

**A New Score for *Pandora's Box* (Pabst, 1929).
An Exegesis.**

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Abstract

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A New Score for *Pandora's Box* (Pabst, 1929). An Exegesis.

This work considers the relationship between music and silent film focussing particularly on the areas that inform the composition of a new score for the film *Pandora's Box* (Pabst, 1929).

The paper begins with a consideration of the origins of the narrative and a discussion about the relationships between Wedekind's originating plays and Pabst's film. The discourse explores the way in which the new score is informed by the understanding of Pabst's work as being both modernising and reductive. Through an examination of the organisation of the plot, it establishes the rationale behind the organisation of the score.

Part 2 of the paper focuses more closely on aspects of the relationship between music and image. It discusses all aspects of the techniques employed within the score including the use of referential music and sound, the application of cliché, the employment of the rhythm of inter-title 'speech' and synchrony. As an original contribution to knowledge, the paper establishes the novel idea of the organisation of music and sound as *Layers of Synchrony* and with reference to examples within the new score explains how the composer may view the various layers within an arrangement as having additional function through their purposeful, synchronous distribution in relation to the moving image. With reference to the historical and theoretical contexts surrounding the application of music and sound to silent film, and additional reflection on the role and impact of current technology on the compositional process, the paper sets out to establish that the new score for *Pandora's Box* is both reflective of the advantages of 21st century technology and the 1930s hybrid form known as the *film sonore*.

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On the DVDs

Disc 1

Electronic documents (.pdf, .docx and .doc)

Folder of Clips and Examples (hyperlinked to documents)

Pandora's Box (Pabst 1929) in QuickTime format

Disc 2

Pandora's Box (Pabst 1929) in DVD format (with chapters)

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Preface / Acknowledgement

Over several years, I have been involved in the education of students who are studying the composition of music for film. Whilst there are a growing number of resources regarding the history and theory of the subject, there are few documents produced by composers themselves. We gather our knowledge from the literature and the films, but for many students the experience of silent film is often new and somewhat mysterious, given that we now live in a world of sound. This project began as an exploration of the silent film as motive for music and a quest to explore the subject of composing for silent film through the process itself. It may provide students with a first-hand account of just what such a task entails and an insight into a possible methodology.

I am indebted to Professor Stephen Deutsch, in his role as project supervisor, for his unwavering support and the stimulation of his knowledge, conversation and constructive criticism throughout. I must also extend gratitude to all of my colleagues (at Bournemouth University and Bournemouth and Poole College) for their support of this project. My family also deserve thanks and credit for their patience over the duration and I must also acknowledge the support offered by my students through their interest in the work and their tolerance of my long preoccupation with *Pandora's Box*.

Hyperlinks within the Text (The Electronic Document)

In the electronic version of this document (found on disc 1), the hyperlinks are active. They are indicated, within the electronic text, through colour and underlining. In the printed version of the text the location of hyperlinks is indicated through underlining only. The linked extracts (.mov files) are stored in the folder 'Clips and Examples', also found on Disc1, and they are referenced using page numbers and letters (33a for example) or through title.

Objectives, Parameters and Achievements

The central objective behind this work was the creation of a new score for Pabst's film *Pandora's Box* (1929) with a document (The Exegesis) that contextualises and reflects on matters pertaining to the development of the score. The parameters that governed the development of the work were as follows: Firstly, I began with the assumption that music, when allied to film, affects the way in which we read the film; it has function. Furthermore, I took the view that the control of synchrony would be central to the development of the new score since it provides a means through which interactions between the score and the film may be regulated and controlled. Secondly, I accept that the distribution of music and sound casts the composer / sound designer as editor. It may well be the case that my particular reading of the film is at odds with others. Thirdly, I perceive the work of the composer / arranger to be very similar to that of the sound designer and begin with the assumption that theories regarding sound are often applicable to music. Sound is therefore included within the score as part of the development of this idea.

I believe that two particular aspects of the finished work contribute something new to the existing body of knowledge concerning film music. The first of these is the delivery of the completed score itself consisting of approximately 130 minutes of music and sound specifically crafted to the film. The integration of sound within the score, as both literal and emotive components, has allowed me to draw parallels between the work of the sound designer and the composer and may add to the dialogue concerning the relationship between the diverse components that usually make up the soundtrack of film. The second achievement of interest is found within Chapter 11; the discussion regarding *Layers of Synchrony*. Here, having offered some descriptions of three types of synchrony I have shown that it has a role to play in the ways in which a composer may make each part within a musical arrangement purposeful / functional with regards to the film (whilst still functioning musically). This idea was developed through the practice of composing for the film and is, I believe, also applicable to the organisation of non-musical film sound components.

A New Score for *Pandora's Box* (Pabst, 1929)

Introduction

The composition of a new score for *Pandora's Box* (Pabst, 1929) has proved to be complex, partially as a result of the need to develop a large amount of music, and partially because of the challenges posed by placing that music into a productive juxtaposition with the moving image. The presence of these two elements, film and music, has prompted me to offer the analysis and contextualisation of my work in two parts. Part 2 is concerned primarily with the music: the rationale behind its placement, its function, and the processes by which it has been composed and developed in response to the film. Part 1 is primarily concerned with the film and the narrative itself. It should be understood from the outset that the single most important directing principle for the score is the film. The background information provided in the first part of the paper reflects both on aspects of the film and the material that helped to inform my understanding of it. It is given here with the intention of providing both an historical context for the film and some understanding of the extent to which the process of creating the score has been an exploration of *Pandora's Box* in terms of narrative and motive. In my view, all of the material discussed here has had some impact on the development of the music; it has acted as a stimulus, though the resulting knowledge has not always found direct expression within the score.

In the 21st century, silent film is treated as an art object. This is particularly true of the so called 'Expressionist' or 'Weimar'¹ films of Germany. Public performances of such films are frequently accompanied by 'live' music, and whilst this is undoubtedly spectacular for an audience, it represents the re-enactment of a performance process that was found to be inadequate, both commercially and artistically, by the film industry of the time. The creation of the score for *Pandora's Box* was, therefore, always intended to result in a synchronised, recorded score that has more in common with our experience of sound film in the 21st century. The aim was to enhance the

¹ 'Expressionist' and 'Weimar' are both terms that are in common use with regards to German films of the 1920s but they are descriptions that are open to question with regard to their precise meaning. Here, they are applied as general indicators of style and period. See Elsaesser's *Weimar Cinema and After*. (2000).

film through composition, the employment of modern technology, and the wider musical contexts offered by our time.

On the Sounds of Samples

The score for *Pandora's Box* (1929) is entirely electronic. All of the sounds are synthetic or samples of recorded performance. This is generally not the case in commercially produced film scores. Mark Isham observed that composition with electronic samples is often problematic because of the way in which the composer may be inclined to work to the limits of the samples rather than the limits of imagination and a vision of the music (Morgan, 2000. p94). Such an observation is pertinent here since the realisation of this score is both a true representation of the music as envisaged, and a product of the resources that were available. Sounds were selected for their characteristics as representations of 'real' instruments, how well they played at the keyboard, and their suitability to the expression of the moment. Multiple sounds or samples were often required to create convincing performances of single parts and other tones (synthesiser or other instrument patches) were frequently mixed in with the sounds in order to introduce specific qualities as required. Special effect sounds, particularly some of the 'drone' type notes in Act 8, were created through the use of instrument sounds in registers that are unattainable on the 'real' instruments though, in general, orthodox instrument ranges were adhered to. The most contentious sounds within the work are those of the string section. Whilst multiple samples were applied to each part, and a great deal of time was expended on creating performances that should not detract from the film, I have encountered moments in which I needed to weigh the limits of my sound sources against the vision of the score. I have taken Mark Isham's advice and worked towards the vision of the score. Such conflicts are unusual within the context of a commercial orchestration / recording but given the context of an independent, academic, exploration of the process of score composition they are, perhaps, to be expected. Whilst I am satisfied that the performance is good, it would have been preferable to record real instrumentalists performing the parts as composed. The cost of this was, in the end, prohibitive.

A Brief Methodology

The composition of the new score was carried out in a linear fashion. That is to say that I began at the beginning and worked through until the end, act by act. Before proceeding in earnest, I ran a number of experiments on isolated scenes. These were largely tests for musical texture, size of ensemble, ambience and so on and included work with original music and the use of temp tracks². It must be said that at the beginning of the project I did not know the story at all and so early work consisted of watching Pabst's film many times (without music at any stage). I found that there were aspects of the story that I did not understand. This was, in large part, the result of being unaccustomed to reading silent film. The process clearly established that the experience of watching a full length film without music was considerably more demanding than viewing it with music or sound. The experience of seeing the film in silence established, for me, a subjective benchmark from which the efficacy of the score, as an aid to viewing, could be measured. The viewing, reviewing process resulted in a plan regarding the shape and the dynamic of the score; overall the finished work corresponds to this early plan. Initially, the composition progressed through a process of trial and error in which completed passages were reviewed, and modified or replaced, before proceeding further. It was necessary to set composing aside for periods of time in order to re-establish some objectivity and during these periods I researched aspects of the film and its context. Such reading helped to clarify my understanding of the original and the interpreted work. In the end, the production of the score can be considered as analogous to an iceberg; only the tip of the work is 'visible' (audible) whilst a substantial amount of work is not. In the following section I reflect on those aspects of the preparation that are less obvious to the listener / watcher. This includes a discussion of aspects of the film and the director, summaries of the plots of the two originating plays and the film, and some comparison of these with a view to establishing what I found to be relevant factors in my interpretation of the work. References are made to a variety of literary materials, films and online resources. Of these, online resources are often less reliable however the material has, where possible, been verified against other sources. The three versions of the story are précised in Appendix 1.

² Pre-existing recorded music set to play against the film.

Part 1

Chapter 1

Pandora's Box (Pabst, 1929)

In July 1928³ the Austrian film director GW Pabst began shooting the film *Die Büchse der Pandora*, (*Pandora's Box*). It was his eighth film as a director and his third as a writer (uncredited) (imdb.com, 2010). Seymour Nebenzahl, the head of Nero Film AG, offered the film to Pabst, in spite of bids by EA Dupont and Robert Lund (popular film makers of the time), and allowed the director to dictate his own terms (Efimov, 1936). *Pandora's Box* was eventually passed by the German censors as 'Jugendverbot' (a film not suitable for young people) on the 31st January and it received its premier in Berlin on the 9th February 1929 (imdb.com, 2010). It was slammed by the critics, largely because of the presence of an American actress in the role of Lulu and partially in response to her unusually naturalistic acting style.⁴ Despite its poor reception, the film has since gone on to become, arguably, Pabst's most famous work. In addition to Louise Brooks, who had fourteen Hollywood films to her name at this point, the film features a strong cast of well established actors including: Fritz Kortner in the role of Dr Schön, Karl Goetz as Schigolch, Gustav Diessl as Jack the Ripper and Siegfried Arno as the stage manager. Less experienced arrivals to the screen were Franz Lederer as Alwa, Kraft Raschig as Rodrigo Quast, Michael von Newlinsky as Marquis Casti-Piani and Alice Roberte as the Countess Geschwitz. The project was produced by Nero Film AG of Berlin and it was shot at the Filmatelier Berlin-Staaken studio by Günther Krampf, a veteran of 27 films at this point in his career. 3245 metres of film were created and subsequently edited by Pabst and Joseph Fiesler. The restored version now runs to 3020 metres (132 minutes). The version used for the purposes of this work is the DVD release by *Second Site* (2002). It purports to be the 'full length restored version' featuring some 30 minutes of previously missing footage.

³ There are some discrepancies between records over the length of the shoot and the precise starting date; however, the schedule was completed within 1928.

⁴ Brooks tells us that it was 'detested, condemned and banned'. (1982, p94).

The Origins of the Narrative

The story of *Pandora's Box*, as told by Pabst, has its origins in two plays written by Frank Wedekind (1864 – 1918). The two plays, *Erdgeist (Earth-Spirit)* and *Die Büchse der Pandora (Pandora's Box)*, were begun in Paris in 1894. At this time they were both part of a single work under the working title *Astarte*. By the time that the final act was completed Wedekind had moved to London and the play had acquired the new title *Divine Birth*. The completed work was finally renamed *Pandora's Box: A Monster Tragedy*.⁵

In its own time, the play was regarded by the censors as being unsuitable for public consumption. This led Wedekind to rewrite large swathes of the material eventually resulting in the two plays known as *Earth-Spirit* and *Pandora's Box*. The rewriting diluted the script, added characters, complicated the plot further and even added new acts to each part of the work.⁶ The playwright never saw the play that he had originally envisaged performed (neither did he see it published in its finished form) however *Earth –Spirit* was performed in Leipzig in 1898 and *Pandora's Box* in Nuremberg in 1904. The plays continued to be the subject of prosecutions and bans for the remainder of Wedekind's life. A full reconstruction of the original script did not take place until the 1980s (Wright, 2001)⁷.

The script for the film was created by Ladislaus Vadjá. Pabst himself is also recorded as an uncredited writer (imdb.com 2009). The narrative portrayed in the film does not entirely follow that of either of Wedekind's two plays and, like the originating works, it suffered at the hands of the authorities. It was banned by the Nazi regime in Germany in 1934 and it was subject to censorship and cuts as the result of the decisions of the various censors in England, France, America and others.

⁵ Sometimes *Lulu: A Monster Tragedy*, also referred to as the '*Lulu*' plays.

⁶ Elizabeth Bond-Pablé tells us that Wedekind was still attempting to re-write the play as late as 1913. The 1913 draft removes Jack the Ripper and allows Lulu to for-see her doom in a vision.

⁷ The earliest reconstruction was made by Wedekind's daughter, Kadidja, in the 1960s. The 1980s reconstruction was made by Hartmut Vinçon from manuscripts, drafts, and notebooks archived in Switzerland and Germany.(Bond-Pablé 1993)

Comparisons of Narrative

The purpose of considering Pabst's work in relation to the plays was to reflect on the extent to which the film replicates the narrative offered by Wedekind. Extracts of Leopold Jessner's film (*Erdgeist*, 1923) and Alban Berg's opera *Lulu* (1935)⁸ were also considered. The hope was that study may, through the consideration of discrepancies between the works, assist in understanding the extent to which Pabst's work reflected a new vision of the story and the extent to which the story had been adapted to show on the silent screen of 1929.

One of the primary features of Wedekind's play is the quality of the dialogue (Krazna-Krausz, 1929)⁹. Characters speak with ferocity and speed and the play employs several languages (German, French and English) in keeping with the setting of the various locations described therein. Wedekind reveals the character of Lulu through her words, her social context and a theatrical technique that is less concerned with the presentation of mundane reality and more with a grotesque theatricality; it is a style that reflects Wedekind's love of circus. Wedekind's Lulu is portrayed as being perceived in different ways by different men¹⁰. She is variously presented as being beautiful, intellectually sharp, animalistic, self-aware and able to combat the demands placed upon her through wit and sharp-tongued dialogue. No such strategy is possible for Pabst; he has only the silent image at his disposal.

The setting of the play and the film differ in terms of the times in which they are set, but both are set as contemporary to the world in which they are produced. There are common elements in the presentation of the *mise-en-scène*, and there are common elements within the narrative, though a number of characters and situations are

⁸ Material relating to Berg's opera can be found in Chapter 2.

⁹ A key feature of criticism of the film was the way in which the dialogue was abandoned. Alfred Kraszna-Krausz writing in 1929 criticised the film on the basis that 'Lulu is inconceivable without the words that Wedekind makes her speak. [...] The film is unable to reproduce the discrepancy between Lulu's outward appearance and her utterance'.

¹⁰ Within the text of the play this is achieved through references to Lulu as having several different names.

conflated. The framing of *Erdgeist*, through the prologue, is notably absent in Pabst's film¹¹.

The cast in Pabst's work is reduced from that found in Wedekind's plays. Minor characters like Puntschuh (a banker), Dr Bernstein (a doctor), Mr Hopkins and Kungu Poti (clients of Lulu in London), Henriette and Ferdinand (maid and stable boy), Schwarz (the artist), and Dr Goll (Lulu's husband at the start of the play) are omitted. The characters of Prince Escerny and the student Hugenberg, from *Erdgeist*, are also absent.

Some of the characters' roles are refined. Dr Schön (Schöning) is altered, his past history with Lulu is never alluded to, and Schigolch is firmly identified as Lulu's guardian and adoptive father. Schön's savings are never referred to, though his status as a wealthy and powerful man is never in doubt because of the circumstances and deference that surround him. The character of Dr Schön is emphasised through scenes that show him at his wedding party (a scene that does not appear in the play), in his office, and at the theatre. We even meet his fiancé in the opening of Act 2, all of which helps to confirm Dr Schön as a more substantial character than that portrayed by Wedekind. The narrative of the film really begins in Act 3 of Wedekind's play (*Die Büchse der Pandora*) with Schön and Lulu already in an established relationship. Rodrigo Quast is introduced to Lulu by Schigolch in Act 1 of the film, rather than in Act 4 as in the play. Furthermore, the cause of his death, and the simultaneous removal of Countess Geschwitz at the end of Act 7 (film), is at odds with the original story. Pabst also introduces a number of incidental characters of his own: the visiting official (the meter man) at the start of Act 1, the stage manager and a cast of extras in Act 3, various minor officials on the train in Act 6, the sailor who swaps clothes with Lulu in Act 7, and the Salvation Army girl in Act 8. The theatrical role of Marquis Casti-Piani is replicated in the film however the circumstance in which he meets Lulu, and the others, is exclusive to the film. Casti-Piani's back-story as a military officer is not included. Pabst offers us Alwa as Casti-Piani's first

¹¹ Louise Brooks wrote that Pabst, in effect, cast himself as the circus animal trainer through his position as the director of the film when she says: 'the finest job of casting that GW Pabst ever did was casting himself as director, the Animal Tamer, of his film adaptation of Wedekind's 'tragedy of monsters.' (1982, p94).

blackmail victim where Wedekind offers Lulu. The blackmail sequence, found in Act 7 of the film, is a variation on that found in the play. Wedekind's Lulu independently organises the murder of Rodrigo by Schigolch but Pabst takes the blackmail motif and re-shapes it to involve Lulu, Alwa and Schigolch as co-conspirators against Casti-Piani and Rodrigo. Ultimately, Pabst casts Rodrigo and the Countess as victims. In the film, the need for Lulu, Alwa and Schigolch to 'jump ship' comes from their complicity in Alwa's attempt to cheat at the gaming tables and their implied connection to the death of Quast, rather than the sudden crash of the market as announced by Puntschuh in the play. Most importantly, Wedekind and Pabst show significantly different representations of Jack the Ripper. Pabst's Ripper is clearly a damaged man but he is somewhat humanised through his portrayal as being tentative and childlike until the point at which he is overtaken by the need to kill.¹² Conversely, Wedekind's Ripper springs directly from the history that Wedekind had encountered in London; Jack is a man already intent on brutalising Lulu in every way. Overall, Pabst has reduced the original cast, increased the number of extras, replaced minor characters with his own and compressed the plot to give us '*Variationen auf das thema Frank Wedekind's 'Lulu' (Variations on the theme of Frank Wedekind's 'Lulu')*', the original subtitle given on release. (filmportal.de, 2010)

Pabst's presentation necessarily needs to be effective without the presence of dialogue¹³. There are, nevertheless, words to be read. In the original film script we find 148 instances of text on screen (mostly inter-title cards). In the current version of the film some of these do not appear¹⁴. The inter-titles are used to characterise

¹² Louise Brooks writing about the casting of Gustav Diessl, reveals that Pabst had directed them to make the Ripper scenes 'a tender love passage' until 'that terrible moment when Jack sees the knife gleaming on the table'. (1982,p98)

¹³ Louise Brooks writes that Pabst himself would set dialogue for the actors in filming. This was based on what he had seen and heard in rehearsal. She makes the point that some dialogue had to match the inter-title cards and that Pabst also used the development of dialogue as a way of intensifying the acting during filming. (1982. p100)

¹⁴ Several scenes that appear in the original script for the film do not appear in the available reconstruction of the film, these also include inter-titles. Missing scenes include: a moment outside of the courthouse at the end of Act 5, the appearance of a young (un-named) student (Hugenberg?) in Act 6 and a related minor sub-plot before the murder of Quast is discovered at the end of the act. (Pabst, translated Holmes, 1971)

emotional and historical connections between the characters and to deliver information regarding any invisible (inaudible) motives that drive the plot. The cards are not a replication of Wedekind's dialogue, neither are the images merely a replication of the stage-play described by Wedekind.

Rather than allowing Lulu's character to be revealed and developed through a repetition of events, the pattern of lust and consequence as found in the first three acts of Wedekind's play, Pabst introduces us to Lulu fully formed and confines the cycle of lust and consequence to a smaller cast of victims. Rather than emphasise the presence of love and loyalty through Geschwitz and Hugenberg, Pabst ultimately condenses this role down to Alwa, fixed on Lulu and unrequited. Rather than emphasise Lulu's past, and her ascent of the social ladder through sexual negotiation, he gives us Schigolch as the single witness to Lulu's past. Instead of developing the arc of the narrative from Lulu's lowly start, Pabst delivers Lulu as 'comfortably well off' and enjoying high society and celebrity, thus ensuring that her trajectory is always downward towards a sticky end.¹⁵ Finally, he reveals Jack the Ripper as Lulu's perfect reflection, stealthy rather than seen as the centre of attention, in shadow and fog rather than in the spotlight, passive and childlike instead of active and brutally adult, formed as Lulu is, to be needy and deadly.

Everything, for Pabst, rests on the portrayal of Lulu. He sees her as being the 'still centre' to the plot, the 'eye of the storm', someone who he describes in his commentary as 'not a real character but the personification of primitive sexuality who inspires evil unaware'. Pabst, in contrast to Wedekind, sees Lulu as someone who '[she] plays a purely passive role' (Brooks, 1982. p94). Pabst provides us with a paradox in the form of a central character who exerts massive influence within the narrative and is powerfully present on screen but who, seemingly, does nothing.

¹⁵ This may not have been the case in the original print since Holmes tells us that in Pabst's original script, preserved in the Munich Archive, there is reference to another opening of the film in which Lulu is shown as 'changed...has largely succeeded in obliterating her past as a flower girl'. The opening scenes of Lulu's life before she met Schön have been deleted from the surviving script and all extant prints of the film. (Pabst, translated Holmes, 1971. p18)

Pabst and the Image of Lulu

History reports that Pabst had spent months looking for 'his Lulu'¹⁶. Paul Falkenberg (Assistant Director on the film) said in 1955 that:

'Preparation for *Pandora's Box* was quite a saga, because Pabst couldn't find a Lulu. He wasn't satisfied with any actress at hand and for months everybody connected with the production went around looking for a Lulu. I talked to girls on the street, on the subway, in railway stations – 'Would you mind coming up to our office? I would like to present you to Mr Pabst'. (Brooks, 1982)

Pabst turned them all down. He had seen Louise Brooks in a minor role in a Howard Hawks film '*A Girl in Every Port*' (1928), and had unsuccessfully negotiated with Paramount to borrow her for his film. Brooks had never heard of Pabst and was unaware of the negotiations until the day that she was summoned to the office of B. P. Schulberg (the head of Paramount) to renegotiate her contract with the studio. The contract that was offered (for the new talking pictures) effectively amounted to a wage cut and so Brooks quit. She was on the way out of the office when, as an afterthought, Schulberg informed her of the offer from Pabst. Impulsively, she agreed to go and a telegram was sent. It seems that at that very moment, Marlene Dietrich, who had given Pabst a deadline for signing a contract, was waiting in Pabst's office about to sign. Brooks's telegram arrived and the rest is, as they say, history¹⁷.

Pabst's vision of Lulu required 'being' not 'acting'. Louise Brooks' account of the relationship with Pabst is revealing. She describes a working method that was

¹⁶ The search apparently fascinated the Cinematic Press and resulted in a vast number of letters proposing likely candidates. (Efimov, 1936. p44-53).

¹⁷ Brooks writes that Pabst had felt that Dietrich was 'too old and too obvious – one sexy look and the picture would become a burlesque'. (1982. p96). Pabst had obviously identified some time earlier qualities in Brooks that he needed in Lulu and was clearly willing to go to considerable lengths to secure her, or an actress with equivalent qualities. He wanted to differentiate his film from Leopold Jessner's film *Erdgeist* (1923) to the extent that he even screen tested Brooks with her hair curled so as to avoid comparisons between Brooks' established look and the appearance of Asta Nielsen as Lulu in Jessner's film. Nikolaj Efimov writing about Pabst in 1936 tells us that: 'The choice of Louise Brooks is in reality fundamental....'.

variously controlling and protective, often unpredictable, but certainly cognisant of the way in which she would react to his direction. Pabst's directorial stimulus was invariably focussed on her behaviour as Louise Brooks rather than as instructions to an actress *playing* Lulu. She suggests that Pabst's relationship to her was not unlike that of Schön's relationship to Lulu going so far as to judge it thus: '...he was conducting an investigation into his reactions with women, with the object of conquering any passion that interfered with his passion for his work....'(Brooks, 1982. p98). Such a parallel is given further credence by Brooks' recollection of Pabst's comments regarding her future in the film industry when he said: 'your life is exactly like Lulu's and you will end the same way'. For Pabst, Lulu and Louise Brooks were one and the same and he, the part time animal tamer of Wedekind's prologue and a part time Dr Schön, obsessed with the process of making film, was going to show her to the world. It is as if Pabst was shooting a documentary.

In both the play and the film, Lulu provides a vehicle for the exploration of the societies from which the productions originate. For Wedekind this is an exploration of Wilhelmine Germany, for Pabst it is the period of Weimar. In the film, Lulu is, essentially, the only female character fully represented. The Countess Geschwitz is presented as lesbian, sexually oriented as a male (and in the film more or less dressed as one); she replicates the behaviour of the other male characters and is imbued with financial power. The fiancé is never given substance; she can be seen as a reference to the feminine norm of the time(s), a passive conformist to the gender politics of the time(s) and importantly the child, and would be wife, of powerful establishment men. Pabst offers us one more female archetype, the Salvation Army girl in Act 8. She is portrayed as innocence and unconditional love personified. Amongst it all, Lulu stands alone as being modern, free thinking, active, and un-orthodox. As the central character, it is her personality and behaviour that is examined and emphasised. Within the play, this emphasis is delivered through action and dialogue. In the film it is necessarily achieved through the control of her image.

Within the play there is a running motif featuring the portrait of Lulu as Pierrot. It may be considered as a device that asserts the presence of Lulu continuously on stage. The picture appears within each act, beginning as an incomplete painting in Act 1 and reappearing, in various states of change, as the play progresses. It makes its final

appearance in the last act when it is finally returned to Lulu by the Countess and hung on nails (interesting crucifixion reference) above the spot where Lulu will die at the hands of Jack. In Pabst's version, the same portrait is used in Act 1 as part of the furniture of Lulu's apartment. As it does in the play, it refers to Lulu as an image / object and it is suggestive of how we might understand the other characters' perceptions of her, but it is not seen again. The ever changing status of Lulu is presented through other, alternative, images. These include: the photograph in the newspaper handled by Casti-Piani on the train as he blackmails Alwa, the photographs of Lulu in various costumes examined by the Egyptian bartering with Casti-Piani in Act 8, the multiple changing images of Lulu at home as a dancer, a bride, a widow, a commodity, a prostitute and briefly a corpse. At the beginning of this project, one of the musical strategies under consideration was that of having a theme or a sound that was representative of Lulu herself. This would have been reminiscent of the ongoing function of the Pierrot painting in Wedekind's play.¹⁸ That said, Pabst's ever changing Lulu is already portrayed through a wide variety of images and intimate views, always in the present, and nearly always on screen. An associated, thematic, continuous, characterisation of Lulu might therefore be overbearing within the musical context.

In addition to the recurring images of Lulu, the film exploits the camera's capacity to bring us intimately close to Lulu's face. The level of detail in these images is something that cannot be achieved theatrically and it is a feature of Pabst's particular filmic style. The importance of Louise Brooks' natural beauty and her animated screen presence is richly exploited by Pabst; he ensures that we remain fascinated by her. The theatrical portrayal of Lulu, a portrayal that employed fierce dialogue and exaggerated gesture as a means of holding the attention of the gathered audience, is replaced with a more intimate experience.

The representation of Lulu as *passive* is strengthened through the frequent portrayal of Lulu as being an onlooker to the immediate reality of events. Within the film narrative, she rarely takes action on her own behalf but instead forms a 'centre of

¹⁸ Music, representative of Lulu, might also be used between acts as a way of asserting her continual presence within the experience of seeing the film.

gravity' around which all events are spun. Lulu's image is frequently magnified, carefully lit, and often outside of the immediate action spatially. She is, visually, often in another world (Rentschler, 1990. p65-70). Where she does appear in frame with other characters it is often as a passing presence, emphasising the actions of the others. Images of Lulu by herself tend to emphasise the distance between her and the realities experienced by the other characters. It is as if Lulu synchronises with the world around her only occasionally, and usually at points in the narrative where there is resistance to her preferred path or action. This reading renders Lulu as a force of nature; she is a force which is experienced by all, barely containable, and *a thing* to be viewed as being outside of humanity. Our engagement with Pabst's narrative does not require that we understand Lulu as a person but that we experience, and gain insight into, the effect that she has. Lulu is environmental; she is passive.

Thomas Elsaesser writing about this film in relation to *Weimar Cinema* (2000) establishes the idea that what Pabst offers us, through his careful control and detailed distribution of Lulu's image within the film, is a *first-hand* experience of her erotic presence. In some detail, Elsaesser establishes the erotic charge of Lulu as being the manifestation of the fascination, and desire, of the German bourgeoisies for an 'object' that simply refuses to conform or comply with the roles and rewards associated with their own world order. He argues that the 1929 German audience were, in essence, that self same bourgeoisie¹⁹ and he observes that the 1929 audience, and we, the contemporary audience, like the characters around Lulu, are only able to spectate. In the same way as the cast's attempts to control and confine her are unsuccessful, we too have no control over the cinematic images. When all is finished, following our engagement with the object of desire, like Jack and Alwa, we must leave the show. Elsaesser states that the key to the eroticism of the story is that it '...plays on a concomitant anxiety: that of the creature that emancipates itself from

¹⁹ Elsaesser provides an interesting discourse on the presence of the 'Meter Man' of Act 1. He suggests that the meter man is representative of an 'everyman' character' (a discarded, uniformed, minor official) whose early interaction with Lulu establishes her as being outside of the normal world occupied by him and the audience.

the creator, the sorcerer's apprentice...'²⁰ (Elsaesser, 2000). This reading, given Elsaesser's specific context, interprets Lulu from a particularly German historic perspective, one that would only be directly relevant if the intention behind the score was to emphasise Lulu as a problematic, feminine, manifestation of the Weimar Republic. The more subtle and unannounced twist to this reading is that Lulu is American. Brooks was an imported American actress, occupying the role of a German character that is deeply rooted within the German culture, at a time when the German Cinema was strongly pre-occupied with its potential to compete with Hollywood. Pabst's choice of actress underlines this further through the contrast between her notably naturalistic on-screen presence and the more mannered and theatrical performances of the rest of the cast. The portrayal and interpretation of Lulu as an exotic outsider is central to the establishment of distance between her and the other characters, it reinforces the sense of Lulu as unknown, unconfined and desirable. This is Lulu as America, and America as the object of desire perhaps²¹. In response, I concluded that the music should not attempt to define Lulu as being particularly German; instead, it might usefully give expression to her modernity and *otherness*. It has a role in supporting empathy for Lulu as she undergoes transformation from her cinematic state as Lulu, the desirable, alien, and unreal image, into Lulu, the earth-bound, immigrant prostitute who evolves from being an invulnerable, unaware, catalyst for destruction into a vulnerable, self-aware and naive victim of Jack the Ripper.

²⁰ Elsaesser goes further and suggests that this motif is perhaps the key motif found in German Cinema and makes reference to *The Cabinet of Dr Caligari* (Wiene, 1920), *Metropolis* (Lang, 1927) and *The Golem* (Wegener, 1915), in this regard.

²¹ This could be viewed in several ways; perhaps it is a comment regarding the impact of outside influences on post-war Germany or more simply an expression of the German Film industry's desire to make a 'Hollywood' film.

Conclusion

I started the composition process with the silent film, not the play. The awareness of Wedekind's originating work has served to underline that the design of the film is intended, by Pabst, to engage the audience from a different point of view to that found in Wedekind's theatrical work. Whilst it is true that the strongest stimuli to composition came from the film I found that a wider knowledge of the play(s) provided, on occasion, a different slant to my understanding of the characters²². Overall though, the most subtle effect of acquiring knowledge of Wedekind's originating work has been the reinforcement of an understanding that what I was working with was, in reality, Pabst's 'modernisation' and re-interpretation of Wedekind's German social myth. This realisation has, on a personal level, lent licence and support to my efforts to add yet another 'modern' perspective to Wedekind's / Pabst's work. It has supported me in believing that the creation of a new score, one that is synchronised and particular to the film (just as the selection of images is particular to Pabst's reading of the story) could be in keeping with the spirit of modernisation displayed by Pabst.

