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**The Struggle To Be Heard:
Toronto's Postproduction Sound Industry, 1968 to 2005**

by

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Abstract

This dissertation examines how economic and technological changes shaped the sounds of Canadian cinema, from the modern industry's founding in the late 1960s to the widespread adoption of digital editing software in the early 2000s. By focusing on the labour and craft practices that coalesced in Toronto's postproduction companies, I argue that such practices engendered a critical shift in the sonic style of Canadian film sound. Whereas fiction films initially featured a sonic style developed by the National Film Board of Canada for documentary production, filmmakers eventually adopted a style strongly identified with Hollywood cinema. Although it is tempting to explain this shift by appealing to generalized statements about the globalization of Hollywood cinema, I reveal a more complex picture in which a host of historical forces, including government policies, industrial competition, and discursive practices among craftspeople, are seen to shape how new sound technologies were used and how the adoption of these technologies did, or did not, affect the aesthetic of Canadian film sound. In order to narrow the focus of this dissertation, my case studies draw on films from the genres of horror and science fiction.

Chapter One posits my methodology, which combines theories of film history with formal soundtrack analyses. I explain that unlike many histories of sound that trace how directors use sound as a storytelling tool, my dissertation traces the history of craft techniques among below-the-line labour and in a non-Hollywood industry centered in a single urban locale (Toronto). The remaining chapters are divided into three chronological periods. Chapter Two (1968 to 1986) outlines the founding of the narrative film industry and how sound workers in Toronto appropriated NFB documentary practices. In Chapter Three (1981 to 1989) I argue that the introduction of Dolby Stereo had minimal impact on Toronto soundtracks. Finally, in Chapter Four (1988 to 2003), I contend that the increase of digital audio workstations (DAWs) altered the value of sound labour within the industry. In order to protect their jobs, Toronto sound professionals changed their craft techniques to mirror those used in Hollywood. In these ways, each chapter reveals the various mechanisms (e.g., socioeconomic, political, industrial) that shaped the dominant sound style of each era. Thus, although the dissertation's chapter breakdown is determined by major technological changes, it ultimately demonstrates that it is not technology alone that leads to style change; rather, such changes can be accounted for by a complex intersection of historical forces at any given period of Canadian film history. Put conversely, the history of Canadian cinema can be detected in its soundtracks.

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When I began this project I did not know what constituted a film history and much less how to write one. But Katherine Spring bravely took me on as her student and through her direction I learned the skills that I needed to complete this dissertation. She has devoted countless hours to providing counsel and feedback on the many chapter drafts. I will be forever grateful for her guidance through this project and for her pushing me to grow as a scholar.

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Table of Contents

Introduction: “Oh, It Must be Canadian”	1
City-based Industry Studies	3
Technology	6
Chapter Breakdown	9
Chapter One: Methods and Literature Review	15
Canadian Film Studies	16
Theories of National Cinema	21
National Cinema and the Soundtrack	24
Genre Studies	27
Film Sound History	30
Media Industry Studies	33
Baseline Aesthetic Analysis	38
Continuity Sound	39
Methods of Analysis	46
Conclusions	50
Chapter Two: The NFB Style of Sound in Toronto Fiction Film, 1968–1986	51
House Style	53
The National Film Board of Canada and Cinema Verité	57
Sound at the NFB	61
Other Stylistic Influences	71
Isolationist Policies and the Canadian Film Industry	75
American Soundtracks	87
Case Study of the NFB Style in Fiction Films: <i>Cannibal Girls</i> and <i>Videodrome</i>	91
Obscured Dialogue	93
Details	95
Atmospheric Sounds	97
Intrasoundtrack Interactions	101
Conclusions	104
Chapter Three: Dolby Stereo in Canada and the Persistence of the NFB Aesthetic, 1981–1989	105
Dolby Stereo Technology	107
The Role of Dolby Consultants	110
Dolby Stereo Branding and Exhibition	113
Cineplex Odeon and Dolby Stereo	118
Film House: The Legitimization of the Toronto Dolby Stereo Aesthetic	124
Dolby Stereo and Sound Style in America	130
Case Study of Early Dolby Stereo: <i>Heavy Metal</i> and <i>Spacehunter: Adventures in the Forbidden Zone</i>	134
Details	136
Atmospheric Sounds	139
Intrasoundtrack Interactions	140
Case Study of the Modulated NFB Sonic Style: <i>The Fly</i> , <i>The Gate</i> , and <i>Millennium</i>	142
Details	145
Atmospheric Sounds	149
Intrasoundtrack Interactions	152
Conclusions	155

Chapter Four: Pro Tools and the Changing Value of Postproduction Sound Labour in Toronto, 1988–2005	157
Canada’s Industry Trade Paper Playback	161
Digital Audio Workstations (DAWs) and the Rise of Pro Tools	163
Digital Audio Technology and the Industry	169
Labour Deals in a Digital Climate	174
From Technician to Artisan	177
Hollywood’s Intensified Continuity Sound	181
Case Study of Toronto's Continuity Sound: <i>Blood & Donuts</i> , <i>Cube</i> , and <i>Ginger Snaps</i>	184
Details	187
Intrasoundtrack Interactions	191
Atmospheric Sounds	194
Conclusions	196
Conclusion	199
Intensified Continuity Sound in Toronto: A Brief Analysis of <i>Splice</i>	202
Details	204
Atmospheres	207
Intrasoundtrack Interactions	210
Local to Translocal	212
Endnotes	217
Appendices	242
Works Cited	317

List of Tables

Table 1. Number of Dolby Stereo-Equipped Theatres in the Unites States, Canada, and Toronto.....	117
Table 2. Location of Dolby Stereo Mixes for Canadian Films (1987–1989)	128

List of Figures

Figure 1. Postproduction sound division of labour in Toronto.	6
Figure 2. Example of sonic visualization from Videodrome.	49
Figure 3. Number of feature films produced in Canada per decade, 1920–1980.	78
Figure 4. Canadian multichannel mixes by year, 1980–1989.	112
Figure 5. Comparison of the number of Canadian Dolby Stereo films with the total number of Canadian films, 1980–1989.	115
Figure 6. Screenshot of sound edit for tree branch break in Splice.	204
Figure 7. Screenshot of Foley for tree branch break in Splice.	205
Figure 8. Screenshot of Dren’s vocalizations.	206
Figure 9. Screenshots of atmospheric sounds.	208
Figure 10. Screenshots of additional atmospheric sounds.	208
Figure 11. Screenshot of atmospheric sounds for Reel Six.	210

List of Appendices

<i>Cannibal Girls</i> Soundtrack Visualization.....	242
<i>Videodrome</i> Soundtrack Visualization.....	248
<i>Heavy Metal</i> Soundtrack Visualization.....	253
<i>Spacehunter: Adventures in the Forbidden Zone</i> Soundtrack Visualization.....	259
<i>The Fly</i> Soundtrack Visualization.....	265
<i>The Gate</i> Soundtrack Visualization.....	275
<i>Millennium</i> Soundtrack Visualization.....	282
<i>Blood & Donuts</i> Soundtrack Visualization.....	290
<i>Cube</i> Soundtrack Visualization.....	297
<i>Ginger Snaps</i> Soundtrack Visualization.....	302
List of Multichannel Canadian Films from 1980-1989.....	314

List Of Abbreviations

ADR	Additional Dialogue Recording
AQTIS	Alliance Quebecoise des Techniciens de L'image et du Son
CBC	Canadian Broadcast Corporation
CCA	Capital Cost Allowance
CCFM	Council of Canadian Filmmakers
CFC	Canadian Film Centre
CFDC	Canadian Film Development Corporation
DAW	Digital Audio Workstations
DGC	Director's Guild of Canada
IATSE	International Alliance of Theatrical Stage Employees
ISDN	Integrated Services Digital Network
JSMPE	Journal of the Society of Motion Picture Engineers
JSMPTTE	Journal of the Society of Motion Picture and Television Engineers
R&D	Research and Development
SMPTE	Society of Motion Picture and Television Engineers

Introduction: “Oh, It Must be Canadian”

In 1994, Canadian film sound editor Gael MacLean summed up perceptions of Canadian film sound of the 1970s in a trade paper article by stating, “If a film sounded bad people would say, ‘Oh, it must be Canadian.’”¹ MacLean's statement, though wry, illustrates two beliefs that seem to have predominated the community of Canadian postproduction sound personnel in the 1990s: first, that there were significant differences between the quality of Canadian soundtracks in the 1990s and those produced during the 1970s; second, that soundtracks produced in the 1970s ultimately constituted “bad sounding” films. But what does it mean to have a bad sounding film? What qualities of film sound are valued and deemed artistically legitimate? And how do those qualities change over time? I show through this dissertation that the answers to these questions are integral to our understanding of Canadian cinema history.

Using the notion of “bad sound” as a launching point, this dissertation examines the Toronto postproduction sound industry for English-language films from 1968, when the Canadian Film Development Corporation (CFDC) was founded, to the early 2000s, when traces of a uniquely Canadian aesthetic were no longer present on the soundtrack. My dissertation considers how soundtracks that were constructed in the Toronto postproduction sound industry gradually shifted away from a documentary aesthetic established specifically at the National Film Board of Canada (NFB) towards a style associated with Hollywood continuity filmmaking. In order to narrow the focus of my study and provide continuity among my examples, I selected films from the horror and science fiction genres as case studies. I have divided the forty-one years that this dissertation covers into three periods: the NFB sonic style from 1968 to 1986 (Chapter

Two); Dolby Stereo in Canada from 1981 to 1989 (Chapter Three); and the rise of digital audio workstations from 1988 to 2003 (Chapter Four). In each chapter I reveal the economic and social mechanisms that shaped the dominant sound style of each era. Even though I use major technological changes to determine my chapter breakdown, I ultimately demonstrate that it is not technology alone that determines style change, it is technology in combination with other generative mechanisms, such as government policy, theatrical competition, and a lack of job security.

By providing a history of the influences and practices that characterized Canadian film sound, the dissertation also aims to fill critical gaps in current scholarship on film sound. Due to the newness of the field, at the time of this writing English-language sound scholarship makes minimal reference to non-American postproduction sound practices. By excluding non-American soundtracks, we currently have a distorted view of the role that technologies play in shaping film sound. Since the 1970s, as shown by Jay Beck, William Whittington, Ben Wright, and Mark Kerins, the introduction of new recording and exhibition technologies, such as the Nagra, Pro Tools, Dolby Stereo, and digital sound, has played a pivotal role in shaping the postproduction sound industries in the United States.² This dissertation offers a complement to studies of the American sound industry. I limit this study to the Toronto industry, and I consider in great detail how a film industry negotiates the value of new technology. As Toronto and technology are essential to my argument, I have chosen to discuss them in the introduction, rather than in the subsequent methodology chapter.

City-based Industry Studies

The initial scope of this project encompassed postproduction sound industries across the entirety of Canada. My rationale at that point was based on the hypothesis that national industries had their own distinctive approaches to constructing film soundtracks based on national policies and culture. However, I soon realized that each local industry had its own nexus of factors that shaped the style of soundtracks produced. For the sake of manageability, I decided to limit my study to Toronto, the largest postproduction sound industry city in Canada, which allows me to research the factors affecting the industry in greater detail.

I selected Toronto primarily because postproduction services for the majority of English-language Canadian films are currently completed in this city. Toronto's sound industry also has the advantage of having been established in the early 1960s, which makes the city one of the oldest postproduction centres in the country. Further, Toronto is the home of the largest private mixing facilities in Canada, which demonstrates that the city attracts a steady volume of projects to maintain expensive operations. Even though I make the occasional reference to Montreal and Vancouver, I choose not to discuss either city's postproduction sound industry at length. There are a couple of reasons for this. My extensive research of Canadian trade papers (e.g., *Cinema Canada*, *Playback*, and *Canadian Film Weekly*), guild newsletters (e.g., the Canadian Editors Guild and the Directors Guild of Canada) and industry directories (e.g., *The Canadian Film Yearbook*) has shown that Montreal's postproduction facilities primarily provide services for French-language films and Vancouver's industry has, until recent years, centred around location production rather than postproduction.

My decision to examine a single local industry, as opposed to providing an overview of postproduction sound in Canada, is not without precedent. It is informed by recent scholarship on city-based industries, such as Richard Koszarski's book *Hollywood on the Hudson: Film and Television in New York From Griffith to Sarnoff*, Michael Glover Smith and Adam Selzer's book *Flickering Empire: How Chicago Invented the U.S. Film Industry*, and Joshua Gleich's dissertation, "Hollywood Location Shooting in San Francisco and the Aesthetics of Urban Decline, 1945–1975."³ Such city-based film histories developed out of studio-based histories in Hollywood (e.g., Tino Balio's two-volume history of United Artists and Richard Jewell's *RKO Radio Pictures: A Titan Is Born*), where the output of a single studio warranted in-depth research.⁴ By studying the industry of a particular city, scholars can investigate several smaller studios or a defined group of independent filmmakers, and thus can more closely study both the social dynamics within industry personnel and the competitive practices between stakeholders in the industry (e.g., filmmakers, producers, sound personnel, and government support systems). City-based limits offer the advantage of providing a clear border around an industry, though scholars need to still take into account provincial or state and national policies that affect a particular city's industry.

Presently there exists minimal scholarship on the film industry of Toronto, though Paul Moore's monograph *Now Playing: Early Moviegoing and The Regulation of Fun* is an important exception. Limiting his focus to Toronto, which he aptly describes as "an ideal bridge between the United States and its global markets,"⁵ Moore provides a history of exhibition practices in a particular city. Similarly, my study into the postproduction

sound history of Toronto puts forward a counterexample to practices that emerged in Hollywood, New York, and San Francisco.

By focusing on Toronto's postproduction industry, my dissertation seeks to balance the current scholarly bias towards the study of Hollywood sound. It presents a detailed history of a non-Hollywood cinema industry that has existed for over a half-century to gain a deeper understanding of how local factors shape soundtrack style and gain a better understanding of the industrial factors that determine film style.

Based on my research and my experience of working as an assistant sound editor in the industry, I argue that the division of postproduction sound labour in Toronto is slightly different than it is in the United States. In Toronto, the process of postproduction sound is typically divided into three areas: sound editing and Foley, music, and re-recording (See Figure 1). In terms of sound editing, while one sound editor can complete the entire soundtrack, this task is often sub-divided into dialogue editing and sound effects editing. The dialogue editor often prepares both the location recordings and the additional dialogue recorded during postproduction (ADR) for the mix, but occasionally there is an additional editor who edits only the ADR.⁶ Sound effects tracks are cut either by the sound effects editor or by a team of editors led by a supervising sound editor. Notably, the term "sound designer" is rarely used in Toronto, despite its popularity in other local industries, such as San Francisco. The Foley artist, often working independently from the sound editors, creates the effects for all onscreen body movements. Unlike in Hollywood, where the role of a Foley editor is common, Toronto Foley artists record their sounds in sync with the picture and therefore do not require a Foley editor. The composer or music editor prepares the film's source music and score.

Often the composer also works as the orchestrator and music editor, but some composers, such as Howard Shore, work with a large team to prepare the score. When all the tracks are completed, they are sent to the final mix where a team of two to three re-recording engineers combines everything into the soundtrack. Since Toronto's division of labour is different than Hollywood's, it follows that the aesthetic of the soundtracks produced in the city varies from mainstream American cinema because the soundtracks are created within a different workflow.

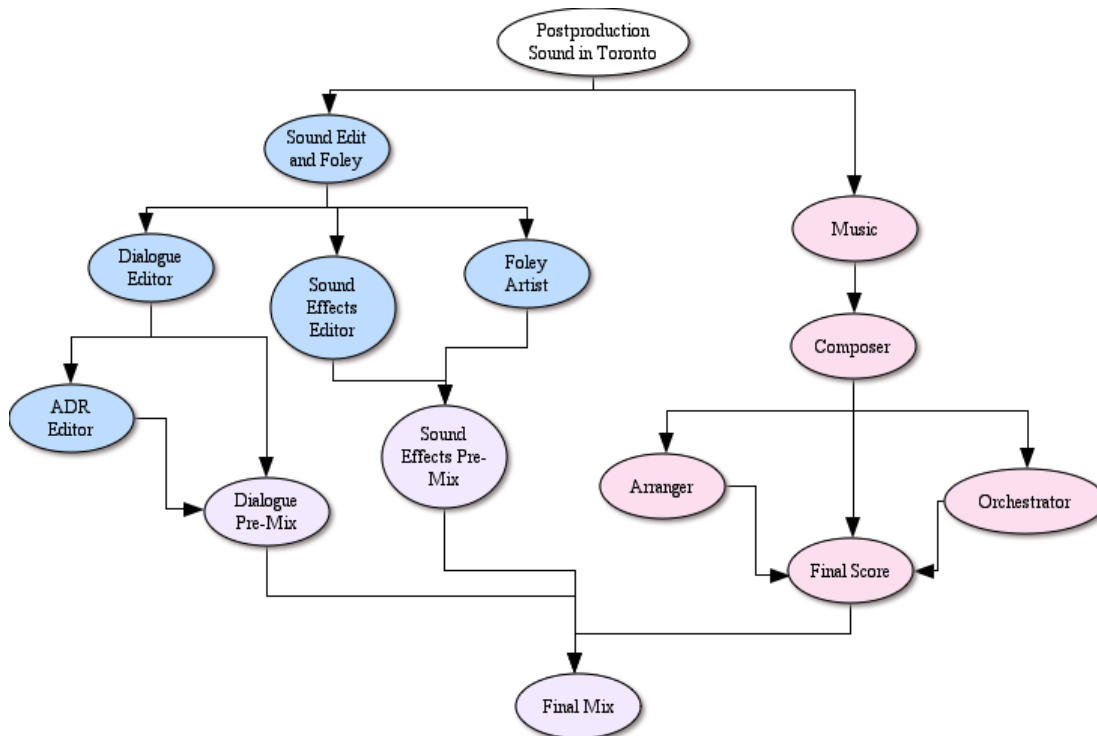


Figure 1. Postproduction sound division of labour in Toronto.

Technology

The introduction of new technology within the film industry functions as a recurring theme throughout this dissertation. But rather than adopting a technologically

determinist approach, I investigate the economic and institutional factors that influenced how sound practitioners in Toronto incorporated new technologies into their practices. One method of researching technologies from an historical perspective is “crisis historiography,” as Rick Altman refers to it in his book *Silent Film Sound*. This methodology takes into account the historical developments and social constructs of the technology: “Instead of considering a new technology as a configuration of nuts and bolts, which can be physically modified and reconfigured until satisfaction is finally achieved, crisis historiography considers the new technology as it is socially constructed.”⁷ By addressing technology from a social historical perspective, crisis historiography deemphasizes the technical and material aspects of filmmaking technology and instead functions as a means to reveal the different ways that such technology was valued and used in a locale (e.g., Toronto), and how these practices developed and changed over time.

Robert Allen and Douglas Gomery provide another approach to the study of film technology in their landmark text, *Film History: Theory and Practice*, wherein they promote research on the economic factors that shape the use of technology within a specific industry. They argue that “the simple availability of technology does not in itself determine filmmaking practice, nor does it necessarily specify a general direction for artistic innovation.”⁸ But if technology does not perforce have direct consequences on film form and style, it is important to examine the other generative mechanisms that explain how filmmakers ultimately codify their uses of technology.

Studies of the relationship between film technology and style also inform my historiographical approach. David Bordwell and Janet Staiger outline three main reasons

for technological change in the film industry. First, new technology can save time and money by increasing what Bordwell and Staiger term “production efficiency.” Second, new technologies can aid in “product differentiation” by offering audiences a new experience, such as synchronized sound in the 1920s or new configurations of multichannel sound in the following decades. Finally, the film industry can encourage new innovations to help with the “adherence to standards of quality.”⁹ For Bordwell and Staiger, the film industry’s adoption of technology is contingent upon economic and social factors. And while new technologies may help filmmakers achieve new stylistic norms and streamline production practices, if and how the technology is used is determined by the filmmakers and not the technology itself.

Traditionally, studies of the relationship between technology and film often focus on Hollywood cinema, but in recent years scholars have extended this discussion to include non-Hollywood industries. Charles O’Brien explicitly offers a framework for researching the historical relationship between technology and style outside of Hollywood by demonstrating how examinations of sound aesthetics can highlight the differences in film style between two national cinemas: American and French.¹⁰ He not only examines the technology that both industries employed, he also carefully charts how sound practitioners employed the technology within their workflows. In so doing, O’Brien provides a methodology to “contend with questions relating to the national adaptation of imported technologies, techniques, and films and to cinema’s links with other media.”¹¹ O’Brien notes that when studying the relationship between technology and aesthetics, scholars need to examine industry norms rather than one-off experiments: “Instead of analyzing outstanding events—breakthrough films, first-time uses of a

technique, career failures, and overnight successes—the focus of historical analysis has become broad patterns: aesthetic norms, industrial routines, and standard rather than exceptional uses of techniques.”¹² I draw on O’Brien in concert with the other aforementioned scholars (Altman; Allen and Gomery; and Bordwell and Staiger) to inform my research of the mechanisms that shaped the adoption of technology within the Toronto postproduction sound industry. I also model my examination of changes to film style on how these scholars examine the formation of film practices.

One example of how I approach technology comes from an examination of the delayed acceptance of Dolby Stereo in Canada. It is commonly accepted that in the late 1970s, American theatres rapidly installed the new technology in order to lure in audiences wishing to hear films as they were intended to be heard.¹³ However, my research on this subject, presented in Chapter Three, demonstrates that Canadian exhibitors were reluctant to invest in Dolby Stereo as an upgraded sonic experience because the system cost more than expected and therefore provided minimal financial benefits to Canadian exhibitors. By expanding scholarship on contemporary film sound and the postproduction sound industry in particular a more nuanced and accurate understanding of the various ways that different film industries adopted new technologies, such as Dolby Stereo, can be found.

Chapter Breakdown

Chapter One posits my methodology, which combines theories of film history with formal analyses of soundtracks. I begin by positioning my work within current scholarship of national cinemas. I suggest that my work is best understood as a study of a local production culture, which influenced my decision to focus the majority of my

dissertation on Toronto. I then discuss my dissertation in relation to film sound scholarship on three intertwined subjects: genre, history, and technology. I conclude by explaining my approach to soundtrack analysis and defining what I mean by “continuity sound.” In this section, I explain that unlike many histories of sound that trace how directors use sound as a storytelling tool, my dissertation specifies the history of craft techniques. This means that rather than concentrating on the history of storytelling innovations, I map the history of soundtrack construction by detailing the craft of recording, editing, and mixing, practices that together formed the foundation upon which filmmakers used sound as a tool to tell their stories. To accomplish this, I delineate the small-scale decisions of practitioners, such as the relative volume, atmospheric sounds, clarity of the dialogue recordings, and the level of sonic detail used in the creation of the soundtrack. For instance, instead of focusing my analysis in Chapter Two on how David Cronenberg might create a different soundtrack than Ivan Reitman to advance the story, I examine common small-scale practices used in the construction of the two soundtracks and the historical factors that led to the sonic style of each film. Throughout my dissertation, I examine how the baseline aesthetic of soundtracks created in Toronto dramatically changed for the industry as a whole over the course of several decades.

In Chapter Two, I consider how government film policies led to the continuation of an NFB documentary style, as opposed to a Hollywood style, in Toronto feature films between 1968 and 1986. I begin by exploring the style of sound used at the NFB in the years before the government sponsored the development of a national feature film industry. I identify the technologies and techniques used at the Board in the creation of documentaries and fiction films, such as the use of portable magnetic recorders for

location filming. I then compare the NFB sonic style to the style of sound used by observational documentarians from other countries, French New Wave filmmakers, and American Independent filmmakers to demonstrate that while Toronto films may share a common visual style, the soundtracks used different practices that created a distinct aesthetic. After defining the NFB sonic style, I look at how filmmakers interpreted government policy in order to explain why the style of sound used in Toronto fiction film remained in place until the mid-1980s. I end the chapter with an analysis of how the NFB sonic style in Ivan Reitman's *Cannibal Girls* (1973) and David Cronenberg's *Videodrome* (1983) is the same despite being made a decade apart and having a significant difference in budget.

In Chapter Three, I address the assumption of scholars, such as Gianluca Sergi and William Whittington, who argue that the introduction of Dolby Stereo transformed postproduction sound workflows and sonic aesthetics.¹⁴ I do this by outlining the reasons why the introduction of Dolby Stereo in the early 1980s resulted in negligible change in the style of soundtracks mixed in Toronto. I argue that a lack of venues equipped with Dolby Stereo discouraged Canadian filmmakers from making use of the technology and that it was only after more cinemas were equipped with Dolby Stereo equipment and more filmmakers began to use the technology that the Toronto soundtrack style began to change. To demonstrate how Toronto postproduction sound practitioners used different practices and standards than their Los Angeles counterparts for the creation of Dolby Stereo soundtracks, I analyze the soundtracks of two Canadian films: *Heavy Metal* (Gerald Potterton, 1981, mixed at Pathé in Toronto) and *Spacehunter: Adventures in the Forbidden Zone* (Lamont Johnson, 1983, mixed at the Burbank Studio in Los Angeles).

After outlining how Toronto sound personnel initially approached Dolby Stereo soundtracks, I examine how the Toronto Dolby Stereo style changed in the mid-1980s by analyzing the soundtracks for *The Fly* (Cronenberg, 1986), *The Gate* (Tibor Takács, 1987), and *Millennium* (Michael Anderson, 1989). I conclude by explaining that within Canada, the introduction of Dolby Stereo resulted in only a slight change to the soundtrack style a decade after the format was first introduced in the United States.

Chapter Four centres on the transition from magnetic tape-based sound editing to digital, computer-based sound editing that occurred from the mid-1990s through the early 2000s in Toronto. I contend that the widespread use of digital audio workstations (DAWs), such as Digidesign's Pro Tools, decreased the value of the Toronto sound community's labour and created economic insecurity for established practitioners. I analyze the discourse of sound editors and re-recording engineers in Canada's dominant trade paper, *Playback*, over an eighteen-year period, and conclude that in order to protect their position within the industry, sound practitioners adopted a rhetoric of self-promotion to change the value of their profession from technician to artisan. The rhetoric used by practitioners, combined with the precariousness of the industry and the ease of use offered by the new technology, slowly led to the adoption of a Hollywood-style soundtrack in Toronto. I trace this gradual change by examining the baseline aesthetic of three films from this period: *Blood & Donuts* (Holly Dale, 1995), *Cube* (Vincenzo Natali, 1997), and *Ginger Snaps* (John Fawcett, 2000).

I conclude the dissertation with a brief case study of the soundtrack for *Splice* (Natali, 2009), drawing on screenshots of the sound edit. From these documents, along with trade paper articles, I discuss the directions that Toronto soundtracks appear to have

taken in the last decade and how Toronto postproduction sound workers are continuing to change their practices to make use of the possibilities for file sharing and collaboration offered by the Internet.

This dissertation provides a historical framework for a specific industry, which can serve as a model for how we might perform further investigations into the relation of film style and the industrial climate of a local community. By examining a local industry over an extended period of time, we gain a comprehensive understanding of the factors that shaped the ways in which new technologies were used and how technology does or does not affect film style depending on the industrial context of the local industry. Throughout the dissertation, I argue that fiction film soundtracks created in Toronto originally had a sonic style developed at the NFB, but the Toronto sound style gradually became more like the aesthetic used in American films by the early 2000s.

My history of the Toronto postproduction sound industry submits three main findings. First, I demonstrate that the introduction of new technology modifies the aesthetic only when social factors are also in flux. For instance, the Toronto sound practitioners revised their approach to Dolby Stereo soundtracks almost five years after the technology was first used in Canada, and only after they had been exposed to new practices and techniques and when filmmakers began to demand a new style of sound. Similarly, digital audio workstations did not immediately alter film sound style. It was only after competition increased within the Toronto industry and sound practitioners began to promote their talent and experience in their rhetoric that the style began to transform.

Second, in the aforementioned chapters, I put forward an alternative mode of analysis. Instead of examining the narrative function of sound in the film, I reverse-engineer the practices employed by sound practitioners to delineate the baseline aesthetic of the industry. In each chapter, I assess the amount of detail, the use of atmospheric sounds, and the level of intrasoundtrack interactions in order to chart how Toronto film soundtracks shifted from the NFB aesthetic in the late 1960s to a Hollywood continuity style of sound by the early 2000s.

Third, even though I examine how style changed over time, I do not apply the same type of value assessment that MacLean used to describe Canadian soundtracks. Instead, I track the aesthetics used in different periods and how the value of a particular aesthetic changes over time, an approach informed by Altman's crisis historiography. For instance, in Chapter Two, I explain how the NFB sonic style, which relied heavily on location recording, was a desirable aesthetic for NFB documentaries in the late 1950s, as it highlighted the abilities of new portable location recording equipment. The prestige of this aesthetic is apparent in its continued use in fiction filmmaking until the mid-1980s. However, by today's standards, this aesthetic is associated with "bad" sound.

Chapter One: Methods and Literature Review

When I began research on this dissertation, I set out to write about film sound in English Canadian films, but I had a poor understanding of the best methodological approach with which to accomplish this enormous task. Should I study how the soundtrack reflects Canada, perhaps through the use of distinctly Canadian sounds, such as the call of loons, Toronto's subway door chimes, or wind rustling maple leaves? Or should I adopt Margaret Atwood's or Northrop Frye's model of Canadianness and examine how sound reflects the themes of survival or the garrison mentality respectively? However, neither of these models, both of which have been used extensively in Canadian film studies in the past, seemed suitable for addressing sound in Canadian films.¹ For this reason, I refined my research questions to ask what defines the style of soundtracks produced in Toronto, how this style changed over the last forty years, and what were the factors that led to aesthetic change.

In order to answer these questions, I investigated the Toronto postproduction sound industry over the course of four decades beginning in 1968, the year that the Canadian government provided funding to galvanize the private film industry. I examine a confluence of factors that shaped sound style in Toronto, including government policy, pre-existing documentary practices, exhibition technology, and the introduction of digital editing tools. Throughout my dissertation, I combine an institutional historical approach, exemplified in *Classical Hollywood Cinema* by David Bordwell, Janet Staiger, and Kristin Thompson, with baseline aesthetic analysis of the norms, epitomized by Heinrich Wölfflin in *Principles of Art History*. The coupling of an institutional history with a baseline

aesthetic analysis reveals the dominant trends during each period while also providing historical reasons for the use of certain styles and the catalysts for their change.

In order to explain why I selected this approach, it is useful to consider its numerous progenitors in Canadian film, national cinema theories, genre studies, film sound history, media industry studies, and methods of film analysis, as well as pertinent alternatives that I rejected as models for my specific research inquiry. The following review of scholarly literature on the subjects that my study weaves together is intended not only to familiarize the reader with contemporary debates related to my study but also to provide justification for this dissertation's methods of analysis.

Canadian Film Studies

Because this dissertation investigates a local industry within Canada, it is imperative to understand how scholars have examined Canadian film studies in the past. However, due to the wealth of scholarship in this field, I limit my review to works most salient to my research. Canadian cinema studies can be loosely grouped into three categories: representations of "Canadianness" in film; investigations of the Canadian film industry (typically undertaken from an economic perspective); and case studies that seek to revise our understanding of a particular area of Canadian cinema history.

The Canadianness of films can be either prescriptive (what Canadian critics desire) or descriptive (how Canadian films reflect the nation's values). The prescriptive approach arose in response to the rise in genre films produced during the tax shelter years. The issue of nationality in Canadian film came to the fore in 1985 when a number of critics and scholars questioned the direction of the film industry in the main trade paper of the time,

Cinema Canada. Bruce Elder's essay in that magazine, "The Cinema We Need," called for an experimental or avant-garde form of cinema to work in opposition to narrative Hollywood cinema.² Elder's manifesto received immediate criticism within Canadian film studies. Bart Testa, Michael Dorland, Piers Handling, Peter Harcourt, and Geoff Pevere all offered their own responses to Elder's suggestion.³ Both Testa and Dorland note that Elder, Handling, and Harcourt each call for a different type of Canadian cinema. Dorland summarizes this point: "In other words, within the arc of Canadian cultural nationalism [there are] three political prescriptions for Canadian cinema: liberal (Harcourt), social-democratic (Handling) and radical (Elder)."⁴ Notably, while Elder's essay prompted a series of responses from Canadian film critics and scholars, Canadian filmmakers appear not to have been overly adherent to their recommendations, and instead continued to make a variety of films ranging from the experimental (e.g., Michael Snow and Phil Hoffman) to the realist (e.g., Atom Egoyan) to the commercial (e.g., Ivan Reitman and David Cronenberg).

This historical debate revealed a bias within the academic study of Canadian cinema towards art cinema and away from generic films, which were viewed as the product of American cultural imperialism. The objection to the influences of Hollywood led both Testa and William Beard to position Cronenberg's films as exemplars of clear instances of Canadianness because the films incorporate theories developed by Canadians. In "Technology's Body: Cronenberg, Genre, and the Canadian Ethos," Testa argues that Cronenberg's use of technology reflects Northrop Frye's concept of the garrison mentality, and exemplifies George Grant's and Marshall McLuhan's theories of technology.⁵ As Cronenberg weaves references to these Canadian theories of culture into his films, Testa argues that his films may be considered exemplary Canadian cultural

products. Beard also sought to reclaim Cronenberg's films for Canada in "The Canadianness of David Cronenberg."⁶ In this article, Beard uses a Frye–Atwood model and concludes that Cronenberg should be labelled an "Ur-Canadian."

Not all scholars have agreed that Canadian films inherently embody (or should embody) traits of a distinctive national cinema. For example, Will Straw counters the argument for a distinctly Canadian culture. Based on his experience serving on the Federal Task Force on Broadcasting Policy (the Kaplan-Sauvageau Commission) in 1985, Straw writes that reducing Canadianness to symbols, such as curling, license plates, or flags, or a "Canadian tone" trivializes the production of Canadian cultural content by privileging stereotypes. Straw challenges essentialist positions of determining Canadian content, such as Margaret Atwood's survival frame, Peter Harcourt's loser heroes, and Geoff Pevere's "stubbornly worrisome" characters of English-Canadian films.⁷ Straw asserts that these thematic undertones are representative of the themes present in international art cinema as opposed to being uniquely Canadian.

Since the late 1990s, questions of representation in Canadian film have shifted from examinations of Canadianness to studies of gender, sexuality, and ethnicity in Canadian cinema. For example, the seminal anthology *Gendering the Nation: Canadian Women's Cinema* (1999) presents eighteen case studies on silent films, documentaries, avant-garde works, and narrative features to provide an overview of how women in Canada have used the medium of film as a form of representation.⁸ Christopher Gittings' *Canadian National Cinema: Ideology, Difference and Representation* (2002) and Thomas Waugh's *The Romance of Transgression in Canada: Queering Sexualities, Nations, Cinema* (2006) expand this trend by integrating issues of queerness and race into concepts of Canadian cinema.⁹ While these directions of research continue to grow and continue to

complicate straightforward definitions of Canadian cinema, these studies generally do not touch upon the matters of production or industry that form a central part of my own study.

The development of the Canadian feature film industry has been the topic of several books that take slightly different approaches to the history while highlighting the same developments. Gerald Pratley's *Torn Sprockets: The Uncertain Projection of Canadian Film* (1987) and Manjunath Pendakur's *Canadian Dreams & American Control* (1990) were among the first studies to attempt a comprehensive overview of the history of Canadian cinema.¹⁰ Pratley's survey of Canadian cinematic history focuses on what he deems to be the successes and failures in the portrayal of Canadian identity on celluloid. Pendakur opens his study into Canadian film by explaining how Canadians remain "a cultural colony of the United States... the Canadian people's submission to expanding U.S. power and resultant dependence—is most acutely felt in the feature film industry."¹¹ Like Pratley, Pendakur dismisses genre films and instead argues for a national cinema that reflects Canadian themes. They both also emphasize the development of the feature fiction film industry in Canada in face of adversities, such as the dominance of Hollywood, unsympathetic governments, and producers who privilege profits over art. Ted Magder's *Canada's Hollywood: The Canadian State and Feature Films* (1993) and Michael Dorland's *So Close to the State/s: The Emergence of Canadian Feature Film Policy* (1998),¹² on the other hand, provide analysis of policies, the implementation of government policies, and the effect these policies had on the development of the film industry, but neither book analyzes the films they discuss.

Peter Urquhart fills in this gap by providing specific case studies on the infamous tax shelter years in his dissertation "1979: Reading the Tax-Shelter Boom in Canadian Film History" and articles "You Should Know Something—Anything—About This

Movie. You Paid for It” and “Cultural Nationalism and Taste: The Place of the Popular in Canadian Film Culture.”¹³ Urquhart asserts that Canadian scholars need to account for popular films in their histories of Canadian cinema because such films were not only integral to the formation of a stable film industry, but also can be read as texts that engage directly with the political realities of the time. For example, Urquhart’s discussion of the oft-overlooked film, *Suzanne* (Robin Spry, 1980), analyzes the English and French relationships in Montreal as an allegory for the political climate of the time.¹⁴ Urquhart’s re-examination of films from the tax shelter era has led to a critical re-evaluation of the Canadian canon of films by arguing for the vital role these films played in supporting the fledgling film industry.

Recently, Zoë Druick has explored the history of documentary filmmaking at the NFB through an extensive analysis of the film policy, the history of the institution, and the films themselves.¹⁵ She argues that the nation-building objective of the Board played an essential role in the innovation of filmmakers who either rejected the official mandate or attempted to counter the general population’s lack of interest in the films.

Following on Urquhart’s and Druick’s approaches, my dissertation examines the effect of government policies, exhibition practices, and the industrial climate on the production of films in Canada. Urquhart and Druick limit their studies so that they can create nuanced explanations of a specific aspect of Canadian cinema. By narrowing my area of focus to a specific city-based industry, I also am able to provide detailed explanations for changes to filmmaking practices for the under-researched area of the postproduction sound industry and the aesthetic qualities of Canadian soundtracks.

Theories of National Cinema

As this dissertation situates the study of film sound within Canadian cinema, my research benefits from the advice and models offered in theories of national and transnational cinema. In recent decades, studies of national cinemas have shifted from text-based analyses of films to more self-critical evaluations of the methods and assumptions that underpin such analyses. Scholars have also moved from studying national cinemas in isolation to focusing on transnational and local film industries. I have selected from the ever-growing body of scholarship on national cinemas the key texts that have shaped my study, and I highlight four salient recommendations that I incorporate into my approach to the study of Toronto's postproduction industry: potential biases within the studies of national cinemas; the need to incorporate the industrial history into analyses; the benefits of comparing the films of a particular nation to mainstream, Hollywood films; and the importance of the local within the national.

It is vital to remember the biases that are inherent in any study of national cinema and be aware of the potential to apply essentialist findings to the object of study. Revisionist theories of national cinema began to flourish in the 1990s, largely in the wake of Andrew Higson's article, "The Concept of National Cinema," published in *Screen* in 1989. Higson examines the questions asked when studying national cinemas in order to highlight biases within the field. He contends that "very often the concept of national cinema is used prescriptively rather than descriptively, citing what ought to be the national cinema, rather than describing the actual cinematic experience of popular audiences."¹⁶ Scholars of national cinemas, Higson argues, often construct their analysis to support "a unique identity and a stable set of meanings," an approach that he refers to as "nationalist myth-making."¹⁷ Similarly, in "Framing National Cinemas," Susan Hayward maintains

that national identities are not national, and theories of national cinema can encourage essentialist views.¹⁸ Hayward draws on the work of national theorists, such as Benedict Anderson, to argue that nations are ideological constructions rather than naturally occurring divisions. This means that films can be made “as evidence of the nation’s distinctiveness,” but films are not intrinsically of that nation.¹⁹ In other words, we cannot ascribe a one-to-one relationship between nation and film.

Jinhee Choi proposes an alternative to essentialist approaches in “National Cinema, the Very Idea,” calling for the need to research the historical context of national cinemas: “We can properly understand the significance of a national cinema as a cinematic category only within a historical context in comparison with other national cinemas.”²⁰ In conjunction with the history of a nation’s cinema, Choi argues for studies of the individual cinema’s identifiable characteristics, which she classifies as the most typical and frequently used styles, to understand what comprises that nation’s cinema’s aesthetic. The combination of historical context and an overview of the most salient features of a nation’s cinema is similar to the methodology used by David Bordwell, Janet Staiger, and Kristin Thompson in *Classical Hollywood Cinema*, which takes into account the political economy and professional ideologies of the industry and echoes the recommendation that Higson made in 1990 for scholars to use this text as a model.²¹ I adopt Choi’s approach to the study of Toronto postproduction sound by carefully examining the historical context of the industry and offering what I term a “baseline analysis” of the common traits used in each period this dissertation covers.

Both Hayward and Higson argue for the importance of comparing national cinemas to Hollywood, by suggesting that as a consequence of the ubiquity of Hollywood cinema other national cinemas are continually defined in relation to Hollywood. Hayward

notes that national cinemas need to be defined by their differences from Hollywood and other cinemas.²² Similarly, Higson maintains that national cinemas function to assert autonomy from Hollywood through the process of product differentiation, as national cinemas are often compared against the standard characteristics of Hollywood films.²³ Because of the importance of Hollywood as a foil to other national cinemas and its consideration as the international standard, in each chapter I contextualize my findings with a brief summary of the current scholarship on Hollywood soundtracks. These sections serve as a point of comparison for the trends that I am noticing in the soundtracks created within Toronto. I determine the scope of Hollywood cinema by drawing on the work of scholars of American cinema, including Jay Beck, Amy McGill, William Whittington, Mark Kerins, Ben Wright, and Jeff Smith.

