

## STYLE PROCESSING

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### Introduction

The musical style processing is difficult to investigate due to different aspects: the complex cognitive strategies that are involved in the elaboration of musical informations, the constructions of experimental procedures that are able to study music as aesthetic phenomenon, and the ambiguity of the elements that define the term 'style' in musicology.

In the recent work 'Le regole della musica', Baroni-Dalmonte-Jacoboni have analysed the style of the baroque composer Legrenzi, and by means of generative grammar, they have constructed a rules system that has been implemented in a software named *Legre*. *Legre*, supposedly, 'composes' arias in the style of Legrenzi.

### Aims

In this work, different fields of study have cooperated together: the musicological aspects are involved by the analysis of the aria, the generative grammar by the construction of rules system, and the artificial intelligence by the implementation of the rules in the program *Legre*. The objective of the present study is to verify the stylistic validity of *Legre*'s output by using methods adopted in cognitive psychology. One of the fundamental questions is to determine whether the methods of generative grammar can describe and recreate by computer the style of Legrenzi's arias. Furthermore, concerning the musicological aspect, the data discusses the essence of the concept style.

### Method

An experiment has already been made. It involved 30 baroque musicians, who were asked in a same/different listening task to recognize the arias written by Legrenzi among 20 different arias (Legrenzi's and *Legre*'s arias). The theory of implicit learning is the theoretical support during the training phase. A sample of 15 non-experienced baroque musicians and of 15 non-musicians are actually investigated with the same listening task. Furthermore, another 15 baroque musicians are asked to distinguish the style of Legrenzi from *Legre*'s one, only by the analysis of the scores.

### Results

The first experiment has demonstrated that the baroque musicians are able to distinguish the composer's aria from the computer's output. They could determine the peculiar features and the differences between the two styles. The data result with the non-experienced baroque musicians and non-musicians will be discussed.

### Conclusion

Up to now, the data have proved that it is possible to distinguish between *Legre* and Legrenzi music. Which style processing modes do the musicians use? And do they recognize the style of Legrenzi thanks to the implicit learning of the training phase or their thorough knowledge of baroque style? The data result with the other musicians and non-musicians will help to determine the rule of the training phase, the pre-existent knowledge, the validity of the generative construction and the musicological definition of the term "style".