Title
Scoring "The Electric Leg" 100 Years Later

Permalink
https://escholarship.org/uc/item/42w984tv

Author
Chou, Sally

Publication Date
2013

Peer reviewed|Thesis/dissertation
Scoring “The Electric Leg” 100 Years Later

A thesis submitted in partial satisfaction
of the requirements for the degree Master of Arts in Music

by

Sally Chou

2013
ABSTRACT OF THE THESIS

Scoring “The Electric Leg”

by

Sally Chou

Master of Arts in Music

University of California, Los Angeles, 2013

Professor Paul S. Chihara, Chair

Scoring “The Electric Leg” 100 Years Later

The musical score to British film director Percy Stow’s "The Electric Leg," a 1912 black and white silent film that was restored by the UCLA Film and Television Archives, is an original music composition created 100 years after the film’s release using modern scoring techniques, featuring a combination of music software, electronics, and computers with a recording of live musicians. The process of creating the score involved dramatic analysis, strategic design given specific technical and budgetary constraints, composition of thematic material, creation of digital realizations or “mockups”, a scoring session with the live musicians conducted in sync with the picture, and mixing the resultant recording to blend seamlessly with virtual instruments.
The thesis of Sally Chou is approved.

Frank Heuser

Ian Krouse

Paul S. Chihara, Committee Chair

University of California, Los Angeles

2013
# Table of Contents

Overview .................................................................................................................. 1

Dramatic Vision ........................................................................................................ 1
  Dramatic Themes ................................................................................................. 1

The Age and Condition of the Film ........................................................................ 3
  Pacing ............................................................................................................... 3

Score Design .......................................................................................................... 3
  Dramatic Structure and Plot Synopsis .............................................................. 3

Story Analysis ....................................................................................................... 5
  Score Structure ................................................................................................. 6
  Instrumentation ................................................................................................. 7

Spotting / Film Events ......................................................................................... 8
  Thematic Material ............................................................................................ 9

Scoring Process ................................................................................................... 12
  Challenges of Scoring Comedy ....................................................................... 12

Demos/Mockups .................................................................................................. 13
  Score Preparation ............................................................................................. 16

Session Preparation ............................................................................................ 16
  Scoring Session ............................................................................................... 18

  Mixing .............................................................................................................. 18

Film Premiere and Conclusions ..................................................................... 19

Conductor’s Score ............................................................................................... 20
List of Figures and Tables

Table 1 - Rough Spotting Notes ........................................................................................................ 8
Figure 1 - The Man’s Lament Theme ................................................................................................ 9
Figure 2 – The Shopkeeper Theme ................................................................................................... 10
Figure 3 - Promise of the Leg Theme ............................................................................................... 10
Figure 4 - The Leg Theme ................................................................................................................ 11
Figure 5 - Humanity Theme ............................................................................................................. 11
Figure 6 – Chaos Theme ................................................................................................................... 12
Table 2 - 3M2 “Marching Through the Lake” Tempo Changes ....................................................... 14
Figure 7 - REAPER Project MIDI Sequencing .................................................................................. 15
Table 3 - Cue Sheet ............................................................................................................................ 15
Figure 8 - Scoring Session Cue List ................................................................................................. 17
Figure 9 - REAPER Project Audio Mix ............................................................................................. 19
Overview

"The Electric Leg" is a 1912 black-and-white silent film directed by Percy Stow and produced by the Clarendon Film Company in London. Recently restored by the UCLA Film and Television Archives for its film preservation program, the film had never been synchronized to a recorded musical score.

The plot of this comedic short film involves a one-legged man who tries out an electrified artificial leg, which leads to unexpected consequences.

As part of the UCLA School of Theater, Film and Television course "Scoring Silents," held in the fall quarter of 2012, I composed, orchestrated, conducted, and recorded the score for "The Electric Leg" using a combination of virtual instruments and live musicians.