An important aspect of my own work draws on Higson's suggestion that studying local cinemas can remedy some of the issues that national cinemas present. He explains that while the concept of national cinema is still useful to the analyst, the study of either the local or the transnational may be more relevant today, given the increasing permeability of geopolitical borders through the Internet.²⁴ For Higson, both local and transnational cinema studies circumvent the need to make generalized assumptions about a nation's culture when studying films.

I have chosen to focus on local, as opposed to the transnational, because I am examining a small postproduction sound industry that, until the past five years, has remained relatively separate from transnational influences for a number of social and economic reasons. I acknowledge that transnational influences occur, but as my research suggests that such interactions are rare, I primarily focus on the Toronto industry. Notably, Toronto is considered the "postproduction powerhouse" of Canada due to the

number of facilities within the city, a point that Ben Goldsmith and Tom O'Regan note in their book *The Film Studio*.²⁵ Traditionally, this has meant that the postproduction services for the majority of English Canadian films are completed in Toronto, which in turn has meant that “the local” has tended to represent “the national” where film sound is concerned. By centering on a single postproduction community, then, I am able to track changes within the industry over the forty-year span of this study. While concepts of national cinema remain integral to issues surrounding policy, in-depth case studies into local industries are essential to understand how filmmakers adopt technology, alter their practices, and modify their style over time.

National Cinema and the Soundtrack

Although my dissertation centres on soundtracks created in a single city, the wealth of scholarship on the relationship between nations and soundtracks is essential to my work as these concepts continue to inform scholarship dedicated to non-Hollywood soundtracks. Such studies typically follow a thematic approach by exploring how the soundtrack's aesthetics reflect the nation in which the film was produced. The majority of these studies focus solely on music, rather than sound in general, as a signifier of national identity and engage the viewer in an imagined community. For example, Caryl Flinn's *The New German Cinema: Music, History, and the Matter of Style* and K.J. Donnelly's *British Film Music and Film Musicals* both explore the various ways in which filmmakers use music to invoke the concept of the nation.²⁶ Similarly, Mark Slobin's *Global Soundtracks: Worlds of Film Music* and Rebecca Coyle's *Screen Score: Studies in Contemporary Australian Film Music* are both comprised of a series of case studies which

examine how music functions as a cultural signifier in a film or group of films.²⁷ While these texts have begun the discussion of nationality and film music, they limit their discussion of the industrial climate in which the film was made in order to focus on how audiences interpret the music as an identifier of nationhood and culture.

Coyle's edited collection *Reel Tracks: Australian Feature Film Music and Cultural Identities* provides an overview of the entire soundtrack by expanding upon the concept of music's national identity to include the manner in which sound effects, dialogue, and mixing styles operate.²⁸ In her article "Untangling *Lantana*: A Study of Film Sound Production," Coyle explores the industrial issues surrounding the construction of the soundtrack.²⁹ She includes a brief industrial history of Australian postproduction sound in her argument, a model on which I draw for my study of the Canadian soundtrack.

Charles O'Brien adopts a rigorous historical methodology in his analysis of the conversion to sound in France.³⁰ By comparing a large number of conversion-era films produced in France and the United States, O'Brien determines the dominant features of French soundtracks. Specifically, he traces the techniques and styles that were employed by French filmmakers in the 1930s, and posits reasons for the different techniques employed by filmmakers in both countries in a period that was defined by a massive technological transition. For instance, O'Brien notes that while it was common in Hollywood to use only one microphone to record a scene, in France three to five microphones were typically used to provide full coverage from multiple perspectives. The result was that in France, the shot scale typically matched the corresponding sonic perspective, regardless of intelligibility.³¹ Because I explore a period in which the sonic style continuously needed to adapt to changing technologies, I build on O'Brien's work by considering how sonic style is affected (or not affected) by technology in Canada.

In contrast to O'Brien's comprehensive work, the current scholarship on Canadian soundtracks remains limited to case studies that are few in number and discuss diverse aspects of Canadian ideology and production practices. One of the earliest examples is Seth Feldman's "The Silent Subject in English Canadian Film," wherein he claims that a Canadian ideology is present in the silence of Canadian soundtracks. Feldman provides a metaphorical reading of soundtracks, an approach that was popular in 1984 when the chapter was published, to explain "the enforced silence of the culture in its most economically vulnerable medium, cinema.... Silence unites a pioneer people against the linguistic cultural dominance from the Imperial centre."³² While Feldman is correct in noting that the Canadian soundtracks he examines are different from their Hollywood counterparts, I demonstrate that the aesthetic of the soundtrack is driven by industrial factors, rather than ideology.

Paul Théberge explores the use of sound (primarily music) in director David Cronenberg's films in "'These Are My Nightmares': Music and Sound in the Films of David Cronenberg."³³ Théberge relies on interviews with Cronenberg and his composer of choice, Howard Shore, to explain the production context of the soundtracks and their influences. Théberge also offers his own readings of the music and soundtracks for various films within Cronenberg's oeuvre, but he notably does not apply any Canadian reading to the films.

In recent years, a few scholars have begun to adopt historical approaches to the study of sound at the NFB. Examples include Christine York's work on the creation of second language films at the NFB and Michael Baker's analysis of the use of talking heads in *Dresden Story*.³⁴ These articles explore the institutional context at the NFB, but they do not consider how the Board operated within a larger geographical and temporal

framework. My dissertation fills that gap by examining how sound practices that began at the NFB were then disseminated throughout the Toronto postproduction industry over the span of forty years.

Genre Studies

The historical scope of this dissertation covers a period of approximately forty years, in which time 4,000 feature films were produced in Canada.³⁵ Such a multitude of films raises the question of how to adequately define a representative sample in a way that also presents the findings in a cohesive manner. In order to narrow my scope, I chose films from two closely related genres: science fiction and horror films. While such narrowing entails a limited application of my findings, the advantages outweigh the drawbacks: specifically, by limiting the number of variables across my case studies, I am able to trace slight differences in sound from one film to the next. Further, as Rick Altman points out in his essay “A Semantic/Syntactic Approach to Film Genre,” genre film has both enduring elements (its “building blocks” or semantics) and the structure in which the elements are organized (its syntax) that aid in analysis. Thus, films of a particular genre and produced in the same historical period will contain similar elements at roughly the same point in the film. For example, the five films that I examine in Chapter Two feature explosions in the final scene. Although, as Thomas Schatz and others have pointed out, genres can be refreshed by way of parody and hybridity with other genres,³⁶ my research has shown that the genres of horror and science fiction in Canadian cinema have undergone few such transformations. Their semantic and syntactic consistencies mean that films from these genres easily lend themselves to close comparative analysis. Thus,

changes to the genres of horror and science fiction do not greatly alter either the semantics or syntax of the films, and the similarities among the films in terms of their content and structure means that differences in the baseline aesthetic as postproduction sound practitioners adopt new strategies for soundtrack creation are highlighted.

The close relationship between science fiction and horror has already been noted by scholars of film genre.³⁷ David Cronenberg, in particular, is known for overlapping the semantic and syntactic elements of the horror and science fiction genres; his early films caused debate among scholars over the classification of the films. At the time, Beard (1994) and Peter Morris argued that the works exemplified traits of the horror genre; Testa countered that the films belong in the category of science fiction; and Ernest Mathjis and Beard, in a later publication (2006), suggested that the films are best read as hybrids of the two genres.³⁸ Directors, such as Vincenzo Natali (*Cube* [1997] and *Splice* [2009]) and Bruce McDonald (*Pontypool*, 2008), have continued to combine features of both genres. My research has demonstrated that horror and science fiction hybridity carries over to the soundtrack, thus warranting the study of both genres in tandem.

Film sound scholarship has singled out horror and science fiction as the two genres that rely on sound more emphatically than any other genre. For instance, in *Sound Design & Science Fiction*, William Whittington argues that the science fiction genre “has historically been the site that has inspired developments in sound technology as well as innovations in sound signification (narratively, thematically, and aesthetically).”³⁹ In the introduction to *Off The Planet: Music, Sound and Science Fiction Cinema*, Philip Hayward contends that science fiction cinema “has produced the rich and often ingenious set of audio-visual texts...that attempt to auralise the otherworldliness of outer or cyber space through the combination of music and sound design.”⁴⁰ In relation to the use of

music in the horror genre, Neil Lerner asserts that “of all the cinematic genres, horror gives music a heightened responsibility for triggering feelings of horror, fear, and rage.”⁴¹ Robert Spadoni’s *Uncanny Bodies: The Coming of Sound and the Origins of the Horror Genre* argues that since Hollywood’s conversion to sound in the late 1920s, the horror genre has relied on both sound effects and music in order to trigger audience responses.⁴² These assertions on the importance of sound to horror and science fiction point to the fact that sound in these genres acts as a semantic trait.

Despite the emphasis that scholars place on sound in horror and science fiction films, studies nonetheless tend to treat each genre separately. The division between the genres is evident in collections on sound in science fiction (Hayward [2004] and Bartkowiak⁴³) and horror (Hayward [2009] and Lerner⁴⁴), in which the editors draw distinct lines around each respective genre. Arguably a more liberal view is adopted by Whittington, who notes that “In the exchanges between horror and science fiction, even the most ‘natural’ sound effects—ambiences, Foley effects—can be pushed into the realm of the supernatural with only the slightest urgings.”⁴⁵ Yet, despite his observation that both genres use sound effects to similar ends, and despite the fact that some of the case studies in Whittington’s book can easily be classified as both horror and science fiction (e.g., Ridley Scott’s *Alien*), Whittington maintains a clear distinction between the two genres in his study. In contrast, I have opted to group the two genres together, not only because their soundtracks are sufficiently similar such that strong comparisons between films can be drawn, but also because the exploration of two genres enables me to examine a slightly broader scope of films.

Film Sound History

Over the last two decades, the history of film sound has become a rich area of scholarship, evidenced by a wealth of publications that range from focused analyses of particular film soundtracks (e.g., Jay Beck’s “The Sounds of ‘Silence’: Dolby Stereo, Sound Design and *The Silence of the Lambs*”) to monographs on specific periods (e.g., Michael Slowik, *After the Silents: Hollywood Film Music in the Early Sound Era, 1926–1934*) to pioneering tomes spanning several decades of cinema (e.g., Rick Altman, *Silent Film Sound*).⁴⁶ For the purposes of my research, I focus my discussion of film sound histories on archival methodologies and studies of sound technology and its effect on the industry.

To encourage the use of archival research in film sound studies, Altman notes that “the only way to start anew, to rethink sound from the ground up, is to rummage around at the bottom of the barrel—for that is where the trade papers are, and the vaudeville managers’ reports, and the music scores, and the technical journals, and all the other little-used materials on which serious study of sound depends.”⁴⁷ In his extensive research on sound practices in early (or silent) cinema, Altman draws on a range of archival documents, such as surviving scores from the era, theatre programs, local newspapers, and a large variety of trade papers. In order to gain a clearer understanding of how and why postproduction practices in Toronto changed over the course of the forty years covered in this study, I draw on the historical methodology employed by sound scholars such as Rick Altman, Charles O’Brien, and Lea Jacobs, each of whom presents a comprehensive study of archival documentation to trace how sound practitioners negotiated their roles with the introduction of new technology.

Archival documents are often used to inform histories that examine the effect of new technologies on the industry. For example O'Brien draws on the French trade papers, *La technique cinématographique*, *La technique de cinéma*, and *La cinématographie française*, to construct his history that compares the conversion to sound in both French and American cinemas.⁴⁸ In addition to these documents, O'Brien also examines changes to the average shot length of the films he studies to gain an understanding of how style changed with the introduction of synchronized sound. Similarly, Jacobs draws on trade papers, technical journals, practitioner manuals, department memos, director notes, and the films themselves in *Film Rhythm After Sound: Technology, Music, and Performance*.⁴⁹ In her history, Jacobs uncovers the range of techniques that filmmakers employed in constructing the pace of the film and adds to our current knowledge of film sound by delineating the roles that dialogue and music play in the overall rhythm of the film. These historical investigations into the relationship between technology and style are significant for the methodology they employ; by meticulously analyzing the available documents to explain how sound workers redefined their jobs in periods of transition, they provide an overview of the effect that technological change had on labour. Further, instead of applying technological determinist arguments, they contend that technologies are adopted within pre-existing social conditions.

Although technological change has been a lively area of film sound history, such studies have primarily centred around two instances of widespread technological change: the transition to synchronized sound in the late 1920s to the mid-1930s and the adoption of surround sound technology in the mid-1970s. Scholarship on the transitional era tends to focus on the technology's reception among sound practitioners and audiences (James Lastra),⁵⁰ each studio's adoption of the new technology (Douglas Gomery),⁵¹ the way

sound practitioners made use of the technology (Rick Altman, Lea Jacobs, and Charles O'Brien),⁵² and how the new technology altered vocal performances (Katherine Spring, Jennifer Fleegeer, and Michael Slowik).⁵³

The conversion to surround-sound technologies in the 1970s can be similarly divided with scholars explaining the reception and marketing of the technology (Gianluca Sergi and Paul Grainge),⁵⁴ the innovative uses of surround sound (William Whittington and Jay Beck),⁵⁵ and the sensory experiences created through surround sound (James Lastra, Michel Chion, and Mark Kerins).⁵⁶ I discuss the contributions of these scholars more thoroughly in Chapters Three and Four.

As this brief overview suggests, there exists a critical gap in scholarship on sound technologies that emerged between the mid-1930s and the early 1970s. Studies that do explore this period are usually limited to examinations of either the use of electronic music in film (James Wierzbicki and Rebecca Leydon)⁵⁷ or of magnetic exhibition technology in the 1950s (John Belton and Nathan Platte).⁵⁸ This dissertation is intended to begin to fill this gap by examining the industry from 1968 (the year that the fiction film industry in Canada received official government support in the form of the CFDC) through to the early 2000s.

My dissertation also intends to add to our current understanding of how sound practitioners use new technologies. In general, studies that focus on the development of sound technologies trace the creation of the technology, including alternative formats and inventions that were not successful, while exploring the factors involved in the industry's adaptation of one technology over others. For example, Robert Allen and Douglas Gomery explore the various synchronized sound attempts in their case study on the conversion to sound in *Film History: Theory and Practice*.⁵⁹ After tracking the

development of new technologies, scholars typically explore the manner in which the technology is used in films. From the close analysis of representative films, scholars draw conclusions about aesthetic changes to the soundtrack. One cogent example of this is Rick Altman, McGraw Jones, and Sonia Tatroe's *mise-en-bandes*, which represent the volume of dialogue, music, and sound effects. They use these soundtrack visualizations to analyze the development of intrasoundtrack relationships in early American sound films.⁶⁰ My dissertation uses this article as a model to explore the manner in which technology has altered the form of the soundtrack.

Another common element among these studies, with the exception of O'Brien's text, is that the focus remains largely on the American film industry. O'Brien's comparison of the development of sound practices in French and American films allows him to draw conclusions about each country's respective film sound style, in turn making his study an apt model for my dissertation.

Media Industry Studies

My dissertation seeks to add to the field of film sound histories by using an industrial history of the Toronto postproduction sound community to rethink the history of Canada's feature film industry. In order to achieve this, I use an historical approach in combination with methods of examining media labour put forth by John Caldwell and Mark Deuze to analyze how discussions surrounding postproduction sound labour in Toronto changed. Industrial studies of film history have been part and parcel of the discipline of film studies for the past several decades. Some of these works are devoted to the study of a particular studio. Tino Balio's two volumes on United Artists, for example,

charts the industrial and economic changes to the company over the course of 60 years.⁶¹ More broadly, Bordwell, Staiger, and Thompson's *Classical Hollywood Cinema* interweaves case studies and analyses of films to explain how the industrial climate of the studio affects film style.⁶²

In recent decades, the rise of television and media studies in the academy has created a new, related subfield: studies of media industries and their production cultures. This subfield combines studies of economics, labour, and production practices in order to investigate questions such as how institutions influence the production and distribution of media, how government policies influence media production, and how industry workers respond to technological change. In this section, I focus on two texts from this subfield that are particularly informative to my work.

John Caldwell's *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television* combines Bordwell, Staiger, and Thompson's approach to studying the industry with ethnographic practices to explain the discourse surrounding craft labour. Caldwell examines the ways in which film practitioners construct narratives around their roles within the industry. For instance, he analyzes the language used by cinematographers to position themselves as "war heroes" when filming in difficult locations. Such language serves as "rationalizations, solidarity-making devices, guarantors of career mobility, forms of social pedagogy, and self-serving legitimation."⁶³ For this reason, Caldwell encourages scholars to be critical of their sources and the data they obtain: "Industry ethnographies can seldom be about a cleanly bounded 'production culture'; they must necessarily be cross-cultural studies in which the scholar accounts for how industry is institutionally using the academy or researcher."⁶⁴ With Caldwell's warning in mind, I have chosen to focus my analysis of the industry on archival

documents, such as press releases, government reports, and trade paper articles. I then analyze the rhetoric used by industry professionals to promote their craft and businesses. The use of these documents, as opposed to interviews, provides separation from the people I examine and in principle allows me to be more critical of their motives.

Mark Deuze, in *Media Work*, contends that in order to gain a full understanding of the role of media, we first need to understand changes to the position of media workers and how their roles are being redefined in the digital age.⁶⁵ By examining a variety of media industries, from film to advertising to gaming, Deuze concludes that the majority of media-based jobs are moving away from salaried positions to freelance roles, which has profound implications on the lives of the workers (such as decreased job security, lack of benefits, and decreased salaries). Deuze's macrolevel overview provides a synthesis of broad trends, such as the formation of semi-permanent workgroups (where freelance workers band together to form an informal team that moves together from project to project) and global production networks. In contrast to Deuze's broad approach, Timothy Havens, Amanda Lotz, and Serra Tinic postulate in "Critical Media Industry Studies: A Research Approach" that more microlevel research into industrial practices is needed to gain an accurate understanding of the industry.⁶⁶ They call for "grounded institutional case studies" as opposed to "helicopter views" of media industries so that a deeper understanding of the ways in which media workers negotiate and subvert the values of the industry might be achieved.

At this point, it is fruitful to ask how examinations of the media industries or production cultures have been accounted for in the field of film sound studies. In relation to sound, three topics reoccur through this scholarship: the development of studio sound

styles; the practices of sound-related companies; and the labour issues of workers in sound industries.

Donald Crafton and Helen Hanson both offer examinations of media industries in relation to sound. Their respective works catalogue the styles used by different studios in order to gain a more thorough knowledge of how sound departments operate. In *The Talkies: American Cinema's Transition to Sound, 1926–1931*, Crafton summarizes the basic style of eight studios.⁶⁷ His overview demonstrates that even though there were similarities among Hollywood soundtracks during the conversion era, each studio had a slightly different approach to sound. Likewise, Hanson scrupulously investigates the house styles of the Val Lewton horror unit at RKO in the 1940s in “Sound Affects: Post-production Sound, Soundscapes and Sound Design in Hollywood’s Studio Era.”⁶⁸ I draw on Hanson’s and Crafton’s models for delineating studio styles in Chapter Two, wherein I trace the dominant postproduction sound style in Toronto back to the NFB’s practices. I argue that NFB sound practitioners who left the Board in the mid- to late 1960s to work in Toronto’s private industry continued to use the same techniques on the fiction films that they used on the NFB documentaries.

Another approach to film sound media industries is the examination of technology companies, and Dolby Laboratories is arguably the most discussed of these companies. Three approaches to the history of Dolby stand out. First, Guinaluca Sergi provides a “Great Company” history (in apparent alignment with Great Man history) in which he relies on interviews with founder Ray Dolby and Dolby consultant Ioan Allen to suggest that “In the 1970s and early 1980s, Dolby achieved nothing less than a comprehensive industry-wide transformation, from studio attitudes to sound, filtering through to filmmakers’ creative use of sound and audience expectations. Dolby achieved this whilst

creating one of the most successful companies in the history of the entertainment industry.”⁶⁹ Jay Beck, however, suggests that Dolby’s achievements were not as clear as Sergi suggests. Beck explains that Dolby’s “ground breaking” 35mm stereo sound system was derived from pre-existing technology,⁷⁰ and contradicts Sergi by contending that Dolby Stereo reinforced sound’s subordination to the narrative of the film. In a case study on the company, Paul Grainge examines how Dolby functions as a brand that sells films and theatres to audiences.⁷¹ In Chapter Three, I build on Beck’s and Grainge’s findings by investigating how Dolby Stereo was introduced into the Canadian market and questioning how the new format affected the Toronto postproduction sound industry’s existing practices and soundtrack style.

The labour of film sound workers has also been an area of interest for scholars. The earliest work on sound labour consisted of collections of interviews, such as Vincent LoBrutto’s *Sound-On-Film: Interviews with Creators of Film Sound* and Royal S. Brown’s interviews with composers at the back of *Overtones and Undertones: Reading Film Music*.⁷² In recent years sound scholars have moved away from a reliance on interviews with sound practitioners and towards an increased use of archival documents to discuss labour issues. For instance, Lastra uses technical journals, including the *Journal of the Society of Motion Picture Engineers (JSMPE)* and *American Cinematographer*, as well as surviving lectures delivered at the Sound School in Hollywood to argue that during the transition to sound, the interactions between sound engineers and their on-set colleagues (cinematographers, directors, and producers) led sound engineers to adjust their recording standards in order to conform to the needs of the rest of the crew.⁷³ Jacobs draws on *JSMPE*, *International Projectionist*, and *American Cinematographer* to elucidate how in the 1930s noise reduction and mixing technologies reshaped the

importance of the re-recording mixer from being considered a part of either the music or the sound department to being an independent component of the postproduction chain.⁷⁴

Beck relies on *Variety*, *Hollywood Reporter*, and *American Cinematographer* to analyze how the sound recordists' union attempted to stop the reduction of three-person sound crews to two-person crews following the introduction of portable Nagra recorders in the 1970s.⁷⁵ In Chapter Four, I examine the effect that the introduction of digital audio workstations had on postproduction sound labour in Toronto and how this in turn altered the style of the soundtracks created in the city.

Baseline Aesthetic Analysis

So far, I have provided an account of the most relevant scholarship in studies of national cinema, film genres, film sound history, and media industries. This scholarship helps to explain my focus on science fiction and horror films in Canadian cinema, as well as my decision to draw on archival materials whenever possible. I turn now to discussions of my methodology for analyzing the nature of film sound.

My dissertation is distinguished from preceding histories of film sound in that rather than tracing how directors have used sound style as a storytelling tool, it offers a history of craft techniques. This means that rather than focusing on the narrative payoff or the sonic style associated with the work of individual directors or famous sound editors and mixers, I delineate the small-scale decisions of practitioners (“details,” “atmospheres,” and “intrasoundtrack interactions”). Such decisions include the relative volume of atmospheric sound, the clarity of the dialogue recordings, and the level of sonic detail used in the creation of the soundtrack. For instance, in Chapter Two, rather than focusing on how the

narrative functions of sound in David Cronenberg's *Videodrome* differ from those in Ivan Reitman's *Cannibal Girls*, I examine the similarities between the two soundtracks.

Throughout my dissertation, I examine how the baseline aesthetic of Toronto-produced soundtracks dramatically changed for the industry as a whole over the course of several decades.

This approach to stylistic analysis derives from art history and is exemplified by Heinrich Wölfflin in *Principles of Art History*. Wölfflin propounds that in order to define a historical period's norms of representation, or national style, we first need to outline the specific and non-obvious traits of that style.⁷⁶ He notes the techniques of individual artists fit within larger homogenous styles as defined by school, nation, and time period.⁷⁷ This means that in order to understand a national style it is essential to examine the baseline aesthetics in a range of works by a variety of artists. Wölfflin contends that specific examinations are only valuable when they can be generalized.⁷⁸ He also encourages students of art history to examine a large number of works in order to best determine the trends of the time and place in which the artists were working. Wölfflin's principles of art history are directly relevant to my study because they enable a deeper understanding of how below-the-line sound labourers develop norms of use for recording and mixing equipment and how these norms play a significant role in shaping how a film sounds.

Continuity Sound

The baseline soundtrack aesthetic used by Hollywood filmmakers can best be labelled "continuity sound" because it follows the rules that guide the continuity system of editing as defined by Bordwell, Staiger, and Thompson in *Classical Hollywood Cinema*.

The continuity system consists of a series of practices that were tacitly understood by the industry, such as the use of establishing shots, eyeline matches, shot/reverse shot editing, and crosscutting. These practices function for two purposes: “On the one hand, they permitted the narrative to proceed in a clearly defined space. On the other hand, they created an omnipresent narration which shifted the audience’s vantage point on the action frequently to follow those parts of the scene most salient to the plot.”⁷⁹ In other words, the continuity system both promoted narrative absorption by creating smooth transitions between cuts and scenes, and also directed the audience’s attention to essential narrative information. I build upon this definition of the continuity system by relating the objectives laid out by Bordwell to postproduction sound practices. The continuity system of visual editing is designed to create the impression that a scene is comprised of one continuous take, as opposed to a series of shots. Likewise, continuity sound gives the impression that the different elements of the soundtrack were all recorded in one continuous take.

The absence within current scholarship of a clear definition of continuity sound suggests that this style is non-obvious and in need of definition.⁸⁰ Even though sound scholars have not used the term, they have pointed to work done in postproduction to create a smooth, cohesive soundtrack. For instance, in “Ideology and the Practice of Sound Editing and Mixing,” Mary Anne Doane recounts the techniques employed to mask sonic cuts and create the impression that all of the dialogue and sound effects come from the same, continuous take. Doane notes the similar goals of picture editing and sound editing: “The ideological objective of these techniques doubles that of continuity editing—the effect desired is that of smoothing over a potential break, of guaranteeing flow.”⁸¹ Doane’s argument highlights the importance of this style of sound by emphasizing the ideological function of sonic continuity. In contrast, my dissertation

frames continuity sound not in terms of its potential ideological functions but in terms of formal traits that arose in a particular historical context. According to Lea Jacobs, the system of sound editing that became associated with classical continuity was established by the mid-1930s, and was the result of a shift in emphasis from location recording to sound editing and re-recording.⁸² Kathryn Kalinak summarizes these findings: “By the mid-1930s, less than a decade after the first feature-length synchronized sound films, conventions for the use of sound across all aspects of the soundtrack were in place.”⁸³

Continuity sound is comprised of the following four main conventions:

- Clear dialogue. The soundtrack is dialogue-centric, and dialogue is edited so that there are no noticeable shifts in microphone perspective.
- Sufficient details. There is adequate coverage of sound effects and Foley, which are heard in synchronization with the onscreen action.
- Consistent atmospheres. Atmospheric sounds define the space of the scene and disguise audio cuts.
- Harmonious intrasoundtrack interactions. The dialogue, sound effects, and atmospheres work together as a unit to create a cohesive and intelligible soundtrack.

Clarity of dialogue is often cited as the most important element of the soundtrack in American film. In *Overhearing Film Dialogue*, Sarah Kozloff underscores the centrality of this often overlooked component of the soundtrack, writing, “The most salient characteristic of the sound of American film dialogue is the privileging of ‘intelligibility,’ the subordination of all other considerations to ensuring that the spectator can hear the words fully and well.”⁸⁴ Kalinak echoes Kozloff’s sentiment regarding

dialogue, adding that the hierarchy of Hollywood sound departments places dialogue at the top. She writes, “Dialogue was the engine of Hollywood’s assembly line for sound. Because it was directly tied to narrative exposition, dialogue was privileged in Hollywood’s hierarchy of sound, typically the component in the sound mix that drew the audience’s attention first and foremost, usually through volume.”⁸⁵ In his comparison of American and French soundtracks, O’Brien notes that Hollywood films did not adhere to strict guidelines of scale, where close-up images would be accompanied by closely recorded sound or long-shot images by distantly recorded sound.⁸⁶ Rather, O’Brien contends that Hollywood films presented a unified soundtrack that privileged the communication of the narrative, whereas French filmmakers privileged fidelity of sound to the image “as it might have been heard by a witness.”⁸⁷ The difference in approach to the recording of dialogue makes explicit that Hollywood selected to craft film dialogue that appears to have no cuts or changes in scale. This approach mirrors the system of continuity editing.

The presentation of sound effects and Foley forms a second significant component of the continuity sound system. The goal of sound practitioners appears to have been to create a sufficient level of detail but one that does not detract from the dialogue, a point that Kozloff highlights: “Sound effects are used unobtrusively underneath speech to create naturalistic noises such as footsteps, door openings, and dish rattling or to enhance the realism of off-screen space through traffic sounds, dogs barking, or crowd noise.”⁸⁸ In *The Talkies*, Crafton carefully traces the development of the use of sound effects in the films of various studios, such as Fox, MGM, RKO, and Universal. He finds that in the 1930s there were experiments with how best to use sound effects and that by the mid-1930s sound effects, such as automobile engines, doors openings and closings, footsteps,

gunfire, and dogs barking, were regularly used throughout films to promote the narrative and to complement the visual image.⁸⁹ The importance of sound effects is further demonstrated by Hanson who argues that the introduction of re-recording practices resulted in the careful construction of sound effects tracks to support the narrative: “[R]e-recording allowed for the fabrication of generically distinct sound textures, the inflection of the diegetic space, and the placement of sound effects in both unison and counterpoint with the image in creative and dramatically effective ways.”⁹⁰ In other words, sound effects and Foley were used to augment the visual image and direct audience attention to salient narrative moments. And, with the inclusion of sufficient details, no sounds were noticeably absent from the soundtrack.

Although often overlooked in sound scholarship, atmospheric sounds perform two vital functions: they establish the space of a scene and they form a base that disguises cuts between the other components of the soundtrack. In regards to the first function, Altman likens the use of establishing sounds to establishing shots, a tool that Thompson argues was “the earliest device for creating and maintaining a clear narrative space.”⁹¹ Indeed, in “Establishing Sound,” Altman highlights the importance of atmospheres in establishing the space of a scene, a trait of Hollywood films that began in the early 1930s:

From the very start of each scene, the film offers sufficient establishing sound to carry viewers (who are also listeners) from one shot to another without ever sensing any discomfort....Thanks to regular deployment of establishing sound, the audience is never left to depend solely on the image to assure spatial continuity. Each new scene calls forth a new establishing sound, whose continuity throughout major portions of the scene lends unity and clarity.⁹²

Jacobs points to the technical limitations during the transition to sound as a possible reason that prevented the use of atmospheric sounds until the early 1930s: “Presumably one-off sound effects could have been edited into the track, or short portions of the dialogue could have been re-recorded to allow for the addition of individual effects, but background sound, which would have necessitated much more extensive re-recording of dialogue, is relatively rare in comparison to the norms of filmmaking after 1931.”⁹³ As Jacobs suggests, once re-recording practices were introduced, Hollywood sound practitioners began to add background sounds beneath dialogue.⁹⁴

In addition to defining the space of the scene, atmospheres were also used to construct a solid foundation to disguise sonic cuts on the soundtrack. In *Hearing the Movies*, James Buhler, David Neumeyer, and Rob Deemer suggest that classical Hollywood filmmakers often employed a bed of solid tones to achieve a smooth, unified soundtrack:

However much clarity of dialogue may have seemed to drive the construction of the sound track, it was the underlying continuity of audible background sound across cuts that encouraged spectators to bind a series of individual disparate shots into longer spans—scenes and sequences.... the audio background served to unify the sequence by means of what might be termed sonic ambience, that is, the characteristic sound of the place.⁹⁵

Sound practitioners utilized atmospheric sounds to construct a smooth and cohesive soundtrack that promoted narrative absorption, not unlike the intended effect of the 180°-rule of picture editing.

The construction of a smooth and unified soundtrack was dependent on harmonious intrasoundtrack interactions, as Altman, Jones and Tatroe explain: “Dialogue

and music can now share the same soundtrack without getting in each other's way thanks to systematic deployment of an intermittent strategy. Instead of conflicting, all three can be integrated into a single soundtrack through the serial or simultaneous application of realist or psychoacoustic principles."⁹⁶ The introduction of new technologies in the early 1930s allowed filmmakers to play multiple sounds without overpowering the dialogue. Kalinak also attributes new recording practices to a greater use of music to underscore dialogue: "By 1933, studio music departments were beginning to come back to life. As a result of sophisticated sound mixing and editing techniques, a background score including underscoring, or the use of music under dialogue was now possible."⁹⁷ The increased use of underscore created more complex soundtracks as multiple soundtrack components were all present at the same time. Jacobs argues that "the final release track came to be considered a multi-layered assemblage in which any given sound was precisely placed and its volume controlled both in relation to the image and in relation to a complex array of other sound elements."⁹⁸ Overall, there is agreement among scholars of Hollywood sound that once re-recording practices were introduced in the 1930s, soundtracks became unified and multiple sounds were able to play at the same time on the soundtrack without conflict.

The combination of clear dialogue, sufficient sound effects and Foley, atmospheres that establish the space and create unity on the soundtrack, and harmonious intrasoundtrack interrelations comprised the system of continuity sound and formed the basis of Hollywood soundtracks during the classical era.

While practices and styles change over time, overall these four principles of continuity sound form the baseline aesthetic of Hollywood films. I hasten to add that, as Bordwell explains in *Classical Hollywood Cinema*, "No Hollywood film is the classical system; each is an 'unstable equilibrium' of classical norms."⁹⁹ While the traits that I put

forward are the most salient features of Hollywood soundtracks from the classical era, the practitioners working on each film had their own manner of applying these principles, which in turn produced variances and individuality.

Methods of Analysis

I model my discussion of industry standards involving “details,” “atmospheres,” and “intrasoundtrack relations” on Bordwell’s analysis of average shot length, shot scale, and camera movements in *The Way Hollywood Tells It*.¹⁰⁰ Bordwell concludes that faster editing, extreme shot scales (quick transitions between establishing shots and close ups), and the increased use of close ups and “prowling cameras” forms what he terms “intensified continuity.” He notes several causes of this style, such as shooting films for smaller screens. For Bordwell, the importance lies in the fact that the style changed across the industry, rather than how directors use intensified continuity for a narrative payoff.

Rick Altman uses a similar method in “Establishing Sound” to argue that filmmakers moved from a “shot-by-shot” organization of sound to a “scene-by-scene” construction.¹⁰¹ Altman notes that *The First Auto* (Roy Del Ruth, 1927) adopts a style of sound that adheres to the silent film practices. In this film, the sounds are relatively loud and serve to punctuate specific actions. In *The Big Trail* (Raoul Walsh, 1930), the visual images govern the sound, which means that if actions are occurring off screen (such as a nearby river) the sound is not represented on the soundtrack. In Frank Capra’s *It Happened One Night* (1934), atmospheric sounds establish the space of the scene and provide continuity. Using these three examples, Altman clearly traces how practices changed

during the conversion to sound era. Similarly, I use close analysis of soundtracks to note subtle changes to the style of soundtracks created in Toronto over three periods.

The merits of considering below-the-line sound techniques are considered in Susan Schmidt-Horning's, *Chasing Sound: Technology, Culture, and the Art of Studio Recording from Edison to the LP*.¹⁰² In it, Schmidt-Horning maps how audio engineers in the music recording industry have changed their recording and mixing practices over time, often in response to new technology (such as the shift from acoustic to electrical recording). Rather than focus on how changes in practice aided in the song's musical payoff, she focuses on how norms of recording and norms of mixing are forms of "tacit knowledge" that change incrementally over time. However, even though Schmidt-Horning's focus is on the social history of recording, as opposed to the aesthetics, her research explains how different recording styles emerged as the result of changing equipment, studio designs, and labour practices.

Schmidt-Horning's emphasis on below-the-line practices finds an analogy in film studies, specifically in Lea Jacobs's "The Innovation of Re-Recording in the Hollywood Studios,"¹⁰³ which outlines the development and codification of re-recording in the early 1930s. Rather than exploring how sound supports the narrative of the films, Jacobs traces how practitioners employed new technologies, such as, push-pull noise reduction systems, automated volume control, and re-recording consoles. She reasons that the integration of new postproduction technology prompted a reconceptualization of the soundtrack as a product of re-recording as opposed to a faithful recording from the location. This reconceptualization led to a new baseline aesthetic that included an increase in underscoring, background sounds, and clearer dialogue. I use Schmidt-Horning and Jacobs

as models for tracing the introduction of new practices of recording and re-recording and how these new techniques influenced the dominant style of the period.

In order to evidence my findings, I draw upon the principles of cinematics, which uses a computer program to calculate the editing pace of a given film by outputting the average duration of that film's shots. Cinematic research uses a combination of quantitative data gathered through the computer program and qualitative evidence based on close analyses of the films to establish the dominant trends in the films. The cinematics approach has been endorsed by Barry Salt, Charles O'Brien, and Yuri Tsivian who have used this methodology to track changes to film style.¹⁰⁴ The cinematics computer program has a visual bias, as it tracks either shot length or shot scale, so I do not employ the cinematic software in my research. Instead, I adopt the guiding principles of the approach, which blends quantitative and qualitative data.

One fruitful model (and a variant on cinematics) is provided in the aforementioned article by Rick Altman with McGraw Jones and Sonia Tatroe.¹⁰⁵ Their *mise-en-bande* charts address the visual bias in quantitative film analysis by demarcating how the sonic elements (dialogue, music, and sound effects) interact on the soundtrack (see Figure 2 for an example). These charts reveal patterns in the use of sound, which in turn enable scholars to determine sonic trends and cycles over a defined period of time. I tracked the use of sound by employing a modified *mise-en-bande* to study the interplay between the various soundtrack elements. For the purpose of this dissertation's *mise-en-bandes*, I added a fourth track that charted the use of atmospheric sounds.

These charts show the intrasoundtrack relationships among the soundtrack elements (dialogue, music, sound effects and Foley, and atmospheric sounds), the amount of time each element is used in the scene, and the prominence of each element on the soundtrack.

These graphs were created through careful listening to the soundtrack, as opposed to using sound measuring devices, as it is impossible to separate sounds that have been mixed together. Each soundtrack component was assigned a numeric value on a scale of one to ten to illustrate in visual form the relative volume of each component. While this is not an exact measurement, the information about how the soundtrack components interrelate provides insight into the organizing principles of soundtrack construction and how these principles change over time. In order to ensure that the charts represented the soundtrack as accurately as possible, I used a high quality sound system to create the charts with an assistant. Then, a second assistant and I checked the charts using studio quality headphones to avoid disruptive sounds. Any discrepancies were reviewed multiple times. Once created, the mise-en-bandes were combined with a close analysis of the films to illustrate how the use of sound complements the film's individual style, the genre, and the common practices of the period. My use of these charts revealed that between the late 1960s and the early 2000s, there was a gradual increase in intrasoundtrack interactions, which indicates that Toronto sound practitioners altered their approach to soundtrack creation

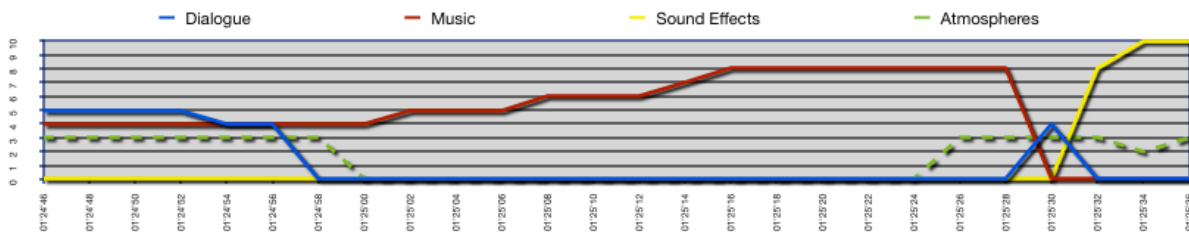


Figure 2. Example of sonic visualization from *Videodrome*.

The *mise-en-bandes*, in combination with my descriptive analysis, provide a depiction of the baseline aesthetic used in Toronto. By comparing films from different points in time, I concluded that the postproduction sound practices used in Toronto gradually shifted from an NFB documentary baseline aesthetic towards a Hollywood style of soundtrack construction.

Conclusions

By combining an industrial history with baseline analyses, I am able to draw conclusions about the causes for changes to Toronto's soundtrack style. Further, by using concepts of local cinema and film genres, I limit the scope of my study to a manageable sample size. In addition to answering my research question, this study fills three current gaps in film sound history: sonic style during the early era of magnetic recording and editing; the effect of digital audio workstations on production culture; and an in-depth overview of a non-American, English-language motion picture industry. My dissertation also contributes to current Canadian film scholarship by postulating a comprehensive history that takes into account the effects of government policy, Canadian exhibition issues, and local labour issues. In so doing, I contend that Toronto soundtracks are distinguishable by their mode of production, rather than representations of the country's iconic soundscapes.

