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The Mill on the Floss: A Case Study in the Use of Voice and Electronics in the Theatre

Abstract

This paper provides an overview and evaluation of the author's use of voice and electronics in a theatrical production of The Mill on the Floss.

Traditionally, voice is the central instrument in theatre. It is a primary means for expressing the ideas and emotional content of the script and its use as a sound source therefore, provides a fertile playing field for the electro-acoustic composer.

The compositional materials for the Mill on the Floss focus on the use of voice as a primary sound source and where possible, the voices of the actors in the production have been used. The voice is explored not only for its emotive qualities, but also as a signifier of identity and identity theory forms an important framework for the compositional structure.

This paper presents a case study for the ways in which electro-acoustic treatment of voice can be used to enhance expression of the ideas and themes in a production of The Mill on the Floss.

Introduction

Background

In 1999, the author of this paper accepted a commission to compose music for a theatre production of *The Mill on the Floss*. *The Mill on the Floss* is a theatrical adaptation, written by Helen Edmundson, of George Eliot's novel of the same name. The Australian production, directed by John O'Hare, premiered August 4, 1999 at the Wharf Theatre 2 Sydney, Australia, and was produced by Babylon Productions by arrangement with the Sydney Theatre Company.

Plot Summary

The Mill on the Floss is the story of a nineteenth century heroine, Maggie Tulliver. Maggie is a literary girl with intelligence and emotional capacity beyond that of her family and her narrow minded, patriarchal society and she consequently struggles to fit in.

Maggie finds some refuge from this in her friendship with the kind, artistic and deformed son of her fathers' enemy, Philip Wakem. Maggie is forced to end this unfavoured relationship, however, due to a long running dispute between their families. She leaves the family's flour-mill and goes to stay with her cousin Lucy in St Oggs. Unfortunately Lucy's betrothed Stephen falls for Maggie. Although attracted to Stephen, Maggie's conscience and loyalty to Lucy prevent her from accepting Stephen's advances. In a moment of weakness, however, she takes a boating trip with him and subsequently compromises her reputation. She rejects Stephen's ensuing offer of marriage and what may have been a chance for

real happiness and fulfillment in her life. Her refusal to conform to societal expectations leaves her with few supporters and she ultimately drowns in a terrible flood whilst attempting to save her brother Tom.

The Mill of the Floss explores the internal, emotional struggle of a woman who does not conform to expectations of her Victorian social environment. It highlights the pressures within a society to form a homogeneous group of people and to reject individuality and difference.

The Stage Adaptation

The central concept of Edmundson's stage adaptation is having the main character, Maggie, depicted by three different actors. Each actor portrays Maggie at a different age and period of her life. The transitions between the three Maggie's occur following significant 'life-changing' events that prompt her to adapt her behaviour in some way in order to attain social acceptance.

The youngest Maggie is the most spirited and care-free. She is brash and a little wild, inviting shock and scorn from her immediate family and older relatives. The second Maggie is sadly reined in to a more obedient and "moral" way of life. She turns to religion and attempts in vain to resist her 'unruly' thoughts and desires, but the temptation for her young, spirited 'self' to return still overcomes her at times. By the end of the play we see the third Maggie, a more mature, refined woman attempting to follow her heart.

At times throughout the play, multiple Maggie's appear on stage simultaneously. The playwright uses the interactions of the three character portrayals to reveal Maggie's internal dialogue and thoughts. We effectively observe the 'voice(s)' in Maggie's head, we witness her talking to herself and we see how her environment influences the voice(s) in her head.



Figure 1. *Three Maggie's* - (from left) Susan Prior, Marta Dusseldorp & Kirsty Hutton¹

The staged conflicts between the three Maggie characters demonstrate her burdened conscience, her internal turmoil and struggle to conform to societal expectations.

In summary, the use of multiple Maggie's, enables the author (Edmundson) to highlight the following:

- The influence of environment on behaviour and identity,
- the fluid, changing, performative nature of identity
- the existence and impact of the 'inner voice' and conscience.

