# What are the theoretical relationships between Music, Film Music, and Emotions, and what are the implications for a semiotic analysis of Affect in Narrative Film?

Betty Noad (School of Education)

#### **Abstract**

Music is often described as the language of emotions, and film music, it is argued, is the strongest source of emotion in cinematic film. Despite the ubiquity of emotional responses to music-alone and film music, the special relationship between music and emotion almost defies explanation. Questions tend to be asked about whether emotions might reside within the music itself, and about how the listener perceives, experiences and responds to emotions expressed by the music. Theoretical relationships between film music and emotion are informed by both psychological perspectives on emotions per se, and cognitive-psychological research into the music-emotion relationship. As well, film theorists have modelled how film music impacts on the listening/viewing audience (hereafter called the subject) and causes emotional experience. An examination of the interdisciplinary theorising of music and emotion should be able to inform future research that seeks to analyse the relationship between film music and emotion, in narrative film.

### Introduction

This paper begins by outlining how emotions and the emotion process are conceptualised from a psychological perspective, specifically from research by Frijda (1986). It continues by pointing out that research into the way instrumental music evokes emotions has increasingly oriented towards the theorising of emotions according to Frijda, in order to model how listening subjects process emotional information. Some background is given on the differences in research emphasis that is evident between disciplines, between musicology for example, and psychology. The relationship between film music and emotion is then examined, with a focus on the processes whereby subjects experience emotion, and linking this focus to how film theorists understand the pragmatics of constructing emotions in film. At critical points, implications for future analysis of film music and emotions will be drawn out from the discussion.

#### What is emotion?

The term 'emotion' can be conceived as an everyday concept and a scientific concept. Everyday, implicit and subjective knowledge about emotions is embedded in 'folk-theories' that observe, for example, how some emotions are good, some are bad, that some people are more 'emotional' than others, that emotional experiences can be overwhelming (Plutchik 1994). Scientific, more explicit knowledge about emotion is based on research that investigates how particular stimuli expresses emotions, and the way humans process emotional information (Sloboda & Juslin 2001). Indeed much of the research literature about music and emotions is focused on the way listeners process emotional information from structures 'in' the music or from contextual factors 'outside' the music.

Despite the fact that lay people use the terms interchangeably, there is also a growing consensus among emotion researchers that the terms 'affect', 'emotion' and 'mood'

should be differentiated from each other (Cohen 2001; Meyer 2001; Sloboda & Juslin 2001). Affect has been used as a more general term that refers to the expression of attitudinal positions towards a person, thing or state of affairs. More specifically, and for the purposes of this paper, affect refers to those attitudes which express emotions and feelings about people, and indicate the positive or negative valence of the emotional experience (Eggins 1994; Martin & Rose 2003; Oatley & Jenkins 1996; Sloboda & Juslin 2001). Emotions can be differentiated from feelings, or mood, on the basis of function, timing, or the presence of an identifiable object to which emotions refer. Davidson (1994) for example, argues that emotions function to bias action, whereas moods function to bias cognition. In other words, emotions lead to action, whether the action is physical, such as withdrawing from a situation, or psychological, such as formulating angry or sad thoughts. Davidson further argues that moods can alter the probability that emotions will be triggered, or to put it more technically, that emotions can be understood as 'phasic perturbations' superimposed on the affective background provided by the mood (1994, in Juslin & Sloboda 2001:75). Emotions are said to be brief, whereas moods last much longer. Many researchers argue that emotions have an 'identifiable stimulus event', or an object that emotion will attach to, whereas moods do not (Cohen 2001; Frijda 1986; Sloboda & Juslin 2001).

Most researchers agree on the concept of basic emotions, and agree that happiness, fear, sadness, surprise, anger and disgust are emotion categories that are conceptually and behaviourally distinct and elementary, not complex combinations of emotions (Frijda 1986; Sloboda & O'Neill 2001). An emotion is most often characterised by describing the dimensions of valence, that is, how much an emotion varies according to degrees of similarity, such as describing how pleasant or unpleasant an emotion might be; and the dimensions of activation, such as describing the intensity of the emotion as strong, or weak (Frijda 1986; Juslin & Sloboda 2001). An alternative notion of prototypical emotions makes it possible to examine an emotion category and identify contents which are hierarchised by valence, (Shaver et al 1987), for example within the emotion category of joy are the contents of amusement, enthusiasm, contentment, pride, eagerness, enthrallment and relief, with relief being most positively valenced and amusement the most 'negative' form of joy. The above concepts would suggest that research which analyses music and emotion in film needs to specify whether mood, or emotion is the research focus. In the case where emotions are investigated, the notions of basic, or prototypical categories of emotions are relevant for coding emotional responses, as are dimensional descriptions of valence and activation.