Chapter Two: The NFB Style of Sound in Canadian Fiction Film, 1968–1986

In his article “You Should Know Something—*Anything*—About This Movie. You Paid For It,” Peter Urquhart points to a bias within Canadian film scholarship regarding the study of films produced during Canada’s “tax-shelter era” of the late 1970s and early 1980s, when investors could deduct from their taxable income 100% of their investment in feature-length films that were certified as Canadian. Citing an anecdote from Canadian film critic, Jay Scott, Urquhart points to a film premiere in 1980 at which Prime Minister Pierre Trudeau reportedly commented, “There are now many Canadian films. But there aren’t too many good ones, are there?”¹ Trudeau’s comment reflected what Urquhart describes as a pervasive distaste among Canadians for fiction films produced domestically.² Urquhart contends further that a similar predisposition toward Canadian cinema of this period has discouraged scholarship on tax-shelter films.³ In order to address this dearth of scholarship, Urquhart examines a handful of exemplary films and describes their strong thematic links to Canadian politics and history. For example, his analysis of *Suzanne* (Robin Spry, 1980) illuminates how the main characters’ relationships function as a political allegory for interactions between the French and English in Montreal of the 1960s. Through his analyses, Urquhart demonstrates that the tax-shelter films have been unfairly ignored by scholars of Canadian cinema.

Urquhart’s work also explains how the use of popular genres led to the perception that the films were “trash.” He writes: “Genre films, for example, have regularly been discounted as unacceptable elements of the national cinema because of the belief that something so calculatedly commercial as a horror film is necessarily foreign (specifically,

American).”⁴ In turn, his conclusions regarding the importance of the tax shelter years for building the Canadian feature film industry have galvanized an important conversation regarding this era. This chapter intends to build upon Urquhart’s scholarship by highlighting the importance of tax-shelter films from a different perspective: their distinctive sonic style. Specifically, I examine potential influences on the craft of Canadian film workers and the degree to which they assimilated Hollywood ideals for film sound. I consider these questions through a study of the history of Toronto postproduction sound during this period and through an examination of the soundtracks for *Cannibal Girls* (Ivan Reitman, 1973) and *Videodrome* (David Cronenberg, 1983), two films that exemplify the style of sound used in this era and that were produced on either side of the tax shelter boom. Ultimately, I reveal that postproduction sound practices for Toronto-produced narrative films originated from those of documentaries produced at the National Film Board of Canada (NFB) and, despite what scholars may claim, were not the result of practitioner incompetence. Rather, the NFB sonic style was esteemed for the difficulty in maintaining location recordings and its association with documentary “realism.”

In order to make this argument, I examine different industrial influences on the sonic style, such as the NFB, Canadian television, and non-theatrical (and non-NFB) documentaries. I conclude that while there was a nexus of factors that shaped postproduction sound practices in Toronto, ultimately the largest influence was the NFB. To delineate the style of sound used at the NFB, I analyze technical articles published by NFB employees that detail the development of sonic practices at the Board from the late 1950s to the early 1960s. This style was transferred to the Toronto industry when former NFB sound editors and engineers left the documentary studio to work in the burgeoning

fiction film industry in Toronto in the late 1960s. As the former NFB employees were the most experienced, they trained the next generation of sound practitioners in the NFB sound style.

Ultimately, then, this chapter considers the role of government policies in the creation and standardization of a distinctive aesthetic of film sound that characterized NFB productions. This aesthetic, which developed and flourished in low-budget and high-budget films alike between 1968 and 1986, was primarily the result of a strict adherence to a set of guidelines designed to regulate employees working on Canadian films. I argue that fiction filmmakers' interpretations of Canadian employment policies in relation to postproduction sound led to an aesthetic borrowed from NFB documentaries. Owing to the relative lack of interaction with sound practitioners from other film industries, the same standards and practices remained unchanged for almost twenty years.

House Style

Before outlining the elements that defined NFB documentary soundtracks, it is important to consider the notion of "house style" in the first place. On what grounds can one make a case for a style developing from a single studio or production company? Several scholars have tried to answer this question, particularly with reference to American cinema. One of the most familiar is Thomas Schatz, in his study in *The Genius of the System: Hollywood Filmmaking in the Studio Era*, where he draws on the concept of a studio's style to challenge the popular concept of auteurism. He writes that "the closer we look at Hollywood's relations of power and hierarchy of authority during the studio era, at its division of labor and assembly-line production process, the less sense it makes

to assess filmmaking or film style in terms of the individual director.”⁵ Schatz goes on to note that while each major studio in Hollywood was working within the larger mode of narrative filmmaking, each studio had particular genres and techniques that distinguished their films from other studios.⁶ Schatz furthers this argument in “Anatomy of a House Director: Capra, Cohn, and Columbia in the 1930s” by positing that Frank Capra’s success as a director in the 1930s was the by-product of his partnership with Columbia: “Capra may have been essentially a house director, a collaborative artist whose vision and artistry were inextricably wed to Columbia’s 1930s house style.”⁷ It was therefore the creative climate and the restrictions of working within Columbia that enabled Capra to produce what, according to Schatz, is the director’s best work.

Although Schatz’s conception of “house style” is one of the best known, many other examples adopt the notion of a distinctive style that coalesces around a particular studio or collective of filmmakers. Ben Brewster’s article titled “Deep Staging in French Films 1900–1914” focuses on the period of early cinema and emphasizes the “systematic and emphatic development” of a particular style (low camera) by a particular studio (Pathé).⁸ Brewster compares Pathé’s practices with those of Gaumont, which by contrast “retain a high camera, often at eye level or only a little below”⁹ -- the result of competing norms of practice at each studio. In a similar vein, Tino Balio explains that “each studio typically developed a distinctive house style when it produced the most important films on its roster at the level where differentiation would normally be most effective”¹⁰ and that unique studio styles are most prevalent in “prestige pictures” where directors and art directors had more resources with which to represent the studios’ image, such as RKO’s Art Deco set design of the Astaire–Rogers musicals.¹¹ Brian Jacobson makes similar observations about stylistic differences among early film studios in *Studios Before the*

System: Architecture, Technology, and the Emergence of Cinematic Space. Jacobson argues that the combination of the studios' architectural forms and their resources, such as research and development laboratories, marketing departments, and pre- and postproduction departments, all contribute to shaping the aesthetic norms of each studio's films.¹²

Helen Hanson extends such studies of house style to film sound by arguing that studios had a distinct and unified set of sonic characteristics in the same way they did for visual images.¹³ In her article "Sound Affect: Post-Production Sound, Soundscapes and Sound Design in Hollywood's Studio Era," she demonstrates how sound practitioners at RKO in the 1930s and 1940s made innovative use of sound effects in order to convey narrative information (e.g., the prominent sounds of footsteps during a chase sequence) and in so doing created a different aural aesthetic than that which obtained from studios that relied primarily on dialogue and music to tell a film's story. Hanson illustrates this point by analyzing the industrial context of the RKO sound department, which she describes as "an environment where there was the equipment, expertise and impetus for innovative and experimental uses of sound to flourish." She continues: "RKO's strategy for recruiting promising personnel, and the mode of working that was possible at the studio, also facilitated inventive production practices."¹⁴ According to Hanson, then, the institutional climate in which soundtracks were created had a direct effect on the norms of sound design. In other words, even though all Hollywood films of the 1930s and 1940s can be said to demonstrate a classical Hollywood aesthetic, Hanson contends that Columbia, RKO, Warner Brothers, and MGM all had different house styles of sound.

Inspired by Hanson's work, I use the concept of house style to define the sonic aesthetic evidenced in films produced in Toronto from 1968-86 . However, I am careful to

draw a distinction between what I call the NFB (sonic) aesthetic and a more generalized mode of sound that characterized contemporaneous movements of cinema verité and documentary cinema. Here an analogy may be drawn to the role of house style within the broader mode of production known as the classical Hollywood cinema. For example, it is tempting to label the Art Deco-inspired mise-en-scène of an Astaire–Roger’s musical as reflective of the carefully crafted designs used in Hollywood during the classical era; however, such a label threatens to minimize the distinctiveness of the design and thereby conceal the creative work of the below-the-line labourers who were responsible for it. Thus, by classifying the Art Deco style as unique to RKO, and not just a function of the classical Hollywood cinema, Balio (mentioned above) highlights the work of production designer Van Nest Polglase and his team in RKO’s art department. In a similar way, I position the global cinema verité documentary movement as a mode of film production and the NFB’s observational documentary approach as a house style within that mode. By referring to the “NFB aesthetic,” I aim to highlight the unique norms of sound editing and mixing that practitioners, including Kenneth Heeley-Ray, Len Green, and Findlay Quinn, developed in the 1950s. I trace the lineage of this Toronto-derived style to those below-the-line workers who left the NFB in the 1960s to found the Toronto postproduction sound industry. Thus while the NFB was not the only influence on Toronto’s soundtrack style, because of the city’s direct lineage to the NFB through the below-the-line workers, it can be argued that the NFB was the dominant aesthetic influence.

The National Film Board of Canada and Cinema Verité

The importance of the NFB to both Canadian culture and the Canadian film industry is well documented in numerous books and articles. For instance, the book *In the National Interest: A Chronicle of the National Film Board of Canada from 1949 to 1989*, Gary Evans, a former NFB consultant and student of John Grierson (the first Commissioner of the NFB), offers a comprehensive overview of various filmmakers and policies that shaped the direction of the NFB and brought accolades to the nation in return.¹⁵ Zoë Druick's *Projecting Canada: Government Policy and Documentary Film at the National Film Board of Canada* investigates the intersection of policy, Canadian culture, and nation building over seven decades of NFB documentaries.¹⁶ By reviewing a wide array of films and textual documents, Druick provides a framework for understanding documentary films within political and institutional contexts. These are two of the dozens of pieces of scholarship on one of the country's most important cultural and artistic institutions for filmmaking.

Comparatively scant attention, however, has been paid to the role of *sound* in NFB films. Indeed, to my knowledge the NFB soundtrack has been addressed in just four case studies. Michael Baker examines *Wilf: A Study of Rural Relocation* (Robert Nichol, 1968) to understand how the NFB director uses Joni Mitchell's song "Sisotowbell Lane" to provide commentary on the image, to create a "nostalgic edge," and to engage a younger audience.¹⁷ In "Dresden Story and the Emergence of the Talking Head in the NFB Documentary," Baker delineates the influences of radio, news television, and 16mm film on the style of the "talking head" documentary and discusses the effect of that style on audiences' construction of meaning.¹⁸ Christine York's "'Versions, Revisions, and Adaptations': Film Production in Two Languages at the National Film Board" also

considers how sound guides audience attention and meaning-making.¹⁹ York compares the English and French versions of NFB documentaries and finds that the latter often varies drastically from the original film. Finally, in “Sounds Like Canada,” Michael Longfield outlines a set of filmmakers’ ideals that shaped sound style in the NFB documentaries.²⁰ He argues that the NFB’s observational cinema styles were informed more by ideology than by technology in part because the filmmakers, scattered to various locations, were using the new technology differently. However, Longfield’s conclusions are hindered by an incomplete understanding of the technology in use at the NFB. My own research suggests that the NFB's technological experiments with sound, along with the Board's unique workflow, played a vital role in forming a house style of sound that relied heavily on location recordings, regardless of their quality.

In fact, this “NFB sonic style” is defined by the imperfect location recordings that form the base of the soundtrack. The incorporation of location recordings was not uncommon in international documentary filmmaking of the time. Yet while the NFB’s approach to documentary filmmaking was similar to both the French and American cinema vérité styles, scholars have noted that there were differences among the three countries. In *Cinema Verité in America: Studies in Uncontrolled Documentary*, Stephen Mamber argues that American filmmakers had their own approach to cinema vérité documentaries:

Cinema verite in many forms has been practiced throughout the world, most notably in America, France, and Canada.... To embrace the disparate output of Rouch, Marker, Ruspoli, Perrault, Brault, Koenig, Kroitor, Jersey, Leacock, and all the others under one banner is to obscure the wide variance in outlook and method that separates American cinema verite

from the French or Canadian variety and further to fail to take into account differences within the work of one country or even one filmmaker.²¹

Notably, while Mamber observes stylistic differences in the work of Canadian, American and French filmmakers, he does not clarify the precise variations in their respective styles.

In *Image and Identity: Reflections on Canadian Film and Culture*, Canadian filmmaker and scholar Bruce Elder takes up Mamber's charge to separate national observational documentary practices. But rather than examining the filmmakers' stylistic choices, Elder highlights the differences in narrative structure between American and Canadian observational documentaries. Elder argues that conflict and drama are a central facet of the American cinema verité movement because the films were created by journalists who were searching for noteworthy events.²² Elder notes that a Canadian documentary, on the other hand, "eschews any situation involving conflict, and so lacks any sense of drama whatsoever. It restricts itself to documenting the day-to-day activities."²³ However, despite Mamber's claims of stylistic differentiation and Elder's insight into the contrasting content of the films, neither scholar addresses the distinct visual and sonic practices of American and Canadian documentaries.

In contrast, Jeanne Hall provides a detailed examination of the stylistic practices used in the construction of American cinema verité films in her article "Realism as Style in Cinema Verité: A Critical Analysis of *Primary*." Hall observes that these films contain far more asynchronous sound and voiceover narration than the filmmakers admit, a consequence of equipment failure.²⁴ Hall argues that "[it is] a strategy of cinema verité self-validation, and involves the pairing of asynchronous sounds and images for conventionally realistic effects."²⁵ Although "the pairing of asynchronous sound and images" was also a practice of the NFB, the Board's filmmakers preferred to use raw

location recordings complete with extraneous noise. I build on Hall's argument that American cinema verité filmmakers privileged sonic intelligibility by contending that the NFB filmmakers routinely included the *imperfections* of location recordings. While the NFB style resembles broader trends in documentary filmmaking of the time, the NFB had its own sonic style based on differing modes of soundtrack production.

It is vital to note that although the NFB sonic style could be discerned from the sounds of both French and American cinema verité films, I am not suggesting that this style emerged in a vacuum. Rather, the NFB personnel developed techniques and practices for observational documentaries in conjunction with filmmakers from other countries. For example, in his history of the NFB, Evans recounts Michel Brault's collaboration with Jean Rouch on *Chronique d'un été (Chronicle of a Summer)*.²⁶ Similarly, Mamber highlights Terrance Macarthy-Filgate's role in the shooting of *Primary* (Robert Drew, 1960), noting that the former NFB cameraman "took a dim view of the New York school of direct cinema, feeling that it was doing things then (around 1960) that the N.F.B. had done several years earlier."²⁷ These two examples suggest that NFB filmmakers collaborated with other documentarians and that there was a sharing of knowledge between the NFB, French, and American observational documentary movements. That said, even though there are strong similarities among these documentaries, there are also clear aesthetic differences, as each country had its own workflow and practices. These differences are most pronounced when we consider that at this time the NFB was functioning as a large studio that had several departments dedicated to handling various aspects of filmmaking.

Sound at the NFB

Drawing from technical journals, it is possible to recover the history of sonic style at the NFB and bring it into the larger story of Canadian film sound. The NFB grew out of the Canadian Government Motion Picture Bureau and came into official existence in 1939 with the NFB Act. During the war years, Board employees rose from twenty-nine to a staff of more than eight hundred, which strained the organization's physical resources²⁸ at a time when Board facilities were already considered to be of poor quality. NFB filmmaker Raymond Spottiswoode described the condition of the main NFB facility, an old mill, in 1945: "The flimsy wooden partitions which were hastily built during the early years of expansion, and the unvented interior cutting rooms, formed a very serious fire hazard."²⁹ In fact, fire did prove to be an issue. In a 1957 article, NFB technician Gerald Graham recalled: "There were two quite serious film fires which resulted in injury and long hospitalization for several members of the staff. It was fortunate, indeed, that no lives were lost."³⁰

The technical and production staff consisted primarily of people with no prior experience in film, and the equipment was stretched to its limits. This invited creative problem solving.³¹ Spottiswoode singled out the sound unit as being particularly ingenious with its limited funding: "In our music cutting rooms, you will find the former first violinist of the Toronto Symphony Orchestra chopping up sound tracks with the best of them, building an effects track from the merest bits and pieces because he knows that the rural circuits can only spend \$500 on their new picture, and so must economize in sound costs."³² Similarly, "rerecording has to be carried out with only 3 dubbing heads, calling for [incredible] skill on the part of the sound cutter—not to mention the mixer!—in handling very complex sounds with so few channels."³³

In 1951, complaints by the NFB staff regarding the perilous facilities led to the Massey Report by the Royal Commission on National Development in the Arts, Letters and Sciences to condemn the conditions of the NFB: “We have observed with anxious concern that the various premises in which the Film Board conducts its operations are cramped, scattered, inconvenient and hazardous. In the interests of economy and efficiency and in justice to Film Board employees, this deplorable situation should be changed.”³⁴ These findings prompted the government to approve the Board’s move from Ottawa to Montreal and to finance the construction of a new film complex to which over four hundred NFB employees relocated.³⁵ The Montreal facility was hailed as a technological breakthrough for film in Canada and as a possible model for other organizations.

In 1946, the NFB founded a research and development (R&D) department to invent or modify equipment that was not readily available on the market.³⁶ This department became especially important as the NFB prepared for the move to Montreal because it entailed the Board’s investment in new equipment in order to streamline production. The development and improvement of sound recording and re-recording equipment became a top priority for the R&D department.³⁷ Information on these innovations was disseminated to the general film community in the *Journal of the Society of Motion Picture and Television Engineers (JSMPTE)* and in technical bulletins that were published and distributed by the NFB to Canadian independent production companies and other interested parties.³⁸ Several of the highlighted inventions worked to improve the quality of the soundtrack; indeed, there was a special technical bulletin that compiled several articles on sound technologies.³⁹ Some of the most salient advances of the R&D department, discussed in turn below, include the construction of soundproof studios, the

updated re-recording theatres, the Sprocketape portable recording system, and the pilot-tone system for Nagra recorders.

One of the articles published in *JSMPTTE*, “Acoustic Considerations in the Film Board Studios,” described the detailed care that went into ensuring that the new complex had the best possible acoustic conditions to record and re-record films. The NFB commissioned a study into the environmental noise of the site before selecting the new location, and the Board requested double-shell structures for the sound stages in order to reduce noise interference. The soundproof nature of these rooms was tested by recording a high-speed jet as it passed over the facility seven times; the resulting noise was deemed acceptable.⁴⁰

These technical articles also noted the installation of new postproduction sound equipment.⁴¹ Prior to the move to Montreal, the NFB facility had one re-recording theatre, which was capable of mixing only twelve tracks of sound.⁴² By contrast, the new sound facility included three theatres: one with a mixing console for nineteen tracks of sound and two with twelve-track consoles. The design of each re-recording theatre ensured that the sounds would play almost identically in each room, thereby allowing projects to change mixing theatres with minimal interruptions to the work flow.⁴³ In the first year that these rooms were in operation, the NFB mixed 708 film reels, a significant increase from the 422 reels in the year prior.⁴⁴ Notably, however, the number of reels mixed per-theatre was significantly less than the number of reels mixed in the old facility the previous year. It stands to reason, then, that the amount of time the NFB allotted for mixing each reel also increased. The technology in these studios remained in use until the early 1980s when the NFB received two grants to update the equipment.⁴⁵

The Sprocketape Magnetic Sound Recording System, one of the NFB's most lauded innovations of this time, used quarter-inch magnetic tape and provided absolute synchronization with the Board's 16mm cameras.⁴⁶ The recorder weighed sixty-seven pounds (including the machine, amplifiers, batteries, cables, and the two cases required for shipping), while pre-existing units weighed approximately three hundred pounds.⁴⁷ The Sprocketape units were first used in January 1956, and by 1957, 95 percent of all of NFB recordings were completed with the system.⁴⁸ The recorders saved the Board significant expenditures on both stock and crew.⁴⁹

Despite the popularity of Sprocketape, the NFB switched in the early 1960s to the lighter Nagra recorders, which the R&D department continued to modify and extensively test.⁵⁰ In 1966, the Board aided RCA in the creation of an electric adaptor for pilot-tone synchronization, so that a single magnetic recording system could be used in both North America and Europe despite the difference in voltages.⁵¹ In addition to these advances in sound recording, the NFB pioneered lightweight, lip-synchronous cameras, which were used exclusively on *Nobody Waved Good-bye* (Don Owen, 1964).⁵²

The combination of improved sound facilities, portable recording equipment, and lightweight cameras provided NFB filmmakers with additional flexibility for on-location filming. This shooting style altered the aesthetics of the soundtracks, as Norman F. Bounsall notes in "Sound Recording Facilities in Canada's Newest Film Studio." Bounsall writes that the re-recording phase became essential to producing an acceptable soundtrack by enabling the use of "varied types of equalizers which are found to be extremely advantageous in the production of documentary films where, due to costs and other factors, it is often necessary to use an original track obtained under poor acoustic conditions. Under other circumstances, these tracks might be deemed unusable."⁵³

Re-recording engineers were reportedly employing a variety of techniques to make the original location recordings useable, as the NFB house style of documentary filmmaking routinely required rerecording mixers to preserve marred original recordings rather than replace the lines with voiceover or constructed soundtracks. Gerald Graham, former NFB director of technical operations, recalls the equipment used during the production of *Lonely Boy* (Wolf Koenig and Roman Kroitor, 1962):

Armed with the Sproketape recorders and the newer Arriflex cameras, the Board's production crews wanted to expand the concept of highly mobile operation beyond the special needs of television... efforts were now being made to record real-life situations, unrehearsed, in situ. Roman Kroitor pioneered this method at the board in his memorable study of Paul Anka in *Lonely Boy*.⁵⁴

Although the account is anecdotal, Graham draws a clear connection between technology and film style, as he underscores the point that the filmmakers used the equipment to capture real life. This style can be roughly broken down into four features: unclear dialogue; lack of sonic detail and loose synchronization of actions that appear in the background of the visual images; inconsistent sonic perspectives; and minimal intrasoundtrack interactions.

Throughout *Lonely Boy*, there is greater emphasis on capturing spontaneous moments than on perfecting the recording of dialogue. In one scene, Paul Anka is in his dressing room before his performance and is frantically getting dressed because he needs to be on stage earlier than anticipated. The camera swings around the room to capture the action. While the microphone records the entire conversation, much of the dialogue is off-mic and difficult to understand (see 5:12–5:35).⁵⁵ The sound enhances the chaos of the

scene at the expense of clarity. Elsewhere in the film, shots do not have any accompanying synchronized sounds. For instance, in the final concert scene, a group of adolescent girls are shown screaming as Anka sings. Some visuals have loosely synchronized sounds (such as 21:40 and 22:40) while others have no accompanying sound (23:17 and 23:34). There are also audible sonic cuts when the soundtrack changes perspectives, such as the shift in microphone placement during one of Anka's songs (see 6:47, 7:00, and 7:12) and the change in atmospheric tones between lines of dialogue (see 25:25–25:35). The dialogue is often kept separate from music and sound effects, as at 14:04 when the visual image depicts Anka singing to an engaged crowd, but the accompanying sound comes from one of Anka's interviews. When the sound of a crowd applauding occurs on the soundtrack at 14:52, it is asynchronous with the visual images—the orchestra begins to play, but no music is present on the soundtrack. Overall, the film relies heavily on location recordings, regardless of sonic quality, while extra sounds and music are added minimally.

The NFB's style of observational documentary sound spilled into the Board's fiction filmmaking, as can be seen in the production of feature-length narratives, including *Nobody Waved Good-bye, Mon oncle Antoine* (*My Uncle Antoine*, Claude Jutra, 1971), and *Le chat dans le sac* (*Cat in the Sack*, Gilles Groulx, 1964). Ted Magder explains that the NFB's focus on documentary projects influenced the style of the fiction films from the outset. Directors would propose the films as documentaries, but once the filmmakers received approval and funds from the NFB, they quietly turned the documentaries into fiction films.⁵⁶ These fiction films were then produced with the budget, crew, equipment, and schedule typical of documentary films rather than the more expansive and expensive resources normally used for fiction films.

As with the observational documentaries turned out by the NFB, these Canadian fiction films are often linked stylistically with European art cinema. Magder, however, points to an important difference: “While European filmmakers had begun to use documentary techniques to develop socially relevant, almost didactic, feature-length fictional films, the Board’s filmmakers would move in the opposite direction, stretching their documentary techniques to accommodate fictional narratives.”⁵⁷ Magder notes that although European and NFB filmmakers shared some traits, their modes of production differed, primarily in that the NFB films were produced by a large studio and not by independents.

The distinction between European and Canadian art film styles can be extended to the soundtrack. The dialogue tracks of European art films of the late 1950s through to the mid-1960s relied primarily on dialogue recorded during the postproduction phase (in ADR). The dialogue track was then layered with atmospheric sounds, Foley, and music. This approach to the soundtrack ensured the intelligibility of the dialogue. For example, both *À bout de souffle* (*Breathless*, Jean-Luc Godard, 1960) and *La carrière de Suzanne* (*Suzanne’s Career*, Eric Rohmer, 1963) feature clearly recorded dialogue tracks that are in close but imperfect sync with the actors’ lips. The recordings also do not contain any reverberations, an absence that suggests that they were completed in a recording booth rather than on location. Atmospheric sounds of traffic, café conversations, and people moving in the background were then added to the soundtracks of these films to mimic location recordings. Because the intelligibility of the dialogue is not an issue in either of these films, sound effects, Foley, and music were routinely added underneath the dialogue to lend depth to the soundtrack.

Because documentary techniques were still in use at the NFB, the soundtrack was formed primarily by location recordings rather than by dialogue recorded in the postproduction phase. For example, the soundtrack for *Nobody Waved Good-bye*, a feature-length film about a teenager transitioning to adulthood in Toronto, is composed almost entirely of location recordings and music. In the scene where Peter and Julie are taken to the police station, the only sounds heard are from the location recordings, and while Peter is on-mic, the police officers are off-mic. Due to the lack of sonic manipulation during the postproduction phase, there is a noticeable imbalance in the volumes of character-instigated sounds (e.g., the loud rustling of paper) against those of character dialogue. Furthermore, additional atmospheric sounds do not appear on the soundtrack; we hear only the sounds that were recorded on location. Consequently, cuts in the dialogue track are audible whenever there is a shift in the atmospheric sounds. Another notable quality is that music is added to the soundtrack almost exclusively when no other sounds are present. The separation of music and dialogue ensures that neither element interferes with the intelligibility of the other.

The soundtracks for *Lonely Boy* and *Nobody Waved Good-bye* have a distinct quality associated with observational documentary and exemplifies what I refer to as the “NFB sound aesthetic,” which consists of four traits: the preservation of distorted production recordings over the replacement of unclear lines of dialogue; the minimal application of additional sound effects; the exclusion of atmospheric sounds to create a sonic foundation; and the separation of soundtrack elements. Off-mic dialogue, omitted sound effects, audible sonic cuts, and the application of music exclusive from other sonic elements are all traits found in both films and traits that persisted in the Canadian fiction

feature film industry for many years as I will demonstrate through my analyses of *Cannibal Girls* and *Videodrome*.

The private film industry depended on the NFB for technical expertise because there was a lack of an established postproduction sound in Canada. Even though mixing facilities existed outside the NFB, including Ottawa's Crawley Films and Toronto's Shelly Films and Berkley Studio (run by the United Church of Canada), the NFB housed the most-reputable equipment and personnel.⁵⁸ Michael Dorland quotes from an archival black book kept by a NFB employee about the Association of Motion Picture Producers and Laboratories of Canada:

The Film Board's producer in charge of an assigned production almost invariably spends days showing the [private] producer's editors how to lay out a sound track and then supplying half the sound effects from the Film Board library. Final mix recordings [for independent productions] may be done two and three times until finally the whole film is brought into the Film Board's own sound department for the final mix. The commentary is often re-edited and re-written by the National Film Board. The opticals have to be made by the National Film Board. Indeed, almost always, the first request we get from the successful tenderer on a contract is for use of Film Board facilities; for our lab, frequently for our sound department, for our music and effects library, optical effects department and even editing personnel as well.⁵⁹

Although anecdotal, this representative account highlights the role that the NFB played in determining the sonic practices and standards of the Canadian film industry. Put simply, the NFB was the industry leader for motion picture sound in Canada.

In addition to its shaping of soundtrack design, the NFB's Montreal facility also influenced the business models of Toronto's three largest privately owned postproduction houses. The layout of the first major Toronto facility, Film House, which opened in 1963, was designed by two former NFB employees, Findlay Quinn and Len Green, as a one-stop shop where filmmakers could meet all of their postproduction needs, from the development of dailies to the printing of optical tracks.⁶⁰ Inspired by the efficiencies of the NFB facility, Quinn and Green endeavoured to make postproduction at Film House as streamlined and convenient as possible for filmmakers. The one-stop-shop model became popular in Toronto; both Pathé Sound and Quinn Labs (the sound department was called Mirrorphonic Sound), founded in 1968 and 1974, respectively, adopted it. Ultimately, however, the model was difficult to maintain, as the financial distresses of one department would affect the whole facility. For instance, Film House, Pathé, and Quinn Labs all offered a film processing laboratory both to attract customers to the facility and to increase revenues. However, as a surplus of film processing labs emerged in Toronto in the mid-1970s, the presence of these labs at the postproduction facilities became a budgetary liability. Film House declared bankruptcy in 1974 (although the facility was sold and remained in operation), the Pathé lab closed in late 1976, and Quinn Lab began experiencing financial difficulties in 1976 and was sold to the Film House Group in 1983.⁶¹ But even though these one-stop shops were not successful in the private industry, the use of the NFB as a model and the leadership of former NFB employees aided in the dissemination of NFB practices within the private fiction feature film industry.

Other Stylistic Influences

Although the sonic style of Canadian feature-length fiction cinema was most decisively shaped by the practices of the NFB, also noteworthy was the influence of three additional media: television programs, non-theatrical films (including corporate films, non-NFB documentaries, and short films), and television advertisements. Toronto's emerging postproduction sound industry relied on a range of projects for survival even during the boom in fiction film production in the 1970s. The diverse clientele suggests that facilities were not in a financial position to limit their specialization to soundtracks for fiction films. Because mixers and sound editors moved along a broad spectrum of projects, the techniques used in soundtrack creation needed to be transferable from one project to another. As the private industry was already drawing on NFB practices, the range of projects completed at each facility reinforced the documentary style borrowed from the NFB; this style met the sonic requirements of documentaries, television shows, and television advertising.

Arguably the most salient influence on Canadian film sound style outside of the NFB was Canadian television. Both the state-sponsored Canadian Broadcast Corporation (CBC), which began producing content in 1952, and the privately owned CTV, established in 1961, were based in Toronto and benefited from the boom of postproduction facilities there in the mid-to-late 1960s.⁶² Rather than using only in-house resources, producers at CBC and CTV contracted out projects to the city's specialized postproduction houses. For example, the soundtracks for CBC's *The Edison Twins* (1982–1986) was mixed at Film House while the soundtracks for *Wojeck* (1966–1968) and *For The Record* (1976–1984) were mixed at Pathé Sound. Notably, the founders of Pathé Sound, Joe and Austin Grimaldi, started their careers as re-recording engineers, mixing

sound for television at Queensway Sound Services, which was owned by famed comedians Johnny Wayne and Frank Shuster.⁶³ The brothers' introduction to the industry as television mixers meant that they learned the standards and practices associated with that medium and carried those practices into their later film work at Pathé Sound.

Because television was mixed alongside film and the crews working on both projects were often the same, there are discernible sonic similarities between the two media.⁶⁴ As with NFB films, the majority of the soundtracks for television shows came from location recordings. Therefore, even when the dialogue was difficult to understand—because it was off-mic, recorded at a low level, or distorted—it was retained rather than replaced through ADR. This was more applicable to shows shot on location, such as *Wojeck* and *The Beachcombers* (1972–1990), than to those shot in a controlled environment on a soundstage, such as *King of Kensington* (1975–1980). Moreover, because there was often only one sound editor and no Foley artist assigned to each show, the location recordings were also used for the majority of sound effects and character movements.⁶⁵ The shows' reliance on location recordings and the need for clear dialogue to avoid muddling important narrative information often resulted in the overt and conspicuous separation of soundtrack elements.

While these tendencies persisted in Canadian television from the late 1960s through the mid-1980s, sound practitioners somewhat tailored their approaches according to the genre of the show. Comedies, such as *King of Kensington*, introduced a laugh track to emphasize jokes; children's programs, such as *The Forest Rangers* (1963–1965), used music to enhance the action and keep a young audience interested; and dramas, such as *Wojeck*, were treated like fiction films. Despite these differences, the reliance on location recording and the general practice of separating soundtrack components for maximum

clarity is evident in the soundtracks for all of these shows. These practices were borrowed from the NFB, reflecting the pervasiveness of the NFB's influence on all Canadian visual media of the period.

The one mode of filmmaking that did not feature location recordings regardless of their quality was non-NFB commissioned documentaries. Such documentaries were scripted in advance, filmed on a closed set with actors reciting their lines, and often featured voiceover narration, presumably to guide audience attention and comprehension. The intelligibility of the dialogue to convey the commissioned message was ensured through clear recordings and the minimal use of music and sound effects. For example, in *It Didn't Have to Happen* (Crawley Films, 1954), which centres on workplace safety and takes place in a lumber mill, the sounds of the mill are present on the soundtrack but barely audible underneath the voiceover narration. Even though these sounds were reduced in volume, they are regularly omitted from the soundtrack. These soundtracks are similar to NFB documentaries and Canadian fiction films of this era in that the music and the sound effects tracks often do not occur simultaneously with the dialogue track. However, the dialogue tracks to these commissioned documentaries differ from the NFB documentaries and Canadian fiction films in that they present clearer recordings with minimal audible sonic edits.

Commissioned documentaries formed a vital component of the Canadian film industry and its postproduction operations. A press release on government surveys into the health of the industry highlights their centrality: "Documentaries of all kinds, including those made for educational purposes, for training, industrial public relations and tourism have been termed by [postproduction facility managers as]... the 'backbone of the film industry in Canada,' providing the basis for the operations of most, by far, of the film

companies and a steady source of their revenues.”⁶⁶ Thus, non-fiction film projects were not viewed as inferior to fiction films, but as a necessary component to the industry.

For its survival, the Toronto postproduction sound industry, like the broader film industry, depended on diversification of media. A large pool of clients with a wide array of moving image and sound projects helped to stabilize the young industry. The need for a variety of media to sustain the industry is illustrated in the name and mandate change of the CFDC to Telefilm Canada in 1984. Despite the high output of Canadian films during the late 1970s, the CFDC viewed a broadening of its mandate as necessary for the health of the industry. The Corporation petitioned the government to change its mandate from supporting only feature-length fiction films because “[t]he development of Canada’s private sector film industry cannot be supported effectively on the basis of feature films alone.”⁶⁷ They asked for support of “all forms of production—documentary, television, animation, shorts as well as feature length—to facilitate successful implementation of its mandate.”⁶⁸ In 1984, the CFDC was renamed Telefilm to better reflect this new directive.⁶⁹ Given that the same government agency now funded both media, this change underscored the interconnectedness of the Canadian film and television industries.

While the heterogeneity of the Canadian industry provided facilities with a variety of income sources, the diversity of content prevented facilities from specializing in a particular medium. In an effort to accommodate the various projects, minimal differences in sonic style became evident in television, documentaries, and fiction films. Because sound practitioners depended on many sources for financial stability, there was little incentive for them to develop practices specifically for fiction film soundtracks. The strength of the NFB as the leader of postproduction sound in Canada promoted the NFB’s documentary style. However, industry leadership alone does not explain why the NFB

aesthetic endured in Canadian cinema for nearly two decades. As we will now explore, the combination of employment requirements with the diversity of the industry discouraged changes to this style for many years.

Isolationist Policies and the Canadian Film Industry

Even though the NFB dominated postproduction sound in Canada, the lack of variation in sonic style can also be attributed to production restrictions in a series of public policies relating to the nature and quantity of Canadians employed in the making of motion pictures. Because funding for film production depended on adherence to government regulations about employment of Canadians, filmmakers found it necessary to follow the policy with care. The guidelines that governed acceptable levels of Canadian involvement, however, were unstable and often applied in an ad hoc manner; in fact, no clear guidelines existed until 1974 and then they underwent a series of revisions and clarifications.⁷⁰ This lack of clarity meant that it was common for film producers to misinterpret employment guidelines, especially in relation to postproduction.

As a result, Canadian producers became reluctant to make use of non-Canadian postproduction facilities in order to maintain the high levels of Canadian expenditure that ensured the certification of their projects. Consequently, Canadian producers ended up unwittingly enforcing a form of isolationism where postproduction sound was concerned. By operating in isolation from international (most notably, American) colleagues, Canadian sound personnel developed their craft practices and standards internally. The lack of interaction with international colleagues also meant that the methods employed in soundtrack creation remained stable for nearly two decades, and existed regardless of a

film's budget or the sound technology used by practitioners.⁷¹ To understand how misinterpretations of employment guidelines led to the development of a unique set of postproduction sound practices, it is essential to review the two funding programs linked to these employment policies, as well as the rationale for the requirement that Canadian films employ Canadians to receive government funding.

As Urquhart, Magder, and Dorland have noted, prior to the establishment of a coherent national feature film industry, politicians and intellectuals alike expressed strong fears that the domination of American films on Canadian screens threatened to stifle an independent Canadian filmic identity.⁷² Depictions of Canadian culture were especially valued, as the Quiet Revolution—a period of intense political change—was gaining momentum in Quebec. In *Walter Gordon and the Rise of Canadian Nationalism*, Stephen Azzi details how the nation of Canada was seen to come under two forms of threat: internally, as Quebec was threatening to separate from Canada, and externally, through domination of American mass media in Canadian homes.⁷³ In his 1965 manifesto, *Lament for a Nation*, George Grant wryly observes that Canadian culture appeared dim against the bright lights to the south:

Perhaps we should rejoice in the disappearance of Canada. We leave the narrow provincialism and our backwoods culture; we enter the excitement of the United States where all the great things are being done. Who would compare the science, the art, the politics, the entertainment of our petty world to the overflowing achievements of New York, Washington, Chicago and San Francisco?⁷⁴

While satirical, Grant's statement captures the fear of Canadian politicians and public figures that Canadian culture would soon cease to exist.⁷⁵ As American culture became

more prevalent in Canada through television, music, books, magazines, and film, the fear of American imperialism, as Azzi notes in *Reconcilable Differences: A History of Canada–US Relations*, began to escalate.⁷⁶

Such fears were not entirely unfounded in the world of film production. My research suggests that prior to the late 1960s only a handful of feature films were being produced in Canada each decade (see Figure 3⁷⁷). Consequently, Canadian theaters screened mainly American films. Because of the proximity of the two countries, Canadian theatres were included in the American domestic market,⁷⁸ and imported films, primarily from the United States, comprised 97 percent of all Canadian screen time.⁷⁹ Advocates for the Canadian film industry capitalized on the threat of American cultural imperialism to solicit government support. Documentary filmmaker, archivist, and film industry activist Guy L. Côté accentuated the risks: “We have called the result cultural colonialism... hard words, I know, and they will not please those who, in this country, earn their living in the film business. But, possibly, they too are victims of the same economic stranglehold’ [*sic*] and of its tragic cultural consequences.”⁸⁰ Côté’s assertions were part of the rhetoric that the private film industry used to lobby the Canadian government for sponsorship.⁸¹ Without a fiction film industry to counter the infusion of American films, the filmmakers argued, the Canadian national identity was at risk.

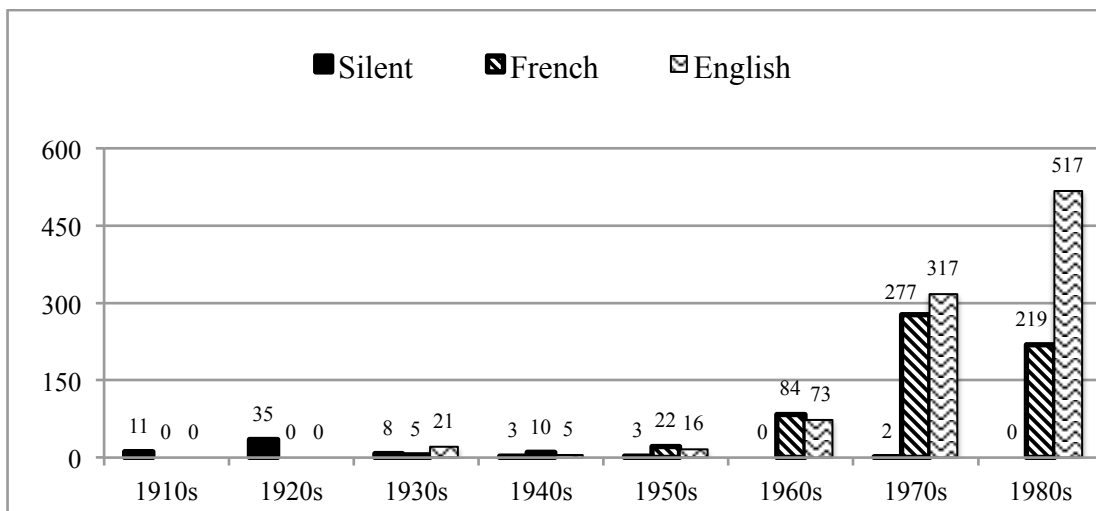


Figure 3. Number of feature films produced in Canada per decade, 1920–1980.

In response to such threats, the Government of Canada commissioned a report to determine the feasibility of and possibilities for developing a national industry. The report, released in 1965 and titled “Film Distribution Practices, Problems, and Prospects: A Report for The Interdepartmental Committee on the Possible Development of Feature Film Production in Canada” was authored by O. J. Firestone, an economics professor at the University of Ottawa. The report carefully detailed the major issues that Firestone felt were preventing a Canadian film industry from growing: American corporations controlled the Canadian film exhibition industry; the population of Canada was not large enough to be the sole supporter of Canadian films; and government support was not adequate.