The goal in composing for this production was to support and extend these main ideas through the aural soundscape.

Recorded, Amplified, Processed Voice

In devising the music cues, the decision was made early on to use microphone-captured audio and, where possible and appropriate, use the voices of the actors as sound sources. The idea being, that the use of the actors' voices would help to unify the work and create connections between the live voices on stage and the compositional materials generated from those voices.

The recorded voices were subjected to varying levels of digital processing resulting in varying levels of abstraction². At times the source voices are recognisable and subtly processed and other times processed beyond the point of recognition.

The music cues were pre-recorded and played back in the theatre using a 4-channel quadraphonic speaker configuration, cued from Protocols.

Multiple Maggie's and 'Inner Voice'

The use of multiple Maggie's was a clever device on the part of Edmundson for revealing the main character's internal thoughts or what can also be described as her *inner voice*.

The inner voice is the voice we use to talk to ourselves. Monitoring this 'self-talk' is an integral strategy of cognitive behavioral therapy. Motivational coaches and psychologists often use it to help their clients achieve success in their chosen endeavor. In theory, by observing ones inner voice, one can become aware of the recurrent thought patterns and the awareness in, particular, of negative thoughts. Persistence of these negative thoughts is believed to be destructive as is seen in Maggie's case.

The extensive use of Maggie's inner voice and the emphasis on the role of Maggie's conscience in her own demise became important considerations in the development of the musical cues. The intention was to use vocal sound to represent the persistence and omnipresence of the 'inner voice' throughout the play.

Composing the 'inner voice'

The first consideration was how Maggie's 'inner voice' might sound. Which of the three Maggie characters voices should be used to represent her inner voice. As Jonathan Ree suggests, 'it may be difficult to know one's own voice amidst the babble of the different voices in which we talk to ourselves' (Frith, 1996).

This brings one to the concept of voice as identity. As Frith outlines, voice is an important way we recognise people we know and assess people we don't know (Frith, 1996:pg 197). A person's voice is strongly linked to their identity due to the uniqueness and individuality of the sound of their voice and, therefore, the unique sound of a voice signifies a person. We use the sound of a person's voice to help determine ones gender, ones place of birth, ones state of health, ones emotional state or even someone's level of education. Frith also identifies voice as a means by which we can change identities, through taking on someone else's voice. (Frith, 1996:pg 197).

Identity Theory

In conceiving of the sound of the inner voice, therefore, it was useful to draw upon the numerous theories that exist in relation to identity. While an extensive investigation of identity theory is not possible here, the following summarise the major theories in existence. Hall identifies the three conceptions of the self which have been summarised as follows:

- 1) *the Enlightenment subject*, comprising the highly individualist *Cartesian* subject, with some kind of essential, stable centre or core.
- 2) *the sociological subject*, a concept known as symbolic interaction, examining how the self was shaped and developed by significant others or reference groups and so on.
- 3) *the post-modern subject*, the *decentred* subject, in which there is no stable 'core' identity; some would not speak of the post-modern subject as having a self but, rather, a multiplicity of 'selves'. (Hall, 1992:b cited by Underwood, Underwood, 2003:20 April 2006)

¹ Photograph by Robert McFarlane

² According to Young, abstraction is a measure of the psychological distance between a sound which displays a source-cause ambiguity and a surmised source-cause model. YOUNG, J. (1994) *The Extended Environment. ICMC International Computer Music Conference*. Denmark, Aarhus DIEM.

It could be argued that *The Mill on the Floss* demonstrates the existence of some sort of essential, stable centre or core comprising Maggie's identity, which is primarily seen through Edmundson's use of three Maggie characters and the inner voice. The inner voice demonstrates persistent traits, thoughts, desires and ideas. As Maggie matures we see her attempting to reject her inner voice and to a greater deal play the 'role' that society expects of her.

While defining selfhood is fraught with difficulties, in the discipline of performance, a distinction is often made between 'self' and 'role', the latter of which is considered less authentic and more artificial (Carlson, 2002:98/99).