I envisaged a score that would continue the process of modernisation begun by Pabst. One that need not reflect the time in which the action takes place nor emphasise the values of the time of production. In the absence of dialogue, the score should emphasise the dynamics between the characters since this is where the power of the plot lies. In considering the need for contrast between Lulu's world and the world around her, I considered that contrasting music styles would help to define differences between the hidden values, lifestyles and allegiances of characters. The changing locations and circumstances might be prioritised musically over Lulu since her presence requires a degree of passivity. This may be reflected better through the omission of a specific Lulu theme and the setting of her image against whatever happens to be the music of the moment. I decided that the score should not

²² For example, Wedekind's deeper portrayal of the changing relationship between Dr Schön and Alwa was particularly instructive in understanding the Oedipal quality of the relationship between Schön, Alwa and Lulu (mother / wife) and the degree to which Pabst has visually softened the growing assertiveness of Alwa as given by Wedekind.

characterise her as a personality but that it should inform the effects that surround her and reflect changes in her relationship to the world and vice versa.

Regarding Myth

Pabst's film may also be regarded as an interpretation of the Greek myth of *Pandora's Box*. Lulu provides a vehicle through which gender politics, differences, and culpability can be scrutinised. Wedekind and Pabst are both figures who demonstrated concern with the social conditions of their times, and whilst the story that they tell is particular to the relationships between the characters, it derives some universality from the portrayal of archetypes such as the powerful man, the weak son, the beautiful temptress and so on. The story reiterates the age old mystery of the madness of sexual attraction and the risks that it poses to male hierarchy. The choice of title (*Pandora's Box*) reflects a linkage to ancient myth that was also present in Wedekind's earlier working titles, *Astarte* and *Divine Birth*. If the key characteristic attributed to myth is that within the story there is an indestructible kernel of truth (or untruth) that will stand examination from any number of variations in the telling, '*Variations on the Theme of Wedekind's Lulu*', as a title, further helps to establish the idea that Pabst saw Wedekind's play as having the qualities of myth; a story with a universally recognisable resonance. The consideration of this characteristic led directly to the notion that there may be a musical equivalent to a 'central truth', a musical kernel, at the heart of the score. This kernel can be found in the opening theme and will be discussed in further detail in Chapter 12.

Chapter 2

Alban Berg's *Lulu* (1935)

Alban Berg (1885-1935) composed the opera *Lulu* between the years 1928 and 1935. It deserves mention here because of the historic connections between opera and film, the shared origins of the narrative, and because Berg chose to use film as part of the presentation of his opera. The conception of the work is more or less contemporary to Pabst's film and in its re-working of Wedekind's play(s)²³ might be seen as being equally modernising. The composer made several innovative contributions to the staging of the drama. He insisted that the actors who played the parts of husbands in the early part of the drama should also occupy the roles of Lulu's clients later. He also specified that the part of Rodrigo be doubled by the actor who played the animal trainer in the prologue. Furthermore, Berg stipulated that the character of Alwa should be identified as a composer rather than a writer as described by Wedekind²⁴ (Monson, 1980. p286). The doubling of characters may well be seen as pragmatic, a means of reducing the play to a manageable number of singers, but we might also consider the way in which it creates a visual mirroring of the first and last part of the opera in line with aspects of the compositional structure. At the centre of the opera we find a silent film. Berg specified that the film, which forms part of Act 2, should be remade for each new staging of the opera so that it featured the performers who occupied the roles on-stage. The film used at the 1937 premiere of *Lulu* was directed by Heinz Rückert and produced by the Tempo company of Zurich. The film is believed to be lost; however, four photographs still exist and these are held in the Zurich Stadtarchiv.

This is not the first time that silent film was used in relation to the staging of Wedekind's play. In 1927 Otto Falkenberg staged *Die Büchse der Pandora* and *Erdegeist* in Munich. Falkenberg's presentation involved the projection of a series of still images and whilst it is not certain that Berg attended the performance, it is likely that he knew of it (Simms, 1994. pp157-58). It is known that Berg was familiar with the staging of Wedekind's play since it is recorded that he attended a performance of

²³ Berg seems to have based his libretto on the five-act version of Wedekind's *Lulu* published in 1913. (Monson, 1980. p271).

²⁴ The composer also presents a musical quote from his earlier opera *Wozzeck* when Alwa appears.

Die Büchse der Pandora in which Wedekind himself had played the part of Jack the Ripper. It is also known that Berg had an interest in film. His nephew, Erich Alban Berg, recalled that his uncle enjoyed the knockabout comedy of Laurel and Hardy and Buster Keaton, and in a letter to Schoenberg, Berg strongly recommended the film *The Blue Angel* (Jannings, 1930) (Goldsmith, 2002). His interest in sound film is further confirmed in a letter to Adorno in 1933, at which time the score for *Lulu* was in progress, in which Berg listed the creation of a film score amongst his ambitions for future works²⁵.

Berg's composition for *Lulu* utilises the twelve tone system, as conceived by Schoenberg, but his application of the serial technique is individual and innovative. Berg uses a number of different tone rows, most of which are related to particular characters in the opera. The rows therefore function as leitmotifs (Jarman, 1991. p67). Berg devised a system in which a twelve note row may be divided into three, four note 'segments'. The segments continue to appear in their correct order but the notes within each segment are frequently reorganised. Rows and segments may appear linearly, as melodic lines, or vertically as chords. The composer also employs a process referred to as *liquidation* as a means of developing the material. It is a process through which material is continuously reduced, note by note, until only a small remnant remains. The remaining remnants may then become the subject of further development towards a new identity or a re-establishment of the original. Adorno considered this process to be essential to the composer's technique (Adorno, 1991. pp3-4). Not all of the rows composed by Berg relate directly to characters. There is a basic row which is of particular interest for the way in which it is organised to create two hexachords; one of 'white notes' (thinking of the piano keyboard) and one of 'black notes'. This row, and the resulting harmony, is frequently applied in relation to the ever changing, ever present, portrait of Lulu. Two other harmonic areas link most of the rows used by Berg within the score: a chord consisting of the notes A, B, C, D, E and F and another consisting of the notes Db, Eb, F#, G, Ab and Bb. Significantly, one of the rows composed by Berg does not fully 'fit' with the harmonic areas

²⁵ Berg turned down a tentative offer from Adorno to score the film *The White Horse Rider* (Storm, 1934) and in his letter to Adorno (November 18th 1933) wrote "I am tremendously interested in the 'sound film' and I hope that my next work will be one. Perhaps it is possible [that] somewhere there is a fool who will want to make [one] with me, to be precise, as I want it." (Lonitz, 1997 cited in Goldsmith, 2002).

described above; it is the row for Dr Schön. Interestingly, through inversion, Dr Schön's row relates more clearly to those used elsewhere within the opera (Jarman, 1991. p71).

The tone row is not the only form of internal organisation found in the score. Berg also utilises a number of 'cells'. Frequently the material found in these cells relates to the rows and the harmonic organisation described earlier. Cells are used to delineate lesser characters and recurring events such as the 'doorbell' (on vibraphone) used throughout the opera. The cell formed by the notes Bb, Eb, E and A is of particular significance. This cell, (later referred to as 'the basic cell') consisting of two 'interlocking' tri-tones, forms a microcosmic representation of the 'white' and 'black' harmonic areas described previously and informs the music at the start of the film music interlude. Aside from the organisation of pitch through tone rows and cells, Berg also systematically organises timbre, rhythm, meter and tempo. A recurring rhythm (the 'fate rhythm' or *Hauptrhythmus*) accompanies every important event in the opera. Similarly the Countess Geschwitz is identified through a recurring rhythm that is systematically modified and grows in significance along with her stature within the story. Characters are also represented through selected meters and the sounds of particular timbres. For instance, Schigolch is consistently referred to through the sound of a chamber ensemble and meters of 2 or 4 whilst the character of the Athlete is invariably associated with the piano and meters of 6. Whilst the music for the film interlude is distinct through its complete organisation as a palindrome, Berg also applies a palindromic technique to whole sections of the score through his specification of mathematically related tempi.

To conclude this brief overview of Berg's technique and as a way of illustrating something of the subtlety of Berg's management of leitmotif, I offer a brief summary of Douglas Jarman's description of the music that accompanies the death of the Countess Geschwitz (1991, p90). The music that accompanies the Countess' final soliloquy is a reiteration of a previously heard *Andante* which finally gives way to music constructed from segments of her row and the basic cell. The final three chords epitomize the fate of the three persons most profoundly involved with Lulu (Perle, 1985. p190). An A major chord (derived from Dr Schöns row) which ended the first act and opened the second is reiterated using the *Hauptrhythmus* and followed by a

change to A minor (associated with Alwa). Finally, as the Countess dies, the C natural descends to a B resulting in the ‘white’ note chord related to the basic row and sections of Countess Geschwitz’s material. Thus Berg’s score utilises the systematic organisation of material to reference characters, relationships, earlier parts of the narrative, narrative form and previously heard material whilst delivering the emotional needs of the moment. Significantly, the organisation of the music is driven by the narrative. There are very close relationships between all aspects of the musical material and the plot. This situation is reversed during the film music interlude in which the *form* of the music is used to direct the plot and to provide form and direction for the film.

Berg clearly recognised the potential of the film medium. Within the opera he uses film to compress the narrative and to show us events that could otherwise not be staged. The narrative portrayed within the film spans a period of more than a year and a half; Lulu is arrested, faces trial, is imprisoned and contracts cholera. She finally escapes when the Countess Geschwitz takes her place in hospital and Lulu leaves in disguise. Within the context of the opera, the film falls at the halfway point of its organisation (if we exclude the prologue). Prior to the film interlude, Alwa is shown as being devoted to his father; after the film, he is only devoted to Lulu. The events that unfold also show a change in the Countess Geschwitz as she demonstrates her willingness to give everything up for Lulu. Importantly it portrays a change in Lulu’s personality from being resigned to her fate to being determined to live again. The film thus forms the ‘tipping’ point within the narrative. Berg clarified his concept regarding the film music design and narrative function in a letter to Schoenberg as follows:

“The orchestral interlude, which in my version *bridges* the gap between the last act of *Erdgeist* and the first of *Büchse der Pandora*, is also the focal point for the whole tragedy and after the ascent of the opening acts (or scenes) the descent in the following scenes marks the beginning of the retrograde. . . .” (Hall, 1996 cited in Goldsmith 2002).

Berg sees the film as being the beginning of the end for Lulu and the turning point of the score musically.

The retrograde that Berg refers to above relates to the palindromic structure of the music for the film interlude. Berg's composition, under the film, employs six tone rows that are all related to individual characters and all derived from the basic set attributed to Lulu. Furthermore, Berg specifies six sections of music of varying tempi and length. The last three sections are reflective of the first three. The film interlude is framed by 'curtain music'. At the mid-point of the film music stands the point at which Lulu is imprisoned. Here the music comes to rest (a pause, at bar 687) before beginning the retrograde of the preceding music. Prior to the central fermata we see the prison door open to receive Lulu, and after this we see the prison door open to admit her to hospital. Berg's carefully crafted film music scenario sets out the visual events that appear at each point in the music. His design is such that the image sequence itself is symmetrical. Thus the images of Lulu being arrested at the start of the film are counterbalanced by the images at the end in which she is liberated; the images of her detention are mirrored in the images of her hospitalisation and the images of her trial are contrasted with the images of her examination by doctors. The duration of each retrograde, mirroring, sequence is usually equal to the duration of the related scene in the first part of the film. Even the number of participants in each scene is specified; Berg places three actors in the arrest scene, three in the liberation, five witnesses at the trial and five doctors / helpers in the hospital (Goldsmith, 2002). Such specification of events demonstrates that Berg knew exactly what he required visually. There are details in his film music scenario that suggest specific images (the suggestion that Lulu's face be reflected in a 'muck shovel' brought in by the warder for instance (Goldsmith, 2002)). Given his interest in film, and the clarity of his vision for the scenario (in terms of narrative and music), it is also plausible that he understood that aspects of the film would require specific photographic techniques²⁶.

Goldsmith's analysis of the film music interlude suggests that Berg's music was crafted to frame the action of the accompanying movie in considerable detail. She provides extensive analysis, based on the work of Edward T Cone, of Berg's organisation of the music to show that a variety of techniques are applied by the

²⁶ Berg does not specify any particular 'shots' however it is clear that in order to establish Lulu's changing emotions, in the absence of a lyric, a close-up camera shot might be required (Goldsmith, 2002).

composer to frame the narrative. Goldsmith describes the curtain music as a ‘distinct’ frame (the music being clearly recognisable and distinct from its surroundings) and goes on to establish relationships between the nature of the music and the delivery of the film (starting as a black screen and fading to black at the end). Similarly she establishes relationships between the organisation of the music and the ways in which it is suggestive of particular types of editing in the film. She concludes that:

‘Berg’s film suggests a combination of two editing styles, *cutting to continuity* and *classical cutting*²⁷. From both the annotations in the score and the Film Music Scenario it appears that the composer had in mind certain camera angles and framing techniques or editing devices. Fades and dissolves, graphic and rhythmic matches, and wipes can be used in the film that the FMI²⁸ accompanies and there are many filmic musical passages that suggest certain framing devices over others’.

If this is true, we might like to speculate as to what type of film Berg actually had in mind. As Goldsmith notes (2002), the film has a number of features that help to characterise it. It has the *femme fatale* in Lulu, it blurs the boundaries between perpetrators and bystanders (the witnesses, doctors and students are all played by the same cast and Alwa and Geschwitz play roles that change significantly), the film is low budget (limited interior settings, small cast of actors already employed in the opera) and it is crime oriented. It has the essential ingredients of what later became *film noir* (Goldsmith, 2002). It is as if popular culture had invaded the opera house. The absence of lyrics / dialogue, and the presence of the film as a show within a show, encourages us to accept the narrative from a new point of view²⁹. One in which we are, perhaps, less emotionally engaged with the silent actors than with the singers on stage. Lulu’s latest crime (her escape from the prison captured on film) is

²⁷ Both are identified as significant features in Pabst’s work too. (Rentschler, 1990. P65)

²⁸ Film Music Interlude

²⁹ In modern performances, our perception of the film as being different to the reality of the opera is further enhanced by the use of black and white film, rather than colour. Such an example can be found in the DVD recording of the Glyndebourne Festival Opera’s 1996 performance of *Lulu*.

perceived as being just a passing, incidental (filmic) moment; we are invited to become complicit.

Leo Treitler, discussing the change from the opera to the film, the concert hall to the cinema wrote:

“Such games of hopscotch between the stage and the world outside are characteristic features of expressionistic theatre and cinema. One thinks of the plays of Pirandello, *The Cabinet of Dr. Caligari*, moments in Marx Brothers films when Groucho turns his face straight into the camera and addresses the audience. But that is precisely what Berg’s device does.” (Treitler, cited in Goldsmith 2002).

Such a view places Berg’s artistic decision into an artistic context of its time but it does not, in my view, acknowledge that Berg’s film music interlude is particularly distinct for the way in which the composer *directs* the film. The sound world of opera is replaced with the mute world of the silent film. The presence of the film as a contrast to the culture and intensity of the opera, and its nature as a section that is distinct from the surrounding work, within a section in which narrative time and our view point are manipulated, are indicative of Berg’s understanding of film as being qualitatively different to the opera itself.

Berg never did compose a film score; his letters to Adorno imply that he was troubled by the prospect of relinquishing control of any part of the creative process. Berg’s silent film music might be re-considered within the context of the activities of composers presenting experimental work at the Baden Baden festival³⁰, some of whom were also students of Schoenberg (Volker, in Mera and Bernand, 2006. pp13-14). From such a perspective, we might interpret Berg’s film music as an expression of the same quest for a new aesthetic but this would, I think, be a false conclusion. Berg *uses* film. He uses it to illustrate the expressive intentions behind the organisation of the music, and he uses it for its quality as a medium: its detachment from reality and its capacity to control what, and how, we see the unfolding narrative. Berg may not have composed film music but he did compose a film.

³⁰ The Baden Baden festival is discussed in further detail on page 37.

Part 2

Chapter 3

Music and the Silent Film

Pandora's Box was first screened in Berlin on February 9th 1929. For the occasion, Willie Schmidt-Gentner directed the music. Schmidt-Gentner began his career in the silent cinema in 1922 and is recorded as having been responsible for 67 silent film scores between 1922 and 1929 (imdb.org. 2009). Newspaper reviews of the first night do not seem to have regarded the music as a resounding success (Gandert, 1993). The score included extracts of *Don Juan* (1880) by Richard Strauss, and extracts of Gottfried Huppertz's arrangement of music for Fritz Lang's *Die Nibelungen* (1924) (1928 cited in Gandert, 1993. p21). The review in the *Reichsfilmblatt* tells us that Lulu was characterised through 'graceful, skipping melodies which characterise her carefree nature' though the opening of the music attempted to set the appropriate tone with a few 'powerful, fateful' chords. The review in the *Lichtbildbühne* suggests that there were several occasions where the music seemed inappropriate. They criticise the use of 'oriental music' under the death of Dr Schön and comment on inappropriate dynamics saying that 'the fortetissimo accompanying Alwa's kiss is incomprehensible'; however, there are indications that other aspects of the score were acceptable (1928 cited in Gandert, 1993. p21). Overall, the suggestion is that Schmidt-Gentner does not interpret the film entirely effectively but there are some clues, through these brief reviews, to the characteristics that were regarded as being important in music for film at that time. These included: dynamic variations, internal musical references, the use of dissonance (the review in the *Lichtbildbühne* refers to the use of dissonance following Schön and Lulu's confrontation in the bedroom as evoking memories of an earlier scene), types of timbre (there is a reference to the use of trumpets under the word 'execution'), references to other works, characterisation, use of cliché (oriental music) and the support of the narrative. The presence and the content of specialist reviews of the music at the premiere, and the level of detail, confirms that by 1929 there was a sophisticated appreciation of the role that music had to play in relation to German silent film.

Music has been associated with the accompaniment of images (both static and moving) since the very beginning of the development of the cinema. The earliest existing example of music specifically written for German film presentation appears to be the music used for Max Skladonowsky's 'Bioskop' films that were shown at the Wintergarten Theatre in Berlin in 1895³¹ (Marks, 1997. p31). Whilst Skladonowsky's projection system was destined to disappear, the presence of music in relation to the presentation of film was not. Marks offers some detailed consideration of the score and whilst he acknowledges that it is impossible to draw firm conclusions, he suggests that the compiled score was probably the work of two composers and that the various sections of music had definite associations with specific sequences in the show. Furthermore, he shows that the programme of music was altered in response to changes made to the presentation as it toured the country. There was, in Germany, from even the earliest moment, an organising rationale behind the integration of the music with the film show.

Functionally, the role of music in early film presentation was consistent with the use of music in relation to most other forms of staged public performance. It served a declamatory function (the event is about to begin), an underscore function (the event is in process), and a punctuating and finale function (pauses in the event and end of an event). What music most importantly brought to film, along with these common functions, was a sense of continuity. This was not only a continuity in the process of presentation (playing through the inevitable gaps in the film as reels were changed³²) but continuity for the film itself. Siegfried Kracauer describes music as 'not just sound, it is rhythmical and melodious.... a meaningful continuity in time'. He argues that the presence of music affects our perception of other 'simultaneous impressions'. In relation to the fragmentary nature of moving pictures he tells us that, '....confused shifts of position reveal themselves to be comprehensible gestures; scattered visual data coalesce and follow a definite course. Music makes the silent image partake of

³¹ Skladonowsky's folder of music has survived and is held at the Deutsche Film und Fernsehakademie.

³² The idea of using more than one projector in the picture house, allowing reels to overlap in projection so that there were no change-over breaks seems to have started in the Strand Theatre, New York in 1914. (Berg, 1976. p35)

its continuity' (Kracauer, 1965. p135). Kurt London, referring to the same phenomenon described music as providing 'musical simplification of the mosaic of film images into one long line' thus illuminating the confusion of the variety of images through the uniformity of music' (London 1936 cited in Berg, 1976). This is a primary function in relation to *Pandora's Box*; it is a function of continual transportation in which the music helps to glue together the disparate images and carry them onward through time.

By the 1920s the use of music playing simultaneously with the film had been firmly established as the 'norm' but there was, in the early silent cinema generally, a lack of consistency in the quality of music used to accompany film. Two factors were responsible for this problem: the variable quality of musicians playing in the picture houses (an artistic and economic factor) and the variable quality of the musical choices made by the band-leader (sometimes assisted by the theatre manager). It was normal for the score to a silent film to be compiled, prior to the presentation and not always with rehearsal, from a selection of known music. The choice of music was inevitably affected by the repertoire available and the abilities of the musicians concerned. The employment of various versions of cue sheets and film music books produced between 1912 and the mid 1920s by people such as Winkler, Ernst Luz and Erno Rapee³³, to name but three, helped to stabilise the choice of music for film performances by providing either lists of specific cues related to a particular film or selections of generic music designed to suit particular scenarios, atmospheres, emotions etc, somewhat reminiscent of what we later called 'Library Music'. In fact, the first *orchestral* library of mood music for film was published in Berlin in 1919 under the name 'Kinothek'.³⁴ The concept that music should, in some sense, match the film and enhance the movie through the representation of suitable emotions, pace, dynamics etc eventually became firmly established (Berg, 1976). This approach contrasted significantly with the initial position of music as simply continuity and punctuation; it assumed that music should be aligned (albeit loosely) to changes in the narrative with a view to enhancing the reading of the image narrative. An important

³³ Erno Rapee was also the musical director at Ufa.

³⁴ 'Kinothek' is a contraction of 'Kinobibliothek' which translates as 'cinema library'. (Berg, 1976. p128).

principal of practice emerged from this. The meaning of the music needed to be 'readable'. The use of popular song (without lyrics, but which were known) and the use of classical music (with known references / contexts) and the subsequent development of cliché (drawing on the gestures of the classical / light repertoire) was pragmatic and understandably unadventurous³⁵. Its efficacy was dependent on the audience's familiarity with a 'standard' music repertoire. Whilst popular songs and styles would have been relatively localised, the widespread familiarity with the European classical repertoire may well have ensured a degree of consistency in performance internationally.

In the German silent cinema, the first especially composed score to a full length film was Giuseppe Becce's score for Oskar Messter's film *Richard Wagner* (1913). The film, a biopic in celebration of Wagner's 100th birthday, was to have used Wagner's music throughout but the costs attached to an all Wagner score were far too high. The Wagner family also had reservations about the association of Wagner's music with the upstart cinema. As a consequence, Giuseppe Becce, a noted conductor already engaged in the lead role of the film as an actor, was asked to compose the score. It was Becce who later co-created the *Kinothek* and in 1927 he co-authored the *General Handbook of Film Music* with Hans Erdmann. In some respects his score to *Richard Wagner* (Messter, 1913) is instructive. The score is compiled of Becce's own work, themes borrowed from extant works, and work by Rossini, Beethoven, Haydn and Mozart, amongst others. The placement of the various identifiable works is purposeful, offering musical illustration of Wagner's apprenticeship and providing geographical references. On occasion, Becce applies music for its rhythmic qualities (the use of the *William Tell Overture* as a match to the movement of people on screen during an uprising for instance) and Becce's own contributions are frequently reminiscent of Wagner's style. Ennio Simeon tells us that 'Becce's compilation score thus constructs a musical equivalent of the Wagner film itself': it uses music that is consistent with, and descriptive of, Wagner's life historically and emotionally (Simeon in Elsaesser, 1996. pp219-224). For Oskar Messter, the music targeted a new, educated audience whom Messter and his competitors were keen to attract to the

³⁵ There is also the issue of the readability of gestures within the music as discussed by David Huron (2007). This area is discussed further in Chapter 5.

cinema' (Simeon in Elsaesser 1996. p222). The reviews that followed the film reveal inconsistencies in the size and instrumentation of the ensemble playing at the various screenings. Becce's score, it was reported, was variously reproduced on organ, harmonium, by a small orchestra and so on. The variations in music performance were typical of the time but the use of a specific score was not. The range of music that Becce's score employed was typical of the period and unsurprisingly it had a great deal in common with the range of music found within *Kinothek* and *The General Handbook*. By the late 1920s Becce's contributions to film music were openly acknowledged as being influential on the practice of scoring film during the preceding years (Simeon in Elsaesser, 1996. p224)

In Germany, the development of the 'Tri-Ergon' system (a mechanism for the conversion of acoustic signals to optical and vice versa) allowed the first public demonstration of sound film to take place in Berlin in 1922. Ufa produced their first 'talking movie' in 1925 and following a failure of the sound in their first presentation, a twenty minute sound version of *The Little Match Girl* (1925), they decided not to pursue the system. For Ufa, an organisation with strong commercial success and investment (in its silent films, theatres and orchestras), further development of Tri-Ergon did not seem to be a risk worth taking. This meant that in Germany, early sound film became the prerogative of less commercial concerns. The TOBIS company (Ton-Bild-Syndikat), founded in 1928, was one such concern. TOBIS had involvement in the promotion of sound film experiments at the Baden-Baden contemporary music festival (begun in 1927). Composers attending Baden-Baden presented music composed to avant-garde films and exhorted the creation of 'contemporary music' for the new art form of sound film.³⁶ They rejected the 19th century music model employed in the cinema of the time (Volker, in Mera and Bernand, 2006. pp13-14). The Baden-Baden festivals therefore make visible two streams of film music development in Germany. One stream of composers who perceived the creation of 'incidental' film music as a continuation of the practices found in other popular art forms such as cabaret, theatre and operetta, and a second

³⁶ Composers appearing at Baden-Baden included Walter Gronostay, a former student of Schoenberg, Paul Hindemith and Hans Zeller. It was Zeller who later went on to compose for the first German sound film *Melody of the World* (1929) premiered about one month after *Pandora's Box* on 13th March 1929. (Volker, 2006)

group for whom the combination of film and music represented a new artistic model, one which may equally serve as a catalyst to new forms of music composition (Volker in Mera and Bernand, 2006. p25).

This section began with a description of the reviews relating to Schmidt-Gentner's music for *Pandora's Box*. Set against the activities in Baden-Baden (which finished in 1929 the year of *Pandora's* release), the Kinothek, the compiled score, and the information that we have regarding Schmidt-Gentner's music, it seems that *Pandora's Box* was not, in 1929, being presented as anything revolutionary. In many respects it was conservative, an old and beloved play with a compiled score that was typical of commercial silent films of the day. This was not an art-event; it was conventional popular entertainment for the mass audience, employing the production resources and presentational techniques developed by Ufa since 1917. For the purposes of my score I have not applied the compilation technique typical of the silent film era but I have had to wrestle with some of the same issues that confronted the silent screens musicians / composers. The functions of continuity, punctuation, location and characterisation are all present. The problems of moving from one musical idea to another in support of the movie action are as real as they ever were. Diversity in style is also characteristic of the early silent film score however the choices available to me now, as a composer in the 21st century, are far wider. I have not used popular song³⁷ (though in recent years the use of popular songs has reasserted itself in film in an interesting echo of pre-sound film). Unlike my predecessors, I can reasonably trust in the presence of an 'educated' audience, one that will be less reliant on local and familiar music only³⁸. I have not had to contend with variations in performance because the music is recorded and synchronised.

³⁷ There are instances within the score where the 'source' of particular ideas spring from popular song, this is discussed later in the section referring to *Pandora*.

³⁸ This statement is made on the basis that these films now enjoy 'Art' status and are frequently marketed as 'cultural' events in Arts centres and specialist festivals.

Chapter 4

Scheme for a Score

Before discussing the details of the new score, I would like to set out the basic scheme to which I have worked. The scheme for the score is derived from the organisation of the film. The narrative may be described as several layers which interact and relate. At the top of the hierarchy is the overall dynamic of the narrative as described over the entire length of the film, starting at the titles and finishing on the closing credits. At the next level we find the key turning point in the narrative (end of Act 5) and then, below that, each individual act (Acts 1-8). At the lowest level we find smaller narrative arcs and minor sequences within acts. The basic model is illustrated below:

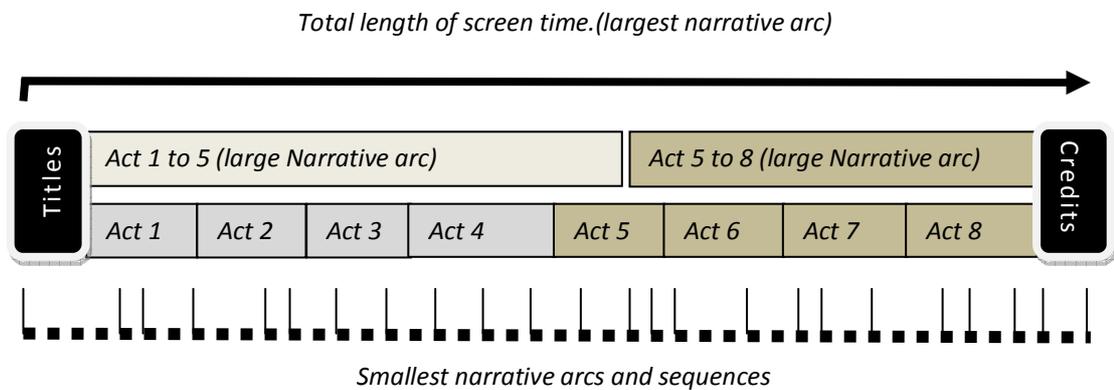


Fig 1. Diagram illustrating layers of construction within Pandora's Box (not scaled)

The diagram implies that there are relationships between the construction of the film and the construction of the narrative. In addition to the division of the narrative into 8 separate acts, there are constructional devices such as titles and credits. In this instance there are also 'end of' and 'start of' act inter-title cards. These markers form part of the conventions of film presentation and are positioned according to the length of the acts as required by the narrative. In reality, the acts vary in length and are not as equal as illustrated above. Naturally, the length of each act, and the placement of each 'end of' and 'start of' act marker, has had an impact on the design of the score in terms of length per act. Decisions also needed to be made concerning the desirability of silence, or music, through the act in / out markers. The primary information

derived from this analysis concerned the overall length of material, the relative placement of subsections of the material, the position of particular points of punctuation (starts and ends) and the overall form of the score.

Layers within the Scheme.

At the highest level in the scheme is the total length and the complete narrative of the film. The initial decisions regarding the planning of the music related to this level of the narrative (and film) construction. The story shows us Lulu beginning in a state of comfort and prosperity. Over the course of the film she loses everything. Eventually she arrives in the alien environment of London where she descends to penury, prostitution and death. The overarching direction of the music scheme is therefore intended to reflect this journey; it begins in consonance and clear tonalities and moves increasingly towards more atonal and dissonant sounds as the film progresses. The sonic world of Act 8 should be darker and distressed, alien to where the music begins in Act 1. At this, the highest level of the scheme, the composer can only plan the *general* direction / intention of the score. This part of the plan establishes for the composer where (emotionally) we begin and where (emotionally) we end³⁹. In addition to this, the largest narrative arc, the composer also needs to account for the title and credit sequences found at either end of the film. I made the decision that the tune heard over the titles (referred to throughout as *Pandora*) should reappear at the end of the film thus bookending the work in a way that is consistent with the idea of music as narrator. The intention here is that the audience will, at the end of the film, be in a position to understand the emotional tone set at the beginning of the film by the *Pandora* theme. The music at the end is not exactly the same as that found at the beginning; it has become a reflection of where we started.

At the next level of the scheme we find crucial, large scale, segments of the narrative. In this case I have divided the film into roughly two halves. This level is entirely interpretive; it is only defined by my particular reading of the film and does not reflect any solid boundaries within the film such as the start and end of acts. It would

³⁹ Other factors such as the geographical location and chronology could also be considered.

be equally possible to find alternative divisions within the narrative. Since the overarching direction of the score is downwards into chaos (as described previously) I felt that I should identify a ‘tipping point’, a point at which Lulu’s descent becomes inescapable. I identified the point as being the court scene in Act 5 in which Lulu is found guilty of manslaughter⁴⁰. It is here that she is first identified as *Pandora* by the prosecutor and she first experiences the consequences of her behaviour. It is here that she begins her descent towards the arms of ‘Jack the Ripper’ (in Act 8). The identification of this moment in the film has informed the decision regarding the emergence of ‘diegetic’ sound (rather than diegetic music) within the score.

At the third level of the scheme are the actual acts of the screenplay. Each act depicts a complete narrative arc of its own. The sequence of the acts in *Pandora’s Box* is completely linear in time (there are no flashbacks on screen) and in combination they result in the complete narrative of *Pandora’s Box*. They are therefore, partially, interdependent and they are sequential. In terms of planning the score, this led to a decision to identify particular ‘worlds’ associated with each act. For example, Act 1 and 2 is firmly in Lulu’s ‘Jazz’ world and the world of her friends (with the exception of the very start of Act 2 where we are placed into the completely different aristocratic world of Schön’s fiancé). Act 3 is oriented towards the theatre, Act 4 offers us the wedding party, Act 5, the authority and alien world of the court, Act 6, the escaped Lulu and the train Journey, Act 7, the murky world of the ship, and Act 8, foggy, foreign, London. As you can see, these descriptions do not account for the complexities of the score in relation to the on screen events rather they account for the starting point that informs the general character of each act. ‘Worlds’ are generally established, in my score, through changes in instrumentation, key, and style.

At the deepest level of the scheme I am concerned with the smallest sections of material and their particular placement in relation to the images. This level of the work was most detailed and the most time consuming; it is subsumed within the other layers of the scheme described above. At this level, the synchronisation of small

⁴⁰ It is also reasonably consistent with Alban Berg’s assessment of the ‘tipping’ point though Pabst’s film does not include the narrative material found in Berg’s film interlude.

musical events to particular image sequences takes place. The composing at this level also inter-relates music used in other acts, sometimes offering sonic clues to cycles of behaviour that we have seen in the drama before, sometimes employing particular musical characterisations and so on. The diagram below demonstrates that the scheme for the music is strongly reminiscent of the preceding diagram relating to the structure of *Pandora's Box*.