The majority of Firestone’s report centred on the exhibition industry and the likelihood that Canadian films could become profitable. Firestone found that although many exhibitors were willing to screen Canadian films, Canadians did not go to the movies as often as their American counterparts, a fact that Firestone attributed to the

prevalence of other leisure activities, such as curling.⁸² Firestone noted that because Canada did not have a large enough population to support an isolated industry, the content of Canadian films would need to appeal to audiences beyond national borders: “The success or failure of developing a healthy domestic film industry depends on Canada’s ability to open up distribution opportunities abroad. The most important single market is the U.S., at least 10 times as important as the Canadian market when it comes to the distribution of films.”⁸³ Firestone’s conclusion that Canadian films needed to have international (and more specifically, American) appeal for a fiction film industry to succeed in Canada was a central facet to his recommendations for government intervention to aid the development of a fiction film industry.

The report closed with a series of recommendations. Firestone proposed that Canadian filmmakers draw on established American techniques in order to create marketable films.⁸⁴ He also endorsed the creation of a government program to provide loans, subsidies, production advances, and grants or awards; income tax remission and an accelerated capital cost allowance program for investors; the creation of a film development corporation with a film industry advisory committee; film agreements with other countries to support co-productions; and, as a last resort, the implementation of a quota system if cinemas refused to play Canadian films.⁸⁵ While the government did not adopt all of these recommendations, Firestone’s findings led to the founding of two programs: the CFDC in 1967 and the Capital Cost Allowance program (CCA or tax shelter program) in 1974.

In March 1967, the Canadian Parliament passed Bill C-204, *The Act to Provide for the Establishment of the Canadian Film Development Corporation*. Based on Firestone’s recommendations, the act outlined the objectives and guidelines of the fund.⁸⁶ A year

later, the CFDC began operations with a budget of \$10 million and the mandate “to foster and promote the development of a feature film industry in Canada.”⁸⁷ However, the CFDC struggled to meet the expectations of its own mandate, which manifested a tension between the funding of critically acclaimed art films and the creation of a commercial industry. Magder explains that the CFDC’s attempt to establish both a culturally significant and profitable film industry resulted in the organization’s financial failure:

It tried to define a Canadian film via employment criteria, made deals with the American majors, and lost most of its money.... At a very basic level, the CFDC floundered between the opposing options of a film industry for profit, and a film industry for culture.... To be sure, there were no films yet that seemed able to do both, and lots of good examples of films that did one but not the other.⁸⁸

The tension between the CFDC’s cultural interests in realist films, such as *Goin’ Down the Road* (Donald Shebib, 1970), *Wedding in White* (William Fruet, 1972), and *The Rowdyman* (Peter Carter, 1972), and its commercial investments, such as *Black Christmas* (Bob Clark, 1974), *Rabid* (David Cronenberg, 1977), and *Meatballs* (Ivan Reitman, 1979), was exacerbated by its need to receive returns on the films in which it had invested; the fund was created with the expectation that it would become self-sufficient within the first few years.⁸⁹ This did not occur, and the CFDC ran out of money in October 1971. By then, the possibility that the CFDC would become self-sufficient was minimal.⁹⁰

Running alongside the CFDC, the second program initiated in 1974 by the government was a tax-credit program called the CCA. The CCA was designed to serve the film industry in three ways: to promote the development of regulations for determining the Canadianness of films; to encourage the growth of Canadian fiction film production; and

to boost the average budget of Canadian films. While Canadian tax credits had been available to film investors since 1954, they had not made a tangible impact on the Canadian film industry because the law allowed financiers to receive credit for investments in any film production regardless of its country of origin. This loophole enabled Canadians to receive a tax credit for investing in American films.⁹¹ In order to promote a Canadian fiction film industry, the government revised the laws in 1974 to give Canadian investors a 100 percent tax credit for productions certified as Canadian.⁹² The modifications to Canadian tax laws encouraged private financing with the entire investment in the film now deductible from taxable income.⁹³ Accordingly, the tax shelter films were sometimes dubbed “doctor and dentist” films by industry insiders, as doctors and dentists were the target investors.⁹⁴ In short, the CCA program encouraged private investment in Canadian fiction film production by providing lucrative tax deductions as long as Canadian citizens made the funded films.

The creation of the CFDC and the CCA incited debate over how best to define the Canadianness of films. Section 10 of the *Canadian Film Development Corporation Act* outlined the need for the CFDC to evaluate proposals for “significant Canadian creative, artistic, and technical content.”⁹⁵ The focus on the nationality of creative personnel alleviated censorship concerns among Canadian filmmakers who felt that if the project evaluation centred on how much they mentioned Canada or depicted Canadian life, the CFDC would become a curator of culture and taste rather than an agent for the development of a sustainable industry.⁹⁶

Bill C-204, however, did not clearly define the system to be used by the CFDC; therefore, the CFDC relied on the proposals to determine the level of Canadian involvement and its board developed an unpublished formula that allowed for regulation

without censorship.⁹⁷ During the first few years of the CFDC, the guidelines for gauging the level of Canadian participation were ambiguous because the board did not clarify its method of adjudicating the required level of Canadianness to filmmakers. According to a 1968 press release, proposals submitted to the CFDC needed to include “the name and nationality of the producer, the name and nationality of the director, complete cast list indicating the nationalities of the performers, complete list of all the other people who will be engaged in the production, including nationality, the names and locations of the studios and laboratories to be used.”⁹⁸ But the press release did not indicate how the board would use this information to determine eligibility for funding. In December 1972, the guidelines were slightly clarified: “significant Canadian creative, artistic and technical content will be a matter for the Corporation’s judgment but, in principle, it believes that both the director and writer of each film it supports and all the other elements should be Canadian.”⁹⁹

With the introduction of the CCA program in 1974, concerns over how best to evaluate Canadian involvement in each project increased. By November, the government introduced formal guidelines with the aim of standardizing the certification process.¹⁰⁰ The new guidelines required that the producer, two-thirds of performers, and two-thirds of key creative crew members (such as the directors, screenwriters, picture editors, directors of photography, art directors, and music composers) be Canadian, and that 75 percent of technical services (which included sound editing and mixing) be completed in Canada.¹⁰¹ The Canadian Audio-Visual Certification Office oversaw the certification of projects that met the requirements for the CCA program. In 1976, the office’s mandate expanded to the certification of all CFDC projects.¹⁰² Press releases and trade paper advertisements disseminated the new requirements and emphasized the importance of above-the-line

creative positions, such as producers, directors, screenwriters, actors, and composers.¹⁰³

The adoption of a firm set of criteria ensured that producers disclosed more details concerning the nationality of their crew members. Nevertheless, the two-thirds approach was still considered ambiguous, so modifications to these guidelines occurred in 1976, 1980, and 1982 to introduce and refine a point system.¹⁰⁴

The clarifications to the rules regulating the Canadianness of feature films were instituted to prevent perceived abuses of the fund. Although the yardstick method was initially viewed as a straightforward solution, many complications resulted. According to Magder, this was mainly because, “for those [Canadian filmmakers] who wanted to circumvent the intent of the criteria there was still considerable room in which to manoeuver.”¹⁰⁵ Magder makes this claim because the guidelines for determining the Canadian content of the proposals were not set. Theoretically, producers could use the proposals to highlight Canadian crew members and downplay or even hide the role of non-Canadians, but Magder does not cite any factual examples of this practice. Urquhart, on the other hand, notes that these amendments were “largely as a result of perceived abuses of the certification system during the tax shelter boom.”¹⁰⁶ While there were cases of producers circumventing the system, such as the 2000 scandal of Cinar’s use of American screenwriters,¹⁰⁷ my own research of the post production sound industry in Toronto has not identified any examples of systemic abuse. Therefore, it appears that the mere lack of well-defined rules gave rise to the stigma that non-Canadians were manipulating the system to fund subpar American films at the expense of honest Canadian taxpayers and that the additional criteria were developed in response the general public’s perception of the Canadian film industry.¹⁰⁸

The interpretation of Canadianness for funding purposes had an important effect on the location producers selected to complete postproduction sound for each film. The guidelines mandated that 75 percent of the budget for laboratory fees and postproduction sound work be spent in Canada.¹⁰⁹ However, because laboratory fees referred to all the costs associated with processing the film, sound recording (on location), creating work prints for editing, producing the final film prints, and purchasing all goods during the postproduction stage, it is likely that these costs, without any postproduction sound work, would have exceeded 75 percent of the film's postproduction budget.¹¹⁰ In other words, because postproduction sound costs were minimal compared with the other laboratory costs, the sound could have been completed anywhere in the world and the film would still have qualified for Canadian certification.

The inclusion of the exact percentage of the budget to be spent at Canadian labs appears to have led some filmmakers to mistakenly think that postproduction sound needed to be completed in Canada by Canadians. For instance, director David Cronenberg, while discussing his Hollywood-produced film *The Fly* (1986), argued that the absence of Canadian financing for this film gave him greater freedom when choosing a postproduction facility. He recalled that "because there was no Canadian money in the project, we could have gone to LA or we could have gone to London."¹¹¹ Cronenberg, however, misunderstood the intention of the Canadian film policy. He presumed that only without Canadian money could the sound production be handled abroad; in truth, filmmakers had the ability to edit and mix their Canadian-backed projects anywhere in the world. The producers for the 1983 film *Space Hunter: Adventures in the Forbidden Zone* understood this because they completed all postproduction sound elements for the film in the Los Angeles area while still meeting the requirements for Canadian certification.

No language in the guidelines states that the work needed to be completed solely by Canadian citizens or landed immigrants, but postproduction sound facilities appear not to have taken advantage of this loophole. Under the guidelines, only the film's composer could qualify for points; sound editors and mixers, on the other hand, were viewed as technicians, or below-the-line employees, and could have circumvented the citizenship requirement. However, in order to ensure that the films would qualify as Canadian under the guidelines, producers were conservative about using non-Canadian crew members. The multiple credits that I have reviewed suggest that Canadian facilities did not look abroad to Los Angeles, New York, or London for expert sound editors or mixers to train Canadian technicians, thus ignoring one of Firestone's recommendations for improving Canadian films.¹¹² Instead, the Canadian private industry hired from within, tending towards former NFB employees, such as Kenneth Heeley-Ray (sound editor), Findlay Quinn (laboratory manager), and Len Green (head of operations), who were Canadian citizens or landed immigrants.¹¹³

Although the above evidence suggests that Canadian sound practitioners worked primarily in isolation, it would be inaccurate to claim that the entire film industry was divorced from international influences altogether. In order to counter the isolationism that the adoption of employment guidelines would create, Firestone recommended that Canada form co-production treaties with other nations to encourage international influences on Canadian film.¹¹⁴ The benefits of such arrangements would be threefold. First, Canadian crew members could learn techniques in use elsewhere and thus broaden their skill sets.¹¹⁵ Second, co-productions would remove some of the burden of financing films from Canadian organizations; this proved to be a popular method for funding films as it allowed filmmakers to access multiple pools of government funding.¹¹⁶ Third, co-productions

would provide access to a larger audience than would a film produced solely in Canada.¹¹⁷

Based on Firestone's recommendations, treaties were formed with France, the United Kingdom, Italy, Germany, and Israel.¹¹⁸

Even though these treaties were successful in generating co-productions, the Council of Canadian Filmmakers (CCFM) raised concerns over their actual benefit to the Canadian film industry.¹¹⁹ In 1981, the CFDC responded to the CCFM by examining the credits for all co-productions released between 1963 and 1979 with emphasis placed on the thirty-one productions created from 1976 to 1979. According to a press release, the study found an imbalance in the level of participation between the partners: "Canadian artistic and technical [personnel] participation was not as prominent as it should have been under the terms of the treaties.... While results varied in different degrees with each country, the CFDC found that this balance was not achieved."¹²⁰ The press release appears to be addressing concerns that co-productions of this period were not promoting the Canadian film industry, as Canadian crew members were not equally represented. However, later in the same press release, this view is contradicted in relation to co-productions with the United Kingdom and France, both of whom had established film industries and skilled labourers who could mentor Canadians. With these two nations, the report found that approximately half of the co-production investments were "spent on Canadian technicians, performers, studios and laboratories."¹²¹ The influence of co-productions on the Canadian industry thus remained unclear because the report's findings were contradictory.

Co-productions, whatever their balance, had virtually no effect on the practices or standards employed by Canadian postproduction sound practitioners because soundtracks were created either entirely within Canada or entirely outside of Canada. For example, the

soundtracks for *Kamouraska* (Claude Jutra, 1973, co-production with France), *Death Ship* (Alvin Rakoff, 1980, co-production with the UK), and *La guerre du feu* (*Quest for Fire*, Jean-Jacques Annaud, 1981, co-production with France) were all completed in Canada, while *The Uncanny* (Denis Heroux, 1977, co-production with the UK) was completed in the United Kingdom. There were few opportunities for the cross-pollination of sound design personnel and their trade practices. While completing the soundtrack in a single location was a more practical approach because it reduced travel and accommodation costs, it also eliminated the exchange of methods.

American Soundtracks

In addition to co-productions, Canadians had easy access to American films in Canadian cinemas. Consequently, Canadian filmmakers would have been aware of the range of sonic experimentation occurring in American films from the late 1960s through the end of the 1970s. In their respective dissertations on American soundtracks, Jay Beck and Amy McGill focus on these experiments as manifest in such films as *Bonnie and Clyde* (Arthur Penn, 1967), *Medium Cool* (Haskell Wexler, 1968), *M*A*S*H* (Robert Altman, 1970), *THX 1138* (George Lucas, 1971), and *Eraserhead* (David Lynch, 1977). Beck specifically argues that the increased importance of sound in the films from this era was a result of directors exploring a new narrative model and developing a new cinematic vocabulary in which sound was essential.¹²² Both scholars highlight the increased use of sound effects for narrative purposes and the application of overlapping or disguised dialogue.

The films of the 1970s began to use a greater number of concurrent sounds as McGill notes, writing, “Sound effects are foregrounded within the *mise-en-bande*, highlighting both their importance and potential sophistication as storytelling devices.”¹²³ Beck arrives at a similar conclusion in his examination of Walter Murch’s soundtracks in which “sound was regularly marshalled to support the central story through whatever means were appropriate.”¹²⁴ These and other filmmakers, according to Beck and McGill, used sound effects to advance the narrative and build the world of the story.

The decentralization of dialogue was another key area of experimentation. McGill observes in *THX 1138* that “the line that divides voices and sound effects is blurred at moments in the film.”¹²⁵ McGill interprets the unintelligibility of the dialogue as a generic convention that drives the narrative by confusing the audience.¹²⁶ In contrast, Beck views this technique as a tool to guide audiences to the most salient aspects of the soundtrack:

But more than just creating a cacophony of voices and distortion, Murch was careful to create an acoustic “space” where the lines of undistorted dialogue could cut through the background sounds and distorted voices. This meant that the audience could be asked to strain to hear what the distorted voices were saying, but as soon as an undistorted voice was heard they would immediately latch onto that as the central carrier of narrative information.¹²⁷

Beck’s conclusions about the sound design of *THX 1138* may be informed by his research into the overlapping dialogue in the films of Lucas’s contemporary, Robert Altman.¹²⁸ In his analysis of *M*A*S*H*, Beck asserts that “While this [the overlapping dialogue] does create a sense of confusion in the inattentive spectator, careful analysis reveals that as the camera shifts its zoom to emphasize the different characters, the relevant subconversation

becomes ‘legible’ by the audience’s ability to hear the words while simultaneously seeing the character speaking.”¹²⁹ Even when the dialogue is purposely obscured by the filmmakers of *THX 1138* and *M*A*S*H*, according to Beck, attentive audience members are able to follow the narrative information.

Beck’s interpretation of the dialogue in Altman’s films is supported by George Groves’s recollections of working on Altman’s *McCabe & Mrs. Miller* (1971). In an oral history account, Groves recalls that the entire film needed to be dubbed in order to ensure that the dialogue was intelligible:

[Altman] insisted on hiring a Canadian crew, and would not take a crew from Hollywood. The work done by the Canadian crew was way below the standard that would have been turned out by a Hollywood crew.... Now, this show, it was processed in Canada, and dubbed [mixed] in Canada, and came back here for us to look at. I’d venture to say I couldn’t understand one half of what was said in the picture. Extremely bad sound.... They brought it back down here, and had the whole show redubbed. And it was a terrible job to get any intelligibility out of it at all.¹³⁰

Groves’s account points to a strong desire for the dialogue in the film to be easily understood by audience members, and his memory of the Canadian recordings and mix is consistent with my findings and underscores the disparity between Canadian and American sonic practices. Even though *McCabe & Mrs. Miller* adheres to the practices of the New Hollywood Cinema, which encouraged sonic experimentation, the Canadian mix for the film was rejected due to bad sound. In light of Groves’s negative account of Canadian soundtracks, it appears that while the NFB aesthetic may have been justified by the experimentation found in New Hollywood Cinema films, the practices used by sound

practitioners in each nation varied greatly.

That said, the American observational documentary style did cross over into American independent narrative films, such as Kent Mackenzie's *The Exiles* (1961), Shirley Clarke's *The Connection* (1962), John Cassavete's *Shadows* (1959), *Faces* (1968), *Husbands* (1970), and *A Woman Under the Influence* (1974), and Charles Burnett's *Killer of Sheep* (1978). All of these films borrow documentary techniques to form the visual aesthetic, including "hand-held camerawork, all-location shooting... and frequent cutaways to details of the environment."¹³¹ The visual style of these films thus match their rough sonic aesthetic that either featured complete ADR (*Shadows*), poorly synced sound due to technical issues (*Faces*) or patched together ADR and outtakes (*Husbands*).¹³² In contrast, the Canadian films that I analyze in the following section had visual aesthetics that closely resemble those used in Hollywood (continuity editing, smooth camera movements, a carefully designed mise-en-scene, and innovative special effects) while the sound was modeled after observational documentaries made at the NFB. Thus, there was a mismatch between the visual and sonic aesthetics of Canadian films rerecorded in Toronto.

Not all American filmmakers were experimenting with sound, as Beck notes: "Even though there were substantial advances made in film sound technology and the film sound industry in the 1960s and the 1970s, very little changed in terms of the general aesthetics of film sound."¹³³ For instance, both Beck and McGill position *Star Wars* (1977) as a return to a classical, verbocentric aesthetic, with McGill explaining that "The soundtrack of *Star Wars* may be far more intricate than anything produced in the studio era, but the intelligible dynamic between the soundtrack's components points to a mixing style comparable to one negotiated during the 1930s."¹³⁴ McGill's comments underscore

that although the 1970s was a period of sonic experimentation in Hollywood, not all films used sound in new ways. Additionally, the increased use of Dolby Stereo technology in the late 1970s marked a return in Hollywood to a classical or continuity style of soundtrack construction.¹³⁵ In the following analysis, I examine how Toronto's sound practitioners differed from their American counterparts by adhering to the NFB sonic aesthetic.

Case Study of the NFB Style in Fiction Films: *Cannibal Girls* and *Videodrome*

Government initiatives—the CFDC, CCA, and the NFB—gave rise to a widespread and persistent style of film sound, which I have called the NFB aesthetic. This style pervaded documentary and fiction filmmaking in the public and private spheres and influenced the sounds of Canadian television and other non-theatrical media.¹³⁶ In this section, I will define the features of the NFB aesthetic and explore its functions in fiction filmmaking by comparing the soundtracks of *Cannibal Girls* (Ivan Reitman, 1973) and *Videodrome* (David Cronenberg, 1983), two films that share sonic features despite being produced nearly a decade apart and having a budget difference of several million dollars. *Cannibal Girls* was an ultra-low-budget film with a cash budget of around twelve thousand dollars; *Videodrome*'s budget was approximately six million dollars.¹³⁷ As with all of the case studies in this dissertation, both films can be classified as horror and/or science fiction. Notably, the NFB style is most typically associated with documentaries or realist drama, but neither *Cannibal Girls* nor *Videodrome* draws on a documentary style for any production elements other than sound. The mise-en-scène, shot composition,

narration, editing, and acting all conform to practices found in Hollywood films. The soundtracks for these films, by contrast, adhere to the NFB aesthetic.

Cannibal Girls, a campy horror film, centres on Clifford and Gloria, a young couple (played by Eugene Levy and Andrea Martin) on a romantic holiday in rural Ontario. When Clifford's car breaks down, they decide to stay in the small town of Farnhamville while the car is being repaired. After they book a room at a local motel, the landlady tells them the town's legend of three cannibal women who lived in a farmhouse near the town. The house has been converted into a gourmet restaurant, and the couple decides to eat there, but it turns out that the female servers and their master, the Reverend St. John, run the restaurant in order to lure victims. After eating at the restaurant, the reverend persuades Gloria and Clifford to spend the night. The reverend and the women try to convert Gloria to cannibalism and to induce her to kill Clifford, but she escapes only to wake up back in the motel room with Clifford. He convinces Gloria that she has had a nightmare and that they should explore the town. That night, they return to the restaurant. This time, the reverend succeeds in turning Gloria into a cannibal and has her kill Clifford. The four women, the reverend, and the disfigured slave feast on his body. In the epilogue, the motel landlady tells a new couple the legend of the four cannibal women.

In *Videodrome*, a science fiction horror film, Max is the owner of CIVIC-TV, a cable television station. In his quest to find a new television show that pushes the boundaries of what can be aired on cable television, Max watches "Videodrome," a show about torture and death. Max begins to have hallucinations, the source of which he traces back to exposure to a deadly signal that was transmitted underneath "Videodrome." He soon learns that the signal is controlled by Spectacular Optical, a corporation intent on ridding the world of "scum." He also discovers that the signal killed Professor Brian

O'Blivian, one of its creators. By being programmed and reprogrammed through the insertion of videotapes into his abdomen, Max becomes an assassin, first for Spectacular Optical and then for Bianca O'Blivian, daughter of Brian O'Blivian. The tapes allow the two parties to control Max for their own purposes. The film ends with Max entering an abandoned ship where Niki, his missing girlfriend, appears to him on the television in order to tell him that he can become part of "the new flesh" (a higher state of consciousness). He achieves this by shooting himself.

The shared sonic style of *Cannibal Girls* and *Videodrome* derives from the NFB and is defined by four traits: obscured dialogue; lack of detail due to a reliance on production recordings; inconsistent application of atmospheric sounds; and minimal intrasoundtrack interactions between dialogue, music, sound effects, and atmospheric sounds (for visualizations of the soundtracks of the films' final scenes, see the Appendix).

Obscured Dialogue

Toronto soundtracks of this period relied on location recordings, a practice carried over from NFB documentaries and fiction films, as opposed to ADR, a common practice in contemporaneous Hollywood filmmaking. While the use of production recordings was an economical option in that it minimized the work that editors must devote to the dialogue track, such recordings often retained superfluous noises, which distorted or disguised character dialogue and at times obscured important plot information. For instance, the dialogue track of *Cannibal Girls* includes several off-mic or distorted lines that impede our complete knowledge of story events without stylistic or thematic motivation. One instance of a barely audible line occurs at 01:16:14 when Clifford

mumbles, “Baby, I really...”. As the line is spoken off-mic and low in volume, it is difficult to discern the words being uttered without multiple viewings. Off-mic and distorted lines occur with regularity throughout the film. Other examples include the sheriff’s phone call (00:02:41–00:03:05) and Clifford and Gloria’s lines during the dinner (00:46:28–00:46:33). The muddy dialogue does not have a narrational payoff, but seems instead to be an unintentional consequence of pointing the microphone away from the actors’ mouths.

The soundtrack for *Videodrome* appears to have been edited more thoroughly than the earlier film because there are fewer instances of extraneous noise or barely audible or distorted dialogue. As with *Cannibal Girls*, however, *Videodrome* also relies heavily on location recordings and uses ADR sparingly. During a scene in which Max meets with a colleague at a restaurant, the sound of passing cars competes with the dialogue and obscures their conversation. At 00:25:52, Max’s line is off-mic and difficult to understand. Similarly, when Max yells at Bianca O’Blivian at 00:40:41, part of his line (“watch it”) is distorted, which obscures what is being said. Despite being made a decade apart, the dialogue for both films is challenging to understand at times, a trait that runs counter to what Sarah Kozloff calls “the most salient characteristic of sound of American film dialogue... the privileging of ‘intelligibility.’”¹³⁸ The inclusion of barely intelligible lines in both *Cannibal Girls* and *Videodrome* suggests that Toronto’s postproduction sound practitioners were adhering to a set of standards that differed from the principles of continuity sound observed by their American colleagues.

Details

Along with obscured production recordings, the dialogue tracks of the two films lack detailed nonverbal vocalizations, such as breaths, struggles, and moans. At 01:17:00 of *Cannibal Girls*, Clifford visually gulps when the reverend tells him that he is not allowed to leave the house, yet the sound of this action does not accompany the shot. The absence of sound for Clifford's panic mirrors earlier sonic disconnects, including attacks where the victims make no noise despite visual images to the contrary (00:30:40); a lack of vocalizations for the women during any of their attacks (see 00:26:11–00:26:23 and 00:27:47–00:27:52); and the omission of all sync sound for a long shot of a group of characters dining, even when they are clearly speaking to one another (00:24:05–00:24:12). Similarly, at 01:23:09 in *Videodrome*, Max breathes in close-up, but no sound accompanies his inhalation. *Videodrome* had a substantially larger budget than *Cannibal Girls*, yet the film also limits its use of the dialogue track to spoken words; there are minimal breaths or vocal exertions (or efforts). Instead, the soundtrack depends on other sonic elements to cover the scene until the dialogue enters at 01:23:28, at which point all other sounds are omitted from the soundtrack.

Although breaths and efforts are not verbal, these sounds were regularly used in Hollywood films of the time to convey important narrative information about the character's emotional state. To take two well-known examples, in *Rosemary's Baby* (Roman Polanski, 1968), the titular character's panicky breaths can be heard audibly in the scene when she explains her predicament to her doctor; similarly, in *Alien* (1979), Ripley's breaths indicate her emotional and physical condition. The lack of nonverbal detail on the soundtracks of Canadian films for this era appears to have emerged from an NFB style which would not have added such sounds in postproduction. The absence of

these sounds means that important narrative information regarding the condition of the characters is not being communicated to the audience. More broadly, it suggests that delivering such insight was not an aesthetic priority for Canadian filmmakers.

Because location recordings provided the majority of sonic coverage for Toronto soundtracks of this era, sound effects and Foley effects, which are created in postproduction, tend to occur in a sparse, sporadic manner, often out of synchronization with the visual image. The inclusion of these sporadic or unsynchronized sounds detracts from the narrative of the films because they are unmotivated by the narrative or onscreen action. In *Cannibal Girls*, for example, when the reverend hypnotizes Gloria, he removes her coat and drops it on the floor. The sound corresponding to this action occurs at 01:16:45 while the visual occurs five seconds later at 01:16:50. At other points in the film, key sounds are missing, such as the sheriff kicking a body to determine if it is alive (00:38:18) and a car passing by in a medium close-up a few seconds later (00:38:50). Sounds that are not important to the narrative, on the other hand, populate the soundtrack. This is the case in the final scene, in which, as Gloria and Clifford walk through the front hall of the restaurant into the living room (01:16:08), the sound of creaking floorboards fills the soundtrack. While these creaks add texture and an element of verisimilitude to the scene, in this instance, the sounds are almost as loud as the dialogue (see the visualization from 01:15:33–01:16:13).

The sound effects and Foley for *Videodrome* are also mismatched in volume and sync, despite the fact that they were most likely added in postproduction. In the final scene, for example, which takes place on an abandoned ship, the loudest of Max's footsteps are heard when he enters the ship. At this point in the tracking shot, Max is framed in a long shot, but as he approaches the camera, the sound of Max's footsteps

diminish in volume instead of increasing. As a result, the sound does not match the visual. Additionally, the Foley is out of sync and omitted entirely as Max sits on the mattress. At 01:23:13, Max, who is wearing a leather jacket, rubs his face (a detail that Foley artists typically cover), but no sound accompanies the movement. The sporadic coverage of movements here and elsewhere in *Videodrome* mirrors the aesthetic found in *Cannibal Girls*. Indeed, the similarities in the two films' soundtracks indicate that it was common for sound practitioners to apply sound effects and Foley minimally and that perfect sync was deemed inessential. The result of this reliance on location recordings with minimal sound editing is a soundtrack that is more raw and realistic, not unlike the authenticity sought and captured by the NFB documentary style. In these films, however, the rawness obscures the narrative by inadvertently omitting or disguising story information.

Atmospheric Sounds

As with the level of detail on the soundtrack, the application of sonic atmospheres is not determined by the narrative of the film. In both films, there are noticeable breaks in atmospheric sounds, such as atmospheric sounds disappearing and reappearing at random points and atmospheric jumps. According to contemporaneous technical books on sound editing, the standard practice in Hollywood films was to apply atmospheric sounds for two purposes: to set the location, mood, and tone of the scene, and to create a foundation on which all the other components could be layered.¹³⁹ By contrast, Toronto sound editors used atmospheric sounds only to establish setting and mood. These sounds do add texture to the scene, but they are often applied at random, appearing and disappearing within the scene without explicit motivation. Even though Toronto sound editors used atmospheric

sounds, such as wind, thunder, owls, and water dripping to augment the soundtrack, these sounds rarely provided a foundation.

Toronto sound practitioners drew on atmospheric sounds to enhance the mood of the scene, but often these sounds were applied inconsistently. For example, the final scene of *Cannibal Girls* relies on a recording of a soft wind and an owl hooting to set the space of the scene and the isolation of the farmhouse, but after the reverend and the women enter the house at 01:16:33, these sounds disappear from the soundtrack. The removal of these sounds appears to be motivated by a door closing, but given that the sounds were present on the soundtrack before the door was opened, the reason behind their sudden subtraction goes unexplained. This inconsistency is further complicated when the sound recurs briefly between 01:16:43 and 01:16:47, during a short break between lines of dialogue. For the remainder of the scene, the only atmospheric sounds are the tones embedded on the location recordings, such as low-level hums. The soundtrack visualizations for this scene indicate that scenic atmospheres are shaped around the dialogue and are often omitted during dialogue-heavy sequences. This implies that Toronto postproduction sound practitioners were removing atmospheric sounds when dialogue was present in order to ensure maximum intelligibility of the location recordings.

The atmospheric sounds in *Videodrome* are applied similarly inconsistently; they start and stop at random and contain multiple volume changes. Although these sounds aid in setting the tone of the scene, they do not provide consistent coverage. For example, at the close of the film, the sound of dripping water decreases in volume when the dialogue enters and rises again when the dialogue ends. The reduction of this sound during the dialogue exchange suggests that the filmmakers were concerned that the sound of the water would interfere with the clarity of the conversation. Additionally, although these

sounds provide texture by creating tension, they do not help the audience navigate the space because the water is not placed in auditory perspective within the scene. Instead, the intensity of the drip remains at the same volume level regardless of where the camera is located in the room. Furthermore, the dripping water, which is never shown visually, is the only atmospheric sound for this scene (other than the room tone hums, which are recorded along with the location dialogue). This is especially striking because the scene's location (an abandoned ship) offered sound practitioners the opportunity to experiment with additional sounds. For both films, minimal atmospheric sounds are used to establish the setting of the scene, and then they are either removed from the soundtrack or reduced in volume.

Even though these atmospheric sounds augment the soundtrack, they fail to provide a sonic foundation for the location recordings. The absence of foundational tones creates atmospheric jumps that alert the attentive audience member to sonic edits and threaten to call attention to the medium itself. Contemporaneous books on sound editing note the perils of shifts in atmospheric sounds to disrupt narrative flow. Alec Nisbitt writes, for example, that “it takes a lot to obliterate a dropout of atmosphere, particularly where there is a continuous steady noise.”¹⁴⁰ The use of atmospheric tones appears to parallel the continuity editing system because the main goal is to disguise the presence of the cut. While the use of atmospheric sounds to create a base for the soundtrack was common practice in classical and contemporaneous Hollywood cinema (as described by both scholars and best practices handbooks), Canadian fiction films did not use this technique. This indicates that Toronto sound practitioners followed a different set of techniques inherited from the NFB for sound editing and mixing despite the fact that rules of continuity were followed visually in Canadian fiction films.

The absence of consistent tones creates a disjointed feel, similar to a jump cut. I term such sounds “atmospheric jumps” because they call attention to the artifice of the medium in the same manner as a jump cut.¹⁴¹ *Videodrome*, like the majority of Canadian fiction films of the time, observes the rules of continuity editing as applied to the visual image, but the soundtrack is populated with uneven transitions between the sonic cuts.¹⁴² The presence of atmospheric jumps complements the NFB documentaries because such cuts are motivated by the visual style and narrative structure of the films. For instance, in the documentary *Lonely Boy*, the visual editing does not follow the rules of continuity editing, and this, in turn, motivates the lack of continuity on the soundtrack. In contrast, the presence of atmospheric jumps seems to be out of place in *Videodrome* because neither the visual editing nor the overarching film style motivates this sonic practice. In the final scene, for example, there are clear changes in tone for every cut to the dialogue track. The music somewhat disguises these cuts, but they are still audible at 01:24:42 and 01:24:59. Although atmospheric jumps are subtle, especially when compared to their visual counterpart of the jump cut, the shift in sound is a break in continuity. Because the atmospheric jumps occur without any apparent stylistic motivation, their presence on the soundtrack threatens to reveal the process of filmmaking and divert the attention of the viewer. When atmospheric jumps are combined with an inconsistent application of background sounds (e.g., traffic, wind, rain, water drips, clocks, and birds), these sounds make the work behind the creation of the soundtrack explicit, a phenomenon that differs from the more integrated Hollywood sound aesthetic.

Intrasoundtrack Interactions

One especially conspicuous characteristic of Toronto feature film soundtracks of this period is their distinct compartmentalization of sound elements. The sparseness of the soundtracks of this time appears to be the result of a reliance on the production recordings with additional sounds added when they would not interfere with the dialogue. This style of soundtrack is reminiscent of the NFB observational documentaries and fiction films, such as *Lonely Boy* and *Nobody Waved Good-bye*. The resulting minimal intrasoundtrack interactions have the effect of placing equal emphasis on trivial and significant narrative moments. Illustrative of this are the soundtrack visualizations for the final scenes of *Cannibal Girls* and *Videodrome*, which depict the lack of interactions among elements, especially when compared with visualizations from subsequent time periods. In order to preserve as much clarity as possible from the production recordings, Toronto postproduction sound practitioners typically presented the dialogue track without other components playing. When sounds occurred beneath the dialogue, they were often part of the production track and had been recorded with the dialogue. Similarly, it was common for the music track to cover the soundtrack for large portions of the scenes with only the occasional sound effect or Foley element to add texture. The minimal intrasoundtrack interactions among the four sonic elements (dialogue, music, sound effects and Foley, and atmospheres) and the reliance on production sound for sound effects and Foley coverage, created a sparse soundtrack aesthetic. Consequently, the soundtrack for the final scene of *Cannibal Girls* is uneven and sparse. Although different sound components coexist on the soundtrack, these components operate independently of one another and lengthy sections exist where one component comprises the entire soundtrack. The first two-and-a-half minutes of the final scene (01:15:23–01:17:51) feature more intrasoundtrack interactions

than the rest of the film, but these sounds are inconsistently applied, unmotivated by the onscreen action, and uneven in terms of volume. During this section, the music acts as the tonal foundation and serves to heighten the climax of the film, but when dialogue enters the soundtrack, the music drops in volume to ensure verbal clarity. The music is removed from the soundtrack at 01:18:03, leaving the location recordings to fill the scene. The lack of sound at this point highlights gaps and flaws in the recording.

In addition to minimal intrasoundtrack interactions in these films, when multiple sonic components occur simultaneously, their volume levels often do not match the onscreen action. Uneven volumes among soundtrack components are a common feature of Toronto soundtracks of the period. For example, when the disfigured slave drags Clifford's body out of the room, his footsteps are unnaturally loud compared to the women's voices as they sing a hymn-like song. The lack of consistent levels among sonic components calls attention to the soundtrack and suggests either that the filmmakers did not have adequate resources available for soundtrack construction (noting that evening out volume levels is a relatively easy task) or that this scene relies primarily on the production recording and that none of the usual postproduction sounds were created to generate a smoother soundtrack.

As in *Cannibal Girls*, the final scene of *Videodrome* has minimal interactions between the dialogue and music tracks. Here, the music and dialogue tracks overlap for just thirty-two seconds out of the four-and-a-half minutes of the scene. Similarly, the sound effects and Foley are absent from the soundtrack for approximately two-and-a-half minutes while dialogue and then music fill the scene. Even at the film's sonic climax (the explosion of the television), the soundtrack components remain isolated (01:25:26). This separation of soundtrack elements goes against the continuity sound practice of providing

full coverage of sound for all onscreen actions, a detailed, consistent atmospheric track throughout the scene, and the careful blending of music with the other components. Although the compartmentalization of soundtrack components guarantees sonic clarity, this division leads to a simple sonic aesthetic that more closely resembles an NFB documentary film than a mainstream Hollywood feature. Similarly incongruous with mainstream cinematic expectation, *Videodrome* also presents an uneven soundtrack. For example, the sounds of Max hitting a chain at 01:22:22 and of a bottle hitting the floor at 01:22:59 are disproportionately loud when compared to the other sounds in the scene despite the fact that these sounds have no narrative significance. It appears that these sounds are part of the production track, which is why they are comparatively loud. As a result, the placement of sounds in *Videodrome*, as in *Cannibal Girls*, is sporadic and uneven.

Overall, both *Cannibal Girls* and *Videodrome* follow the NFB house style of sound rather than a Hollywood style of soundtrack design. Instead of privileging sonic intelligibility and continuity in the manner of American films, the soundtracks of these two films feature minimal sonic manipulation. In this way, they exemplify how Toronto-produced soundtracks of this period obscure narrative information, highlight the artifice of the medium, and place equal emphasis on trivial and significant narrative moments. In so doing, they perpetuate the NFB cinema verité approach to sound in Canadian fiction film soundtracks. Further, although visual and narratological aspects of *Videodrome* resemble European art cinema, the reliance on location recording rather than dialogue recorded during the postproduction phase distinguishes the sonic style of Canadian fiction films from their European counterparts. Thus, the sonic traits shared by the two films, despite

the vast difference in their budgets, suggests that adoption of the NFB aesthetic was not the result of a lack of funds, but rather a willful and voluntary style.¹⁴³

Conclusions

Toronto fiction films produced between 1968 and 1986 feature simple and sparse soundtracks that conform to the NFB aesthetic. Due to a strict adherence to government regulations by film producers, this aesthetic seems to have flourished irrespective of an individual film's budget. Indeed, this aesthetic only changed once filmmakers, such as David Cronenberg, started to adopt less strict policies for creating the soundtracks outside of Canada and when facilities began to hire sound mixers of international renown, such as Andy Nelson, in 1988.¹⁴⁴ We can see how policy had a strong effect on the Canadian fiction film aesthetic through an examination of the sonic style in use during this period.

By tracing the aesthetic back to the NFB, we achieve a deeper comprehension of the stylistic choices that sound practitioners were making. Because the NFB aesthetic ran counter to the soundtrack aesthetic used in American films, the soundtracks are often derided as "awful." However, just as Urquhart argues in the essays I cite at the beginning of this chapter, the films produced during this period merit attention as their production generated significant revenue for the private Canadian film industry.¹⁴⁵ Additionally, the films illustrate the norms of soundtrack construction in Toronto during this period. In the next chapter, I will examine why the NFB aesthetic remained unchanged even with the introduction of Dolby Stereo, and how international interactions promoted a subtle shift in sound style instead.

Chapter Three: Dolby Stereo in Canada and the Persistence of the NFB Aesthetic, 1981–1989

The perception that Canadian fiction films featured bad sound persisted through the 1980s and was perpetuated by industry leaders. For instance, in a speech to the Canadian Club on the future of the Canadian industry, Garth Drabinsky attributed the style of Canadian soundtracks to the inferior mixing rooms in the country.¹ Similarly, in an interview about his work, David Cronenberg explained that he chose to mix *The Dead Zone* in Los Angeles because there were no facilities in Canada “good enough.”² Despite this reputation, Canadian filmmakers appear to have been reluctant to employ the new multichannel technology that promised an improved sonic experience for filmgoers. In this chapter, I explore the nexus of reasons for the delayed adoption of the multichannel format in Canada and the minimal effect the technology had on soundtrack style. Specifically, I examine the relationship between the number of Canadian film theatres equipped with Dolby Stereo and the use of multichannel formats by filmmakers, the introduction of a new postproduction facility modeled on Hollywood sound houses, and the change in style of Canadian multichannel soundtracks throughout the decade.