### The emotion process as thorised by Frijda (1986)

The work of Frijda (1986) which provided one of the most influential cognitive analyses of emotion and the emotion process, is based on the premise that one form or other of cognitive activity mediates between an emotional stimulus and the emotional response.

His theory has become a credible and valued reference for music philosophers and psychologists and musicologists with an interest in exploring whether – and how - music or film music is a stimulus that expresses 'genuine' emotions, that is, the kind of emotions that we experience in the everyday, real world (Cohen 2001; Sloboda & Juslin 2001; Tan 1995). Frijda proposes that individuals have 'concerns' (1986:80) which can be understood as preferences for a desired state, such as seeing justice done, reaching a goal or finding a loved one, and that emotions occur when a particular situation impacts on concerns that are relevant for the individual. A 'stimulus' (Frijda, 1986:263), such as a memory, an image, a person, a monster or music, can be perceived by a subject as relevant, or irrelevant, to their concerns. The emotion system is geared towards establishing the relevance of certain situations for the concerns of

the individual, and if such relevance exists, to enforce a priority of cognition and action in accordance with those concerns, which results in some kind of emotional outcome.

According to Frijda, the emotion process has an 'appraisal' dimension (1986:194) which links to an appraisal of the stimulus, and an action dimension which links to the response, or action, that is considered to be appropriate to the situation. In appraising the stimulus in relation to their own concerns, the subject encodes core components of the stimulus in terms of relevance, valence (attractive or aversive), reality (real or fictional) and difficulty (presenting an obstacle, or not). A runaway car for example may be appraised as relevant, aversive, very real and presenting an obstacle before the preferred state of safety. Contextual components of the situation in which the stimulus presents are also appraised to ascertain what potential action the situation might demand and what kind of emotion might be called for, thus the stimulus is classified in terms of its urgency, seriousness and intentionality (its impact on the subject's intention to act). A burglary for example may be appraised as calling for urgent action, serious in relation to the stolen goods, and motivating an intention to find the burglar. In other words, and appraisal of the situation in terms of personal significance allows a subject to understand the 'situational meaning structure' (Frijda 1986:195), to understand criterial features of a situation which impact upon the kind of action to be taken, and the kind of emotion that arises.

Frijda indicates that in the emotion process, appraisal of the situational significance as relevant and meaningful generates an inclination or urge to act in a particular way, an 'action tendency' or 'readiness' for emotional action (1986:75). The action tendency always refers to an object, that is, the object of the emotion, and a stimulus may be the object or relate to the object. Not surprisingly, appraisal patterns, according to Frijda, correlate highly with patterns of action readiness, for example a situation appraised as a threat generates the urge to run away, the situation appraised as someone doing damage generates the readiness for revenge, the situation appraised as artistically sensitive generates a tendency to wonder. A tendency to act consists of an inclination to initiate, maintain or disrupt a relationship that the subject has with their environment, and again appraisal occurs in the emotion process, this time in relation to planned action and the concerns of the subject. 'Action' in the emotion process needs to be understood as occurring outwardly or inwardly: outward action may be overt or physiological, whereas inward actions may be cognitive or experiential. These 'actions' which may begin as inclinations, become emotional outputs of the emotion process, as indicated further on.

As the subject is concerned to realise a preferred state, the action planned for changing an actual situation may be appraised as a 'match' or 'mismatch' with the desired situation (Frijda 1986:265). In other words, an individual assumes a readiness to undertake specific action that satisfies a certain concern. For example, if felt anger is appraised as not matching (not helping) the desired situation of calm, the action may be abandoned; if excitement may potentially match the desired situation of enjoyment, then such action may continue until a match signals that excitement can terminate; if retaliation is appraised as matching the desired situation for revenge, then the action is instigated.

