

# Sound design. Ambiguity and historical necessity of a fashionable label

Maurizio Corbella

Università degli Studi di Milano  
maurizio.corbella@alice.it

---

The web site *filmsound.org*, an international benchmark carrying the latest technical and practical data on the ‘art of film sound’, features the topic of sound design in hundreds of bibliographic references listed in alphabetical order by film title. Proof enough of the fortune of this formula that has come into everyday use among specialists and ordinary cinema-goers alike. In the structure of cinema production, sound designer is surely the most ambiguous specialisation, with a field of action ranging from so-called “special” sound effects to authorial responsibility for a film’s entire audio component. Like the term “director”, sound designer does not denote specific, well defined competences but rather an extensive and articulated semantic area.

The true sound designer must be immersed in the story, characters, emotions, environments, and genre of the film. With their contribution the audience will be led down the path in an integrated, yet most often unconscious manner toward an experience that is authentic and human, a metaphor for the life experience itself. Using all the tools of music, psychology, acoustics, and drama, the art of orchestration comes into play, selecting the right sound for the right moment (Sonnen-schein 2001: xix).

Yet, unlike the director, the sound designer has not always existed, at least not in terms of such a definition. The emergence of this label went hand in hand with the New Hollywood phenomenon and the debate on art cinema in the American society, in the wake of independent filmmaking in Europe during the 1960s and its adaptation to Californian production practices. Following a further paradigm shift in which the problem of authorship seems slightly less poignant than before, there is nowadays a tendency to call into question a label which has exerted considerable fascination without becoming fully integrated into mainstream production models, at least not in its most ambitious guise (Jullier [2006] 2007: 21). Hence the need to clarify the semantic boundaries of a term which has been rapidly historicised, acquiring its aesthetic models and canons, while all too little attention has been paid to the reasons for its historical appearance and its conceptual paradigms.

### 1. Genesis and problems of the term

It is generally accepted that the term ‘sound design’ was introduced in 1979 in Francis Ford Coppola’s *Apocalypse Now*, where the editing director Walter Murch was credited (at his own suggestion) for “sound montage and design”. Clearly this innovation reflected the exceptional amount of creative work he had put in on the film’s sound track, which indeed won the Oscar for the “best sound”. This first occurrence of ‘sound design’ appears in conjunction with another term which also begs a number of questions, namely ‘montage’. Murch had first used ‘montage’ in 1969, in the documentary *The Rain People*, and later in the films recognised as establishing the *movie brats* movement (Pye–Myles 1979) such as George Lucas’s *THX 1138* (1970) and *American Graffiti* (1973), and Francis Ford Coppola’s *The Conversation* (1974) and *The Godfather, Part II* (1974). In each of these films Murch is credited with various roles referring both to the aspect of sound and, more generally, to the overall genesis of the films (Ondaatje 2002: 314–315). Whether in the case of ‘design’ or ‘montage’, it is a matter of establishing first and foremost which procedures were involved and to what extent they differed from the traditional approach to sound adopted in American cinema such as to justify the use of *ad hoc* expressions.

First we can clarify how the term ‘montage’ differs from ‘editing’, used in cinema for the standard operations of assembling the visual and audio components. The figure of sound editor is well defined in the audio production process in American cinema, indicating the person who “prepares the dialogue and creates, selects, and edits sound effects for the final mix of a film” (LoBrutto 1994: xi). As anyone with some experience of recording

studios well knows, editing refers to all the operations regarding the selection, 'cleaning up', correction if necessary and assemblage of the elements which will go to make up the definitive sound track. In practice, the operations which come under the conceptual umbrella of 'sound editing' are variegated and presuppose both distinct competences and, in the majority of cases, professional profiles (spotting, ADR, foley, music) (Jullier [2006] 2007: 21). In terms of the process of filmmaking, the phase of sound editing follows the phase of recording the sound on-set (itself comprising various procedures/professions) and precedes the phase generally referred to as re-recording, or alternatively mixing or dubbing, and thus at the beginning of post-production. The phase of on-set recording results in the so-called production track which is used as the starting-point for the operation of editing (Corelli-Felici-Martinelli 2006: 211). Although sound editing is clearly a critical process, with obvious aesthetic implications for the film's final outcome, in practice it was subordinated, at least in standard Hollywood trend during the first thirty years of sound cinema, to the responsibility of the film editor, who was in charge in the post-production phase and maintained direct contact with the filmmaker (*ibid.*: 203; Jullier [2006] 2007: 21).