Maggie's inner voice, therefore, to some degree could be said to portray a more truthful and authentic identity. In keeping with this idea, a decision was made to use one voice as an underlying persistence, stable sound source thus representing the idea of a stable core.

Of the three Maggie's, the youngest is considered the most truthful, carefree and unaffected by her social environment and for this reason her voice was most representative of Maggie's inner core or inner self. Hut-ton's¹ voice was therefore used to generate many of the cues throughout the play and acts as an underlying, unifying aural thread.

The composer conceived of the transformation of sound in a similar way to the transformation of Maggie's identity. The vocal sound source is representative of the stable or core identity, while the sound transformations are representative of the changes in Maggie's identity, resulting from her social and environmental pressures. While the vocal sound source may not be readily recognized in the music cues, it still remains as an underlying thread in much the same way as Maggie's inner voice underlies her external behaviour.

The musical cues retain their connection through the use of a common sound source i.e. Maggie's voice.

Removing sound from its causal context: the voice from the actor

Removing a voice from its' source or causal context, in this case, the voice from the stage actor, allows the composer to create a unique acoustic space in which to represent that voice. The inner voice thus becomes distinguishable from the live performed voice. The composer can manipulate the perspective of the voice and the relationship the voice then has to other sounds and to the listener.

As Van Leeuwen explains, "there are natural relationships that exist between a sound's quality and its dynamic level" (Van Leeuwen, 1999). He refers to this as social distance and explains that the relationship between a sound's quality and dynamic level can be uncoupled through the use of recording technology.

"When a person is close (literally and figuratively speaking), we speak more softly than when we have a more formal relationship with them in the context of a more formal occasion. As distance grows, the voice not

only becomes louder, but also higher and sharper" (Van Leeuwen, 1999).

Recording allows the manipulation of semiotic principles and thus can be used to provide additional information for an audience. Close miking can achieve a greater sense of intimacy or closeness than the actor on stage might achieve, given the need for performers to project their voices on stage in order to be heard. Distance, on the other hand, might be created through distance miking, equalization or the addition of reverberation.

Van Leeuwen stresses the importance of perspective as a semiotic indicator. He describes perspective as: the hierarchical relationship that influences how a listener will relate to a sound. For example, if a sound is in the foreground with respect to other sounds, then this is the most important sound, the sound which the listener must identify with and or react to and or act upon (Van Leeuwen, 1999).

In summary Van Leeuwen says "The microphone and the mixing panel have turned perspective and social distance into independent variables, allowing the close and the distant, the personal and the impersonal, the formal and the informal, the private and the public to be mixed in various ways and to various degrees" (Van Leeuwen, 1999).

An example of Van Leeuwen's principles can be observed in the opening witch-ducking cue. During this scene, nine-year old Maggie is reading about witch-ducking. Witch-ducking was a medieval practice used to determine if a woman was a witch. Women would be dunked in a river or body of water, where mortals would supposedly sink or drown but a witch would survive, the benefit of being cleared of witchcraft outweighing the minor issue of losing one's life.

As Maggie reads:

'bringing those things called witches or conjurors to justice; this is first to know if a woman be a witch, throw her into a pond; and if she be a witch she will swim and it is not in her own power to prevent it' (Edmundson, 1994),

we see the third/eldest Maggie being ducked on stage, see

Figure 2. This strong imagery recurs and underpins the play.

The musical cue needs to depict Maggie's vivid imagination and the internal, private nature of the experience. The decision was made to record her reading the passage in a soft, almost whispered voice rather than reading out loud at stage volume. This enabled a close perspective of the voice to be obtained, a vocal quality that would not be possible in a stage context.

The voice quality used in the recording demonstrates Van Leeuwen's principles, in that it is a voice quality that we would normally hear only if we were close to a person. This close-miked recording technique and subsequent amplification helps to create a sense of intimacy. Intimacy is about individual attention. Playing to an audience of many excludes this because of the size of the performance space and the need for vocal projection. The recording and delivery over loudspeakers

¹ played the role of the youngest Maggie in this production

allows the composer to re-introduce the notion of intimacy to many people simultaneously. It draws the audience in, as if the information is meant for each of them individually and it also helps create empathy for Maggie's experience.