The effect of Dolby Stereo on contemporary film soundtracks has been a popular topic in sound studies since the early 2000s, as evidenced by the number of scholarly monographs, journal articles, book chapters, and dissertations that examine multichannel technology.³ While there is some debate over how this technology led to new sonic styles and how the centrality of the company’s branding led to its success, there is a consensus that the introduction of Dolby Stereo was integral to the process of defining how filmmakers in the 1980s constructed their soundtracks and how audiences listened to

films. Although current scholarship on Dolby has illuminated Hollywood soundtracks, such scholarship has focused primarily on mainstream Hollywood cinema.⁴ In this chapter, I build upon the work of Jay Beck, Paul Grainge, Mark Kerins, and others by examining the impact of Dolby Stereo in a non-Hollywood centred industry.⁵ To this end, I analyzed multiple Toronto-produced soundtracks from 1981 to 1989, reviewed the available trade papers, and examined surviving archival records. Based upon this research, I argue the NFB aesthetic was not altered by the arrival of Dolby Stereo multichannel formats. This argument runs counter to how the introduction of Dolby Stereo is often framed in scholarship on Hollywood films. I contend that Toronto sound practitioners only changed their practices and standards once they directly observed Hollywood-style practices in postproduction houses outside of Toronto. As a result of Toronto sound practitioners being exposed to non-Canadian postproduction standards, the Toronto soundtrack style changed to combine elements of both the NFB and Dolby Stereo styles.

I begin this chapter with an overview of current scholarship on Dolby Stereo. Next, by looking at Dolby technology, its consultants, and the company's branding and exhibition successes, I elucidate the reasons why Canadian filmmakers were not yet drawn to the new technology. I then examine the role that the Cineplex Odeon theatre chain and its postproduction subsidiary, Film House, played in the promotion of Dolby Stereo to account for the increased use of the system in the latter part of the decade. I argue that because Dolby (the company) was not promoting its product in Canada, Drabinsky took advantage of the limited presence of Dolby Stereo in the country to help promote both Cineplex and Film House as being able to offer clients a sonic experience that was on par with Hollywood. Thus, Dolby Stereo became the industry standard in Canada only after Drabinsky's promotion of the format. I conclude the chapter with an extensive analysis of

the changes to Canada's sonic style in this period. I analyse *Heavy Metal* (Gerald Potterton, 1981), which was mixed for Dolby Stereo at Pathé in Toronto and which keeps the traits of the NFB aesthetic, and juxtapose it with an analysis of *Spacehunter: Adventures in the Forbidden Zone* (Lamont Johnson, 1983), which was mixed in Los Angeles and exemplifies a typical Hollywood sound design. I end the chapter by looking at the soundtracks of *The Fly* (David Cronenberg, 1986), *The Gate* (Tibor Takács, 1987), and *Millennium* (Michael Anderson, 1989), as illustrations of salient changes to the style of Toronto-created soundtracks in the late 1980s.

Dolby Stereo Technology

According to William Whittington, Dolby Laboratories first became a household name through its noise reduction technology, Dolby A-Type Noise Reduction.⁶ The noise reduction process was initially designed in 1967 to remove undesirable noises, such as hisses and hums, from the recordings of music, though in 1970 Dolby also began to apply its process to the recording of motion pictures. At the same time, Dolby began work on the creation of multichannel sound systems for use in the film industry. In 1975, the company released 70mm Dolby Stereo (also known as Dolby Six Track) and 35mm Dolby Stereo (also known as Dolby SVA).

In order to promote its brand identity, Dolby listed both systems as Dolby Stereo in advertisements for films and theatres. This allowed Dolby SVA (the 35mm format) to capitalize on the success of Dolby's more prestigious 70mm format, for there was often a lack of clarity regarding which system the audiences were listening to in theatres.⁷ Much of the success of Dolby Stereo in the United States has been attributed to the system's

combination of Dolby's already renowned noise reduction technology and the technology's ability to handle 70mm and 35mm formats.⁸ Dolby SVA used a quadrasonic matrixing technique that allowed storage of up to four playback channels in the space of only two optical tracks in combination with a noise reduction process that widened its decibel range and minimized distortion during louder sequences. Dolby Six Track also employed noise reduction and added subwoofer channels to increase the quality of six-track magnetic recordings. Notably, because Dolby SVA could be played in monaural systems, theatres equipped with Dolby noise reduction but not Dolby Stereo technology could still advertise that they were playing their films in Dolby sound to further capitalize on the company's brand.⁹ Beck argues that the lack of product differentiation (all bore the "Dolby Stereo" label) led audiences to conflate the various formats.¹⁰ The conflation appears to have helped sell the Dolby brand within the United States, for between 1977 and 1981 the company won over both filmmakers and exhibitors by offering advanced technology at an affordable price.¹¹ As a result of this conflation, throughout this chapter I use the term "Dolby" to refer to the company. I refer to its technologies as either Dolby Stereo, Dolby noise reduction, the Dolby system, or (simply) Dolby technology.

At the same time that Dolby Stereo was becoming popular in the United States, the Toronto sound industry was investing in the development of a Canadian surround sound system. Advertising inserts for Film House in 1976 report that the facility was developing a sound system of its own.¹² A few years later, Toronto sound editor Kenneth Heeley-Ray attempted to create his own system for 35mm film. He began work on his system after having developed a twelve-track surround format for a short film commissioned for Expo '70 in Osaka, Japan.¹³ Central to Heeley-Ray's design was the physical placement of the

soundtracks on the filmstrip, which supposedly enabled them to be played in monaural theatres, a primary feature of the Dolby SVA (35mm) format. According to the company's press release, "The sound tracks are laid out in an unconventional manner so that even in the non-stereo theatres, the audience will often believe he is [*sic*] listening to stereo sound as well as being thrilled by the startling new kind of sound, or better—the unusual kind of sound."¹⁴ While the information on how the system functioned is vague, Heely-Ray's new system was slated for use on *Death Ship* (Alvin Rakoff, 1980) and *Brainstorm* (Douglas Trumbull, 1983). However, neither film employed the technology,¹⁵ but even though both the Film House and Heeley-Ray multichannel systems failed to materialize, the fact that the Toronto postproduction sound industry was investing in the creation of a Canadian multichannel format suggests that there was a desire to remain current with the American industry's use of stereophonic soundtracks.

The desire to keep the technology Canadian seems to have been a trend that was carried over from the NFB, for the Board continually invested in the creation of new film technologies. When the former chief of operations, technical, and production services at the NFB, Len Green, set up the sound department for Film House, he specifically selected Canadian technology: "The sound mixing console, designed and built in Canada at a cost of over \$100,000, was rated by experts as one of the most versatile available in North America. For the first time in Canada the sound mixing tracks—recorders, dubbers, and projectors—could be moved forward and backward in synchronism (rock-and-roll) to correct miscues."¹⁶ Through the commission of a Canadian console, as opposed to the purchase of an American one, the new facility signaled its national allegiance to Canadian engineering. Similarly, Drabinsky selected the Canadian Modular 4 as the first surround sound system for Cineplex in 1979.¹⁷ While this system appears to have been short lived,

its press release makes clear that it was selected because it was developed in Canada.¹⁸ The putative desire to obtain Canadian technology, as opposed to American technology, has undertones of cultural nationalism and suggests a reverence for the ideals executed at the NFB during the Board's golden age from the late 1950s to the mid-1960s.

The Role of Dolby Consultants

Dolby Stereo historian Jay Beck argues that the surround sound system's backwards compatible design imposed a rigid set of guidelines on mixes that restricted, rather than extended, sonic possibilities. To guarantee that guidelines were followed, Dolby employed consultants to confirm that mixes complied with the limits of the system. As Beck explains: "Dolby Laboratories required that their own consultants oversee the mixing of all films into Dolby Stereo. These demands meant that post-production mixing practices had to be standardized to avoid tracking mistakes in the sound presentation during the exhibition process."¹⁹ According to Beck, Dolby consultants successfully standardized soundtracks in the United States. In contrast to Beck's observations on the active role of Dolby consultants, my research on the Toronto film industry suggests that Dolby consultants were largely absent from the mixing process of Canadian Dolby Stereo soundtracks. This meant that Toronto-produced Dolby Stereo soundtracks were not standardized.

Beck contends that Dolby consultants working in the United States and England actively prevented experimentation with the Dolby Stereo systems in order to guarantee that the sound would be presented in a consistent manner across the multiple formats: Dolby 70mm, Dolby 35mm, and monaural.²⁰ He explains that as part of the promotion of

the new technology, company consultants often oversaw the re-recording process and guided the mixers on how best to use the system.²¹ Kerins summarizes the result of Dolby consultants overseeing the mix:

As Dolby Stereo spread as the standard for film sound, the company's initial design choices came to form the "rules" of acceptable sound—and surround—mixing practices.... Dolby's monophonic-based conception of how multichannel "should" be used and the technical limitations of the Dolby Stereo matrix, rather than filmmakers' wishes, would continue to dictate sound design practices through the 1980s and early 1990s.²²

Beck and Kerins stress the fact that even though Dolby Stereo was a multichannel format, it promoted a monophonic approach to soundtrack construction in order to ensure that film prints would be able to play in monaural venues and that the dialogue would remain intelligible.²³ By restricting the abilities of the system and by implementing standards through Dolby consultants, Dolby Stereo sound discouraged experimentation and promoted a homogenized style of mixing.

Despite the importance of Dolby consultants, the company only had consultants in select locations. A Dolby information sheet from 1990 suggests that consultants were based in Los Angeles, San Francisco, New York, and London.²⁴ The information sheet instructs Toronto clients to contact the New York office if a consultant was needed for the mix and to schedule a brief meeting to discuss the client's needs before the mix began.²⁵ It appears that the distance between the two cities meant that re-recording engineers in Toronto had minimal interaction with Dolby consultants. Thus, the role of Dolby consultants is much less of a factor when discussing Canadian Dolby Stereo soundtracks.

The minimal interaction with Dolby consultants is further evident by the way that

Canadian soundtracks made without Dolby Stereo (for example, *Scanners*, [Cronenberg, 1981], *My Bloody Valentine* [George Mihalka, 1982] and *Videodrome* [Cronenberg, 1983]) share the same sonic style as those mixed for Dolby Stereo (such as *Heavy Metal* [Gerald Potterton, 1981], *La guerre du feu* [*Quest for Fire*, Jean-Jacques Annaud, 1981], and *Rock & Rule* [Clive A. Smith, 1983]). This lack of discernible change in style as a result of Dolby's adoption suggests that Dolby consultants did not standardize Canadian facilities the way that they did in Hollywood. Instead, many Canadian postproduction sound practitioners continued to apply the NFB aesthetic to films that used the Dolby Stereo system. For example, *Heavy Metal*, a multichannel film that was mixed at Pathé Sound by Austin Grimaldi, Joe Grimaldi, and Don White and released in 1981, often keeps the various soundtrack components separate, rather than following the standard Dolby Stereo aesthetic of layering music, dialogue, and effects.²⁶ The continuation of the NFB aesthetic through the introduction of Dolby Stereo appears to be linked to Dolby Laboratories overlooking Canadian facilities in combination with the low output of Canadian Dolby Stereo films in the first half of the 1980s (see Figure 4).

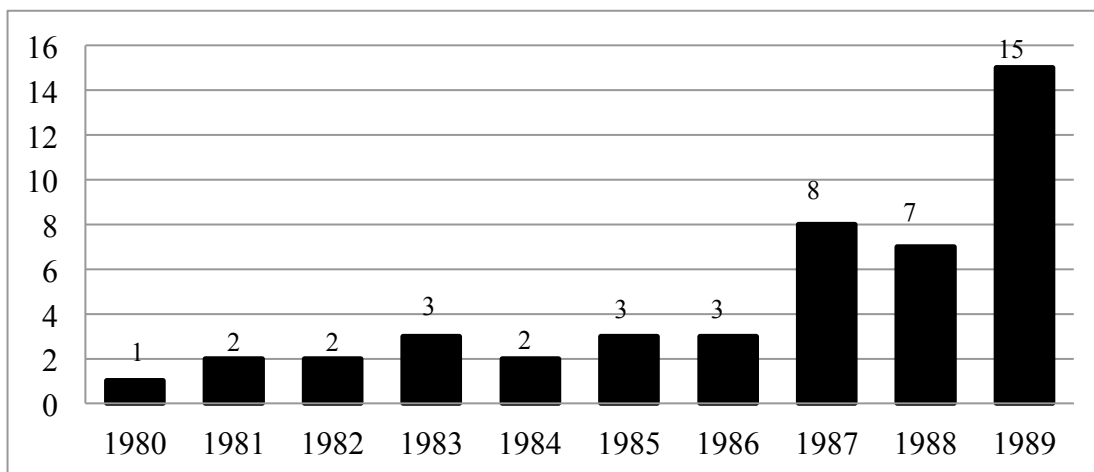


Figure 4. Canadian multichannel mixes by year, 1980–1989.

The continued use of the NFB aesthetic in Canadian Dolby Stereo soundtracks appears to have instigated a trend for filmmakers to travel outside of Canada for postproduction to locations where Dolby consultants were based, primarily Hollywood and London, England.²⁷ Cronenberg summarizes the attitude towards Canadian postproduction facilities of the time in an interview with Serge Grünberg in which he reveals that his decision to mix *The Fly* outside of Canada was based upon the limited options available within Canada: “We felt at the time that there wasn’t a place in Toronto that was good enough.”²⁸ Cronenberg’s comment reflects the growing desire among Canadian filmmakers in the 1980s for both a new sound aesthetic and improved sound facilities. The change from monaural to multichannel formats accentuated the discrepancy between Hollywood and Canadian soundtracks, as Canadian facilities had previously been sufficient for Cronenberg when he was mixing monaural soundtracks, such as that for *Videodrome* (1983).

Dolby Stereo Branding and Exhibition

Another reason for the success of Dolby Stereo as a format has been attributed to the company’s power to create brand recognition combined with the relatively low cost of the system. Beck, Kerins, Sergi, and Grainge have all argued that the branding of Dolby Stereo as an affordable and technically advanced format, along with Dolby’s ability to distinguish itself from previous multichannel sound systems by marketing Dolby Stereo as a sonic experience that filmgoers would actively seek out, led to the American film industry’s widespread adoption of the brand.²⁹

Central to Dolby's marketing campaign was the claim that the company did not need to actively advertise its products: "Dolby isn't soliciting business, Allen avers. 'We don't go out knocking on doors. I don't want to persuade people to release Dolby soundtracks. They have to come to us.'"³⁰ However, despite such claims by the company, Grainge has traced the company's aggressive advertising, such as the "Progress Report" ad for Dolby Stereo in *Variety* in 1978, which he argues "put forward a series of facts, assurances, guarantees, and promises, organized around a vision of Dolby Stereo as a threshold technology for the motion picture industry."³¹ As Grainge points out, while the company remained independent from studios, it still actively targeted filmmakers.³²

One way in which Dolby promoted its services to the industry was to highlight how the costs involved in creating a Dolby Stereo soundtrack were low compared to the average Hollywood production budget. Sergi labels Dolby's affordable licensing fees, combined with strict quality control, as "the winning formula."³³ Charles Schreger has argued that the costs associated with the use of the system were quite affordable for the majority of Hollywood films. In an essay published in 1985, he notes, "It costs more to dub a film in Dolby stereo than in standard mono—about \$25,000 more—but the addition is almost insignificant, given that the average cost of a major-studio movie today is about \$5 million."³⁴ Dolby Stereo's relatively low price combined with the promotional value of the system, was enough for Schreger to claim the new format as a success, as it appeared to be affordable for the majority of mainstream films.

In regards to Canadian films, however, the low costs were still prohibitive because the budgets of the majority of Canadian films were much lower than the average major-studio film. For instance, of the Canadian horror and science fiction films with available budget information from this era, about half had a budget under one million, another third

were between one to five million, and only eight were over five million. Thus, for the majority of films examined from this era, the cost of a Dolby Stereo mix was unaffordable. Even though the Dolby brand name was a strong marketing tool for films, the limited budgets for Canadian films meant that few producers could afford to use the format. Indeed, between 1981 and 1983, seven films out of the one hundred and sixty-one Canadian films released contained multichannel mixes (see Figure 5). The demand for Dolby Stereo may have been booming during this same period in the United States following the success of *Star Wars* (George Lucas, 1977) and *Close Encounters of the Third Kind* (Steven Spielberg, 1977), but the Canadian film industry remained isolated from this trend, as seen in the minimal promotion of Dolby Stereo facilities in Canada.

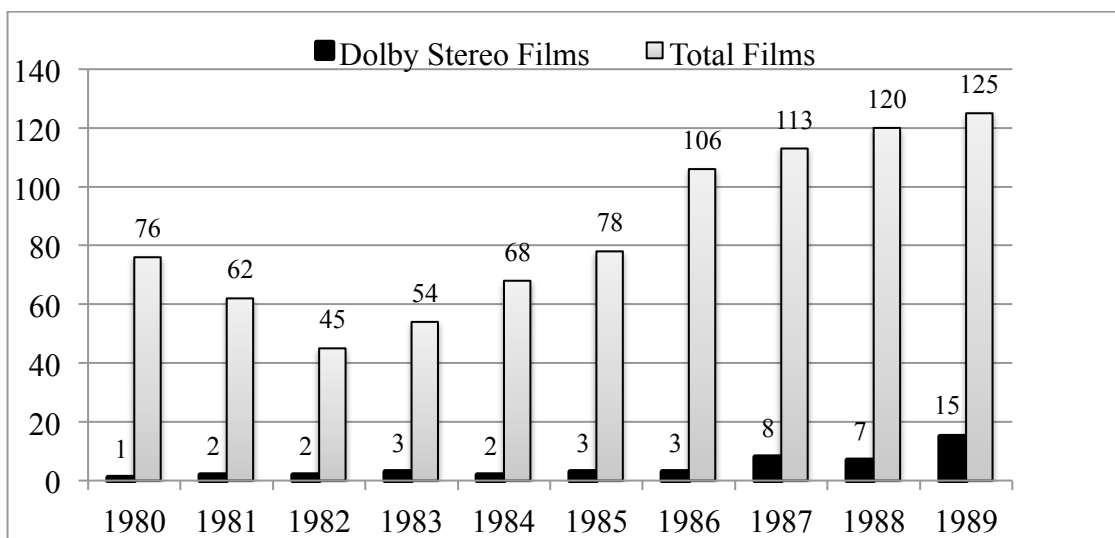


Figure 5. Comparison of the number of Canadian Dolby Stereo films with the total number of Canadian films, 1980–1989.

The resistance to Dolby Stereo is also seen by the fact that although Pathé and Film House installed the system in 1980 and 1981 respectively, and the first Canadian Dolby Stereo mixes took place at this time, there was no mention of Dolby Stereo in

Cinema Canada, the primary industry trade paper of the time, until Pathé ran a brief campaign that heralded the system in 1984.³⁵ Neither Pathé nor Film House actively advertised their newly acquired technology for the first four years they had the system.³⁶ The absence of promotion for Dolby Stereo in Canada suggests that there was minimal demand for the creation of multichannel soundtracks within the Toronto film industry and a lack of motivation on the part of Dolby Laboratories for capturing the Canadian market.

Dolby's low profile in Canada was also apparent in the realm of exhibition. The low cost of converting exhibition venues to Dolby Stereo and the widespread availability of Dolby Stereo-equipped theatres is viewed by scholars as another key aspect in the American industry's adoption of the format.³⁷ With previous surround sound systems, such as Cinerama, CinemaScope, and Todd-AO, the expense of implementation limited these systems to a small number of theatres.³⁸ With Dolby Stereo, the cost of converting a theatre that was already equipped with stereo equipment was a mere \$5,000.³⁹ As sound was marketed as an important component of the film going experience, theatre owners invested in the Dolby brand by equipping 1,387 American movie theatres with Dolby Stereo by July 1980. The number of Dolby Stereo-equipped theatres rose to 1,497 by February 1981.⁴⁰ In Canada, however, exhibitors were reluctant to invest in the system; in July 1980 there were thirty-two theatres with only eight more added by February 1981,⁴¹ and about twenty-five percent of these theatres were located in Toronto (see Table 1).

Table 1. Number of Dolby Stereo-Equipped Theatres in the United States, Canada, and Toronto

	July 1980	February 1981
United States	1,387	1,497
Canada (including Toronto)	31	39
Only Toronto	9	9

One possible reason for the slow adoption of Dolby Stereo as an exhibition format in Canada could be that while the costs of converting a theatre already wired for multichannel sound were fairly low, the costs for equipping a monaural theatre were much higher than the Dolby advertisements stated. This discrepancy was noted in a *Variety* article published in 1978: “Dolby exec Ioan Allen estimates the mean cost to exhibits [*sic*] of installing a Dolby Stereo system is only \$5,000. For an older house equipped only with outdated monaural equipment, that price tag might hit between \$15–20,000.”⁴² The discrepancy in figures from five to twenty thousand offers a plausible reason why Canadian exhibitors were reluctant to purchase Dolby Stereo systems, especially as Dolby reports that in 1980 more than eighty Canadian theatres were “equipped for Dolby mono playback.”⁴³ The investment in Dolby mono playback systems by eighty theatres suggests that Canadian exhibitors were investing in the Dolby brand to improve sound, but the cost of upgrading a mono theatre to multichannel sound was prohibitive. Regardless of the reason for the lack of Dolby Stereo-equipped exhibition venues, the shortage of the technology in Canada correlates with the reluctance of Canadian filmmakers to use the technology; the costs incurred in creating a Dolby Stereo soundtrack were too high to make it worthwhile to screen the film in what were only a small handful of Dolby Stereo-equipped theatres.

Cineplex Odeon and Dolby Stereo

The foregoing emphasis on the exhibition sector's resistance to a new technology is not without precedent. Scholarship on the adoption of new technologies within the American film industry often points to a direct link between the success of those technologies and investments by exhibitors. As John Belton writes in an oft-cited essay, "Theaters have played a pivotal role in the innovation of revolutionary film technologies, but theaters have generally been dragged to the revolution against the exhibitors' will."⁴⁴ Douglas Gomery makes a similar point in his discussions of exhibition: "If theater owners could not be won over, a new technology would languish (as color did for any number of years) or never be fully accepted on a mass level (the history of 3-D movies)."⁴⁵ Such historical analyses of different technologies suggest that if the technologies were not used in widespread exhibition, they were never fully adopted by filmmakers. Similarly, the widespread adoption of Dolby Stereo by Canadian producers and directors was hindered by the insufficient number of Canadian exhibition venues that were equipped to play the new format. Since films with multichannel soundtracks would be subject to severely limited runs, producers had little incentive to invest in Dolby Stereo. Thus, although the postproduction sound industries in Toronto and Montreal owned the necessary technology to create multichannel films, the actual use of stereo formats by Canadian filmmakers was limited to between one and three productions per annum throughout the early 1980s.⁴⁶

The paucity of Dolby Stereo-equipped theatres is reported in a Dolby-issued promotional pamphlet. In 1981, Toronto, the Canadian city with the highest number of Dolby Stereo theatres, contained merely nine equipped screens (including the Ontario Science Centre theatre, a venue that did not typically screen commercial features), or 5.5%, of the city's 163 screens.⁴⁷ These numbers illustrate that the monaural format

remained the Canadian exhibition preference even as Dolby Stereo was quickly becoming the exhibition format of choice in the United States. The relative rarity of Dolby Stereo-equipped theatres in Toronto suggests that film sound was not deemed to be an overly important component of the filmic experience until Cineplex Odeon, a Canadian theatre chain, began to install Dolby Stereo in its theatres in the mid-1980s.

Before exploring Cineplex's relationship to Dolby Stereo, it is necessary to offer an overview of Cineplex Odeon's rapid expansion under the leadership of CEO Garth Drabinsky. His desire to create a luxurious filmgoing experience made him the first Canadian exhibitor to outfit numerous screens with Dolby Stereo technology, while the financial pressures caused by his company's rapid expansion indirectly encouraged a rise in Canadian multichannel films.

In 1979, when Drabinsky launched Cineplex with Nat Taylor, the company focused on exhibiting second-run Hollywood films, foreign films, and Canadian films. Although the approach was successful, the chain's inability to screen the latest blockbusters curtailed company profits.⁴⁸ The limited selection was partly a function of how films were distributed in Canada; the two largest exhibitors, Famous Players Ltd. and The Odeon Theatres, had a handshake agreement with six major Hollywood distributors (Columbia Pictures, Paramount Productions, MCA International-Universal, Warner Brothers, United Artists, and Twentieth Century Fox). This deal resembled the first-run deals in the United States between the major studios and their theatre chains prior to the Paramount Decree in 1948, in that Famous Players and Odeon were guaranteed the best films from the distributors without competition.⁴⁹ The Firestone Report (1965) discussed the consequences of the agreement for small exhibitors, but the lack of fair competition was left unresolved until Drabinsky lodged a formal complaint with the Broadcast

Executives Society in January 1983.⁵⁰ Through government interventions, an agreement was signed by the distributors in July 1983 to release the films to the highest bidder in compliance with the Combines and Investigation Act.⁵¹ In the summer of 1984, Cineplex began screening blockbusters, such as *Ghostbusters* (Ivan Reitman, 1984), and the chain's profits grew and stabilized, which permitted Cineplex to expand.⁵² By 1987, the chain had 492 theatres with 1,660 screens across Canada and the United States and had branched into production and postproduction facilities.⁵³ As Jaimie Hubbard writes in *Public Screening: The Battle for Cineplex Odeon*, during the 1980s, the Cineplex chain went from only one theatre to become "a generic term for movie theatre."⁵⁴

The first film for which Cineplex purchased the exhibition rights was Cronenberg's *The Dead Zone* (1983). Due to scheduling issues, the film was slated to screen in only monaural theatres; however, because *The Dead Zone* was Cronenberg's first film mixed in Dolby Stereo, the director wanted the film to play in its intended format in his home city.⁵⁵ To this end, Cronenberg rented an independent theatre in the city's north end, which was outside of Cineplex's territory, and outfitted the theatre with a portable Dolby Stereo system on loan from Cineplex.⁵⁶ This move garnered national media attention, with one headline announcing, "Cronenberg caters to Dolby fans"⁵⁷ and a caption in another article reading, "Director will spend own money to equip theatre with Dolby sound."⁵⁸ These articles highlighted the soundtrack's format as an integral part of the filmgoing experience, and Cronenberg's insistence that the film needed to play in Dolby Stereo underscored that there was a gap in the market. Due to audience demand for high quality sound and the publicity generated over Cineplex's inability to screen the film in Dolby Stereo, Cineplex rearranged its schedule and moved *The Dead Zone* into the chain's newest Dolby Stereo theatre, Market Square, located in downtown Toronto.⁵⁹

Cineplex's executive team appears to have taken note of Dolby Stereo's marketing power as "the premiere auditory experience," and the implementation of new sound systems was Cineplex's first major change after acquiring Odeon the following year. A *Cinema Canada* article published in November 1984, shortly after the Odeon deal was finalized, reported that "Cineplex is presently evaluating all the Odeon properties. About thirty-five theatres will be equipped with 70 mm Dolby equipment and 15 with 35 mm Dolby over the next 18 months at a cost in excess of \$1 million."⁶⁰ The additional theatres would more than double the thirty-nine Canadian Dolby Stereo-equipped screens in 1981 and upgraded sound became a key element in Cineplex Odeon's brand.⁶¹

The promise of an improved sonic experience complemented Cineplex Odeon's brand of luxury experience, yet Gomery overlooks Cineplex's use of the Dolby Stereo brand to attract consumers. In "Thinking about Motion Picture Exhibition," Gomery argues that the Cineplex Odeon Corporation was responsible for "one of the most important economic transformations in the history of film exhibition."⁶² He credits Drabinsky with changing the way cinemas were run and outlines four facets of the brand that led to the success of the company in the 1980s. First, the Cineplex Odeon formula presented audiences with a wide choice of films; theatres were kept relatively small, but the variety of films appealed to filmgoers.⁶³ Second, the chain offered a large selection at the concession stands with upscale snacks, such as popcorn with real butter.⁶⁴ Third, theatres were designed with glamorous architectural styles and outfitted with artwork commissioned from prominent Canadian artists, such as Alan Wood and Phil Richards.⁶⁵ Finally, reduced staffing levels kept costs low; for example, all the new theatres contained a centralized projection booth that required fewer projectionists at any given time.⁶⁶ In these ways, Cineplex Odeon both differentiated itself from its competitors, such as

Famous Players, and assured filmgoers who may have been skeptical of Cineplex Odeon's smaller theatre sizes.

While Gomery acknowledges that the variety of films presented in the theatres, the choice of snacks, and the high-class ambience all contributed to the success of the company, he overlooks one of the crucial elements of the Cineplex Odeon formula: the upgraded sound systems. The brands of Dolby Stereo and later THX—a quality assurance system that certified theatres that met high sound reproduction standards—were heavily promoted in Cineplex Odeon's marketing materials. Additionally, in order to capitalize on the growing THX brand name, Cineplex Odeon built the first theatre in Canada to THX specifications in 1985.⁶⁷ For the opening of new cinemas, the sound specifications were always featured in advertisements, as in the following examples from theatre openings in the Toronto area:⁶⁸

- WOODBINE CENTRE: Dolby Stereo Sound (1985)⁶⁹
- SHERWAY CINEMA: The extraordinary LUCAS THX Sound System in three cinemas, Dolby Stereo Sound in all cinemas (1987)⁷⁰
- OAKVILLE MEWS: Dolby Stereo Sound in all cinemas (1987)⁷¹
- PANTAGES THEATRE: 70 mm and Dolby Stereo Sound / The extraordinary LUCAS THX Sound System (1987)⁷²
- CARLTON CINEMA: Enhanced screen size and Dolby Stereo Sound Systems in four cinemas (1987)⁷³

By the end of the decade, the majority of Cineplex Odeon theatres would be upgraded to Dolby Stereo sound with one or two theatres in each complex featuring THX certification. Cineplex Odeon added real butter to the popcorn and Dolby Stereo to the cinemas.

Cineplex Odeon's marketing of sound continued beyond its targeting of filmgoers to aim specifically at attracting investors. In the 1986 annual report to investors, Cineplex Odeon touted its expenditure on sonic upgrades and posited a link between its sound technology and the luxury of the Cineplex Odeon brand: "In theatres equipped with the LUCASFILM THX Sound System, patrons enjoy the most dramatic theatre sound presentation yet devised."⁷⁴ Cineplex drew on THX's status as the industry leader in exhibition sound to promote the chain as the ultimate film experience. The brand appeals of Dolby Stereo and THX were employed to justify the substantial investment in exhibition sound. And to further profit from this sonic expansion, Cineplex Odeon created a subsidiary, Best Theatre Installations, to manage the upgrades and the constructions of new complexes.⁷⁵

A review of Canadian soundtrack trends from the mid- to late 1980s suggests a connection between the sudden emergence of Dolby Stereo-equipped theatres and the number of films mixed for the format. The ever-increasing presence of Dolby Stereo and THX theatres in Canada gave producers the incentive to mix their films in multichannel formats. From 1980 to 1986, approximately one to three Canadian films received multichannel mixes each year. In 1987 and 1988, however, this number skyrocketed to seven to eight films per year even as the overall number of films being produced in Canada remained relatively consistent. (The rise from 1986 onwards is mostly due to an increase in made-for-television films [see Figure 5].) The increase in multichannel productions mirrors the expansion of Dolby Stereo- and THX-equipped theatres in 1985 and 1986, firmly indicating that once Canadian theatres carried the needed upgrades to surround sound, Canadian filmmakers began to make use of the technology. It is important to note that because movie theatres in Canada primarily screened American

productions, many of which contained Dolby Stereo soundtracks due to the prevalence of the system in the United States, it is unlikely that the increase of Canadian Dolby Stereo films influenced Canadian exhibitors to upgrade their sound systems.

Film House: The Legitimization of Toronto's Dolby Stereo Aesthetic

Although the installation of Dolby Stereo and THX sound systems in Cineplex theatres promoted the use of multichannel soundtracks in Canada, the specific tools used by re-recording engineers in Toronto were still viewed as inferior when compared with those used by counterparts in British and Hollywood facilities. Filmmakers working on large budget films began to produce the soundtracks outside of Canada because filmmakers perceived Canadian facilities as a contributor to the production of inferior soundtracks.⁷⁶ The newness of the Canadian multichannel infrastructure, coupled with the lingering stigma of the NFB aesthetic from the previous decades, reinforced the stereotype that Canadian mixing facilities were incapable of yielding the style of soundtracks audiences desired.

As early as 1979, Drabinsky predicted the problem of runaway postproductions and the need to update sound facilities. In a speech titled "The Canadian Feature Film Industry: An Assessment of Its Present State and a Policy for Its Future," Drabinsky assessed the Canadian film industry from his position as an exhibitor, producer, and self-proclaimed industry guardian, writing:

The mixing phase of a picture ... must be carried out in Canada in mixing theatres equivalent in size to a theatre seating 50 to 60 people, compared to the mixing theatres used in Hollywood, which are equivalent in size to a

theatre seating 400 to 500 people. This means that the U.S. post-production team has, as a working tool, a much truer representation of the final music, dialogue, and sound effects of the picture as it will be seen and heard in theatres around the world.⁷⁷

Drabinsky charged that inadequate tools in Canada hampered Canadian film soundtracks and that for Toronto facilities to remain competitive in the changing market, the re-recording engineers needed tools comparable to those in Hollywood. Thus, in addition to installing Dolby Stereo systems in company-owned theatres, Cineplex Odeon also purchased Film House for \$15 million in 1986. Perhaps inspired by vertically integrated studios that had operated for decades south of the border, Drabinsky was attempting to cultivate a company that could supply its own product.

Not all of Drabinsky's efforts succeeded. As Jennifer Holt records in *Empires of Entertainment: Media Industries and the Politics of Deregulation*, a Cineplex-formed American distribution firm lost \$16.5 million for the parent company in the first half of 1989 and Cineplex executives abandoned the project.⁷⁸ But the purchase of Film House, in contrast, proved to be a boon rather than a burden for the theatre chain. Cineplex justified the purchase and revitalization of Film House to investors in the 1986 annual report by promising it as a "post-production house that will be comparable to those in Hollywood with the highest technical standards."⁷⁹ Because the postproduction sound industry had failed to take his advice and adjust its tools to the Hollywood standard, Drabinsky filled the void by upgrading Film House to match Hollywood facilities. As Gomery attests, this approach extended as well to Cineplex's commitment to in-house supply, evident in the chain's acquisition of Kernels Popcorn Limited for concessions.⁸⁰ The Film House

purchase, like that of Kernels popcorn, not only diversified Cineplex Odeon's holdings, but also gave the company more control over the quality of its product.

In rebuilding Film House in the mould of Hollywood postproduction sound houses, Drabinsky appears to have been seeking to keep Canadian productions in Toronto for the postproduction phase and to lure additional postproduction work to the city. The April 1988 opening of Film House's new 40,000 square foot sound facility, which boasted four re-recording theatres "all licensed for Lucasfilm THX sound," generated substantial excitement in the Canadian film industry; *Playback* reported that over a thousand people attended the ceremony.⁸¹

Once the facility was updated with the latest technology, internationally acclaimed director of sound Andy Nelson was hired to lend credence to the facility. Given that Canadian mixers did not have exposure to different mixing practices and internationally recognized credits, Nelson's appointment was crucial in raising the stature of Film House to that of a world-class facility. A notice in *Cinema Canada* advertising Nelson's new position highlighted his experience as head mixer of Shepperton Studios in London and also profiled his work on eminent recent films such as *Full Metal Jacket* (Stanley Kubrick, 1987), *Stormy Monday* (Mike Figgis, 1988), and *Track 29* (Nicolas Roeg, 1988).⁸² Even though a new aesthetic for editing soundtracks had been established through the Canada–United Kingdom collaboration on *The Fly* in 1986, Canadian mixers had only minimal exposure to the techniques promoted by Dolby consultants. Nelson provided a direct link to the mixing practices that Dolby consultants enforced under Ioan Allen in the United Kingdom. His experience, combined with the change in tools (i.e., new mixing boards and outboard gear) and mix formats (Dolby Stereo and THX), promised a new sound aesthetic in Canada. Despite the fact that Nelson left Film House for Los Angeles after less than a

year, his short tenure at the facility appears to have helped brand Film House as a state-of-the-art facility within the Toronto film community.

The re-launch of Film House marked the most significant change in the culture surrounding the production of multichannel soundtracks in Canada. Film House promised a new Toronto soundtrack aesthetic that adhered to the strict Dolby Stereo standard, and Drabinsky anticipated that such a commitment would lead more filmmakers to invest in multichannel soundtrack production at the facility.⁸³ His prediction seemed to have been correct: in 1989, seventeen Canadian films received multichannel mixes, representing a considerable leap from eight in 1987 and seven in 1988.

The upgraded facility alone, however, does not account for the sudden increase in the use of multichannel formats. The threat of financial ruin also seems to have instigated Drabinsky's gamble on the more expensive sound technology. By 1988, due to the rapid expansion of Cineplex Odeon, particularly through the purchase of the Plitt theatre chain in the United States, the corporation had fallen into crippling debt. In order to obtain a quick injection of cash, Drabinsky sold Film House to the Rank Organization, a British media conglomerate.⁸⁴ Yet this sale was not straightforward. Instead of acquiring the entire company at once, Rank purchased only 49 percent of Film House (in December 1988). Rank agreed to buy the remaining 51 percent for \$76.5 million a year later, but only if the British company deemed that the Toronto facility was as profitable as Drabinsky claimed.⁸⁵ In order for Rank to purchase the remaining shares of Film House at the agreed-upon price, Drabinsky needed to increase revenue within a year, by December 1989. To achieve this goal, Drabinsky promised his sales team "riches" if they met the high level of profits.⁸⁶ Because of this incentive, it is reasonable to assume that the sales team encouraged filmmakers to upgrade to Film House's more expensive multichannel

formats. Thus, it is probable that Drabinsky's financial pressures, rather than the shiny new equipment in spacious mix theatres, were the primary determinant for the spike in multichannel soundtrack production.

This idea is supported by the fact that Film House was the only re-recording facility to see a sudden rise in the number of multichannel mixes in 1989. Of the seventeen such films mixed in a multichannel format in 1989, more than half (nine) were mixed at Film House. The remaining films had various sources: two were mixed at Sonolabs in Montreal, two were mixed in the United States, and one each was mixed at the NFB, Pathé Sound in Toronto, a facility in France, and an undisclosed location (see Table 2). Despite the sharp rise in multichannel mixes at Film House, the number of Canadian productions being mixed by other facilities for 1987, 1988, and 1989 remained relatively stable.

Table 2. Location of Dolby Stereo Mixes for Canadian Films (1987–1989)

Location	1987	1988	1989
Film House, Toronto	3	1	9
Pathé Sound, Toronto	2	2	1
National Film Board of Canada, Montreal	1	0	1
Sonolabs, Montreal	0	1	2
United States	1	1	2
France	0	0	1
Unknown	1	2	1
Total	8	7	17

The precise motives notwithstanding, Film House contributed to the Canadian postproduction sound industry by challenging the stigma of the NFB aesthetic. By having a Toronto facility comparable to those found in Hollywood with a sound director of international esteem, Canadian filmmakers' attitude towards Toronto soundtrack creation

began to change. Through the launch of the new facility, Toronto sound practitioners appear to have been deemed comparable to their American and British counterparts, and directors such as Cronenberg, who previously felt Canadian facilities were “not good enough”, began to mix their films at Film House.⁸⁷ The Film House upgrades and new hires promised aesthetic change, but the facility mainly contributed to the industry by altering the perception of Canadian-produced soundtracks.

While it is tempting to credit Drabinsky as a “Great Man” who popularized Dolby Stereo within Canada, his ability to use the Dolby brand to promote his chain of cinemas and increase profits at Film House was less innovative than opportunistic—he was in the right place at the right time. For example, when Drabinsky acquired Odeon in 1984, the chain had been failing for a few years and upgrades to the sound system were not financially feasible.⁸⁸ When he did execute these upgrades, Drabinsky was merely following the American exhibition market, which had already embraced Dolby Stereo. Because Canada’s film industry had historically taken its cues from Hollywood, it was only a matter of time before Dolby Stereo, the format of choice in the United States, became the dominant sound format of Canadian screens. The same is true for Film House. By 1989, Dolby Stereo had been thriving abroad for more than a decade, and Canadian filmmakers were ready to use the technology, albeit with a push from the facility’s sales team. Thus, Drabinsky found himself with the capital and the opportunity to implement Dolby Stereo before it became standard technology in Canada, and he maximized the effect of this change by using it in the branding of Cineplex Odeon as a company at the forefront of the market.

Dolby Stereo and Sound Style in America

Within the American film industry, the adoption of Dolby Stereo is associated with an aesthetic shift made possible through the combination of Dolby noise reduction and surround sound. However, scholars disagree on which stylistic practices changed as a result of the new technology and whether the emergence of Dolby Stereo caused the aesthetic shift. Michel Chion, one of the first scholars to address the aesthetic effect of Dolby Stereo, argues that the addition of noise reduction and more channels expanded the way in which filmmakers edited and mixed sounds because Dolby Stereo afforded the means through which more sounds could be layered and directional sound effects could be heightened to add to the audience's sense of filmic space:

Dolby stereo has changed the balance of sounds, particularly by taking a great leap forward in the reproduction of noises. It has created sonic raw materials that are well defined, personalized, and no longer conventional *signs* of sound effects; and it has led to the creation of a sort of superfield, a general spatial continuum or tableau. Which changes the perception of space and thereby the rules of scene construction.⁸⁹

For Chion, Dolby Stereo offered filmmakers a broader sonic palette that enhanced the storytelling potential of sound.

