Commentary on: "Perception of Structure in Collective Free Improvisation and its Context Dependency" by Arthur Faraco

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ABSTRACT: This short commentary on Arthur Faraco's target paper investigating the perception of structure in collective free improvisation addresses the question of whether the concept of the "interrupt generator" can be used to explain the segmentations annotated by listeners. In addition, the commentary points to opportunities for further modelling of the musical and perceptual data through the use of modern tools from music information retrieval (MIR).

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SEGMENTING jazz improvisations is an interesting but challenging endeavor. Interesting, because it could lead to a deeper understanding underlying cognitive and motor processes which could facilitate teaching and learning. Challenging because the length and type of segmentation is not standardized. In Pressing's (1988) seminal model, linked sound and motor gestures are concatenated into longer related sequences until an "interrupt generator" (IG) severs the idea thread and starts something new.

In Dr. Faraco's experiment, listeners with experience in free group improvisation were asked to segment existing recordings in that style. Interestingly, the results were fairly uniform whether the listeners were told the recordings were of composed or improvised music. The author interprets these findings as evidence that listeners can identify where the IG occurs in non-tonal music, and I find that interpretation convincing. In my own work with patterns in tonal jazz using both existing and newly collected corpora of improvisations, I've found evidence for the re-use of tonal material to a large degree (Norgaard, 2014). Specifically, tonal patterns similar in length to the concatenated gestures in Pressing's model appear to be linked to specific motor representations in a large corpus from one performer which aligns with Pressing's notion of an individualized knowledge base (Norgaard et al., 2022).

However, in tonal music the position of the IG is affected by the structure of the tonal referent in addition to previously played material by the performer and other ensemble members. Specifically, tonal jazz is often based on a referent chord progression that is typically 12 or 32 bars and repeated for each "solo chorus." Therefore, improvisers may insert IGs at the end of phrases or chorus boundaries. In free jazz, the IG does not depend on any referent. Extending Dr. Faraco's research, it would be interesting to investigate whether acoustic analysis using Music Information Retrieval (MIR) technology of the music aligns with listeners' subjective judgements.

In addition to changes in volume, automated MIR analysis can show changes in pitch and timbre content (Lartillot, 2021) which has been related to changes in electrical potentials recorded from the scalp of music listeners (Poikonen et al., 2016). Of particular relevance to my own research, it would be intriguing to investigate whether repeated auditory and/or motor gestures occur in free improvisations *between* IGs similar to patterns in tonal jazz. One of the brilliant features of Pressing's (1988) model is that it may underpin both tonal and non-tonal jazz improvisation and indeed other aspects of non-musical motor behavior.

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NOTES

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