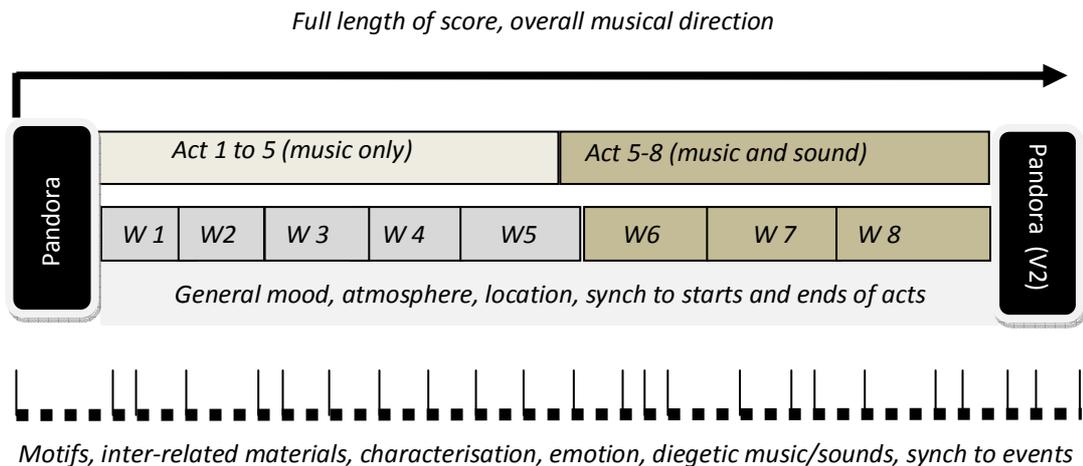


Fig 2. Diagram illustrating scheme for score construction *Pandora's Box* (not scaled)

This provided the framework on which the score was developed. It is, in effect, a map that provided direction and reflection on the role of particular musical responses to the narrative. Given that the lowest level of the scheme demanded a lot of detailed composition, it is useful to keep in mind that each musical moment at the lowest level should blend with the next leading to a conclusion that allows each act (next level up) to contrast or complement the following act leading to an expression of the intended over arching shape of the score (highest level).

Composers and theorists have long argued about the ability of music to convey ‘meaning’. They are not all agreed on the notion that music always has, or even needs to have, ‘meaning’ (Storr, 1992). In relation to the context of film, the discussion is somewhat clearer. This is, in large part, due to the widely accepted view of the role of film music as *functional*: specifically placed to be supportive of the narrative meaning within the film. One of the composer’s primary tools for encoding meaning on to the image is *referential music*. Such music references ideas, within or outside of the film, which when understood by the listener, add connotations to an image or narrative sequence. References may vary in scale from being minor moments, in which a particular timbre or musical gesture acts as a reminder of an earlier event or carries an extra-musical association, to the wholesale application of a known work with explicit lyric⁴¹ or cultural associations. These larger scale references may subvert the meaning of a particular image sequence or the reading of an entire narrative. An example of a substantial reference of this type can be found at the beginning of Stanley Kubrik’s film *The Shining* (1980). In the opening scenes we see a small car driving along a mountain road towards an unknown destination. The gloomy instrumental music that accompanies the pictures is derived from the Gregorian plainchant *Dies Irae* which in its original lyric form, speaks of apocalyptic days of wrath and terror for mankind (Deutsch, 2007. p7). Such a reference may not be immediately obvious to the audience but the character of the music, its religious overtones and its chant like qualities, infer a sense of ritual and arcane process that makes perfect sense in relation to the narrative as a whole. Interestingly, the connotation is more clearly understood on the second viewing (though arguably it lacks the impact of the first). Nevertheless, it achieves a dramatic atmosphere and potentially warns us of the gloom to come. The referential use of music therefore offers a way in which extra ideas can be encoded into the film. The example cited above suggests that referential music may be intelligible on several levels. The nature of the music as solemn and ancient flavours the image with one set of references, the fact that the music is played on electronic

⁴¹ The use of lyrical references through the use of popular song as instrumental underscore potentially provides a narration: a text oriented reference that may be understood by the listener / viewer.

instruments, connoting the presence of the ancient in the modern world adds another, and the textual meaning of *Dies Irae*, possibly not known to a large part of the audience, forms a hidden intellectual layer of meaning that, if not understood immediately, may be discovered and enjoyed at a later date. The efficacy of the reference is dependent on recognition and knowledge, it is culturally constrained. Because there is a natural tendency in humans to associate extra-musical experience with musical experience, the two are intertwined at a cultural level. For example, music associated with death in an African culture may well be unrecognisable as such to a European listener and vice versa. In part, this is because of associations acquired through the repeated exposure to music that is linked with extra-musical events, and in part, it is influenced by cultural concepts surrounding the extra-musical event. There are no absolutes, the referential values of music are informed by repeated exposure to music and commonly held values within the culture. Such linkages are liable to change over time and be rendered redundant as the culture acquires new modes of expression and new values (Meyer, 1956).

As far as *Pandora's Box* is concerned, there are no specific, large scale, references of the type described above; however, I have applied stylistic references and small scale, internal, musical references widely. In the following passages I will explain the referential qualities of the styles that appear within the score but it is important to note that the explanations offered here are by no means definitive; they are merely descriptive of my intentions. Discussions with colleagues revealed, unsurprisingly, that we did not all derive the same inferences from music. Furthermore, discussions with students suggested that previous experience of music, in a variety of settings (film, recordings and live performance), and knowledge of the life and times associated with particular music, could also influence understanding of connotations through music. Phillip Tagg's comments regarding student reactions to music similarly reveal inconsistencies in listeners' reactions (Tagg, 2004). Referentialism has dimensions that are both cultural and personal; the musical response of the composer may be informed by connotations that are peculiar to him or her alone or they may be widely accepted and understood within a culture. Either way, there is a causal connection between the musical material and the connotation evoked (be it less or more effective) (Meyer, 1956). It is perhaps a confirmation that referentialism is, in

some respects, a flawed device. It may usefully inform the design of a score, providing an effective conceptual stimulus for the composer, but it may not be understood clearly by every audience as intended.

Stylistic References / Jazz.

Jazz has a history in Germany that dates back to Berlin in 1905 when the ‘Memphis Students’ first toured in Europe and the UK. The American band, ‘The Savoy Syncopated Orchestra’, took up residency in Berlin from 1926 to 1928 and Berlin developed a strong ‘scene’ of its own during the late 1920s (Shipton, 2001. p373). The Jazz band on view in Act 4 of *Pandora’s Box* is, in reality, one of Berlin’s bands of the time, namely ‘Sid Kay’s Fellows’ who had a residency at the legendary Haus Vaterland⁴² from 1929 till 1932. Early Jazz posed something of a conundrum to the critics of the time; there was a conflict of view regarding its correct place in the hierarchy of art. Should it be regarded as ‘folk’ (ish) music on the basis of its primitivism, or should it be regarded as ‘art music’ because of the way that it was pre-composed and the ‘primitivism’ was exploited as part of the ‘performance’? (1929 cited Frith 1996, p44). Such a question (the power of intellect versus the animal instinct) also lies at the heart of Wedekind’s play

Jazz bands, within the context of silent film, first appear during the early 1920s where they frequently played on the ‘set’ and on camera for the ‘flappers’ on screen. Many of these bands remain unidentified. As sound film became established the practice of using live musicians ‘on set’ declined. Some of the early examples of sound film made by Lee de Forest in 1922 employed Jazz musicians as performers and later, as the ‘Jazz age’ progressed, the Warner Vitaphone Corporation made a great many one reel ‘shorts’ that featured Jazz bands and musicians. The first full length ‘Jazz score’ for a sound film did not appear until 1951. The score to *Streetcar Named Desire* (Kazan, 1951) by Alex North was soon followed by a number of Hollywood films that also featured Jazz music; these included *The Wild One* (Benedek, 1953), *The*

⁴² Coincidentally there are references within the writing of Louise Brookes that confirm that this was a place frequented by members of the film cast and crew during filming.

Man with the Golden Arm (Preminger, 1955), *The Sweet Smell of Success* (Mackendrick, 1957) and *I Want to Live* (Wise, 1958). This period in Hollywood is also marked by the decline of the studio orchestras and the increased availability of Jazz musicians in the Los Angeles and New York areas as the big band era drew to a close (Meeker, 2004). The presence of Jazz within the Hollywood film of the 1950s is both a reflection of the economic conditions of the time (and the resulting availability of Jazz musicians) and a reaction to the success of North's score for *Streetcar Named Desire* (Kazan, 1951). Russell Lack notes that the appearance of Jazz within film resulted in less reliance on the leitmotif approach and a tendency towards impressionistic musical commentary which, through its complexities, was inclined to parallel the film rather than mimic it (Lack, 1997, p194). It becomes, in effect, an unempathetic and complex setting for the film that reflects the times from which it emerged. Royal S Brown referring to the Jazz music of these 1950s films additionally observes that 'the entire jazz genre tended to attach itself in the cinema to the '-icity' of 'lower class', people involved in sleazy dramas of sex, drugs and / or crime' (Brown, 1994. p183). On this basis, we might well consider that *Pandora's Box* is an ideal vehicle for Jazz.

Within *Pandora's Box* there are three main styles of Jazz music referenced within the score, these are: 'Cocktail' / 'Dinner' Jazz, a 'Trad' / 'Ragtime' style and a 'Be-Bop' style, none of these are authentic to the period of the images. The 'Cocktail' Jazz (really a 60-70s style) is usually just a small piano trio (with occasional saxophone and or vibraphone⁴³). The music has a sense of remove, it is relatively unemotional, mostly consonant but with a strong blues flavour (arising from the harmonic progression in use), it is melodic but it is not dense or difficult to follow ([Example from end of Act 1](#)). This brings with it connotations of smooth sophistication and reserve, it is not the music of the Jazz aficionado rather a music that is strongly associated with intimacy and expensive restaurants, exclusivity and pretension towards 'cool'. The 'Trad' Jazz and 'Ragtime' style (more late 20s – early 40s) is also uncomplicated harmonically but more strongly polyphonic in texture. It is noisy, boisterous, associated with fun, drink and less formal situations. It is not overtly

⁴³ A sound that references the music of the French Cinema of the 1950s and the emergence of the vibraphone in 1928, the same year as the production of *Pandora's Box*.

sophisticated but rather more primitive and emotive. It is a much more social music, less concerned with virtuosity and more with entertainment. Whilst there are moments of diegetic Jazz music of this type in Act 4 the emphasis is on the liveliness of the style rather than period reality ([Example from Act 4](#)). The 'Be-Bop' style (50s) referenced in parts of Act 6 ([01:09:11:00](#)) and Act 7 is more rhythmically driving, dissonant, polyphonic, denser and harmonically more ambiguous. Here it is variously featured through the sound of a piano trio and a larger ensemble. It is dynamically explosive featuring a strong attack and extremes of register. It references underground clubs, smoking, drinking, late nights and dangerous environments. It is the music of the minority and the outside, subversive culture. Big band instrumentation is used to provide a safer, more harmonious, music as Alwa wins at the gambling table in Act 7 ([01:42:29:00](#)). Overall, Jazz is always used within the score as a cultural reference and a comment on the nature of the parties involved on screen. The styles are not of the period but they do, loosely, describe a chronology of development in which Lulu's more modern and aspirational world is associated with the 60s-70s style of Cocktail music in contrast to the older more 'Trad' world of the Schöns. The mainstream / Be-Bop sounds of the 50s are associated with the 'underground' gambling den. Alwa's Jazz reference evolves from 'Ragtime' in Act 2 (00:18:09:00) towards a more modern sound in Acts 6 and 7 (00:42:29:00).

Jazz music also relates to the Blues music of early 20th century America, and Blues also informs the music of *Pandora's Box*. Blues, like Jazz, evolved into a wide variety of styles but here it is invariably slow and dark and non-vocal. Blues accompanies scenes in the film where the emotion is undoubtedly sad, regretful and uncertain. It is a reference to oppression, the music of a solitary suffering and suffering within relationships. Like Jazz, it provides an American reference in respect of Louise Brooks / Lulu.

Stylistic References / Art Music

In contrast to the sounds of Jazz there are also the sounds and textures of various Western ‘art music’ styles. This is consistent with the traditions of silent film and provides useful contrast with the ‘popular music style’ of Jazz. There are no specific models for this work. The most striking contrast is found at the start of Act 2 ([00:16:34:00](#)) where the music is reminiscent of early 20th century classical music in direct contrast with the preceding Jazz style of the end of Act 1. This style references an academic world of sophisticated listening and art appreciation. It is the modernised classical world. It is concerned with the cerebral, rather than the physical, it is ‘art for art’s sake’, small in scale, and suggestive of chamber music. In earlier versions of the score, a string quartet playing a Mozart pastiche and a version using harpsichord, in the style of Couperin,⁴⁴ were recorded. I felt that the relationship between the final version and the preceding Jazz music was more coherent because the changes in instrumentation were less obtrusive and the inference of ‘the modern’ was still present. The intention was to contrast the Jazz style of Lulu with the somewhat ‘haughty’ world of the aristocratic fiancé and father. In Act 3 ([at 00:27:22:00](#)) we find a waltz. The metrical arrangement of a waltz is strongly rhythmical and tends to impose the characteristics of dance onto the film; it references dance, physical bustle and the co-ordinated movement of people. The waltz used under the stage manager scenes in Act 3 is somewhat French in its sound, more like ballet than a Strauss ballroom extravaganza. A third style appears several times, it is reminiscent of funereal organ music by Bach⁴⁵, though it is presented on piano. The music is contrapuntal and invariably in a minor key. Here the reference is one of gravity, formality, seriousness, authority, order and process.

⁴⁴ Early experiments with this idea took the form of having Couperin style music playing and sounding as if it was coming from an invisible gramophone player in the room portrayed on screen. The idea was that the music would be suggestive of ‘high culture’ whilst the aural presence of the gramophone would have served as a reference to both modernity and wealth.

⁴⁵ This provides an oblique reference to the forthcoming death of Schön and Lulu.

Stylistic References / Exotic Music

There are three instances of what might be termed ‘exotic’ or ‘oriental’ music in the score. The first is the use of Latin music underscoring the dance between Countess Geschwitz and Lulu in Act 4 ([00:42:39:00](#)), the second is the Egyptian sounding motifs found in Act 7 (01:30:02:16), and the third is the use of a Spanish style under the scene in Act 8 (01:59:30:18) in which Lulu invites Jack to her room. In all instances, the exotic quality is a reference to ‘otherness’: activities or people that are outside of the ‘norm’. The Latin style integrates well with Jazz and, as a style made popular in the 1950s, it also fits the chronology previously described. It is first heard in a scene in which Lulu invites the older, but equally ‘outside’ and ‘modernising’, Countess Geschwitz to dance. It has connotations of intimacy and foreign culture. The Egyptian sounding scales in Act 7 provide a direct reference to the influence of the Egyptian brothel owner on the events as they unfold on the boat. The idea is initially presented in direct reference to the Egyptian in a scene where he barter with Piani-Casti in Act 7 ([01:30:02:16](#)). Following this entry it provides a thread of exotic influence within the music for the act. This is particularly evident in the arrangement of the music underscoring the process of negotiation and gambling as Alwa and Lulu try to raise the money to pay Casti-Piani (beginning at 01:34:45:00). The Spanish styled music that accompanies Jack and Lulu’s encounter on the stairs in Act 8 (at [01:59:38:00](#)) is that of a slow dance. The reference to otherness is descriptive of Lulu as alien to Jack, Jack as alien to Lulu, and the situation as being alien to them both. It also improves the dislocation of the action from the setting (a space that we already know as being close to Alwa and Schigolch) thus intensifying the privacy of the negotiation taking place. We could also consider the presence of Jazz itself as an exotic component within the score, both a reference to the otherness of the American (Lulu), and a reference to the otherness of the decadent Jazz culture of Berlin in relation to Germany itself.

Small Correspondences.

Whilst the stylistic references identified above constitute major, recognisable sections of the music within the score, there are also many small correspondences that are worth mentioning. The use of the word ‘correspondence’ here refers to small musical elements that have referential potential of their own. Examples of correspondences might include the sound of the cello as being particularly reminiscent of a male voice, or the sound of a trombone having a comic quality. Such correspondences are not unusual and are not confined to timbres alone. Even small musical gestures such as intervals may carry implications. Consider, for example, the difference in effect between major and minor 3rds and 6ths. An appreciation of the potential of the elements of the music to promote specific ideas or sensations can provide a constructive approach to considering the way in which musical elements are employed within a score. This is not an argument for a mechanistic approach towards composing; it is merely a recommendation that the composer carefully considers the possible functionality of all of the resources at their disposal. Within the context of *Pandora’s Box* correspondences were employed widely and consistently.⁴⁶

Details such as these have preoccupied many musicians, theorists, philosophers and latterly psychologists. Deryck Cooke (1959 cited in Scheurer, 2008), in his considerations of harmony, illuminates the positive and negative emotional implications of changes of mode and other writers such as Bazelon have observed that historically, dissonance, harsh, controversial and disconcerting sounds are used to signal negative factors in film (cited in Scheurer, 2008. p39). David Sonnenschein in his work *Sound Design* (2001) devotes an entire chapter to the way in which musical elements are controlled suggesting that sound design incorporates, and is in large part consistent with, many of the techniques and viewpoints employed by composers. He cites tables of definitions of ‘*Acoustic Expression of Emotional States*’ by Friederich Marpurg, a theorist of the 18th century, and ‘*Physical, Mental and Emotional Impact of Musical Genres*’, attributed to music therapists of the 20th century, in support of his arguments (Sonnenschein, 2001. pp108-121). These tables illustrate, through the language used, cultural differences between the 18th century and the 20th. They also

⁴⁶ I have listed correspondences used in the score in Appendix 8.

reveal the obvious expansion in the available repertoire of musical resources since the 18th century. This is not surprising but the presence of consistencies between descriptions from the 18th and the 20th century does indicate something of the extent to which our understanding of musical expression has become systematised. It confirms the idea that descriptions of qualities associated with sounds and gestures are not completely subjective but culturally acquired and agreed. David Huron, through an interesting and much more detailed discussion regarding listeners' reactions to the notes of the major scale, demonstrates that there are common threads within the language used to describe the qualities of particular notes. He goes on to show that within the context of western music, the vocabulary used by listeners to describe the effects of individual notes indicated that there was a common appreciation of the way that particular notes of the scale traditionally function harmonically (within the major scale context). He shows that there is an acquired understanding and a general agreement regarding the qualities of small musical elements within western music (Huron, 2007. pp166–167). More importantly, and with more relevance to my work, Huron demonstrates that the qualities described by listeners are ascribed to sounds as the result of repeated exposure to the way that these sounds function within musical patterns. The qualities that they described related to, and derived from, the statistical probability of notes' occurrences within the organisation of music.⁴⁷ Therefore, referentialism appears to function on both a macrocosmic level in which whole pieces or styles, (quotations and pastiches etc) refer to extra musical ideas, and a microcosmic level in which small musical elements (sequences of notes, particular intervals etc) engender particular responses and / or refer to existing patterns within the score or other known music (which may additionally have extra musical references).

⁴⁷ Huron's use of the word 'probability' refers to the idea that the listener's repeated exposure to musical patterns result in an innate appreciation of the statistical likelihood of notes moving or resolving to the next note in a way that is consistent with the patterns of other melodies of the same cultural type. This idea also informs theories about 'tension and release' in music and the degree to which music can stimulate through the surprise breaking of expected patterns. (2007)

Concluding Referentialism

The composer may employ referential materials that are both internal (within the music) and external (extra-musical). The very materials that comprise the music, the notes, the changes of mode and so forth may also function through reference. The success of the score (and the degree to which it is seen as functioning well) is determined, in large part, by the extent to which these choices match the needs of the narrative *and* the culture of the audience⁴⁸. With regard to film, this is further complicated by the fact that the narrative content, the age and aesthetic of the film and the mode of presentation itself will also stem from a particular cultural point of view which may, or may not, match that of the audience. This means that the film composer might usefully consider ‘who the film is for’. Films may ‘specify their audiences’ through their text, through their advertising and marketing, through the presence of particular stars, and so on (Turner, 1999. p116). In the case of *Pandora’s Box*, the film has already found several audiences: the German audience of 1929 familiar with Wedekind and the references to Weimar, the international audience of the 1930s subject to the censorship and moral control of their various governments, the revivalist French cinema of Henri Langlois finally establishing Louise Brooks as an iconic figure, the 1970s gay-rights audience, anxious to expose the cinema’s first explicit Lesbian encounter and more recently, the Art-house, historically aware, audience of the digitised re-issue. I have taken the view that *Pandora’s Box* is no longer of popular mass cinema. It is regarded as being of an elite, Art-house cinema, one in which the audience are often highly receptive and knowledgeable, one whose referential base is wide and detailed.

⁴⁸ This could also inform an argument in favour of the silent film practice of tolerating different scores played with film presentations in different locations

Narrative Form and Music

There are aspects of the film form that are reflected in the organisation of the music. In Act 1 the action begins in Lulu's flat with Lulu being visited by her old friend Schigolch. By the end of Act 1 we return to a similar situation with Schigolch introducing Rodrigo as a visitor to the flat. Thus, Act 1 exhibits circularity, a return to a state of affairs that existed at the beginning. A similar form is found in Act 2 where Schön's fiancé begins and ends the scene seated at her typewriter pondering her forthcoming marriage. In these instances, the organisation of the narrative seems to be directed at establishing characters within their respective worlds as safe and stable. It is also suggestive of 'life going on', complete episodes taking place in various places. Similar organisation is evident within the construction of Act 6 which commences with Lulu 'on the run' and concludes with the same, albeit in a different location. This cycle is repeated again with Lulu's escape at the end of Act 7. The use of repetition in Act 6 and 7 provides a counterbalance to the inability of Lulu to escape at the end of Act 8 and, possibly, adds to the shock of the murder at the end of Act 8 through the surprise breaking of the established pattern. Within the plot organisation of *Pandora's Box* there are additionally many smaller loops in which patterns of repetition are employed. Act 3, for instance, is constructed around the constantly returning image of the harassed stage manager. Act 5 also uses repetition in the presentation of the trial. Sometimes this use of repetition is employed to show events that happen concurrently, the repetition of scenes involving Schigolch and Rodrigo being drunk (prior to going into the bedroom) in Act 4 for example. Repetitions such as these are usually echoed in the organisation of the music. In Act 1 the music that we hear at the beginning thus returns at the end. This is true also in Act 7. At the beginning of Act 8, the music that we hear as Jack appears out of the fog returns at the end, as he leaves the scene of the crime. In Act 3, the waltz, closely associated with the stage manager, keeps returning. Such moments help to establish formal patterns within the narrative and assist in building the general coherence of the score through the recycling of material and the establishment of internal musical references.

Narrative Time and Space

In silent film, the depiction of events taking place in separate spaces simultaneously poses a problem for the film maker. In sound film, such events can be portrayed, or reinforced, through the presence of sound. For instance, a dialogue between two characters could continue off-screen, or the sound of a particular space / event might be heard whilst the camera reveals events happening elsewhere, thus locating the 'elsewhere' as being near to the space from which the sounds emanate⁴⁹. In silent film, music may be used to provide continuity or to increase separation. Unchanging music may bind disparate images together to suggest that they are all related in time and space whereas changes in music, aligned to each image sequence, may suggest greater separation in time and space. In Pabst's organisation of the film, the spaces in which the plot is portrayed changes in each act, Act 1 in Lulu's flat, Act 2 at the home of the fiancé and so on. In addition to this, there are spaces within these locations, the bedroom in Schön's flat or the stairwell on the boat for instance. These spatial variations are necessarily presented sequentially. Within the score, music is occasionally used to reinforce the existence of two spaces existing simultaneously. Such an example is found in the scene towards the end of Act 8, [at 02:09:08:00](#). Here the sound of the Salvation Army band (diegetic music) encroaches on the image of Schigolch waiting for his Christmas pudding in a bar wherein a pub piano plays (diegetic music). The two music streams interact and thus reinforce the existence of the two separate spaces (the interior of the bar and the street).

Narrative Range

The *range* of the narrative is defined by the extent to which it is *unrestricted* or *restricted*. The unrestricted narrative gives us, the audience, information that the characters would not all have access to; *our* access is unrestricted and we therefore have access to all that is involved in the story. Conversely, the restricted narrative limits the information available to the audience; we may have access to information

⁴⁹ Where such a sound is actually the voice of an unseen character we might refer to it using the term *acousmetre* (Chion, 1994. p129).

through one (or perhaps a small number) of characters only and what we know is therefore restricted to what they know. It would be unusual for a film narrative to be entirely restricted or unrestricted; they represent the extremities of a spectrum of narrative range (Bordwell and Thompson, 2003. pp81-83). Pabst offers us, mostly, unrestricted access to information. We see (and 'hear' through the inter-titles) everything that is happening but not all of the information is shared by all of the characters all of the time and importantly we know that this is so. Whilst there are no completely restricted moments of narrative, there are occasions when the information that we have access to is shared by fewer characters. Schigolch revealing to Lulu that Rodrigo is outside on the street, Schigolch hiding on the balcony in Act 1 (beginning at 00:07:20:00), Alwa putting the cards up his sleeve in Act 7 (01:36:29:00), and the suggestion of the identity of Jack the Ripper in Act 8 (01:58:08:00) provide examples of such moments. Whilst an unrestricted range engages the audience with an overview and a position from which they can experience the totality of the drama unfolding, the restricted narrative engages the audience with a voyage of discovery, one in which they only find out the full consequences of what they have learned some time later.

Music and Narrative Range

It is difficult to see how the music can affect the narrative range. The source of the narrative, in *Pandora's Box*, is the organisation of the moving images and the inter-title cards. Whilst music can influence our perception of characters and moments within the narrative, it cannot alter the organisation of the narrative range. That said, it might be interesting to consider the idea that music can be cast in the role of a narrator. After all, like a narrator, it imparts information about the story; it offers subtext and nuance to the action and environment. Like a narrator, it has a voice that is outside of the diegesis. On this basis, we could consider that referential music, such as the *Dies Irae* example referred to earlier, actually functions as a restricted narrative. The musical reference is definitely unheard by the cast of the film and the music offers comment (narration) on the nature of the world in which the cast exist. It forms a restricted layer of information, a filter through which we alone can further

interpret the visual narrative; it establishes a point of view. This need not be exclusive to music that references extra-musical associations. Internal musical references, developed over the course of a film, are also capable of providing a narrational commentary that is beyond the knowledge of the characters portrayed. In direct contrast to this stands diegetic music. Its presence within the diegesis is most likely to render it as part of an unrestricted, or less restricted, narrative. Diegetic music is heard by the participants in the scene and the audience, but the nature or choice of the music may serve as a narrational comment that has meaning only to us. Such a device is therefore, potentially, multifunctional.

Narrative Depth.

Just as the film maker is able to control the range of the information available to us, they can also control the *depth* of that information. Here, the word depth refers to how the film portrays the characters psychological state (Bordwell and Thompson, 2003. pp 85-86). We may be confined to *external* or *objective* information only: what the characters do and say. Alternatively, the plot may reveal a character's feelings: the *internal* or *subjective*. Narratives are rarely entirely objective or subjective, more often the narrative depth ranges over a spectrum. The control of depth is affected by many techniques; these may include the manipulation of the camera position relative to the action and / or the character, the use of flashback and dreamlike sequences and in sound film, the manipulation of sound to affect changes in our perception of a character's external and / or internal state. In *Pandora's Box* the control of narrative depth is affected through the camera work and the framing of the picture. Whilst the majority of the narrative is portrayed from a largely objective view (concentrated on the externalised drama) there are many moments in which we are taken towards the subjective experience of the characters. These moments are largely achieved through Pabst's use of point of view shooting and close-ups. Often the two are combined in a way that places us, the audience, close to the action as if we were involved. For example, the moment where Alwa is pleading with Lulu in Act 4 (00:51:49:00)

almost removes Alwa from the picture; Pabst places us at his shoulder, as close to Lulu as Alwa is,⁵⁰ offering us an experience of *being* Alwa pleading with Lulu.

Music and Narrative Depth

Music has a role to play both as part of the objective, diegetic world and as non-diegetic music, part of a more subjective stream (representative and informative of the internal emotions and experiences of one or more characters). Within the score, I have tried to expand the objective / subjective depth through the manipulation of both music and sound. Two strategies have been applied. The first is the orthodox use of music to ‘emote’ and offer expression to the characters’ inner states. There are many examples within the score where music is applied in this way. Examples include the music that accompanies the scene at [00:50:46:00 \(Act 4\)](#) in which Dr Schön contemplates taking his own life and the music at [00:23:02:00 \(Act 2\)](#) where Alwa’s quieter state is contrasted with an explosion of anger from his father. Without exception, the subjective narrative depth is first, or simultaneously, established through the close-up or isolated camera view. The music is thus brought into close alignment with the expression of the actor and is able to combine with the image.

The second strategy is one in which sound is used to reflect the characters own experience of their environment. An example of this strategy is found in Act 3 at [00:38:42:00](#). Here, Lulu dances out of the ‘prop room’ following the arrival of Alwa and the fiancé. When Lulu runs out (tracked by the camera), we hear a jump in the volume of the theatre band as Lulu moves from the quieter props room into the noisy backstage area. This creates a sonic experience for the viewer / listener that is consistent with *her* movement from one space to another, as if we are running with her. It is a point of contact between music and the sound world perceived by the character. It is as if the control of sound quality provides an additional degree of focus on the image. Such a strategy is exclusive to the diegetic music elements of the score and whilst such a technique is a common feature of the way that sound film is

⁵⁰ Alwa leans towards Lulu several times during this scene and on the small screen some of the persuasive energy of these images may be lost. On a large screen the distance travelled by the images would be much larger and even more expressive of Alwa’s pleading and internal state.

organised, here it is incorporated within the score for a silent film. Within the context of a 'live' performance of the new score, this would be unusual, but the delivery of this work as recorded and synchronised renders the rescored *Pandora's Box* a hybrid: neither a silent film nor a sound film but a film that exhibits some of the qualities of both.

James Beament, discussing the relationship between music and the hearing mechanism (2005), identifies our ability to perceive the loudness and location of a sound source as being important to our capacity to detect and respond to danger. He contends that our physiological response to sound, originally evolved as a response to potential danger, continues to inform our emotional reactions to music. Beament reasons that our emotional responses to music have their origins in these reflexive, defensive, responses. Such responses are informed by our ability to detect minute timing discrepancies in arriving sound waves. It is this ability that enables us to interpret the size of an acoustic space and the direction and distance of sounds (Beament, 2005). On this basis, the manipulation of frequency, volume, reverberation and echo can usefully be regarded as a means by which the composer, and the sound designer, can affect an emotional response to sound. The addition of reverberation to sound / music is common; within the context of film it can have a diegetic function (offering a means of confirming the objective reality of an acoustic space) and an aesthetic function in providing space and resonance within and around the recorded music. *Changes* in reverberation without a corresponding alteration to the acoustic space or the listening position are, in terms of 'real life', unnatural. When such a change occurs it is suggestive of a shift in position, an alteration of perceptual depth. For this reason, reverb can be creatively employed to signal a new perceptual position to the audience. Longer and deeper reverberation, in relation to music, is often used within film sound to create subjective moments; it acts as a metaphor for distance in time (a memory) and distance from reality (a different space, somewhere inside the character's mind) .⁵¹ Furthermore, the 'smoothing' qualities of reverb, the way in

⁵¹ A good example of this technique can be found in Steven Spielberg's film *Munich* (2005) where reverb is applied to the sound track in sequences where we are shown memories and flashbacks of the terrorist attacks seen at the start of the film. The memories are part of the central character's subjective experience and furthermore are part of a restricted narrative, one which only we share with him.

which it causes sounds to merge and overlap, provides a sonic representation of dream-like states, worlds where sounds (images) seem to lose their connection to their source (reality). I have applied this technique to the scene at [01:03:36:00](#) (Act 5) as Lulu stands in the dock and ponders her fate. Here, the music is suddenly plunged into a large reverberant space. The shift in perceptual depth, allied with the focus on Lulu and the occasional shots of the court from Lulu's perspective, are intended to create a moment of subjective intensity, one in which we encounter an impression of Lulu's isolated, internal state.

A similar effect can be created through the reduction in reverberant sound. A sound may be rendered extremely 'dry', so close and detailed that it demands our attention through its un-natural proximity to us the listener. This technique can be found in the film *The Pursuit of Happyness* (Muccino, 2006) during a scene in which the central character, Chris Gardner (Will Smith), ponders his homeless situation. Here the music that we hear is *Bridge Over Troubled Water* (Simon, 1970). Rather than being presented in its original form (the reverberant Simon and Garfunkel production) it is presented as a very intimate recording of voice and piano by Roberta Flack. The sonic detail and the dryness of the sound are so close and so clear that it seems to magnify the personal and inner qualities of the image on screen. It is as if the experience of sonic detail induces a sensation of closeness to the reality of the image. In Act 8 ([02:05:13:00](#)) there is an example of this use of the close proximity of sound. As Lulu kneels down to light the candle we hear non-diegetic music. The music is not reverberant (not a memory), it is, in comparison to the previous sounds, very dry and close. It creates an effect of proximity through sonic detail: the close up image of Lulu (and Jack) imbued with the intimacy of the sound.

