Chapter 10

A cry in the dark
The role of post-classical film sound

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The word 'sound' has always had several positive meanings. Indeed, expressions such as *sound* thinking, a *sound* person, and *sound* judgements belong to our everyday vocabulary. However, all this stops when we reach the realm of Film Studies. Here, sound seems like an obstacle in the way of the essence of cinema: the image. This bias against sound, generated mainly by early film scholars, was partly supported by the limitations that characterized Hollywood film production and reception prior to the mid-1970s, as we shall see. However, since then, a series of technological developments and changes in production and reception have ensued, and these have modified the ways in which film sound has been constructed, and the relationship between sound and image, audience and film. It is this period, which we may define as the 'Dolby era', upon which I wish to focus here. In exploring its characteristics I shall follow two distinct 'tracks', an aesthetic one and an economic one. It is in the interaction between them that one can perhaps begin to identify the parameters of what might be called 'post-classical' film sound.

The soundtrack: a misleading notion?

Before launching into any discussion of the role – or roles – of film sound, we need to confront a major problem: the lack of a proper vocabulary with which to articulate the complexity of the subject. Although this is true of other areas of film (production design and art direction come to mind), this particular lack is an acute one. There are several reasons for it. Film sound shares the same physical medium as music, that is, sound waves, and this has often helped to reinforce the use of musical terms in discussions of sound. This is particularly evident in the insistent use of terms like pitch, tone and timbre. These terms are relevant but insufficient. They are simply not flexible enough to articulate the complexities of contemporary soundtracks (for example, musical vocabularies are concerned with sound *per se*, while film sound works in symbiosis with the image). This

problem is intensified by the disparity in critical attention given to popular music as compared to the cinema. Whereas in the UK at least there are a number of TV shows which set out to discuss or to analyse films (such as *Film 98* and *Moviewatch*), equivalent programmes on pop music simply present the product or performer without ever discussing their qualities or the ways in which they work (consider, for example, *Top of the Pops* and *The Chart Show*). In short, we have an inadequate vocabulary which is in any case rarely used in popular critical contexts. Perhaps we should attempt to side-step some of these problems by turning our attention to the soundtrack itself.

Rather than being conceived as a complex combination of different elements, the term 'soundtrack' has come principally to signify the music track of a film, dialogue being confined to another – 'superior' – realm, that of the screenwriter. This is a rather convenient way of arranging perception and appreciation. First, by singling out specific portions of a soundtrack, critics can praise the contributions of individual practitioners rather than focus on the much more complicated issue of what actually becomes of these contributions once they are recorded, mixed and reproduced not as independent elements, but as elements in a complex structure. Second, this type of approach betrays a certain attitude towards the more apparently 'ordinary' elements of the soundtrack, its everyday sounds: noise and silence. Critics seem to find it easier – and worthier – to focus on the art of the spoken word or the composed note than on the unsettling noise or the 'empty' silence. Yet it is precisely the relationships between all four elements – effects, music, dialogue and silence – that require investigation, and that mark the nature of the soundtrack itself. A soundtrack is like a cake. Each ingredient has its own distinctive flavour and makes its own individual contribution. However, once blended together they cannot and should not be separated one from another. Their contribution to the final product can only be considered by referring to the other ingredients and to the cake itself as a whole.

Pre-Dolby sound

Although production during the classical period did not present sound personnel with insurmountable technical and creative barriers, reproduction did, and damagingly so. The poor conditions of sound reproduction present in the vast majority of cinemas was a key factor. Quite simply, most film theatres were incapable of coping with complex soundtracks, and often produced distracting echoes and unwanted reverberations. Loudspeakers were capable of reproducing only a very limited frequency range (they were designed principally to reproduce audible speech), and powerful sounds were in general not a feasible option because of the risks (or certainties) of sound distortion. Moreover, the (mal)practice of exhibitors in 'pumping up the volume' in order that action films had maximum impact

on spectators often had the effect of wiping out the more subtle dimensions of sound design. Given these limitations, filmmakers could only feasibly employ a limited number of tracks if they were to avoid a cacophany of sounds, and tended to give aural priority to music and the human voice.

