
Memory for Music

Effects of Context and Imagery on Memory for Music

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Venue: Room G17, Webster Ground

The current empirical investigation is part of a masters' thesis in musicology at the Humboldt University, Berlin, which will take place from January to June, 2002. Three groups of high school students will either (1) listen to two pieces of music only (*music-only*), (2) watch films with either a *convergent* or *divergent* context accompanying the same musical pieces (*audio-visual*), or (3) listen to the pieces of music while producing personal visual imagery (*visual imagery*). Subjects will rate their familiarity with each piece of music on a Likert scale. Participants will then rate the music using the "Münchener Musikwahrnehmungs-Skalen" (MMWS) (Munich music perception scales) and identify musical elements such as structure and instrumentation. In a second session one week later, participants will be asked what they remember and to identify (yes/no) the pieces they heard in session 1 from a total of 6 musical pieces (four new pieces of music and the 2 test pieces). Subsequently, participants will listen to the original pieces again and will complete the questionnaire from session one again. It is hypothesised that participants in the *visual imagery* group will be more familiar with the music pieces heard in session 1 and will remember more musical elements than participants of the *audio-visual* and *audio-only* groups. It is also expected that music heard in the audio-visual convergent context will be remembered better than in the audio-visual divergent context. Further, we anticipate that in the *audio-only* group performance will be better for the piece of music heard in the divergent context by the *audio-visual* group.

Auditory Imagery, Mental Rehearsal, and Expressive Performance

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Expressive musical performance has a variety of aspects, related to musical structure, musical-stylistic performance practice, and individual performers' expressive goals. For performers, the practice of mental rehearsal through auditory imagery is often an essential part of preparing an expressive performance. This study synthesizes the performer-oriented literature on musical imagination and mental rehearsal, embeds the findings therefrom in a framework of auditory imagery, and presents the initial results of three studies with performers and conductors as they develop expressive performances of selected compositions. The psychological literature on musically expressive performance has become quite substantial but as yet has little contact with the voluminous literature written by and for performers dealing with issues of interpretation and expression. These writings frequently speak in detail about musical "concepts" or "ideas," and musicians expressing these through auditory imagery. This paper brings these ideas together into a single framework and shows how they can be used to help explicate the different interpretive decisions of performers. This framework has been encapsulated as a set of readings and studies for performers to acquaint them with processes of mental rehearsal. Instrumentalists and conductors carrying out mental rehearsal on selected pieces of music were studied using both concurrent and retrospective protocols, and these protocols were then analyzed in terms of the performers' expressive intentions. One striking finding was that certain points in these pieces seem to be particular loci for expressive intent; different performers focused their efforts on these locations but to different ends, showing the influences of both musical structure and individual intent. It is possible to gain insight into musicians' expressive decisions by a combination of methods, and to help musicians increase their skill in creating musical interpretations. To understand these issues, careful examination of the choices musicians make is very helpful.

Enhancement of Memory for Musical Detail by Coordinated Video Information

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This study examined the cross-modality effects of music and video on memory for details of the contents, using a sample of 109 undergraduate college students. Participants viewed 3 video clips, each about 2 minutes long. One clip was presented with its director-intended accompanying music. Another was presented without audio accompaniment. Another was seen while music from a different video clip was played. A fourth condition was also used in which film music was played without video. After experiencing all the stimulus material, participants completed a questionnaire that tested their memory for the details of the video and music. Results showed that memory for video information was uniform across all presentation conditions. However, memory for details of the music was depressed when it was accompanied by mismatched video, and memory for music was enhanced when it was accompanied by the coordinated video intended by the filmmaker.

Repetition Priming of Melodies

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The present study investigated the existence of repetition priming for melody and the extent to which that priming would be affected by the manipulation of frequency of occurrence. A group of 64 participants listened to low and high frequency melodies in the first phase of a repetition priming experiment. Participants were required to name as many melodies as they could as quickly as possible. The same melodies were then re-presented in the second phase of the experiment along with another group of melodies matched on frequency, and participants were required to perform the same task. Mean reaction times were measured for each melody across participants and repetition priming differences were calculated by comparing phase 2 reaction times for 'new' and 'old' melodies. Mean percent correct responses were also computed and comparisons made between all four phase 2 conditions based on frequency and presentation. Reaction times demonstrated a significantly faster and more accurate performance for 'old' than for 'new' melodies in the second phase. Priming was found to be a function of frequency, with greater priming observed for low than for high frequency melodies. The findings of the study echo those found in lexical decision experiments performed with words. The possibility that similar principles govern the cognition of language and music is discussed.