

# **The power of music for people in difficult circumstances**

By Peter Mak

In an interview for Dutch television that television presenter Wim Kayser had with Yehudi Menuhin in 1993, the violinist told about the great impression music has on people in difficult circumstances. He referred to several concerts he had given for front soldiers during the second World War and to the impact the music had on people who were incarcerated in concentration camps. Music often gave these people the strength to go on living.

How is it that music has this kind of influence on people? In this paper I would like, based on psychological research, to go deeper into the meaning of music, without striving to give an all inclusive description or explanation. First I will look into what meaning, or rather meanings, music has. I limit myself hereby to music as a discernible phenomenon, the musical listening experience. Then I will go on to translate the psychological insights this may provide to the central question in this article: what does music have to offer to people in difficult circumstances? In the final chapter I will give a number of examples of experiences in this field that have been reported in a number of musical projects, organized by the lectorate Lifelong Learning in Music for various target groups (people in difficult circumstances).

## **1. Music and meaning**

That music is meaningful to people becomes clear from the fact that you find music in all cultures in the world and from the quantity in which people consume music. Research among American adolescents has shown that they listen to music between two and four hours a day on average, either or not in combination with video and/or while performing other activities (for a review see Zillman & Gan, 1997). To gain insight into the meaning of music, I make a distinction that is made in literature between outer-musical and inner-musical meaning. We speak of outer-musical meaning when music refers to something outside the music. The musical soundshape, or a certain aspect of it, conjurs up an association with a certain object (for example a bird), an event (a thunderstorm), a feeling or mood (anger), a quality (warm) or an idea (protest; Koopman, 1999). With an inner-musical meaning the music does not refer to something outside the music, but only to itself. The meaning is inherent to the musical sound as such; she lies enclosed in the specific nature of the musical material and the musical form, says Koopman.

### **1.1. The outer-musical meaning of music**

For the description of the outer-musical meaning of music I use the following categories of meaning: music and imitation of reality; music and movement; music and emotion; music and culture and music and personal history.

#### *Music and imitation*

The reference of music to other aspects of reality can be more or less immediate. Very immediately discernible is the relationship when for example, a bird is imitated in music. Less

immediately discernible is the relationship when for example the movement of an animal is being imitated. Often you need advance knowledge, for example of the title of the piece, to be able to perceive the reference in the music. Examples of both can be found in the *Carnaval des Animeaux* by Camille Saint Saëns (imitations of the sound of a cuckoo and the movement of a swan respectively). Imitations of certain aspects of reality in music generally are of limited relevance.

### *Music and movement*

In the sequence of tones in music, listeners experience movement. This is an imaginary, fictional movement, because in reality nothing is moving. The same kind of occurrence we get when lights go on and off at a certain distance from each other and with a certain speed (the so-called phi-effect, Kollers 1972). The movement that marks itself by a sequence of tonal events gives listeners the experience of a tempo. We then speak of quick or slow music. The experience of tempo in music influences people's mood. We speak of an upbeat tempo and of an solemn tempo. The strong relationship between the tempo of the music heard and people's mood can be related to the influence of music (especially the temporal aspects of it) on various bodily functions. Heartbeat, respiration and activities in certain parts of the brain tend to synchronise in a certain way with the registered pulse in music (Trainor & Schmidt, 2003; Harrer, 1977). The same kind of effects occur with the registration of rhythmic dance forms (sarabande, waltz, tango). Eric Clarke points out the similarities between virtual observation of the movement in music and the observation of moving objects in reality. This way we experience an increase in volume as a movement of music towards us and a decrease in volume as a distancing of the music (Clarke, 2005). Todd (1992) found that quickening of pace or slowing of pace in music was felt by listeners to be more natural when the temporal curve was followed of physical objects that move in its field of gravitation. An important question in this respect is what is moving: the listener or the event that is perceived (the environment)? According to Clarke this hangs closely together with the characteristics of music. In polyphone music the listener perceives the movement especially as external; the music moves in relation to him or her; in homophonic music the movement is felt as a movement of the person listening. ( Clarke, 2005).

