THE TYRANNY OF THE (COMMON-TIME) BEAT
A SPEECH-BASED COMPOSITION WORKSHOP

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ABSTRACT

Many music creators and composers working in the field of contemporary western European music today use Dig- ital Audio Workstations (DAWs) as a compositional tool. The default rhythmic organisation in a DAW is 4/4. Neophyte composers frequently adopt this *common time* signature, with many compositions embracing default symmetrical musical/rhythmic forms from their inception. Thus, for the non-expert user, default technological settings can limit metric interpretation and expression, with consequential decisions over meter effectively taken by the DAW application rather than by composers themselves. In this workshop, we explore how external non-musical influences can help music creators to break away from this default metrical straitjacket and we propose the use of human speech as a basis for developing asymmetric heterometric temporal structures in music composition.

1. INTRODUCTION

Music is organized both 'vertically' by pitch and 'horizontally' by rhythm and meter. The innate human preference for metrical symmetry can be recognised in music composition by the prevalence of the 4/4 (common time) meter, arguably due to its stability, evenness and predictability, as e.g. stated in [1], and perhaps also due to the bipedal nature of humankind.

Today's technology does not encourage movement away from this preference. Many musicians and composers today work with Digital Audio Workstations (DAWs)—the default time signature of all new compositions created using DAWs is 4/4. This is the decision of the software engineer, rather than of the composer. Naturally composers may choose to ignore or override default meter settings but many do not. This may be because music making has become increasingly simplified—some may say made simplistic—as discussed by [2]. Has the introduction of digital audio production tools encouraged non-musically-trained users to create music without engaging with basic components such as meter?

Previous work at Filmuniversität Babelsberg involving students with little experience in music creation showed their innate preference for (and acceptance of) common time. A remedial workshop was held to broaden students' rhythmic perceptions and palette. Here, we would like to build on that experience. We propose a workshop to support experimentation in irregular and compound meters, in which we address a method and source of inspiration which might encourage composers and music creators to explore other metric possibilities than the default.

2. COMMON TIME & SPEECH RHYTHMS

Regular or symmetrical rhythms are often found in non-natural or industrial environments. However, composers might also seek alternative metric inspiration from the sounds of nature or human activity or even, as we do here, from human speech. Human speech does not necessarily take place in common time and can be formalised as *heterometric*, i.e., a linear combination of various meters. It can therefore be seen as an interesting impulse or inspiration for the exploration of rhythms and meter in composition.

It has been argued that culturally-related prosody (speech patterns) can influence music composition [3] and speech has long been used as the basis for the creation of musical structures. However, such structures are usually based on the written text form rather than the spoken (or recorded) form; in the resulting musical structures, text is usually subservient to the structure of the musical form, i.e., most vocal/choral music.

The use of speech form in music composition has a long tradition dating back to medieval troubadours. The later 'recitative' form mimics the natural rhythms and inflection of speech to focus on textural prosody and has been used by composers since the Baroque era: Monteverdi, Bach, Handel, Haydn, Mozart and Beethoven all integrated the technique. In more recent times, an arbitrary selection of composers who have integrated speech into their compositions might include Modest Mussorgsky (*Boris Godunov*), Kurt Weil (*Threepenny Opera*), George Gershwin (*Porgy and Bess*), Arnold Schoenberg (*Pierrot Lunaire*), Alban Berg (*Wozzeck*) and Steve Reich (*Different Trains*). However, rarely in these examples does the natural rhythm of the speech content determine the meter/s of the accompanying music. We will explore the underlying rhythms and implied meters in our speech-based composition workshop with the intention of using these implicit meters as the basis for composition.

3. SPEECH-BASED COMPOSITION WORKSHOP

In the workshop participants will identify underlying rhythmic and metric information in human speech and will then use our proposed strategy of using speech patterns as the metric basis for compositions to integrate the irregularity and apparent randomness of speech into compositional elements. These strategies offer a method for the development of an asymmetrical rhythmic basis for compositions by integration of heterometric time signatures, enabling composers and compositions to embrace a wider metric palette than the default position of common time and supporting the development of enhanced metric possibilities.

3.1 Scope and Outline

Over the period of approximately 90 minutes, and under the guidance of the workshop leader, participants will:

1. be introduced to the general concept of speech-based composition with examples;
2. select a suitable piece of speech and import the corresponding audio file into a DAW;
3. determine a suitable playback tempo or tempos;
4. graphically group words/phrases in order to derive a metric map enabling the piece to be formatted as a track within a DAW;
5. create a musical and/or sonic arrangement and composition based on the selected audio;
6. collectively discuss the process and offer feedback in a peer-reviewing session.

The result will be the participants' rendering of their selected spoken text, as a chronological time-based sonic creation, with music/sonic enhancements of their own devising. The workshop primarily targets developing composers who are looking for new inspiration.

3.2 Technical Requirements

Workshop participants should bring with them a DAW running on a laptop or tablet as well as headphones. Participants will need WiFi access to transfer the recorded audio material to their DAW for manipulation within the workshop and to upload the results so that selected works can be played back during the discussion. No other technology will be needed.

3.3 Learning Goals

Source Selection and Initial Playback Tempo: First, the participants will explore the relationship between the audio and the targeted underlying metric structure. In anticipation of subsequent metric sub-divisions, this activity can take place at the default meter of 4/4. Participants should experiment with a suitable tempo/tempi for playback of the selected audio.

Meter Analysis: Secondly, the workshop uses a method of graphic analysis to enable participants to create notation showing stresses, pauses and relationships between discrete groups of words, reflecting duration in time, intensity (sound pressure level), intelligibility and other chosen aspects of the recording (see Fig. 1). Spoken phrases consist of clusters of associated phrases and sentences - during this step, workshop participants should consider these clusters as groups and determine which words and phrases can be grouped together as a single metric unit, and which of them may be considered independently.

1	2	**3**	4	5	6	**7**	8	9	10	**11**	12	13	14
°	°	She provided a photo		of the two of you together			°	your arm was around her waist			you've seen the photo		
°		how do you explain that		I can't		°	°	(I have no again) I have			absolutely no memory of that		
your friends suggested that the photo was fake				°		°	°	I think it's... from the investigations that we've					
done		°		you can't prove		whether or not that photo is		°	faked or not		because it		
a photograph of a photograph of a photograph													

Figure 1: Graphic analysis of meter.

Assessment of Bar Length: Having determined the length of each group, participants then allocate corresponding time signatures to each section. Time signatures should be determined by the number of beats contained in each section, to create a form for the (apparently) non-metrical material in order to 'fix' it as a composition and to render it potentially reproducible by musicians. The resulting compositions, inspired as they are by non-repetitive speech, may be interspersed with repetition of selected parts at the whim of the composer.

4. CONCLUSION

This approach can provide a path towards liberating developing composers (as well as unsuspecting listeners) from the confines of common time and may provide a gateway to enhanced engagement with heterometric compositions for creators and consumers alike.

Acknowledgments

5. REFERENCES

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