The process of creating the score included dramatic analysis, designing an appropriate sound world, spotting the film for cues and transitions, creating complete digital mockups for demonstration, preparing the score for a scoring session with live musicians, and mixing the virtual instruments with the resulting live recordings.

Dramatic Vision

Due to the fact that the film was created in the early 1900’s and the score a century later, the overall vision for the score required much consideration in terms of its style and its design, not to mention its execution.

Dramatic Themes

On the surface, “The Electric Leg” may play as a simple, broad comedy based on a single joke, that the anthropomorphized leg with “a mind of its own” wreaks havoc on an unsuspecting, hapless victim and his fellow townspeople. However, on closer inspection, underlying dramatic themes with more serious
undertones reveal themselves, some of which are surprisingly resonant as a commentary on society today.

The first idea explored was “Mechanical vs. Humanity”. The leg represents the mechanical and inhuman as an opposing and oppressive force against humanity. In “The Electric Leg,” we see that humanity ultimately triumphs. An interpretation of this idea suggests that one should be suspicious of new technologies. Perhaps we can learn a lesson about the overreliance on devices that may ultimately prove themselves to be unreliable.

The next idea examined was “the grey areas between good and evil.” Many philosophical questions arise from this concept. Is the leg evil? Does it mean to do harm? Is intention required for an act to be evil? Is the man an accessory to the mayhem causing the townspeople to give chase? Did the shopkeeper secretly know that what would happen? If so, is he evil for facilitating or allowing it to happen? This line of thinking about moral and ethical ambiguity leads to the consideration of a grey area between those black and white modes of thought. The film may be suggesting that events cannot be labelled as wholly one way or the other.

Finally, the question “the leg vs. the man – who is in control of whom?” Ordinarily the answer to this question would be incontrovertible. However, “The Electric Leg” turns this question on its ear when the leg clearly takes control of the man’s actions, which still seems ludicrous. How can a man be controlled by an appendage? But perhaps this is mere hubris, the idea that we are always in control, and human beings maintain a falsely heightened sense of self. Again, this calls to mind a skepticism of new technology. Are we really in control of it or is it controlling us?
The Age and Condition of the Film

The UCLA Film and Televisions Archives restoration of the film for preservation was done with the utmost care and using the latest technology. Even with these advancements, the era in which the film was made cannot be denied, nor can the audience be expected to suspend their disbelief enough to ignore the film’s grainy picture quality, the scratches, the jerkier film speed of nineteen frames per second, and the jarring, at times nonsensical, cuts between scenes in the film. Because of this, the score was designed to be self-aware, both of itself and of the film’s age and condition, acknowledging this to the audience with a nod and a smile to let them know that they are in on the joke.

Pacing

To modern audiences, most of whom have had a lifetime of motion picture literacy, “The Electric Leg” would seem to contain many scenes that are either excessive in length or altogether unnecessary. Because the picture could not be altered, the pace of the film would have to be addressed by the score in order to keep the attention of a modern audience.

Score Design

Designing the score required an analysis of the film’s dramatic structure and strategic planning given technical and budgetary constraints.

Dramatic Structure and Plot Synopsis

The story of the film can be divided into a traditional dramatic three-act structure. The first act, the setup, comprises a one-legged man in a wheelchair, full of hope, acquiring what he hopes will be the solution to his problems. His assistant pushes him into a shop advertising a new type of artificial leg powered by electricity. The shopkeeper, who evokes an overt Shylock-like suspiciousness, even going as far as rubbing his hands together in glee, demonstrates the leg’s amazing capabilities as it walks by itself
back and forth across the shop. The one-legged man is impressed and delighted, so the trio adjourns to
the room next door to fit the leg on him. The first hints of our protagonist getting more than he
bargained for arise as large, heavy batteries and electrical control devices are draped around his neck.
But he is undeterred. The leg is activated and kicks up suddenly with precision and force. Filled with
promise, the man walks out of the room with a stride similar to that of a Monty Python sketch.
However, as he leaves the shop, the first true indication of what’s to come occurs when the man
unwittingly kicks an innocent bystander, launching him into the ether. The man, his assistant, and the
shopkeeper attempt to restrain the leg, but it has already begun to take control. The man, helpless to
stop it, kicks a policeman through a store window.

