'ANALYZESRTTPF.PY' – A TOOL FOR IDENTIFYING SMALL MUSICAL FORMS IN LARGER MUSIC CORPORA

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EXTENDED ABSTRACT

Computer scientists have made considerable efforts to develop programs that identify similar musical passages (symbolic music and audio) within a piece and between different pieces (for recent publications see: 1, 3, 6, 9, 14).

While the various programmes have aimed to solve problems such as questions of copyright and plagiarism, the search for known pieces of music with unknown titles through humming, and the discovery of patterns in improvised jazz such as BeBop (6, 7, 18), the usefulness of identifying similar musical passages for the analysis and determination of musical form has only been marginally explored. This is due in particular to the specific concept of musical form. Form is understood as a whole to be divided into sections. Therefore, the search for boundaries between musical sections has been central (4, 12, 16, 17, 19), whereas similarity algorithms were only used to determine musical form when motifs or themes were to be determined (2, 10, 13, 17).

This poster presents a digital programme that in a different, though related, way approaches 'the analysis of musical form through computational means'. First, it claims that for short pieces of music, the recognition of formal sections, cadences and other closure cues is not absolutely necessary, since it is not the cuts and the type of cuts (half or full cadences) that are primarily constitutive, but the repetitions of note sequences between the cuts.

Second, it draws on recent scholarship on Viennese classical forms, especially sonata form, that have emphasized that musical forms are not entities, but the effect of the application of the type case or toy block principle (8, 11, to some degree: 5). Therefore, AnalyzeSrttpf.py, which is applicable to extensive corpora of several hundred MusicXMLs does not repress the by-product of the longest common substring algorithm, namely: shorter note sequences, but uses them to better understand the toy-block character of major-minor tonal small forms.

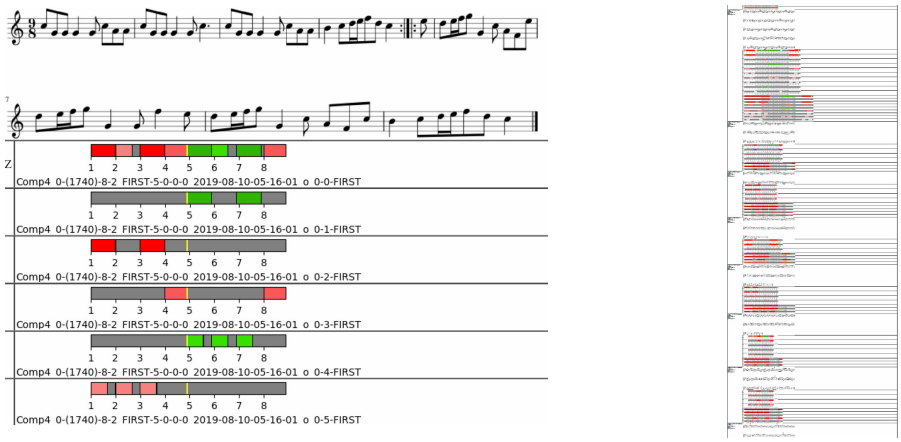

Figure 1. Left side: The new way of Wooing, In *Compleat Country Dancing-Master*, London, vol. 1, [4][1740], p. 1; right side: graphs in a row

Third, instead of reducing the results to abstracts numbers in statistics, as most big-data analysis tools do, it visualizes the analysis results in combination with the score, not only for a single piece, but for all analyzed pieces in a row (ex. 1 and 2). This procedure gives the analyzer full control over the results obtained.

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