However action tendencies are continually subject to monitoring by the individual and 'regulation' that can modify the proposed action in some way (Frijda 1986:402). To Frijda though, an action readiness which 'changes' into action as a result of the subject's appraisal of the situation is what defines an emotion (1986:466). Emotions may be considered as outputs of the emotion process, manifest as overt behaviour (screaming, smiling), physiological changes (increased heartrate, goosebumps),

experiences (anguish, joy), or combinations of these. Once established, Frijda notes that an emotion has capacity to take control, to take precedence and continue as emotional experience despite all other rational thought or action.

These kinds of processes are familiar whether we are in the reality of everyday life, or in the fictional cinematic world. Researchers (Cohen 2001; Sloboda & Juslin 2001; Tan 1996) have argued that affect in the film viewer is a genuine emotion from a psychological point of view. Tan (1995) theorises film-elicited emotion as consisting largely of witness emotions, that is where the film viewers are led to imagine themselves as invisible witnesses that are physically present in the fictional world, and therefore are able to experience emotions occurrent in the 'real' world. Sloboda and Juslin (2001) point out that psychological approaches to the study of instrumental music and emotion indicate that characteristics of music-induced emotions are typically those of 'genuine' emotions, the kind that Frijda speaks of. For the research analyst, conceptualising the emotion process the way Frijda does means accounting for central concepts such as concerns, stimuli and objects of emotion, appraisal processes, action tendencies and emotion outputs. What has been found from music-emotion research is relevant for research into film music and emotions, which is why the approaches and findings are included. The cognitive concepts are considered in the section that follows, where multidisciplinary approaches to theorising music-emotion relationships are outlined.

### How have musicologists and music psychologists theorised and investigate music-emotion relationships?

Historically a number of central concepts from Frijda's theory (1986) have been either resisted or promoted when it comes to researching the music-emotion relationship, or how we experience emotion from film music. Frijda's theory of emotion focuses attention on the evaluative processes of the subject and the significance of the stimulus is revealed only in relation to appraisal by the subject. This theorising is a departure from musicological views on emotion for example, asserting that a musical stimulus has the capacity to express emotion regardless of how the subject might process it. Psychological theorising of the emotional experience from film music, on the other hand, emphasises the cognitive processes of the subject to realise emotion. Future analysis of film music and emotion needs to clarify the significance of the musical stimulus, and articulate whether the research focus will be on analysing the stimulus itself, or analysing the subject's cognitive processing of the stimulus, or both. Studies involving the cinematic context will further need to clarify how a film music stimulus constitutes a concern for the subject, and what role film music plays in specifying the object of emotion. This section gives some background to understanding the tensions between research that analyses emotion 'in' music, structures and research that analyses emotion constructed by social and cultural factors 'out' of the music.

Despite an ancient notion that music can both represent and induce emotions, music philosophers and musicologists for centuries maintained a 'formalist' perspective on music and emotion (Cook & Dibben 2001:47), asserting that music is autonomous and should be understood on its own terms, and that subjects had no place investigating how music induced emotions. Indeed hermeneutic perspectives in the 19<sup>th</sup> century generated interpretive commentaries on music that privileged the authority of the composer or performer in interpreting meaning, not that of the listening public. Even the work of Meyer (1956), which was significant in presenting an early cognitive approach to explain how listeners interpret emotion from musical structures, was essentially a musicological explanation that excluded non-musicians and the

designative meanings that might refer emotions to objects, concepts or events outside the music (Cook & Dibben 2001).

By the mid 1980s, Cook and Dibben (2001:51) note, this narrowness of analytical purview had resulted in 'an unbridgeable schism between professional musicians and practically everyone else who had an interest in music', a situation which was being challenged by a 'new' musicology pressing for the investigation of musical meaning to take a central position in the discipline. Semiotic theories of music and emotion became significant, emphasising the resemblance of musical structures to emotional experiences, and the extension of an affective lexicon to describe emotional expression in music (Cooke 1959; Tagg 1992), but initiating criticism that lexical approaches may endow music with a false sense of semantic fixity, especially given that musical structures and semantic distinctions in music occur in variable contexts. Structural and expressive vocabularies developed, with varying degrees of success, in an attempt to talk about and analyse music and emotion in a sustained manner (Hatten 1994; Karl & Robinson 1995; Maus 1988) as it had been observed that researchers often 'start out talking about emotion and end up talking about music in the same old way' (Cook & Dibben 2001:59). During the 1990s considerable research interest continued to emphasise musical structure as the emotional stimulus, yet a growing interest on the impact of the listener and listening context in shaping emotional meaning was increasingly evident. Accordingly in this time, psychological approaches to research attempted to explain why subjects perceive music as expressing emotion. and how and why subjects experience emotions from music (Sloboda & Juslin 2001), approaches which become evident in the following meta-analysis of music-emotion research.