Such procedures are perhaps more often discussed in relation to sound design but here the electronic score incorporates the control of acoustic space as part of the composition. Such a procedure is not unusual within the context of electronic performance; an electric guitarist or a synthesiser player will often take control of the parameters of their sound (as might a sound engineer). Within the context of orchestral composition, the control of resonance (through aspects of the orchestration) or even the physical distribution of the musicians, in antiphonal works, could legitimately feature as part of the finished music. The deciding factor, in relation to

Pandora's Box, is not the style of production or the preferred sound of the recorded music but function: the extent to which the music can emotionally engage the audience with the selected image and thereby impact on our comprehension of the narrative.

This discussion began with a consideration of the way in which the narrative's range and depth is controlled through the distribution of images on screen. I have suggested that music and sound can also contribute to the fluctuation of these qualities. We can identify the following traits: 1) non-diegetic music as narrator is expressive of a subjective point of view, 2) referential music can provide a restricted narrative, 3) diegetic music is mostly (though not always exclusively) suggestive of an objective narrative, and 4) the manipulation of acoustic space can emulate the experience of characters on screen both objectively and subjectively. We can also observe that the quality of *contrast* is paramount in signalling a change in perceptual depth or point of view. To conclude, I would like to cite one more example. In Act 3, at [00:34:30:00](#), Lulu and Schön are arguing inside the props room. The camera shows us the beleaguered stage manager waiting anxiously outside the props room. As the quarrel rages the camera switches between views of inside and outside the room. We hear the music of the theatre band (diegetic) and music relating to the argument (non-diegetic). This music is composed of several strands that we have heard earlier (referential) in the scene. The two music(s) collide. The result is an experience of stress and cacophony. In terms of narrative range and depth, we are hearing the diegetic music of an objective, unrestricted narrative colliding with the non-diegetic musical expression of a more restricted and subjective narrative.

The previous discussion of the relationship between narrative construction and music intimates that, in order for a particular narrative form, range, or depth to be established, the music must be perceived as being associated with a specific image sequence. The synchronisation of music and image is therefore a key consideration in the distribution of the score.

In the early development of this work I spent time dubbing randomly selected CD tracks, of various styles of instrumental music, to a section of film. The purpose of the experiment was to observe and consider the effect that different music and placement might have on the selected scene. The process revealed that the character of the film seemed to change with different music and that different tempi, styles, size of ensembles, textures and timbres all altered the perception of the images. The most noticeable recurring feature of the experiment was that music frequently coincided with images. Each coincidence was highly visible. The coming together of sound and image focussed attention onto the image momentarily. Where this happened repeatedly, it gave the impression that the music somehow, 'belonged'. In relation to the narrative, the coincidences were often inappropriate but they tended to demand that I, as a viewer, pay attention to the sequence of events *as if it were* meaningful. This experience is similar to that described by Kracauer in his tale of the drunken pianist in which he recalls how the unsuitability of music produced by a drunken pianist, at a silent cinema, often exposed new ways of reading the narrative (Kracauer, 1997. p145). Kracauer similarly observed that the process of interpreting the images was affected by the chance synchronisation of the music to passages of the film. I tried moving the music track in relation to the film in order to align particular musical moments to selected points in the image sequence. The result was that moments of synchrony were now distributed differently across the image sequence. New impressions of the narrative emerged along with the realisation that there were some music extracts that fitted the film better than others. The factors that informed increased coincidence between picture and music were tempo and rhythm. It established that there were, in relation to the scene in question, optimum tempi or ranges of tempi that matched image shifts and cuts in the film better than others. Interestingly, the rhythm of the images was less apparent when the music was non-

metrical music. It seemed that metrical music, organised at an appropriate tempo, imposed rhythm onto pictures when none was at first visible. The sense that the music ‘belonged’ to the film seemed to emanate from both its emotional appropriateness to the scene, or the extent to which it engaged you with the scene from an unexpected perspective, and the degree to which it synchronised to the changes in the images and / or matched the rhythm of the image sequence. Unity between pictures and sound was more convincing when the duration of whole musical passages matched the duration of complete visual passages and when individual musical events coincided with individual visual events. A more subtle unity could be observed when the dynamic shape of the music tracked the dynamics of the action on screen even if it did not synchronise at all with momentary actions on screen⁵². Two significant layers of synchrony can therefore be described. The first might be described as *momentary* synchronisation (in which we experience synchronisation between musical gestures and single events within the film) and the second as *periodic* synchronisation (in which we experience synchronisation between narrative arcs or visual sequences and the music). A third layer might be added which could be called *dynamic* synchrony (in which the dynamic growth of the music matches the dynamics of the moving image); arguably this is simply another expression of periodic synchrony. In terms of application, periodic synchronisation could be usefully applied to outline the narrative or visual construction formally whilst momentary synchronisation offered potential for the punctuation of the image sequence. Within the score, periodic synchronisation primarily coincides with the start and end points of a sequence (not usually a whole act) and will be characterised by consistency in the music over the period of that particular narrative sequence. Changes in the music (and this may be a subtle change such as the arrival of new elements or a more obvious change such as a change in style) are generally synchronised to the beginnings of new arcs of narrative. Synchronisation is therefore employed to produce emphasis and definition in much the same way as stresses are applied to spoken sentences to add weight and colour to

⁵² There were a noticeable number of occasions in which it was possible to say that the development of music from CD (several different genres but always instrumental) took about the same time as the development of a narrative episode on screen. Is it possible that audience attention spans (regarding music and / or visual streams) need to be satisfied within a given time frame in order to sustain interest?

verbal communication. Because momentary synchronisation is inclined to attract our attention towards minutiae on screen there is a real danger that too many ‘hit’ points actually distract the viewer from the ongoing flow of the movie. This appears to slow the movie down. Conversely, free-flowing, asynchronous music is potentially a means by which the picture can be motivated or freed from the constraints of musical time / meter. On this basis, it is possible to conclude that the distribution of synchronisation provides a degree of control over the pace, or temporal perception, of the images. It would be unusual for a score to be completely asynchronous or completely synchronised throughout though there are, perhaps, aspects of genre to be considered here⁵³. Within the context of *Pandora’s Box* I have employed a mix of asynchronous, periodic synchrony and momentary synchrony.

There are also relationships between the rate at which an image appears on screen and the delivery of the sound. In cases where the image emerges onto the screen gradually, the synchronised musical sound will often lock to the picture more effectively if its delivery mimics the rate of the visual emergence. Similarly, an image that appears on screen suddenly and forcefully will be more naturally enhanced by a sudden and forceful sound. The ‘envelope’⁵⁴ of the particular sound is, in effect, being matched to the envelope of the image. This is reflective of what I described earlier as dynamic synchrony. An example of this strategy can be found at the start of the film *Signs* (Shyamalan, 2002) in which the titles emerge from the background accompanied by sounds that mimic the rate of the words’ appearance on screen reaching their maximum volume at the point at which the lettering is at its brightest.

Within the context of *Pandora’s Box*, there were occasions when momentary synchronisation was rendered difficult by poor quality cuts between images. In such cases, trial and error was used to ascertain the best point of synchrony. Whilst there is no single solution, in general, early placement proved to be more effective than late. I found that delaying the point of synchronisation until the first ‘clean’ image tended to

⁵³ Animated films (particularly cartoons) often demonstrate a higher degree of momentary synchronisation as a way of introducing ‘life’ and energy into the obviously flat and unreal animated world.

⁵⁴ *Envelope* refers to the constituent parts of a sound, namely, the Attack, the Decay, Sustain and Release characteristics (ADSR).

induce a sense of hesitancy or poor synchrony. I tried synchronising music to the earliest part of the cut whilst extending the sound or introducing additional musical movement. Additional movement often helped, particularly if it was concluded by a strong musical emphasis on the arrival of the first 'clean' image. Reducing the attack portion of the sound envelope (softening the start) also assisted in some instances; it called less attention to the cut. This suggested that the rate of attack, the duration of the sound, and the position of the synchronised event relative to musical movement, all have the capacity to influence the amount of attention called to the synchronised image.

In his book, *Audio-Vision, Sound on Screen* (1990) Michel Chion discusses the temporalization of the moving image through the application of sound. He notes that sound exhibits the capacity to add movement where none exists visually, to vectorise images (provide energetic direction), to delineate passages of time and to alter our perception of visual pace. He suggests that completely static pictures become receptive to movement induced by sound and that our perception of movement on screen is altered through conflicts and agreements with the rate of movement in sonic components (1990. p14-15). He determines the sonic qualities that affect the image as follows⁵⁵:

1. *How Sound is sustained.* A smooth and continuous sound is less animating than an uneven or fluttering one.
2. *How predictable the sound is as it progresses.* A sound with a regular pulse is more predictable and creates less temporal animation than a sound that is irregular and thus unpredictable; the latter puts the ear and the attention on constant alert.
3. *Tempo.* A rapid moving sound will not necessarily accelerate the perception of the image. Temporalization depends more on the regularity of the aural flow than on tempo in the musical sense of the word. For example, if the flow of musical notes is unstable but moderate in speed the temporal animation will be greater than if the speed is rapid but regular. (Tempo)

⁵⁵ Paraphrasing Chion. (1990, p14-15)

4. *Sound Definition.* A sound rich in high frequencies will command perception more acutely.

Chion's list is not focussed on the organisation of music specifically. On the basis that music is in itself an organisation of sound, I considered that Chion's model might usefully be adapted to inform the temporalization of the moving image through music. Below, I have listed musical elements that echo Chion's sonic qualities in an attempt to suggest usable relationships in terms of musical organisation. The musical elements (headings listed under 1,2,3 and 4) have, in my view, the potential to act in the same way as those described (under 1,2,3 and 4) in the previous table. I have offered extrapolations of Chion's observations in italics.

1. *TEXTURE. Changes in texture affect animation of the image. This may include variations in articulation, density of sound, and changes to the envelope. The layering of the arrangement to employ movement and sustain simultaneously in varying degrees will induce different perceptions of movement.*
2. *PULSE / METER. The distribution of the musical pulse or meter, the degree of rhythmic regularity. Changes to and loss of meter. Arrangement of polyrhythm to create new resulting patterns. The control of regularity and irregularity can induce more and less movement.*
3. *TEMPO. Subdivision of the beat and control of syncopation. Contrasts between regular and irregular groupings over stable tempo can affect change in temporal perception without an actual change in tempo.*
4. *FREQUENCY / WEIGHT Control of register, timbre⁵⁶, EQ. Control of acoustic effects where these contribute to accentuation or attenuation of frequency ranges. In general the ear perceives high registers and movement first. This can contribute to the degree of attention drawn to an image in*

⁵⁶ Timbre can be regarded as a product of the balance between fundamental tone and tones in the harmonic series and can therefore be considered as a quality defined by the balance of frequencies within a sound.

synch. The weight of sound (particularly when employing low registers) also has a significant effect on the way a synchronised image is perceived.

Most of what appears in my reworking of Chion's table reflects on the skills of musical arrangement. The skill of the arranger is, after all, one in which the sound of an ensemble is prescribed and controlled. Two of the entries in the table (numbers 2 and 3) refer to elements that are to do with the distribution of sound in time; *Pulse*, the underlying rhythmic 'foot' of the music, and *Tempo*, the way in which the time is subdivided to create metrical regularity (or lack of). Metrical music poses a particular problem in relation to film since it frequently demands that the music be formed into passages that conform to standard structures of 4, 8 or 16 bars. Such structures may conflict with the needs of the image sequence. For this reason, the more important rhythmic element in the music is pulse rather than meter. A common pulse or tempo that relates to the rate of change in the image sequence will support subdivisions / changes in meter and will be more accommodating to the distribution of synchronised events. In *Pandora's Box* there are several instances where music occurs in irregular meters or where changes in bar length / meter are used as a way of bringing musical events into line with images. Non-metrical music may afford the composer some freedom in distributing synchrony but it may also lack the motivating characteristics of rhythmic meter. Metrical music might motivate effectively but it may also prove to be too rigid for the purpose of synchrony. The advantages and disadvantages of non-metrical and metrical music can only be assessed on a case by case basis but in order to create synchrony the composer should accept that the moving picture is the directing factor. Chion observes that certain conditions must exist in order that sound can temporalise an image. He suggests that the image must be either static (receptive to another layer of activity such as sound) or that it must have a particular, characteristic, movement of its own (which may be joined in sound). He notes that 'the extent to which sound activates an image depends on how it introduces points of synchronisation – predictably or not, variously or monotonously....'(Chion, 1994. pp15-17). With regard to continuous music (as found in the silent film) this underlines the need for a mix of asynchronous and synchronous moments, contrasts in meter, pace and dynamics. Music's ability to temporalise the moving image is informed by the skills of musical arrangement, the distribution of the patterns of

music 'predictably or not, variously or monotonously' and the selection and distribution of points of synchrony. Synchrony is desirable because of the way it provides a means of isolating, and consequently accentuating, single moments and controlling (marking) periods of time. The distribution of contrasting rates of synchrony including periodic, momentary and dynamic elements can thus be employed to affect our perception of time, the value of particular moments, and our perception of the organisation of the visual narrative.

Defining the Cliché

The origin of the French word cliché lies rather aptly in sound. The cliché was originally a printing plate, cast from an arrangement of movable typefaces, of a sentence or phrase that was required frequently or repeatedly by a printer. Such plates are also referred to as stereotypes. The word cliché is believed to have its origins in the sound made by the type set entering the molten metal during the manufacturing process (Merriam-Webster.com 2010). So the actual word cliché references both a process of production and a pragmatic solution to a perennial problem in the printing trade. As a word, it has come to have both negative and positive connotations. Cliché may be regarded as being effective short-hand, the condensation of large ideas into a sound-bite, or it may be thought of as lazy expression. Within the context of film music, the canon of musical cliché has its origins in the performance practices found in the theatre, the early cinema, and the publication of works like the *Kinothek*. It is also worth reflecting on the fact that clichés are also found within the minutiae of compositional procedure. Such procedures might include the use of changes of mode as a way of expressing specific moods, or the distribution of consonance and dissonance to characterise particular events as agreeable or otherwise (the correspondences referred to earlier). The cliché is a potent and ever developing force. In the cinema and television of the 21st century, clichés, new and old, abound. Such conservatism may reflect the economics of the film and television companies, forever mindful of the bottom line and therefore inclined to base new products on previous successes, and it may also reflect the continuing need for film / TV music to reference popular culture as a way of ensuring ‘readability’ by the current audience. Consider the similarities in game show music or the clichés associated with the themes of news programmes or hospital dramas. In the 21st century the canon is richer than ever though the shelf life of the cliché may be shorter.

‘Here Comes the Bride’

In Act 1 of the film, at [00:10:14:05](#), Dr Schön tells Lulu that he is about to get married. My first compositional response was to quote from Wagner’s famous wedding march (1850). It only took a moment to realise that this was a rather clumsy response to the narrative; it rendered the moment somewhat humorous. The idea was attractive but it did not serve the film well because it did not add to the seriousness of Dr Schön’s predicament. The cliché detracted from the scene by calling attention to itself as a recognisable musical gesture associated with the word ‘marriage’(as displayed on the inter-title card). It was too obvious, too ‘silent movie’. Within the context of the preceding music, the arrival of the wedding march was also much too abrupt. It had a bright major tonality and a strong rhythmic character that forced the preceding music aside and made the resumption of the preceding mood difficult. The bright and upbeat quality of the march is, of course, completely appropriate to the notion of a marriage but on screen Dr Schön is not celebrating. It posed the question ‘how might I use the cliché to inform the narrative effectively whilst eliminating the characteristics that cause the problem of integration?’

The music at this point in Act 1 is in C minor (both melodic and aeolian). The music steps between these two different versions of the minor tonality, one that features the major 7th resulting in a more dissonant tonal area for the presence of the unsettled Schön, and one which utilises the flattened 7th as a response to the presence of the more nonchalant Lulu. In terms of standard western music repertoire, we interpret the slowness of the existing music, and the use of minor tonality, as having a melancholic character. The arrival of the wedding march, in the major key, contrasted too strongly; it provided ‘lift’ where none should be. The most obvious strategy was to change the mode of the cliché from major to minor. In the minor key it merged more easily, and furthermore, its relationship to the text ‘I’m getting married’ changed. The words became coloured by the less uplifting mode of the music and in combination with the pictures it was possible to see / hear that this was not a happy announcement. The change of mode affected the mood usefully but the music was still rather forceful through the presence of the block harmony. Prior to this scene, the music is a sparse jazz / blues featuring a high register piano melody over double bass and drums. In order to integrate the cliché into the existing flow unobtrusively I removed the block

harmony and retained only two features of the original cliché: the lyric rhythm of the melody ('here comes the bride'), and the intervals between the opening notes of the original melody. These elements were re-distributed so that the interval of the melody appeared in the left hand of the piano part whilst the original rhythm of the melody is utilised in the right playing a line that follows on from the preceding melody. The cliché is hidden.

Building Internal References

In the marriage announcement, the chosen cliché has merely provided an idea from which to develop emotive material. The reference to the melody supplies a sonic equivalent to the text but nuanced; it is the equivalent of Dr Schön speaking. Furthermore, the now reworked material is useful as a motif, already established as material that will integrate with the existing musical context, for the continuation of the conversation later in the scene. It becomes the source of an internal musical reference with its origins, still possibly recognisable, in a reference to an extra-musical event. When the cue is re-used at [00:11:40:00](#) it is therefore organised in a similar fashion to that outlined above so that the hidden cliché retains some identity of its own and may still function as a reference. Its placement against the inter-title card 'Our relationship is the talk of the town, I'm risking my position' (spoken by Dr Schön) now allows the cue to function as subtext offering a reminder of the reason for Schön's concern. The re-use of the marriage motif provides some stability to the construction of the music through its presence as a repeated idea and it also provides a historical context (albeit very recent) to the newly developing dialogue between Schön and Lulu. This is not the last time that this motif appears; it makes one more appearance in Act 7 of the film, at [01:26:20:00](#), as we see Rodrigo celebrating his engagement with his new bride to be. Here, the wedding march is slowed down with the opening interval of the melody, and the rhythm intact, in the forceful piano part playing under the woodwind trills. The tonality is now polytonal, a crush of major and minor, neither positive nor negative but suggestive of a conflict of interests and matched to the obvious drunken nature of the scene on screen. Compositionally, the cliché provides the central motif for this part of the music but once again it is partially

hidden and modified in a way that characterises our reading of Rodrigo's announcement as drunk and lacking in genuine levity and love.

Rodrigo and the Circus Music

Earlier in the same act at [00:07:31:00](#) Schigolch shows Lulu that Rodrigo Quast is waiting across the street. There is an inter-title card that reads, 'Rodrigo Quast. He wants to stage a variety act with you'. Under this card I have drawn on another cliché, that of the *Entry of the Gladiators* by Julius Fučík (1897). The original music is synonymous with the circus. The quotation is short; it lasts for about 5 seconds in total and because of its recognisability as a cliché, it can potentially deliver a clear signal regarding what, and who, Rodrigo Quast is. Unlike the *Here Comes the Bride* cue discussed above, Schigolch's dialogue is more ambiguous; he talks of a 'variety act'. Here the music can be clearly suggestive of what is to come; Rodrigo is a strong man, a gladiator and acrobat. Once again I found that the cliché, in its original form, was too abrupt. I retained the opening of the chromatic melody (incorporated within the piano melody line) though it is slightly fragmented at the end. As with *Here Comes the Bride*, Rodrigo's circus cliché returns in a different guise. It reappears at [00:19:42:00](#) (Act 2) as Lulu swings on the curtain rail and talks excitedly of her forthcoming act with Rodrigo (the music is a variation on the melody that initially follows the same contour), and it returns in Act 7, at [01:26:27:15](#), as the inter-title 'I've just got engaged. I'm going to stage a fantastic variety act with my fiancé!' appears. The original cliché becomes completely absorbed within chromatic lines played on the clarinet. Such chromatic wandering is reminiscent of the sound of acrobat music; the undulating music is imitative of the swinging action of the trapeze. Whilst Fučík's march is less visible on each reiteration, the aural reference to the circus remains useful for the way that it characterises Rodrigo and his world. The original cliché is completely condensed into one recognisable and related musical gesture: the chromatic scale.

Act 3 and the Visual Cliché

Within the context of *Pandora's Box*, Act 3 is unusual. The action takes place backstage at the theatre and it features a sequence in which the stage manager, played by Siegfried Arno, has a comedy mishap with a lift (beginning at 00:28:31:10). The encounter is viewed by the entire cast and us, the audience. Through Pabst's arrangement of the images it forms a separate play, backstage at the theatre, on the cinema screen, as part of a play / film. The whole sequence lasts for just under a minute and provides an obvious moment of light relief as well as an emotional contrast to the scenes that follow. This is the only comedy moment within the entire film and furthermore it does not involve Lulu in anyway. I have chosen to mark its arrival through a change in the music style, beginning with the highly theatrical / circus cliché 'Ta-dah' on the brass at [00:28:31:00](#). The visual scenario of the harried stage manager is significant. It provided, for the audience of 1929, a visual, theatrical cliché that had particular resonance for the Berlin audience of the time. The sight of Arno rushing about, the Jewish stage manager unable to control all that is going on around him, represents a stereotypical portrayal of what was known at the time as 'The Jewish rush' (Die jüdische Hast). This phrase, borrowed from a poem by Walter Mehring⁵⁷, was featured and known through the work of the Berlin cabaret artist Paul Graetz (Prawer, 2007. p123). It is therefore specifically a concept familiar to the cabaret audience and Berlin culture. In fact, Arno's entire role and performance seems to be constructed around the idea of the Jewish rush. Whilst the spectacle of the Jewish rush held particular meaning and comedy value for the German audience of 1929 it holds rather less for the international and contemporary audience. Given this historical undertow we might consider that such a scene should have been marked with music that has a Jewish flavour, a reinforcement of the stereotype portrayed. I chose otherwise since the primary function of the music, in my view, was to energise the scene, and to render it reminiscent of a 'slapstick film' within the feature film, rather than to emphasise Arno's Jewishness. The music in this scene is

⁵⁷ The translation reads: 'With watch in hand, with hat on head-No time! No time! No time!' (Prawer, 2007. p123)

reminiscent of *Hurry music*⁵⁸. The music is closely synchronised to certain aspects of the action. These moments include: the use of the diminished chord at 00:29:08:12 (a cliché denoting suspense and anxious uncertainty) as the stage manager prepares to take the leap from the platform, the circus-like cymbal crash as he lands successfully (00:29:11:07) and the ‘middle eastern’ (and possibly slightly Klezmer) sound of the music at 00:29:15:00 quasi-diegetically played by the man in a Turban as the hapless stage manager is carried off in a mock procession. Here the clichés are un-modified. There is no need. This scene presents a self-contained visual cliché which was understood as the Jewish rush in 1929 and is for us, the contemporary audience, simply a stereotypical piece of silent film slapstick. The events that unfold are clearly ridiculous, the comedy is overt and clichéd and as such it can support the presence of the unadulterated, musical cliché, both because of its obvious predictability and because of the need to contrast the musical surroundings before and after.

Imitative Music

As the stage manager leaps from the platform at [00:29:08:00](#), the moment is synchronised to a diminished chord⁵⁹ played on the piano. As he plummets earthward the music gestures downwards briefly (in the melody) and finally resolves with a cymbal crash as he lands safely on the shoulders of the strong man. Here, as the manager gazes upwards and realizes what he has done, the music echoes the downward movement once again. The qualities of one stream of information (visual descent) are reflected in the qualities of another (descending music). This type of gesture appears on numerous occasions within the score. As the Countess Geschwitz descends into the bowels of the gambling den at the beginning of Act 7 ([00:25:01:00](#)) the music leads her down and the same is true at 01:46:31:00 as Schigolch climbs down into the rowing boat to join Alwa in their escape. In Act 7, when the detectives

⁵⁸ ‘Hurry music’ is a category of music found in the cue sheets and film music books of the period. Other function oriented titles might include ‘*Battle music*’ or ‘*Storm music*’. The creation and wide usage of a repertoire of music for such specific moments clearly assisted the establishment of film music cliché.

⁵⁹ A familiar musical cliché denoting the anxious moment before something happens.

arrive and head down into the ship to discover the murder of the Countess (at [01:46:54:20](#)), the music descends (though this time the detectives actual descent is not immediately visible) and it collides with a stream of rising pitches that mimic the startled gamblers trying to make their own escape up the stairs (the resulting sound also offers a musical equivalent of collision). Music follows the flow of alcohol down Schigolch's throat in Act 1 (00:05:11:00) and music imitates the bustle of the crowd in the court in Act 5 (01:01:16:09 and 01:07:07:12). This is not an exhaustive list but it is, hopefully, sufficient to show that the application of this technique is widespread within the score.

In the examples given, the mimicry is almost always concerned with directional movement shown on screen; when the image moves downwards so too does the music. Such a trait is also found in the circus cliché previously described in which the undulation of the chromatic music is reminiscent of the physical swinging of a trapeze. Imitative gestures are also very common in cartoons where they are often applied, in tight synchrony, to characterise, and energise, the individual movements of characters (rising pitches timed to coincide with a character's steps as they ascend a ladder for instance). In *Pandora's Box*, the mimicry is generally less explicit, less 'Mickey-Mousing'. Music is used to energise and emphasise the direction and pace of movement; it is used to vectorise the visual action rather than isolate and characterise individual movements as is so often the case in cartoon music.

The bustling crowd in Act 5 at [01:01:16:09](#) does not, ostensibly, feature any directional movement. The crowd is, essentially, static but the myriad of individual movements that constitute a crowd are imitated through the tremolo of the woodwind and string parts. The musical movement is analogous to the bustle of the crowd: the sound of many voices moving independently and yet travelling no distance melodically. Michel Chion (1994), discussing the subject of tremolo in relation to movement, seemingly confirms my assessment of the crowd sound when he proposes that the acoustic identity of the sound is important in creating imitative effects. In other words, in order for the effect to add value as desired, it is important that the characteristics of the sound used correspond, in some respects, to those of the 'real' sound normally associated with the image portrayed (Chion, 1994. p21). I perceive the moment as being reasonably successful however it is instructive to compare the

Act 5 crowd music with the sound of the crowd in the gambling den in Act 7 at [01:25:18:12](#) where an actual field recording of a crowded bar has been used. The comparison suggests that the sense of underlying movement, rather than frequency of sound, is responsible for the success of the effect.

Whilst the musical emulation of the crowd in Act 5 is imitative of the characteristics of crowd sounds, and the crowd in Act 7 is given voice through an actual field recording, the crowded bar at [02:03:56:00](#) has been treated in a way that employs both the referential qualities of sound and the diegetic connection between the music and the crowd sounds. Here, the recorded sound of the bar crowd is mixed with the sound of a recording of a screeching troop of monkeys. The sharp, angry, and chaotic quality of the monkey sounds are intended as a subjective expression of how Alwa perceives his fellow men at this point in the story: animals engaged in an imitation of human behaviour in the bar.

Imitation in another guise appears a great deal in Act 1 of the score. In this instance the musical imitation is less obviously related to visible physical movement, in fact it is largely disconnected from the images portrayed on screen. It is imitative of a sound that we assume to be present (through onscreen cues), the sound of Lulu's voice. The actual imitative moments (in the piano) are anchored to Lulu through the occasional synchronisation of melody to tiny visual gestures such as Lulu's comments and laughs at [00:03:24:00](#) and 00:10:05:00 (amongst others). These moments are distributed within a stream of melody that is otherwise not obviously connected to Lulu other than through her assumed continuing presence, on screen and off, within the scene. The melodic line is maintained in a reasonably high register (registral mimicry) and the moments of synchrony are carefully plotted, in terms of pitch, to be reminiscent of sounds like laughter or speech as required. This line of music is multi-functional; it simultaneously provides musical continuity to the scene whilst characterising her presence and providing a 'conversational' / dialogue quality (through the distribution of the phrases and moments of synchrony).

Whilst the musical cliché is representative of a complete extra musical idea, and the modified cliché can provide a less obvious reference to the same, the imitative musical gesture is specific and far more closely related to the on screen diegesis.

Within the context of a score, these effects do not exist in isolation. They operate in combination with other parts of the musical arrangement and it is through the total combination of parts that the complete characterisation of the moment is realised. Whilst the crowd is not moving, and the tremolo reflects this, there is energetic movement and melodic direction provided by other parts of the metrical rhythmic drive. Such movement informs our understanding of the character and emotion of the crowd. Similarly, the selection of pitches, and the momentary synchronisation, informs the representation of Lulu's speech but the impression of the energy and character of her conversation derives from the drive of the rhythm section and the eclectic phrasing of the melody line. So, within the context of the music score, imitative gestures form a point of contact with the film diegesis that the cliché cannot. They provide momentary contact *with* the image rather than momentary contact *about* the image. On occasion, the cliché and the imitative gesture are closely intertwined. Consider the moment in Act 4 in which the drunken Schigolch and Rodrigo amuse the gathered staff at the wedding party ([00:44:49:00](#)). In the clarinet and saxophone we hear a brief musical imitation of laughter; it might, alternatively, be interpreted as hiccups or even a donkey braying. The nature of the sound, in relation to the images, allows it to be interpreted in a number of ways. It may be an imitation or a commentary or both but at [00:44:55:00](#) a similar sound (though longer) is more clearly recognisable as laughter because of the way in which the movement of the sound tracks the body language of the laughing staff more clearly. This instrumental moment is at once a cliché and imitative. Whilst the cliché and the imitative gesture can both be buried within the music they differ because the cliché is open to variation, or even replacement, but the imitative gesture is not. The imitative gesture is, in effect, an absolute reference: a device that will only function when the trajectory represented by its movement, or the identity of its sound, is sufficiently matched to the image and that which we might expect in reality.

Act 8 and the Unadulterated Cliché

I have described the way in which clichés have been modified in the service of the score. The fact that these instances occur in the early part of the film, the part where the score is chiefly non-diegetic, is later counterbalanced in Act 8 by the occurrence of more overt, and less adulterated, cliché. By this point in the film we are experiencing some diegetic sound as well. In Act 8, at [01:49:06:00](#), we hear the Salvation Army band for the first time. The setting is clearly Christmas and it is clear that such a band would be playing Christmas carols. The switch from viewing Jack's solitary walk through the London fog to the expanded, lightened, view of the square with the band and the gathered folk of London, requires marking through contrast, not least, because a new narrative arc is about to begin (that of the conversation between Jack and the Salvation Army girl). Because of the general direction of the score to include diegetic sound by this point, such contrast is easily achieved through the mixing of Jack's music with that of the emerging brass band rather than the compositional morphing of non-diegetic melody lines, as is frequently found in Act 1. We hear a real Salvation Army Band, fading in, playing a Christmas carol. Act 8 offers several opportunities for the useful employment of musical cliché and early drafts of the act included them. These included the use of *Daisy Bell* (Dacre, 1892) as a pub piano tune at 00:57:01:00 as Lulu negotiates with an unknown man outside the pub, the use of *Silent Night* (Gruber, 1818) at 02:05:13:00 as Lulu and Jack draw closer prior to the murder, and the use of *Onward Christian Soldiers* (Sullivan, 1871) as the Army band march the streets beginning at 02:09:09:00. Of these, *Daisy Bell* was modified (same chord progression and 'feel' only) and *Silent Night* was replaced so that a musical connection could be established between the Salvation Army girl (01:49:48:08) and Jack's perception of Lulu at 02:05:13:00. The arrangement of the music here reflects the hesitant phrasing that was employed when working with *Silent Night* in the first draft of this scene. The *Onwards Christian Soldiers* cue proved to be difficult to find a replacement for, primarily because of the fact that the band were marching on screen and I could find no alternative of equal power with regards to the

stereotypical character of the band, their mission, and the need for the definition of their dramatic presence as the hope of possible redemption in Pabst's story⁶⁰

The Sonic Cliché and the Acousmatic

In *Pandora's Box*, within Act 8 particularly, there are a number of sonic clichés. I use the word sonic here to refer to sounds, or particular types of sound. Examples include the London bells, sleigh bells, the distant fog horns, and the characteristic sound of a pub piano. The majority of the sounds used are presented as off-screen sounds, their sources are invisible. There are some possible exceptions such as the sounds of the wind and the rain (visually present through symptoms such as the banging window and the need to empty a bowl of collected rainwater in the scene at 01:51:47:00). These are, at least partially, 'visible' on-screen sounds. That said, it is the off-screen sound that constitutes the majority of sonic clichés in Act 8. Such sounds become part of the geography and characterisation of fogbound London. The location of the action is thus rendered close to the unseen Palace of Westminster through the sound of Big Ben. The presence of ships on the Thames (and the nearness of the Thames itself) is located through the eerie presence of the occasional foghorn (01:58:06:00). The character of the bawdy, Edwardian public house is reinforced by the sound of the unseen pub piano (01:56:58:00), and the drunk and desolate atmosphere of the city is characterised through the sound of shouting men and barking dogs (01:56:42:00); all are sounds which emanate from unseen sources. These sounds are mixed with non-diegetic music which is also located 'off-screen' but specifically located in the cinema. Such sounds may be described as 'acousmatic'; they are sounds that emanate from a source in which the means of sound production is not visible (Chion, 1994).