The second act begins with the leg’s initial dominance over the man at 02:27:20 where the man is seen
marching down the street, followed by a handful of angry townspeople. This chase escalates as more
people join the chase and as the man leads them through streets, over hill and dale, and through
underground tunnels. This act concludes with the man finding a moment of respite in his wheelchair
after his assistant manages to subdue the man and shut off the leg.

The third act begins at 03:30:02, after a mischievous prankster sneaks up and switches the leg back on,
whereupon it resumes its dominance with a vengeance causing the chaos to reign larger than ever. The
man and the leg, at first in the wheelchair, are chased through the streets by the townspeople. Even
walking through a lake doesn’t stop the leg. It is this body of water that ultimately defeats the angry
crowd. The man and the leg absurdly walk up the side of a building that turns out to be a girls’
dormitory. The drama culminates in the final scene where the man falls through the roof into a sleeping
quarters full of girls who proceed to lob their pillows and blankets at the intruder. The denouement
follows immediately, as the story concludes with the man being captured and hauled away by the
policeman.
Story Analysis

To write the score, a close reading of the film was necessary to unpack some of the important themes and story points. This involved examining the character arcs, finding the important moments in the film, and finding the points in which the score would need to comment or address the film’s age and “loose” editing.

Due to the film’s length and nature, the character arcs are necessarily shallow. The primary arcs to consider are those of the one-legged man and the electric leg. The leg does not experience any change or growth through the film. The man, however, learns a great lesson about faith in cure-olds and trusting untested technologies.

The majority of the character interactions and development occur in the first act. We are first introduced to the man’s loyal assistant, who comes to his rescue at the end of Act Two. The one-legged man is obviously in search of a solution for his ailment. The discovery of electric leg brings him hope that he will be cured of his inability to walk. The shopkeeper can be seen as a genius for inventing such a device, but there are also subtle cues that his intentions may not be for the greater good.

The subclimax and climax of the film both occur in the third act. The subclimax can be found at the start of Act Three, just after the leg is reactivated, pulling the man forcibly out of his moment of respite. The climax is at the very end where, after a moment of suspense as to what will happen next, the girls begin throwing their bedding at the man and the electric leg. To properly set these climaxes up, the music would need to draw back in the preceding scenes to allow for the maximum impact of these tutti moments.

There were a number of moments requiring address to accommodate for the film’s age and the more jarring cuts or scenes that would run too long for a modern audience. The sheer number of chase
scenes, essentially playing on the same gag over and over, immediately demanded that each should receive different treatment in order to sustain the audience’s interest. The overexposure of the scene in which the man is seen climbing up the side of the building in Act Three, appearing as a white silhouette, required comment and show the score’s awareness of the film’s flaws. Many scenes taking place within the shop were interminably long, including the demonstration of the leg walking across the table in both directions and the fitting of the leg onto the man including the battery and control packs. The march and subsequent chase through the lake were also gratuitous in length. In these cases, the music would have to create its own interesting commentary and take a more prominent role, drawing focus away from the picture instead of its usual role as underscore supporting the image.

Score Structure

The cue numbering scheme was designed to follow the dramatic structure of the film. Traditionally, a music cue is numbered using a combination of the reel number, the letter “M” for music, and an assigned sequential number according to its occurrence in the reel. I adopted this numbering scheme, but replaced the reel number with the act number.