### Gabrielsson and Lindstrom's meta-analysis of music-emotion research (2001).

Gabrielsson and Lindstrom (2001) presented a significant review of empirical research concerning the influence of different factors in musical structure on perceived emotional expression, that is, different factors of composed musical structures such as tempo, loudness, pitch, mode, melody and rhythm, that impact upon how the listener perceives emotion in music. Their meta-analysis reported findings from empirical studies from the mid 20<sup>th</sup> century to the 1990s, that investigated the effect of separate musical factors on the listener's emotional experience, and used different self-report methodological approaches ranging from free descriptions to more recent continuous response methodologies (Schubert 2001). Their meta-analysis reveals that attempts to isolate musical factors and ascribe emotional meanings are problematic, as no musical factor works in isolation, and its effects are dependent on what other musical factors are present (Gabrielsson & Lindstrom 2001), a claim suggested by Hevner (1936) and substantiated by many (Fredrickson 1997; Juslin 1997; Krumhansl 1996; Lindstrom 2000; Madsen & Fredrickson 1993; Neilsen 1983). As well, the meta-analysis reveals that the meaning of any acoustic variable is never definitive, that they are culturally specific and dependent on listening contexts (Costa, Bitti, & Bonfiglioli 2000; Crowder 1984; Gabrielsson 1973; Hevner 1935; Kleinen 1968; Krumhansl 1997; Maher & Berlyne 1982; Scherer & Oshinsky 1977). For example, the meta-analysis summary of loudness suggest that soft levels of loudness may be associated with 'softness, tenderness, sadness, solemnity and fear' (Gabrielsson & Lindstrom 2001:240).

A number of points arise from the large body of research included in this metaanalysis. Firstly, their meta-analysis reflects renewed interest in studying the affective consequences of music. Secondly, as Juslin and Sloboda observe (2001:5) it reflects that the study of music and emotion was, and still is, 'pre-paradigmic', that is, that no unifying framework has existed to theorise music-emotion relationships. Thirdly, it reflects that research into music and emotions conducted during and since the 1990s has been identifiably from a psychological perspective, emphasising cognitive processing by the subject, and increasingly engaging sophisticated research methods such as multivariate analyses and continuous response to find relationships between variables 'in' and 'out' of the music. However as Gabrielsson and Lindstrom's meta-analysis reminds us, a musical structure invokes a range of emotions, and subjects' processing of emotional information is idiosyncratic. Lastly, it gives some sense as to potential emotional meanings evoked from particular musical structures, so it acts as a reference point for those investigating emotions evoked by music, which can translate to studies of film music.

### Psychological studies theorise music-induced emotions as 'genuine' emotions

Music psychologists also turned attention to the psychological theorising of emotions, such as Frijda's (1986), to inform their music-emotion studies. Sloboda and Juslin (2001) note that the concepts of basic emotions and prototypical emotions provide categories for coding responses to music. Similarly, dimensional view of emotions provide opportunity for subjects to characterise their emotional responses (Russell, 1980; Shaver et al., 1987). Musical sources (otherwise termed elicitor, or stimulus) of emotion are conceptualised as 'intrinsic' or 'extrinsic' to acknowledge an increasing awareness that subjectivity and listening context impact emotions as much as structures do, in music (Sloboda & Juslin 2001). Intrinsic sources of emotion, as discussed above, which reside 'in' musical structures such as tempo, pitch, or syncopation, are understood as expressive of emotion. However as music psychologists and emotion psychologists see it, what is needed to turn structureinduced perceptions of emotions into 'full-blown' emotions is semantic context, that is, they need to be 'about' something, or refer to an object (Frijda 1986; Sloboda & Juslin 2001:93). Extrinsic sources of emotion as conceptualised by Sloboda and Juslin (2001) are either iconic or associative, assisting in the specification of the object of emotion, by the subject. Iconic sources bear some formal resemblance between the musical structure and some event or agent carrying emotional 'tone', for example loud, fast music shares features with high-energy events such as the Olympics. Because resemblances between a musical event and its non-musical referent appear to be obvious even to non-musicians, iconic representations of emotions in music are commonly researched (Sloboda & Juslin 2001). Associative sources of emotion are arbitrary, more idiosyncratic assignations of emotional meaning to music according to non-musical factors, such as taste, smell, place, or particular music, that the subject understands has emotional messages of their own.