Not all of the acousmatic sounds contribute to the objective reality portrayed on screen. The sound of a baby crying (01:48:44:00) as Jack appears for the first time, the brief sound of the hangman's noose (02:01:37:00), the sound of clocks, chimes

⁶⁰ The redemptive force of the Salvation Army is important to the story, some edits of the film (the British version for instance) did not feature the murder of Lulu but were edited to show that Jack was redeemed by the Salvation Army girl. The script indicates that the band is playing a 'solemn' march but this was untenable with the pace portrayed onscreen. (Mathews, 1994).

and a music box at (02:03:38:15) are all acousmatic but here they function less as references to the locale, and more as references to the subjective, internal, states of the characters portrayed. In many instances they are ambiguous. The crying baby, first heard as Jack appears, is a powerful emotive sound. Spatially, it is presented here as a distant sound; it may be 'real'; the sound of a baby in the night. It may also be regarded as a reflection of Jack's internal state, a memory of Jack's unhappy childhood. The hangman's stretching rope, heard briefly by Alwa as he paces the garret, cannot be real; it is imagined (supported by distortion in the music) and only heard by Alwa (and us) as part of a restricted, subjective, moment of narrative. The sound of clocks, like the baby, straddle the possibilities of reality and cinematic unreality, they might be there (we never see a clock but it is plausible) but the emotional effect of the clock in the silence⁶¹ helps to emphasise stillness, the presence of nothing but time and waiting.

Acousmatic sounds populate Act 8. They can variously be literal, emotive and / or commentative. The coincidence of sounds with images that support similar references creates a plausible, coherent, whole. For instance, the scene in which Lulu steps out into a desolate London back street late in the evening (at 01:56:42:00) is enhanced, in terms that are plausible, when we hear shouting and breaking bottles emanating from somewhere unseen nearby. The acousmatic, whilst its source is invisible, is clearly dependent for its efficacy on its placement relative to the images on screen and the coherence between the images and the unseen sound source (Chion, 1994). For this reason, the treatment of the acousmatic, to reflect qualities that are consistent with the visible space, is also important in establishing the sound as part of the objective reality of the scene or the subjective experience of a character / moment. The dogs, and the arguing drunks, are therefore heard as being reverberant; they are near, but never quite close enough to be seen. If the sound was less reverberant, the perceived closeness of the sound of the dogs would be inappropriate to their invisibility. The reverberant, crying baby is either a part of the objective world of backstreet London or a distant haunting thought in Jack's mind. Its ambiguous location derives from the

⁶¹ Silence here refers to what would be the sound in the room. The non-diegetic music sits outside of the characters' experience and so as we experience clocks *and* music the characters only experience the sound of the clock.

reverberant and distant quality of the sound. When it combines with the image of the street it creates an impression of objective reality, when it combines with the close image of Jack it provides a more subjective moment. The redemptive bells are all around, sometimes close and sometimes far; if they were situated in only one space, at only one distance from the action, the size of London, and the sense that the action takes place in various locations, would be compromised, and restricted, spatially.

Concluding Clichés

Since the power of cliché, be it musical or sonic, lies in its recognisability and its pre-established associations, there may be some doubt about the value of a disguised or hidden cliché as described earlier. As with any form of referential music, efficacy is a question of intelligibility and the degree to which an audience recognises and understands the signals offered. To this end, the cliché provides a strong starting point, one in which the core ingredients are known to function as intended. The re-working of the cliché is therefore about the tailoring of material to express the appropriate emotion / connotation, and the development of such material for further re-use within the score. The question of how much of the original cliché is retained is perhaps, in these instances, less important than the extent to which it leads to a suitable expression of the moment. This casts the cliché as part of a process rather than the actual conclusion. The modified cliché can be valued for its referential qualities both as a reference to the original cliché and as a motif to be referenced within the score. The practice of musical quotation is legitimate and well documented and I think that I have shown that such quotation, when allied to narrative, can effectively imply meaning, but the unadulterated cliché (within the context of *Pandora's Box*) rarely works. It sounds archaic and brash; it distracts us from the narrative. It has, perhaps, been reduced to being only a vehicle for comedy moments, the musical equivalent of a succinct 'one-liner'. The musical accompaniment of Arno's Jewish rush in Act 3 of *Pandora's Box* seems to confirm this. In Act 8, where clichés manifest diegetically or as acousmatic sound, the match between the cliché and the visual reality portrayed appear to reduce the perception of the music / sound as cliché. Similarly the match between the clichéd visual *unreality* of Arno's scene in

Act 3 and the silent film musical clichés is also a more comfortable fit. It seems that the cliché's natural tendency is to enforce the sense of cinema rather than to support the reality of the narrative. It calls attention to itself. For this reason the appearance of a familiar cliché/identifier like *Onwards Christian Soldiers* can function successfully when allied to pictures of the band; the image tends to alleviate the pull of the cliché. The same music would be excessive in relation to the solitary Salvation Army girl seen earlier; the cliché would be only partially justified visually and it would be too obviously superimposed. The application of the cliché is therefore a task that requires a degree of awareness regarding its tendency to overwhelm the image. Whilst it can be usefully employed as a purely cinematic device to provide a comment, its effect may often require restraint. Such restraint is achieved through its placement as a diegetic or acousmatic element or through its modification to suit the musical surroundings and the expression of the moment.

Chapter 9

Lulu's Dog (The Anaphone)

In Act 1 ([0:13:00:00](#)) we see Schigolch being discovered, on the balcony of Lulu's flat, by Dr Schön. This discovery is brought about through the barking of Lulu's dog which apparently senses the stranger outside. In most respects, it is a minor scene but for these few brief moments the dog is central to the plot and, in response, I made the decision that the dog should be heard, as well as seen. The reasoning behind this decision, and the question of how this was best executed, resulted in some reflection on the subject of anaphones, convergence and the control of musical / sonic elements discussed below.

Rationale

The dog needs to bark, in my view, because it provides a notable motive within the trajectory of the opening act. It is a moment that is portrayed clearly, but one that might benefit from the extra weight that sound can offer the moving image. There are other reasons too. Prior to the dog barking there is a long encounter between Lulu and Dr Schön in which the mood has been generally quiet and somewhat tentative. The addition of sound (a bark) breaks the mood more forcefully than the silent image alone. The sound helps to differentiate the atmosphere of one scene from another and it forms part of a short transitional musical sequence that leads us, through the 'did you hear the dog moments', to the next narrative arc. One of the key concepts behind my score is that diegetic sound begins to emerge from within the music as the story proceeds. During Act 1 the only sounds that we hear are music, non-diegetic film music, unnaturally present and continuous. To offer the dog a 'real' bark at such an early stage would destroy the consistency of the scheme that I had planned. In view of this limitation it was clear that the dog's voice should emanate from the music itself. The ideal solution would be one in which the presence of the dog is experienced by the audience in a way that is both proportional to its role, and fitting to the established musical equilibrium, in a form that is both recognisable as a bark and as music.

On Style

The instrumentation in Act 1 is sparse; it consists of piano (occasionally doubled with vibraphone), bass, drums and occasional saxophone. Stylistically, the music is Jazz. Jazz inherently includes improvisation, frequently in the form of solo voices over accompaniments that are generally 'groove' oriented. In other words, within the language of the style, it is normal for us to hear background and foreground elements arranged homophonically, distinct from each other. The elements of the style thus correspond well with the visual scale and arrangement of the scene (it is presented as a collage of several actions and reactions, by few characters, within a single environment / setting). Additionally, the placement of a 'piano bark' within the music is made less problematic, within the context of Jazz, since the style allows for considerable syncopation within, and between, instrumental parts.

The Historical Context of the Sound Effect

In his book, *Silent Film Sound* (2004), Rick Altman identifies the use of sound effects as an important feature of early silent film performance. He establishes that the silent cinema was all but silent and points out that film makers, ever creative in their quest to draw audiences, often created works in which the central premise of the film was that sounds could be matched to the pictures in performance. The sounds were supplied by the musicians in the picture house (Altman, 2004. pp203-226). These musicians would have been expected to 'spot' where such sounds were required and devise a way of creating the appropriate response.⁶² This could be anything from a moment of trombone music (because there is a trombone on screen), to bird whistles (because there are birds in a cage) etc. 'Traps-drummers' of the time were frequently equipped with a plethora of mechanical devices for creating these sounds and some cinemas invested in elaborate machinery to assist in the reproduction of grandiose sounds such as thunder and lightning. Whilst this practice declined over time, partially in response to increasing criticism of the poor performance practice of the

⁶² '...when engaging a pianist take the precaution to see that he is a good bird and animal imitator'. (*Views and Films Index* 1908, cited by Rick Altman, 2004).

‘sound effects boys’, the industry retained a belief that there was a place for ‘realistic’ sounds in the cinema and persisted with the practice in ever changing guises. This history at least confirms that the notion of my quasi-musical ‘dog bark’ belongs to a tradition as old as film performance itself but now, as then, it is only a superficial element of the presentation. It provides a way of emphasising the moment, a means of improving the illusion that the image has a living reality.

By the 1920s some of these sound effects had begun to acquire new roles and significant meanings in their own right. Take, for instance, the sound of the bird whistle referred to previously. When placed against the image of caged birds the whistles, ostensibly, form a diegetic sound track (the birds are visible / audible). Something similar happens when the bird whistle is placed against images of the landscape outdoors (the birds are invisible), but when placed against the image of a young woman seeing her true love for the first time they provided a new dimension, an evocation of the feelings of love and sweetness experienced by the young woman through sonic references that evoke sunny spring days, dawn choruses, happiness, blue skies and nature (Altman, 2004). The referential potential of music had already been exploited⁶³ but the referential qualities of *sound* could be considered a new development. In the development of the use of ‘sound effects’ the debate within the early cinema, both in Europe and America, revolved around the *psychological bearing* of the use of sound. The discussion concerned the extent to which we should hear what we see (even if it is not central to the scene), and the extent to which the narrative might be better served when we hear that which is invisible or off screen (Bottomore, 2001. pp135-6). Ultimately, the role of the ‘sound effects boys’ and their exotic machinery declined as they were replaced, for economic as well as aesthetic reasons, by ‘musical effects’ provided by musicians. Writing as early as 1908, Emmet Hall suggested that ‘music was sufficient accompaniment to films as it does not attract the conscious attention’ and another theorist, Clarence Sinn, writing in 1910 postulated that there were two types of film music: ‘music that was part of the picture’ and music that was ‘descriptive and is merely accessory to the picture’

⁶³ Through the use of popular music with lyrical associations and through well known operatic and programmatic music which supplied known references for the audience, and, at a later stage, through the music supplied in music cue books.

(Altman, 2004). As picture-house musicians began to prioritise narrative over the momentary image, the music and the special-effects became multi-functional: sometimes reinforcing the reality of the image (as diegetic sound), and sometimes serving as a comment or a clarifier for the narrative (non-diegetic music). This expansion and multi-functionality is both evidence of the development of a more refined aesthetic sense of how sound / music could relate to picture, and an interesting foreshadow of a similar debate that would later ensue as the film industry struggled to come to terms with the potential of the sound-film (Bottomore, 2001). The ‘dog-bark’ in *Pandora’s Box*, small as it is, serves as a reminder of the pre-sound practice of giving voice to images.

Isolating the moment

By this point in the film there have already been a number of moments where musical emphasis is synchronised to the images. This has created a context, a pattern, in which the device of music being synchronised to images is perceived as occurring at fairly regular intervals. Previous synchronised moments in Act 1 differ functionally from the ‘dog’ cue in that they do not make reference to a ‘real’ sound. The most similar cue in Act 1 is found at [00:08:26:21](#) where Schigolch gestures and calls to Lulu from the balcony and the piano articulates an imitation of short calls and quick gestures. As a visual and narrative event, the dog-bark is characteristically sudden and unannounced; it would lose its impact if it was preceded by similar events; it would also lose its impact if the entire musical accompaniment consisted of similar gestures. The extent to which a musical dog-bark is experienced as an isolated meaningful event is related to the context created by the preceding and surrounding, music. The composer needs to control the audible context ensuring that the distribution of musical ‘hits’ does not destroy the clarity of the moment to be emphasised.

Apart from the historical and compositional perspectives we might also reflect on the additional, and equally powerful, context accepted by the viewer from the outset: the tacit acceptance that the narrative world is cinematic and silent. The placement of music adds value to our experience of the narrative but it does not really reinforce or replicate reality, rather, it adjusts our view on the reality of the film. The very

artificiality of the musical dog-bark provides a means by which the emotional intensity of the preceding narrative arc is relieved, and in so doing, the audience are momentarily reminded of the unreality of it all. Our acclimatisation to, and acceptance of, this artificial world is seemingly affected by the interplay of all of these contexts: the historical (our acceptance of cliché and previous methodology), the narrative (the demands of the story), and the compositional (the way in which such events are translated musically).

Finding the Key of ‘Dog’

As early as 1913 authors such as Eugene Aherne were writing instructions for pianists playing to the cinema (Berg, 1976). These works included chapters on what is referred to as ‘effect playing’, the practice of ‘imitating certain sounds using the piano’s keys alone’ (Bottomore, 2001.p138). In Edith Lang’s *Musical Accompaniment of Moving Pictures* (1920), a manual for pianists and organists of the period, there is a chapter devoted to the creation of special effects in which she identifies various animal and bird sounds (including specific types of bird) and offers notated examples for the novice accompanist (Lang, 1920. p58-61). It was clear that Lang in her instructions for the creation of ‘special-effects’ prioritised three elements.⁶⁴ She emphasised the choice of timbre (through the recommendation of particular organ stops), the strength of attack (using notated marks of expression) and articulation (through the notation of specific musical gestures). Unfortunately, Lang had nothing to say regarding the creation of ‘dog’ but, through her text, she indicates that the musician needs to begin with an analysis of the natural sound and then interpret the resulting information through the manipulation of known musical elements. The elements under consideration commonly include tempo, pitch, range, intervals, register, timbre, texture and tonality.

In his book *This is Your Brain on Music* (2006) Daniel Levitin points out that the timbre and recognisability of sound is not merely the product of the balance of

⁶⁴ Four, if we are to include her recommendation that all special effects should be left ‘in the hands of a capable trap drummer who has provided himself with all the hundred and one noise making apparatuses now on the market....’ (Lang, 1920)

overtones within a sound but that it is also affected by two additional elements which he refers to as ‘*attack*’ and ‘*flux*’. Attack defines the way the note is struck, the speed at which the energy is exerted. Flux refers to the way in which the sound alters after it has been played⁶⁵. What Pierre Schaeffer discovered in the 1950s was that if we alter the attack, or the flux of a sound, it becomes less or even unrecognisable (Levitin, 2006. p54). Such an observation confirms that the construction of an effective musical effect is reliant on an accurate representation of the *behaviour* of the sound. Fortunately, there are, on screen, some visual clues to the behaviour of the sound of the dog. The dog is small (higher register), it barks suddenly (fast attack) and is clearly exerting a great deal of energy when barking. We can see that the barks are short (short flux), spaced, and not accompanied with any overtly aggressive movements such as bared teeth or aggressive body language (visual clues to the emotional content / type of barking we might expect to hear). The sound is unlikely to be particularly consonant to our ears; it is unlikely to be a melodious sound or have a particular tonality. Such a description, in terms of musical elements, forms the logic behind the development of what can be referred to as an *anaphone*, a musical equivalent to a natural sound. If we consider the sound of the piano in relation to the above then we can surmise that, of the available instrumentation at this point in the score (drums, bass, saxophone, vibraphone), it is the only one⁶⁶ that offers the characteristics required; it has a wide dynamic and registral range, rapidity of attack, pitch mobility, and potential for dissonance and resonance. In view of its role as a solo instrument within the music thus far, its application to this purpose would also be consistent with the general style and flow of the music at this juncture in the film.

⁶⁵ What Levitin calls *Flux* can also be identified as the *Decay*, *Sustain* and *Release* parts of the sounds envelope.

⁶⁶ The Double bass lacked the attack quality and the fierce mid / upper-range more typical of a small bark, the Vibraphone was too quiet and entirely wrong in terms of its dynamics, the saxophone had potential but it lacked the ability to produce dissonance on its own though it offered a mobility and extremes of register, the drums lacked the pitch characteristics required.

Emotive Sound

The 'musical-effect' reminds us of what it is like to experience an unexpected dog-bark. In this instance, the emotional value of the synchronised moment stems from the characterisation of the dog making a noise, disturbing the peace, and creating an 'uh oh' kind of moment. Levitin, writing on the subject of the brain's response to hearing music, establishes that we experience emotional responses to music as a direct result of our subtle recognition of violations of expected patterns in the music (Levitin, 2006. pp190-192). Similarly, Leonard Meyer, writing from a different point of view and some forty years earlier, suggested that: '....composers arouse our emotions because they are expert at heightening expectation and postponing resolution' (Meyer, 1956). The 'piano bark' is a relatively small gesture, however its contrast to the preceding music does provide an emotive function. In part, this is the result of the way it interrupts the existing musical pattern but, importantly, the synchronisation to the image provides specificity and narrative function. It attaches the sound to the image and enables us to reference all that we feel about small barking dogs.

The Anaphone

In his work on the analysis of film and television music, Phillip Tagg provides a vocabulary with which we can describe the functional relationships between images and sounds. Amongst the terminology that he describes is the word '*anaphone*' which he defines as: 'using an existing model outside music to produce musical sounds resembling that model' (Tagg.org, 2009). He goes on to clarify the definition further by categorising anaphones into three main types: *sonic*, *tactile* and *kinetic*. Sonic anaphones are musical representations of 'real' sounds. Kinetic anaphones relate movement to sound; they may be representative of a particular type of movement or they may express information about the physicality of a space or an environment. Tactile anaphones represent a particular type of touch or texture; such sounds may be described with words like rich, velvety, smooth, spiky, lush, light, heavy and so on. In general, anaphones are rarely of just one type. Most anaphones are *composite*; they exhibit qualities from two or more categories. Anaphones are found in a wide variety

of music and in a wide variety of guises. They may take a stylised form, such as the sound of thunder found in Beethoven's *Pastoral Symphony* (1808), or they may be more overt as in Jimi Hendrix's musical representation of an attack by a B52 bomber as performed at Woodstock (1969) (Tagg.org. 2009). In all instances, the successful function of the anaphone is reliant on the listener's foreknowledge of the qualities of the original thing that is being represented and / or the context in which it would normally appear.

The piano-bark clearly provides a 'sonic' anaphone. It plays a musical representation of the sound of the dog's bark. This musical sound has kinetic qualities that are analogous to the movements of the dog. In addition, it has tactility; it is small, sharp and loud. Other parts of the musical arrangement may also be assessed in terms of their anaphonic function. The 'groove' underlying the 'barking' has a kinetic quality vastly different from that of the dog; it moves steadily and purposefully forward, as if 'walking' into the next scene. The underlying bass riff has a circular, repetitive movement; kinetically it describes 'walking on the spot'. In terms of its tactility, it describes a different space to that of the dog (there is a little more reverberation) and it presents a smooth, calm, exterior which echoes the state of Lulu and Schön following their embrace. These contrasting layers exist simultaneously; they refer to all that is going on and through the tensions of their co-existence provide some emotive input to the film.

Converging on a Conclusion

When I began work on this project one of the first books that I read was *Film Sound: Theory and Practice* (Weis and Belton, 1985). I was led towards the conclusion that much of what applied to film sound could also apply to music. The way in which synchrony, contrast, context and referential qualities are controlled is central to the efficacy of both sound and music. Music is variously used to evoke emotion, to characterise, to locate, to make reference, and to efface the work. These functions are not, in sound film, the sole prerogative of music. In the case of Lulu's dog we have an example of a particular device, the anaphone, demonstrating that there is little to identify the piano-bark as a 'sound' separate from the music unless we consider its

relationship to the image. Edith Lang's work demonstrates that a mixture of music and 'sound effect' was a feature of the cinema musicians' work, and whilst such an approach would seem unsophisticated today, it is symptomatic of the desire to construct a complete sound-world, for the cinema, through the available technology of the time. Stephen Deutsch, discussing the place of music within the soundtrack, describes a model in which music has no greater role to play than any other sound components. He identifies music as just one element in a soundtrack which comprises of '*literal sound*', sounds that encourage us to believe what we see, and '*emotive sound*', sounds that encourage us to feel something about what we see (Deutsch, 2007). These classifications define two primary functions that can be served by any part of the soundtrack. Clarity of, and application to, either function might therefore allow sound sources to become interchangeable; music may take the role of sound and sound the role of music. In recent sound film releases such as the Coen brother's film *No Country for Old Men* (2007) there is very little music; the needs of the film (literal and emotive) are met through the management of sound alone (Barnes, 2007). In the film *Elephant* (Van Sant, 2004) music and sound are so intertwined that we can no longer be sure which sounds are diegetic / non-diegetic. This is a *convergence* of role and function, a blurring of the boundaries in which sounds, sometimes literal, are used to evoke emotional responses through their placement relative to other sounds and the film narrative. The anaphone may be considered as a part of this spectrum of sound; a component that bridges the gap between literal sound and music / emotive sound as follows⁶⁷:

Literal Sound----- **Anaphone** -----**Non Literal / Musical Sound**

If we accept that the anaphone forms a bridge between the literal and the non-literal content of a soundtrack and is therefore something of an ambiguous element within a score (a musical sound that breaches the divide between non-diegetic music and the diegetic sound world), we might also consider that the early debate concerning the

⁶⁷ This scheme does not account adequately for the presence of music as a literal, diegetic sound unless we disregard its musical values in favour of its literal function. Within the context of silent film, the superimposition of music onto the image of an onscreen band (such as that found in Act 4 of *Pandora's Box*) might also be considered as anaphonic: a representation of a sound source.

functions of music in the silent cinema (the question of psychological bearing and reality referred to earlier) is itself really a dialogue about convergence. Where the modern sound film ambiguously exploits 'real' sound to perform literal and / or non-literal functions, the silent cinema simply used the available technology of the time (the musician and the sound effects boys) in an attempt to explore the same.

The Background of the Inter-title Card

The inter-title card is a common feature of the silent film. The actual term ‘inter-title’ was coined in about 1930 as a way of differentiating it from the newly established ‘sub-title’ found in sound film (displayed below the visual action in releases of films to foreign markets). The inter-title card first appeared in film presentation in about 1907-8 but by 1910 it was in general use and became increasingly widespread as films became longer and narratives became more complex⁶⁸. The first title credits appeared on screen in about 1911. The inter-title has its origins in the very beginnings of cinema where text was occasionally projected alongside, or over, magic lantern shows⁶⁹. Such text may well have been vocalised by a lecturer or displayed as titles to which the lecturer alluded. In the early cinema, the inter-title cards were the prerogative of the exhibitor. Gaumont, for example, manufactured its own inter-title cards and sold them separately (in various languages). Such freedom of choice resulted in inconsistencies in presentation and as a consequence the role was eventually adopted by the film makers themselves. Studios often had a range of pre-made cards that were required frequently⁷⁰. Consequently, cards such as ‘Next Day’ or ‘Wedding Bells’ may, in early films, be found to be identical in several films (Dupré La Tour, 2004). Over time cards became increasingly bespoke and eventually the inter-title card progressed from being simply informative, or narrational, to being fused to the action of the film, as the representation of dialogue. The dialogue card is usually timed to appear as the character opens their mouth to speak and to disappear on to an image that shows the relevant character closing their mouth, or the recipient of said dialogue reacting. Such an approach was regarded, by some, as being disruptive to the visual narrative. The criticisms, in the press of the time, expressed concerns that the inter-title card forewarned the audience of what was to come,

⁶⁸ This is a two way relationship. The establishment and presence of the inter-title as a feature of film also expanded the scope for narrative complexity. (Dupré La Tour, 2004)

⁶⁹ Claire Dupré La Tour tells us that two lanterns were sometimes used: one to project text slides whilst the other projected images. (2004)

⁷⁰ A practice similar to the development of the printer’s cliché referred to earlier.

destroyed suspense, had an adverse effect on the reality of the film, was too frequent, too lengthy, and often less than explicit and readable. There was, nevertheless, general agreement about the potential usefulness of the card and the debate eventually resulted in the convention that inter-titles should be projected at the rate of one word per second with five seconds added to each card to accommodate the slowest readers⁷¹. As the card developed, different styles of typeface were incorporated as a way of placing text into suitable hierarchies. The use of punctuation, as a means of clarifying the expression of the text, became more common from about 1913. Within the studio production system, the writing of the inter-title cards was differentiated from the writing of the film scenario to the extent that film studios employed specialist authors for the specific task of writing the cards⁷². Similarly, translators were employed to produce foreign language prints. With the advent of sound film the inter-title became largely irrelevant; however, it is still employed as an artistic device by directors of film and television.⁷³ As a film from 1929, *Pandora's Box* represents a film of the last generation of films to use inter-titles as part of its construction.

The development of the inter-title card had several significant effects on the cinema: it replaced the need for the vocalisation of information by a lecturer or by actors behind the screen, and it elicited closer individual audience participation with the narrative on screen (indeed the inter-title had a part to play in the cinema auditorium actually becoming silent since the audience no longer needed to discuss and comment to each other about what was actually going on in the story). The inter-title assisted directors in bringing more complex, and experimental, material to the screen and the presence of text, as narrator and later as dialogue, anchored the audience by offering

⁷¹ It is clear that this is not a model that has been applied to the version of *Pandora's Box* in use here. If it were, some of the cards would be on screen for as long as 30 seconds. In general, the cards in this version of the film last for about 0.6 seconds per word. I wonder if this is, perhaps, the result of assumptions concerning improved reading ability in the general audience.

⁷² As early as 1914 there was recognition that the quality of text could be used to attract a more 'intellectual' audience. In his film *Cabiria* (1914) the Italian director Giovanni Pastrone requested that the poet Gabriel D'Annunzio wrote the titles and named some of the characters of the film. For the acclaim that D'Annunzio's involvement brought he was paid 50,000 francs. (Dupré La Tour, 2003)

⁷³ Quentin Tarrantino's work for instance presents many examples as do TV shows such as *Frasier* and *24*.

them reassurance with regard to their understanding of what was being shown. Finally, it made it possible for the cinema to make its own stories, stories in which pre-knowledge was no longer necessary for comprehension of the narrative. (Dupré La Tour, 2004)

The Rhythm of Text

It is often relatively easy to recognise a tune by its rhythm alone. Rhythm provides a powerful means of referencing melodic ideas. Some rhythmic patterns evoke extra musical presences: the sound of horses as in Suppe's *Light Cavalry* (1866) or the movement of trains in Honegger's *Pacific 231* (1923) for instance. Since, in my modifications of cliché (described earlier), rhythm seemed to be one of the key components to retain, I began to explore other areas in which the rhythm of the music might usefully function as a means of reference. I noticed that there were often conflicts between the rhythms of my internal reading of an inter-title and the external rhythms of the music. This led to the idea that the very rhythm of the words of the inter-titles might usefully be exploited through matching musical rhythm to the rhythm of the text as I read it. The end result might be a subtle synchrony between audience activity (reading) and music, a point at which the audience's own actions momentarily engage with the sound of the film. The notion of matching the reading rhythm was of course problematic; it is highly unlikely that the members of an audience would all read the same things at the same speed. The idea did, nevertheless, develop into a strategy in which the words of the text were echoed in the music, the intention being to create a subtle resonance between the previously read text and the following image sequence, where appropriate. In putting this idea to the test additional problems were exposed: the extent to which the text rhythms clashed with other aspects of the music design, the need for the text rhythm to be incorporated into the emotional purpose of the moment, the duration of the card on screen and the amount of text to be referenced within the music. The idea was adapted, and altered (on a case by case basis), and it proved to be a useful strategy for the generation of material. The following passages describe the nature of the adaptations that were used in relation to some of the speech rhythm cues listed in Appendix 2.

The first part of the process was to consider the value of the various inter-title cards in relation to the narrative. Text had greater importance in certain parts of the film and less in others. Act 1 and Act 7 demanded the most attention, largely because the ‘dialogue’ on display offers so much important information about the set up of the narrative (Act 1) and the various plots / sub-plots in progress (Act 7). By comparison, Acts 3 and 8 are hardly dependent on the inter-title cards at all. Whilst there are some substantial readings in Act 5, the information is often supplementary;⁷⁴ it merely adds detail to the narrative. Cards were selected for their textual information and their rhythmic potential. It was noticeable that certain text phrases (usually short ones) had strong rhythmic identities and that there were also stress patterns that may be incorporated. Cards like ‘Alwa’ at [00:22:11:03](#), an exclamation with a particularly strong identity, therefore presented far less of a problem musically than text such as ‘Throw yourself at him he’ll do anything for you. Otherwise he’ll report me!’ at [01:40:58:12](#). The musical echo of longer passages of dialogue is therefore usually reduced to reflect the phrase that has the strongest rhythmic / stress identity, or the part of the text which is most pertinent and recognisable. In the case of the ‘Throw yourself at him...’ cue, the music exploits the rhythms of ‘Throw yourself [or] he’ll report me’, this being descriptive of the motive that informs Lulu’s actions on screen. The selective shortening of the textual influence is influenced by the way in which the resulting musical rhythm can be organised to fit the music of the moment. It is also selective with regard to textual meaning. The strategy that eventually evolved was one in which emphasis was given to the arriving card, if appropriate, through the synchronisation of music to its appearance on screen. This was followed by the echo of the text-rhythm within the construction of the melodic line during and / or after the card. The rhythmic response to text is rarely stated in synch with the arrival of the card, unless the text-rhythm is so short as to make it reasonably clear (see the ‘Alwa’ card previously referred to or the ‘Police, Police!’ cue found at [01:45:30:12](#)). The examples listed in Appendix 2 are all examples of this strategy in action though there are necessarily variations in placement, for example, the rhythmic echo of text at [00:12:19:08](#) is not only stripped down to the words ‘...kill me if you want to’, but the rhythm is then interpolated (as a triplet run) into the previous music to form the end

⁷⁴ I say this on the basis that the story is largely intelligible through the moving images alone.

of the phrase over the card. In contrast, the text rhythm employed at [00:14:08:04](#) occurs almost simultaneously with the text though it omits the first word to offer the phrase ‘was my first’ on the piano before finding resolution through a more freely composed phrase at the end.

The rhythms of text were not only used in direct relation to inter-title cards. In some instances textual rhythms were used to form more substantial melodic lines. Thus some of the textual rhythms / references are employed within the music without being in close association with an inter-title card. An example of this strategy can be found in Act 7 at [01:34:24:00](#) where the solo piano line, accompanying the image of Lulu coming to terms with what Casti-Piani has just told her, reflects the rhythms of an earlier title card at 1:33:47:18. Here the rhythm of the melody is built around the words ‘[I] won’t be sold, that’s worse than prison’. The emotion of the moment is reflective and quiet, matching Lulu’s moment of introspection, and the text, if it were recognised, would match the moment well. A similar example can be found in the same act at 01:39:17:16 where Schigolch talks with Rodrigo concerning the Countess Geschwitz. The text on the card finishes with the words ‘out of this mess’ and there is no musical echo of this, or any other part of the text, at this time. A few moments later, at [01:39:31:00](#), we hear, on the saxophone, part the rhythm of the words ‘out of this mess’. This provides a reflection of both Schigolch’s intended outcome and his pitch to Rodrigo. In this way, the music, the inter-title, and the narrative context become intertwined. It is, in essence, a form of referentialism, but one that is not easily interpreted by an audience. It is representative of referentialism as part of a methodology used to generate material. The placement, and the emotional appropriateness, of the music is the most important, and the most easily perceived, factor; the subliminal, textual, reference is subordinate, and less obvious to the audience. It is, of course, my hope that such subtleties have provided an improved experience of the film, but I suspect that this cannot be truly assessed. Such a procedure may have minimal impact on the audience but it has had considerable impact on the development of the score.

The Arriving Inter-title Card (The Weight of Synchrony)

The arrival of many of the cards is emphasised through synchronisation with music. The amount of musical weight given to such moments reflects the importance of the text and the nature of its delivery as dialogue. The amount of weight actually given to the moment of the cards arrival is also partially determined by the pre-existing musical context and the subsequent direction of the narrative. Decisions need to be made concerning the degree to which the weight given to the moment is proportionate to the musical / narrative context. For example, a full ensemble sforzando chord within the context of a sparse solo piano line is considerably more extreme than the same chord within a flow of music already being played by the full ensemble at fortissimo. The weight of the moment is more determined by the degree of contrast to the preceding music than its actual volume. It is a function of arrangement. There is, therefore, a spectrum of possible responses utilising the control of musical elements and their distribution relative to the image. A general description of this spectrum may be illustrated as in Fig3 below.

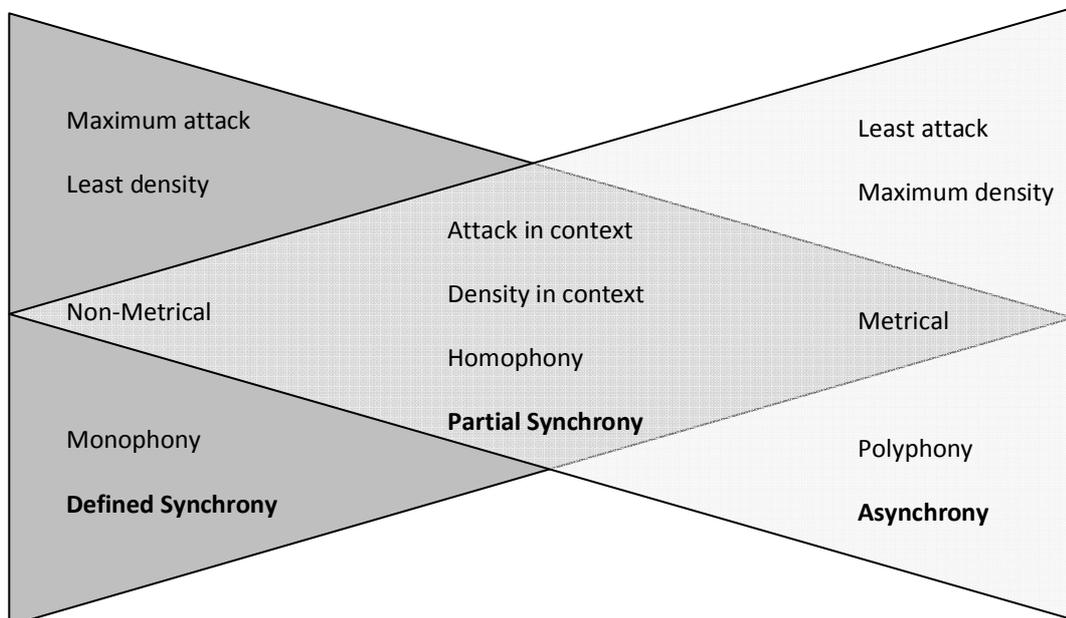


Fig 3. Diagram to illustrate the possible relationships between music elements and the emphasis of synchrony.

