This paper explores the status of music as a case of expression or communication. In order to demonstrate that music can be a communicative, not only an expressive behavior, the domain of the sound-track in films is tackled, a case where music typically provides information that may be linked in different ways to images. A research study is presented where subjects had to describe the emotions, sensations, thoughts and images induced in them by sound-track sequences, either with or without seeing the film images. The results show that music in film can provide information of an emotional, narrative and metatextual kind, and that narrative and metatextual information are caught also in a direct way, not only indirectly through inference from emotional information.

1. Music between expression and communication

It is an undoubtable truth that music represents an important dimension of human life, but how can we consider it: a case of communication or just a case of expression?

First of all we have to tell exactly what we consider expression and communication. In the model we adopt (Conte, Castelfranchi 1995; Poggi, Magno Caldognetto 1997), we have a case of communication when "a Sender has the goal to have some Addressee get some meaning (some belief about the external world or about the Speaker's Mind) and to attain that goal Sender produces a signal, a physical stimulus perceivable in some modality (acoustic, visual, tactile, chemical or other), which is somehow represented in a shared code, i.e. it is linked to the intended meaning in both Sender's and Addressee's mind". On the contrary to define expression we start from the etymological sense of the word: ex-pretgere,"to push out" something and so we have a case of expression when "some Agent has the goal of putting some internal state out". Given this definition, we can say that expression is different from communication, 1) because it does not require an Addressee (the Agent is not even a Sender): sometimes one may play or compose a musical extract just to give vent to his/her feelings and not to put anything in common with other people; 2) what is "put out" may be only an internal state, an emotion or attitude, not a referential meaning, information about the outside world; 3) one could finally claim that music is not a shared
code because any musical signal has different meanings for different people. For these reasons one could argue that music can be considered just as expression, not communication. We think, on the contrary, that music is often a case of communication, and in this paper we try to show that in the realm of film sound-tracks, music does convey meaning and not only emotions. In fact it is evident that music can convey emotions. It's one of the reason why people approach music (Meyer 1956; Sloboda 1985). We can discuss, however, if music can also convey meanings (Imberty 1986) about facts of the world, or other kinds of information. A privileged field where we could raise the issue is exactly the sound-track of a film, where we have the experience of the great impact of music on our understanding and fruition of the film (Chion 1995).

Our hypothesis is that music can convey also other kind of information beside emotions and that a precise musical sequence in a sound-track does not mean any or every thing, but only some precise meanings. Moreover we think that these meanings can be received as directly as through the mediation of emotions.

In a film, music is obviously linked to image, but at the same time autonomous from it, in that sometimes it may convey information which is additional, contrasting, different or independent from it. In the horror film "Dracula" by Francis Ford Coppola, for instance, a scene in the beginning shows the two protagonists in an idyllic landscape suggesting a delicate and melancholic atmosphere, but music at the same time with a dissonant harmony unequivocally anticipates perturbing and tragic facts. So music does convey information of its own.

2. The sound-track. A research study
2.1. Working hypotheses
In order to test if and how music can convey meanings, we conducted an empirical study. Our research project included two phases, an introspective study and an experimental research. In the introspective study we listened to the sound-tracks of 20 films, some while also viewing the images and some while only hearing the sound, and we tried to figure out what information was specifically conveyed by single musical sequences. On the basis of our impression, we formulated the following hypotheses:

a. music can convey at least three kinds of information: **emotions** (of both film characters and film viewer); **narrative** (say, types of landscape, character's actions like running or waiting); **metatextual information** (especially about the end of single scenes and/or of the film itself; and about the film genre, whether comedy, thriller, horror or so).

b. narrative and metatextual information is conveyed not only in an indirect way, through inference from emotional information, but also directly. In fact, it might be that I understand that something will happen or that a character is feeling some emotion not because the music "describes" the event or the emotion (i.e. "tells" me what the character is doing or feeling), but rather because music makes me feel that emotion and this in turn leads me to infer some event (for instance, I feel
tension and so I realize that something bad is going to happen). In this case, we would have to conclude that narrative or metatextual information can be caught only indirectly, inferentially, through information that is originally emotional.

c. a systematic relationship holds between the meaning conveyed and the music parameters of rhythm, tone, timbre, loudness. For example, moving from dominant to tonic tells us that a scene or the film is over; a fast or increasing tempo makes us think of somebody running.

2.2. Method

These predictions were tested through an experimental research. 30 subjects, without any kind of musical education, were exposed to scenes from two films: a comedy, "Much Ado for Nothing" by William Shakespeare, directed by Kenne Branagh (M.R.P. N.), and a horror film, "It", by Stephen King (IT).

15 Experimental Subjects only heard the audio, while 15 controls both heard the music and viewed the images. All subjects were asked, first through a free impression test and then, after a second audition, through a multiple choice test, to write down the emotions, thoughts and images that, first the whole musical extract, then the single sequences, induced in them. Experimental subjects were also asked which meanings were specifically conveyed through rhythm, melody, harmony, timbre and volume of the music. Subsequently, they also viewed the images and then they were asked to answer a new multiple choice test, in order to verify if images add something new to the music informations.

2.3. Results

Results have shown that not only in multiple choice but also in open questions the emotions, thoughts and images induced by the music sequences were largely as predicted, even if the meaning were more unequivocal in the horror film than in the comedy. This means that music in film can convey some precise meaning even without the image information. Which is confirmed by the results of the second multiple choice test (after the addition of images), very similar to those of the first test.

Moreover, narrative and metatextual information seems to be received also in a direct way and not only as mediated by emotional information. In fact it is already indicated in the free impression test.

Subjects were, however, unable to discriminate which aspects of music (say, tone versus rhythm or timbre) actually evoked the different meanings, above all for the difficulty to extrapolate the single aspects of music from the global musical extract.

2.4. Different music for different film genres
From a detailed analysis of both free impression and multiple choice tests, it resulted that the most frequent choices for the two films are markedly complementary: different music corresponds to different content or atmosphere. In fact the most chosen alternatives in "M.R.P.N." were never chosen in "IT".

A very interesting issue resulting from our experiment is the different function and different sound-image synchronization of the sound-track in films of different genres. For instance, for M.R.P.N. subjects mentioned more narrative informations than for IT, while metatextual information about film genre is complety lacking for M.R.P.N. and very clear and specific for IT. In IT metatextual information of a narrative kind (say, information like "something tragic is going to happen") is much more numerous and analytical than in M.R.P.N.: it looks like if in the horror music were needed to create expectations scene by scene, while in the comedy it is used to convey information about the global atmosphere or about the film conclusion. In fact, as I go to see a comedy, I just know that there will be a positive final because it's a comedy, while as I see a horror film it is important not to anticipate the end of the story because a horror, as well as a thiller is based on unexpected events.

Also the location of the music in the two film genres is different: in horrors music very often occurs in silent scenes, while in comedies it may also accompany dialogues.

3. Conclusion

The hypotheses a. and b. of our study on the meaning of music in film were confirmed: music can convey not only emotional but also narrative and metatextual information, and these are conveyed not only in an indirect way, through the mediation of emotional information, but also in a direct way. The third hypothesis, about the relationship among specific parameters of music (tone, rhythm, timbre, loudness) and specific information conveyed were not confirmed by our study, maybe also due to experimental weaknesses. This topic needs then to be further accurately investigated.