William Whittington contends that the various Dolby technologies of the 1970s promoted an intensified aesthetic: “Dolby Noise Reduction, multitracking, and denser sound tracks prevailed during this period on films such as *The Exorcist* (1973), *Nashville* (1975), and *Star Wars* (1977). The films and filmgoers of this period demanded a new sound to match the visual innovation and aesthetic reach of the blockbuster film, particularly the science fiction blockbuster.”⁹⁰ Whittington attributes the new sonic

aesthetic that emerged in Hollywood in the 1970s to the home stereo boom and the rise of a high fidelity, or hi-fi, audio culture: “[T]he new generation demanded the same quality of sound (and design) from film that they had come to expect from their music and their own stereo systems.”⁹¹ For Whittington, movie directors such as Coppola, Lucas, and Scorsese tapped into perceived audiences’ desire for complex and original soundtracks. Like Chion, Whittington draws a connection between sonic intensification and the introduction of Dolby technologies. Both scholars see the introduction of Dolby Stereo as technology that fostered aesthetic change and greater artistic expression.

In contrast, Beck views the introduction of Dolby Stereo as an end to the sonic experimentation of the late 1960s and early 1970s. In his analysis of *Star Wars*, the film that he notes is most often equated with the Dolby Stereo aesthetic, Beck summarizes the traits of the style:

Part of what is lost in the Dolby Stereo aesthetic is a sense of ambient temporality, a continuous flow of time amidst the plurality of transient sound effects. This is manifested in *Star Wars* through two very central practices: the use of nearly continuous score music and the regular dubbing and replacement of production dialogue. In part, the first practice is related to the second as a way to cover over the resultant gaps in background room tone and ambience. These two practices are linked to several divergent assumptions about Dolby Stereo and how they dictated the evolution of film sound in the late 1970s.⁹²

Although Beck considers *Star Wars* to have a conservative soundtrack, he nonetheless argues that when Dolby Stereo is used by highly skilled sound practitioners, namely Alan Splet, Dolby Stereo can aid in the narration of the film:

Consider, as a point of contrast, the differences between *Star Wars* and the resonant industrial soundscapes developed by David Lynch and Alan Splet for *Eraserhead*. Because Lynch and Splet valued the storytelling potential of ambient sound they carried over their use of evocative acoustic ambience to their first foray into Dolby Stereo in *The Elephant Man*, not relying on any of the preconceived notions about Dolby's sound aesthetic.⁹³

For Beck, Dolby Stereo was a tool that could advance the filmic narrative, but such creative uses were ultimately rare. The commonality between Chion, Whittington, and Beck's findings is that all three hear the soundtracks becoming increasingly layered. While Chion and Whittington view the layering as a positive intensification of sound, Beck, at least in relation to *Star Wars*, considers the layering of score and ADR to be a deterrent to the creation of an imaginative soundtrack.

James Lastra takes a slightly different approach to his study of Dolby Stereo aesthetics, "Film and the Wagnerian Aspiration: Thoughts on Sound Design and the History of the Senses," by focusing on how the technology affects audiences' sensory experiences. To position film sound of the 1970s within a broad history of sonic manipulation, he draws on cultural historians of sound, John Picker and Emily Thompson, to outline a brief history of how acoustical environments are managed and manipulated to curate everyday aural experiences. He then connects this history to the manipulation of point of audition in *Apocalypse Now* (Francis Ford Coppola, 1979) to argue that Dolby Stereo led to a new sonic spectacle in cinema: "The emergence of sound design as a practice and stereo surround sound as a technology in the late 1970s signaled a reawakening and reinvigoration of cinema's recurring aspiration to provide a total artwork

of full sensory immersion.”⁹⁴ For Lastra, surround sound technologies provided audiences with a fully immersive sensory experience.

The conclusions drawn by Chion, Whittington, Beck, and Lastra, however, are not universally accepted by film sound scholars. In the article “The Myth of the Speakers: A Critical Reexamination of Dolby History,” Eric Dienstfrey argues that the emergence of Dolby technology did not lead to a new aural aesthetic in cinema, a misconception that he calls “the Dolby myth.” Dienstfrey draws upon archival documentation to recover stereo mixing practices before the Dolby era to contextualize the surround sound designs of the late 1970s and early 1980s. He concludes: “Contrary to the Dolby myth, the company’s arrival in the 1970s did not lead filmmakers to establish a new set of surround sound practices defined by atmospheres, echoes and flying objects... [T]he rear channel aesthetics that historians attribute to Dolby were developed and refined by Hollywood’s sound departments in earlier decades.”⁹⁵ He goes on to argue that the perception of an aesthetic change following the introduction of Dolby Stereo is the result of the anecdotal histories perpetuated by Dolby executives and sound designers, particularly Walter Murch.

Regardless of whether or not this Dolby-era aesthetic was new, American films of this time used numerous sounds to create highly detailed worlds, especially within the science fiction genre. As I will demonstrate in the following analyses, even though American Dolby Stereo soundtracks featured many concurrent sounds, on the whole, Canadian Dolby Stereo soundtracks mixed in Toronto maintained aspects of the minimalist NFB aesthetic outlined in the previous chapter.

Case Study of Early Dolby Stereo: *Heavy Metal* and *Spacehunter: Adventures in the Forbidden Zone*

The introduction of Dolby Stereo technology into the Toronto postproduction industry could have served as a catalyst for aesthetic change, a trend that scholars have noted in American films; instead, the NFB sonic aesthetic remained stable, and this style was transferred to multichannel soundtracks. Because this aesthetic emerged from a combination of the NFB realist sound design and practices for other related media, there was a large discrepancy between how Dolby Stereo was actually used in Canada and the sonic aesthetic promoted by the Dolby brand. The dominant Toronto sound style nurtured at the NFB persisted despite the new format's promise of change. As a result, a handful of Canadian filmmakers who desired the mainstream Hollywood aesthetic began to complete the postproduction sound phase in Hollywood or London, England, rather than Toronto. In the following analysis, I compare two Canadian films from the early 1980s: *Heavy Metal*, which was one of the first multichannel films to be mixed at Pathé Sound in Toronto and adheres to the NFB sonic style, and *Spacehunter*, which was mixed at the Burbank Studio in Los Angeles and follows the emerging Dolby Stereo aesthetic, complete with the dominant traits of mainstream American mixes. An examination of the soundtracks for *Heavy Metal* and *Spacehunter* reveals the contrast between the two styles.

Even though *Heavy Metal* is an animation film, which means that the entire soundtrack was created in postproduction, the soundtrack still follows the NFB aesthetic. Simple and straightforward, it features one soundtrack component at a time as opposed to a blend of music, sound effects, and dialogue. The NFB sound aesthetic is also apparent in other Dolby Stereo soundtracks created in Canada during this period, such as *La guerre du feu* (*Quest for Fire*, Jean-Jacques Annaud, 1981), *Rock & Rule* (Clive A. Smith, 1983),

and *If You Could See What I Hear* (Eric Till, 1982). I have selected *Heavy Metal* because it is the only available film mixed in Dolby Stereo in Toronto in the early 1980s that fits within the science fiction and/or horror parameters of my thesis and because with a budget of \$9,300,000, it is a high-budget Canadian film for its time, which in turn suggests that budget was not a major determinant in the soundtrack aesthetic. *Spacehunter*, a family-friendly science fiction film, is an exemplar of a Canadian film mixed outside of Canada. Other Canadian films, such as *Running Brave* (D. S. Evertt and Donald Shebib, 1983, mixed at Ryder Sound, Los Angeles), *No Surrender* (Peter Smith, 1985, mixed at De Lane Lea, Ltd., London, England), and *Captive Hearts* (Paul Almond, 1987, mixed at B&B Sound Studios, Los Angeles, in Ultra*Stereo), exhibited similar sonic traits.

Heavy Metal is an omnibus animation comprised of nine short narratives and an epilogue, loosely connected by a glowing green orb called the Loknar. It uses popular music to form the score, which inspired the title. In the final film, Taarna, a female warrior, fights the barbarian leader, who protects the Loknar. Although Taarna is wounded in the battle, she manages to kill the barbarian leader and fly to the Loknar on her giant bird. To save humanity, she sacrifices herself and destroys the green orb. An epilogue returns us to the location of the opening scene of the first narrative, wherein a little girl is transformed into a warrior. Beyond its use of popular music, *Heavy Metal* is notorious for its provocative animation of scantily clad women and its use of noted Canadian actors, including John Candy, Al Waxman, and Eugene Levy, to voice the characters.

In *Spacehunter*, the Han Solo-type Wolff is summoned to the planet Terra 11 to rescue three women who crash-landed on the planet. Niki, an orphaned teenaged girl, joins Wolff as his guide to the Forbidden Zone. Wolff and Niki rescue the three women from the clutches of Overdog, but Niki gets captured in the process. In the final scene,

Wolff rescues Niki by destroying Overdog and the Forbidden Zone. The film ends with Wolff agreeing to adopt Niki and take her to Earth so that she can enjoy a normal life.

Although both were mixed for Dolby Stereo formats, the two films have very different aesthetics. To illustrate these differences, this analysis focuses on the detail, use of atmospheric sounds, and the level of intrasoundtrack interactions presented in the two films.

Details

The lack of sonic detail and the sporadic application of sounds are defining characteristics of the NFB aesthetic. This aesthetic conflicts with the aesthetic associated with Dolby Stereo, yet in the Dolby Stereo films mixed in Canada during the early 1980s, sounds continued to be applied in a restrained and inconsistent manner. The soundtrack for *Heavy Metal* is sparse, often relying on music to fill the speakers, while the soundtrack for *Spacehunter* features a dense and layered sonic aesthetic for both dialogue and sound effects, as was common in Hollywood films of the era.

The detail presented in the dialogue tracks of both films reveals that nonverbal cues are prevalent in *Spacehunter* but noticeably absent in *Heavy Metal*. The scarcity of these sounds in *Heavy Metal* and other Canadian multichannel films suggests that, as they do not contain vital story information, they were deemed an unnecessary expense. In *Heavy Metal*, breaths are regularly omitted from the soundtrack even when the animation clearly depicts the character breathing deeply, gasping in pain, or exerting effort. This is particularly the case with Taarna, whose voice is never heard despite the obvious breathing and gasping depicted onscreen. Although it may be theorized that her

voicelessness and breathlessness symbolize her special powers, the voice of the barbarian leader also fails to correlate with his onscreen actions. During his fight with Taarna, he visually grunts and groans (e.g., 01:20:15 and 01:20:21), but it is only when he is being killed by Taarna that his efforts become audible (01:21:02). In *Spacehunter*, breaths, grunts, and groans populate the dialogue track, signaling the exertions of the characters. In the final scene, for example, we are able to hear Overdog's breath at 01:18:01, Niki struggling to breathe at 01:18:50, and Wolff grunting as he fights the chemist at 01:19:30. The addition of nonverbal utterances continues throughout the scene.

Sound effects and Foley are used sparingly in *Heavy Metal* but abound on *Spacehunter*. In *Heavy Metal*, sound effects and Foley are used as a tool to punctuate important actions. In the final scene, many movements are not represented sonically even as the scene is driven by near-constant action. No sound accompanies the movement for Taarna standing up (01:19:35), the barbarian leader being dragged by the bird (01:20:49), or Taarna mounting the bird (01:21:42). Because few sounds accompany the majority of the other movements in this section, these instances stand out as lacking the accompanying sounds, especially as there is nothing to motivate their absence. As with *Videodrome* and *Cannibal Girls*, the sound effects and Foley track in *Heavy Metal* provide incomplete coverage even though the soundtrack was constructed entirely in postproduction.

When sound is employed in *Heavy Metal*, it is frequently two-dimensional, with only one or two sounds playing at any given moment. This is especially evident in the battle portion of the final scene, during which only select aspects are covered, such as the barbarian leader's saw-hand. When the sound of the saw is present, the sounds of the characters' body movements, falls, and footsteps are omitted, as are the sounds from the

watching crowd (01:19:44–01:21:17). Even when the barbarian leader cuts Taarna's arm, the sound of her flesh being cut and her blood spurting are not present on the soundtrack (01:20:12). The sound effects and Foley of *Heavy Metal* lack the nuanced detail typical of Dolby Stereo films mixed in the United States.

In contrast, the sound effects in *Spacehunter* are shaped to complement the other soundtrack components through both their channel placement and their tone and timbre, as part of the larger design to intensify the onscreen action. In the final scene, Wolff rescues Niki by short-circuiting Overdog, which miraculously blows up the city. Consequently, the final two minutes of the scene feature explosion after explosion. The sounds are placed among the various channels to create a sense that the world of the film is crashing in around the audience. The average volume of the sound effect elements during this section is a seven, which is louder than the other soundtrack components (the dialogue track sits around a four and the music at a six), but because the sound effects generally consist of low-frequency rumbles with the occasional higher frequency effects positioned in the left, right, and surrounds, they do not interfere with the other soundtrack components. The sound effects throughout *Spacehunter* have been shaped to complement the other soundtrack components through both their channel placement and the design of the sound. Because the sound effects are consistent throughout the final portion of the scene with each onscreen action accounted for, no particular element is accentuated by the sound effects. Instead, the audience is presented with a wall of sound.

Atmospheric Sounds

As with the level of detail found in the dialogue and sound effects tracks, the use of atmospheric sounds also underscores the discrepancy between the styles of the two films. Even though the use of background sounds to form a substructure was a common practice in American films of this era, it was standard practice in Toronto to only employ atmospheric sounds to add minimal texture to the scene.⁹⁶ The soundtrack for *Heavy Metal* does not use atmospheres to provide a base for the dialogue; in fact, atmospheric sounds appear to be absent from the soundtrack for the majority of the scenes. A violation of the smooth Dolby style, the inconsistency of atmospheres is instead a defining quality of the NFB aesthetic. Notably, while in *Cannibal Girls* and *Videodrome* the lack of consistent atmospheres creates audible shifts in the tone when there are cuts in the dialogue track, the dialogue for *Heavy Metal* was recorded in a controlled studio environment; therefore, minimal sound accompanies the recording and there are no such audible shifts in the tone. In *Heavy Metal*, the atmospheres are omitted entirely from the soundtrack for the first four-and-a-half minutes of the final scene and only enter the soundtrack at 01:23:08, roughly two-thirds through the scene. While sounds such as wind could have potentially added texture to the location to enhance the barren spookiness of the landscape, no background sounds are present until the green orb explodes and the location changes (01:23:08). At this point, the sound of crickets permeates the soundtrack to provide a sense of peace and tranquility to emphasize the extermination of evil. Although the artistic decision to omit background sounds until the Loknar is destroyed highlights the return of normalcy, a similar effect could have been achieved by employing background sounds that underscore the tension during the battle; this would have dramatically juxtaposed the serene sound of the crickets at the end of the film.

Spacehunter uses atmospheric sounds to create a firm foundation for the other sonic elements and to establish both the location and the mood of the scene. Layered room tones or air form a base, and although it is almost impossible to hear the bed of air on the soundtrack for this film, the smooth transitions from one microphone angle to another or from location dialogue to ADR suggest that they are consistent throughout the scene. *Spacehunter* also uses atmospheric sounds to help define the various locations of the scene, as there are noticeable differences among the sounds used for each room. There is a smooth and subtle but noticeable shift at 01:19:36 when Wolff runs from the hall into the main room, a clear signal to the audience that the space has changed. Such use of background sounds to create a solid foundation for the dialogue and to distinguish the space is in direct contrast to the NFB aesthetic found in *Heavy Metal* but was characteristic of Hollywood's Dolby Stereo sound.

Intrasoundtrack Interactions

The manner in which the two aesthetics combine the various soundtrack components highlights the differences between them. Although Dolby Stereo is often associated with an intensification of sound achieved through increased intrasoundtrack interactions, Canadian Dolby Stereo soundtracks are marked by a distinct compartmentalization, which reflects the NFB aesthetic. As a result, Toronto soundtracks appear to be simple and even austere when compared with their American counterparts.

On the soundtrack visualizations, *Heavy Metal* at first appears to be denser than the typical Toronto soundtrack of the era because of the amount of music used in the film; however, a closer examination of how the soundtrack components interact reveals that the

soundtrack relies on music to hide the minimal coverage of the other soundtrack components. This is especially true of the sound effects and Foley track, which register sparsely and inconsistently and cover only the most important sound at any given time. In the final scene, for example, the majority of movements have no accompanying sound, there is only minimal dialogue, and atmospheric sounds are omitted entirely for the first two-thirds. By accenting only the most important movements with the accompanying sound, the emphasis remains on the music. True to its title, the music provides the soundtrack's foundation and dominates the other sounds, but on careful inspection, the soundtrack is just as austere as those of *Cannibal Girls* and *Videodrome*.

On the other hand, the various components interact cohesively in the soundtrack for *Spacehunter*. This is particularly noticeable from 01:19:18 to 01:19:34 when Wolff is rescuing Niki from Overdog. Here, all of the sonic components are active and sometimes occur at the same volume, and all are completely audible throughout the scene as the mixers exploit the extended frequency range offered by the Dolby Stereo system. The music underscores the action of the fight, the sound effects emphasize Wolff's dexterity, the breaths, moans, and screams illustrate Wolff's power over his opponent, and the atmospheres anchor the scene by providing a foundation while differentiating the various locations. The result is a soundtrack that appears to be modeled after *Star Wars*.

The discrepancy in sonic aesthetic between *Heavy Metal* and *Spacehunter* confirms the entrenchment of the NFB aesthetic within the Toronto postproduction industry. Although the introduction of a new format, Dolby Stereo, provided an opportunity for an aesthetic shift, this did not occur because the Canadian industry was operating in isolation from the broader film community. Knowing this, some producers, such as those working on *Spacehunter*, elected to complete the postproduction sound

phase for their film outside of Canada. Thus, although Canadian postproduction sound practitioners adopted the latest technology, a stylistic shift would occur only once the practices and standards of the industry changed through international cross-pollination in 1986. The following comparative analysis will illustrate this transition.

Case Study of the Modulated NFB Sonic Style: *The Fly*, *The Gate*, and *Millennium*

This section compares the soundtrack of *The Fly* (1986), for which the sound was edited in Toronto and mixed in London, England, with those of *The Gate* (1987) and *Millennium* (1989), which were edited and mixed in Toronto. The three films are treated as exemplars of the Toronto postproduction sound industry's burgeoning internationalism with *The Fly* representing experience with the Dolby aesthetic that dominated abroad and *The Gate* and *Millennium* reflecting the results of this experience. The mix for *Heavy Metal* retained the NFB aesthetic in the face of the new technology, but this style began to change after Toronto-based postproduction sound practitioners were exposed to new practices during the mix for *The Fly*. Notably, however, these practitioners did not adopt a true Hollywood style of soundtrack construction, but combined the new practices with the NFB style to create a modified approach.

The Fly was selected for this case study due to its historical significance, and *The Gate* and *Millennium* were selected because the soundtracks for both of these films contain a number of elements found in the final scene of *The Fly*. All three films feature explosions and characters speaking under duress, but *The Gate* and *Millennium* exemplify an approach that combines the Dolby Stereo and NFB aesthetics to form a style typical of Toronto Dolby Stereo films from 1986 onward.

Cronenberg's *The Fly* was a high-budget (\$15 million) science fiction horror film and is a loose remake of the 1950s B-film of the same name (Kurt Neumann, 1958). In Cronenberg's version, Seth Brundle (Jeff Goldblum) invents a teleportation device. Roni (Geena Davis), a science reporter, follows Brundle's developments in order to write a book, and the pair fall in love. Their romance is cut short when Brundle accidentally fuses his DNA with that of a fly. In the final scene, Brundle, who is now mostly fly, attempts to conjoin himself with Roni to become more human, but Roni's ex-boyfriend, Stathis (John Getz), thwarts his plan and Brundle accidentally fuses himself with the telepod. The film ends with Roni shooting Brundle to put him out of his misery. The sound edit for *The Fly* was completed in Toronto by a team of freelance sound editors headed by Wayne Griffin and Dave Evans, and the mix was completed in London, England at Twickenham Studios.

The Gate centres on a young boy, Glen (Stephen Dorff), who has been left in the care of his older sister, Al (Christa Denton), while their parents are away for the weekend. Over the weekend, Glen and his friend, Terry (Louis Tripp), accidentally open a portal to hell and release a multitude of demons. In the final scene, Al and Terry are captured by the demons and the world is threatening to become a literal hell on Earth. Glen saves the day by sacrificing his prize rocket to destroy the main demon. The soundtrack for *The Gate* was edited by the same team that handled *The Fly* and was mixed at Pathé by Joe Grimaldi (the lead mixer on *Heavy Metal*) and Dino Pigat in 1987 during the start of the surge in Toronto's multichannel soundtrack production.

Millennium is a science fiction film set in 1989 and one thousand years in the future. Louise (Cheryl Ladd), a future human, travels back through time to steal humans and populate her dying world. In order to avoid a paradox (a time quake caused by altering the past), she can take only those humans who would not be missed, and her crew

must leave no trace of the visit. To avoid detection, Louise rescues people from crashing airplanes before their inevitable deaths. Bill Smith (Kris Kristofferson), a plane crash investigator, discovers a weapon left behind by Louise's crew. This sets off a chain of events that causes chaos in the future. In the final scene, Louise and Bill return to the future, which is being destroyed by the massive time quake they had attempted to avoid. The humans abducted from the airplanes are sent further into the future, and at the end of the scene Bill and Louise join them. The soundtrack for this film was mixed to THX specifications at Film House and possesses many of the same stylistic traits as *The Gate*.

The Toronto postproduction sound team for *The Fly* learned the standards and practices used to create the Dolby Stereo style through the combination of completing the raw soundtracks in Toronto and then mixing the film in the United Kingdom.⁹⁷ In England, Dolby consultant Ioan Allen oversaw all Dolby Stereo mixes to ensure that they met the Dolby standard.⁹⁸ I contend that the creation of *The Fly's* soundtrack changed the practices of Toronto sound practitioners because the sound editors were expected to complete the soundtracks to the specifications of the Dolby Stereo consultants and then integrated these practices into the various sound editors and mixers' repertoires. Additionally, some of the sound editors for *The Fly* would later work on *The Gate*. Thus, because *The Fly* was mixed abroad, the soundtrack for the film became a prototype for a new style of Toronto soundtrack production, and the aesthetic of the soundtrack became the new standard for Canadian films.

In order to trace changes to the sonic style that occurred after Toronto sound practitioners had worked with British re-recording engineers on *The Fly*, I consider the depth of detail, the atmospheric sounds, and the intrasoundtrack interactions. Ultimately, I find that the soundtracks for *The Gate* and *Millennium* embody both the sparse NFB

aesthetic reflected in *Cannibal Girls*, *Videodrome*, and *Heavy Metal* and the intensity of Dolby Stereo sound manifest in *Spacehunter* and *The Fly*.

Details

In the NFB aesthetic, minimal detail would be presented on the soundtrack. Often, sounds matching the onscreen action would be missing, and only the most important sonic elements of a scene would be covered. For example, in *Heavy Metal*, there are the rock songs but an absence of character movement and flesh wounds on the soundtrack. In contrast to this aesthetic, the soundtrack for *The Fly* renders ample detail in both complete coverage and the nuancing of sound effects and Foley by layering multiple components. Coming after *The Fly*, the soundtracks for both *The Gate* and *Millennium* borrow some lessons from that film by delivering more detail than films that typify the NFB aesthetic but feature less nuance overall than *The Fly*.

The Fly departs from the NFB aesthetic by offering an increase in the depth of detail across all of the soundtrack components. The added detail can be clearly heard in the use of Foley. Cronenberg hired Terry Burke, the same Foley artist he had previously employed on *Videodrome*, to oversee the Foley for *The Fly*, but there is a major difference in the application of Foley between the two films. In *Videodrome*, the Foley is applied sporadically and at inconsistent levels (such as with the footsteps in the final scene, which decrease in volume as Max walks towards the camera) whereas the Foley in *The Fly* is active throughout and provides nuance. For example, when Brundle and Roni are talking at 01:26:24 to 01:27:36, the faint sound of clothing rustling can be heard. Although the contrast between the Foley tracks of the two films can be attributed partly to a difference

in budget, it is plausible that the expectations placed on the Foley artist by the expert British mixers also played a role in the creation of the Foley track.

One year later, in *The Gate*, the Foley track seems to provide full coverage, but some sounds become lost in the mix. For example, in the final scene, Glen must save the day by firing his rocket, but he discovers that there are no batteries in the launcher, requiring that he quickly remove the batteries from his flashlight and insert them into the launcher. The Foley for this pivotal event is drowned out by thunder sound effects and music (01:17:11). Although there is full coverage of Glen's movements, the other sounds obscure the sounds of this crucial moment.

The Foley for *Millennium* also presents only a sketch of certain character movements, as opposed to a detailed copy. When the half-man, half-machine Coventry character moves, the sounds of him touching objects are covered, but the sound of his metallic body moving is not represented in the soundtrack (01:35:29–01:36:12). The incorporation of these sounds would be comparable to the clothing rustles in *The Fly*. Additionally, the Foley track covers only some of the many foot movements during crowd sequences. These sounds are enough to outline the movement, but they do not reflect the large number of people advancing across the screen (01:36:20–01:37:57). In both *The Gate* and *Millennium*, the sonic emphasis during these final sequences is on the music and other sound effects with the Foley providing a mere impression of the characters' movements.

The Fly was one of the first multichannel films on which its Toronto-based sound crew worked, and the sound editors allotted time for developing a sound effects library and tailoring the sound effects to the film.⁹⁹ Because the sound editing team constructed many of the sounds as stereo elements for the mix, the sounds were customized to

complement the images. Most of the technology related sounds and sounds associated with Brundle's transformation into the fly were the result of combining several sonic components; the sound of the pod door opening contains a low frequency rising to a high frequency hydraulic hum, and there is a midrange air hiss of the seal opening or closing, a midrange click of the door lock mechanism unlatching, and high frequency beeps to signal the door being unlocked by the computer. The combination of all these elements for the sound of the door, creates a single, complex sound effect. By layering multiple frequencies, the sound editors ensured that at least part of the sound effect would be heard through the music score, while simultaneously accentuating the most important sounds.

In contrast to the rich detail found in the sound effects for *The Fly*, the sounds used in *The Gate* are simpler, thinner. The sound of the wind as Glen searches for his rocket occupies only the midrange frequencies and is therefore only slightly menacing, a mismatch with the foreboding visual image (01:16:37–01:17:57). Further, the wind resides in the same frequency range as the music, which causes the two sounds to compete and negates their individual impacts rather than allowing them to work together to heighten the drama of the scene. Similarly, the monster noises occupy the higher frequency range and have a thin, slightly digitized texture, undermining the desired fearsomeness (01:17:58–01:18:48). Such lack of sonic detail at critical narrative junctures is a remnant of Toronto soundtracks from the earlier, NFB-dominated era.

Millennium provides more complete coverage of sound effects, but as with *The Gate*, the sounds lack the complexity resident on most Dolby Stereo soundtracks of the period. In the final scene, there is a series of explosions as the futuristic world is being destroyed. Throughout this sequence, the sounds are motivated by the visuals with each onscreen action attached to a corresponding sound. The sounds of the explosions,

however, are simple, one-dimensional effects, covering only a small portion of the frequency range (e.g., 01:33:03–01:33:55). As a result, the explosions come across like a series of small fireworks with some added sparks to provide texture. The sound editors do vary the sounds so that no two explosions sound the same, but this diversity does not mask the lack of depth.

The dialogue tracks, and particularly the nonverbal sounds found thereon, are more detailed on all three films than on soundtracks more indebted to the NFB aesthetic. The majority of these sounds would have been recorded in ADR, a tool that Beck notes was employed more frequently for Dolby Stereo soundtracks than for monophonic soundtracks.¹⁰⁰ The added detail of laboured breathing, for example, enhances the performance of the actors by adding nuance to their characters. The soundtrack for *The Fly* includes the sounds of breaths, cries, and exertions of the characters present in the scene when it is reasonable that they would be audible above the actions in the room. The impact of these sounds is apparent on the soundtrack visualizations in the appendix, which show the presence of at least some form of dialogue (including breaths) in about 70 percent of the final scene. For comparison, even with double the number of lines of dialogue, the *Videodrome* soundtrack has dialogue in only about 36 percent of the final scene. *The Fly* uses dialogue throughout the scene to convey the characters' emotion, their physical exertions, and, specifically, Brundle's deterioration, the narrative pivot of the film. In the final scene, creature sounds are mixed with Brundle's breaths to create a hybrid sound that better reflects the character's mutation. This sound is augmented with the addition of the actor's shifts in voice, which were developed with the help of a speech therapist (e.g., 01:27:08–01:27:38).¹⁰¹ The transformation of the voice of Brundle through both the actor's performance and the sound design reinforces the changes to Brundle's

body throughout the metamorphosis. Thus, Brundle's voice communicates with more than mere words; there is rich aural evidence to match the striking visual changes. The additional detail rendered through the dialogue, sound effects, Foley, and atmospheres increases the intrasoundtrack interaction, intensifies the onscreen action, and adds nuance to the narrative.

The Gate includes some nonverbal details, such as some of Glen's breaths, but these sounds are often missing from the soundtrack. Generally, nonverbal dialogue is used sparingly in the film. Even if a character is breathing in close-up, the sound is often not present (e.g., 01:39:11). The lack of these sounds is not particularly noticeable in the final scene due to the barrage of other sounds on the soundtrack, but this is nevertheless a marked stylistic difference from *The Fly*. Similarly, the dialogue track for *Millennium* covers only some vocalizations. For example, the screams of workers during explosions are included (01:37:42), but Louise's heavy breathing in close-up (01:39:26) and her sigh (01:40:08) are omitted. Both *The Gate*'s and *Millennium*'s use of nonverbal dialogue combines aspects of the standard Dolby Stereo aesthetic and the minimalistic NFB aesthetic, but overall, the randomness of the application of these additional details prevents them from adding to the narrative of either film.

Atmospheric Sounds

Although the role of atmospheric sounds also changed with the introduction of Hollywood practices in Toronto, signs of the NFB approach to these sounds persisted. In *The Fly*, atmospheric sounds play a primary role in the creation of a foundation for other sonic elements, as a bed of room tones and airs provides a base, vital for masking cuts on the dialogue track. With the NFB aesthetic, abrupt cuts, audible because of a shift in room

tone, could alert an attentive audience member to sonic edits and betray the labour behind the film.¹⁰² In *The Fly*, the atmospheric base has the effect of smoothing the transitions between location recordings and/or ADR. The consistent coverage supports the dialogue and ADR lines by disguising cuts, and location sound could be used interchangeably with ADR without audience detection. From 01:26:24 to 01:27:36, for instance, the music decreases substantially in volume so that the tones accompanying the dialogue can be heard when the soundtrack is played at extreme volumes. Throughout this section, there is no change either in the volume or in the quality of the tones. Even though the picture cuts nineteen times during this section of the scene, there is no audible evidence of the cuts on the soundtrack. This stands in decided contrast with the treatment of atmospheres in the NFB aesthetic, which lays bare any inconsistencies present on the soundtrack.

Although atmospheric sounds are central to the creation of a continuous and smooth soundtrack, they also contribute another layer of detail. In the final scene of *The Fly*, the atmospheres are barely audible; rather, their presence on the soundtrack can be felt by the sense that the space of the room is alive and not a vacuum. As this scene features music throughout, tones necessarily do not leap from the soundscape; however, some nighttime airs and the low hum of Brundle's equipment can be heard. The volume of other elements often means that the atmospheres are buried in the mix, but the atmospheres nonetheless add texture to the soundtrack. Atmospheric sounds play a more important role in other scenes. From 00:31:50 to 00:33:32, for example, Roni visits Stathis's office late at night to discuss her story on Brundle's invention. Dialogue dominates the soundtrack. There are splashes of Foley but no music, so background sounds fill the scene. The office building's florescent lights, air moving through vents, nighttime traffic, and a police siren provide aural texture. Notably, these background sounds are less audible in *The Fly* than on the

soundtracks of films in the early NFB era, but they are more consistent and set the tone of the scene and provide a sonic anchor for the audience, adding nuance to the scene.

Although the NFB aesthetic uses atmospheric sounds for scene setting, these sounds appear and disappear from the soundtrack at random and in a highly audible, disruptive fashion. Throughout the final scene of *The Gate*, when an element is featured visually it is also represented aurally, but when the image changes, the sound disappears even though it is logical that the sound would still be heard. At 01:13:11, the sound of rain enters the soundtrack following a thunder crack a second earlier. This sound increases in volume at 01:13:16 after a lightning strike and again at 01:13:23 when there is another thunder crack. Then the rain suddenly disappears from the soundtrack. With such abrupt, unmotivated cessation of sounds, the soundtrack for *The Gate* does not strictly adhere to the rules of sound continuity and is thereby reminiscent of the NFB aesthetic. However, the fact that this slippage is not apparent on first viewing combined with the fact that the majority of cuts on the dialogue track for *The Gate* are carefully disguised suggest a closer conformity to mainstream Dolby Stereo practices than earlier NFB films.¹⁰³

The primary qualitative difference between the soundtrack for *Millennium* and for *The Gate* is that *Millennium*'s soundtrack is more consistent. The dialogue track is relatively smooth throughout the film and has no jarring cuts. In the final scene, all cuts are buried by either room tones, sound effects, or music. The atmospheres in *Millennium* do not always mark the change in location; in the final scene, when Bill and Louise move from the main room to a control room, the atmospheres change (01:33:55), but when the picture cuts to the council room (01:34:30) and later the holding pens (01:35:17), the atmospheres do not change. This suggests that although Toronto sound practitioners were beginning to use atmospheric sound to disguise cuts on the soundtrack, they were not yet

using background sounds to define the settings used in the scene. For these films, then, the NFB aesthetic was not entirely extinguished.

Intrasoundtrack Interactions

The Fly's final stylistic departure from Canadian films of the first NFB era lies in its intensification of intrasoundtrack interactions. The layering of dialogue, music, and sound effects is evident throughout the film, and a review of the visualization of the final scene reveals that the soundtrack has more interplay among elements and more frequent shifts in volume than what would be made with the NFB aesthetic. The combined layers of sounds heighten the film's emotional impact: music covers entire scenes; vocal effects, such as breathing and sobs and dialogue, expose the emotions of the characters; and sound effects bring the special effects to life. From 01:30:22 to 01:30:44, the various soundtrack components are layered to maximize the emotional impact of the events and create a wall of sound. In this section, Brundle fuses himself with the telepod, causing a series of small electrical explosions. The attendant soundtrack features two sounds: the sustained notes of the cellos and the high-pitched sounds of electrical sparks. These two elements support each other by occupying different tonal ranges. The cellos cover the low frequencies and the sound design occupies the mid- to high frequencies. Additionally, Roni's panicked breaths punctuate this sequence when the camera is positioned inside the pod, which preserves perspective while also elucidating Roni's emotional state. Thus, the score, sound design, and nonverbal dialogue synergize to create the sound of the explosion and emphasize the tragedy that has just occurred. Throughout this scene, the music works with the dialogue and the sound design, and this is unlike the NFB aesthetic, in which music often fills the track to cover sonic gaps. In *The Fly*, the components are balanced and

shaped to complement other components of the soundtrack, producing a cohesive sonic experience.

The soundtrack for *The Gate* also has intrasoundtrack interactions among the sound effects, Foley, music, and dialogue that are more intense than NFB-era films. But these interactions are less dense and less orchestrated than those of *The Fly*. Throughout the film, the soundtrack is composed of a cacophony of sounds to mirror the onscreen chaos with music as the driving force. In the final scene at 01:15:32, Glen summons the lead demon by stabbing his hand. At this point, the music re-enters the soundtrack along with the sound of a windstorm and the Foley of the wind knocking furniture over. These sounds fill all the channels in order to intensify Glen's struggle to find his rocket. Although this section of the scene appears to have been designed to highlight Glen's struggle, the minimal presence of Glen's voice on the soundtrack, whether as grunts or laboured breaths, prevents the plight from being fully expressed. Additionally, during the scene, the music and sound effects continue to occupy similar tonal ranges, heightening the confusion of the scene but muddying the sounds. The lack of clarity can be attributed partly to the placement of sound in the channels. When Glen's sister, Al, calls for help, her disembodied voice is muddled with the other sound elements because it is not positioned in the centre track (01:16:23–01:16:34). The soundtrack for this film, like others faithful to the Toronto Dolby Stereo aesthetic, may feature improved intrasoundtrack interactions, but sounds compete rather than construct a unified whole.

Millennium also presents simpler intrasoundtrack interactions than true Dolby Stereo productions, such as *The Fly* or *Spacehunter*. Over most scenes, multiple components are present, but while they coexist, they do not interact and this creates a sense of chaos. The music follows the onscreen action, but the score competes with and

sometimes outright overwhelms the sound effects (e.g., 01:34:29–01:36:13). Because the dialogue is placed primarily in the centre channel, it cuts through the other sounds, but some of the announcements, such as the one prompting people to “Walk towards the light and step into the light” (01:37:36–01:37:39), are placed in either the left or the right channels. This placement causes the words to become muddled with sound effects and music. Despite increased intrasoundtrack interactivity, the constituents of this interaction project cacophony rather than harmony.

The soundtracks for *The Gate* and *Millennium* are proof that aspects of the Dolby style of sound used in *The Fly* were being imported from abroad and introduced into Toronto film soundtracks. Although the soundtracks for *The Gate* and *Millennium* fail to fully integrate the heavily detailed style associated with the Dolby aesthetic or offer the smooth transitions found in *The Fly*, they nevertheless exhibit greater intrasoundtrack interactivity and fuller coverage of sounds than Canadian cinema of the earlier NFB era. The blending of the NFB aesthetic with the standard Dolby Stereo style mirrors the Canadian film industry’s shift away from producing a large volume of low-budget feature films to creating a select number of Hollywood-style feature productions.¹⁰⁴

The standards and practices of the Dolby Stereo style, to which the Toronto postproduction sound team was exposed in mixing *The Fly*, were incorporated into the Toronto Dolby Stereo soundtracks, and *The Fly*’s soundtrack became a new standard for Canadian films. Although mixing Canadian films outside of Canada was a growing trend, *The Fly* had a broader impact than the other films because Canadians prepared the raw soundtrack to the specifications of British mixers. As a result, sound editors implemented a new set of practices for soundtrack preparation. In short, Toronto sound practitioners had imported key elements of a Dolby Stereo aesthetic; however, some elements of the

previous NFB style filtered through and marked films, such as *The Gate* and *Millennium*, with a distinct Canadian style in the form of a modified NFB sonic aesthetic.

Conclusions

Although exhibition formats such as Dolby Stereo have traditionally been associated with a change in aesthetic practices, this chapter affirms that such aesthetic transitions are not always predicated on the introduction of new exhibition technologies. Rather, as in the specific case of Dolby Stereo, the style of film sound in Canadian cinema did not change when the technology was introduced to the Toronto industry. As I have established in the preceding pages, two of the primary reasons for the continuance of the NFB sonic style were the absence of Dolby Stereo consultants overseeing Toronto mixes and the lack of Dolby Stereo exhibition venues in Canada. Since Dolby Stereo was used minimally in Canada until the late 1980s, Toronto sound practitioners had little incentive to alter their postproduction sound practices. Before these practitioners would change their approach to sound editing and mixing, Dolby Stereo needed to become a ubiquitous exhibition format and Toronto sound editors would need to learn new techniques in soundtrack preparation.

Indeed, after Cineplex Odeon invested in Dolby Stereo-equipped theatres and after the format became more common in Canada, filmmakers began to embrace the new technology, thus providing incentive for sound editors and mixers to expand their practices to make use of the additional channels and wider frequency range offered by the system. Additionally, the exposure of Toronto sound editors to postproduction techniques of Hollywood and London during the mix of *The Fly* provided a direct link between

Hollywood and Toronto sound editing practices. By the end of the 1980s, Toronto soundtracks combined the new practices and standards learned during the postproduction phase of *The Fly* with the existing NFB aesthetic to create a modified NFB sonic style. However, Canadian filmmakers still viewed Toronto postproduction facilities as inferior to their American and British counterparts. The reconstruction and rebranding of Film House helped to change the perception of Toronto sound even though Toronto sound practitioners still adhered to aspects of the NFB aesthetic.

In the next chapter, I will examine the introduction of another technology, digital audio workstations (DAWs), in relation to labour practices and aesthetic conventions. Unlike the introduction of Dolby Stereo, the integration of DAWs led to a more noticeable aesthetic change. But like the introduction of Dolby Stereo, the sound style shifted as a result of the surrounding industrial factors, such as increased competition and a greater emphasis placed on the customization of the soundtrack, rather than through the technology alone.

Chapter Four: Pro Tools and the Changing Value of Postproduction Sound Labour in Toronto, 1988–2005

After the introduction of the Dolby Stereo formats in the early 1980s, the next significant technological change for sound practitioners in Toronto was the introduction of computer-based sound editing, or digital audio workstations (DAWs), in the mid- to late 1990s. In a 2005 article about the advantages of postproduction software, Toronto-based re-recording engineer Daniel Pellerin wrote: “Such technological advancements have improved sound mixing conditions immensely. The quality of our work has been elevated by allowing us to concentrate on what matters most—the creative process.”¹ By focusing on how DAWs brought improvements to the creative process, Pellerin created a favourable link between technological innovation and artistic practice while at the same time he subtly suggested that the role of the re-recording mixer was of greater importance than the technology itself. Such claims, which elevated the status of sound practitioner from replaceable technician to skilled artisan, constituted an important yet understudied rhetorical movement propounded by Toronto sound editors and re-recording mixers in the late 1990s and early 2000s. It curtailed only around 2005, when the previously extolled DAWs began to be perceived as threats to the role of postproduction sound practitioners.

