

Daniel Han

ISE599

April 1, 2004

Summary of *A Model of Metric Coherence* by Fleischer, Anja

This paper utilizes the model MetroRubette to investigate various aspects of metrical structure in order to develop a definition for metrical coherence. By focusing on a certain aspect of the metrical structure, either inner or outer, we can analyze a piece and determine if there exists a correlation between the inner and outer metric structure, namely metric coherence. The author first describes how to determine all inner local meters and then looks at various works from composers to apply her methods.

MetroRubette essentially relies on the idea of locating “pulses” in a piece without using time signature or bar line information. Local meters are just regular equidistant pulses that correspond to the onsets of the notes and only those meters that are not subsets of other meters are examined. From this, the author defines inner metric weight as the sum of the weights of all local meters for a given onset. This is a fundamental definition in that it really describes metrical structure in general. With inner metric weight it is easier to determine where accents and consequently bar lines are located. Krebs and Yeston, in passing, described very similar concepts where levels of pulses are important in analyzing rhythm and meter. Furthermore, a threshold can be adjusted to exclude local meters of less than a certain value and another parameter controls the amount of long or short local meters contributing to the weight.

The main application found in most of the examples is using the metric weight and seeing if it relates to the metric structure reflected by the time signature and bar lines. For a piece, the time signature is known and with these metric weights one can visualize the accents (those onsets with a high metric weight) and see how they group together to resemble the time signature. However, metric coherence is not always realized as in the case with Dufay’s piece. With that piece, there were hardly any periodic behavior and the weights almost seemed random.

One of the more interesting applications involved Handel’s Sarabande. According to the author this song is a stylized version of a folk dance. Using the metric weight analysis, the author showed that some metric aspects of the original dance could be interpolated simply from Handel’s piece. It was evident that as the local length parameter was decreased, several layers emerged which showed that metric coherence did not exist.

In conclusion, the fundamental ideas were presented in a clear way and coherent manner. Furthermore, results of Fleischer’s work were interesting in that it looked solely at the onsets of notes in an attempt to explain how music is structured in time. Normally music is composed in a manner where the time signature is first defined and then notes placed within bars according to the rules specified by the signature. However, Fleischer takes the opposite direction building from the notes first and ultimately determining the metric structure.