My suggestion is that the amount of emphasis given to a synchronised musical moment is increased by altering one, or more, musical element to correspond with either side of the diagram. This is dependent on which position within the spectrum we start from. Overall, reduced density (the number of separate parts playing simultaneously) with strong levels of attack and tighter synchronisation to the image, through a discarding of meter, or through syncopation, will lead to a more forceful synchronised moment. Therefore an image sequence set against a polyphonic musical texture is likely to create a more asynchronous experience⁷⁵. In such a case, increased attack in a single part of the polyphony (or selected notes within the stream), or a reduction in the density of the parts to expose a single line, may be used to increase the clarity, weight and number of points of synchrony. Much of the music in *Pandora's Box* belongs in the area described in the centre of the illustration; it is homophonic and controlled in a way that is consistent with the style of the moment. Changes to musical elements, in either direction, may therefore affect changes in the weight of synchrony. The choice of moving to the right (towards low attack etc) can create impact providing that the level of contrast to the surrounding material is sufficient. The description offered does not take account of all of the available musical contrasts. Elements such as pitch register, timbre and tonality clearly have significant impact on the sound and character of any given moment but their delivery is always informed by the organisation of attack, density, musical texture and their placement in time. Such elements may be crucial to expression but are less significant with regard to the control of the emphasis of a synchronised moment. The following examples provide indications of how the weights of single moments of synchrony have been controlled with regard to inter-title cards.

In Act 2, at [00:18:44:00](#), Alwa and Countess Geschwitz are talking about Alwa's forthcoming show. An inter-title card appears which says 'Here are the costume designs for your revue Alwa'. This is not particularly important information though it does explain what we are about to see on screen. The music at this point is light Jazz; it is homophonic with the melody in the piano, and the double bass and drums

⁷⁵ This is dependent on the nature of the image sequence. An image displaying a great deal of inherent movement might well appear to synchronise to a polyphonic texture. This is linked to Michel Chion's observations regarding 'micro-movement' as described in *Audio-Vision, Sound on Screen* (1994).

providing typical walking / shuffle accompaniment. As the card arrives it is synchronised to an anticipated beat on the cymbal / hi hat and the last note of a piano phrase. The velocity of the attack in the drum part (cymbal and hi hat) is increased momentarily to add some presence to the arriving card. The card flows onto the screen with a little emphasis. Only one element, attack, in one part of the polyrhythmic / homophonic texture has been altered; it is a minor adjustment. Contrast this with a later card requiring more impact. At [01:15:14:00](#) (in Act 6) Alwa is in an argument with Lulu, she has telephoned the Chief Prosecutor and Alwa grabs the telephone from her, the card reads ‘This is Alwa Schön. Do you have any news of the escapee?’ It is important because it is at this point that Alwa becomes complicit to Lulu’s crime. Musically, prior to the arrival of the card, the music is loud, there is a strong rhythmic drive with woodwind playing over a forceful piano, bass and drums; it is energetic. As the card appears, substantial impact is created through a sudden reduction in instrumental density (reduces to just piano, bass and ride cymbal) and a reduction in attack. In this instance, the reduction of attack creates a significant contrast to the nature of the preceding music and, furthermore, it is more emotionally appropriate to the scene. The music continues the new mood and takes us through the inter-title towards the conclusion of the scene. The synchronisation to the card thus establishes a new narrative trajectory and an emphasis of the moment.

The synchronisation of music to the entry of the card is not the only device that adds weight to its importance. In Act 7 some of the cards are long and convey crucial plot material. In such instances, a reduction of the musical activity over the duration of the card, whilst employing the dynamic growth of sustained sound as a way of holding attention on the card, can be effective. In such moments, the meter of the music is sacrificed (in keeping with the scheme suggested above). An example of just such a cue can be found in Act 7, at [01:30:20:00](#), where the Marquis Casti-Piani tells the Egyptian brothel owner ‘The German police will give me £250.00’. Here, the music swells dynamically under the card with no other musical movement intruding. The height of the crescendo is timed to synchronise with the start of the next image sequence. Other cues exhibit similar construction but are modified so that some musical movement over the duration of the card links with the music of the following scene. An example of this procedure can be found at [01:32:33:00](#) where Casti-Piani

tells Lulu ‘I need money urgently. You can’t give me any. The Egyptian will pay me £50.00 more than the German Police. You’re lucky!’ Here, the music employs the same sustain / crescendo technique as found in the previous cue but with the addition of melodic movement in the bass. The bass movement is reasonably metrical (whilst the sustained chord / sound is not) and it moves us towards the establishment of a new key, and a new tempo, which then inform the subsequent underscore. The bass movement is both energising and an anticipation of the forthcoming sequence. The bass sounds here are also reminiscent of the male voice (*Casti-Piani*) as referred to in the table of correspondences discussed earlier.

In Conclusion

The inter-title card is a key component of *Pandora’s Box*. In the absence of sound it provides dialogue and more. As a cinematic device it provides a very direct point of contact between the audience and their understanding and experience of the drama and the characters. In most respects, the inter-title can be treated as any other moment in the film, variously requiring emotional colour, emphasis and narrative context but, unlike the moving image, the inter-title is static. It creates a situation in which the image is no longer active, rather the audience themselves become more active (through the process of reading) in the revelation of the story. Frequently, the card presents a point of transition; it may be a cue to a change in point of view (from the speech of one character to the reaction of another), or it may be a forewarning of what is to come (Dr Schön’s warning to Alwa that such a woman could be the end of him at 00:40:00:14). The cards thus form an intricate web of narrative clues and cues that cannot be ignored. Whilst it has not been possible to create instantly recognisable links with the textual rhythm of many of the cards, it has enabled an additional stream of reference within the music, albeit a stream that is somewhat subliminal. Unlike the *Dies Irae* example cited earlier, these references relate to text and music, they are internal; they reference the score and the dialogue. Additionally, the exploration of the rhythmic content of the cards has proved to be a useful compositional device in the service of the score. We might also consider that the use of the rhythm of text relates to the application of recitative technique, as borrowed from opera and found in

many early sound films. Typically, recitative music quietly underscores the spoken dialogue; the music is more or less static so that we can hear the words spoken on screen. There are three elements in the equation: the image, the music, and the sound (dialogue). In *Pandora's Box* only two of these elements are present: music and image. The dialogue is presented as a static image on the screen and the music moves in order to give it voice.

Chapter 11 The Emerging Sound of Reality and Madness

In the score for *Pandora's Box*, 'real' sound emerges as the film progresses. This begins at the end of Act 5 with the sound of the judge's hand-bell at [01:08:07:12](#) and increases progressively throughout Acts 6, 7 and 8. The emergence of sound signals Lulu's loss of control over the world around her and the need for her to contend with the influence of others. In terms of the musical design, it also provides a device through which the music can be directed towards a more 'broken', chaotic, sound in accordance with the general scheme of musical entropy described earlier.

The emergence of sound at the beginning of Act 6 was most problematic. It needed to be progressive. The intention was that emerging sound would be blended with the music in a way that made it inseparable from the music itself. The setting of the first part of Act 6, within Schön's flat, offered few opportunities for meaningful acousmatic cues and so objects that required Lulu's interaction / control for operation were employed as sources of audible reality. Such a decision is consistent with the overall concept of emerging sound as described, but the first few instances are incidental; they are part of the transition. So, at the start of Act 6 we begin to hear the diegetic sound of Lulu's new reality, an environment that is resistant to her demands. The symptoms are small: the sound of a door slam, the sound of a match being struck, the click of a light switch, and the sound of a running bath. The door, no longer opened for her by someone else, the cigarette, no longer lit for her, the darkness, no longer illuminated by others but navigated by Lulu herself, and her comforts, no longer proffered by those around her but created by her own actions. As Act 6 progresses we move beyond the confines of the world of Alwa and Lulu and, for the first time, enter into the 'outside world' of the railway station⁷⁶. Here we encounter the sounds of other people. The sounds of trains, public address systems, the sounds of doors being knocked and slammed and the sounds of voices. Whilst the non-diegetic music continues to dominate the sound of the film, the treatment of diegetic

⁷⁶ I am discounting the courtroom because it is, in my opinion, an environment that is focussed on Lulu. It is a manifestation of Lulu's behaviour, confinement, and the scrutiny of the outside world, rather than an expression of the world beyond Lulu. The environment of the courthouse is ultimately controlled by Lulu, and her entourage, as they make their escape.

sound within the score advances to a point where it becomes part of the expressive dynamics of the music.

Act 7 continues to build on the pattern established in Act 6. Diegetic sounds are increasingly used to create a sound world that plays in parallel to the music rather than hidden 'within' the music as at the start of Act 6. The prevailing sounds are those of the revellers on board, the sound of the creaking ropes, the sound of the sea, and the sound of the Countess Geschwitz screaming. Only the sound of the stretching rope in Act 7 can be characterised as entirely acousmatic. It appears at [01:29:06:00](#) and [01:39:00:00](#) where it serves as a metaphor for subtle, invisible, movement (within the ship and the plot) and the creaking of something under stress. The countess' scream at [01:47:06:00](#) provides the culmination of the process in Act 7. The sound first appears layered within the music and then in isolation, as an off-screen diegetic sound. It is given its diegetic character, and location, through its position within the cut of the film and the reaction of the onscreen cast looking towards the imagined sound source. It marks the tipping point at which the horror of reality finally gives rise to the final act that leads to Lulu's end. The scream is the only occasion where we hear a voice that is directly attributable to an individual; it is the embodied sound of the consequences of Lulu's actions.

The final Act of *Pandora's Box* features a great deal of sound. Wind, rain, window clattering, water dripping, traffic, trains, fog horns, bottles smashing, horses hooves on the street, clocks, music boxes, bells, dogs, babies, knives, shouting, pub-pianos, bands, Alwa's footsteps, and the sound of birdsong mixed in with the final theme all appear in the mix. The balance between non-diegetic music and diegetic elements is now firmly in favour of the diegetic with a strong acousmatic presence. In terms of the score, sound and music both provide aspects of the literal and emotive content. The increased diegetic nature of the score (sound and music) in Act 8 naturally reduces the sense of separation between score and image. The score now emanates from the setting of the narrative; silent film has acquired the characteristics of sound film.

The Sounds of Madness

It is said that those who are insane rarely know that they are ill; objective reality is confused with subjective reality. This idea provides a core concept behind parts of the score in Act 8 of the film. Music and sound become deeply intertwined in imitation of the confusion between objective and subjective reality. As Jack the Ripper confronts the warning poster on the wall at [01:58:03:00](#), he is, for us, revealed (by implication) as being a killer of young women⁷⁷. The mix of electronic music and acousmatic sound is an attempt to merge and confuse the diegetic sounds of foggy London with the subjective expression of Jack's state of mind. The entire soundtrack at this point is thus analogous with Jack's condition as unhinged. The use of electronic music is significant. Such sounds provide a sense of human absence both through a lack of tactility in the sound production⁷⁸ and a selection of timbres that are ostensibly random and chaotic. The music here often lacks melody or rhythm but it presents movement through filter sweeps and the emergence and disappearance of sounds of different timbres and frequencies. Bells chime randomly, perhaps part of the real world, perhaps not. As it progresses the foghorns begin to sound like trombones within a musical arrangement; it is as if they move from the 'real' world of diegetic sound into the 'cinematic' world of the music score. The way that the sound follows the envelope of the fog at the beginning of the scene and continues to swirl, as if it was fog itself, helps to induce movement where there is none to see (other than the subtitles and the steady widening of the camera shot to reveal Jack against the poster).

The sounds that inform this first glimpse of Jack's character partially reappear at [02:00:04:00](#) as Lulu invites Jack upstairs with the words 'come on, I like you'. The electronic sounds creep into the music as long sustained high frequencies. At first, this sound is reminiscent of a counter melody played on violins but as the scene progresses the timbre becomes increasingly abrasive. This timbral change increases in volume to deliver us to 02:00:37:19 where Jack hovers in uncertainty and reaches for

⁷⁷ In fact he isn't explicitly identified as 'Jack' here but I am using the music at this point to connect the image of this quiet and rather anxious stranger to the poster information and therefore suggest that they are one and the same person.

⁷⁸ We can't really hear notes being struck, bowed or blown; there is no sense that there is a human agency in the creation of the sound.

his knife. Here, the electronic sound of Jack's illness takes over, expanding dynamically (with additional layers of traffic sounds, piano and percussion), until he drops the knife at 02:01:07:02. The non-diegetic piano music provides both a commentary on the 'slow dance' of Lulu and Jack, and a reference to the exotic sound of Lulu's first encounter with Geschwitz in Act 4. The electronic sounds offer a more disturbing representation of the subjective experience of Jack's inner struggle, and an audible experience of dissonant tension.

The Sounds of Murder

In Sidney Lumet's film, *The Offence* (1973), Harrison Birtwhistle's opening music utilises sounds that have associations with the events that unfold within the narrative. The musique concrète that plays during the opening sequence of the film thus acquires greater significance as the sounds from which it is made are revealed individually, within the narrative, as the film progresses. The portrayal of the murder sequence within my score begins at [02:06:38:21](#) and I have employed a reverse of Birtwhistle's technique. The music that accompanies the murder therefore contains many of the sounds that we have previously heard. The music for the murder is a combination of acousmatic sound of the moment, the electronic musical expression of Jack's urges, non-diegetic musical punctuations, and the referential use of acousmatic sounds heard previously. Whilst the sounds that accompany the murder scene are organised with some logic, it is not really expected that every sound could be clearly interpreted by the listener. More important to the scene is the sense of dissonance⁷⁹. The sequence begins with the intrusion of wind noise and the distortion of the church bells in the background. This process, emerging through the preceding music, is

⁷⁹ The discussion of dissonance is often contentious partially because the very concept of dissonance within music rests on a culturally acquired position in relation to music. However the sounds here are perhaps less musical and rather more of a type that we might refer to as 'sensational' because the effect that they create is one in which the senses are engaged with the dynamics of sound rather than melodic and harmonic organisation. David Huron in his book *Sweet Anticipation* (2007) refers to this as 'sensory dissonance', a physiological phenomenon that occurs in the ear when competing tones render the hearing organ less able to discern various sounds separately because of the way that they interact. Such dissonance is usually experienced as being threatening and confusing.

intended to highlight a change in perspective from the objective reality of the closeness of Jack and Lulu's shared moment, towards a representation of the subjective experience of Jack's inner struggle as his perception of the world distorts. Percussive sounds are used to add emphasis to selected images (such as the appearance of the knife). The sound of a ticking clock emerges. It may be considered as representative of passing time, or even a count-down, its presence is challenged by the sound of the church bells (as the outside world / reality tries to reassert itself) but the sound of time itself (the clock) begins to distort (through echoes and varying rates of delayed sound). The clock begins to sound, increasingly, present and relentless. At 02:07:43:09, as we see Lulu's face in repose, we hear, briefly, the sound of a baby crying, a reference formerly associated with Jack but here also serving as a comment on Lulu's sublime state as being momentarily innocent and in need of love. The music acquires the characteristics of the sound of heavy machinery churning, a reference to the mechanical and unstoppable nature of Jack. The sounds of a train emerge, a reference to the journey that brought Lulu to this place (or an acousmatic), and a further confirmation of the unstoppable nature of Jack. When the killing is completed at 02:08:08:10, and we see Lulu's hand falling into black space and relative silence, we are left with just the organ drone that underscored Jack's first appearance at the beginning of Act 8. Where the electronic sounds associated with Jack's madness are alien, the organ, in spite of its equally mechanical character, carries with it references to religious (otherworldly) solemnity and rites of passage, birth and death. Jack returns to the world of men.

On Electronic Music

The use of electronic elements, within Act 8 of *Pandora's Box*, was envisaged very early on in the planning process of the score, particularly with regards to the murder of Lulu. The treatment of 'real' sound, as an element within the composition, draws on the influence of *musique concrète* as established by Pierre Henry and Pierre Schaeffer in the late 40s and 1950s. Early experiments for this part of the score included the manipulation of standard instrumental sounds, the deliberate abuse of electronic mixers and other sound sources to produce interesting and evocative

sounds (some of which were used), and the recording and layering of guitar feedback (some of which was also used). In the end, in addition to the resources described, software synthesisers within the sequencing software were programmed to play sounds using pre-determined filter sweeps, modulations, oscillations, envelopes, and delays. The important factor that emerged, in relation to the music of Act 8, was that the intended sense of chaos and alienation was more easily achieved when not all of the sounds used were recognisable. Denis Smalley describes a process called *source bonding* in which the listener reflexively tries to relate unrecognised sounds to possible sources and then look for possible relationships between the sounds themselves (Smalley cited by Lack, 1997. p320). Such a response is of interest here because it suggests that the very presence of ‘unnatural’ sounds induces, in the listener, a different type of listening; it is a listening process that is reactive to the very presence of ‘alien’ sounds. The source bonding reflex engages the listener with a genuine experience of uncertainty. It is, perhaps, analogous to the experience of the conflicting realities that define the madness portrayed on screen.

The notion of creating unnatural sound, in relation to film, is not new. As early as 1931 Robert Mamoulian, for his film *Dr. Jekyll and Mr. Hyde* (1931), created a soundtrack that employed a recording of his heartbeat, and the sound of a sonically altered gong, altered through painting on the optical soundtrack of the film (Brown, 1994. p182). Hitchcock’s *The Birds* (1963), famously uses the manipulated sounds of birds as a score and the Baron’s score for *‘Forbidden Planet’* (Wilcox, 1956) broke new ground through its innovative use of circuitry and tape splicing. There are many examples of soundtracks that exploit the ambiguity of manipulated sounds for the whole, or part, of the sound of film. More often than not, we find that such soundtracks exploit these sounds as either signifiers for science fiction or as a generic sound for the unbalanced mind (horror, psychological drama etc). Electronically manipulated sound might, therefore, be regarded as a form of ‘exoticism’, another way of portraying the ‘alien other’ from an internal or external point of view.

Common aspects of musical organisation (Layers of Synchrony)

The process of the music that underscores the murder is one in which many sounds, natural and unnatural, and their associated streams of reference, are allowed to interact. The distribution of these sounds, and the control of the dynamics, is more important in its organisation than the presence of melody and harmony. The music grows dynamically from 02:06:38:23 to a climax at 02:08:09:00. Here, the use of ‘real’ sounds (clocks, church bells, wind, rain, etc) is mixed in with musical elements and electronic sounds. The music has been assembled in layers with each layer having a different purpose. The electronic sounds are largely referential to Jack; the ‘real’ and acousmatic sounds reference the immediate and past environments, and the musical elements add weight and definition to moments of synchrony. The layers are organised according to the needs of the scene (the need to reach a climax at a given point) rather than organised in accordance with a pre-determined musical structure. The score, at this point, may sound very different from other sections of the film but, in respect of the purposeful layering of the sounds, the organisation is very similar. Take, for example, the organisation of the music in Act 2 where Schön confronts Alwa and Lulu at [00:21:41:00](#). Here, as Schön comes onto the screen, we hear a repeating ostinato in the bass, low piano and saxophone, lifting the tempo and establishing an underscore for Schön’s angry arrival. The mid-range piano chords, entering at 00:21:49:22, give voice to the inter-title card and as the music continues, the addition of various percussive strikes add emphasis, through synchrony, to movements on screen. The distribution of the high and low registers in the piano part is consistent with the argument raging between Lulu and Schön (high and low registers respectively). Similarly, the organisation of the music beginning at [00:27:22:00](#) , as the stage manager rushes around backstage, is constructed around three layers; there is the waltz ‘vamp’ that motivates and provides continuity, the melodic characterisation of the stage manager that also provides forward movement (through melody), and the supplementary moments of synchrony provided through additional gestures on the piano (Schön’s ‘bump’ and wave at 00:27:47:00 for example). Later, as the scene develops, new instruments, such as the accordion at 00:27:38:00 (providing additional movement in the brief absence of melody), and the clarinet at 00:28:00:00 (the arrival of a new character), are added to characterise

particular moments. This approach informs large swathes of the score; each layer has purpose and each layer is developed to intertwine with the next in a meaningful, coherent, way. The primary functions of each layer can be summarised as: 1) *Continuity*, elements that bind the image sequence together as a coherent sequence, 2) *Characterisation*, the musical representation of characters, emotions and situations, and 3) *Clarity*, the provision of emphasis through synchronisation. Continuity is here, usually, established through ‘vamps’ or ostinati, the accompanying parts of a homophonic texture. Characterisation is accomplished through the distribution of consonance and dissonance, the melodic line (also providing linear motion), the choice of timbre and the distribution of references to previous material. Clarity is established through moments of synchronisation, either within the melody or the underlying parts. Parts are thus developed to be functional, rather than merely attractive as music. The following breakdown of a sequence from Act 6 illustrates the construction of such moments.

Layers within a Scene

The following extracts demonstrate the way in which layers have been used compositionally, and how they relate to the picture. The six stages demonstrated here are typical of the working method applied to large parts of the score. The scene appears at 01:13:36:00 (Act 6). After this point in the film the appearance of this music becomes synonymous with moments in which Lulu tries to exert influence on events in her favour. The waltz style was initially adopted because of the way Lulu dances in front of the mirror; however, it is also suggestive of the way in which she forces Alwa to ‘dance to her tune’.

1. [Extract 1](#) consists of piano and bass only and demonstrates the placement of the basic harmonic structure. It outlines the change in mood towards the end of the scene, and the harmonic rhythm in relation to the cuts within the scene. It contributes to the continuity of the scene and adds periodic clarity. The omission of the piano chord at 00:00:33:00 is intended to create ‘space’ prior to the next point of synchrony with a view to increasing clarity.

2. [Extract 2](#) builds on the previous extract and emphasises the main points of synchrony through the placement of percussive crashes. These are placed to emphasise Lulu's intervention as she rushes to the doorway and pushes Alwa into the corner. It establishes some additional clarity through its emphasis of two dramatic images of Lulu.
3. [Extract 3](#) adds a melodic line that helps to efface the work by providing linear movement. The phrasing of the line draws attention away from the circularity of the accompanying parts and energises the movement of Lulu as the film cuts on her movement. The synchrony is improved through the coincidence of the chromatic movement with cuts in the picture (vectorisation). This part contributes to the characterisation of Lulu as energetic and forceful.
4. [Extract 4](#) incorporates the saxophone which offers some timbral reinforcement and differentiation between the accompanying part (in the piano) and the melody. It underlines the main phrases of the melody only which further differentiates the chromatic movement on the piano, and the way in which it is specific to movement in the picture. It also contributes characterisation through the Jazz correspondence (saxophone) used earlier.
5. [Extract 5](#) introduces a moving bass line whilst the camera watches Alwa packing. This adds to the weight of the movement in the music. The register is lower providing some registral balance. It rises to meet the melody line as Lulu appears in the doorway adding vectorisation and emphasis to this moment. This line assists in the characterisation of Alwa and the clarity of their interaction.
6. [The Complete Scene](#) Here the addition of woodwind and strings link the sound of the music more consistently with the previous scene and smoothes out some of the rhythms in the accompanying parts. Rhythmic drive is enhanced slightly though the addition of the ride cymbal. The contra-rhythms (on strings) at the end of the scene add energising movement without direction. The tremolo, in the wind parts, during the points of greatest

narrative tension adds micro-movement, the sense that there is something going on when visually there is little happening other than Lulu and Alwa staring at each other. The cello playing in unison with the bass line (found in extract 5) adds timbral definition and carries with it the reference towards the male voice already encountered in earlier scenes. These sounds characterise the action and add continuity, smoothing out the edges of the arrangement.

All aspects of the arrangement are functional. The initial placement is purposeful with regards to shaping the perception of the narrative and the effacement of the work. The distribution of timbre is multifunctional; it serves both the sound and style of the music and the functions of the arrangement in respect of the film narrative.

Chapter 12 On Motifs, the Short Phrase and Compositional Strategies

I mentioned at the end of Part 1 (*Regarding Myth*) that there is what I regard as a musical ‘kernel’, analogous to the ‘mythic core’ of the narrative, at the heart of the score. It would not be appropriate to refer to this music as a central ‘theme’ since it is seldom stated after its initial appearance and it is hardly developed, or reiterated, in a way that is consistent with the usual treatment of thematic material. Nevertheless, the music at the beginning of the film, playing under the titles, contains a number of elements that have informed large parts of the work as it progressed. I will refer to this musical kernel as *Pandora*. *Pandora* began life as a song. The rhythm of the opening phrase matches the rhythm of the first words in the title sequence; ‘*Pandora’s Box*’. This text is used as the basis for the melodic rhythm as ‘*Pan-dora’s Box, is o-pen now*’. The rest of the lyric was never written; there was no need. Whilst the textual rhythm informed the meter and the rhythm of the melody there was still the question of mood. I felt that the appropriate atmosphere was one of melancholic reflection. On first hearing (with the film) it should both settle the audience and perhaps inspire the question ‘why is the music sad?’ The music should establish its identity as narrator, and it should encourage interest in the forthcoming events. Functionally, the music should also contrast with the beginning of the action at 00:01:10:00 when we first see the meter-man in Lulu’s flat. There needs to be a sense of ‘lift’ as the action begins, a sense that we are underway, therefore a contrast between the meter-man tempo and that of *Pandora*, and a change in tonality at this point, seemed appropriate. In relation to the composition of *Pandora*, the melancholic melody, parts of its contour, the minor tonality and the slightly extended harmony, refer to a melody by Eden Ahbez called *Nature Boy* (1947)⁸⁰; a popular song that tells a story about a mythical boy who offers advice to the singer about ‘how to love, and be loved, in return’. The music style, and the fact that it is instrumental rather than vocal, straddles Jazz and concert music thus embracing a stylistic tension that will inform other parts of the score. The re-emergence of *Pandora* at the end of the film (underscoring the credits) is identical but for the addition of a counter-melody /

⁸⁰ This was first made a hit by Nat King Cole in 1948. The melody is also reminiscent of Antonin Dvorak’s Piano Quintet in A, Op 81 (1887).

harmony line in string parts and the sounds of bird song in the background. *Pandora* thus frames the entire film whilst reflecting a subtle change in state at the end.

Pandora.

[\(Pandora sample\)](#)

The image displays a musical score for the song "Pandora". It is written for piano and bass in 4/4 time. The score is divided into four systems. The first system includes the lyrics "PAN-DO-RAS BOX (S) O-PEN NOW". The piano part features a melodic line in the right hand and a harmonic accompaniment in the left hand. The bass part provides a steady, rhythmic foundation. The key signature is one sharp (F#), and the time signature is 4/4. The score concludes with a double bar line.

Deconstructing *Pandora*.

The most important feature of *Pandora* is the opening motif. An interval of a major 7th from F to E is followed by a step down and an interval of a minor third. The overall distance travelled (from the first note to the last) is an interval of an augmented 4th. The over-riding characteristic of the motif is dissonant. The motif is then repeated in several guises, spanning a number of different intervals (a major 3rd, a minor 3rd, a minor 2nd, a perfect 4th, a major 3rd, an augmented 4th, a perfect 4th, an augmented 4th, a minor 2nd and finally a perfect 4th to end). It retains some of its identity through rhythm. Rhythmically, the movement is repetitive and identifiable over the accompaniment which tends to move in the spaces left in the melodic movement. This motif is used throughout the score in a variety of ways. It is used in its original form and it is used in reduced forms (the first two notes, the overall interval span etc) and in inversion. It is used as a source of harmony and it is used as a rhythmic four note motif. It is the glue that binds much of the score together.

Harmonically, *Pandora* is oriented around the key of A harmonic minor however it never really settles on the home key for long. The key is apparent at the beginning of bar 3, bar 7 and at the end. In all instances, additional extensions to the chord are included or follow on quickly (the 9th and the 11th usually). The harmony rarely stays still, so the sensation that the music comes to rest is only fleeting. The most significant harmony (in terms of its influence on later music) is the appearance, in bar 1, of a slightly disguised version of the so called 'Hitchcock' chord (minor/major 7). This chord found throughout Bernard Hermann's scores for *Vertigo* (Hitchcock, 1958) *Psycho* (Hitchcock, 1960) and in moments of the score to *North by Northwest* (Hitchcock, 1959) is essentially bi-tonal and bi-modal, containing major and minor triads on roots a semitone apart (Brown, 1994. p 167-168). In *Pandora*, the chord appears in bar 1. Its arrival is disguised; it starts life as a diminished chord on beat 1 and morphs, through the addition of the notes on beat 2 (C and E), into a version of the 'Hitchcock' chord as described. If we take into account the Ab (expressed in the score as a G#) and the B natural, over-hanging in the melody, what we hear is the chord F min /Maj7 #11, (an F minor triad with the two thirds of the E major triad superimposed upon it).

Pandora relies on ambiguity for its character. The music manifests tension through the extended harmony of 9^{ths} and 11^{ths} and the presence of the major / minor Hitchcock chord. Melodically, there are strong, recognisable, features such as the leap of the major 7th and the sound of the tri-tone. The combination of these two intervals also appears in the harmony as a 13th chord (see first chord, bar 10). The rhythmic groupings are short giving them easy potential for melodic expansion and reuse as rhythmic motifs within accompaniments.

The Leitmotif and the Lost Tune.

In many respects the elements of the material identified within *Pandora* conform to the type of model that Bernard Hermann recommended when he said:

‘I think a short phrase has certain advantages because I don’t like the leitmotif system. The short phrase is easier to follow for audiences, who listen with only half an ear....The reason I don’t like this tune business is that a tune has to have 8 or 16 bars, which limits a composer. Once you start you’ve got to finish – 8 or 16 bars. Otherwise the audience doesn’t know what the hell it’s all about’. (Hermann cited in Lack, 1997. p134).

Hermann’s point marks out an important distinction between concert music and film music. There is an inherent conflict of interests between the compositional realisation of a melody and the narrative demands of a film. Sudden changes in the film, such as narrative location or emotional atmosphere (changes that might often require a musical response), are not usually planned and edited around the musical metre or the duration of musical phrases.⁸¹ This is not to say that tunes can never be used, merely that the rhetorical demands of a tune should not outweigh the needs of the film.

Given the multiple functions of the silent film score, the ‘leitmotif system’ would seem to be an ideal way to solve the composer’s dilemma. It provides an effective

⁸¹ There are, of course, exceptions. For instance, the use of songs in *Magnolia* (Anderson, 1999) frequently employs cuts to music. Morricone’s score for *Once upon a Time in the West* (Leone, 1968) provides an interesting example of actual filming to music (somewhat reminiscent of early sound film practices).

way of generating material and a means by which the presence and emotions of the characters in the drama may be expressed. It is a system in which the narrative directs the music. Influenced by opera and melodrama, improvising musicians / composers of the silent cinema often adopted the leitmotif. Instruction manuals for cinema musicians, such as Lang and West's book of 1920, recommended that themes should have 'emotional appeal, be easily recognisable and adaptable to alteration' and the authors suggested that the various themes should be 'played under the opening titles, on the appearance of the character or at any point where reference was made to the character and finally as part of the finale music' (Berg, 1976. p171). The use of leitmotif formed part of the core skills associated with the film accompanist.⁸² The leitmotif also appears within sound films of the mid 1930s through to the 40s. Many of these films employ the same elements that constitute the Wagnerian opera: action and drama, dialogue and music. Eric Korngold's score for the *Sea Hawk* (Curtiz, 1940) provides a fine example of a film in which there is nearly continuous music which is almost entirely constructed around the leitmotif system (Brown, 1994. p98). The scoring is hyper-explicit, it duplicates every moment of the image narrative. The ways in which Korngold ingeniously weaves motifs, allowing previously heard ideas to re-emerge in new guises and in new contexts, functions on several levels; some are more explicit than others. Such technique has the potential to encode the images in a way which can encourage a new way of reading the narrative⁸³ but, as is the case with Wagner's use of leitmotif within opera, it would take several viewings and / or some serious analysis to read the meaning implicit in every part of the score.

In Hollywood, during this period (1930-40s), there were many highly trained and brilliant immigrant musicians (from Europe) serving the studio system. The presence of the leitmotif, in the Hollywood context, is consistent with the European presence in the Hollywood music departments and it offered the film industry a way of enhancing its product through its association with highly cultured music. It provided evidence of

⁸² 'The importance of the leitmotif during the silent era is attested to by the numerous and lengthy references to it in the trade press, the cue sheets and handbooks for film musicians.' (Berg, 1976. p181).

⁸³ Consider the way in which Korngold re-uses parts of the opening fanfare in relation to the love theme thus offering an encoded reference to love and heroic chivalry. (Brown, 1994. p102).

art within the popular film⁸⁴. The leitmotif system could also be regarded as evidence of the 'industrial' process of composition inherent in the Hollywood model. Rather like the musicians associated with the silent cinema, the Hollywood composers had very little time to produce large amounts of music,⁸⁵ and furthermore, the composers, who were often last in the chain of production, had very little time to develop new modes of composition for the new art form⁸⁶. They therefore drew on their existing areas of expertise (Prendergast, 1977. p41). The leitmotif was largely associated with over-explicit 'Mickey-Mousing' and a methodology that prioritised the systematic development of the music rather than the service of the plot.