The effect of digital tools on labour practices has been discussed in recent media industry studies by scholars such as Mark Deuze and John Caldwell. In *Media Work*, Deuze concludes that in the contemporary media marketplace new technologies have made specialized tasks of labour easier to learn. As a result, the majority of media-based jobs have begun to move away from salaried positions to freelance roles; when media workers are easy to replace, employers no longer have the incentive to retain them.²

Caldwell, in *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television*, reaches similar conclusions and adds that digital tools have increased the supply of skilled workers and therefore decreased the demand and cost of their labour.³ Significantly, Caldwell also calls for scholars to investigate how film workers market their craft and skills. In the introduction to his book on media labour practices, Caldwell encourages scholars to examine the data gathered from interviews with practitioners in relation to the culture of self-promotion: “[I]t is about studying the industry’s own self-representation, self-critique, and self-reflection.”⁴ Both Caldwell and Deuze emphasize the need for scholars to study how digital technologies decreased the value of skilled labour and for scholars to critically examine the way media workers discuss their relationship to their own labour.

The specific effect of digital technologies on the work of sound editors and re-recording engineers (or re-recording mixers) remains underexplored. Current scholarship summarizes the relationship between DAWs and labour by relying on select articles and interviews with postproduction sound practitioners. Mark Kerins, for instance, notes that DAWs, like Pro Tools, allowed for faster sound editing and shorter schedules, but the new technology has also resulted in producers hiring an army of sound editors to complete the edit on time.⁵ He argues that this creates an environment where individual sound editors have no control over the soundtrack: “Maintaining any sense of consistency when thirty or forty people are frantically cutting effects necessitates placing fairly severe limitations on each editor’s creative freedom.”⁶ In contrast to Kerins’ findings, Benjamin Wright claims that the introduction of Pro Tools led to the use of smaller crews: “[F]ewer editors are needed for feature film projects; instead of hiring six or seven editors to cut simultaneously [as with magnetic tape], many high-budget features rely on teams of two

or three.”⁷ Further, Wright maintains that “these practitioners express a signature style and aesthetic approach that will ultimately define their position within the industry.”⁸ The very presence of the contradiction between Kerins’ and Wright’s findings regarding the size of sound editing crews, suggests that a more inclusive analysis of industry discourse and the rhetoric that postproduction sound practitioners used during the transition to DAWs is warranted.

While there is disagreement over the extent to which DAWs affected labour, there appears to be consensus on the impact of DAWs on soundtrack aesthetics in that the programs’ ease of use is said to have enabled sound editors to increase the quantity of sounds on a soundtrack. For instance, William Whittington notes that DAWs facilitated the use of “multilayered montages,”⁹ while Kerins argues that DAWs produced loud, messy soundtracks:

The ability of DAWs to handle large numbers of audio tracks has unsurprisingly resulted in some overly busy and loud soundtracks. As sound designer and editor Glenn Morgan (Chris Kentis’s *Open Water* [2003], Don Mancini’s *Curse of Chucky* [2013]) explains, “That’s the worst disease that a lot of editors and designers have, they just over cut and throw too many colors on the canvas, and then it all turns brown. It is important to be really clean and specific, and not overdo it.”¹⁰

Even though DAWs simplify the act of sound editing, practitioners are left with new problems of how to create a complex soundtrack that does not sound overly busy and chaotic. Kerins’ observations suggest that as of 2015 sound editors are still negotiating how best to balance a multitude of simultaneous sounds.

By analyzing the rhetoric used by Toronto sound practitioners in the pages of the

trade paper *Playback*, I suggest that industry discourse in the 1990s and early 2000s encouraged filmmakers to employ experienced sound editors in order to avoid “amateur” (messy, loud) soundtracks. Specifically in this chapter, I examine publications from 1988 to 2005, in addition to the soundtracks for three films produced during this era, and argue that experienced postproduction sound practitioners in Toronto not only actively engaged in a discourse of self-promotion to preserve their role within the industry but also that their rhetoric in turn altered the style of soundtracks that they created.

I begin with an overview of the function of trade publications in the Canadian film industry, with particular attention to *Playback*. I then examine how *Playback* covered both the adoption of DAWs and the effect that Pro Tools had on the value of postproduction sound labour. Next, I examine how sound practitioners responded to the devaluation of their professions and how they re-established their positions within the industry by using *Playback* articles to highlight the benefits of their talent, experience, and long-term relationships with directors. I end the chapter with analyses of soundtracks after the introduction of DAWs. In this section, I trace the changing style of soundtracks in *Blood & Donuts* (Holly Dale, 1995), *Cube* (Vincenzo Natali, 1997), and *Ginger Snaps* (John Fawcett, 2000) to demonstrate that the change in style was a gradual rather than instantaneous response to the availability of DAWs. In so doing, I argue that the most plausible explanation for the stylistic shift in Canadian film sound of the 1990s consists of a series of phases: First, sound practitioners saw the introduction of Pro Tools as a threat to their job security. Second, the perceived threat encouraged a rhetoric of self-promotion through which the practitioners redefined their value to the industry as a whole. Third, such rhetoric in turn reflected back upon the practices of soundtrack construction and ultimately lead editors and mixers toward the adoption of a style more akin to Hollywood

soundtracks.

Canada's Industry Trade Paper *Playback*

As the only public record concerning the adoption of DAWs in Canada, *Playback* published interviews with sound practitioners and articles written by practising sound engineers or editors. An examination of *Playback* spanning two decades therefore provides a comparatively comprehensive history of how the industry valued the work of sound technicians before and after the adoption of DAWs. Additionally, because the magazine was read by a wide variety of Canadian film professionals, including producers, directors, and industry executives, the articles in *Playback* may be seen to reveal how postproduction sound personnel promoted their work to the broader film community.

When *Playback* was launched in September of 1986, it competed with *Cinema Canada*, the dominant trade publication for the Canadian film industry at the time.¹¹ *Cinema Canada* was founded to support the fledgling national feature film industry in 1972.¹² It focused primarily on promoting Canadian culture in relation to film, as an editorial states: “*Cinema Canada* is the only magazine we know of which combines cultural comment and criticism with business news and analysis.”¹³ Due to the emphasis placed on cultural promotion, *Cinema Canada* gave minimal coverage to issues pertinent to below-the-line film workers. *Playback*, however, reported on the current issues of the industry and centred on de-mystifying the technical side of film production. The focus on media labour is apparent from the editorial in the first issue, which claims “there is a need in this country for a truly national trade publication that will cover the everyday working conditions of the thousands who make their livings in broadcasting, and [*sic*] film and music production.”¹⁴ This mandate meant that *Playback* regularly reported on all areas of

production, including postproduction audio. Notably, by 1989, *Cinema Canada* ceased publication and *Playback* became the dominant trade paper within the Canadian film industry.¹⁵

Playback attracted a wide readership of Canadian media industry workers by reporting on a variety of relevant topics ranging from policy to exhibition. The paper also became a forum in which Canadian media workers promoted their companies and services to potential clients. While *Cinema Canada* had focused on discussing film with the occasional article devoted to Canadian television as a related sideline, *Playback* examined film, television, and television commercials as equal components within the broader industry. This meant that articles discussing technical crafts would discuss all three media to provide readers with a broad range of perspectives from the “vast, interconnected industry.”¹⁶ Thus, by reporting on a variety of media activities in Toronto, *Playback* provided an overview of the industry, including below-the-line labour issues. *Playback*'s regular features on the below-the-line labour offered postproduction sound workers with a venue for communicating with each other as well as with their potential clients. This raised the profile of postproduction sound practitioners in Canada substantially, because even though *Cinema Canada* relied upon advertising revenue from Toronto's three largest postproduction houses—Film House, Quinn Labs, and Pathé Sound—the magazine only published a handful of articles detailing postproduction sound during the magazine's entire run.¹⁷ Only *The Canadian Film Editor*, published irregularly from April 1974 to January 1980, included discussions about Canadian postproduction sound practices. The guild publication focused on educating members about the various facets of postproduction and professionalizing the craft through the development of a pay scale and the formation of Canadian film and television guilds and unions.¹⁸ Due to the

relative newness of the Canadian feature film industry in 1970s, and the mandate of the guild to educate its members, *The Canadian Film Editor* centred on publishing content that supported the professionalization of the postproduction industry in Canada. *Playback* was the first publication that discussed postproduction sound in relation to the broader filmmaking community.

The fact that the editors of *Playback* intended to shed light on postproduction sound is evidenced by the magazine's annual publication of a section devoted entirely to film sound. The first dedicated section, "Music and Sound Production," appeared on September 21, 1987. Published annually until 1994, this section focused on sound production for television commercials, such as the creation of advertising jingles. From 1994 to 2004, *Playback* published a semi-annual featured section on postproduction sound that focused on educating directors and producers, mostly by highlighting various aspects of sound technology and explaining the steps of soundtrack creation. However, because *Playback* targeted directors, producers, and distributors, and because the articles were written by or based on interviews with postproduction sound workers, the magazine also became a venue for sound technicians to promote themselves and their craft to the Canadian film industry. Thus, *Playback* was a record not only of how the Canadian film industry valued the labour of sound practitioners but also of how the rhetoric of sound practitioners changed over time.

Digital Audio Workstations (DAWs) and the Rise of Pro Tools

Sound practitioners used *Playback* as a forum to argue that DAWs offered a fundamentally different approach to sound editing than magnetic editing. Sound editors

viewed the transition to digital tools, specifically, as an improvement over analogue editing methods. As Jane Tattersall stated, “A synchronizer was a mechanical, hand-cranked thing where you ran sound through a tiny little head that went to a speaker.... Your hand would crank the wheel and if you changed speeds the pitch changed. Now that’s primitive sound effects creation. You can do the very same thing on the keyboard sampler today.”¹⁹ Sound editors articulated two fundamental advantages of DAWs over magnetic tape. First, whereas editing magnetic stock required the use of razor blades and splicing machines, DAWs featured non-destructive editing, which meant that the original sound file was preserved in digital form if the editor wanted to undo any cuts, fades, or effects. Robb Wright, manager of digital sales at Toronto’s (aptly named) retailer Saved by Technology, noted the impact of this feature: “[G]ood systems offer non-destructive editing—the advantage of leaving the original material intact while providing separate, edited versions.”²⁰ Second, the majority of DAWs provided random access to the sound files, so editors could quickly find the desired file and play it from any point in the clip, as opposed to having to search for a clip or sound effect by rewinding or fast forwarding through tape.²¹ Both of these features enabled sound editors to take more risks in creating the soundtracks (as they could click “undo”) and work more efficiently.

Playback devoted several articles to the adoption of the newly available digital technology. During the late 1980s to early 1990s, articles focused on how facilities were using digital technology to streamline the workplace and to attract customers. Sound practitioners discussed the attributes of the technologies that they were employing to promote the acquisition of new systems, as the following headlines illustrate: “Pathé Sound Faces Major Upgrade in Toronto,” “New Digital Systems Prompt Audio Debate,” “Doing it All on the Macintosh,” “Digital Audio Workstations: As Good as They Sound?”

and “How Dyaxis Saved the Day for Soundhouse.”²² All of these articles highlighted the ways in which clients benefited from the replacement of magnetic tape with digital tools for sound editing.

During this period, *Playback* also reported on the manner in which audio postproduction facilities were marketing the new digital technology to potential clients. For instance, writing in 1992, reporter Susan Tolusso paraphrased Mastertrack’s executive producer and head of marketing Bob Johnston: “Toronto’s Mastertrack audio post-production facility is using the addition of its new Digidesign Pro Tools digital audio workstation to show it’s changing with technology and client demands.... The new equipment means... that the house can manage rapid turnaround on sound post.... ‘I’m selling the technology and service,’ adds Johnston.”²³ Tom Alwood, Film House’s sound vice-president, pointed out: “[O]ur clients like the buzzword ‘digital.’ That alone is reason for it to be very much in demand.”²⁴ The swift transition to digital technologies appears to have been at least partly driven by such client demand, and postproduction facilities capitalized on these desires by promoting the benefits of their latest acquisitions.

There were several popular DAWs during the 1990s, including WaveFrame, DAWN System, Studer Dyaxis, Sonic System, and Pro Tools by Digidesign, and *Playback* became a forum in which the advantages of the various systems were weighed. A 1992 article provided a basic overview of sixteen different systems in comparison to price and the features available.²⁵ Readers shopping for a new system were encouraged to examine the range in choices and select the system that best fit their requirements based on the features of the software, the included hardware, and the digital storage space. Bob Predovich, vice-president of Master’s Workshop, a postproduction sound facility in Toronto, recommended that a system should be selected according to how well it would

integrate into a facility's existing infrastructure, and an unnamed retailer advised potential customers to select the system based on the features available in the software.²⁶ Despite the variety of options, by the late 1990s, the Digidesign line of products, built around the Pro Tools software, became the preferred system of the Toronto film industry.

The primary feature that set Digidesign's Pro Tools line apart from other DAWs was the program's connection to Avid, the dominant professional picture editing software of the time. *Playback* reporter Teresa Iezzi paraphrased sound editor Nelson Ferraro on the importance of the relationship between the two software: "[T]he evolution of Digidesign sound technology after its acquisition by Avid Technologies... [facilitated] the ability of both systems to fully interact and work in the same media files as well as interface improvements between sound and picture."²⁷ Due to the connection between Avid and Pro Tools through their parent company, both systems used similar languages, which provided a smoother transition from picture editing to sound editing.²⁸ For example, any tweaks made to the audio by the picture editor using Avid were transferred to the sound editor using Pro Tools without altering the original file.²⁹

The initial purchase cost of Pro Tools was kept low by selling additional tools (such as filters, Dolby 5.1 capabilities, and locked SMPTE timecode, which was the industry standard for ensuring synchronized sound) separately from the main Pro Tools program in the form of "plug-ins" (Pro Tools' term for the additional features sold independently from the program).³⁰ Plug-ins allowed sound practitioners to customize the systems to their needs and add features to their systems when they had the financial resources.³¹ By selling the plug-ins license separately from the program, the initial costs were reduced and customers had the flexibility to customize the software to their needs and budgets.

In addition to plug-ins, the Digidesign line of hardware, which expanded the capabilities of the system, made Pro Tools more attractive to customers by providing a range of price points. For straightforward sound editing, all that was needed was Digidesign's Toolbox XP, which retailed in Toronto in April of 2001 for \$599 including the Pro Tools LE v5.1 software.³² For \$1,468, studios could purchase a digidesign001, which included pre-amps for recording audio straight into Pro Tools.³³ For mixing, the Control 24 provided basic functions at a cost of \$10,644 while the higher-end ProControl board retailed for \$15,966.³⁴ The relatively low cost of Digidesign hardware reduced start-up costs for new facilities.³⁵ Chief engineer at DAVE Audio (which later became part of Technicolor, Toronto) Bruce Flemines noted: "You can actually build and start your own studio now for under \$100,000, whereas 10 years ago that was impossible—you needed to be in a large facility."³⁶ This range of affordable and compatible hardware solutions dramatically reduced costs for facilities with the added bonus of streamlining the transition between the sound editing and mixing phases.

The advertisements that Toronto retailer Saved By Technology ran for Digidesign's products promised that "Your Digidesign investment is protected by flexible upgrade options."³⁷ Such statements reassured customers that they would be able to upgrade easily to the next version of Pro Tools while keeping their hardware of choice. The ability to upgrade was a key selling feature in an industry that was struggling to remain current with the latest technology. As re-recording engineer Paul Shubat lamented: "Technology is moving so fast that you buy your new computer and find out it's a dinosaur six months later, and it's only worth half of what you paid for it."³⁸ By addressing such concerns in the advertising for Pro Tools, the system was seen as a safe

investment by potential users because it directly addressed the fear that the technology would become obsolete within a few years.

In addition, the popularity of Pro Tools was self-perpetuating because facilities used the software as the common system with which to communicate with other facilities. Even when Pro Tools was not the preferred system, studios would still have one or two Pro Tools systems to accommodate projects that made use of multiple facilities.³⁹ It was common for a variety of postproduction sound houses to be involved in the creation of the soundtrack because the sound edit, ADR, Foley, and mix were typically completed by different facilities. As sound editor Chris Miller noted: “The common Pro Tools format allows us to send material to the Footsteps Foley Studio while recording for the project is ongoing. The audio team can play back the Foley work in progress and provide suggestions about what additional coverage is required. Dialogue between all parts of the sound team, on site and off, is essential to the depth of the soundtrack.”⁴⁰ The ubiquity of the program also made life easier for freelance re-recording engineers, as Pellerin observed: “For the freelance mixer, this uniformity bodes well for adapting your working style to newly evolving technologies. It creates a familiarity between different studios and certainly facilitates moving around.”⁴¹ The *Playback* articles that discuss Pro Tools depict the prevalence of the software as a clear benefit of the system, as the commonality of the software provided greater flexibility and communication.

In sum, the discourse surrounding the introduction of DAWs indicates uncertainty regarding the investment in and adoption of new digital sound editing tools, but Pro Tool’s low costs, flexible upgrade options, and pervasiveness were used to promote it as the new industry standard in the pages of *Playback*. Although it was not every sound editor’s software of choice, the industry’s acceptance of Pro Tools meant that each facility

had approximately the same equipment, which in turn heightened competition within the industry.

Digital Audio Technology and the Industry

By the turn of the millennium, the introduction of DAWs and, more specifically, the Digidesign line of products, altered the landscape of the postproduction sound industry in Toronto. While the technology was embraced by the Toronto industry, DAWs had a dramatic but overlooked impact on the labour of this community, particularly in relation to sound editors. The introduction of DAWs prompted a boom of new postproduction sound facilities and created greater competition in that market. This restructured the way in which salaried sound editors and re-recording mixers found employment.

The relatively inexpensive start-up costs of the Digidesign line of products meant that more people could afford the technology and, as I will demonstrate, *Playback* reported that this ease of use led to the Toronto postproduction audio industry being inundated with new studios. When sound editor Jane Tattersall started her company, Tattersall Sound, in 1992, she purchased one Waveframe DAW for \$110,000.⁴² By 2005, a computer loaded with Pro Tools and the necessary plug-ins ranged from \$10,000 to \$40,000, depending on the needs of the sound editor.⁴³ The steep drop in price made it possible for more sound editors to acquire the necessary equipment to become freelancers and avoid having to depend on established facilities for the necessary tools.

Furthermore, sound editing was significantly easier to learn on Pro Tools than on magnetic tape, as a basic cut made with a razor blade was permanent, but with Pro Tools, audible cuts, like atmospheric jumps, could be undone with a click of the mouse. This

ease of use negated lengthy apprenticeships.⁴⁴ Writing in 2003, Pellerin summed up the impact of DAWs by reflecting on the changes during the 1990s: “Basement studios flourished, and anyone who had Pro Tools and knew how to use it was a post expert. Mixing and editing were at your fingertips without having to resort to any formal training. Because of this phenomenon, the post landscape is now quite different.”⁴⁵ The new facilities offered producers low-cost audio services, and this threatened the control that the established postproduction houses had over the Toronto film market.

The propensity of these new studios to undercut the rates of the larger established facilities in order to build clientele was emphasized in several articles published in *Playback* between 1995 and 2001. Within these articles, the founders of new facilities argued that because they had less overhead than the larger and more established facilities, they were able to charge clients less for the same services. Susan Tolusso, a reporter for *Playback*, paraphrased Producers’ Choice founder, Steve Hurej, on the cost advantages of starting a digital facility: “He says his shop can offer lower rates because it is not saddled with writing off the purchase or lease costs of analog equipment.”⁴⁶ The low costs of setting up studios with digital equipment flooded the Toronto market with new cut-rate facilities that many postproduction sound practitioners believed jeopardized the reputation of Toronto’s audio postproduction community: “Low-balling is hurting the film and TV audio industry across the board...By trying to be a jack of all audio trades, the undercutters are eroding the overall quality standards.”⁴⁷ Kevin Evans, Toronto’s Manta/Eastern Sound studio manager, raised concerns over Toronto’s reputation: “You can’t ever skimp on the quality you put out there because clients will think we’re a hick town.”⁴⁸ The Toronto postproduction sound industry’s disparagement of new facilities

appears to have been an attempt to protect established businesses from the new competition made possible with digital technology.

In addition to the new cut-rate facilities, postproduction houses which had previously concentrated on sound for television advertisements began to experiment with the idea of expanding into the television and film markets because they now used roughly the same equipment as film sound facilities. The initial expansion from short-form (advertisements) to long-form productions (television and film) began in response to a decline within the advertising industry and an increase in television production.⁴⁹ In order to counter the downturn in production and the competition from new facilities, advertising facilities sought to diversify their clientele by moving into the television and feature film markets, but this flooded the film market with more options for producers and devalued the labour of postproduction sound workers.⁵⁰

The Canadian postproduction audio market was further inundated by the rise of facilities in major cities. Vancouver's industry, for example, was partly founded in the hope that the city would be able to capitalize on runaway Hollywood productions.⁵¹ By 1994, American and Canadian clients had the choice of three Canadian West Coast facilities, but the American market proved to be fickle.⁵² Pellerin cited the unproven quality of Canadian soundtracks as the likely reason for Hollywood's reluctance to use Canadian facilities: "Post has been proven on certain levels but hasn't had those one or two hits where [Hollywood] can say 'Oh yeah—you can do that in Canada, too.'"⁵³ Consequently, even though the Vancouver postproduction audio industry was initially designed to compete with facilities in Los Angeles and the Bay Area, the Vancouver industry competed with the Toronto industry for Canadian clients. On the other side of the country, the Halifax production company, Salter Street Films, opened a digital sound

division in 1991.⁵⁴ A feature article on Salter Street Films noted that the operation of a facility in such a small market was feasible only because of the low costs of digital technology.⁵⁵ Salter Street Films primarily worked on television shows produced in the Atlantic region, such as *This Hour Has 22 Minutes* (1992–present), but also offered low rates to local independent filmmakers during slow periods so they would not have to travel to Toronto. This came to reduce the number of postproduction sound projects in Toronto.⁵⁶ By the late 1990s and the early 2000s, the Canadian postproduction sound industry was struggling because of a glut in postproduction audio facilities across Canada, studios that existed in the first place on account of the introduction of DAWs.

In addition to the oversaturation of postproduction sound houses, there was the fact that sound editors and mixers could create soundtracks with Pro Tools in less time than before and were under pressure by the industry to work increasingly faster in order to cut costs. Sound editor Sean Cowan lamented in a 2001 interview that “The harsh reality of audio post-production is that the time frame we are given to perform our tasks has diminished.”⁵⁷ In 1997 DAVE Audio’s chief sound editor Kevin Howard saw the allotted time for the sound editing of a one-hour television show reduced to the point of breaking: “With tape you’d get three weeks to cut a one-hour show because it took that long, now sometimes we get four days and it takes longer than that.”⁵⁸ Shorter schedules forced sound editors to work faster, but they earned less money because they charged by the day or week rather than by the project. Furthermore, although the turnaround times were quick, there was less paid work available as a whole. Steve Munro, Atom Egoyan’s sound designer of choice and owner of Trackworks in Toronto, commented in 1995 that “You [sound editors] have to be more creative with the money and you have to watch what you’re doing. Ten years ago, if you did two or three films a year, that would make your

year. You can't do that now.”⁵⁹ Munro's comments underscored the new reality that postproduction sound labourers were facing: despite shorter schedules, producers and directors had larger expectations for the soundtrack design because computers were seen as tools that sped up the creative process. In other words, there was an expectation of more work for less pay.

These problems in the market of postproduction sound were further compounded by the economic decline of the film industry in both Canada and the United States following September 11, 2001.⁶⁰ Pellerin summarized the situation: “[The] economy tanks, films stop being made, reality TV surfaces and not as much high-end audio work is required.”⁶¹ As Pellerin pointed out, the industry was not only slowing down, but also changing models, particularly in relation to television, the medium that the majority of postproduction sound facilities relied on for steady income.

While the postproduction sound industry in Canada was struggling for reasons ranging from a reduction in the number of productions to the oversaturation of the industry, industry veterans depicted the introduction of new competition after the adoption of Pro Tools as the primary culprit for the destabilization of the industry. The targeting of newcomers mirrors the reaction in Hollywood to new visual effects firms that arose as technology became cheaper in the late 1990s. Caldwell noted that the established visual effects industry in Hollywood saw newcomers as “‘greasy’ low bidders who ‘rape’ clients.”⁶² In both the Canadian sound and Hollywood effects industries, senior practitioners warned potential clients away from their competition because lower bidders were deflating the value of their labour. Despite such assertions, established facilities lost clients to newcomers and Canadian postproduction sound practitioners began to lose their jobs, forcing them into freelance positions.

Labour Deals in a Digital Climate

Due to changes in the economic climate following September 11, 2001, facilities began to lay off the most senior and highly paid sound editors and mixers. However, they were often rehired back on a contract, as was Pellerin, who was laid off from Deluxe Post Production, a premier postproduction facility in Toronto, in May 2003, but continued to work for his former employer on a freelance basis. Following Pellerin's dismissal, *Playback* reporter Mark Dillon predicted a continuation of this trend: "It is a direction that is popular in the U.S., and one in which Canuck post shops seem to be heading—keep as small a full-time staff as possible and bring in freelancers as the work dictates."⁶³ This meant that sound editors and re-recording engineers who had been receiving a steady salary were now only paid for each day that they were called in to work on a project. While they were still hired back by their previous employer on a freelance basis, they now had to compete for work with their former colleagues and assistants.⁶⁴ Further, because freelancers are more expensive to hire on a daily rate than staff, it was more cost effective for facilities to use salaried employees where they could, and this meant that it became increasingly difficult for veteran sound practitioners to find steady work. As an article in *Playback* explained: "They [the freelance editors] could not compete against the big shops, which could lump sound editing fees together with other post services into one efficient, economical package."⁶⁵

As a measure to protect the careers of sound editors, the Ontario branch of the Director's Guild of Canada (DGC), which included unionized sound editors, intervened.⁶⁶ In 2002, the DGC ratified its agreement with the Producers' Association so that only unionized sound editors of all levels (from supervising sound editors to assistant sound editors) could work on the majority of film and television shows (the agreement excluded

low-budget productions). Notably, this agreement also changed the status of all DGC sound editors from employees of facilities to freelance workers. The change was seen as necessary because DGC sound editors were competing with not only each other for work, but also with facilities that offered deals that packaged together the sound edit and mix. Unfortunately, in return for an exclusive deal for all unionized sound editors, the Ontario branch of the DGC conceded to a hefty pay reduction of 10 to 28 percent.⁶⁷ Even though unions provide stability to freelance workers by offering health care plans and retirement benefits, as Matt Stahl observes in “Privilege and Distinction in Production Worlds: Copyright, Collective Bargaining, and Working Conditions in Media Making,” unions also have to participate in collective bargaining for the general benefit of their members.⁶⁸ The DGC’s acceptance of the wage reduction exemplifies the paradoxical role that Deuze argues is common to media unions representing freelancers in a volatile industry; while unions typically fight for better conditions for their employees, in some cases the union ends up negotiating wage reductions in order to ensure the availability of work.⁶⁹ In this case, the Ontario branch of the DGC protected the careers of senior sound editor members by agreeing to a wage cut and forcing all unionized sound editor members into freelance status.

The ratification of the sound editors’ agreement affected the entire postproduction sound industry in Ontario, but only two articles in *Playback* discussed its ramifications. Significantly, both articles praised the deal as a success. Sound editor Fred Brannan was the first to report on the change in 2003, a year after the agreement had been approved: “Instead of working through sound studios hired by a production, as it has been for the past 20 years, sound editors are again communicating directly with producers, directors and picture editors to find work. Sound editors will again be seen as part of the creative

team, rather than as technicians attached to a studio.”⁷⁰ Brannan clearly saw the approval of the agreement as a positive move, as it granted sound editors autonomy over their careers. Brannan’s views were echoed in the second article published in March of 2005. In this article, *Playback* reporter Dillon reviewed the benefits of the agreement and cited multiple sound editors on the merits of the agreement; no one in the article challenged the steep pay cut or the swift transition from employee to freelancer.

The positioning of the new union deal as a victory for the sound editors, despite the hefty wage cut, is consistent with John Storey, Graeme Salaman, and Kerry Platman’s findings in their study on British freelance media workers. Through a series of interviews and correspondences with various freelancers, they found that while these workers would complain about their difficulties, they would still attempt to frame their difficulties as successes.⁷¹ The interviewees highlighted the benefits of their status by emphasizing their control over which jobs they accepted and the flexibility of their schedules despite the risks.⁷² The findings of Storey, Salaman, and Platman suggest that the sound editors in Ontario may have used *Playback* to highlight the benefits of their change in status in order to promote both the craft of sound editing and their own personal services and downplay their individual hardships.

It is important to note that Dillon’s and Brennan’s articles were the only two articles that mentioned this deal. The DGC magazine/newsletter *Montage* provided no coverage and neither did the Toronto-based newspapers *The Globe and Mail*, *Toronto Star*, and *Toronto Sun*. Furthermore, the lack of coverage ran counter to *Playback*’s typical reporting style on union issues. For instance, *Playback* provided extensive coverage of the 2006 battle between International Alliance of Theatrical Stage Employees (IASTE) and Alliance Quebecoise des Techniciens de L’image et du Son (AQTIS) over

who would represent behind-the-camera technicians in Quebec,⁷³ as well as the 1998 vote among the British Columbia division of IATSE regarding low-budget contracts.⁷⁴ While it is not possible to know the exact cause for the lack of publicity over the DGC sound editors' deal, one possible explanation is that the Producers' Association requested that the DGC not publicize the agreement to prevent other areas of the industry attempting similar agreements. However, given that two articles were published this is unlikely. More plausibly, the deal was not actually viewed as a victory by members and was therefore not readily discussed.

While the union deal provided some advantages for freelance sound editors, such as an exclusive contract for unionized workers, the industry's acceptance of the decrease in pay indicates that sound editors were in a precarious position when it came to negotiating their value within the film industry. The widespread espousal of Pro Tools seems to have devalued the role of postproduction sound because the technology was affordable and relatively easy to learn, which resulted in more people obtaining the skills needed to work in the industry. Consequently, Toronto postproduction sound practitioners chose to market their talent and experience in order to secure their future in the industry.

From Technician to Artisan

Within the Toronto postproduction audio community, the adoption of digital technology and the ratification of the Directors Guild agreement were both portrayed by sound editors as beneficial in their promotional rhetoric; the new tools facilitated greater creativity, while freelance status helped "bring to light their individual talents."⁷⁵ The shift in rhetoric occurred concomitantly with the completion of the transition to digital

technology.⁷⁶ Due to the oversaturation of the market and the new freelance status of sound practitioners, the postproduction sound industrial climate had transformed from one in which technology dominated the discussion to one where the craft and artistry of soundtrack production were brought to the fore. Caldwell notes that such rhetoric is essential. As he writes, “Any area that wishes to remain vital—in the face of endless new technologies, increased competition, and changes in production—must constantly work, through symbolic means, to underscore the distinctiveness and importance of their artistic specialization.”⁷⁷ In order to promote their work in this new environment, the sound editors and mixers carefully steered the articles in *Playback* to value experience and established relationships with directors.

The shift from publicizing talent over technology started in 1997 once the majority of facilities had adopted Pro Tools because the standardization of the technology meant that facilities could no longer rely on publicizing their latest equipment purchases to attract clients. In her 1997 news article “Talent Beats Toys in Audio Post,” Teresa Iezzi summarizes how Toronto sound practitioners were discussing their role in relation to the new technology: “And as lower cost, higher tech equipment increasingly becomes a leveler, the issue left standing at the end of the day is that of talent; the fact that the digits flying across the microprocessors aren’t necessarily as important as the digits dancing across the consoles.”⁷⁸ The promotion of talent and experience encouraged the role of Toronto sound practitioners to shift from that of a technician to that of a craftsman who plays a vital part in shaping the story. This change in job status meant that the creative and artistic abilities of sound practitioners were emphasized over their technical abilities.⁷⁹ For instance, in a 2000 article Tom Eymundson of Pirate Audio noted, “It used to be that sound design was limited to the capabilities of the technology. Now it is ruled by the

ability to create, not by the equipment used to create it, and that is going to separate those who can and those who can't by virtue of their imagination."⁸⁰ With the ubiquity of digital technology, the postproduction sound practitioners shifted their rhetoric from placing value on acquiring the latest technology to emphasizing their individual talents.

The role of talent in the trumping of technology became a recurring theme, as evidenced by headlines that stated boldly: "Talent Beats Toys in Audio Post,"⁸¹ "Sounds Good: Is Digital Technology Homogenizing Sound Design,"⁸² and "Industry Benefits from the Old and New."⁸³ These articles, while praising the merits of Pro Tools, primarily focused on the importance of the person operating the technology. In an article profiling his career, mixer Hans Peter Strobl claimed: "You have to have the talent to serve the client. It's not a question of equipment. You need equipment, but you can't put just anybody in a Ferrari if you want to win the Grand Prix. You need the good driver. So we have the good drivers."⁸⁴ Similarly, Brannon highlighted the artistry behind one of the most technical components of postproduction sound, dialogue editing: "In sound post, the real work of the dialogue editor, while technically demanding and intricate, is an artistic endeavour. It's about understanding the story and the characters, and working... to preserve the actors' original performances."⁸⁵ Such statements about the talent and artistry required for the undertaking of postproduction audio tasks occurred on a regular basis in *Playback* between 1997 and 2005.

Sound editors also began to foreground the benefits of developing collaborative relationships with directors in order to highlight the role that sound can play in narrative expression. By engaging directors in this process, Toronto sound practitioners were shifting the framing of their profession from that of a technician who merely prepares the soundtrack to that of a collaborator who helps to create the overall design of the film.

Pellerin underscored how the adoption of digital audio technology facilitated greater collaboration in a 2001 article in which he interviewed two Canadian directors, Bruce McDonald and Sarah Polley, about the postproduction sound process. McDonald commented that the technology enabled him to unify ideas and enhance the story of the film through sound: “It made me realize just how much sound in its purest form can tell you amazing things.... The sound actually leads you, even seduces you, into telling the story in more interesting ways, creating exciting possibilities for stronger connections between picture and audio.”⁸⁶ Similarly, Polley celebrated the possibilities for experimentation when using digital technology: “It was amazing for me not to feel tied down by decisions I was making during the course of the process.... It makes you try more daring ideas, giving you the freedom to experiment while making choices.”⁸⁷ Both filmmakers detailed how the new technology fostered their involvement in shaping the soundtrack, which allegedly was made possible because the streamlined digital process reduced the costs of making changes and shortened the time needed to perform complex tasks. The efficiency of digital technology changed Toronto sound practitioners’ approach to the soundtrack because directors were encouraged to become involved in the process and collaborate with the sound team.

The trade paper’s re-evaluation of the role of sound editors and mixers in the industry suggests that there was a concerted effort to shift the conception of sound practitioners from technicians to artisans in order to preserve their threatened place within the industry. Caldwell notes similar trends among groups of freelance craft workers who banded together in order to promote their craft through behind-the-scene documentaries, such as those produced by the American Society of Cinematographers and the Art Directors Guild.⁸⁸ By emphasizing what the craft adds to the film, the below-the-line

workers secured their position within the industry. The promotion of postproduction sound in Canada became increasingly important after digital technology stabilized and the field expanded. In sum, when DAWs were first introduced into the Canadian postproduction industry, their high cost meant that sound practitioners emphasized the new technology to maximize the return on their investment. But once Pro Tools, an affordable option, became the industry standard, established postproduction sound practitioners promoted their talent in order to protect their threatened positions within the industry.

Based upon available documents, I contend that the combination of the introduction of DAWs and the new rhetoric used by postproduction sound practitioners led to a shift in sonic style for soundtracks completed in Toronto. The increased competition that followed the introduction of DAWs meant that Toronto sound editors and mixers needed to promote their talent. My research suggests that in order to match their end product to their new rhetoric, Toronto sound practitioners also altered the soundtrack style. In the following sections I outline Hollywood's intensified continuity sound style and then analyze the soundtracks for *Blood & Donuts*, *Cube*, and *Ginger Snaps* to show how the Toronto soundtrack aesthetic slowly changed with the adoption of new practices and artistic ideals.

Hollywood's Intensified Continuity Sound

In *The Way Hollywood Tells It: Story and Style in Modern Movies*, David Bordwell outlines the changes in style between the classical and contemporary eras of Hollywood cinema in relation to his concept of intensified continuity. He argues that

beginning in the 1960s and solidifying as a stylistic norm in the early 1980s, Hollywood filmmakers incorporated faster editing, bipolar extremes of lens lengths, closer framings in dialogue scenes, and free-ranging camera movements.⁸⁹ Bordwell sees this trend in romantic comedies and action films, and he contends that intensified continuity “is now the baseline style for both international mass-market cinema and a sizable fraction of exportable ‘art cinema.’”⁹⁰ Bordwell’s clear definition of an intensified continuity visual style has inspired scholars of contemporary sound to theorize an aural counterpart.

Building on Bordwell, Mark Kerins argues against an intensified continuity style for sound by stating that Bordwell focuses solely on the visual elements.⁹¹ Further, because Bordwell examines films from 1961 to 2000, Kerins contends that “intensified continuity might be more appropriately described as a ‘historical description’ of late twentieth-century cinema than as a model for ‘contemporary’ cinema.”⁹² Kerins counters Bordwell by positing his own theory of what he terms a “digital surround style.” This style is defined by an expanded dynamic range (or range of volume), discreet channels (meaning that unlike with Dolby Stereo, sounds only play in the designated channels and that there is no “bleeding” of sounds into the other channels), the use of low-frequency sounds, full use of the frequency range (pitch range), and the use of atmospheric sounds to anchor the visual track.⁹³ Kerins does concede that not every surround sound film uses this style and that those films that use it often employ a digital surround style only for key scenes.⁹⁴ Thus, as Jeff Smith points out, Kerins is defining the exception, not the rule, of sound in the digital era.⁹⁵

In a similar vein to Kerins, Wright argues that the visual style of intensified continuity has led sound editors and mixers to create seamless soundtracks that guide the audience through the discontinuities of the visuals.⁹⁶ For example, Wright cites the use of

atmospheric sounds in *The Bourne Ultimatum* as a fundamental element in creating “the illusion of seamlessness across a series of disparate shots.”⁹⁷ Wright also contends that only certain aspects of a scene are highlighted sonically to provide sonic clarity.⁹⁸ For Wright, Hollywood soundtracks have become increasingly restricted with intensified continuity and the introduction of DAWs, which has meant sound editors have less time to work than they had with magnetic.⁹⁹

The transition to digital workstations and the emergence of an intensified classical continuity style have reconfigured the social and artistic processes of re-recording, but, most fundamentally, these developments have narrowed mixing choices, and encouraged mixers to constantly refine, simplify, and clarify the final sound track.... Despite the calls from some studio executives and filmmakers for louder and more crowded tracks to accompany even more frenzied visual action, Los Angeles-based mixers have developed working methods and social relationships that aim to reduce miscommunication and foreground the sound elements that “push the story along.”¹⁰⁰

In summary, Wright sees the sonic style that accompanies intensified continuity as a return to continuity sound because the sound holds together the visual style.

In contrast to Kerins and Wright, Jeff Smith draws on Bordwell’s concept of intensified continuity to outline the changes to Hollywood soundtrack style that occurred in the same period. In his article “The Sound of Intensified Continuity,” Smith outlines the six key traits of this sound style: “increased volume, low frequency effects, expanded frequency range, the spatialization of sound, the ‘hyperdetail’ of contemporary Foley work, and the use of nondiegetic sound effects as stylistic punctuation.”¹⁰¹ Importantly,

Smith notes that these traits still adhere to the governing principles of classical era sound, “unity, clarity, and linearity.”¹⁰² Smith attributes this style, not to DAWs, but rather to new exhibition technology, such as the expanded frequency range and multiple channels of Dolby Stereo, and the low-frequency effects and discreet channels of digital surround sound of the 1990s.¹⁰³ Notably, even though Smith is discussing a change in style that occurred at the same time DAWs were introduced, he does not discuss the tools sound editors and re-recording engineers were using.

Smith’s traits can be loosely grouped into the three categories that I have been using for my analysis: details, intrasoundtrack interactions, and atmospheric sounds. The details category encompasses Smith’s own categories of hyperdetailed Foley and the nondiegetic sound effects, such as whooshes to accompany camera movements. Smith’s description of the spatialization of sound appears to fall under both details and atmospheres, as the goal of this trait is to “enhance the viewer’s sense of the films aural environment.”¹⁰⁴ Finally, increased volume, low-frequency effects, and expanded frequency range all function to increase intrasoundtrack interactions, as Smith explains that these features make it possible for sound practitioners to layer sounds while preserving clarity on the soundtrack. Even though Hollywood soundtracks adopted aspects of Smith’s intensified continuity sound in the 1990s, Toronto produced soundtracks were still transitioning from the NFB aesthetic to a continuity sound style.