This is not to underestimate the aesthetic efforts or the technological advances of the 1950s and 1960s. The differences between then and now lie largely in the combination of standards of production and reproduction. Where with a film like *Spartacus* (1960), full stereo sound reproduction was possible with only a handful of (extremely expensive) 70mm roadshow prints in a handful of first-run cinemas, the soundtrack on *Star Wars* (1977) could be reproduced to high standards in most theatres thanks to the cheaper and more flexible Dolby system. Thus where the costs of quality sound reproduction in the 1950s and 1960s and the concomitant lack of good sound facilities in most theatres tended to inhibit the development of a more positive approach to film sound, the availability of Dolby has inspired confidence, and a concomitant willingness to experiment.

In the pre-Dolby era of the 1950s and 1960s, movie soundtracks were produced in-house by the studios, limiting external influences and generating a reliance on standard practices, established techniques and old sound libraries. In order to gauge the magnitude of the problem, it is worth bearing in mind that this was a period of profound changes and developments in aural terms. The 1960s witnessed the sweeping away of established listening patterns and the introduction of increasingly sophisticated experiments in sound recording and sound reproduction in the music industry as well as a much more 'aggressive' type of sound. Rock concerts in particular, with their blend of powerfully amplified music and enhanced 'sensual' experience (literally, sex, drugs and rock 'n' roll) introduced a new type of leisure activity engaging the 'participant' (no longer merely a 'spectator') on more than just an intellectual level. In addition, squeaky transistor radios were being rapidly replaced by affordable hi-fi systems capable of reproducing good quality sound. Consumers, spectators and participants could now enjoy better quality sound at concerts and in their homes than in the vast majority of cinemas. Films and film theatres desperately lagged behind and seemed unable to respond to such changes.

The unexplored potential of the medium was embodied in the fact that sound, a three-dimensional phenomenon, the *only* three-dimensional phenomenon in the movies, was being deployed in a one-dimensional manner, and not merely in the sense that sound reproduction was generally monophonic. To put it simply, the agenda informing the use of sound was that it should fulfil one principal requirement: to match the image without attracting unwanted attention. Even when we look at one of the most obvious areas for potential aural innovation, the musical, we find further evidence of a conservative use of sound. Hugely successful films like *Gigi* (1958) and *My Fair Lady* (1964) never really threatened the established

power of the characters to open their mouths and summon up rivers of melody. Contrast this with later films like *American Graffiti* (1973) and *Saturday Night Fever* (1977), where music and its sources (a pirate radio station in *Graffiti*, a discotheque in *Fever*) must be actively sought for, and where the sounds of car engines and of New York slang are given such status that they are able to interrupt the sound of the music.

However, as these examples demonstrate, the early 1970s saw some filmmakers trying to use sound in new and interesting ways despite the continuing limitations of technology and studio practice. Films like *The Conversation* (1974), *Jaws* (1975), and *Taxi Driver* (1976) all evinced a willingness to experiment with the soundtrack by choosing to foreground sound (as well as music) rather than using it solely as a backdrop to the image. Moreover, this time a willingness to experiment (especially on the part of the 'movie brats'[1]) intersected with the availability of a new and important technology.

Listen, here comes Dolby

The development of sound technology from the mid-1970s on has been extensively charted in the last few years, thanks to an increasing interest in the subject. (See the section on sound in Michael Allen's Chapter 7 in this volume.) Thus it will be sufficient here to highlight the three major changes central to an understanding of what follows. First, the mid-1970s saw the introduction of the *Dolby Stereo Sound System*. This was the first economically viable stereophonic system. Employing multi-channel technology, Dolby was able to reproduce a new range of sounds (thanks to its wider frequency range) and, most importantly, it provided improved conditions of reproduction in most theatres. Second, at the beginning of the 1980s, George Lucas and his collaborators developed the *THX Sound System*. Arguably the most ambitious sound project in film history, the THX system enables conditions of reproduction in cinemas equal to those of professional mixing stages. In principle at least, it therefore enables the standardization of sound reproduction as intended by those at the point of production.[2] Last, but by no means least, the late 1980s have seen the introduction of digital sound in three different systems: *DTS*, *Dolby Digital SR-D* and *SDDS*. This is the present and future of film sound, extending frequency range to maximum capacity and providing discrete multi-channel recording and reproduction.[3] It allows soundtracks to reproduce extremely powerful and detailed sound at virtually zero distortion, and has generated a number of dramatic innovations. The result of these changes is that the situation now with regard to sound production and reproduction is almost the reverse of the situation prior to the advent of Dolby. I should like now to explore some of these changes in more detail.