Figure 2. *Opening Scene Witch Ducking*¹

The voice dominates the mix as the most important sound and, in order to create a sense of distance and subsequent dreaminess, a significant amount of reverberation is added to the voice. As the story of witch-ducking unfolds, the other sounds circulate around in the four-channel mix and eventually swell and take over, creating an overwhelming sense of immersion.

Multiple, simultaneous 'inner voices'

Electro-acoustic techniques were useful in this production for conveying the complex nature of the inner voice. At times Maggie is bombarded by her multiple, conflicting thoughts.

The use of multi-tracking, layering and spatialisation techniques allow for the simultaneous presentation of those voices to convey this complexity. Complex layers of rapid moving, swirling sounds are used to reflect the chaotic and tormented nature of Maggie's inner world.

'Inner voice' and processing

In addition to the multi-layering possibilities, the treatment of the voice via digital processing was useful for expressing and enhancing the emotive dimension of the 'inner voice'.

Granulation and time-stretching algorithms were used in a number of the cues where Maggie's inner voice is used to recount the various, disturbing taunts of her relatives. Her brother's taunt 'nobody loves you

anymore' has a particularly strong effect on her. This is conveyed through the musical cue by repeating the text over and over, layering and overlapping it as well as granulating and time stretching the phrase. The result is effectively a confused, bombardment of Maggie's own thoughts. The stretching of the temporal structure of the phrase in the sonic world hints at the persistence of this wound in her life.

'Extracting the Emotional content of the voice'

Voice is a unique sound source, in that it remains recognisable even after undergoing the most extreme forms of distortion. In the words of Wishart,

"the human voice can be recognised even when its specific spectral characteristics have been utterly changed and it is projected through a noisy or independently articulated channel; it is also notoriously difficult to imitate electronically"(Wishart, 1985).

Lucier wrote the following notes about voice in relation to his work *North American time Capsule* (1967)

"I was struck by the rhythmic strength of human language which, along with the expressive content of speech, can cut through almost any amount of electronic modification." (Lucier, 1995:pg 424)

Through the use of processing, technology provides the composer an opportunity to explore the emotive components of the voice as well as the expressive connections between voice and music.

Historically many works have explored the relationship between voice and music. Lansky's work *Smalltalk* is a notable electro-acoustic example worthy of mention here for he set out to reveal the music in speech. He recorded a conversation of him and his wife, then wrote some software to "hide the words they spoke while capturing the rhythms, pitches and contours of their conversation" (Lansky, 1990).

Smalltalk essentially takes away the comprehensible text leaving only the inflexions of the speech. As Lansky states in his liner notes, "Smalltalk tries to capture the spirit, emotions and music, behind and within our conversation" (Lansky, 1990).

According to Young,

"Vocal sound production, even the semblance of it, invites us to identify with and infer meaning from it because of our reliance on linguistic and paralinguistic utterance as a form of communication, as well as our conditioned knowledge of involuntary utterance and the timbre and gesture spaces defined by physically-defined factors such as vowel formants and basic patterns."(Young, 2002:11/1/04)

Numerous cues in *The Mill on the Floss* used heavily processed voice with the intention of drawing out the

¹ Photograph by Robert McFarlane

emotional content. One such example can be seen in the cue for Maggie's recurring rages.

Maggie experiences what the author describes as 'deaf rages', where she hears 'terrible booming sounds in her head'.

These rages represent an extreme, anxiety related, internal, experience. The basic cue devised to accompany Maggie's rages consists of:

- 1) a booming sound create by close-miking a large bass drum skin
- 2) a sawing sound derived from a recording of a band-saw tool that was subjected to electronic processing
- 3) a heartbeat sound, used to indicate the internal nature of the experience

Added to these sounds were processed vocals comprising time-stretched, granulated sounds of Maggie desperately screaming and crying 'no'. Once processed, the words she voiced could not be distinguished, however the desperate emotional vocal quality is still arguably perceptible.



