

Abstract

Melody beyond notes - a study of melody cognition

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This thesis is a music theoretical approach to cognition of surface structure in monophonic melodies. It can briefly be described as a study into what extent we may acquire a common experience of melodic structure, such as *phrase* structure, only from listening to a melody. More precisely, this work concerns the question as to whether a cognitively based method of analysis can provide analyses of melodic surface structures in different styles that will concur with listeners' conceptions better than chance.

In order to investigate this question a general model of melody cognition was developed, relying primarily on a few general cognitive principles. The model was designed to be general in the sense that it should apply to any style for which the concept of melody is relevant. This model provided the framework for a computer-aided method of analysis, which performs analysis of different aspects of melodic surface structure based on information of relative pitch and temporal information only. These aspects involve: Categorical perception of pitch and duration at basic levels, such as context-sensitive quantization and melodic pitch categorization; Analysis of metrical and non-metrical temporal structures, e.g. heterometric structures; phrase and section structure, including analysis of structural implications of melodic similarity, structural hierarchy and symmetry. This development has required new theoretical concepts and methods to be created, e.g. regarding the relationship between rhythm and meter, some of which are presented for the first time in this thesis. In order to evaluate the performance of the model a series of listener tests were performed, which together with corpuses of musical notations from different styles, constituted the reference material of the study. This material has included Scandinavian folk music styles and Western classical music, but also examples of Eastern European folk music, Middle East and Indian Classical music, Jazz and Western popular song.

The results of these tests indicated that melody can be conceived differently by people even within a limited cultural sphere. But the results also suggested that this variability is possible to model by a rule-based method of analysis, since the predictions given by the model generally were well above chance level. It is herein suggested that variability in grouping conception to a considerable degree can be accounted for in terms of start- and end-oriented grouping preference. Moreover, the results also indicate that important aspects of even culturally foreign music can be conveyed, also in limited melodic stimuli. Generally, the results support the assumption of a general cognitive framework for melodic surface structure. This might be interpreted as to indicate that, metaphorically speaking; melody may indeed be a universal 'language', but one which we all understand in our own way.