Slobda and Juslin (2001) argue that musical emotions can be considered 'genuine' emotions as theorised by cognitive psychologists such as Frijda (1986). The significance of music as an elicitor of emotion is discussed above. Sloboda and Juslin add that music may refer to an object that is either real or imagined, at close or distant proximity, and that the subject may not even be conscious that music acts as an elicitor of emotion (Sloboda & Juslin, 2001). They also point out that, as with genuine emotions, music as elicitor of emotion is appraised by the subject with reference to its situational meaning: the subject appraises intrinsic characteristics of the music to determine the intensity of their response, and the subject appraises the elicitor for extrinsic associations of meanings that carry emotional content (Sloboda & O'Neill 2001; Waterman 1996). They continue, suggesting that in line with Frijda's theorising of

emotional responses, music-induced emotions have 'behavioural, physiological and experiential' components (Sloboda & Juslin 2001:84) and that music invokes tendencies towards overt emotional action that is commensurate with the concerns of the subject. Overt emotional behaviour is easily observed in young audiences of rock concerts, and it can be considered that the 'respectful silence' that classical concert audiences display, reflects the regulation of emotional behaviour that Frijda speaks of (1986).

## The relationship between film music and emotion, and Cohen's theory (2001)

In a similar exercise and again working from a psychological standpoint, film theorist Tan collaborated with Frijda to establish that affect in the film viewer is a genuine emotion, that can explain the film viewer's experience (Tan 1995; 1996; Tan & Frijda 1999). Cohen concurs with this view, arguing that film music is one of the strongest sources of emotion in film (2001:249). In reference to Tan and Fijda's work on emotion and the film viewer, both Cohen (2001) and Cook (1998) suggests that film music directs attention to the object of emotion in film, such as a person (real) or point in the narrative (implied, imagined), and that the object is identifiably of concern, or relevant to the subject. Cohen (2001) further argues that emotions induced by film music comply with the notion of emotions being apposite to appraisals of situational meanings, and the notion that as situational meanings change in the narrative film, so too do emotions change. As well, Cohen suggests, emotional components of film music adds a sense of reality to the film narrative. Most importantly, music can elicit emotions which take control of the subject, according to Cohen, and tend toward complete realisation, or closure. According to Cohen (1999), emotions invoked by film music are not only genuine emotions, they are also implicated in most of the functions of film music, for example, giving emotional meaning to events, creating and activating memory via leitmotify (representing characters or ideas with musical themes), and contributing to a sense of reality and continuity in narrative film.

To theorise film music and emotion relationships from a psychological perspective, Cohen developed a Congruence-Associationist model (2001) to account for how subjects perceive that film music is expressive of emotion, and how subjects experience emotions from film music. She theorises that audiences' perception and experience of emotion from film music involves cognitive processes that guide viewer attention by allowing them to group together congruent visual and audio information to recognise emotions, and by allowing them to make inferences about emotions that are consistent with film narrative content. In doing so, Cohen refers to the filmic context in terms of diegesis (2001:253), that is, the fictional, imagined narrative world of the film, and the non-diegesis which refers to the objective world of the audience, the world of artefact, of film screens, projectors, proficiency of actors and technical aspects of the film. She suggests that as non-diegetic, acoustic information, film music provides the preattentive step that leads the listener to making inferences about emotions which are consistent with the diegetic world of the film.

Cohen models the concept of congruence as 'bottom up' information processing (2001:259) whereby the subject assembles simultaneous audio and visual information, for example assembling acoustic information as pitch, tempo and loudness, and assembling visual information as images. In this model, such information can be perceived as either structurally congruent, such as sharing temporally accented patterns, or semantically congruent, such as saying the same thing. Cohen refers to this possibility as 'cross modal congruence' (2001:260), and points out that in film

contexts, visual information is given priority (in line with ideas of visual primacy and the subservience of audio to visual information) and audio information is backgrounded. She theorises that while emotional components are extracted from the film music because they are useful in determining the meaning of the visual scene, the acoustic properties of the music are ignored. This phenomenon was noted also by Gorbman (1987), who, following the notion of congruent patterns, asserted that synchronisation of musical and film structures contribute to the inaudibility of the music, masking the source of the sound (the offscreen orchestra) and rendering the music inaudible, yet positioning the music to effect without disrupting narrative credibility.

