study focuses on traditional Scandinavian fiddle music, particularly the Norwegian *springar* tradition. The springar (also called *springleik*, *pols*, *polsdans* and *run-dom*), which is largely equivalent to the Swedish *polska*, is a traditional partner dance in triple meter with numerous variants across the country. When it comes to the music, differences in rhythm are by far the most important markers of stylistic distinction (Thedens, 2000). Overt differences are found in characteristic patterns of beat accentua-

tion (where and how accents fall), beat duration (the measure may be symmetrically or asymmetrically divided) and beat subdivision (even/duple, uneven/triple, and shifting or ambiguous) (Ahlbäck, 1995). Within these distinctions, practices and concepts of groove, timing and sound are highly specialized. On the one hand, from a bird's eye view the Norwegian fiddle tradition as a whole may seem like a relatively coherent formation of musical practices. On the other hand, among performers it is considered difficult to master more than one of these apparently similar styles of playing, subtle nuances of phrasing and melodic-rhythmic articulation determining the stylistic identity and quality of a performance (Blom, 1981). At the same time, and somewhat paradoxically, stylistic categories are highly flexible in the sense that the same rhythmic style, or even the same tune, may materialize in a variety of ways (Kvifte, 1994; Omholt, 2012). This variability includes a number of musical features related to groove, timing and sound: beat duration patterns (varying from isochronous to highly non-isochronous), rhythmic subdivisions, dynamics (the distribution of accentual energy between and within notes and phrases), phrasing (which and how many notes that are tied together), ornamentation, intonation (the pitching of notes and intervals), harmonization (the use of double stops), onset quality (sharp, soft, gliding), and sound coloring.²

From these descriptions, questions arise as to how groove and groove-forming mechanisms are conceptualized among skilled performers in light of the project's overall focus on the relationship between temporal and sound-related aspects of musical perception and performance. To produce data that can shed light on these questions, interviews have been conducted with five expert musicians (see Methods). The paper presents some of the general findings from the interviews, as well as certain specific manifestations of timing-sound interactions. To further highlight some of these findings, the paper also presents an analyzed sample of a springar tune.

In this context, microrhythm refers to the overall shaping of musical events at the micro level, encompassing both timing (temporal placement and duration) and

¹ See info at: <https://www.uio.no/ritmo/english/projects/flagship-projects/time/>

² See <https://youtu.be/Iw8Iae5YRdI> for examples. The video features the interviewed fiddlers performing in different styles of the springar tradition.

sound (shape/envelope, timbre and intensity). Notably, this notion of microrhythm as a compound concept represents a rethinking that moves beyond existing scholarship's traditional focus on microrhythm as timing (Johansson et al., 2020). As Danielsen (2015) has noted, there is a severe shortage of research on the relationship between sound and timing (as defined above) beyond experimental studies using manufactured sounds devoid of musical context. Moreover, with regard to Scandinavian fiddle music existing rhythm research is largely devoid of ethnographic insight on how performers make sense of performance timing and its associated concepts (groove, flow, phrasing, accentuation and timing–sound relationships) (Johansson, 2017a). The present study thus complements existing research by taking on the complexity of performed music and including ethnographic data from practitioners of a particular style of rhythmic performance.

2. METHODS

To explore discourses on groove and sound–timing interactions among traditional fiddlers, I conducted in-depth semi-structured interviews with five expert performers. The interviews were conducted in 2017 and 2018, based on a semi-structured interview guide that opened with general considerations about what a good groove is, then moved on to more specific questions about the informants' reflections on the importance of timing, sound, and timing–sound interactions, respectively. While all topics and questions mentioned in the interview guide were touched upon, the interviews ended up being relatively open conversations. Moreover, all five informants had their instruments in hand, actively using them to demonstrate particular features of playing technique and associated modes of melodic-rhythmic articulation.