Figure 3. *Maggie (Kirsty Hutton) experiencing a 'deaf rage'*

The scream is also used in the drowning sequence at the end of the work where it has also been subjected to time-stretching and granulation processing. The processing abstracts the original sound to a point where it is still obviously vocal in quality, and emphasizes the emotive quality

Different emotional states evoke different involuntary physical responses of the body and of the vocal tract in particular (Bachorowski, 1999:2). We are familiar with these physical experiences and correlate these with particular sounds. "Smalley proposes that we follow and interpret a sound' energy and spectral shaping through time with the potential to correlate this with muscular actions, tensions and releases" (Smalley, 1997:2, Young, 2002:11/1/04). Smalley believes therefore, that "the listener's relationship with utterance is often reflexive rather than indicative" (Smalley, 1996).

The scream, according to Wishart, is a universal indicator. Universal indicators are sounds that always retain some of their primeval communicative power and

transcend the barriers between species. The scream is characterised 'as a continuous, high-frequency, loud, broad-spectrum emission'. He goes on to say:

"In fact this indicator is so universal that we may assume that any sustained high-frequency, loud (and usually broad spectrum) signal will carry the connotations of terror. Even in the highly-formalised musical context of Schoenberg's *Erwartung* the sustained, high frequency, loud but pure-toned pitches which are sung at certain points retain the 'resonance' of screaming." (Wishart, 1985:pg 127).

Maggie's curse and reversed text

Maggie's own conscience and destructive inner voices are implicated in her ultimate ill fate. The author draws parallels between the hopelessness of Maggie's situation and the fate of the women who were subjected to medieval witch-ducking. The author also alludes to the possibility of mystical elements influencing Maggie's fate, namely her encounter with a mysterious gypsy male, a possible source of a curse.

An ominous musical cue was thus created to symbolize the destructive force behind Maggie's fate. Maggie's own voice was used in this cue, deemed appropriate given the contribution of Maggie's inner voice to her ill fate. The recording of Maggie whispering phrases from the text such as 'your majesty'² was reversed.

The resulting sound has an ominous, demonic quality, a sound that has now arguably become stereotypically associated with evil. There are examples in popular culture where reversed speech recordings have been thought to be the words of the devil. "Controversy raged extensively in the late 70s and early 80s when religious fundamentalists claimed that Satan possessed the minds of singers, causing them to insert messages backwards into albums"(Oates, 2006:20 April 2006) The use of reversed recordings of Maggie's voice, therefore, fitted well with the allusion in the play to the possibility that Maggie was cursed.

The reversing process changes the envelope of the speech so that generally there is a soft attack and an abrupt decay. In a study on the melodic patterns of ten different emotions or emotional attitudes, F-nagy and Magdics indicated that "scorn is signified by an even and slightly descending melodic line, a slow tempo and long stressed syllables" (F-nagy, 1972). This description aligns to some degree with the quality of the reversed voice.

The sounds of distant thunder-storms and wind were used to accompany the reversed voice. Used in this context, the storm sound has very strong cultural associations and referential meanings that help to convey the intended ominous nature of the cue. According to Schafer the wind is symbolic of destruction, it is illusory, capricious and has traditionally been mistrusted and feared by many humans (Schafer, 1993).

¹ Photograph by Robert McFarlane

² Your majesty was the phrase used by the mysterious gypsy man who is suspected of cursing Maggie.

Conclusion

The extension of the voice through the use of electroacoustic technology in the theatre provided a powerful means of expression for the composer in this production. The compositional strategies discussed in the paper were proved to be effective in performance and supported the themes and ideas of the author of *The Mill on the Floss*.

There were a number of occasions where the actors felt uncomfortable about being on stage and having the text being delivered via speakers rather than by themselves, but they adjusted to this and the relationship between the live actor's voice and the recorded and amplified voices worked well.

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