The concept of association is modelled by Cohen as 'top-down' information processing (2001:261) whereby the subject makes inferences about the attendant congruent material, inferences that make associations between past emotional experiences of the subject and the congruent filmic material. In this model, the subject matches congruent audio and visual information with associations and inferences to consciously construct a 'visual narrative' with visual, verbal and emotional components but not music qua sound (2001:262). It is via these congruence-associationist processes, Cohen explains, that emotional associations generated by film music attach themselves automatically to the visual focus of attention, such as a character or an implied topic of the narrative, thus controlling the definition of the objects of emotional experience. The work of Cohen (2001) and Cook (1998) clearly supports the assertion that film music is strong in the representation of emotion in the abstract, and that the screen is strong in representing the object to which the emotion is directed. Indeed Kalinak highlights the significance of this relationship, suggesting that film music provides an audible definition of the emotion which the visual apparatus offers, and that music's dual function as both articulator of screen expression and initiator of spectator response 'binds the spectator to the screen by resonating affect between them' (1992:87).

#### Film theorists and the construction of emotion in narrative film

This kind of theorising of the relationship between film music and emotions is in accord with film theorists who also take a psychological approach to analysing the way film makers construct affect, mostly in relation to narrative film (Bordwell & Thompson 1993; Carroll 2003; Plantigna & Smith 1999; G. Smith 2003; J. Smith 1999). Film makers, they argue, compose a structure of film music and affect that corresponds with different levels of emotional engagement, to elicit mood and emotions for example. For these theorists, film makers manipulate a wide range of stimuli, such as facial expression, vocal expression and tone, sound and music that are linked in an associative network, to 'cue' moods and emotions. Smith (2003) points out that while these multiple cues can be considered as redundant, they can be considered as emotional markers that collaborate to establish mood in film. Carroll (2003:69) similarly asserts that this is the way that film is 'criterially prefocused' emotively by film makers so that audiences easily recognise and perceive emotions, or assume what Carroll calls an 'emotive focus' (2003:31). He suggests also that in some articulations of film, notably genre films such as horror or melodrama, the emotive address is particularly pronounced and obvious, and criterial prefocusing of emotive content may be somewhat predictable. If analysts are to pith the emotional structure of film, Carroll suggests that one first needs to determine the way in which the film is criterially prefocused, noting the elicited emotions, for example, then reviewing the way filmic material is articulated to meet the criteria of that emotion. Such advice underlines that Cohen's model (2001) is helpful in elaborating theoretical processes that realise emotions from film music, and that film producers account for these processes in the pragmatics of film making.

### Conclusion

In reviewing a considerable body of research literature, this article has examined the nature of genuine emotions as experienced in the real world, and argued that emotions induced by music or film music are genuine, regardless of listening context. Two research emphases have been made apparent that describe the tension existing between disciplinary approaches that investigate the music-emotion relationship. Musicological approaches tend to investigate how musical structures are expressive of emotion, yet reveal the variance in what these emotional meanings might be. Psychological approaches have tended to investigate how subjects cognitively process emotional experiences from music, yet reveal the variance in inferences and associations that subjects bring to their own constructions of emotion. It appears that what has been learned from music and emotion studies is relevant to research that analyses emotions induced by film music.

A conceptual blending of approaches would offer a comprehensive analytical framework from which to study the construction of emotions from film music. Cohen's congruence-associationist model (2001) offers one such framework, accounting for the kind of musical structures presented in film and accounting for the role of the subject who processes emotional content from film music. As well, studies of emotions and music offer analytical concepts and tools which can be applied to the study of film music and emotions. Gabrielsson and Lindstrom's meta-analysis (2001) gives some sense of what emotional meanings can be construed from certain musical structures. Emotions can be identified and characterised from a robust theoretical base. If subjective processing of emotions is taken into account there is the possibility of identifying what associations and inferences are made about the emotional content of film music, and how subjects actualise emotional meanings in film. If, as film theorists assert, film music is one of the strongest sources engaged to cue emotions, the research analyst has a theoretical framework and analytic tools for revealing how film music expresses emotion, and how subjects experience emotion from film music.