If we consider Bernard Hermann's approach to the use of small motifs, particularly in his work with Alfred Hitchcock, we can see that it provides flexibility whilst helping to maintain coherence within the score. He avoids the hyper-explicit tendency of the leitmotif preferring that motifs serve as mere building blocks which are applied freely both melodically and harmonically. Hermann's motifs are not usually identified with a particular character or situation but with psychological aspects of the narrative and with functions that are *additional* to the image rather than merely reiterations of it. In general musical terms, within Hermann's work, there is an emphasis on harmony that does not resolve and a tendency to create ambiguity in terms of tonality. Repetition is frequently used (though usually incorporating timbral and / or harmonic change) and Hermann resists the melody's tendency to impose direction and form in favour of rhythmic and harmonic movement. (Brown, 1994. p153).

Both Korngold and Hermann are accomplished composers whose work is definitive in the cinema of their times and they are subjects of extensive study but I mention them here in relation to the techniques that were under consideration in the creation of

⁸⁴ Hillman notes that a similar process has taken place in the 'New German' cinema after reunification, a process in which the new film industry has legitimised its work through its close association with the classical music canon (Hillman, 2005. pp24-26).

⁸⁵ Korngold, for example, had 7 weeks to write 106 minutes of music for *The Sea Hawk* (Curtiz, 1940). 100 minutes of the music was finally used. This underscored about 80% of the picture. (Brown, 1994. p102)

⁸⁶ It is interesting that the pattern that informed much of the silent film music (a low prioritisation of music in relation to film in terms of actual composition, preparation and performance) is somewhat mirrored in the sound-film industry.

the score for *Pandora's Box*. For Hermann, the choice of motif over 'tune' articulates a very film-centric point of view. It is a modernising reaction to the 40s film score, a response in which Hermann envisaged the score as not merely an artful accompaniment to the film but a means of communicating *additional* information (chiefly psychological) that informs the reading of the image. The paradox of the leitmotif, in relation to film, is that in order to appreciate its narrative implications we must direct our attention towards the music and away from the images. As Kurt London noted 'concert music is apprehended consciously whilst film music should be apprehended unconsciously' (London cited in Berg, 1976). This being the case, one must concede that the leitmotif has the potential to work *against* the film.

With regards to the development of my score for *Pandora's Box*, I must acknowledge the influence of Hermann's ambiguous harmony, his thoughts on motif and his prioritisation of timbre, but I also acknowledge, obliquely, the leitmotif scores of the silent era and the 1940s. In my work the technique is not employed extensively as a way of generating large swathes of representational material but it is used to establish a degree of characterisation and as a means of outlining narrative form. I have assigned instrument sounds, and combinations of timbre, to characters (rather than specific motifs) and employed variations of motivic material as a means of signalling changes in mood and parallels between different parts of the narrative. There are, within the score, some reiterations and re-workings of small sections of music and these are listed and cross referenced in Appendix 4.

Variations on *Pandora*

Pandora is stated as a complete piece three times within the score (once at the start, once at the beginning of Act 4 (in a jazzier style), and once at the end). The elements that inform its construction occur many times within the score in various guises. The following examples are given as illustrations of the techniques employed in the modification of the motivic material within the score.

Anxious Schön



Anxious Schön first occurs in Act 1 at 00:08:48:00. It combines two elements which derive from *Pandora*: the melodic contour and the characteristics of the minor/major7 chord. This particular chord, whilst it has its origins within the harmony of *Pandora*, is used most frequently in relation to the image or presence of Dr Schön and it frequently re-occurs throughout the first four Acts (whilst he is alive). This cue is thus a combination of a reworking of the *Pandora* melody with the characteristic major seventh leap and downward contour (this time falling to the minor third and fifth), and a harmonic background more frequently associated with Dr Schön.

Lulu Seeks a Light

The image displays a musical score for a piano and bass. The piano part is written in 4/4 time and consists of two systems of four bars each. The first system shows a melody in the right hand and chords in the left hand. The second system continues the melody and chords. The bass part consists of a single line of four bars, each containing a single note. The notes in the bass part are D, E, F, and G, which correspond to the notes in the piano part's bass line.

This cue (above) appears in Act 6, at 01:18:09:00, as Lulu looks out from her compartment prior to making the acquaintance of Marquis Casti-Piani. Here, the rhythm, and length, of the original melody is truncated. The relationship to the original *Pandora* idea is thus only apparent through the presence of the recurring major seventh interval and the rhythmic movement found in bars 3-4 and 7-8 which is reminiscent of the rhythm of the opening phrase of *Pandora*. The leap of a seventh dominates this variation; it is found in bar 1, bar 3, bar 5, bar 6 (minor 7th) and bar 7. Harmonically, the cue rests on a bass line that simply ascends and descends. This rising line is reminiscent of material found in the cue *Love for Lulu*.⁸⁷ The chords arrayed above this line suggest D minor (Dorian) with the exception of a brief, surprising, Eb major 7th (with added #11th in the melody) in bar 4. In relation to the harmony, the melody achieves its slight dissonance through the presence of a number of notes that are extensions to the chords. These include the 13th in bar 1, the 11th in bar 2, the #11th in bar 3 and 4, and the 13th in bar 5.

⁸⁷ See Appendix 5, *Love for Lulu*.

Lulu's Waltz

The image displays three systems of musical notation for the piece "Lulu's Waltz". Each system consists of three staves: Alto Sax, Piano, and Bass. The music is in 3/4 time and features a waltz-like melody. The first system shows the initial entry of the instruments. The second system continues the piece with a more complex piano accompaniment. The third system concludes the piece with a final cadence. The notation includes various musical symbols such as clefs, time signatures, notes, rests, and dynamic markings.

Lulu's Waltz first occurs in Act 6, at 01:13:35:19, following Alwa's outrage at her nonchalance towards the death of his father / her husband. It is a version of *Pandora* that is generally associated with Lulu's assertion of power and influence and it

reoccurs several times during Act 7⁸⁸. Unlike the previous variation, the waltz is in a major tonality but it retains tension through the semitone shift of the harmony from C major to B major with the presence of the G natural (effectively a sharpened 5th) over this chord. The D# in the melody (bar 5) is a direct transposition of the original melody, however, here it is re-harmonised to the B chord. The additional presence of the Bb in the melody, creating a non-resolving C7 chord, further adds to the sense that the tune (and Lulu) cannot resolve or settle easily. The rising bass line (bars 9-13) results in a few discordant passing moments which are neutralised, to some extent, by the strength of the rising line but, nevertheless, add to the unsettling effect that is intended.

A final note on Variations

The three examples given here are presented to show that there are relationships between the musical ideas contained within the score. Whilst the discussion has been oriented specifically around *Pandora*, and the ways in which it has been manipulated, these same techniques are applied to other ideas within the score too. In some instances, several motifs, or variations on them, appear simultaneously. Unlike the leitmotif approach discussed previously, these variations represent a part of the fabric of the compositional technique rather than the determining framework on which the score is constructed. Such variations are frequently applied at points within the film where events clearly represent part of a repeating pattern within the narrative. For example, the cue *Love for Lulu* will reappear in various forms in relation to Schön and Lulu or Alwa and Lulu, or even in relation to Casti-Piani and Lulu, thus offering a musical implication that these narrative relationships have a common core.

Prendergast, writing on the aesthetics of film music suggested that film music is essentially 'colouristic'. The emphasis of musical line and the development of form being less important than the sensuous qualities associated with music (Prendergast, 1992. p213). In the context of film, devices such as changes of key, tonality, meter, tempo, style and instrumentation generally have a more immediate effect on our

⁸⁸ See Appendix 4.

perception of the music / image than the subtle manipulations of motifs. Such manipulations are more noticeable either as part of a process of alteration during the prolonged repetition of motivic material, or as occasional alterations to material that has strong, recognisable, characteristics to start with. The use of variation provides a secondary layer of reference, a means of communicating connections between 'event A' and 'event B'. In this respect it shares something of the DNA of the Leitmotif approach, but freely distributed motivic variations are not constrained by the systematic design of the Leitmotif approach. Variations provide subtle continuity and potential depth but, importantly (and in common with the leitmotif approach), they provide a 'craft' solution to the compositional problem of maintaining coherence and limiting the musical materials.

MIDI technology and the digital audio workstation, as a means of creating music, provide a peculiar reflection of the process of cinema itself. Where the cinema constructs representations of visual realities through actors, lights, sets and technological guile, the MIDI driven score, through its imitation of 'real' performance, creates a sonic equivalent of that same false cinematic reality. Whilst it is true that a great many composers use computers as part of their methodology, particularly as a means of providing 'mock-ups' prior to recording, MIDI / synthetic performances are rarely used as the entire final product⁸⁹ (Kompanek, 2004). This is less the case in television where the use of commercially released music libraries and electronically produced scores is much more prevalent now than ever before (Northam, 2010). The tendency towards 'real' orchestras seems to run counter to the economic arguments which naturally favour the electronic score. Its continuing presence is therefore suggestive of an aesthetic argument in favour of 'real' orchestras / instruments, an argument that addresses issues of performance and sound quality, and the way that the presence of a 'real' score affects the perception of the movie itself.⁹⁰ The qualities of 'real' performance are now also routinely preferred in the music accompanying 'cinematic' sequences that punctuate electronic games. This may be the result of improved memory and processor performance in the game medium (the ability to store more audio) but it is also suggestive of a particular quality inherent in the 'real' audio recording and symphonic music in particular (Marks, 2001.p189). It is as if the suspension of disbelief required by the cinematic experience is better supported by the richness and reality of real instrumental performances; it is as if the unreality of cinema is disguised by the reality of sound. It seems that the modern cinema, like the silent cinema and the theatre, still requires that the musicians be 'front of house'.

⁸⁹ The most frequent exception seems to be with regard to the use of percussion samples, particularly in instances where the composer has created performances that are not easily replicated in terms of 'groove' and sound. It has become reasonably common for scores to consist of a blend of electronic / sampled sources and 'real' sounds in recent years. (Karlin and Wright, 2004. P370)

⁹⁰ Russell Lack tells us that the 'big score is synonymous, in many producers minds, with the 'high impact' movie'. Of course there is also the popular notion that an unexceptional film can be bolstered by an exceptional and heavyweight score. (Lack, 1997)

It is curious to note that the facility offered by the technology of the PC has increased, or at least altered, the workload of the composer. Much of the music of *Pandora's Box* began life at the keyboard as fragments of music and through the PC it was realised as full arrangements and a complete performance as intended. This is not so different from a 'traditional' approach to composing (using the piano and manuscript paper) but the process of composing at the music workstation involves the composer with several new roles. The PC composer finds his / herself cast in the role of composer, orchestrator, music / sound editor and instrumentalist / performer; these are specialisms that, in an industrial context, might normally be handled by other professionals. Naturally, the opportunity to take control over all aspects of the work is artistically attractive and since the software facilitates a huge number of choices regarding sound, production, editing and virtually unlimited multi-tracking, the composer can experiment endlessly. Such freedom may not always improve the process of composition. Maurice Jarre considered that the limitless choices provided by electronic music actually inhibited the process of composition; he stressed the need for the composer to maintain a clear artistic vision when working with technology (Lack, 1997. p316). Without such a constraint, computer composition is truly like Pandora's Box, too rich in possibility and potentially flawed choices; choices that might normally be constrained by directors, editors and economics. In a project such as *Pandora's Box*, the composer must take responsibility for, and expect to encounter judgements on, all aspects of the work: the quality of the 'sound' of the music as well as the quality of the music itself, the 'spotting' and placement of a cue, rather than merely the quality of a cue and so on. This is, within the context of this project, entirely appropriate but it would be rare that such a situation could occur within the film industry.

Technology may also influence the way that the process of composition is carried out. The graphic interface of the sequencing software encourages the composer to perceive their work as blocks of material to be distributed and manipulated at will: a process of cellular composition. The compositional process is thus affected by its

visual representation on screen, casting the computer into the role of a visual tool⁹¹ (Zaft, 1996). Sections of music, or even individual gestures, are easily moved, copied, pasted, reversed, and transposed, and as a result, the composer is subtly encouraged to take an approach in which smaller motifs are preferred over larger melodic ideas; a practice that is reminiscent of Bernard Hermann's approach to film composition (Lack, 1997. p315). Technology can, potentially, impact on the way that the composer works and thus influence the nature of what they produce. We might also consider that the increasing overlap between sound and music in film is not only about the artistic exploration of a new aesthetic for its own sake, but also the direct result of the ease with which any audio component can be manipulated through digital technology⁹². The arrival of digital technology has provided a stimulus that is reminiscent of that created by the availability of the tape recorder in relation to the birth of electronic music and musique concrète in the late 1940s⁹³.

New technologies have frequently had an effect on the sound and production of music. The process of multi-track recording following Les Paul's exploration of the possibilities of using two tape machines, the birth of the three minute pop-song as a result of the limitations of the vinyl format, and the emergence of the 'crooning' voice as a bi-product of the limitations of early microphones all provide evidence of the impact of technology on music making (Seeger, 2010). New musical technology always affects the way that composers compose but changes are rarely complete and

⁹¹ This is also true of the practice of composing 'on paper'. Zaft refers to the creation of musical forms like the fugue as being pre-eminently derived from the use of the visual tool of notation suggesting that such a form would not have achieved such complexity through performance alone. (Zaft, 1996).

⁹² Prendergast suggests that the impact of the first digitally recorded film score (recorded in 1983 for the film *Digital Dream* by Glen Glenn Sound of Hollywood) created significant new challenges for the sound mixers in the industry. The fact that recordings no longer degraded in the way that they had whilst working with analogue tape meant that the mixing engineers were working with a far wider dynamic range and much improved clarity of sound. The engineer's role became less oriented towards the technical challenges created by background noise in the mix and more concerned with the creative possibilities afforded by improved sound. (Prendergast, 1992. pp298-301).

⁹³ The first works by Pierre Schaefer were premiered in Paris on October 5th 1948 (Grout and Pallisca, 1988).

sudden. There is always an overlap, the old medium in use alongside the new⁹⁴. The compositional changes that manifested as musicians moved from the harpsichord to the piano finds a mirror in the film composers' move from the piano to the synthesiser (Zaft, 1996). The transmission of music as notation on paper is now superseded by the use of music notation software and the distribution of the PDF. Struthers (1987 cited in Zaft, 1996) suggests that, "technology is unavoidably shaped by social, political, and economic interests." This is seemingly confirmed by the way in which music software is frequently targeted at particular areas of musical activity.⁹⁵ Whilst composers are by nature creative and willing to experiment, the natural tendency is for them to utilise the technology that is economic, fit for purpose, available, and familiar. As the economics of music have driven musicians towards automation we see many of the same effects that mark the automation of other industries: the division and redistribution of labour, a degree of de-skilling / re-skilling, and increased output. The use of sequencers and MIDI synthesizers often contributes to the creation of music, as product, that is pre-recorded or pre-sequenced by the composer and includes less intervention, or improvisation, from additional performers (Zaft, 1996). This is certainly true of the new score for *Pandora's Box*. As early as 1947 Theodore Adorno and Hanns Eisler, in the concluding chapter of *Composing for The Films*, were already discussing the potential impact of technology on the industrial process of composition for film. They suggested that 'the development of technology affects the spirit as much as the spirit affects the selection, direction and impeding of technological processes' (Adorno and Eisler, 1947). Adorno's comments reflected the concern that technology should be selected and employed as a way of enhancing and improving the creation of music for film and not merely as a way of hastening production.

⁹⁴ This was true of film too. The transition from silent to sound film exhibited a long period of overlap. For several years, after the arrival of films with synchronised music, cue-sheet compilers continued to recommend music and sell their music. Even Vitaphone's first film with a synchronised score, *Don Juan* (Crosland, 1926), was subjected to new, live music commissions some eight months after its release (Altman, 2004. p391).

⁹⁵ Consider the way that *Sibelius* software is oriented towards the 'serious' notationally oriented composer whilst packages like *Reason* and *Nuendo* specifically target the dance and film music markets respectively.

Original Contribution to Knowledge.

GW Pabst made only two further silent films before embarking on his exploration of sound film. He greeted the prospect of working with sound enthusiastically; 'I greet sound film with waving banners! Believe me, silent film has run its course'. Pabst believed that the audience was no longer interested in the visual refinement of the silent image but felt certain that, had sound arrived any earlier historically, it would have been detrimental to the development of the visual techniques of silent film. (Bock in Rentschler, 1990. p225). Pabst released his first sound film, *Westfront 1918* in 1930, just one year after the release of *Pandora's Box*. Although the film featured music (uncredited) by Alexander Laszlo, the dominant sounds are those of the war portrayed on screen; the sound of realism. Given the opportunity, would Pabst ever have considered making *Pandora's Box* as a sound film? I suspect that the answer must be a resounding no. Although realism was an important part of Pabst's style he understood that objective reality was not what mattered here. The stimulus, for him, was to provide a visual narrative that resonated as deeply as Wedekind's provocative work through the image of Louise Brooks⁹⁶. The selection of Brooks as a naturalistic but silent, non-German Lulu was all about the visual embodiment of Lulu; the revelation of myth through the power of her image, and the response that it engendered in the audience. This was Pabst setting out to show that the silent film was capable of narrative complexity, and social commentary, through pictures alone.⁹⁷ This was Pabst at the end of his exploration of the silent film.

In the world of sound film, we are accustomed to a cinema that is differently complex; a cinema in which music and sound are intertwined, variously representative of the real and the unreal, and a world in which the performance of

⁹⁶ Referring to the relationship between *Pandora's Box* (Pabst, 1929) and *Loulou* (Jessner, 1923), Louise Brooks expressed the view that Pabst had wanted to confound the audience expectation of a straightforward tale of an unfortunate prostitute, making 'their disillusionment inescapable' (Brooks, 1982. p94).

⁹⁷ In addition to the moving images Pabst uses inter-title cards. Whilst it does not rival Murnau's achievement in *Der Letzte Mann* (*The Last Laugh*) (1924) as one of the only silent films to dispense entirely with inter-titles, *Pandora's Box* represents a considerable achievement in terms of textual reduction from the original work(s).

music and sound is pre-recorded and synchronised. From this position, my score for *Pandora's Box* constructs something of an analogy of the development of sound film. It begins with the non-diegetic music score, partially improvised and drawing on a repertoire of popular and classical musics, and it ends in a manipulated world of synchronised diegetic music, treated sound and acousmatics. It begins in the silent cinema and ends in a different 'reality'. Here, the sonic needs of the film are served by a single electronic entity: the score. Within the score there is no distinction between music and sound, they are inextricably tailored together to serve the multiple functions of the soundtrack. It thus draws on both the 'traditional' ways of arranging music (as if for live performance) and the creative advantages of digital technology, both in terms of the creation of 'alien' sounds, and the organisation of music and sound. Through the presence of sound, the score asks that we consider *Pandora's Box* as being part of current cinema rather than a relic of the past. It begins by emphasising the silent image of Lulu and ends by emphasising the noise of the world around Lulu. It confirms Lulu as being of our time.

It is usual for a film to inspire a number of different interpretations. Narrative may be interpreted on any one of several levels, from the explicit and the referential, to the more implicit or ideological (Bordwell and Thompson, 2003. pp55-58). In any case, the soundtrack variously contributes to our experience and the reading of the narrative. It is perhaps unusual for a score to provide an additional subtext such as the analogy to the development of sound film described earlier, but the presence of such a subtext need not impede the interpretation of the narrative if the connection between the score and the narrative plot remains clear. In reality, our tendency (as an audience) is always to seek comprehension first. The process of interpreting the full effect of the film and narrative follows later as we reassess the material subsequently (Bordwell, 1989. p1-3). It therefore makes sense that the score, no matter how laden with inferences, must first function at this superficial level. It requires a degree of immediate congruence with the image to enable comprehensibility and engagement with the film. It is for this reason that I have placed so much emphasis on the notion of creating layers; layers of synchrony (momentary and periodic), layers of reference (textual, internal and extra musical) and layers of function (kinetic, temporal, emotive) etc. The distribution of musical events within these layers enables the

composer to contribute to the depth of the interpretive possibilities afforded by the film. The composer, working with silent film, is thus cast into the role of editor / director. In many respects we can see the same process at work within Alban Berg's opera, *Lulu* (1935). Of course, Berg was working with the text of a play rather than a film but, nevertheless, the originating work is ever present and directive. Through his meticulous organisation of rows, tempi, motifs and meter, Berg variously layers references to characters, narrative events, narrative cycles and all of the subtleties of the changing allegiances that characterise the story. All of this is achieved whilst maintaining the necessary emotive contact with the sung text (the immediate moment of the narrative). Even though the film music interlude stands distinct (as a novel way of overcoming the length of the text and the limitations of staging) it too exploits the immediacy of the connection between the music and the moving image. Additionally, it references the narrative 'turning point' through palindrome, and it continually offers insight into the characters through the arrangement of motif and row. Of course, not all of this is immediately perceptible but, nevertheless, the hidden richness of the musical detail supports wider and more subtle interpretations without impeding the immediate experience of the narrative. My own efforts in relation to *Pandora's Box* aspire to the same.

In 1929, when the film began its journey around the picture houses of the world, it was subject to any number of musical accompaniments. Such was the effect of delays in the arrival of sound technology. 'Special scores' for live performance, whilst desirable, were prohibitively expensive. Ultimately it was through the development of recording technology and its integration within the film industry that such scores became the norm in sound film. In 2010, the silent film, once part of the mass culture, exists as a niche market. In cinema presentation it is frequently accompanied by live musicians playing a 'special score', and on DVD it is usually supported by scores that are recorded to resemble live performances. The score for *Pandora's Box* is unusual in that it can only exist as a recording and it extends beyond the sound of musical instruments in live performance. It may perhaps lay claim to some authenticity of form in the way that it renders *Pandora's Box* a 'nearly sound film'; a hybrid that is something like the *film sonore*. This form of film, a form originating in the early 1930s, is characterised by the absence of synchronised dialogue (or very little) but the

inclusion of a soundtrack of music and other sounds. The music and sound was recorded 'live' to a complete, edited, version of the film but the nature of such a process, and the limitations of the recording technology of the time, rendered the simultaneous inclusion of dialogue difficult. The absence of synchronised dialogue offered the director a great deal of freedom creatively and it was for this reason that the form found favour with Eisenstein during the 1930s⁹⁸ (O'Brien, 2005. p70). In Hollywood, the form was referred to as a *scored feature*; such films were usually made as silent films and up-graded with post-synchronised music and effects. This practice began as early as 1926 and during the period of 1929-1930 it constituted the most common type of sound film playing throughout Europe⁹⁹. The film sonore also retained some of the artificiality of sound production that characterised the presentation of the silent film. Musical instruments and machinery were still employed to create sounds like thunder and foghorns¹⁰⁰ (O'Brien, 2005. p69). The film sonore was thus partially the product of the desire to make use of the available technology, and partially the product of technological limitation. The new score for *Pandora's Box* exists by virtue of the availability of digital recording technology and silent film. Its materials, and the conditions of its creation, thus mirror conditions created by the arrival of sound in the late 1920s. Paradoxically, behind all of this is a visual art that, as Pabst recognised, was developed directly as the result of the imposed silence. Some eighty years on, it is the art and technology of sound that has been developed and refined. We could take the view that aesthetically, economically and technologically the 'special score' for the silent film, the rediscovery of the film sonore, has found its time.

⁹⁸ Pabst himself regarded the film sonore as 'a limited compromise'. (O'Brien, 2005. p70).

⁹⁹ Louise Brooks starred in one such film, *Prix de beauté* (Genina, 1930)

¹⁰⁰ O'Brien cites the example of the foghorns being represented by French horns in Murnau's *Sunrise* (1927) as an example.

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The Story (Wedekind's *Die Buchse Der Pandora*)

In Wedekind's play, the story begins in Berlin in 1890 where Dr Schöning is admiring paintings at the studio of the artist Schwarz. Lulu arrives with her husband, Dr Goll, who has commissioned Schwarz to paint Lulu. Schwarz, Lulu and Goll are introduced to Dr Schöning and his son, Alwa. The Schönings and Goll leave Schwarz and Lulu alone in the studio. By the time that Dr Goll returns, Schwarz and Lulu, following a teasing and provocative dialogue typical of the play, are on the verge of going to the bedroom. The resulting confrontation between Schwarz, Lulu and Goll leads to the death of Dr Goll. The artist Schwarz marries Lulu and they establish a home together in Berlin.

Unbeknown to her new husband (Schwarz), Lulu has been having an affair with Dr Schöning, furthermore, she has been amassing some wealth and influence as a result. When the Doctor announces to Lulu that he is planning to marry a younger woman (the aristocratic daughter of the Prime Minister), Lulu, enraged, decides to reveal the history of the affair to her husband, the artist Schwarz. Through the ensuing argument we learn that that Schöning has known Lulu since her poverty stricken start as a 'flower girl' and that Lulu and Schöning had enjoyed a long association that predated Schöning's first visit to Schwarz's studio in Act 1. Schwarz feels unable to live with this knowledge and kills himself in the bathroom, with a knife. Lulu marries Schöning.

The new Mr and Mrs Schöning live in high society Berlin. Lulu becomes friends with the Countess Geschwitz who has unrequited feelings for Lulu. Dr Schöning is revealed as a morphine addict and Alwa is revealed as having desire for Lulu. Lulu, meanwhile, has been entertaining herself with Rodrigo Quast, a strong man from the circus. When Schöning becomes aware of Alwa and Rodrigo as competitors for his wife, he identifies Lulu as the source of the problem and tries to persuade her to end her life with a revolver, however, she is unable to complete the task and is, in any case, interrupted by the return of Alwa. In the ensuing melee gunshots are fired and Dr Schöning is killed. The old man Schigolch arrives and is identified as Lulu's

father. Lulu and Alwa (following Schöning's instruction) take all of the money from the safe and leave for Paris.

Schigolch, The Countess Geschwitz, Rodrigo and Alwa, move to Paris with Lulu where she becomes embroiled with Marquis Casti-Piani. Casti-Piani runs a gambling house and, being short of money, arranges to sell Lulu to a brothel in Cairo unless she can pay him sufficiently to clear his debts. Lulu instructs her banker, Puntschuh, to sell her share holdings in order to realise funds. Meanwhile, Rodrigo has made plans to marry and he attempts to blackmail Lulu for fifty thousand francs. With the need to escape the blackmail, and the ever tightening grip of Casti-Piani on her future, Lulu plays upon the lesbian desire of Countess Geschwitz to engineer a situation in which all parties would be satisfied and she (Lulu) could escape the blackmail. The plot is stifled by the sudden arrival of Puntschuh with the news that the share market has collapsed; Lulu's (and Alwa's) capital is now worthless. The Marquis Casti-Piani, also financially ruined, reports Lulu to the police (in order to collect the reward) who duly raid the club to find that Lulu and Alwa have already left (taking all the money that they could).

The final act begins in London. Schigolch, Alwa and Lulu are ensconced in an attic. Lulu has, once again (with the encouragement of Schigolch), returned to prostitution as a way out of penury. The Countess Geschwitz unexpectedly arrives; she is clearly no longer wealthy, but still besotted with Lulu. Lulu walks the streets and returns to the attic with clients. Schigolch and Alwa hide themselves away during these moments. During an incident with a client, which prompts Alwa to reveal his presence, Alwa is rendered unconscious and is therefore unable to assist when Lulu unwittingly returns with a new, and deadly, client: Jack the Ripper. Lulu's attempt to negotiate with Jack eventually results in her murder and dismemberment. The Countess, devoted to Lulu and trying to defend her, is knifed by Jack and left bleeding on the floor. Schigolch has left the scene and Alwa is incapable of assisting. The tragic Geschwitz dies on the floor, as Jack leaves, with the final word, 'submit'.

The Story 2 (Wedekind's *Erdgeist*)

The plot of *Erdgeist* (*Earth-Spirit*) is similar to that found in Wedekind's version of *Pandora's Box*¹⁰¹. Most importantly the script begins with a prologue. A circus animal tamer addresses the audience and introduces the most dangerous creature in the world: Lulu¹⁰². The action begins in the studio of the artist Schwarz and continues along similar lines to those described above with Dr Goll dying in Act 1. In Act 2 the artist Schwarz meets his end. The plot of Act 3 varies considerably from that found in Wedekind's *Pandora's Box*. The action takes place at the theatre where Alva is presenting his theatrical review which features Lulu as a dancer. Lulu is introduced to Prince Escerny who negotiates, unsuccessfully, to take her back to Africa with him. During the course of the evening Lulu becomes aware that Dr Schön is in the audience with his new fiancé, Adelhide. Lulu confronts Schön and persuades him to call off his engagement, forcing him to write a note to that effect¹⁰³. Act 4, takes place in the home of Dr and Mrs Schön (Lulu) and introduces the Countess Geschwitz and Rodrigo Quast. Quast and Schigolch introduce a new character, a young student called Hugenberg, the son of the police commissioner, who is besotted with Lulu. Action in the fourth act is somewhat 'farce like' with characters exiting and entering the scene in rapid succession (in parts), hiding behind curtains, and a continually fast moving dialogue, however, when Schön discovers that Alva has declared his love to Lulu, the inevitable confrontation between Schön and his wife results in anything but farce. As the conflicts between characters build to a climax, Lulu shoots Dr Schön, very deliberately, in the back five times. Lulu implores Alva not to turn her over to the police, she declares that Schön was the only man that she had ever loved, but that she needed to defend herself. She pleads with Alva to save her and promises that she will remain true forever. The play closes with the student Hugenberg declaring 'I shall be expelled from school!'

¹⁰¹ *Earth-Spirit* was regarded as being less provocative because it did not have the lesbian inference of Countess Geschwitz and the murder by Jack the Ripper. (Bond, 1993).

¹⁰² The prologue was written as an after-thought for the audience in Vienna. It was modified by Wedekind subsequently.

¹⁰³ This forms a key part of the action in Alban Berg's operatic interpretation of the story 'Lulu'.

The Story 3 (Pabst's, *Pandora's Box*)

The story begins in Berlin (seemingly in 1929) and shows us Lulu, living comfortably in a large apartment. Lulu is a beautiful and vivacious dancer, the centre of attention in any room. Lulu is visited by her oldest acquaintance (actually her adoptive father) Schigolch. The old man introduces her to Rodrigo Quast, a strong man, and trapeze artist, who wishes to put a new trapeze act together with Lulu. Lulu has a lover, a wealthy newspaper editor named Dr Schön. Schön has an adult son (Alwa) who is close friends with, and desires the love of Lulu. Dr Schön is soon to marry his aristocratic fiancé, Charlotte Marie Adelaide de Zarniko, the daughter of the Prime Minister, and so, he attempts to withdraw from his liaison with Lulu. The Doctor, hoping to sweeten Lulu, agrees to support Alwa in his efforts to feature Lulu as the star in a theatrical show that Alwa is producing. Backstage, during the resulting show, Lulu realises that the Doctor and his fiancé are attending and she refuses to go on stage to perform. Dr Schön is called upon to placate Lulu's temper, but when the fiancé and Alwa discover Schön and Lulu embracing in a dressing room, the forthcoming wedding is cancelled and Schön finds himself obliged to marry Lulu. Schön reveals to Alwa that he has a premonition of disaster. At the wedding party, the volatile relationship between Lulu and Schön, further exacerbated by the obvious jealousy of Alwa and the shenanigans of the drunken Schigolch and Rodrigo, eventually descends into a violent argument between Lulu and Schön. Schön tries to persuade Lulu that she should kill herself but the Doctor dies when a gun goes off during his struggle with Lulu. Whilst it is never clear that Lulu actually shot her husband, Lulu is arrested and taken to court where she is eventually identified as *Pandora* (in a speech by the prosecutor) and found guilty of manslaughter. She is sentenced to prison. Before she can be taken 'below', her friends conspire to create a false fire alarm and during the ensuing panic they smuggle Lulu to freedom. Lulu is no longer free to enjoy the benefits of life in Berlin and so, using Geschwitz's passport, and accompanied by Alwa, Schigolch and Rodrigo Quast, she escapes Berlin on the train. Whilst they are on board the train, Lulu is recognised by a fellow traveller, the Marquis Casti-Piani, who promptly uses his knowledge of Lulu to blackmail Alwa. He advises them to avoid Paris and join him at a more private escape situated on a boat. On the boat, which is a gambling den, life begins to deteriorate.

Rodrigo Quast, having found a fiancé of his own, and harbouring dreams of reviving his career with a new show, turns on Lulu to extract money. Alwa's gambling debts continue to mount, and Casti-Piani, in an effort to make more profit than he would gain by handing Lulu over to the police, decides to sell Lulu to an Egyptian brothel keeper. Lulu is unable to escape Casti-Piani's blackmail for lack of money and consults Schigolch. The wily old Schigolch manipulates the situation to Lulu's advantage, and following the sudden death of Rodrigo Quast at the hands of Countess Geschwitz (a direct result of Schigolch's machinations), the three remaining protagonists jump ship and leave for London. In London, all is finally lost. Alwa, Schigolch, and Lulu, are forced to take refuge in a loft. With no food, money, or decent lodging, Lulu decides to raise funds through prostitution. Whilst on the street she attracts the interest of a solitary man, 'Jack the Ripper', and she returns to the loft with him. The film concludes with three important images; Lulu dying quietly at the hands of Jack the Ripper, Schigolch, once more ensconced in the tavern with new friends and finally, most poignantly, Alwa walking the foggy London streets, seemingly lost and bereft of everything.