Multi-layered sound

The first major development was the introduction of multi-channel recording technology. The use of an analogy may help us to understand the relevance of this change. Let us imagine that a film theatre has only one access door and that it is designed to admit twenty people at any one time. Should more than twenty people be admitted, the result would be chaos. This is akin to the situation prior to the mid-1970s, with the dominance of monophonic sound and hence one channel or 'door'. The introduction of stereophonic technology meant the opening of new doors to the same auditorium, and helped remove the old limitations as to the number of tracks those who made films could employ. The result was the use of dozens of different tracks, which meant that filmmakers had to deal with an increasingly complex, and increasingly multi-layered, 'architecture of sound', an architecture requiring careful planning, coordination and control.

Multi-directional sound

One of the consequences of this development was that multi-channel sound was projected into the auditorium from a number of different directions. Pre-Dolby 'classical' sound was overwhelmingly one-directional, and originated for the most part from the centre of the screen.[4] This limited the potential of the soundtrack to unsettle the audience's reception of a film. Spectators knew exactly what to expect and where to expect it from. Contemporary Hollywood film sound is multi-directional. Thus filmmakers now are able to challenge audience assumptions as to the range, power and source of sound and sounds. Theorists like Mary Ann Doane have argued that the new sound technology has increased the capacity of the apparatus to 'hide' itself.[5] I would argue on the contrary that the introduction of multi-directional sound has displaced the reproduction of sound, at least physically, from the screen to any point in the auditorium, hence alerting the audience to its place in a constructed environment. In other words, if it is conventional to accept that a spaceship can move towards us frontally, on the screen, it takes a bigger leap of the imagination to accept that it is flying over our heads and into the auditorium from a point in the cinema lobby.[6]

Larger sound budgets and increasing numbers of sound personnel

The more complex soundtracks became, the higher the budgets devoted to sound could be. Aside from the cost implications, this meant that more people could be employed to work on the construction of a soundtrack. Gone is the solitary credit attributing sound to one individual department head. In has come the listing on

credits of more and more people (over fifty in the case of *The Fugitive* (1993) and *Speed* (1994)), and more and more specialist functions: sound designer, supervising sound editor, sound editor, foley artist, sound recordist, sound mixer, and so on. Moreover, sound personnel are now often involved not just in production and post-production, but in pre-production and initial planning and design as well. Crucially, the waves of sound personnel who worked in Hollywood from the 1970s on came from a variety of sonic backgrounds. They brought an awareness of sound and the possibilities of sound, bridging established patterns and contemporary innovations in both technological and cultural terms, and thus helped to spur and to enable the technological and aesthetic innovations of the post-Dolby era.

The creation of new sounds

The combination of new technologies, larger budgets and new personnel had an important effect: the creation of 'new' sounds. In an era when soundtracks were mostly created in sound studios, this was an important and significant step. Indeed, it signalled a definitive break with the sound of the past. New sounds meant new styles, and in retrospect we can pinpoint two major styles or schools: the precise and detailed Bay Area sound, influenced by the electronic and esoteric stylizations of the 1960s, and the more gutsy New York Metropolitan sound, influenced, among other things, by rap and other forms of black music. Instances of the former can be found in Spielberg's films, from the sound of Indiana Jones' cracking whip in *Raiders of the Lost Ark* (1981) to the creaking of Schindler's jacket in *Schindler's List* (1993). Examples of the latter can be found in Scorsese's films, from Jake La Motta's punches in *Raging Bull* (1980) to the editing of the fast-talking dialogue and menacing sounds in *Goodfellas* (1990).[7]

Improved sound reproduction in cinemas

Following closely on developments such as these, the quality of sound reproduction in auditoria began to improve. Sound engineers designed new auditoria and helped adapt existing ones. Sound-absorbent material was used to minimize unwanted echo and reverberation; sound insulation was improved to muffle the noise produced by projectors and air conditioning equipment, and to prevent the sounds from adjacent auditoria interfering with one another. In this context, it is significant that Lucasfilm's THX Division developed not just a sound reproduction system, but a set of criteria for sound reproduction as a whole. These developments signalled a definitive shift away from the old sound hierarchies in which speech and music were accorded unconditional priority. New auditoria were built with all four elements of the soundtrack in mind.

