

Lecture 6: Modality

Modality or the truth of sound

All semiotic modes which can represent things that are going on in the world will have resources for indicating 'as how true' or 'as how real' we should see these representations. The term 'modality' is used to designate these resources and their uses. It follows that there are degrees of modality, degrees of truth. In language we have modal auxiliaries. For example, we have 'will', 'may', 'must', 'should'. These words can be used to indicate commitment to a situation or action. For example:

We *will* bring about a change in this situation

We *should* bring about a change in this situation

We can see that in the second case there is less commitment to how likely this change will happen. In sound too we can think about degrees of truth. In movies if we see a movement of an object or thing is the sound we hear as we would hear it had we been there positioned in the same spatial relationship to that object or thing? For example, we are watching a nature documentary. The presenter walks through a woodland. We hear the sounds of footsteps amplified and when he speaks his voice is breathy and sounds very close as if he were whispering in our ear. We then cut to a clip that shows insects moving around in fast motion making clicking and scratching sounds along with a soundtrack of eerie music.

In this case the sounds we hear are not as we would have heard had we been there. Footsteps have been amplified to communicate intimacy with the environment and the voice has been brought closer to us to create the same effect as if we were about to observe something that requires us to be stealthy and in which we are sharing. The same technique is often used in period drama where, since we are able to hear sounds more intimately we get a more sensuous relationship with the setting, as opposed to an everyday city soundscape where we do not hear such things as footsteps. So here sounds are changed slightly. Naturalistic sounds have been modified or 'abstracted'. In the case the insects, however, the clicking sounds are not naturalistic at all. These have been added to symbolise the noise of tiny insects moving about busily. Were we present we would hear no such thing. The music is also added to create a

mood and bring a sense that these tiny insects are dominant and scary within their own domain. What we are interested in doing in this lecture is providing a set of observations that allow us to describe what we hear in soundscapes and to describe the extent to which sounds are real, of they have been changed exactly how this has been done, and if sounds are used to symbolise how this operates in each case.

First, from what we have observed above we can say that there are three different kinds of modality in sound (Van Leeuwen, 1999):

Naturalistic modality

Naturalism is one of these kinds of modality, and still the most important one in many contexts. In principle naturalistic modality rests on the following criterion:

The more (we believe) we would have heard the sounds the same way if we had been present at the scene where they were produced, the higher the modality - from a naturalistic point of view

Of course, what is naturalistic will depend in recording technology and what we expect of this. As sound recording processes change so we might change what we feel sounds naturalistic. When mono was the standard mode of sound reproduction, stereo was 'more than real' - people marvelled at demonstrations in which the sound of trains seemed to move from one part of the room to another, Once stereo had become standard it was no longer regarded as 'more than real'. Other modes of sound representation now had to fill this slot (e.g. 'sensurround') - it seems that it must always be possible to 'exceed the natural'.

Perspective is one of the hallmarks of naturalistic sound, because the idea of faithfully reproducing the conditions of aural perception includes reproducing the specific place from which the sound is heard, the specific 'point of hearing' that causes some sounds to be closer to the hearer than others.

We can say therefore that naturalistic truth is the more (we believe) we would have heard a particular sound the same way if we had been present at the scene where it was produced, the higher its *naturalistic* modality - naturalistic modality is therefore the truth of *perception*.

Abstract modality

We pay particular attention to this kind of modality in this lecture. Sounds can be changed in many ways to communicate different kinds of attitudes and ideas. When we hear drop of water fall in a movie the duration of the sound may be lengthened in order to bring a sense of isolation or to extenuate the moment and the nature of the passing of that moment. Echo might also be added to this effect. We might here birds whistling in a piece of film footage yet the directionality of this noise us not clear. The sound of a bullet firing might be lowed in pitch to make it sound more foreboding. In these cases we still hear sounds that have been generated naturalistically but which have been altered in order to communicate something of the essence of what makes that sound and its associations.

