

EMOTION AND MUSIC IN NARRATIVE FILMS: A NEUROSCIENTIFIC PERSPECTIVE

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The men who make our movies are well aware of [...] how much the score helps to "warm up" the action of the picture, to heighten the emotional impact [...]. They know that a good melody will move an audience when the words or the acting don't succeed.

Kurt Weill, 1946

While writing these sentences the composer Weill remained skeptical about the working process and the pressure put on the composers in the film industry (Weill, 1946), but at the same time he admired the knowledge and the work of the composers in developing and integrating an audio-visual composition. This chapter will explore our recent knowledge of how (film) music modulates affective responses to films and the neural basis of these. A theoretical starting point is the question of the relationship between visual images and music in audiovisual communication of emotions.

Introduction

The extent to which the proposition holds that sound and music properties are subordinate to visual aspects of film remains open to question. Although the development of synchronized sound-film opened the possibility for a composition of visual and sound images into an audio-visual unity, film makers and theorists have mainly relied on the idea that sound helps to interpret the visual narrative, but the visual modality dominates in the reception of narrative structures (see Vitouch, 2001). In contrast, early Russian film director Sergei Eisenstein revealed, while experimenting with a montage of audio and visual aspects of film, that the “two film

pieces, of any kind, placed together, inevitably combine into a new concept, a new quality, arising out of that juxtaposition“ (Eisenstein, 1947). Combining visual aspects and sound should according to Eisenstein lead to a common examination of audio-visual montages as unified entities that together modulate the perception and the feelings of the spectators. So what actually is the relationship between visual and sound images, and in particular between visual scenes and their underlying film music? Does one dominate the other in the perception of audio-visual narratives? And what can psychological and neuroscientific research tell us about the relationship?

Cognitive film theory and visual dominance

Over the past 25 years, cognitive film theory has been a dominant theoretical line in film analysis. It focuses on the narrative potential of feature films, examining the formal strategies by which feature films communicate plots. One of the central theoretical assumptions of cognitive film theory states that the essential structure of cinematic narration is the temporal distribution of plot relevant cues (Bordwell, 1985). This theoretical approach led to the understanding that the perception of temporal coherence as well as temporal progress is shaped by the visual perception of continuity. Accordingly, the temporal unfolding of cinematic narration has been equated with continuity editing, i.e. the maintaining of movement directions over a series of shots. Only in relation to this temporal structure, all features of the audiovisual image (e.g. dialogue, facial expression, close ups or sound events) serve as cues within the respective plot constellation.

Therefore, film analysis for a long time examined the different modalities separately, always starting with the visual features like cut or camera angles, followed by an analysis of sound features and film music (Lissa, 1965). On the other hand, film theory includes several theoretical approaches that do not separate visual and sound features in regard to cinematic experience in general or the aesthetic organization of space, time or movement in particular (Deleuze 1985; Eisenstein 1947; Münsterberg, 1916/1996; also Kappelhoff, 2004). In this context Chion (1994) has provided a theory aiming explicitly at a holistic approach to the audiovisual image. He states that the analytical separation of image and sound is arbitrarily taking into consideration a unifying effect of audiovisual perception called *synchresis*. This theoretical assumption is supported by experimental studies within the field of psychology that hint at a respective salient feature matching mechanism (e.g. Fujisaki & Nishida, 2007). Nevertheless none of these holistic approaches has yet been elaborated into a model guiding film analytical research.

In film analysis the juxtaposition of the visual and the auditory image is sometimes solved by a common discussion of both aspects regarding the effects film has for the affective and aesthetic responses in the spectator/listener, and regarding an understanding of the dramatic and cinematic narrative (Lepa & Floto, 2004). This is counterintuitive, given that an ideal relationship between visual scenes and music may best be described as a symbiosis (Bullerjahn, 2001; Lipscomb & Kendall, 1994) or a synthesis (Lissa, 1965) of the two. Still, and in contrast to the empirical findings (e.g., Lipscomb & Kendall, 1994), in film analysis the dominance of all visual aspects over music is hardly questioned. Sometimes, this is discussed as being a remainder of silent film making (Lissa, 1965). Scholarly film analysis therefore follows mainly the guidelines of classical film makers, in which the primary goal is the depiction of a visual story, along with textual elements like dialogue or voice-over (Bordwell, 1985; Bordwell & Thompson, 1993; Boltz, 2004).