This then was the context in which Murch was operating and wished to distinguish his work from that of a normal sound editor. To begin with, he was often the film editor in these films, with a degree of responsibility for the final outcome that was largely unprecedented in the history of commercial cinema. At the same time he had grasped the enormous expressive potential inherent in sound, and above all he possessed the skills, the technical means, and the working conditions for experimenting with this potential. For Murch the formula 'sound montage' was a very specific way of identifying creative operations covering the recording, manipulation, superimposition, filtering and pre-editing of hours and hours of audio material he had accumulated, drawing on procedures he had become familiar with in the domain of electroacoustic music in the 1950s and 1960s (Lo-Brutto 1994: 84; Ondaatje 2002: 6-10). In other words, his idea of sound montage implies a creative and compositional function regarding the film's sound content, using modalities determined by and closely tailored to the requisites of the film's dramaturgical conception.

Now, while sound montage indicates a series of procedures that are different from the traditional operations of editing familiar in Hollywood, we still have to ask why Murch felt it necessary to introduce the term 'design' when it came to *Apocalypse Now*. Coppola's film is influenced by a fundamental technical innovation: quadraphonic sound, which Murch tackled

head on following the monophony of his previous films, without the stepping stone of stereophony. This development completely revolutionised his approach to sound (LoBrutto 1994: 94). He sensed the spatial implications of the new format and exploited them by realising, through a sort of complex “preparatory score”, an audio and musical configuration which suggested to him the idea of architectonic design, leading him to adopt the label “sound design” (*ibid.*: 91-92). Once again Murch’s own experience resulted in quite a specific definition, one which was perhaps rather reductive of the term itself, applied essentially to the dislocation of sounds in the listener’s aural field. Starting from this specific meaning, the term sound design has come to be identified with the polyhedric figure of Murch – even though he represents a rather special case in the history of American cinema – and its semantic area has been extended until it has absorbed the term montage. At the same time, the element of planning contained in the idea of design (sound design as an ‘audio blueprint’ for the film) does in fact make this neologism more effective than the more ambiguous montage.

From the 1970s onwards we find another application of the term gradually coming into use, corresponding only in part to what we have just illustrated for the figure of Murch. Once again one personality was behind a specific meaning, this time Ben Burtt tackling the *Star Wars* saga (the first episode, directed by Lucas, dates from 1977). Burtt, who only ‘officially’ acquired the title of sound designer in the remake of 1997, created a range of sound effects which became famous. The procedure is the same as before: on the appearance of a film with patently unique sound effects, their inventor is credited with a title which recognises his specific achievement with respect to the standard practice.

Viewed in this light, the question becomes whether nowadays the formula ‘sound design’ is not perhaps being over-used. It is associated with films whose production model not only fails to contemplate the existence of such an authoritative figure but does not even presuppose a coherent overall approach to sound to match the project of the filmmaker. If the end product does not imply any real alternative to the traditional figure of the supervisor but merely involves new forms of sound recording, montage and mixing, then what need is there for the label? It is justified in special cases such as Murch, Burtt and few others (David Lynch’s films, for example), but otherwise fails to denote additional value or clarify the role effectively played in the production of the film as a whole (Jullier [2006] 2007: 22). The question risks leading to a dead end, for it has clearly been badly posed: if the term sound design came into use, this was not specifically, or at least not exclusively, in order to make up for the lack of authorship,

which has haunted cinema ever since its inception, but rather because – above all in the 1970s – there was a sea-change in the way of conceiving, producing and exploiting sound in society at large, and hence also in the world of cinema.

## 2. The term's emergence

In order to grasp the shift in the conception of sound which took place in the 1960s and culminated in the introduction of sound design, it is necessary to take a longer view and ask what characterised filmmaking, which still owed much to the classic Hollywood production of the 1930s, prior to the shift. The model for the treatment of sound that prevailed in the classic American cinema, together with the state of technology at the end of the 1920s, favoured the predominance of a logocentric paradigm in which words carry a semantic value which is equal, if not superior, to that carried by images. This entails a series of corollaries in terms of production and performance strategies. The theoretical and technical system which was developed to transmit the dialogue in films stemmed directly from the telephonic technology developed in the Bell Laboratories at the beginning of the 20th century. The focus was on referential function (the intelligibility of the message) to the detriment of other functions. In acoustic terms, it is common knowledge that the telephone, very like voice reproduction in the first decades of talkies, sacrifices the superfluous frequencies (especially in the low range) to the transmission of the message, even when they are significant for the emotional experience. Thus in the 1930s Hollywood focused on the inscriptive properties of the technology of sound recording and reproduction, unlike other domains of phonography, such as music, which drew on the technology developed for the radio and favoured the emulatory properties. The notions of inscription and simulation underlie the core of James Lastra's study of the applications of audio technology in Hollywood in the 1930s, although for reasons which will shortly become clear I prefer 'emulation' to simulation (Lastra 2000). They correspond to two fundamental *figures of sound* which emerged in scientific culture and literature at the turn of the 20th century, designed to represent and interpret the technological revolutions in photography, cinema and phonography, but also in a certain sense to control, neutralise and re-anthropomorphize the disquieting blind spots they contain, and which were destined to exercise a substantial influence on the notions of realism and representation (*ibid.*: 4).