We can say therefore that abstract modality is the more a sound represent the generalised essence of what it represents, 'typical' version of the sound, the higher its abstract modality - abstract modality is therefore the truth of *cognition*.

Sensory modality

Music can also represent and symbolise. As the genre of landscape painting developed in European art, so did the musical depiction of landscapes, for instance in Vivaldi's *Four Seasons*, which is full of birds, animals, shepherds, storms followed by clouds parting to reveal the sun, etc.. Hollywood film music continued the tradition. Early film music was live, played by pianists (or orchestras, in large cinemas) who more often than not used existing music by 19th century composers as background 'mood' music (with titles like 'Morning Mood', 'Spring Feeling', etc). After 1929, Hollywood imported classically trained composers from Europe, and as a result the tradition of 'programmatic music' was in many ways continued in Hollywood film music, so that its language is still familiar to us all. But in this cases the aim is not to represent naturalistically but to symbolise.

The aim was not to faithfully reproduce the particulars of a specific sound at a specific time and in a specific place, but to represent the *essential characteristics* and the *emotive temperature* of a *type* of sound or action ('the busy hum', 'the peaceful lake', etc) The aim was a combination of emotive-interpretive and abstract-generalised truth. A representation of Spring must at once 'describe' the essential characteristics of Spring and convey the *feeling* of

Spring. In a film we may see a person draw a sword from its sheath. We hear a high pitch and ringing grating of metal against metal even though this is not in fact a quality of the action in itself. But what is communicated here is the essence of the sword as metal and sharp.

We can say that the more a sound aims at affecting the listener emotively, the higher its sensory modality - sensory modality is therefore the affective truth, the truth of *emotion*

Applying modalities to case studies

We can listen to particular kinds of films over different times and consider how these different modalities are used. The sound effects in science fiction films often have high abstract modality - they represent the essence of the technology of the future. The sound effects in horror films tend to have high sensory modality, because they must instil fear. The sound effects in food commercials likewise tend to have high sensory modality because they must whet the appetite. In Science Fiction films we might find that over decades different kinds of sound qualities are used to symbolise the sounds made by aliens. We can find that some aliens are represented by metallic and technological sounds to suggest advanced races or others through more organic sounds. It can be interesting and revealing to consider how one sequence of a film, such as a James Bond film uses different modalities in the same sequences to communicate the essence of action, danger and excitement etc.

Parameters for assessing abstract modality

When we hear a sound in a movie, radio programme, or advertisement that is not symbolic we can ask how and to what extent it has been changed or abstracted and then we can ask what this meaning communicates. Below are seven modality criteria from Van Leeuwen (1999).

Pitch range

This is the range from monotone to maximally wide pitch range. Where there are highly reduced pitch ranges this reduces the level of human emotion. It can represent monotone chanting and restraint or machine speech. We can see this in the voice of the *Daleks* in *Dr Who*.

To represent naturalistic sounds wider pitch ranges are required, although after a point this will become more than real and can be used in high drama. In the case of locomotives in movies for example we can ask if the sound of the whistle is heightened in pitch to a scream and the chugging lowered to a menacing thunder sound. We can ask the same question of other machines in movies such as helicopters. In some films weapons can use exaggerated pitch ranges. A sword can make a high pitched ringing sound as it is withdrawn. A bullet can make deep thumping sounds as it enters a body while the firing sound is very high pitched. This can be compared to the rattle sound of guns heard in naturalistic settings. Often in Hollywood movies cars make lots of screeching pitch sounds as they turn corners to add to the emotional drama of a chase.

Durational variation

This is the range where the duration of sounds are uniform or maximally varied. News readers use a mechanical reading of the news to suggest restraint and authority and objectivity. When we are emotional we tend to increase certain words such as 'heeeeelp!'. Whether this is a natural or machine sound we can ask whether the duration has been increased or decreased. For example, the sound of water dripping might be extended as well as amplified. A gun shot might be lengthened to add to a sense of the moment being fateful and decisive.