New sounds, new pleasures: physical sound and heightened realism

During the course of the 1970s, Hollywood's use and conception of sound underwent a fundamental change. The possibilities of multi-channel technology, a wider frequency range and improved conditions of reproduction encouraged filmmakers to feel more confident about sound, and led them to rely more and more on the soundtrack. As a result, contemporary filmmakers have shown an increasing awareness of the 'physical', three-dimensional qualities of sound, and audiences are encouraged not just to listen to sounds but to 'feel' them – film-goers experience sound more sensually than ever before. The extensive use of deep bass sounds, a legacy of the new 'aggressive' sounds associated first with rock then with rap, is a mark of this new physical style. However, it is not just a matter of matching 'big' sounds with 'big' images; it is rather a matter of achieving a startling, communicative effect. Thus in the opening sequence of *Terminator 2: Judgment Day* (1991), Linda Hamilton's voice-over guides us through the devastating effects of the machines' revolt against the humans. The camera picks out a human skull. As it lingers for a moment, all sounds fade. Then as the voice-over ends, a mechanical foot appears and crushes the skull. The deep bass sound employed at this moment (a sound hardly close to the 'real' sound an action like this would produce) is used both to startle the audience and to convey the mightiness of the struggle awaiting the humans in their fight against the machines. In such cases, to use an expression dear to sound designers, the sound 'breaks through the screen' and takes centre stage.

Another development, and a further departure from classical sound, is the use of what might perhaps best be defined as 'heightened realism'. By highlighting particular sounds and softening others, filmmakers can enhance sound detail in such a way as to enable audiences to hear the unhearable. An example can be found in the opening sequence of *Indiana Jones and the Temple of Doom* (1984). Three villains try to outwit Dr Jones by tricking him into drinking a glass of poisoned champagne. They reveal the nature of what it is he has drunk by showing him a bottle containing the antidote. In the struggle that ensues, the bottle is flung across the dance floor amid scenes of chaos and confusion. Yet the sound of a bottle rolling on the floor is given prominence over all the other sounds we can hear.

Thus contemporary film sound, unlike the sound in classical Hollywood cinema, is significant not just in terms of its literal meaning, but also in terms of its weight, its power, its detail and its direction. Moreover, the complexities of the contemporary soundtrack alter the relationship between sound and image. No longer content to function merely as an aural backdrop, the soundtrack takes its place as a site of interest and experiment in its own right.

The economic dimension

The need to reconsider the role and the relevance of film sound in contemporary Hollywood is as much a function of economics as it is of aesthetics. This is not just a matter of production costs. Other economic factors are at stake as well.

Since the 1920s in particular, sound, and in particular musical sound, has been of great importance in the marketing of films, and as an ancillary commodity or off-shoot of the industry and its product. In the form of sheet music, of stars like Eddie Cantor and Al Jolson, and in the form of radio programmes and variety shows, the cinema, music and broadcasting industries have often been interlinked through the medium of sound, and sound itself used as a vehicle for attracting audiences to films. However, sound has never been such an important marketing force as it is today. Since the introduction of Dolby, the industry has enjoyed a slow but steady revival in terms of attendances, revenues and profits. Indeed, it is worth noting that the twenty biggest money spinners in Hollywood's history have been produced in the era of Dolby sound. Emphasis has often been placed on the visual aspects and attractions of these films. But it is at least worth noting the contribution that sound has made as well, as it is a vital element in the visceral aesthetic of the contemporary blockbuster.

One of the major factors here is the extent to which audiences were now able to enjoy sound of a quality that matched, and often surpassed, that of the sound they could enjoy at home. Producers were quick to exploit the qualities of surround sound, for instance, not just in the films, but also in trailers and advertisements.[8] Film exhibitors rose to the occasion and started to advertise their theatres as being equipped with 'true stereo sound', and today all major chains make a point of advertising those theatres equipped with THX or the latest digital system. In the last few years, the ever-expanding home video industry has elected and advertised surround sound as one of its principal commercial attractions. Meanwhile the advent of a wealth of consumer magazines run by a generation of sound-sensitive media journalists has been decisive in spreading knowledge about – and an appetite for – high quality sound both at home and in the cinema.

All these developments have accompanied and been accompanied by conglomeration, particularly in the multimedia field. Large media conglomerates have invested heavily in the sites of interaction between the film and music industries – it is no accident that as I write, the three biggest selling singles in the UK in the 1990s (after 'Candle in the Wind 97') were all showcased by films, and can all be found on their soundtracks.[9] Almost inevitably, interest – financial as well as intellectual – in the new sound technologies has spilled over into the computer industry, with Dolby developing Dolby Net, a surround sound system for the Internet.