#### References

- Bordwell, D. & Thompson, K. 1993, Film Art: An introduction, 4<sup>th</sup> edn, McGraw-Hill Inc.
- Carroll, N. 2003, Engaging the moving image, Sheridan Books, Inc., Michigan.
- Cohen, A. J. 1999, 'Functions of music in multimedia: A cognitive approach', in *Mind Music and Science*, ed S. Yi, Seoul National University Press, Korea, vol. 40-68.
- Cohen, A. J. 2001, 'Music as a source of emotion in film', in *Music and Emotion: Theory and Research*, eds P.N. Juslin & J.A. Sloboda, Oxford University Press Inc., New York, pp. 149-272.
- Cook, N. 1998, Analysing Musical Multimedia, Calrendon Press, Oxford, UK.
- Cook, N. & Dibben, N. 2001, 'Musicological approaches to emotion', in *Music and Emotion: Theory and Research,* eds P.N. Juslin & S.J.A, Oxford University Press Inc., New York, pp. 45-70.
- Cooke, D. 1959, *The Language of Music,* Oxford University Press, London.
- Costa, M., Bitti, P.E.R. & Bonfiglioli, L. 2000, 'Psychological connotations of harmonic musical intervals', *Psychology of Music*, vol. 28, pp. 4-22.
- Crowder, R. G. 1984, 'Perception of the major/minor distinction: Historical and theoretical foundation', *Psychomusicology*, vol. 4, pp.3-12.

- Davidson, R. J. 1994, 'On emotion, mood, and related affective constructs', in *The nature of emotion: Fundamental questions*, eds P. Ekman & R.J. Davidson, Oxford University Press, New York.
- Eggins, S. 1994, An Introduction to Systemic Functional Linguistics, Pinter, London.
- Fredrickson, W. E. 1997, 'Elementary, middle and high school student perceptions of tension in music', *Journal of Research in Music Education*, vol.45, pp.626-635.
- Frijda, N. H. 1986, The Emotions, Cambridge University Press, Cambridge UK.
- Gabrielsson, A. 1973, 'Adjective ratings and dimension analysis of auditory rhythm patterns', *Scandinavian Journal of Psychology*, vol.14, pp.244-260.
- Gabrielsson, A. & Lindstrom, E. 2001, 'The influence of musical structure on emotional expression', in *Music and Emotion: Theory and Research*, eds P.N. Juslin & J.A. Sloboda, Oxford University Press Inc., New York, pp. 223-248.
- Gorbman, C. 1987, *Unheard Melodies: Narrative Film Music*, Indiana University Press, Bloomington, IN.
- Hatten, R. 1994, *Musical Meaning in Beethoven: Markedness, Correlation and Interpretation,* Indiana University Press, Bloomington, IN.
- Hevner, K. 1935, 'Expression in music: A discussion of experimental studies and theories', *Psychological Review,* vol.47, pp.186-204.
- Hevner, K. 1936, 'Experimental studies of the elements of expression in music', *American Journal of Psychology*, vol.48, pp.246-268.
- Juslin, P.N. 1997, 'Perceived emotional expression in synthesized performances of a short melody: Capturing the listeners' judgement policy', *Musicae Scientttttiae*, vol.1, pp.225-256.
- Juslin, P.N., & Sloboda, J.A. 2001, *Music and Emotion: Theory and Research,* Oxford University Press, Oxford.
- Kalinak, K. 1992, Settling the Score: Music and the Classical Hollywood Film, University of Wisconsin Press, Madison, WI.
- Karl, G. & Robinson, J. 1995, 'Shostakovitch's tenth symphony and the musical expression of cognitively complex emotions', *Journal of Aesthetics and Art Criticism*, vol.53, pp.401-415.
- Kleinen, G. 1968, *Experimentelle Studien zum musickalischen Ausdruck*, Universitat Hamburg, Hamburg, Germany.
- Krumhansl, C.L. 1996, 'A perceptual analysis of Mozart's Piano Sonata, K 282: Segmentation, tension, and musical ideas', *Music Perception*, vol.13, pp.401-432.
- Krumhansl, C.L. 1997, 'An exploratory study of musical emotions and psychophysiology', Canadian Journal of Experimental Psychology, vol.51, pp.336-352.
- Lindstrom, E. 2000, *Impact of melodic structure on emotional expression in music,* Unpublished manuscript.
- Madsen, C.K. & Fredrickson, W.E. 1993, 'The experience of musical tension: A replication of Neilsen's research using the continuous resonse digital interface', *Journal of Music Therapy*, vol.30, pp.46-63.
- Maher, T.F. & Berlyne, D.E. 1982, 'Verbal and exploratory responses to melodic musical intervals', *Psychology of Music*, vol.10, pp.11-27.