Other score design considerations included motives, tempo, and overall sound world design. The decision to have a heavily thematic score was one easily made. The comedic nature of the film, the clear story and character arcs and plot points, and the era of the film’s world cried out for this treatment. The tempo map, or the shifts in tempo throughout the score, would be necessarily complex. In order to combat the pacing challenges of the film itself, the tempo would have to not only shift frequently to keep the audience engaged, but also support the ever-escalating frantic nature of the film’s story. The design of the sound world features acoustic sounds and instruments, including the sound effects as aural gags and deliberately not using any artificial-sounding synthesized waveforms. The decision to stay grounded in acoustic sounds was made to honor the period of the film’s release. However, the ability to
take advantage of modern music technology allowed for greater flexibility to create a score with a contemporary flair.

**Instrumentation**

In composing the music for the film, one of the requirements of the course dictated that we would need to present digital representations, or “mockups,” of our work in class. We also were given an allotment of funds to hire five musicians of our choosing for a three-hour live scoring session, which we would conduct and produce ourselves.

Knowing that the majority of the music would be performed using virtual instruments, I composed the score with their strengths and limitations in mind. Modern sample libraries have reached uncanny levels of realism and sophistication, but still require a substantial amount of work to create a convincing performance. Because of the fast turnaround time and weekly deadlines for the mockups, I opted to use virtual instruments that would sound good with the least amount of adjustment. Generally, Western classical stringed instruments, due to the size of the ensemble and the focus that manufacturers have put into the research and development of these libraries, tend to sound better than woodwind and brass virtual instruments. The most convincing sounds from most acoustic virtual instrument libraries are in their short attacks, such as pizzicato or staccato. Percussion samples are also quite acceptable. Any featured solo instruments, particularly ones that require long legato lines with some measure of emotional content, would be re-recorded by a live player.

The five instrumentalists I selected effectively comprised a chamber wind ensemble: flute doubled by piccolo, oboe doubled by English horn, clarinet, bassoon, and trombone doubled by bass trombone. The doubles allowed for an extension of the color palette and range of the score. Most of the instruments would be used as featured soloists throughout the score, often representing the characters or playing the main musical themes.
Spotting / Film Events

After ascertaining the overall structure of the film, the next task was to break down the specific events of the film to determine musical placement, a process known as “spotting” the film. A rough list of the events, cuts, scenes, and story beats from an initial viewing can be found in Table 1.

Table 1 - Rough Spotting Notes

<table>
<thead>
<tr>
<th>Time Code</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00</td>
<td>Main Title</td>
</tr>
<tr>
<td>00:02</td>
<td>Assistant and one-legged man introduced. Happy, full of hope.</td>
</tr>
<tr>
<td>00:18</td>
<td>Inside the Shop, introduction of the shopkeeper</td>
</tr>
<tr>
<td>00:47</td>
<td>The Leg walks</td>
</tr>
<tr>
<td>01:15</td>
<td>Cut to putting on the leg</td>
</tr>
<tr>
<td>02:01</td>
<td>Cut to outside the shop</td>
</tr>
<tr>
<td>02:36</td>
<td>March downhill</td>
</tr>
<tr>
<td>02:48</td>
<td>March diagonally up</td>
</tr>
<tr>
<td>02:54</td>
<td>Into the hole</td>
</tr>
<tr>
<td>03:08</td>
<td>Into the chair</td>
</tr>
<tr>
<td>03:17</td>
<td>Respite</td>
</tr>
<tr>
<td>03:27</td>
<td>Prankster fires up the leg, chase</td>
</tr>
<tr>
<td>03:36</td>
<td>Falls out of the chair</td>
</tr>
<tr>
<td>03:42</td>
<td>Lake</td>
</tr>
<tr>
<td>04:03</td>
<td>Up the wall, leg takes over</td>
</tr>
<tr>
<td>04:11</td>
<td>Up on the Roof</td>
</tr>
<tr>
<td>04:14</td>
<td>Girls' bedroom</td>
</tr>
<tr>
<td>04:24</td>
<td>Cop enters</td>
</tr>
<tr>
<td>04:34</td>
<td>Fin</td>
</tr>
</tbody>
</table>
Following this initial viewing, several events presented themselves as opportunities for special musical treatment. The first kick outside the shop that launches its victim into the sky seemed to call for some kind of suspense and tension. The scene at the lake which, on its own, slows the pace of the chase, called for a rallentando. The denouement required an acknowledgement that humanity ultimately triumphed over the leg for a satisfying conclusion.