Dynamic range

This is the range of loudness. Is there just one degree of loudness throughout a sound event or many? Variations in volume are associated with indicating self expression. It is only in Romantic music that the use of the dynamic range of volume began to be used as a mode of expression of the individual. Van Leeuwen (1999) suggests that it is instruments that do not allow for changes of volume that tend to be associated with the sacred as they prohibit human articulation. The synthesiser sounds of the 80s and 90s also suggested something alien or restricted of emotion such as the music of Gary Numan and Tubeway Army. If we wish to engage and influence people when we speak we need to use a range of volumes or people will see it as flat and uninterested. When we do things with expression we tend to make noise, such as shouting or slamming doors. So we can ask to what extent a film sound has range in volume or if it is highly regulated and controlled. Do the speakers use a range of loudness or is it even exaggerated?

Perspectival depth

This is the range from there being no background or foregrounded sound to maximum layers. We might find that all we can hear in a film sequence is the speakers. The background noises may appear but only remotely. This is very much like the way that articulation of background can reduce modality in visual images. Or the noises of the setting can themselves be amplified, for example to create footstep noises on gravel, or children playing in the distance as often happens in crime re-enactments. The sounds of footsteps being heard or horses hooves can be used to indicate peacefulness as these are not drowned out by other modern era sounds. This can be used in period drama, or in any magazine programme reporting on rural life. The sound of running water might be foregrounded to connote tranquillity. In a movie footsteps over rocks might be amplified to emphasise the effort required to walk. Such exaggerations and bringing to the foreground sounds that are normally in the background increases emotional effect.

Degrees of fluctuation

This is the range of vibrato, from a steady unwavering sound to one of a high degree of deep or rapid fluctuation. Van Leeuwen (1999:175) relates this feature to expression of emotion. Lack of vibrato can mean restraint while high levels of vibrato suggests a strong expression of emotion. We are familiar with the way that kisses in movies, or moments of fear use vibrato, literally in both cases we shiver or tremble with anticipation.. Lack of vibrato in contrast can mean relaxed although much meaning depends also on whether vibrato is increasing, decreasing, meaning relaxing, or of course whether it is constant and unchanging and therefore suggesting something mechanically produced and therefore artificial. In 1950s movies aliens often produced such constant vibratos.

Degrees of Friction

As well as suggesting tension friction can suggest dirt or clean pure sounds. These sounds can simply suggest natural sounds although these can be clean to the extent that they become sensory such as when we hear the sounds of hands on the frets of a guitar. To be more naturalistic there should be some degree of dirt or friction.

Absorption range

This is the degree to which sounds reverberate or are completely dry suggesting space. If a film soundtrack is to appear as we were there we should hear some resonance. Often in drama this is reduced to suggest intimacy which itself can connote dramatic tension. Like the

removal of background in visual modality this can serve to decontextualise the foregrounded sounds. But where echo and reverb are increased this will create a sense of magnitude and even of dread of being exposed. In some films reverb can also be used to suggest that people are trapped in their own mind such as when they are concussed or drugged.

Degree of Directionality

Here we ask to what extent we can establish the origins of a sound in a movie. Can we tell what the source is or does it seem to be coming from all around. Often this tells us which sounds are representational, those for which we can identify origins, and those that are sensory where we cannot. For example, we may hear birdsong in a particular soundscape, in a movie. We cannot hear precisely where it is coming from but its purpose is not naturalistic but ambient, perhaps to signify gentle countryside and 'peace and quiet' or simply 'the outdoors'.

We can use these cues to judge the way that a sound represents. We can use them to consider what kind of modality is being communicated. In each case this serves to tell us something about the reality and truth level of the film world created for us.

Summary

- pitch extent
- durational variety
- dynamic range
- perspective (from 'figure' only to maximum depth, maximum differentiation between foreground and background)
- fluctuation range
- friction range
- absorption range.