### *Music and emotion*

Music is mostly associated with the perception and experience of emotions. Research into the use of music shows that music is especially used to strengthen and change emotions in the listener (Sloboda, 2005, chapter 18). Especially tempo and mode are decisive for the recognition of emotions in music. Feelings of joy are especially recognized in pieces with a quick tempo and in a major key. Pieces in a minor key are often associated with sadness (for an overview, see Jansma & de Vries, 1995). According to the authors mentioned it is also easier to recognize emotions that indicate a certain readiness for action (attack or keep quiet; joy or sadness) in music than emotions such as shame and envy, in which the tendency for action is less unambiguous. In all of this it has to be noted that recognizing emotions in music by the listener does not automatically mean the experiencing of it. The emotion is recognized, but not felt as such. Researchers from various disciplines (musicology and psychology) have tried to link emotive patterns to musical 'formula's' as a kind of gesture to composers en musical performers. Cooke (1959) analyzed classical music pieces for harmonic and melodic characteristics that are connected to the recognition of certain emotions. Juslin, who looked closer into the connection with the musical performance, researched musical parameters linked to emotional experience (Juslin, 2001). He says fear is linked to a.o. stacatto articulation, strong variation in sound level,

an average quick tempo with large fluctuations in it, a clear tonal spectrum, intermezzo's between tonal phrases and unexpected syncopation. It has been proven that certain tonal characteristics with large groups of people lead to the same recognition of emotion, without regard to musical experience and cultural background (Sloboda, 2005: chapter 20).

The explanation why music calls up certain emotions is less easy to answer. A possibility is the close relation between music and movement. Sadness and movement go with slow movements; joy with bouncy activity, according to Jansma and De Vries (1995). Another explanation is found in the early communication between babies and their mother. The informative value in the linguistic communications of the mother are felt by the child especially in the specific use of tonal parameters such as pitch, tempo and volume.

Sound patterns with a declining intonation, a quiet tempo and decreasing volume are reassuring to the child. Patterns with a reverse sequence activate the child (Trehub & Nakata, 2002).

Possibly, this partly hangs together with the impact of sound on our nervous system. For another part these reactions can be traced back to inborn reaction patterns. It is certain however that emotions that are expressed through music are partly connected to tonal characteristics that are not unique to music. The application of this in speech and sound lead to recognition of the same emotion patterns (Sloboda, 2005, chapter 22). Experts in animal behaviour speak of 'releasers' in this context, simple stimuli that call up a complex response that is inbedded in the brain (Wilson 2006). Cerebral researchers have assessed that the emotions that are experienced in music, activate the same brain circuits when they are activated by non-musical stimuli (Trainor & Schmidt, 2003). In other words: the same parts of the brain are involved in experiencing sadness in music as in experiencing sadness for another reason.

### *Music and culture*

Music can also be linked to cultural conventions and ideological connotations. Baroque music contains tonal patterns that were connected to a certain meaning for contemporary listeners. In Indian culture listeners learn to connect certain raga's to moods or other occurrences, such as a sunset.

National anthems like the Marseillaise and the Internationale find their origins in battles for freedom. For people who identify with this, the music of those songs represents values for which has been fought. An example of this is the popmusic from the sixties of the previous century, in which there is a protest against the established order of the time. Eric Clarke describes in his excellent book 'Ways of listening: an ecological approach to the perception of musical meaning' (Clarke, 2005) how Jimi Hendrix during the Woodstock Festival in 1969 uses rock music to comment on the nationalistic America of those days, as a protest against the war in Vietnam. He did this by rendering 'his' version of the American national anthem. Without saying a word, he conveyed his message to the audience who understood him very clearly.