The concept of inscription is extensive and interdisciplinary (see also Kahn 1992). It expresses the material conceptualisation of the impression of reality on a sensible support, which in phonography is identified as the

groove left by the stylus on the cylinder or wax disc. The groove is the mirror negative, the “*Ur-Image*” (Levin 2003: 39) of the vibration emitted by the sound source and transmitted by the membrane: it is the ‘hallmark’ of the sound itself, which can be read and, since the invention of the phonograph, also heard. The trace left by the sound in the groove on the phonographic cylinder not only represents the beginning of the documentary potential of sound technology (in theory there is no end to the sounds that can be recorded), paving the way for the development of record industry and ethnomusicology, but also heralds a further important logical development: the reproduced sound, being the realisation of a recording, does not necessarily have to convey to the listener something which had been previously recorded, but can potentially transform into sound any type of input, even that produced arbitrarily on a surface, and thus be the medium for something which does not exist in nature. This marked the birth of sound synthesis. Optical sound, transcribed directly onto film and ‘discovered’ in the 1920s by various people working independently including the Swiss engineer Rudolf Pfenninger and the composers and theorists Oskar Fischinger (German) and Arseny Mikhaylovich Avraamov (Russian) together with numerous other exponents of the Soviet avant-garde (Davies 2001), succeeds in making the act of inscription simultaneously visible and audible by means of cinematographic projection. This phenomenon gave a decisive impulse to Fischinger’s interest in synaesthesia, leading him to investigate the relationship between graphic compositions and the sound they generated. Nonetheless what is of most interest to us is that, in addition to glimpses of a possible new musical language, optical sound was used above all to imitate familiar sounds: Pfenninger made the celebrated synthetic transpositions of Handel’s Largo and the Barcarole from Offenbach’s *Tales of Hoffmann*, while the British physicist E. A. Humphries produced the first wholly successful imitation of the human voice in a film made in England in 1931 (Levin 2003: 33-38).

This marks very precisely the passage from the figure of inscription to that of emulation. Technology was now able to simulate the models of human behaviour and indeed substitute them. Clearly the mode in which synthetic sound approaches ‘natural’ sound is asymptotic, as can be seen in the recent development of digital technology which, exploiting sampling, computation, and construction of psycho-acoustic models, each year comes closer to achieving a virtual rendering of mechanical phenomena. It must be understood that the concept of emulation regards not merely audio production but also reception: by constructing models emulating the psycho-physical conditions of the listener-spectator in front of the cinema screen,

it is possible to create formats of sound diffusion which, starting from the monoaural, evolve into the stereophonic and quadrasonic systems which were introduced by the various film studios, with varying degrees of success, from the 1950s onwards, until they established themselves definitively in the mid-70s (the decade of sound design). In practice sound technology in Hollywood evolved between the two poles of these sound figures, and following the initial prevalence of the inscriptive approach, from the 1960s onwards the onus gradually moved to the emulative figure as technicians succeeded in combining the referential aspect of verbal communication with the emotional content. One can think of the impact produced, day in day out, by commercials in which the referential component has apparently been eliminated completely, or relegated to the margins of communication, only to be reinstated subliminally by means of visual or aural elaborations. An example is the reproduction of the medium-low frequencies of voices in high definition, which is comprehensively exploited in contemporary cinema for voice-over.

The added value of a sound designer with respect to the 'classic' sound editor lies in the fact that he is indeed the author of the film's sound world. The point is not to seek to identify a figure that can merit such a label in a film's production hierarchy, but that from a certain moment onwards, films were required to have an identity in terms of sound, which went beyond the distinctive auras of the various studios already familiar in the 1950s and 1960s. The sound experience became a value in its own right, the object of aesthetic appreciation and indeed, in the most extreme cases, fetishism. Sound, in the sense of the overall product of the acoustic phenomena generated by a support. Sound can become a distinctive trait, an aesthetic category in the minds of both operators and the public. One can think, for example, of how in African-American music the group's sound is a value, which, however conceptually indeterminate, is perceived as underlying the overall aesthetic. It is no coincidence that this shift came about in conjunction with the advent of the magnetic support, which not only ensures greater facility in montage and manipulation (with respect to the optical support) but also enables a superior response in terms of frequency, meaning a greater richness of signal.