**Thematic Material**

With a thematic approach to the score, the construction of the musical themes occurred early in the composition process. To represent the man’s one-leggedness, his theme is set to an off-kilter or “flawed” waltz, featuring odd meters. A lamenting, but sweetly hopeful bassoon represents him playing a slippery melody. This theme (Figure 1) first appears in 1M3 after pizzicato strings introduce the unusual meter. Many allusions are made to this theme throughout the score, notably in 2M2, and full restatements such as in 2M4.

![Figure 1 - The Man’s Lament Theme](image)

The Man’s Lament Theme is immediately joined in call and response with The Shopkeeper Theme (Figure 2). He is represented by the clarinet and an even more slippery, somewhat devious melody to
evoke the feeling that his character could be a combination of Shylock and a snake charmer. The theme first appears in 1M3 and is recalled at the end of 1M4 as the shopkeeper retrieves the leg.

Before the leg reveals itself to have dire consequences, the score could not tip its hand at risk of spoiling the gag. Thus, the Promise of the Leg Theme (Figure 3) in 1M5b is a stately, hopeful, and upbeat ditty. Since the man feels that he is on the verge of being “complete,” the theme’s meter is a waltz without flaws. A brief allusion to this optimistic theme also appears in 3M5 to evoke a similar sense of hope that all could turn out well.
The Leg Theme (Figure 4), played by the English horn, is introduced in 1M8 to represent the playful and mischievous nature of the leg. Many allusions to this theme recur throughout the score, notably in 3M4 and 3M4b.

The Humanity Theme (Figure 5) was designed to be paired with The Leg Theme in different combinations. The first full appearance of the theme occurs in 2M3, though a hint of the theme occurs in 1M9. The theme appears juxtaposed with The Leg Theme immediately after its full presentation in 2M3. In 3M3, the theme ends with a cadence, giving finality and a conclusion to the last appearance of the people giving chase. In 3M6, the Leg and Humanity Themes are stacked, played simultaneously.

Finally, the Chaos Theme (Figure 6), which makes its first appearance in 2M1, represents the heights of the leg’s mischief and how it wreaks havoc on everyone’s lives. To represent the mechanical nature of the leg and its effects against humanity, the theme is both percussion-based and uses only virtual instruments. The theme features mallet instruments, specifically xylophone and marimba, playing the
melody over a cacophony of a full battery of percussion, including timpani, many drums, and a mechanical wind-up toy.

In addition to these themes, sound effects were employed as a thematic device. In 1M1, the Main Title music features a full orchestra “ta-da” which experiences “technical difficulties,” fizzling out in electrical sound effects and quickly switched off. This immediately conveys that the score is self-aware, modern, and comedic. Also, for the audience’s benefit, it plants the use of sound effects into the language of the film score right at the beginning. These sound effects recur in 1M4 and 3M4. Thematically, the entire film can be considered encapsulated by this single cue. The bright, shiny new technology full of promise ultimately experiences problems and has to be shut off.

Scoring Process

The process of scoring “The Electric Leg” included tackling the overall challenge of scoring comedy, quick mockup creation, score preparation, session preparation, conducting the scoring session, and, finally, mixing the score.

Challenges of Scoring Comedy

Scoring comedy, over other dramatic genres, requires a greater amount of precision and setups for surprise. This translates into a substantial number of hit points. The approach for scoring “The Electric
“Leg” required so-called “Mickey Mousing,” where the music closely follows what is happening on screen. Clear examples of this occur in 1M5, 1M6, and 1M7, where various individual percussion instrument hits synchronize with the leg’s jolting movements. The other challenge of scoring comedy is the sheer number of notes that have to be written. Comedic music is often very active and played at faster tempos. Creating surprise, for example the use of sound effects or the rallentando on the snare drum in 3M2 as the man marches through the lake, and maintaining an audience’s interest is also a necessity, particularly so for a film without sound (MOS). While comedy can be serviceably scored by hitting the gags, what unifies and creates a compelling score ultimately is one that considers the story and the reality of the characters.