Countless examples can be given, from present and past and from different cultures, of the way in which music can refer to social relationships, ideologies and conventions. Musical meanings that are only recognizable to insiders.

### *Music and personal history*

The meaning of music can be very personal. Everyone has memories of childhood songs, of music that is related to a first love, music that was played at special occasions (weddings, the funeral of a loved one) etc. Music appears to be an exceptionally strong means to bring back events from the past and the emotions that go with it (for an overview, see Sloboda, 2005, chapter 20). Patients with Alzheimer's disease, when they can no longer be reached with words, can still

be reached with music. Childhood memories resurface by hearing music that is connected to that time (Bunt, 1995).

## **1.2 The inner-musical meaning of music**

In determining inner-musical meaning what is important is how the listener experiences the music as a sound shape, without direct references to aspects outside the music. Koopman rightly notes that it is an illusion to think that in retrieving musical meaning it is important to give a form analysis in which motives, themes, contrasts, variations, etc. are named and juxtaposed. (Koopman, 1999). The perception of the musical form as an activity of our awareness, without putting into words what is being heard, can be very meaningful for people in itself.<sup>1</sup> If this is indeed the case, then we speak of an aesthetic experience. According to Beardsly (1982) the aesthetic experience distinguishes itself by the following five characteristics:

- a strong focus on sensorial and structural distinctiveness of the perceived object;
- a sense of freedom (absence of distracting thoughts);
- intense feelings;
- all cerebral aspects are engaged;
- experience of wholeness.

This definition focuses on the observing subject and says less about the form characteristics of music that are decisive in letting the aesthetic experience emerge. Also the definition is less tied to art music; the aesthetic experience can be had with all kinds of music, depending on the the listener's implicit musical listening knowledge and listening experience. A certain piece of music can lead to an aesthetic experience for listener A and not for listener B (because it is either too complex or too simple.) There is therefore a remarkable difference in the emotional experience of music, in which recognition and experiencing emotions have nothing to do with the musical level of knowledge of the listener.

Brain researcher Ramachandran has made a study of the possible origin of the aesthetic experience (Van Delft, 1999). He drew up seven rules about how our awareness handles perceptual information that is causing the aesthetic experience. Ramachandran has deduced these rules from visual observations and applied these to the fine arts, but they can be translated to the musical domain without any difficulty.

### **1. Peak-shift effect:**

Exaggerating patterns that are meaningful to us, that move us more powerfully (activating of age-old modules.) Emotional characteristics are expressed in an exaggerated form in music and this stimulates us.

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<sup>1</sup> Fodor speaks of two autonomous systems in his theory of modularity, perception and cognition, each with its own organisation, processing principles and development. Processing perceptual information in awareness follows certain routines, that are partly innate (in the form of Gestalt rules) and are partly based on implicit knowledge that can only be obtained by sensorial perception (hearing, seeing, feeling, smelling, tasting). This way people experience, by listening to tonal music, a sense of incompleteness when the melody closes on a dominant key (without knowing – cognition – that it concerns a dominant key. The perceptual processing of acoustic information related to music, has as aim the experiencing (naming of it is not necessary) of musical coherence between notes at different levels (motive, meaning, formal scheme) and can be the reason for an aesthetic experience (for more information, see Mak, 2004).

## 2. Group formation:

The discovery (recognition) of coherence (Gestalt), patterns makes us feel good.

## 3. Isolation:

The auditory system has more processing modules (for harmony, rhythm, melody, timbre, etc.) Isolation means that we prefer to direct our attention to information in a limited number of processing modules. If the melody demands too much attention (has a high gestalt-value) we like it when the rhythmic and harmonic structure is less complex (requires less attention).

## 4. Contrast:

Leaps in volume, colour, pitch and texture etc. articulate the form and stimulate the listener.

## 5. Dislike of a special point of view:

A singular perception makes us feel good. We reject obscurity of form (tonal, harmonic, metric, form technical etc.)