The sample of a springar tune featured in fig. 1 has been analyzed for beat and measure durations (inter-onset intervals), bowing patterns, ornamentation and double stops. Inter-onset intervals were analyzed manually, using the Adobe Audition software to mark the points in the sound graph that correspond to the start/end of the unit concerned and then measuring the distance between the points. It needs to be acknowledged that the fiddle produces sound images which are challenging to account for in terms of rhythmic onsets and that identifying the attack points between which to measure beat durations is a matter of interpretation rather than mere observation. While these sources of uncertainty are compensated for by means of a consistent measurement procedure – making the same decision of placement in all comparable occurrences – it remains that the relationship between physical onset, measurements and experienced rhythm cannot be analytically determined (Kvifte, 2004: 61). A similar objection can be directed against the level of precision with which my analysis operates: the temporal resolution of measurement data is in milliseconds, which is far beyond

the threshold for listeners' perception of timing differences (Clarke, 1989). My response to these quandaries is twofold: 1) The precision with which rhythm is produced may be considerably higher than that of a listener attempting to detect such details (Johansson, 2010: 119). 2) It is not assumed that measured timing data corresponds to how temporal relationships are experienced by performers and listeners. For instance, onsets may be ambiguous, or substantial fluctuations in beat durations may go undetected (cf. below). Such discrepancies between measured beat positions and experienced rhythm are themselves interesting observations considering the focus on microrhythm as a multidimensional phenomenon. In this perspective, finding the precise beat onsets in an analysis of microtiming and feeling “the beat” (note the change in meaning) are not necessarily the same thing, and the latter is assumed to be dependent on other aspects of the music than timing alone.

3. RESULTS

Below, some of the main findings from the interviews are reported. The informants' responses are largely paraphrased and synthesized due to space restrictions, while a more comprehensive account will be available in a forthcoming publication (Johansson et al., 2020).

On an overarching level, it can be noted – in line with many other scholars – that groove is conceptualized in terms of movement and embodiment (Roholt, 2014): 1) The music is created with the aim of making listeners move their bodies. 2) The music is crafted in a way that corresponds to particular ways of moving the body, i.e. different styles of dancing. Accordingly, 3) movement is also represented in a rather direct sense: partly by references to the dancers' movements, and partly by references to the physical movements of the musician, particularly bowing patterns, foot-stomping and ornamental fingerings. 4) Rhythmic qualities of the sounding music are identified using movement metaphors, such as “lift,” “drive,” “flow,” “breathing,” and “forward thrust.” Regarding the first three points, it is indeed striking that dance remains such an important reference point, even as few of the informants regularly play for dancers.

In the musicians' discourse, groove emerges as a multiparametrical phenomenon in that the duration of notes only partially accounts for the music being groovy. Equally important are the dynamics of tone production, how the melody is articulated and how the sound of the instrument is utilized to aid the continuous forward thrust in the music. Moreover, there are many examples of musical parameters overlapping or converging, e.g. timing (short/long) being conflated with accentuation (light/heavy) (cf. Clarke, 1989). Another, more specific example from the interviews is the notion that certain sound effects produced on the fiddle may allude early, late or ambiguous onsets partly independent of actual temporal placement.

Groove is also a dynamic phenomenon in the sense that a proper sense of weight, flow and drive is created through the interaction between all aspects of the music, which mutually influence one another during the course of performance. One implication of this concept is that there is no particular timing and/or accentuation pattern (a generalized groove template) that exists independently of the particularities of the individual performance and that can be translated between different tunes with a sufficient degree of accuracy. It is rather the unique combination of musical features that determines the span of musically viable timings and accentuations.

The above points, in turn, relate to the notion of *variation* as an important groove-forming element, which applies to a number of aspects of rhythmic performance: which notes are accentuated; how the music is phrased by means of varying bowing patterns, rhythmic subdivisions and ornamentations; the alternation between sharper and softer onsets, and the different sound colors of the instrument; and melodic and intonational variation. Notably, these qualities are as much features of sound as of what is commonly referred to as rhythm or microrhythm.

4. MUSIC EXAMPLE

Fig. 1 shows three versions of a two-measure motif from the springar tune “Fra morgon til kveld” performed by the Hardanger fiddler Bjarne Herrefoss.¹ This example can be used as an illustration of several of the points made above. Notably, instead of just repeating the motif, the fiddler uses a range of different variational techniques to breath rhythmic life into the phrase: bowing patterns and beat subdivisions are changing throughout; bow attacks vary along the sharp/soft axis; grace notes and ornaments both blur and accentuate beat positions; long notes exhibit internal dynamic development with a swelling in intensity, creating a surging rhythmic effect; notes are weighted differently between beats and measures; and certain notes are “prolonged” and “shortened” respectively (the quotation marks are justified as explained below). Referring to springar playing in general, the latter two points were talked about by three of the informants in terms of a tension-and-release strategy in which there is an alternation between “holding back” and “letting go” within the phrases. The mentioned strategies also allude that the music is structured in long phrases or sentences of varying length, rather than short repetitive chunks (1-2-3, 1-2-3, etc.).