**Demos/Mockups**

To create the mockups, I used the digital audio workstation software REAPER to synchronize the video file, sequence MIDI, and mix the audio. The virtual instruments were hosted in three separate instances of the software sampler engine Native Instruments Kontakt as a VST plugin, with up to 16 instruments in each bank.

The placement of markers to identify important events and hit points within the film was the first task in order. Including the time code points from rough spotting notes, fifty-five markers were used to mark the film.

Another important part of the score’s creation was the tempo map for the overall film, since precise timing is crucial for a successful comedy score. The score for “The Electric Leg” required the use of nineteen different tempos throughout the film. One example of the intricacies of the tempo map can be found in 3M2, “Marching Through the Lake,” where the tempo gradually slows down as the man finds his movement increasingly encumbered by the water’s resistance. Featuring a percussion battery of
timpani, tam-tam, snare drum, and bass drum, the tempo changes every 8 beats. The complete list of tempo changes according to time code can be found in Table 2.

<table>
<thead>
<tr>
<th>Time Code</th>
<th>Tempo</th>
</tr>
</thead>
<tbody>
<tr>
<td>03:41:22</td>
<td>200 BPM</td>
</tr>
<tr>
<td>03:46:25</td>
<td>170 BPM</td>
</tr>
<tr>
<td>03:49:20</td>
<td>140 BPM</td>
</tr>
<tr>
<td>03:50:28</td>
<td>130 BPM</td>
</tr>
<tr>
<td>03:51:26</td>
<td>120 BPM</td>
</tr>
<tr>
<td>03:52:26</td>
<td>110 BPM</td>
</tr>
</tbody>
</table>

The composition process often combined with the performance of the music as the sequencing of MIDI notes to trigger the virtual instruments requires both information about the notes themselves as well as how they are to be executed. While my initial ideas were composed using pencil and manuscript paper, the development and expansion of ideas were often inputted directly into the sequencer. Figure 7 shows a portion of the final MIDI sequences.
Figure 7 - REAPER Project MIDI Sequencing

The Cue Sheet (Table 3) contains the list of the numbered cues along with their starting time codes, their lengths, and titles. The colored rows represent cues that are purely digital creations. No live instruments were used in the mix.

Table 3 - Cue Sheet

<table>
<thead>
<tr>
<th>Time Code</th>
<th>Length</th>
<th>Cue</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00:00:00</td>
<td>(0:00:03)</td>
<td>1M1</td>
<td>Title Card / Main Title</td>
</tr>
<tr>
<td>0:00:03:03</td>
<td>(0:00:14)</td>
<td>1M2</td>
<td>The Leg Store</td>
</tr>
<tr>
<td>0:00:17:29</td>
<td>(0:00:24)</td>
<td>1M3</td>
<td>Inside the Shop</td>
</tr>
<tr>
<td>0:00:42:15</td>
<td>(0:00:19)</td>
<td>1M4</td>
<td>The Leg Walks</td>
</tr>
<tr>
<td>0:01:01:19</td>
<td>(0:00:39)</td>
<td>1M5</td>
<td>Putting on the Leg</td>
</tr>
<tr>
<td>0:01:41:08</td>
<td>(0:00:14)</td>
<td>1M6</td>
<td>It Works!</td>
</tr>
<tr>
<td>0:01:55:13</td>
<td>(0:00:14)</td>
<td>1M7</td>
<td>Seems to be Under Control</td>
</tr>
<tr>
<td>0:02:10:08</td>
<td>(0:00:11)</td>
<td>1M8</td>
<td>It Kicked Someone!</td>
</tr>
</tbody>
</table>
Score Preparation

For the scoring session, parts and scores had to be prepared and printed. Because the individual cue lengths were short, I consolidated the cues that were to be recorded into a single score with section headings for each cue. I also created a possible recording order, flexible depending on the time remaining and the musicians’ energy, based on the difficulty of the cue and the required instrumentation. The cues that required only soloists would be kept to the end to allow players to leave who were no longer needed.