## 6. Puzzles:

We like a certain measure of ambiguity, especially if the perceived ambiguity finally leads to clarity (see rule 5). Complexity creates a challenge and involvement. Complexity itself is very personal and a.o. hangs together with how familiar we are with a certain musical idiom.

## 7. Art as a metaphor:

Linking two apparently unrelated issues makes people feel good. The reference of music to various (inner- and outer-musical) meanings is a clear example of this.

For the aesthetic experience especially the mutual relation of the formulated rules is important. Clarity (see rule 5) and ambiguity (see rule 6) are always in a certain relation to each other in music. Too much clarity leads to boredom; too much ambiguity to rejection.

The rules as formulated by Ramachandran refer to general truths in the perception that finds its origin in the (phylogeny) of human observation systems, aimed at creating better chances for people to survive. Is art a nice by-product of this development, or does it make a significant contribution to survival? I will not be answering that question here just now.

It has been determined that the perception of the inner-musical meaning of music is also linked to emotions. This aspect of musical perception has been explored by Leonard Meyer (1956). A musical happening, according to Meyer, has an inherent meaning ('embodied meaning') if it refers to a musical happening that still has to take place, so if it raises expectations about other, future happenings. A dominant seventh chord for example gets its meaning because it refers to the tonic that has to follow. An antecedent consisting of several metres raises the expectation that there will be a consequent with the same number of metres. Not having this expectation met or met in a different way gives rise to emotions. All important music plays with this idea: deviation from the expectation of listeners (read: the not conforming to general musical rules) makes music interesting, touches people. Sloboda (1991) found that listeners indicated physical reactions (tears, shivers, a quick heartbeat) when musical structural characteristics such as suspensions, new or unexpected harmonies, important events come sooner than expected. Interesting about this is that these effects

on repeated listening to a certain piece of music, occur every time anew. The deviation from the general rule (as heard in most pieces) keeps exerting its effect.

### 3. Music as consolation and hope

In the previous chapter the inner- and outer-musical meaning of music has been mapped and linked to related psychological processes. In this chapter I will try to indicate what conclusions can be drawn from this for the meaning music has in particular for people in difficult circumstances. For this it is firstly very important to describe what it means to people to live in difficult circumstances. Key is that it concerns situations here that are experienced as difficult and in which the person concerned feels that he/she does not have any control over the circumstances. Think for example about people who have suffered a loss, who are dealing with a serious illness, a decline in health or a disability, people imprisoned or living in war conditions. Important is that whoever it concerns, finds a way to live and to deal with the problems. What can music actually mean for these people?

Dealing with situations as defined above can lead to different reactions, varying from rebelliousness to dejectedness. In the first instance there is too much tension and in the second there is too little tension. Music can regulate the state of tension for people. Mothers do this with babies, as I indicated before. The strong influence of the pulse of music on various processes responsible for the activity level of the body (heartbeat, blood pressure, respiration) makes that music can calm people as well as activate them.

The influence music has on our emotions can make that music can be mediating for people in difficult circumstances and can help in dealing with emotions. In music therapy we make much use of this. An explanation for this can be found in the fact that in music the emotions are experienced without the threat of the real context (the cause of the emotions). Moreover the person involved can end the (listening) situation at any given moment (Jansma & De Vries, 1995). Going through the emotion also has a cleansing effect (catharsis): by undergoing the emotions a feeling of liberation is experienced. A good example of the way music works I found in a column by Abraham de Swaan in NRC Handelsblad (a Dutch national newspaper) of 27 April 1996. In this De Swaan describes a special emotional experience he had during a musical performance, a year after his mother died. He says the following about this:

*'When I came outside again, I experienced a lightness, a great sense of relief. A great grief had been lifted off me in that music hall. Not that I had lost it forever, on the contrary. Rather, I had been delivered of it, and put it into the world, where I would live with it from then on.'*

The mood management theory takes as a starting point that people tend to turn negative emotions into positive ones. The best way to do this is by first undergoing the negative emotions. In a music piece a certain emotion is often emphasized in various degrees of volume. Music can also express different emotions, in a time sequence. In classical music pieces consisting of more parts such as a symphony, a sonata and a string quartet we also see this. In the first part the conflict is the central issue and all emotions that come along with this. In the second, slow, part, we find its opposite, as it were ('come on, the world is not so bad'). A natural balance appears to be found again in the last part, that finds its completion in a joyful coda. And afterwards the audience feels that they are up to facing the challenges of life again for a while.