In terms of beat timing, “Fra morgon til kveld” is a so-called *Tele-springar* in which the beat level is categorically non-isochronous with sequential beat durations of long-average-short in the cycle. However, as seen from the timing data this pattern is not consistent: the duration of the second beat alternates in every other measure, being shorter in the first measure, longer in the second measure, shorter in the third measure and so on. The second beat of

the fourth measure has been additionally extended, being 231 ms longer than the shortest second beat. To assess the significance of these timing variations, I created an informal follow-up study in which my informants, together with six other highly knowledgeable springar performers, were asked to listen to the recording (fig. 1) and point out which of the beats that were prolonged and shortened respectively. Interestingly, no one observed the rather substantial durational fluctuation of the second beat and only one of the experts picked out the second beat of the fourth measure as being subjected to expressive variation.

5. DISCUSSION

Although the follow-up study lacks the required control and rigor to meet the standards of an experimental study, it supports the idea that the fluctuations in beat duration are so seamlessly embedded into the overall melodic-rhythmic flow of the performance that they remain largely undetectable. For this to make sense, it seems inevitable to return to the notion of a formative interaction between timing (*when* musical events occur) and sound (*what* is occurring). For instance, as I have suggested elsewhere (Johansson, 2010; 2017b), the melody “generates” durational patterns that could hardly be considered intentional as a particular distribution of time points. As shown in the line chart in fig. 1, while the individual measures have different timing profiles, the timing profile of the motif as a whole is largely consistent throughout the three repetitions with the exception of the second beat of the fourth measure. This, together with a number of similar observations in other springar performances (*ibid.*), supports the notion that beat timing is intrinsic to the overall melodic-rhythmic articulation of the motif. In this perspective, the difference between the two measures (1-2-3 vs. 4-5-6) is not to be considered a variation in timing as long as the difference is not produced and perceived with reference to the timing profile of the individual measures (or some neutral grid). Instead, it might be suggested that the motif as a whole references itself: when performed differently (*cf.* the extension of the second beat of the fourth measure), discrepancies will potentially be noticed and assigned an expressive function. As one of the informants cautioned: “When I speak of deviations, I’m simply referring to deviations from the last time I played the same motif.”

The above discussion also highlights the multidimensional and emergent nature of the springar groove as expressed in the interviews. Concretely, melodic lines, ornaments, intonations, phrasings, timings and accentuations are not seen as occurring on top of or in relation to a groove. Rather, grooves are formed through the emergent interaction between these musical features. In line with this reasoning, the associated concept of performance timing can be defined in terms of the dynamic integration of all musi-

¹ Audio: <https://vimeo.com/340747123>

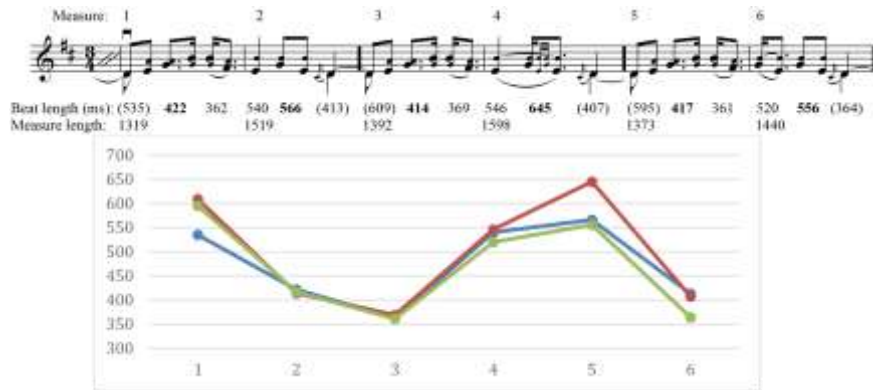


Figure 1. “Fra morgon til kveld.” Three versions of a two-measure motif with timing data for beat and measure durations. The line chart shows the beat timing profile for the motif as a whole and its consistency across repetitions.

cal elements into a coherent or well-formed whole, as opposed to in terms of the direct control of time/durations per se. A promising focus for future research, then, is to map the interrelationships between expressive parameters in more detail.

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