In addition, one of the bloodiest corporate battles of the last few years has been

waged over digital sound. All the major companies are involved in this battle, each having developed and marketed their own particular system. MCA–Matsushita (now MCA–Seagram) has developed DTS,[10] CBS–Sony has responded with SDDS,[11] and Dolby has collaborated with Time Warner to produce Dolby Digital SR-D.[12] What has been impressive has been the pace of acquisition of what is still a relatively new technology. When Time Warner joined forces with Dolby to launch the Dolby Stereo Digital system in 1992, there were only a handful of theatres equipped to show *Batman Returns* (1992) in digital sound. Two years later, over 2,000 systems had been installed. Even more importantly, the availability of hardware has been increasingly matched by the availability of software. Most of the majors have now pledged to produce all their new features in one or more of the digital formats, and digital is now also available in the lucrative home video and TV markets.

Agendas for further research

Vast areas still remain to be researched. The relationship between sound and censorship is one. At present, there would appear to exist an unwritten rule that 'what you can't see can't hurt you', a rule which allows spectators to hear – but not necessarily see – crushing bones, searing flesh and record-breaking sexual activity. A further issue is the issue of pleasure. A great deal of attention has been paid to visual pleasure, but little to its aural equivalent. It is significant that we tend to think of production values in visual terms, not in aural ones, despite the fact that the sound of a screeching car tyre in an elaborate chase sequence can be just as important as the close-up of the tyre itself. Another issue worth exploring is the issue of genre. Genres have frequently been defined in visual terms – in terms, for instance, of iconography – but rarely in terms of what they sound like (the musical is the obvious exception). Yet in films like *Batman Returns* we are often confronted with images that are drawn from fantasy and sci-fi, juxtaposed with sounds reminiscent of those from a 1930s gangster film.

This is a long list of topics. What is at stake is the theoretical framework that we bring to the analysis of films. The place of sound in this framework has for too long been left in the dark.

Notes

1 See Lynda Myles and Michael Pye, *The Movie Brats, How the Film Generation took over Hollywood* (London: Faber, 1979).
2 However, as Stephen Handzo has pointed out, the concept of 'correct' sound reproduction is by no means straightforward. See 'The sound of sound', *Cineaste*, vol. 21, nos. 1–2 (1995), p. 68.
3 Six channels for DTS and Dolby SR-D, and up to eight for SDDS.

4 The only exception, as we have seen, being a handful of extremely expensive 70mm roadshow prints, prints whose soundtracks mostly – and conventionally – prioritized music and speech.
5 Mary Ann Doane, 'Ideology and the practice of sound editing and mixing', in Theresa de Lauretis and Stephen Heath (eds), *The Cinematic Apparatus* (New York: St Martin's Press, 1989), pp. 47–56.
6 One of the best-known examples of directional sound occurs in the opening sequence of *Star Wars*, in which a rebel fighter and an imperial destroyer are first 'heard' at the back of the auditorium before flying over the heads of the spectators and eventually appearing on the screen.
7 Although the directors mentioned may call the shots, it is important to remember that behind these examples are the names of some of the best sound designers in Hollywood: Ben Burtt, Skip Lievsay, Frank Warner, Walter Murch and a number of others.
8 Some of these, specifically filmed for trailer presentation, employed sound in a very aggressive fashion to win viewers' attention. The sound of the earth-rumbling thumps of a terminator or of the glass-shattering force of a twister will command the attention of even the most dedicated popcorn-munching audience.
9 These are: Bryan Adams' 'Everything I Do, I Do It for You', from *Robin Hood: Prince of Thieves* (1991), Whitney Houston's 'I Will Always Love You', from *The Bodyguard* (1992), and Wet, Wet, Wet's 'Love Is All Around', from *Four Weddings and a Funeral* (1994).
10 DTS stands for Digital Theatre Sound, a sound-on-disc system capable of providing six discrete channels. It was launched with *Jurassic Park* in 1993.
11 SDDS stands for Sony Dynamic Digital Sound, a sound-on-film system capable of providing up to eight discrete channels. It was launched with *The Last Action Hero* in 1993.
12 SR-D stands for Spectral Recording-Digital, a sound-on-film system capable of providing six discrete channels. It was launched with *Batman Returns* in 1992.