Session Preparation

The scoring session was held in the UCLA Melnitz Hall Scoring Stage. While the stage was originally built to hold scoring sessions, it is seldom used for that purpose. Because of this, much proprietary work and creative workarounds had to be arranged to run a proper session with picture.
To synchronize with picture, traditional streamers and punches as well as special pre-roll beat countdowns were overlaid on the video file using Adobe After Effects. A Pro Tools session containing subgroups, or “stems,” of the mockup as individual tracks was also required along with the creation of special click tracks. Using the built-in Pro Tools metronome and pre-roll system, if the tempo changed at the start of the cue, the tempo of the pre-roll count-in would match the one prior to the tempo change. This is of little use since it had nothing to do with the cue’s actual tempo. In order to force the count-in to match the tempo of the cue, an audio file had to be created for each click track comprising a rendered metronome starting two bars before the actual cue. This special click track would be played back into the headphone mixes along with the pre-record stems. Many of the notes about these workarounds can be found in the Scoring Session Cue List (Figure 8).

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Engineer</th>
<th>Director / Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/28/2012</td>
<td>2:00-5:00pm</td>
<td>David McKenna</td>
<td>Paul Reisinger</td>
</tr>
</tbody>
</table>

**The Electric Leg**
Sally Chou

<table>
<thead>
<tr>
<th>Cue</th>
<th>Timecode</th>
<th>Start</th>
<th>BPM</th>
<th>Count-In</th>
<th>End</th>
<th>BPM</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3</td>
<td>01:00:17:128</td>
<td>1</td>
<td>110</td>
<td>6</td>
<td>17</td>
<td>0:24</td>
<td></td>
</tr>
<tr>
<td>M5</td>
<td>01:01:11:119</td>
<td>18</td>
<td>122.9412</td>
<td>23</td>
<td>0:38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Can ignore*

**Figure 8 - Scoring Session Cue List**
Scoring Session

The scoring session took place on November 29, 2012. The recording engineer, David McKenna, arranged an unusual seating arrangement for the players based on the style of the score. Because the instruments were primarily used either as soloists or together as a small chamber group, he seated the flute front and center, the clarinet and oboe side by side slightly behind, the bassoon further behind, and the trombone in the back of the room.

The main challenges during the session proved to be the tempos, both in their fast speeds and their frequent changes. However, the players were mostly professional studio musicians, so they were able to play them well after only a few takes.

Mixing

Two versions of the mix were done, one of which was intended for the 5.1 surround sound system suitable for the screening held in the theater. This was mixed in Pro Tools by the recording engineer under severe time constraints. After importing the audio files from the recording session, I created a mix for stereo applications in REAPER.

Combining virtual instruments with recorded musicians required much finessing in creating the correct levels and panning, shaping and carving out the frequency spectrums using equalization, correcting balance issues, and unifying the ambience using reverbs and delays to create a cohesive sound. The REAPER audio mixing session can be seen in Figure 9. The final step in the process was marrying the audio with the picture, which was done within each digital audio workstation.
Figure 9 - REAPER Project Audio Mix

Film Premiere and Conclusions

The premiere screening of “The Electric Leg” and its new score took place in a screening room at UCLA’s Melnitz Hall on the afternoon of December 13, 2012. The attendees included members of the faculty, the UCLA Film and Television Archives, students, and guests.

Scoring a film a century after its release proved to be a uniquely interesting and surprising challenge. During the screening, it was a wonder to consider how such a score would have been inconceivable during the era of the film’s release and how far technological advances have come over these last 100 years. However, at the same time, as the film itself reminds us, the technological quandaries we face remain remarkably the same.