- Martin, J.R. & Rose, D. 2003, Working With Discourse: Meaning beyond the clause, Continuum, London.
- Maus, F.E. 1988, 'Music as drama', Music Theory Specturm, vol.10, pp.56-73.
- Meyer, L.B. 1956, Emotion and Meaning in Music, University of Chicago Press, Chicago.
- Meyer, L.B. 2001, 'Music and emotions: Distinctions and uncertainties', in *Music and emotion:* theory and research, eds P.N. Juslin & J.A. Sloboda, Oxford University Press Inc., New York, pp. 341-360.
- Neilsen, F.V. 1983, *Oplevelse av musikalsk spoending (Experience of musical tension)*, Akademisk Forlag, Copenhagen.
- Oatley, K. & Jenkins, J.M. 1996, *Understanding emotions*, Blackwell, Oxford UK.
- Plantigna, C. & Smith, G. (eds) 1999, *Passionate Views: Film, Cognition and Emotion*, John Hopkins University Press.
- Plutchik, R. 1994, The psychology and biology of emotion, Harper-Collins, New York.
- Russell, P.A. 1980, 'A circumplex model of affect', *Journal of Personality and Social Psychology*, vol. 39, pp.1161-1178.
- Scherer, K.R. & Oshinsky, J.S. 1977, 'Cue utilisation in emotion attribution from auditory stimuli', *Motivation and Emotion*, vol.1, pp.331-346.
- Schubert, E. 2001, 'Continuous measurement of self-report emotional response to music', in *Music and Emotion: Theory and Research*, eds P.N. Juslin & J.A. Sloboda, Oxford University Press Inc., New York, pp. 393-415.
- Shaver, P. R., Schwartz, J., Kirson, D. & O'Connor, C. 1987, 'Emotion knowledge: Further exploration of a prototype approach', *Journal of Personality and Social Psychology*, vol.52, pp.1061-1086.
- Sloboda, J. A. & Juslin, P.N. 2001, 'Psychological perspectives on music and emotion', in *Music and Emotion: Theory and Research*, eds P.N. Juslin & J.A. Sloboda, Oxford University Press Inc., New York, pp. 71-105.
- Sloboda, J.A. & O'Neill, S.A. 2001, 'Emotions in everyday listening to music', in *Music and Emotion: Theory and Research*, eds P.N. Juslin & J.A. Sloboda, Oxford University Press Inc., New York
- Smith, G.M. 2003, *Film structure and the emotion system*, Cambridge University Press, Cambridge, UK.
- Smith, J. 1999, 'Movie music as moving music: Emotion, cognition and the film score', in *Passionate Views: Film, Cognition, and Emotions,* eds C. Plantigna & G. Smith, The John Hopkins University Press, Baltimore, Maryland, pp.146-167.
- Tagg, P. 1992, 'Towards a sign typology of music', in *Secondo Convegno Europeo di Analisi Musicale*, eds R. Dalmonte & M.M. Baroni, Universita degli studi di Trento, Trento, Italy, pp. 369-378.
- Tan, E.S. 1995, 'Film-induced affect as a witness emotion', *Poetics*, vol.23, pp.7-32.
- Tan, E.S. 1996, *Emotion and the Structure of Narrative Film: Film as an Emotion Machine,* Lawrence Erlbaum Associates, Inc., Mahwah, NJ.
- Tan, E.S. & Frijda, N.H. 1999, 'Sentiment in film viewing', in *Passionate Views: Film, Cognition and Emotion*, eds C. Plantinga & G. Smith, The John Hopkins University Press, Baltimore, Maryland, pp. 48-64,

Waterman, M. 1996, 'Emotional responses to music: Implicit and explicit effects in listeners and performers', *Psychology of Music*, vol.24, pp.53-67.