

AUDIO-VISUAL PERCEPTION: FUNDAMENTALS AND APPLICATIONS

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Until ten years ago, perception research mainly focussed on the functioning of one sense in isolation, although in daily life our senses work in conjunction with each other. The eye and the ear process information together. There are many study results which demonstrate how music or speech is understood, which would be relevant only if we were listening through headphones or with closed eyes. But during listening, relevant visual information (movement of the musicians, lip movements etc.) is also processed and the irrelevant ignored.

Audio-visual perception refers not only to multimedia (film, videoclip, internet etc) but this new media has posed a particular challenge to inter-sensory studies in the last decade.

The paper will demonstrate how the audio and the visual interact:

- During the processing of information, the eye can be dominant (e.g. the ventriloquy-effect, increasing loudness by light etc.).
- The ear modifies visual impressions, as in the case of a constant light which seems to flicker due to a rhythmic sequence of tones.
- A few special studies show the McGurk - effect for music (integration of the visual movements of a musician with the heard quality of sound).
- Some interesting results on cross-modality matching will also be presented.

Beyond these elementary aspects, semantic implications of sound and music modify visual impressions, as shown in the many experiments with film music. Special attention will be paid to music video clips where the images also change the meaning of the music. An experiment of my own should demonstrate which aspects of signification depend more on the images, and which impressions are determined by the music.

Finally, after more than 100 years of cross-genre art, audio-visual research has an important relevance for the explanation of aesthetic perception. Beyond the multimedia forms, art (music) today is often conceived with a synaesthetic approach. For example, chamber music works with titles such as "Light", "Lux", "Shadow" refer to this cross-modality matching, and a new genre in particular, the so-called "soundart" is multi-sensory by its very nature. Modern aesthetics are centered around the term "perception" (aisthesis) and thus, it seems particularly paramount in today's new media world that the psychology of music and aesthetics draw from each other.