When the use of (some of) these parameters is reduced, the sound becomes more abstract. A synthesised saxophone may have the right timbre and attack, but lack friction and end up sounding too 'idealised', too abstract a saxophone from the point of view of naturalism. On the other hand, synthesised materials and synthesised sounds, lacking the traces of human articulation and natural wear and tear, can also be used to signify the supernatural and the

sacred, or the supremely modern, in which technology has overcome all the imperfections of human action and the human body, so that everything has become 'idealised'.

Some of these (pitch extent, durational variety, dynamic range and fluctuation range) are also important indicators of emotionality. The more they are 'reduced' the more emotionality is restrained, the more they are amplified, the more emotion is given free range. Just how 'emotional' any given point on these scales is also depends on the cultural context - some contexts allow more emotionality than others.

When the use of (some of) these parameters is amplified, when sounds become 'more than real', what matters is not their fidelity to some 'original', nor the way in which they represent or idealise the essence of a character or an instrument. What matters is now how they affect us, be it in a pleasurable or unpleasurable way. Many people judge the truth of music only from this '*sensory*' truth criterion. But it can also apply to other sounds - think of the exaggerated 'noisiness' of the sensual, breathy whispers in some commercials, or of the heightened sound of many horror films.

In representational music of the European tradition, there is typically both reduction and amplification, both abstract and sensory truth. The expressiveness of pitch, dynamics and duration may be exploited, to the full, but the expressive potential of timbre and fluctuation may be reduced.

Modality in film and television soundtracks

Film and television makers always have a choice between the naturalistic sound effect and the abstract-sensory modality of music (the two may also be blended). Some news signature tunes, for instance, use the naturalistic sound effect of a teletype machine to signify the urgency and immediacy of the news. Others have a musical tune with an ostinato that reproduces the rhythm, but not the timbre and the friction or 'noisiness' of the machine. This represents 'immediacy; and 'urgency' more abstractly, and also infuses emotional, because it is music. More recently news music has used the sounds of synthesisers whereas earlier they would use sounds of horns and drums.

This applies not only to the representation of sounds, but also to the representation of action. Here, too, film and television makers can use the natural sound (footsteps), which would give a sense of naturalism and 'presence' or 'set the movement to music', which would add interpretation' ('characterisation') and an affective quality ('mood'). Some genres (e.g. certain kinds of documentary) conventionally choose for 'presence', others (e.g. cartoon animation) for music. Again, American TV drama tends to be more oriented to the abstract-sensory truth, and British TV drama to the naturalistic truth. Such conventions can change. Today, for instance, the use of music in current affairs television is increasing. This may indicate a shift from the dominance of the 'empirical' to the dominance of 'abstract-sensory' truth in society.

A particularly interesting, and as yet little investigated, aspect of film and television modality is the use of sound to indicate the less than real quality of subjective states (e.g. memory, dream, hallucination). If we listen to a television series such as ER we may hear amplified sounds such as sirens and telephones ringing almost constantly (directionality here is not specific) to bring a sensory sense of the busy/frantic hospital (even though these sounds are naturalistic). But when doctors are seen performing an emergency procedure we may hear percussion played on glass jars along with loud beeping pulses and synthesiser strings plated at high pitches. Again 'hospitalness' is communicated but it is rather symbolised.

Modality of the soundscape

Today's technology, has become a lot quieter. Now that noises are no longer the 'automatic', mechanical by-product of action, designers are beginning to invent the sound of actions. a chord sounds as we switch on our computer. An electronic buzz accompanies the opening of a door. Muzak replaces the waiting tone of the telephone and the clatter of activity in the supermarket. As sound designers contemplate the use of speech synthesisers in cars, to tell drivers that they are running out of petrol, etc, they wonder what kind of vocal identity a Toyota or a Ford should have. The designers of city soundscapes face the same choices as film and TV makers: naturalistic sound effect and/or the world of abstract-sensory, or abstract-technical sounds?