The aesthetic experience of music, marked a.o. by a strong focus on sensorial and structural characteristics of music and an absence of distracting thoughts, only appears to intensify the workings of music. One effect of this is that people detach themselves from the problems they are facing; they move into another world. Experiencing beauty in music appears to be strongly related to control on the one hand (the feeling that what is heard is accurate and could not be different) and on the other hand to the feeling that not everything is understood. This phenomenon in aesthetics is sometimes called the 'sublime' or the 'unspeakable' (see Sloboda, 2005, chapter 20). Art lifts you above yourself as it were into a universe that is many times bigger than you are. Poet and psychiatrist Rutger Kopland, in an interview in the *Dagblad van het Noorden* (a Dutch regional newspaper) put it as follows:

*'I think every good and beautiful piece of art is a consolation. A consolation to see that this is possible; you are lifted out of time for a moment, and experience that 'this is the way it is'. A beautiful experience; something that overwhelms, is bigger than you are. Such a feeling is related to religion.'*

In circumstances like these, music is more than an escape. The musical experience refers to a better, more beautiful world. From this we get consolation and hope, the feeling arises that in spite of the circumstances we may be in, life is worth living (see also Diekstra, 2003).

Personal associations with music often have a positive value for older people who are dealing with the loss of a partner or deterioration of body and mind. Songs from their childhood can stimulate old people and bring about memories (and therefore also feelings) from those days.

#### **4. Certain effects of music projects for people in difficult circumstances**

The lectorate Lifelong Learning in Music has recently organised special music projects for people in a nursing home (mostly elderly people), young people in a Juvenile Detention Centre and residents of a care institution for the physically and mentally disabled. In this chapter I want to go briefly into the effects of these projects in the light of the meanings music can have for people in difficult circumstances, as has been suggested in the previous chapter. For this description I take as a starting point my own observations, the observations of students partaking in the projects and the evaluations afterwards with the staff of the institutions involved.

In the nursing home we noted especially the effects of music (well known songs from childhood) on the involvement of the elderly with their environment. The recognition of the songs caused a lively response in a number of old people who sang along and clapped to the music. Afterwards, when the musicians had a chat with the old people, the musical experiences were linked to episodes from the people's personal history. Remarkable was that this also happened with a few of the residents who were usually seen as being quite reticent.

In the prison for juvenile delinquents 'Het Poortje' what was noticeable was that especially the more rhythmic and louder parts of the music were appreciated. For youths of this age, adolescents, this preference in itself is not remarkable (see Zilman, 1997). But could this also

have something to do with their need to process negative emotions, in relation to being incarcerated?

In the home for the mentally and physically disabled many inhabitants suffer from spasms: a contraction of certain muscle groups, about which the person has no control. One of the effects of music we saw there was that the restless movements of some of the residents diminished during the listening (this was put forward in the evaluation with the staff). A good example of how music can influence the central nervous system of people.

In all cases the connection with the music heard to the personal musical preference of people and the problems they are dealing with, is the most important factor to bring about the effects that have been reported. Music itself will not solve the difficult circumstances people find themselves in, but it can help people in dealing with these problems. By allowing painful feelings to surface and dealing with these (offer comfort); by seeing the problems people are facing in a different perspective (giving hope) and by reconnecting people to their environment. Music can help people find the strength to face life again (see Smeijsters, 2005).

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