Appendix 2. The Rhythmic Exploitation of Inter-title Cards.

The following table identifies the texts of the inter-title cards that were exploited rhythmically within the score of *Pandora's Box*. The words in italics were echoed rhythmically in the music whilst the remaining text (in brackets) was not.

TIME	INTERTITLE	INSTRUMENTATION
ACT 1		
00:00:00:19	<i>Pandora's Box</i>	Solo piano
00:11:59:04	<i>Don't you understand?</i>	Solo piano
00:12:19:09	(You'll have to) <i>kill me if you want to</i> (be free of me)	Solo piano
00:14:08:05	(He) <i>was my first</i> (patron)	Solo piano
00:14:28:04	<i>One does</i> (ones best)	Vibes and piano
ACT 2		
00:22:11:04	<i>Alwa!</i>	Piano chords
00:22:36:03	<i>Very well. Come</i> (and see me tomorrow)	Solo piano
00:23:38:00	<i>One doesn't</i> (marry such women, that would be suicide)	Solo piano in octaves over strings.
00:25:22:18	<i>One thing more.</i> (beware of that woman)	Solo double bass
ACT 4		
00:36:01:18	<i>Where is Lulu?</i>	Strings and saxophones
00:55:54:07	<i>Take it!</i>	Piano melody
00:56:29:09	(Kill) <i>youself!</i>	Heavy piano chords
00:56:43:13	<i>Kill</i> (yourself so you don't make me a murderer as well!)	Heavy piano chords

TIME	INTERTITLE	INSTRUMENTATION
ACT 5		
00:59:44:00	(Your Honours. I have painted a picture of a <i>tragic life</i> .)	Cello melody line
01:00:30:12	<i>Did not the son</i> (of the deceased speak in her defence?)	Piano melody line
01:01:07:08	(No, this unfortunate is not a murderess.) <i>You must acquit her, she is innocent.</i>	Cello, viola melody line.
ACT 6		
01:10:03:19	SUBTITLE (Passport) : <i>Alwa Schön</i>	Violin / viola.
01:12:55:20	(How) <i>dare you come here</i>	Cello melody line
01:13:04:19	<i>Where else can I go but</i> (home?)	Piano melody line
ACT 7		
01:26:00:21	(What's wrong?) <i>It's how we live</i>	Clarinet melody line
01:27:22:00	(Ask) <i>Alwa</i> , (perhaps he has won today)	Piano and saxophone melody
01:32:21:12	(He's acting as if) <i>he wants to buy me</i>	Viola solo line
01:38:02:00	<i>Cry, my child cry.</i>	Piano and vibes, solo line
01:40:58:12	(Throw yourself at him, he'll do anything for you. Otherwise) <i>he'll report me.</i>	Piano and strings melody.
01:45:30:13	<i>Police! Police!</i>	Crash chords in big band and police siren cliché in clarinets.

Appendix 3

Sound Samples used in the Score.

The following Sound Samples were found at <http://www.freesound.org> and were used in the score of *Pandora's Box*. (File names listed in format as found and recorded)

Act 6

Freesound: 17162_acclivity_DoorOpenClose. wav

Freesound: 23834_Schulze_Striking_a_match.wav

Act 7

Freesound: sample search, crowd1.mp3

Freesound: sample search, crowd2.mp3

Freesound: sample search, crowd3.mp3

Freesound: sample search, crowd4.mp3

Freesound: view sample, ZFinland rowing.wav.mp3

Freesound: sample search, harbour.mp3

Freesound: sample search, screams.mp3

Freesound: sample search, creaking.mp3

Freesound: sample search, dogs1. mp3

Freesound: sample search, dogs2.mp3

Act 8

Freesound: 17553_Dynamicell_Wind_Howling_Nighttime.aiff

Freesound: 27157_roscoetoon_water_drip_echo2.wav

Freesound: 30444_sagetyrtle_wind2.wav

Freesound: sample search, Babycrying.mp3

Freesound: 23269_Percy_Duke_Church_Bells.wav

Freesound: 31370_FreqMan_Shaking_Gate.wav

Freesound: 32366_Walter_Odington_Salvation_Army_Carol_at_Sainsburys.wav

Freesound: 38764_dobroide_20070808.horse.wav

Freesound: 37914_Kathol_fog_horn_sample_dry_.wav

Freesound: 44711_inchadney_Christmas_Market.wav

Freesound: 45481_daveincamas_StormInOregonRainforest.wav

Freesound: 50420_fruitcake.hotel_fh6.wav

Freesound: 52805_inchadney_Hamburg_Station.wav

Freesound: 60744_J.Zazvurek_Prague_City_in_the_evening_September_Periphery_.wav

Freesound: 62242_Robinhood76_00515_girl_laughing_2.wav

Freesounds: 15559_tigersound_drunks_fighting.aiff

Freesound: 65879_Bidone_Affen_Bonobo_3

Freesound: 66520_Connum_breaking_a_bottle_no2.wav

Freesound: 71778_Bidone_Steam_Whistle.wav

Freesound: 76349_digifishmusic_Airport_Passage_Brisbane_4_Footsteps

Freesound: 77524_Superex1110_cart_roll.wav

Freesound: 33481_reinsamba_easter_morning_blackbird_07_04_09.wav

Freesound: 32937_digifishmusic_Grandfather_Clock_digifish.wav

Freesound: 69663_schaarsen_sfx_nebelhorn.wav

Sample: Onward Christian Soldiers by the Upper Norwood Band of the Salvation Army

Appendix 4. Recurring Material within the New Score

The following table lists recurring material, and its distribution within the score of *Pandora's Box*. The table does not reference the use of every motif or derivation rather it offers an overview of the application of direct musical quotation and re-use of small themes within the score.

Cue Title / Theme	Original occurrence	Re-use	Notes
ACT 1			
<i>Pandora</i>	00:00:01:08	00:40:16:00 02:10:54:00	Main theme related to 'Lulu'
<i>Lulu at Home</i>	00:01:10:00	00:15:27:00	Jazz style, trio of bass drums and piano
<i>Old friends reunite</i>	00:02:35:00		Up tempo Jazz trio plus sax
<i>Talk to me</i>	00:03:16:00	00:05:36:00 01:12:19:00	Bright piano theme
<i>Dancing Lulu</i>	00:05:54:00	01:10:56:00	Piano and bass
<i>Rodrigo</i>	00:07:21:20	00:14:58:00	Vamp in sax and bass with piano melody
<i>Dr Schön</i>	00:08:09:00	00:13:55:00 00:14:38:00 00:21:50:00 00:35:15:20 00:48:52:10	Min maj7 chords strong chord melody

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Anxious Schön</i>	00:08:48:00	00:54:38:10	Reworking of <i>Pandora</i> also reutilising aspects of <i>Dr Schön</i> .
<i>Love for Lulu</i>	00:09:59:00	00:14:38:00 00:23:03:00 00:37:40:20 00:38:12:00 00:57:26:00 01:29:28:00	Slow, bluesy piano theme, descending thirds, rising line in piano
<i>Lulu's Dog</i>	00:12:58:00		Bass line and groove from <i>Dr Schön</i> .
<i>Dr Schön</i>	00:13:55:00		Reworking of original motif for <i>Dr Schön</i>
<i>Dr Schön</i>	00:14:38:00		Restatement of the original <i>Dr Schön</i> . Solo piano quote from <i>Love for Lulu</i>
<i>Rodrigo</i>	00:14:58:00		Quote from <i>Rodrigo</i> in minor mode
<i>Lulu at Home</i>	00:15:27:00		Return of Jazz theme

Cue Title / Theme	Original occurrence	Re-use	Notes
ACT 2			
<i>Dr von Zamikov and Adelaide</i>	00:16:34:00		Chamber ensemble. Contrast to previous music of Act 1
<i>Alwa's Piano</i>	00:18:09:00	00:25:55:00 00:38:41:00	Ragtime piano style
<i>Friends and Acquaintances</i>	00:18:38:00	00:20:36:00	Jazz trio
<i>Lulu on the Trapeze</i>	00:19:42:00		Adds accordion, chromatic, reminiscent of cliché quoted earlier
<i>Only Alwa Cares</i>	00:20:02:00		Piano only
<i>Friends and Acquaintances</i>	00:20:36:00		Jazz trio
<i>Beautiful Adelaide</i>	00:21:06:00	00:23:14:00	Strings and piano
<i>Schön Appears</i>	00:21:40:00		Reworking of part of <i>Dr Schön</i> over a repeating bass line.
<i>End of the Argument</i>	00:22:20:00		Dissonant reworking of <i>Only Alwa Cares</i>
<i>Schön and Son</i>	00:23:03:00		Reworking of <i>Love for Lulu</i> . Strings from <i>beautiful Adelaide</i> added.

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Resolution</i>	0:24:13:00		Major mode, contrasting with previous cue
ACT 3			
<i>Showtime!</i>	00:25:55:00		Band version of <i>Alwa's Piano</i>
<i>The Stage Manager</i>	00:27:22:00	00:29:30:00 00:39:35:00	Waltz.
<i>The Backstage Show</i>	00:28:32:00		Cliché music on the piano
<i>The Stage Manager resumes work</i>	00:29:30:00		Reiteration of the Waltz
<i>Schön sees Lulu</i>	00:30:42:00		Contrasting tempo and timbre to previous cue leading to restatement of <i>Dr Schön</i> at 00:30:57:00
<i>Lulu refuses</i>	00:31:27:00	00:35:35:00	Driving rhythm and low string melody. Jazz.
<i>Confrontation</i>	00:32:16:00	00:34:36:00 00:50:46:00	Related to <i>Pandora</i> . Descending 6ths
<i>Not for That Woman!</i>	00:33:11:00	00:36:01:00	Strong chord motif on strings.

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Strike up the Band</i>	00:34:08:00		Theatre Band Music with reworkings of <i>Confrontation, Dr Schön, Lulu Refuses</i> and <i>Not For That Woman!</i> overlaid
<i>In The Props Room</i>	00:36:17:00		Bluesy Piano melody over repeating accompaniment. Quote from <i>Love For Lulu</i> at 00:37:41:00 and 00:38:12:00
<i>Back in the Show</i>	00:38:41:00		Theatre band reasserts its presence in a reiteration of <i>Alwa's Piano</i> with interjections reminiscent of <i>Pandora</i> melody
<i>The Stage Manager Stops</i>	00:39:35:00		Reiteration of the <i>Stage Manager</i> cue
<i>She will be the Death of me</i>	00:39:56:00		High strings, Low timpani and piano.
ACT 4			
<i>The Wedding Party</i>	00:40:16:00		Reworking of <i>Pandora</i> with vibes and rhythm section.

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Let's Dance</i>	00:42:40:00	00:43:38:00 00:45:36:00	Bossa Nova
<i>Lulu Talks</i>	00:43:30:00	00:46:58:00	Piano melody with high strings in accompaniment. Interjections of <i>Let's Dance</i>
<i>Drunks</i>	00:43:51:00	00:47:11:00 01:41:25:00 02:01:24:00	Loud slightly dissonant waltz with melody on wind instruments.
<i>I'd be a Right Scoundrel</i>	00:41:25:00		Strings and piano based on preceding cue
<i>Come with me</i>	00:45:32:00		Low strings and piano
<i>Dance Band</i>	00:45:54:00		Dance band, Jazz with quote from <i>Let's Dance</i> at the end (00:45:36:00)
<i>Lulu in her Room</i>	00:46:40:00		Waltz, strings and piano. Quotes from <i>Lulu Talks</i> at 00:46:58:00 and <i>Drunks</i> at 00:47:11:00

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Alwa Waits</i>	00:47:25:00		Contrasting, larger ensemble, bluesy piano and string counter melody. Guitar from <i>Wedding Party</i> . Quotes from <i>Dr Schön</i> at 00:48:53:00
<i>Schöns Gun</i>	00:49:19:00		Low, dissonant.
<i>Remorse</i>	00:50:46:00		Piano and bass. Based on <i>Confrontation</i>
<i>What's Going On?</i>	00:52:58:00		Train reference in music rhythms.
<i>Breaking Point</i>	00:54:37:00		Reiteration and development of <i>Anxious Schön</i> .
<i>Lucid Schön</i>	00:57:26:00		Reiteration and development of <i>Love for Lulu</i> . Includes disguised wedding march at 00:57:47:00

Cue Title / Theme	Original occurrence	Re-use	Notes
ACT 5			
<i>The Defence Speaks</i>	00:59:39:00		Viola melody based on parts of <i>Pandora</i>
<i>The Prosecution Speaks</i>	01:01:52:00		Heavy larger contrasting ensemble. Quieter interjections including reference to <i>Pandora</i> at 01:03:44:00
<i>Lulu Reflects</i>	01:03:36:00		References <i>The Defence Speaks</i> . References <i>Pandora</i> at 01:03:44:00
<i>The Court Rises</i>	01:04:38:00	01:07:03:00	Heavier ensemble, brass and march-like
<i>Lulu Faints</i>	01:05:18:00		Melodic references to <i>Pandora</i>
<i>Geschwitz and the Prosecutor</i>	01:05:43:00		References to <i>The Prosecution Speaks</i>
<i>Alwa Reflects, Schigolch Plans</i>	01:06:23:00		Jazz style
<i>The Court Sits</i>	01:07:03:00	01:07:37:00	Reiteration of <i>The Court Rises</i>
<i>The Verdict</i>	01:07:18:00		<i>Not for That Woman</i>

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Crowds</i>	01:07:37:00		Reworking of <i>The Court Sits</i> . More energetic
<i>The Escape</i>	01:08:29:00		Smoother, Jazz tinged.
ACT 6			
<i>Lulu Arrives Home</i>	01:09:10:00		Jazz, dissonant, energetic. Emerging sounds
<i>Wondering What to Do</i>	01:09:46:00	01:14:31:00	Piano, strings, calmer
<i>Settling Down</i>	01:10:28:00	01:11:35:00	Piano melody over strings, change to major mode
<i>Getting Busy</i>	01:10:56:00		Quote of <i>Dancing Lulu</i>
<i>Bathtime</i>	01:11:35:00		Quote of <i>Settling Down</i>
<i>Alwa Arrives</i>	01:11:52:00		Similar in Jazz style to <i>Lulu Arrives Home</i>
<i>Lulu Emerges</i>	01:12:19:00		Quote from <i>Talk to Me</i>

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Lulu's Waltz</i>	01:13:36:00	01:22:01:00 01:22:46:00 01:25:18:00 01:40:06:00 01:41:50:00	Melody draws on <i>Pandora</i>
<i>Phoning the Prosecutor</i>	01:14:31:00		Quote of <i>Wondering What to Do</i> . Includes timbral reference to <i>The Prosecution Speaks</i> at 01:14:54:00
<i>Alwa Commits</i>	01:15:36:00		Quote from <i>Love for Lulu</i>
<i>On the Train</i>	01:16:42:00	01:19:34:17	Jazz style, train rhythm
<i>Lulu Seeks a Light</i>	01:18:08:00	01:21:17:00	Piano and strings, clarinet with Casti Piani's appearance
<i>Blackmailed</i>	01:19:35:00		<i>On the Train</i> with references to clarinet countermelody (Casti-Piani)
<i>Casti-Piani and Lulu</i>	01:20:38:00		Quote from <i>Lulu Seeks a Light</i> at 01:21:17:00

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Getting Ready to Leave</i>	01:21:33:00		Waltz, piano, bass, clarinet and drums. Quote from <i>Lulu's Waltz</i> at 01:22:01:00
<i>Schigolch and Rodrigo Arrive</i>	01:22:19:00		Quote from <i>Drunks</i>
<i>Alwa and Casti-Piani</i>	01:22:46:00		Quote from <i>Lulu's Waltz</i> .
ACT 7			
<i>On Board the Ship</i>	01:23:40:00	01:47:23:00 01:52:33:00 01:54:27:00 01:56:08:00 02:02:38:00	Dark, dissonant, bass clarinet, sea. piano, bells, dogs
<i>Below the Decks</i>	01:25:18:00		Quote from <i>Lulu's Waltz</i>
<i>Geschwitz's Waltz</i>	01:25:47:00	01:40:34:00 01:41:58:00	Change in mode. clarinet solo. Includes hidden quote from the wedding march at 01:26:19:00
<i>Rodrigo's Demands</i>	01:26:51:00	01:28:26:00	Heavier, darker sound, strong rhythm.

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Alwa Losing</i>	01:27:26:00		Smoother, piano and rhythm section.
<i>Rodrigo Reaches</i>	01:28:26:00		Reiteration of <i>Rodrigo's Demands</i> .
<i>Casti-Piani's Cabin</i>	01:29:28:00		Quote / reworking from <i>Love for Lulu</i> .
<i>Greed Persists</i>	01:30:45:00	01:34:44:00	Reference to Egyptian through exotic scale.
<i>Showing Lulu</i>	01:31:45:20		Contrasting smaller ensemble.
<i>Please Don't Sell Me</i>	01:32:45:00		Bluesy, solo piano to loud rhythmic ensemble and back
<i>Saving Lulu</i>	01:34:44:00		Quote of <i>Greed Persists</i>
<i>Alwa takes the Cards</i>	01:36:26:00	01:43:11:02	Piano arpeggiation. Contrasting dynamic
<i>Cry Child Cry</i>	01:36:56:00		Bluesy piano
<i>Schigolch Tricks Rodrigo</i>	01:39:17:00		Piano bass, sax and bass clarinet.
<i>At the Tables</i>	01:40:06:00		Reiteration and reworking of <i>Lulu's Waltz</i>

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Pleading with Geschwitz</i>	01:40:34:00		Reiteration / reworking of <i>Geschwitz's Waltz</i> including a quote that refers to Rodrigo at 01:40:58:00 as found in first instance of <i>Geschwitz's Waltz</i>
<i>Geschwitz and Rodrigo</i>	01:41:25:00		Quote / reworking of <i>Drunks</i> and quote from <i>Lulu's Waltz</i> at 01:41:50:00 and <i>Geschwitz's Waltz</i> at 01:41:58:00
<i>High Roller</i>	01:42:29:00		Big Band. Quote / reworking of <i>Alwa Takes the Cards</i> in the piano part at 01:43:11:00
<i>Pandemonium</i>	01:44:18:00		Dissonant. Big band. Reference to Egyptian through exotic scale at 01:44:52:00

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Lulu's Disguise</i>	01:46:15:00		Reworking of previous cue employing the bass line and rhythmic elements. Quotes from <i>Lulu's Waltz</i> at 01:46:21:18
<i>Rodrigo's Corpse</i>	01:47:23:00		Reiteration of <i>Onboard The Ship</i>
ACT 8			
<i>Jack</i>	01:47:47:00	02:08:14:00	Organ
<i>The Salvation Army</i>	01:49:05:00	02:09:08:00	Brass Band
<i>The Army Girl</i>	01:49:48:00	02:05:14:00	Piano and Strings
<i>Jack Reflects</i>	01:50:29:00	02:06:03:00	Bells
<i>Wind at the Window</i>	01:51:47:00	01:55:41:00	Percussion, samples and piano
<i>Alwa Depressed</i>	01:52:33:00		Quote from <i>Onboard the Ship</i>
<i>Merry Schigolch</i>	01:53:28:00	02:09:08:00	'Pub' piano and voices
<i>Food and drink</i>	01:54:27:00		Reiteration of <i>Alwa Depressed / Onboard the Ship</i>

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Back on the Street</i>	01:55:41:00		Quotation / reworking of <i>Wind at the Window</i> . Includes quote from <i>Onboard the Ship</i> at 01:56:08:00
<i>Piano in the Pub</i>	01:56:58:00	02:09:08:00	'Pub' piano (also references <i>Merry Schigolch</i> .)
<i>Warning to the Women of London</i>	01:58:03:00	02:00:37:00	Dissonant and disturbed. Foghorns and bells.
<i>Time Passes</i>	01:59:17:00		Piano(s)
<i>Lulu and Jack</i>	01:59:39:00		Exotic 'Spanish' dance. Piano, bass, bells, tambourine.
<i>Reaching for his Knife</i>	02:00:37:00		Quote / reworking of <i>Warning to the Women of London</i>
<i>Schigolch Waits</i>	02:01:24:00		Quote / reworking of <i>Drunks</i>
<i>Schigolch and Alwa Leave</i>	02:02:38:00		Quote / reworking of <i>Onboard the Ship</i>
<i>Jack and Lulu Together</i>	02:03:00:00	02:04:33:00	Piano, clock, a hint of Jazz

Cue Title / Theme	Original occurrence	Re-use	Notes
<i>Children Again</i>	02:03:39:00		Music box, merging into music in the pub at 02:03:55:00
<i>Mistletoe</i>	02:04:33:00		Quote of <i>Jack and Lulu Together</i>
<i>Innocence</i>	02:05:14:00		Quote / reworking of <i>The Army Girl</i>
<i>Holding up the Mistletoe</i>	02:06:03:00		Quote / reworking of <i>Jack Reflects</i>
<i>Jack Leaves</i>	02:08:14:00		Quote / reworking of <i>Jack</i>
<i>The Marching Band</i>	02:09:08:00		Brass band. Not the same music but the same diegetic sound as <i>The Salvation Army</i> . With interjections of the 'pub' piano similar to <i>Merry Schigolch</i> and <i>Piano in the Pub</i>
<i>Alwa Alone</i>	02:10:54:00		Complete reiteration of <i>Pandora</i> with additional string parts.

Appendix 5 Additional Examples of Variations found in the Score

The following extracts provide additional examples of variations and motifs within the score for *Pandora's Box*.

Love for Lulu 00:09:59:00

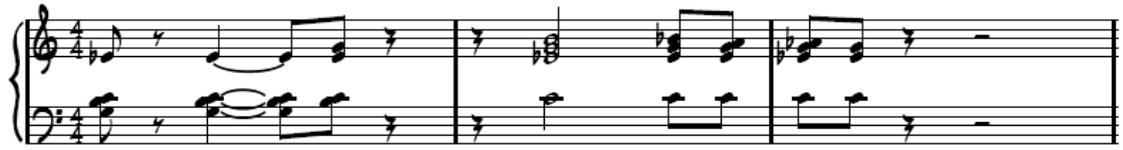
Musical score for 'Love for Lulu' at 00:09:59:00. It consists of a single system with a grand staff (treble and bass clefs) in 4/4 time. The key signature has four flats. The melody in the treble clef features a broken-chord motif with eighth and sixteenth notes. The bass clef provides a harmonic accompaniment with chords and single notes.

This cue reappears many times. The piano accompaniment and the melody are also re-used separately since both parts have distinct characteristics that make them recognisable. The broken-chord melody usually appears on the piano. It is variously used in relation to tender moments between Lulu and Dr Schön or Alwa.

Schön and Son 00:23:03:00

Musical score for 'Schön and Son' at 00:23:03:00. It consists of three systems of music. The first system is labeled 'PIANO' and 'BASS'. The piano part (treble clef) has rests in the first three measures, followed by a melodic phrase in the fourth. The bass part (bass clef) has chords in the first three measures and a melodic phrase in the fourth. The second system continues the piano part with rests and the bass part with a long note. The third system shows the piano part with a melodic phrase and the bass part with a long note.

Dr Schön 00:08:09:00



The cue *Dr Schön* usually plays in relation to the appearance of Dr Schön (and his temper). It is based on the minor / major 7 chord and therefore exhibits a tension that is suitable to the character. It also has something of the ‘rising’ quality of the *Love for Lulu* cue. It first occurs in Act 1 and it reappears seven times before his death at the end of Act 4.

Remorse. 00:50:46:00

A musical score for the cue 'Remorse'. It consists of two systems of two staves each, a treble clef on top and a bass clef on the bottom, both in 4/4 time. The first system shows a melodic line in the treble staff and a supporting line in the bass staff. The second system continues the piece with similar melodic and harmonic development, ending with a double bar line.

This cue, played on the piano, with sustained string parts entering later, re-utilises the melodic rhythm of *Pandora* but at a much slower tempo. It is also an echo of the cue *Confrontation* and has a rather contrapuntal and baroque character. The opening phrase exhibits intervallic features that link it to *Pandora*.

Appendix 6 The Technology used in the Creation of the New Score

The following hardware, and software, was used in the production of the score.

Hardware

Fujitsu-Siemens PC. (Dual Intel (1.6 GHz), 4gb SDRAM, 2 x 200Gb

Audiophile 24 / 96 Sound Card.

Kawai KC20 MIDI Keyboard.

A &R Cambridge Amplifier.

Gale Mini Monitor speakers.

Behringer Vacuum tube pre-amplifier.

Software

Cubase SX Studio 4 (Sequencing software and various native plug-ins)

Quicktime Pro (Media player)

Sample Tank (Sample player and editor)

Halion 3 (Sample player and editor)

Edirol Orchestral (Instrument plug-in)

Sibelius 4 (Score software)

Additional Samples

Horizon Solo Strings

File Formats

Sound files stored as .wav, .aiff and mp3 files. Video in QuickTime format.

Mix down to single stereo interleaved file at 16 bit resolution and 44.1 kHz sample rate.

Appendix 7. Additional Analysis relating to the Sound of ‘Lulu’s Dog’

Whilst creating the ‘dog-bark’ at the keyboard, I worked by ear alone. I thought, subsequently, that it might be of interest to examine the actual sound of barking, and my representation of it, more carefully, with a view to establishing which characteristics have been retained in the creation of the ‘piano-bark’.

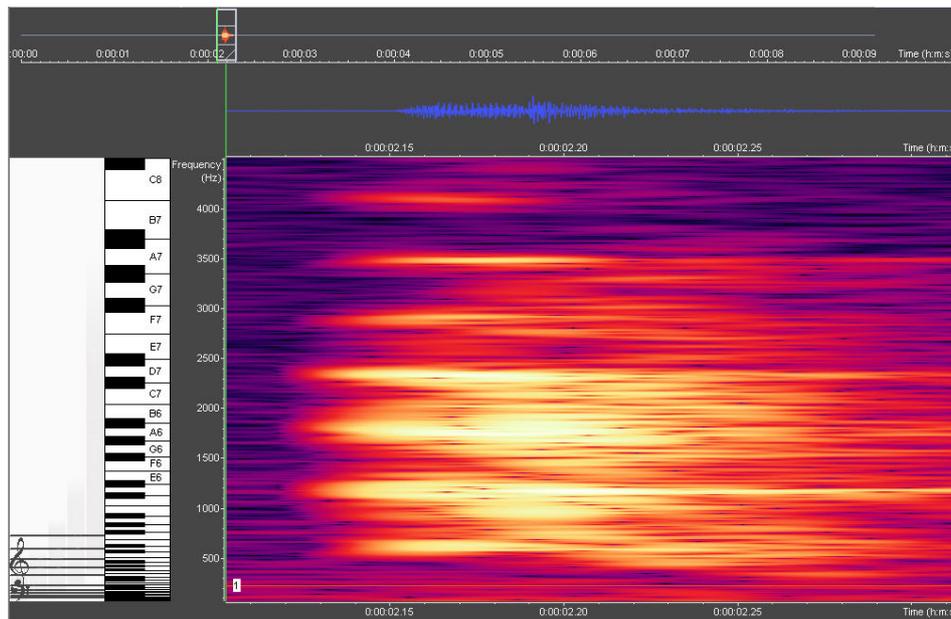


Fig 4. Screenshot of Spectrograph image of a single dog bark recorded using *Overtone Analyser* free edition by Sygyt Software.

In the picture above, in the main window of the screenshot, the brightness of the image is representative of amplitude. The left hand scale indicates vertically the frequencies rising from low to high (in Hz and this is also displayed against a piano keyboard for references to pitch.) Above the main window, there is a representation of the waveform, the envelope of the sound. The horizontal scale at the bottom and the top of the main window indicates time duration.

The image above, indicates that this particular small dog bark spans frequencies from around 500hz, (about B on the treble clef) to 4000hz (B, 2 octaves above the treble clef), a span of approximately 4 octaves on the piano. Notice also that the strongest frequencies (the brightest areas on the chart) are in the lower frequencies (up to about 2500hz, or about D, 7 ledger lines above the treble clef). The envelope of the sound shows that there is a gradual (albeit rapid) increase in volume and that the sound

decays relatively slowly taking longer to decay than to peak. At the loudest point there is an increase in the number of strong frequencies being heard (notice the smearing of the brighter areas in the centre of the picture).

The image below describes one of the ‘piano-barks’ found at 00:13:43:00 Act 1. Here the frequencies span from around middle C to the note B, 2 octaves above the treble clef, with some weaker frequencies indicated above that. The strongest frequencies seem to span 250hz (E on the bottom of the treble clef) to about 750hz (approximately E at the top of the treble clef). The amplitude, in the lower frequencies, is notably stronger (the images are brighter for longer) and there is a band of notes just beginning (to the right of the cursor on the screen shot) after the initial attack. This area roughly corresponds to the beginning of the peak of the waveform.

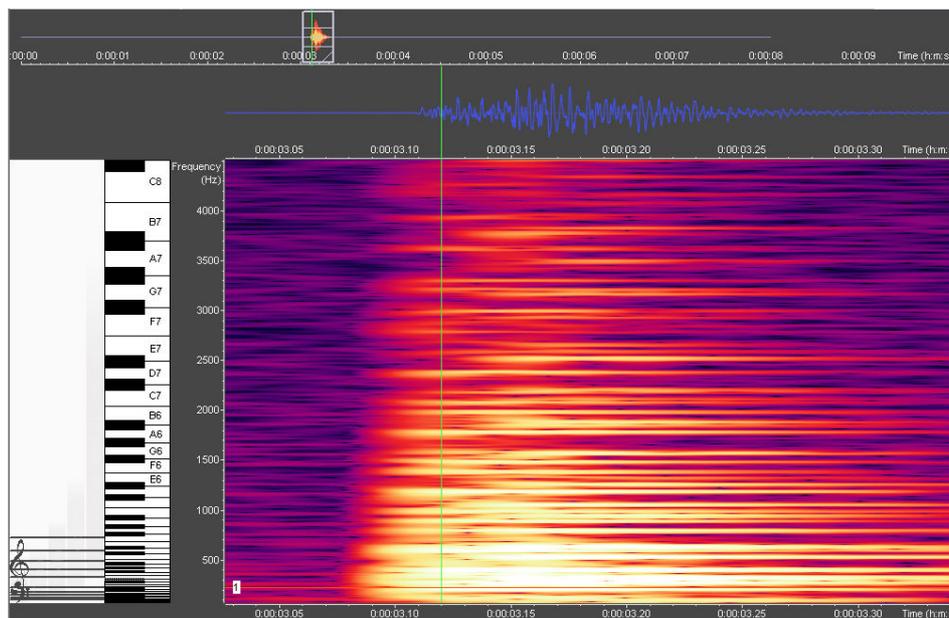


Fig 5. Screenshot of Spectrograph image of a single piano-bark recorded using *Overtone Analyser* free edition by Sygyt Software.

It is clear that the dog bark (Illustration 1) is much richer in overtones; the image in the main window is far less defined in terms of frequency bands running across the screen and has a much more ‘blurred’ appearance. The dog’s voice is less restricted in its pitch movement than that of the piano which is constrained through equal temperament and therefore exhibits a more regular distribution of frequencies. Many

of the frequencies measured here are ‘overtones’. The fundamental notes of the ‘real’ bark (illustration 2) are found in the low mid-range and appear later than the start of the sound. In the ‘piano-example’ the strongest area is also after the initial attack but the register is somewhat lower. Importantly though, the dynamics, the shape of the wave-forms are very similar in their overall appearance. Both sounds crescendo and resonate, both sounds peak after the initial attack, and both sounds increase in harmonic intensity at the point of greatest amplitude. Of course every bark that I listened to, and subsequently looked at, exhibited variations in harmonic content, similarly, each of the ‘piano-barks’ contained within the scene differs from the others. The key factor that rarely altered was the shape of the sound envelope and, in particular, the relationship between the rapidity of the attack and the length of the decay.

Appendix 8**Table of Correspondences**

The following table lists many of the correspondences used within the design of the new score. It is not an exhaustive list and neither is it, nor could it be, definitive.

Instrument Sounds	
Cello / Double Bass	Male, stability,
Bass Clarinet	Dark, gloomy, male
Music Box	Childlike, nostalgia, Christmas
Brass	Authority, officialdom, military
Musical Intervals	
Major 7 th	Yearning, discord, unresolved
Augmented 4 th	Tension, discomfort,
Major 3 rd	Sweetness, contentment, optimism
Minor 6 th	Melancholy, calm, bitter-sweet
Octave / Unison	Solidity, resolve, togetherness,
Tempo	
Fast	Energy, urgency, action, excitement
Medium	Deliberation, calm, resolve, certainty
Slow	Waiting, sadness, death, melancholy
Fluctuating tempi (rubato)	Uncertainty, growing or diminishing emotions
Musical Texture	
Polyphony	Busy, complexity, confliction, turmoil, elegance
Monophony	Solidity, unity, resolution, declamatory
Homophony	Individuality, orderliness, simplicity, clarity

Tonality / Chord types	
Major	Consonance, sweet, at rest, contentment
Minor	Consonance, melancholy,
Major minor 7th	Discord, anger, unrest, growing tension
Clusters / Poly tonal	Discord, confusion, claustrophobia, pain, collision
Meter	
4 to a bar	Regularity, normality,
3 to a bar	Dancelike, drunk,
Irregular meter	Unpredictability, motion, loss of control