In fact the competence of the sound designer, as presented in the standard literature dealing with the sector, is emphatically centred on notions of psycho-acoustics as well as on a conception of the aural and musical phenomenon which is significantly influenced by behavioural paradigms (Sonnenschein 2001). Studies investigating the "point of audition" (the acoustic equivalent of point of view), aural perspective, meaning the rela-

tionship between the 'virtual' ear and the 'eye' of the camera, and so on, are precisely the features which, having been substantially penalised in classic film sound (Lastra 2000: 154-215), re-emerged with the advent of stereo-phony in the 1950s (Belton 1992). In contemporary cinema they benefit from the most important technological innovations (DTS system etc.), promoting an evolution from the notion of listening to the notion of immersion in sound. Thus the affirmation of sound design may be seen as the indicator of a change of sensibility concerning the question of sound within the Californian production system. Whereas the classical period had been characterised by the logocentric paradigm, by the end of the 1960s sensibility had evolved towards a more complex system. Without going so far as the tripartite organization of the sound world into music, noise and voices seen in production and work distribution in the American sound departments, it nonetheless gives a new importance to the various components, and noise, above all, has acquired a considerable expressive potency in relation to its capacity to evoke emotional states. This also goes to explain the tendency to relate the notion of sound design to the revolution in the way of conceiving and elaborating the sound effects, as I pointed out in recalling the work of Ben Burt. One of the most important novelties in terms of sound introduced by the new generation of American film makers and their collaborators in the 1970s was the fact that effects which had previously been generated by in-house specialists and sound libraries using standard techniques became elements to be created ad hoc requiring an enormous amount of time for recording, manipulating and mixing sound objects and events so as to achieve coherence in the film's dramaturgical conception. The extraordinary emulatory capacity of synthesizers and the introduction of the magnetic tape with its options for cutting and editing has meant that technology has achieved the goal of structuring the acoustic sphere in just the same way as was standard practice for visuals. Once noise could be broken down into minimal sound units, it could equally be recomposed starting from such units. Thus sound can be treated alongside the picture, prefiguring that homogeneity between sound and frame which underpins the notion of 'audiovisual text' as a structure comprising image, word and sound whose meaning is determined by the interaction of these components (Borio 2007). This notion has wide-ranging consequences in terms of representation: at last film makers have at their disposal a formidable tool for inventing and organizing the soundscape, drawing on know-how acquired in the domain of electroacoustic music.



## References

- Belton, John (1992), "1950s Magnetic Sound: The Frozen Revolution", in Altman, Rick [ed.], *Sound Theory Sound Practice*, New York, Routledge, pp. 154-167.
- Borio, Gianmario (2007), "Riflessioni sul rapporto tra struttura e significato nei testi audiovisivi", *Philomusica on-line*, VI/3, [http://philomusica.unipv.it/annate/2007/comunicazione\\_audiovisiva/borio/index.html](http://philomusica.unipv.it/annate/2007/comunicazione_audiovisiva/borio/index.html).
- Corelli, Simone – Felici, Fabio – Martinelli, Gilberto (2006), *Elementi di cinematografia sonora*, Roma, Lambda Edizioni.
- Davies, Hugh (2001), "Drawn Sound", in *Grove Music Online. Oxford Music Online*, <http://www.oxfordmusiconline.com.pros.lib.unimi.it/subscriber/article/grove/music/4763>
- Hanson, Helen (2007), "Sound Affects. Post-production Sound, Soundscapes and Sound Design in Hollywood's Studio Era", *Music, Sound, and the Moving Image*, I/1, Spring, pp. 27-49.
- Jullier, Laurent (2006), *Le son au cinéma*, Paris, Éditions Cahiers du cinéma – Sceren-Cndp (it. transl. Elga Mugellini: *Il suono nel cinema. Storia, regole, mestieri*, Torino, Lindau, 2007).
- Kahn, Douglas (1992), "Introduction. Histories of Sound Once Removed", in Kahn, Douglas – Whitehead, Gregory [eds.], *Wireless Imagination. Sound, Radio, and the Avant-Garde*, Cambridge, MIT Press, 1992, pp. 1-29.
- Lastra, James (2000), *Sound Technology and the American Cinema. Perception, Representation, Modernity*, New York, Columbia University Press.
- Levin, Thomas Y. (2003), "'Tones From Out of Nowhere': Rudolf Pfenninger and the Archeology of Synthetic Sound", *Grey Room*, XII, Summer, pp. 32-79.
- LoBrutto, Vincent (1994), *Sound-on-Film. Interviews with Creators of Film Sound*, Westport, Praeger.
- Ondaatje, Michael (2002), *The Conversations. Walter Murch and the Art of Editing Film*, New York, Knopf.
- Pye, Michael – Myles, Lynda (1979), *The Movie Brats. How the Film Generation Took Over Hollywood*, New York, Holt, Rinehart & Winston.
- Sonnenschein, David (2001), *Sound Design. The Expressive Power of Music, Voice, and Sound Effects in Cinema*, Studio City, Michael Wiese.
- Whittington, William (2007), *Sound Design & Science Fiction*, Austin, University of Texas Press.