

特別講演：計算機による音楽構造の分析

Special talk: Analysing the structure of music by computer

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Abstract: Research on musical performance, on memory for music, and on music and emotions has shown the importance of structure in pieces of music. Listeners easily recognise aspects of structure such as where phrases begin and end or whether a phrase is like a previous one or different. If we are to create computer software to handle music in a useful way, we need programs which can discover the structure of a piece of music automatically. Music theory can provide some help because there are a number of methods of analysis which aim to explain musical structure. In this paper I report on a research project to automate the process of one kind of analysis, Schenkerian analysis, and demonstrate software which automatically analyses short extracts of music. Although it remains controversial, Schenkerian analysis is the most well established method of music analysis. It is based on a small number of principles and gives an unusually unified account of a number of aspects of musical structure. It has some similarities to the concept of grammar in language in that a simpler structure is considered to exist beneath the notes we see in the score. Schenkerian analysis ‘reduces’ the score by progressively removing decorative notes to reveal the simpler underlying structure. Over the past few years I have been developing software which performs a similar reduction, following the principles of Schenkerian analysis. The results show, however, that the principles alone do not result in the analyses produced by experts. Further information, as yet unclear, is required to guide the process of reduction to a good analysis. For short extracts of music, the software often produces an acceptable result, but it is too complex for longer extracts. I will discuss some possible methods to overcome this problem.

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