Case Study of Canadian Continuity Sound: *Blood & Donuts*, *Cube*, and *Ginger Snaps*

Toronto’s sonic aesthetic changed from the mid-1990s to the early 2000s; this era corresponds with the period when sound practitioners renegotiated their role in the

industry from that of technicians who merely prepared the soundtrack to skilled artisans who provide a customized service. The shift in the value of sound labour is evident in how sound practitioners discussed both the new technology and their craft in *Playback*. While new digital technology dominated discussions in the early 1990s, the sudden flooding of the Toronto market meant that sound practitioners needed to revise their strategy in order to attract clients. For instance, rather than using *Playback* to highlight technical proficiency, as was common when digital tools were first introduced, the key traits of sound editors and mixers became talent, storytelling abilities, and imagination.¹⁰⁵ At the same time that sound practitioners changed their rhetoric, they began altering their practices. This suggests a correlation between market pressure, practitioner rhetoric, and sound style. Toronto soundtracks of this period include nuanced details, more consistent application of atmospheres, and greater intrasoundtrack interactions among the various soundtrack components. This change in aesthetic can be understood as another aspect of the Toronto sound community's larger rhetorical strategies.

Since industry rhetoric, rather than technology, seems to have been a more important influence on changes to film style, there was neither an immediate shift in the aesthetic of Toronto soundtracks nor a period of experimentation as practitioners learned the new technology. Instead, the soundtrack aesthetic gradually shifted away from the NFB sonic aesthetic towards a Hollywood style of sound between the mid-1990s (when the crisis began) and the early 2000s. In order to illustrate this gradual transformation, I examine the soundtracks of three films that belong to the broad category of the horror genre: *Blood & Donuts* (1995), *Cube* (1997), and *Ginger Snaps* (2000).¹⁰⁶

Blood & Donuts, a comedy-horror film, was the first feature film completed with the Canadian Film Centre (CFC), a post-graduate film program that provided mentorship

and financial support for new directors.¹⁰⁷ The plot tells of Boya, a vampire who lives off the blood of rats and pigeons; Earl, a Toronto cab driver; and Molly, a waitress at a donut shop. Crime Lord (played by David Cronenberg) believes his territory to be threatened by Boya, so he shoots Boya's friend, Earl, in the foot. In retaliation, Boya kills Crime Lord, and Earl severely injures himself by falling off the fire escape. In the final scene Earl succumbs to his injuries in Boya's arms. A minute later, Molly arrives and uses a car battery to jumpstart Earl's heart and bring him back to life. Earl recovers just as dawn begins to break, and Boya decides to end his long life by remaining in the sun.

Cube, a science fiction horror film and another project produced by the CFC, centres on six strangers who are locked together in a lethal prison-maze but have no idea how they got there. In order to escape, the characters must navigate their way through a series of cube cells, many of which are rigged with deadly traps. By the final scene, only four members remain. Three of the characters (Worth, Leaven, and Kazan) make their way to what appears to be an exit, but a fourth character who has become violent (Quentin) reappears; he kills Leaven and mortally wounds Worth. Just before Quentin can kill Kazan and escape, Worth traps Quentin in the entrance of the cube. When the cube moves, Quentin is killed. The film ends with Kazan escaping the prison.

Ginger Snaps is a coming-of-age horror film that follows sisters Ginger and Brigitte Fitzgerald. After Ginger is bitten by a werewolf during a night walk, she begins to transform into a werewolf. Through the majority of the film, the sisters attempt to conceal Ginger's condition while searching for a cure. Brigitte befriends Sam, a drug dealer, to help cure Ginger, but Ginger becomes jealous of the pair. In the final scene, Brigitte and Sam attempt to inject Ginger, who is now in full wolf-mode, with monkshood to cure her.

Their plan is unsuccessful and Ginger kills Sam and tries to attack Brigitte. The film ends with Brigitte fatally stabbing Ginger.

Details

With the adoption of DAWs, sound editors redefined their role by marketing sound practitioners as integral components of the filmmaking process. One of the simplest ways of demonstrating the value of sound was through the addition of more sonic details. DAWs made it easier for sound editors and Foley artists to add sounds to the soundtrack because the combination of random access (files loaded into a session and playable from any point as opposed to searching for sounds on DAT tape or magnetic stock) and non-destructive editing (editors and mixers were able to undo cuts and fades with a click of a button) facilitated experimentation and layering of sounds. Beginning in the 1990s, sound editors began to provide greater coverage of nonverbal sounds and the use of sound effects to define off-screen space. But this change was not immediate; instead, soundtracks gradually contained greater detail and the sounds became increasingly tailored to each specific film as sound practitioners became familiar at working multiple simultaneous sounds.

The additional use of details can be heard on the dialogue track for *Blood & Donuts*, as it provides greater coverage of breaths and efforts than *The Gate* or *Millennium*. For instance, the final scene uses Earl's breaths to indicate that he is dying. Earl's laboured breathing from 01:17:27 to 01:18:47 demonstrates his rapid decline. Similarly, Molly's breaths and vocalized efforts populate the soundtrack as she works to revive Earl (01:19:36–01:20:53). Her breaths serve to underscore her panic over the

potential loss of Earl. That said, the pattern of her breaths clearly repeats during cutaways of Molly grabbing gear from the car (see 01:20:11, 10:20:18, and 01:20:28). This noticeable repetition suggests that the sound editors wanted to cover a gap on the dialogue track but did not record a sufficient number of different sounds and so opted to duplicate existing recordings. The repetition of breaths interrupts the flow of the scene because it sounds like an editorial mistake. In short, while *Blood & Donuts* provides more sonic detail in the form of character breaths, such sounds were duplicated because sound editors were still developing methods to cover the necessary sound effects.

Like the coverage of breaths and efforts, the Foley and sound effects in *Blood & Donuts* are more complete than in films such as *The Gate*. In the final scene when Molly runs up to Boya and Earl, there is full coverage of her closing her car door, her footsteps, and her movements, all of which are in sync with the picture (01:19:22–01:19:28). Despite such details, most sounds are fairly simple, even when they have significant narrative importance. The electrical sounds and heartbeats that accompany Molly's effort to bring Earl back to life (01:20:45–01:21:19) are one-dimensional in comparison to similar sounds in *The Fly*.¹⁰⁸ Notably, some significant moments contain no accompanying sound effects, such as the coming of dawn. Here, the film only presents visual cues of the sunrise that kills Boya. First there is a shot of Boya staring off into the distance at 01:22:02 and at 01:22:25 it is revealed that dawn has broken, but the only sonic change is a subtle rise in the volume of the atmospheres, as opposed to the addition of morning birds or increased traffic, to signal the start of a new day. While it is not possible to know why these sounds are missing from the final soundtrack, their absence suggests that traces of the NFB aesthetic remain.

The soundtrack for *Cube* uses more sounds than *Blood & Donuts* even though the dialogue is the focus of the soundtrack, as the characters' interactions drive the plot of the film. Nonverbal sounds, such as breaths and grunts, populate the soundtrack with greater frequency than in the NFB sonic style. While extensive Foley is used during Quentin and Worth's fight in the final scene, the nonverbal character of Kazan has cries that dominate the soundtrack (01:22:27–01:22:50). In *Cube* the clarity of dialogue over sound effects and Foley is maintained by reducing the volume of sound effects when they might conflict with the dialogue. In the final scene, when Kazan opens the door at 01:20:43, the sound effect is double the volume than when Quentin opens the door at 01:22:00. As the doors are all mechanical and open in the same manner, the difference in volume appears to be a choice made by the mixers to not interfere with Levin's emotional speech and to keep Quentin's entrance into the cube a surprise. The quiet sound of the door opening makes the murder of Levin more shocking to audiences even if it is not an accurate representation of the sound in the film's world.

While the soundtrack for *Cube* provides ample detail, actions that typically would be considered important sonic events seem quiet in relation to the dialogue. For example, when the cubes move and squish Quentin, the sound is approximately half the volume of the characters' voices (see visualization from 01:23:10–01:23:47). This trend suggests that when Foley and sound effects occur at the same time as dialogue, a concerted effort has been made to ensure that the dialogue is intelligible. This style differs from the prevailing Hollywood practices where Foley and sound effects were continuously accentuated, even alongside dialogue. Jeff Smith explains: “[C]ontemporary Foley artists... create aural soundscapes as rich and detailed as the images and scenes they accompany.”¹⁰⁹ Thus, even though the soundtrack for *Cube* contains more extensive Foley and sound effects than in

the films that follow either the NFB sonic style or the modulated NFB aesthetic, these sounds are still used sparingly when compared to Hollywood films of the same time.

The soundtrack for *Ginger Snaps* places similar emphasis on breaths as *Cube* did in order to convey the emotions of the character. In the final scene, Brigitte's breathing patterns indicate her growing fear of Ginger. This can be heard most clearly when the screen is completely black and Brigitte's increasingly panicked breaths bridge the visual gap (01:29:12–01:29:29). Similarly, monster growls signal Ginger's transformation. For example, at 01:36:07 Ginger's snarling alerts Brigitte to the danger of her presence. This sound adds suspense to the scene as the sounds warn the audience that Ginger is no longer Bridgette's sister but a deadly beast.

The soundtrack for *Ginger Snaps* also uses sound to narrate off-screen actions. In the dramatic climax of the film, the Foley and sound effects reveal Ginger's approximate location and explain what is happening when there are no visual cues. For instance, when Ginger attacks Sam, the camera remains on Brigitte who is trapped in the pantry (01:28:29–01:28:45). Despite using only minimal visual cues, the details on the soundtrack make it clear that Sam is being mauled; the sounds of his screams, clothing being ripped, Sam's body being tossed around, and Ginger's snarls effectively narrate the off-screen action. While this technique was starting to be used in *Cube*, in *Ginger Snaps* the filmmakers take advantage of the ability of sound to replace expensive visual effects.¹¹⁰

The introduction of DAWs appears to have made it easier for sound editors to add details to the soundtrack, but sound editors were still negotiating how best to apply the extra sounds. In *Blood & Donuts* breath sounds repeat throughout the climax to fill gaps in the soundtrack; in *Cube* and *Ginger Snaps*, however, non verbal dialogue sounds are given

priority because the sounds provide insight into the characters' emotional and physical states. There is detail in the sound effects and Foley tracks in all three movies, but each movie uses these details differently. In *Blood & Donuts* these sounds are simple and the coverage is incomplete. In *Cube*, while there is full coverage, the overall volume of these sounds has been reduced as not to interfere with the dialogue. In *Ginger Snaps*, the detailed sound effects and Foley track is employed to narrate the action when no visual is provided. Overall, there is a gradual increase in the use of details in the soundtracks of these films. This suggests that Toronto sound practitioners were becoming more adept at working with a greater number of concurrent sounds.

Intrasoundtrack Interactions

Because a greater number of individual sounds were being added to soundtracks, sound practitioners needed to devise strategies for preserving the clarity of the dialogue. The smooth combination of multiple soundtrack components with intelligible dialogue supported the rhetoric of sound editors and mixers who underscored the storytelling potential of sound when completed by experienced artisans. That said, this change was not immediate, and Toronto sound practitioners experimented with a variety of strategies in order to achieve a complex, Hollywood-style soundtrack.

Notably, the intrasoundtrack interactions for *Blood & Donuts* are simpler than those in both *The Gate* and *Millennium*. While greater attention seems to have been paid to consistency, sync, and details, both the sound effects and music are positioned to not interfere with the dialogue. This treatment of dialogue is closer to how sound was applied in *Cannibal Girls* and *Videodrome*. The soundtrack was more detailed than the earlier

films, but sound practitioners were careful to preserve dialogue intelligibly and not overburden the soundtrack with extra, unnecessary sounds.¹¹¹ This difference in style can be partly attributed to the fact that *Blood & Donuts* does not contain explosions, so the soundtrack does not require the same type of loud, continuous sound effects used in *The Gate* and *Millennium*. The soundtrack style used in *Blood & Donuts*, while more detailed than films from the previous two eras, still contains the NFB trait of separating sonic components to ensure clarity of the dialogue.

The major difference in the soundtrack for *Blood & Donuts*, in comparison to *The Gate* and *Millennium*, is that the sound practitioners appear to have placed greater emphasis on the narrative of the film by highlighting the most important beats of a scene through bursts of volume rather than having the scene blanketed by loud sounds. One example of this occurs in the final scene when Molly brings Earl back to life. This event is signaled through a combination of sounds: electrical zaps, the car radio turning on, the car radio playing “Blue Moon,” Earl’s vocalization, and Molly’s celebratory laugh (01:21:21–01:21:27).

Similar to *Blood & Donuts*, *Cube* privileges dialogue intelligibility by reducing the volume of other sounds, but unlike *Blood & Donuts*, there is an increase in intrasoundtrack interactions, as the four tracks are used simultaneously for the majority of the film. Central to this style is the use of music as sound design because the music is primarily comprised of long drones and complements the film’s use of atmospheric sounds. Together, the music and atmospheres form a base for the other sounds, and this foundation enables the dialogue track to dominate the soundtrack, especially as any conflicting sound effects are reduced in volume so as to not interfere with intelligibility. This style, while providing full coverage of onscreen actions, ends up de-emphasizing key

narrative moments, such as Quentin's death (01:23:10–01:23:47). Thus, the soundtrack style of *Cube*, while more consistent and detailed than *The Gate* and *Millennium*, maintains the approach to sound used in the late 1980s. Moments of narrative significance are not signaled through the soundtrack; rather, each moment in the film is given equal treatment. This suggests that while sound editors and mixers were ensuring that the soundtracks contained more detail and consistency, they were still experimenting with how best to use sound as a narrative tool.

The soundtrack for *Ginger Snaps* combines both approaches to the overall soundtrack design. As with the previous two films, the soundtrack contains ample detail and provides consistent coverage throughout. But unlike the other two films, the sounds for the film work together; music covers most of the scene and sets the tone, but it does not overpower or fill the entire soundtrack. The dialogue and sound effects and Foley also work together; they have been designed to heighten the suspense of the scene and punctuate key narrative moments, such as the moment when Brigitte drops the needle containing monkshood, the remedy to Ginger's werewolf plight (01:31:01–01:31:04). The musical tones mirror Brigitte as she sways on the stairs, and they accompany the fall of the needle with a soft cymbal hit to underscore the action without overpowering the sound effect. The sound effects and Foley build in both volume and complexity in the moments leading up to Brigitte's fall and culminate in a loud thud as Brigitte's body hits the wall of the landing. While the sound of Brigitte hitting the wall is louder than the sound of the needle dropping on the floor, the music works with the pinging sounds of the needle bouncing underneath the stairs to highlight the significance of the moment when the antidote falls into an inaccessible location. Brigitte's breath sounds are used to convey both her weakened state and her dismay over losing the needle, as it will be difficult for

her to cure Ginger and, ultimately, impossible. Overall, the design of the soundtrack in *Ginger Snaps* creates suspense and accentuates significant narrative moments in a manner similar to *The Silence of the Lambs* (Jonathan Demme, 1991). In his analysis of Demme's film, Beck notes that "*The Silence of the Lambs* restores the role of sound design to create and spatially deploy effects that both augment the narrative and heighten dramatic effect."¹¹² Almost a decade later, sound practitioners in Toronto were beginning to employ the same style, as evidenced by the use of sound in *Ginger Snaps* to indicate Ginger's location and to highlight key narrative details. Thus, there is a gradual increase in intrasoundtrack interactions from *Blood & Donuts*, which resembles the NFB aesthetic, to *Cube*, which appears to draw on the 1980s Canadian Dolby Stereo style of layering sounds, to *Ginger Snaps*, which blends the various soundtrack components.

Atmospheric Sounds

In the previous years, atmospheres often were employed inconsistently or did not serve to define the location of the scene. For example, atmospheres would randomly disappear from the soundtrack in *The Gate*, while a change in location did not always preclude even subtle atmospheric shifts in *Millennium*.¹¹³ Beginning in the mid-1990s, background sounds were employed to aid in the creation of a unified soundtrack and establish the location of the scene, but it was not until the 2000s that atmospheres were used for their storytelling potential.

In *Blood & Donuts*, the atmospheric sounds provide a foundation for other elements while setting the tone for the scene, but the occasional jump between atmospheric tones still occurs. For instance, in the final scene, the dialogue is edited so

that there are no noticeable jumps between the different takes, but when the film cuts from the exterior parking lot to the interior of Molly's car as she arrives, there is a perceptible atmospheric jump that results in an abrupt transition between the locations (01:19:11). At other points in the film, the atmospheric sounds are conspicuously repetitive and interfere with the rest of the soundtrack. For example, the sound of a baby crying is used in the scenes inside the rundown hotel where Boya lives, and while this sound adds nuance to the location and suggests that it is place filled with neglectful parents, the baby's repetitive cries throughout each of these scenes becomes obtrusive.

Atmospheric sounds are used in *Cube* to conspire with lighting effects to help us distinguish among the otherwise identical cubic cells in which the characters are trapped. Consisting of a mix of industrial hums and musical drones, when there are transitions between cubes, the atmospheres change smoothly without a jarring jump. These transitions were likely achieved through gradual fades between the two sets of atmospheres. These atmospheric sounds also function as a solid base for the dialogue, but considering that *Cube* was filmed entirely on a sound stage with simple sets and that there are no exterior scenes, achieving smooth transitions between lines of dialogue was simpler than with either *Blood & Donuts* or *Ginger Snaps*, both of which were filmed on location.

The application of atmospheres in *Ginger Snaps* mirrors those used in *Cube* in that they clarify the different spaces of the film while helping to set the mood of the scene. In the final scene of *Ginger Snaps*, extremely quiet atmospheric sounds intensify the drama and punctuate the attacks. The minimal use of atmospheric sounds ensures that cuts between different dialogue takes are disguised and that the house is quiet so that Brigitte's fearful breaths and Ginger's movements are accentuated. The silence in the house appears to be intentional because atmospheres are used extensively earlier in the film. For

example, in one scene where the sisters are playing field hockey outside their school, light atmospheric sounds such as wind, birds, and the voices of other teenagers fill the background space (00:43:10–00:45:39).

Overall, the use of atmospheres in these films provides a solid foundation for the other soundtrack elements while also defining the locations. The soundtrack for *Blood & Donuts* reveals that sound editors were navigating the use of background sounds, as there are some atmospheric jumps when the location changes and some ambience sounds became annoyingly repetitive. These issues appear to have been resolved for both *Cube* and *Ginger Snaps*, as the atmospheres smoothly transition from location to location and provide a unique sonic signature for every location without being obtrusive.

This analysis of *Blood & Donuts*, *Cube*, and *Ginger Snaps* demonstrates that the introduction of DAWs did not immediately alter Toronto soundtrack aesthetics. Rather, this aesthetic change was a slow process. As competition within the industry escalated and sound practitioners became more familiar with DAWs, soundtracks became increasingly detailed, atmospheric sounds played a larger role in establishing the scene, and there was a definitive rise in intrasoundtrack interactions.

Conclusions

The introduction of DAWs in Toronto was neither sudden nor singular, but it did lead to a re-evaluation of the value of sound labour, which in turn changed the practices and standards of the industry. Rather than a situation in which the technology single-handedly determined the sonic aesthetic, it appears that sound practitioners only altered their approach once their role within the industry was threatened. In order to reassert their

value to the industry, Toronto sound editors and mixers needed not only to change the perception of their role (from technicians to skilled artisans) but also to match their actual soundtracks to their rhetoric.

Although it is tempting to explain this shift by appealing to generalized statements about the globalization of Hollywood cinema and the desire on the part of Canadian filmmakers to appeal to international audiences, it is important to remember that the Canadian film industry itself was founded on the principle that its films needed to appeal to global audiences because Canada's own audience was too small to adequately support an indigenous industry.¹¹⁴ Therefore, the creation of films that were (and are) meant to traverse borders was not a new concept for Toronto production houses in the 1990s, but rather a factor that had been part of the industry since its inception. Another notable point is that while there were soundtracks created in multiple countries, such as *The Fly* (David Cronenberg, 1986, sound edit in Toronto with the mix at Twickenham Studios, London) and *In Too Deep* (Michael Rymer, 1999, sound edit in Toronto with the mix completed at Skywalker Ranch, Los Angeles), such transnational collaborations were rare. Multinational soundtrack collaborations only became more common in Canada in the mid-to late 2000s. It would seem, then, that the stylistic changes through the 1990s were driven more by internal market forces and less by global influences.

By investigating the local industrial rhetoric surrounding digital editing software, and especially Pro Tools, historians gain not only an understanding of how the industry discussed the advantages and disadvantages of a new technology but also an understanding of how new technologies were perceived to have changed the value of below-the-line labour. While this chapter has focused on postproduction sound in Toronto, the findings support the claims of Caldwell, Deuze, Storey, Salaman, and Platman that the

entire postproduction industry faced instability during the transition from analogue to digital tools. While these scholars focus on the ramification of the transition, this chapter illuminates how the transition to digital in Toronto took over a decade and how the industry's response to the new technology varied as the needs of the industry changed.

In the concluding chapter, I briefly explore how the combination of DAWs, file sharing through the Internet, and changes to policies that promote international collaborations continue to alter soundtrack aesthetics in Toronto.

Conclusion

In my introduction I quoted a 1994 interview by Toronto-based sound editor Gael MacLean, who commented: “If a film sounded bad people would say, ‘Oh, it must be Canadian.’”¹ Yet, as I have demonstrated throughout this dissertation, what constitutes bad sound in cinema is not always straightforward. A soundtrack style can be criticized for sounding inferior to Hollywood films in the 1990s, but this same style can be highly valued when associated with NFB documentaries like *Lonely Boy* in 1962. So, perhaps it is not so much that Toronto fiction films sounded bad, but rather that these films did not meet the established definitions of “good” sound.

While some have labelled the NFB aesthetic inferior to the Hollywood style, this dissertation has aimed to retain a neutral stance towards the soundtrack styles that arose from Toronto’s postproduction houses in order to explore how the value of film aesthetics changed over time and from genre to genre. The aesthetic associated with the NFB’s direct cinema was a highly valuable style for documentary sound, so much so that directors would manipulate the soundtrack to simulate synchronized location recordings, such as in *Primary*. Yet when Toronto sound practitioners transferred this style from documentary films to fiction films, there emerged a mismatch between visuals and sound, and the incongruity of the NFB aesthetic when paired with Canadian fiction films designed to compete with Hollywood fare resulted in Canadian soundtracks being labelled as bad or of poor quality. However, despite the disparity between the NFB and Hollywood styles of sound, Toronto sound craftspeople continued to use the aesthetic into the 1980s. In order to explore why a style perceived to be of poor quality persisted, I looked at industrial factors that encouraged the style of sound to remain static, including an

isolationist government policy, limited resources, and the employment opportunities for sound practitioners (i.e., needing to work on a variety of projects beside feature films). However, it may be that the NFB aesthetic was not viewed as inferior to Hollywood's continuity sound, but was a conscious aesthetic choice.

With this in mind, the history of Toronto's house style of film sound can be comprehended in two ways. First, one might presume that the Toronto postproduction sound industry slowly matured as practitioners gradually learned techniques characteristic of Hollywood and ultimately of an international standard of soundtrack construction. Interviews that I conducted with sound practitioners at the beginning of this project, along with the industry rhetoric found in trade magazines, suggest that this was the preferred narrative, for it intimates a positive progression and a mastering of skills among the workforce. Alternatively, the history presented by this dissertation may be read in negative terms, that is, as evidence of how the process of globalization contributes to the loss of distinct styles that exist outside of Hollywood. The steady decline of an aesthetic unique to a particular industry in favour of a generic style has been viewed as a negative development by scholars of film globalization, such as Geoffrey Nowell-Smith, Toby Miller and Richard Maxwell, and Diana Crane.² Regardless, as a film historian, my focus is not on the artistic *value* of the change in aesthetics. Rather than championing the supposed maturation of the industry or moralizing the strategic loss of a national aesthetic, I instead offer an explanation of why Toronto sound practitioners once valued and adopted a sonic style derived from the NFB and why these sound editors and mixers began to devalue and move away from these practices many years later. I argue that the change in the style of soundtracks created in Toronto was in response to a nexus of social and

economic factors, including government policies, exposure to other industries, and an increase in economic uncertainty among below-the-line sound labour.

My research shows that new technologies do not always lead to new stylistic norms, and that aesthetic changes are largely stimulated by unique industrial factors, such as increased competition, that may or may not occur as the result of technological change. The consistent delays between the acceptance of a new technology and the emergence of a new or modified aesthetic support this finding; if the technology in and of itself caused aesthetic change, this change would be more immediate. In order to emphasize the delays that crop up between the diffusion of a new technology and stylistic change in film, I used the introduction of Dolby Stereo and Pro Tools to determine the division of my chapters. My aim was to highlight the importance of understanding the economic and social mechanisms of an industry before exploring the relationship between technology and film style.

Chapter Two traced the founding of the industry in Toronto and the lineage of the dominant aesthetic used by the industry in the years following. The NFB's position as an industry leader in Canada in these early years led the documentary studio's sound practices to be incorporated into the Toronto feature film industry. This meant that Toronto postproduction sound professionals worked diligently to preserve the location recordings, as the NFB aesthetic privileged authenticity over clarity.

In Chapter Three, I noted that the introduction of Dolby Stereo provided an opportunity for Toronto sound practitioners to incorporate new practices, such as greater use of ADR and the layering of multiple sounds. However, the style changed only after Dolby Stereo mixing had been available in the city for several years and after Toronto sound editors had been exposed to new sonic practices while completing the mix for *The*

Fly in London, England. Although Dolby Stereo promised filmmakers richer and more complex soundtracks, the technology itself did not lead to a new aesthetic in Toronto. Even when new practices were incorporated into Toronto's Dolby Stereo mixes at the end of the 1980s, the NFB aesthetic continued to define the style of sound used in the films.

Chapter Four examined the relationship between the financial pressures within the industry, the way sound practitioners marketed themselves, and the way these practitioners constructed their soundtracks. While DAWs made editing more efficient, the ease of use of the system in and of itself did not change soundtrack aesthetics. My analysis of the soundtracks and the rhetoric of sound professionals in *Playback* suggests that it was only after the jobs of sound practitioners were threatened that Toronto sound editors and mixers adopted the principles and practices of the Hollywood continuity sound style.

As Toronto sound editors adopted this style, the Hollywood postproduction industry was beginning to incorporate a set of stylistic norms that Jeff Smith calls "intensified continuity sound". By the late-2000s sound editors and mixers in Toronto were integrating the principles of this style into their soundtracks. As this change occurred in the recent past, the archival materials that may explain this change are not yet available. With this limitations in mind, I offer a preliminary understanding of intensified continuity sound in Toronto with the following analysis of *Splice* (Vincenzo Natali, 2009).

Intensified Continuity Sound in Toronto: A Brief Analysis of *Splice*

The introduction of DAWs in the United States during 1990s appears to correlate with the rise of intensified continuity sound in Hollywood films. During this same period, Canadian soundtracks gradually adopted more aspects of continuity sound, but these

soundtracks did not feature the quantity of sounds that Smith detects in mainstream American films at that time. Smith's definition, while not clarifying what constitutes continuity sound, proposes that intensified continuity is a continuation of previous practices but with a more salient use of sound effects. Smith divides intensified continuity style into six dominant traits ("increased volume, low frequency effects, expanded frequency range, the spatialization of sound, the 'hyperdetail' of contemporary Foley work, and the use of nondiegetic sound effects as stylistic punctuation"³). These traits correspond with my analyses of details, atmospheres, and intrasoundtrack interactions. A short analysis of the sound editing sessions and the final soundtrack of *Splice* suggests that between the release of *Ginger Snaps* in 2000 and *Splice* in 2009, Toronto-based sound practitioners began to integrate aspects of intensified continuity sound into their soundtracks. This stylistic shift suggests a continuation of the trend towards a Hollywood aesthetic in Toronto-produced soundtracks.

Splice follows two genetic scientists, Clive and Elsa, who attempt to change history by making genetically modified animals. Together, the couple creates a human-animal hybrid, whom they name Dren and whom they raise as their daughter. As Dren grows older, she becomes more violent and develops an ability to spontaneously change her sex to male. Dren's violence culminates at the end of the film when he kills William Barlow, an executive at Elsa and Clive's company. In the final scene, Clive and Elsa are trying to find Dren inside a forest. The creature rapes Elsa and slays Clive, after which Elsa kills Dren. The film's epilogue reveals Elsa to be pregnant with Dren's child. I selected *Splice* as my case study from this period because the film demonstrates an intensified continuity style and because I obtained screenshots of the final sound edit, documents which augment my examination of how the soundtrack was constructed.

Details

In *Splice*, the sound editors and Foley artists matched sounds with minute visual details found throughout the film. For example, in the final scene, Dren throws William Barlow into a tree and kills him. Here (01:30:04), the sound editor prepared more than twenty different sounds for the cracks of the tree branches, despite representing only two seconds of screen time (see Figure 6). This sequence was also covered by the Foley artist (see Figure 7). The combination of various branch hits, creaks, breaks, and falls, serves to underscore the chaos of the moment. In the narrative, this event shocks and disorients the other characters and the cacophony of details mirrors their sudden awareness of the danger they are in.

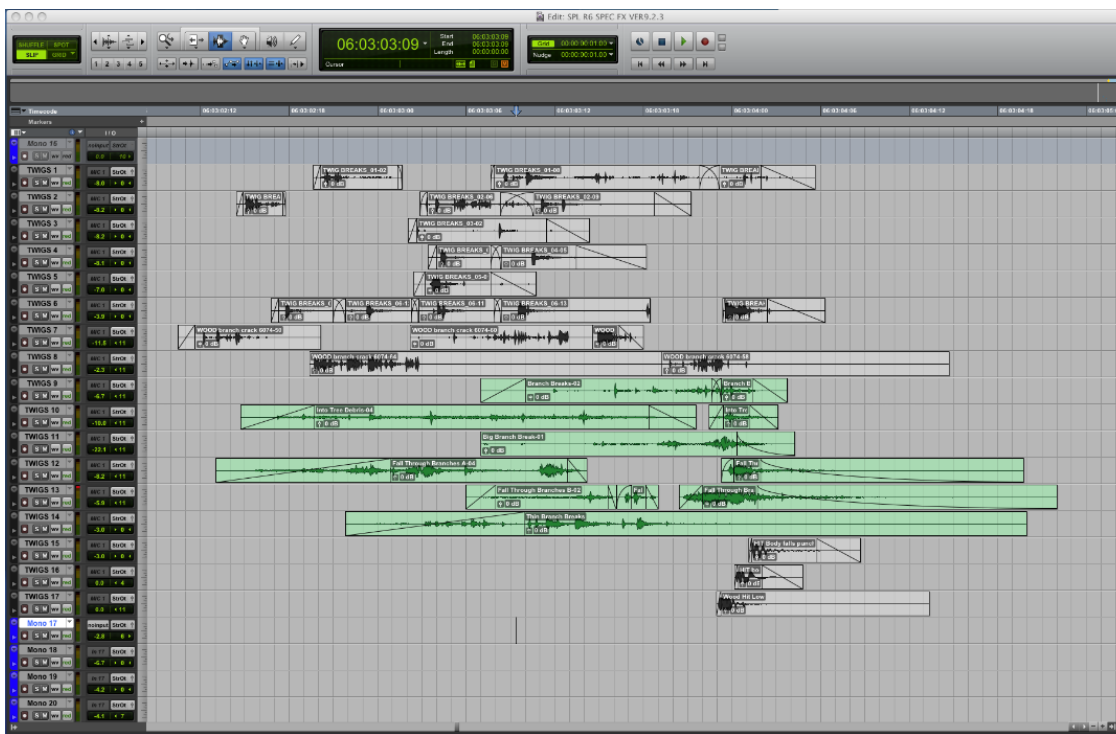


Figure 6. Screenshot of sound edit for tree branch break in *Splice*.

frequency growls, groans, sniffs, and other modulated vocalizations (see Figure 8). When combined into a single effect, these sounds suggest that while Dren has human qualities, he is also a powerful, menacing predator. This concept of combining many individual noises to create a single, complex sound was used during the sound edit of *The Fly*, *Cube*, and *Ginger Snaps*. *Splice* differs from the earlier film with respect to the number of individual sounds combined, as *Splice* blends a plethora of noises and, as the screenshots suggest, the editors used Pro Tools plug-ins to modulate sounds to a desired frequency. Because of the complexity and importance of these sounds, they were prepared for the mix in their own edit session. This organization allowed the re-recording engineers to pre-mix the monster sounds separately from the other sounds so that the various sounds could be mixed together to form a cohesive whole. Additionally, once these sounds were merged into a single sound, they were able to be deposited into the Warner Brother's sound effects library.

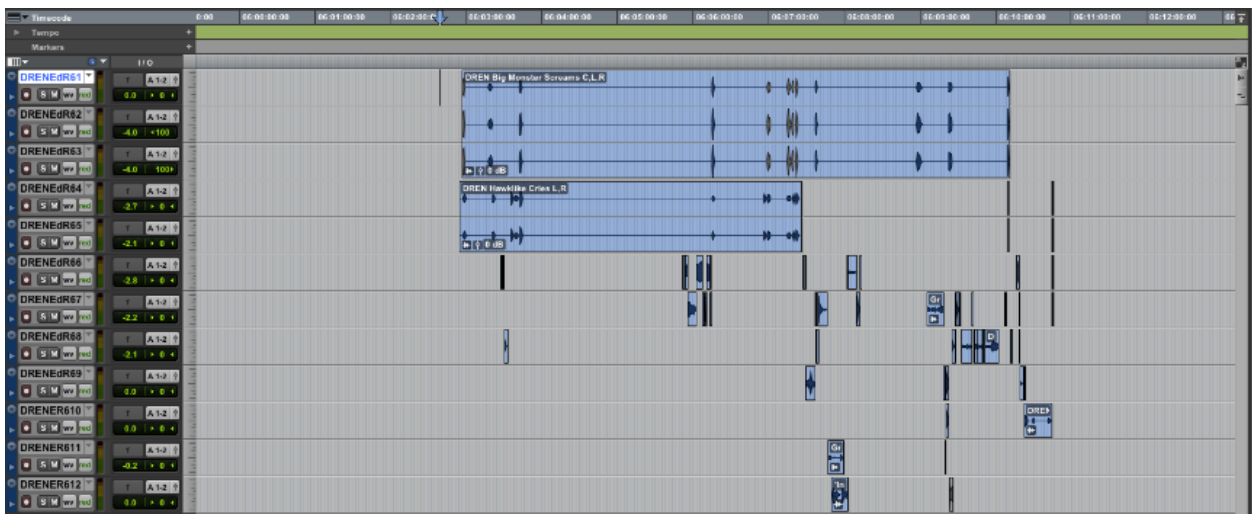


Figure 8. Screenshot of Dren's vocalizations.

Atmospheres

Traditionally, sound editors use atmospheric sounds to disguise sonic cuts even in relatively quiet locations, such as the house at the end of *Ginger Snaps*. Atmospheric sounds are also used to add detail to the film's settings, but their primary function is to create the illusion of continuity across the many tracks of sound in final mix. Although the atmospheres in *Splice* are used to disguise sonic edits, they may be distinguished from traditional atmospheres in two ways. First, different sounds are layered together to create a unique sonic signature for each individual location. The following screenshots depict nine different atmospheric sounds, including winter air, snow falling on a surface, and a medley of winds and airs to create a single atmosphere (see Figures 9 and 10). Two of these sounds are comprised of three channels (left, centre, right), five are two-channel recordings, and the remaining effects are monaural recordings. This variety of channels per sound provides the re-recording mixers with options for determining the optimum placement of sounds while it also ensures that each discreet audio channel has customized sounds. The combination of these sounds creates intricate and complex atmospheres that are unique to each location.

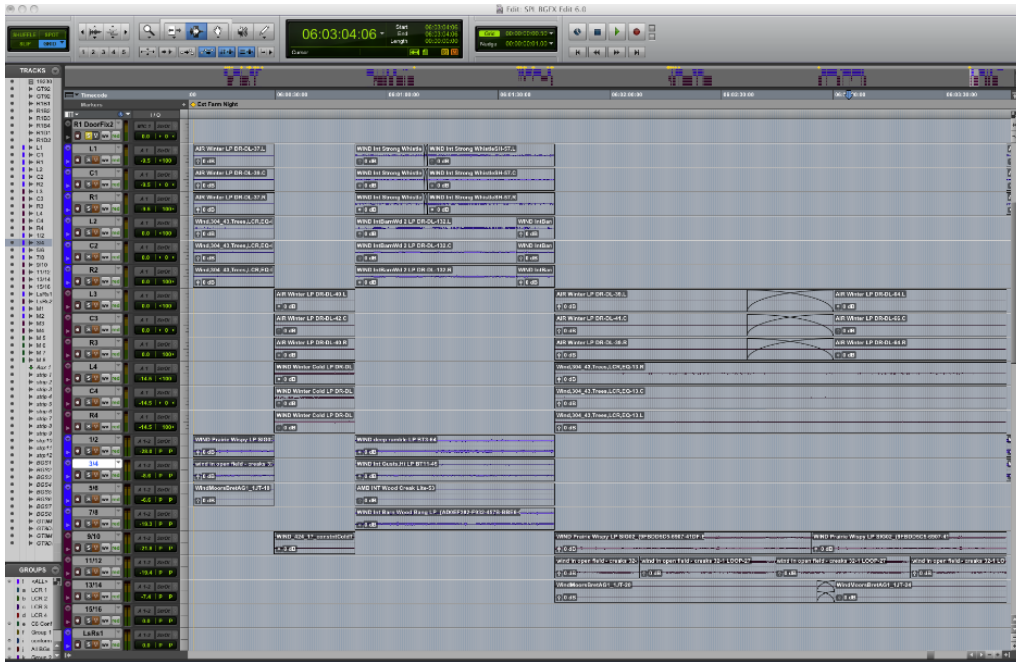


Figure 9. Screenshots of atmospheric sounds.

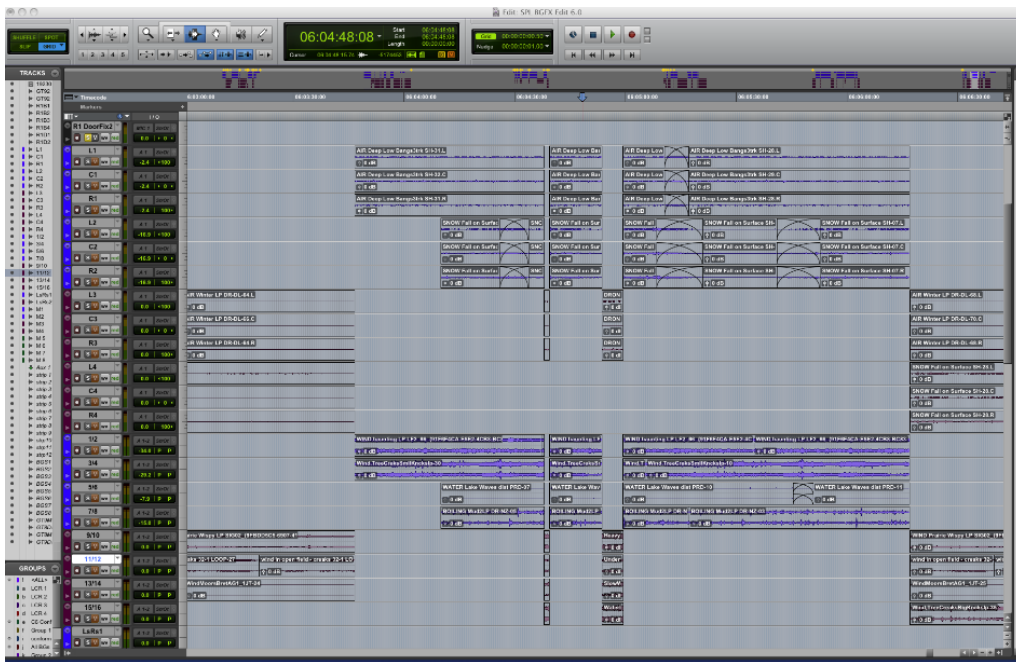


Figure 10. Screenshots of additional atmospheric sounds.

The second distinguishing feature of atmospheres in *Splice* is that they change throughout the scene to accentuate the bipolar extremes of shot scale. In this way, the atmospheres work to support the division of a larger space as depicted visually by way of camerawork and editing. This feature may be better understood by considering a contrasting case: the constant atmospheres heard in the exterior scenes in *Ginger Snaps*. In that film's field hockey scene, for instance, the sounds of wind, birds, air, and screaming teenagers remain constant even when the image cuts from the hockey field to the bleachers. The continuous nature of the atmospheres ensures continuity throughout the scene, but such consistency does not account for changes in camera perspective as rendered by the scene's editing. The sound editors of *Splice* adopt a different approach, providing atmospheric sounds that subtly change throughout the scene in order to underscore major changes in visual perspectives. Screenshots of BGFX Edit R6 (i.e., background sound effects edit, reel six) illustrate that even though the majority of the final scene takes place in an exterior location (a farm) at night (i.e., "Ext Farm Night" as labelled on the scene marker in yellow at the top of the session in Figure 11), the atmospheres do not remain constant throughout the entire scene. The subtle change in tones helps to orient the quickly changing perspective of the camera. For instance, at 01:33:09, the visual image is a medium close-up of Elsa, at 01:33:28, the image cuts to Dren's perspective as the creature searches for Elsa. When the camera changes positions from the ground to the sky, the atmospheric sounds also change. Even though the shift in tones is minimal (and is accomplished without an atmospheric jump), the change in auditory perspective compliments an element of intensified editing practice that Bordwell terms "bipolar extremes of lens lengths."⁴ Thus, unlike the application of atmospheres in films like *Ginger Snaps*, where the atmospheric sounds were consistent throughout the

entire scene, sound editors used slight variations in the atmospheres of *Splice* to accentuate changes in the image.

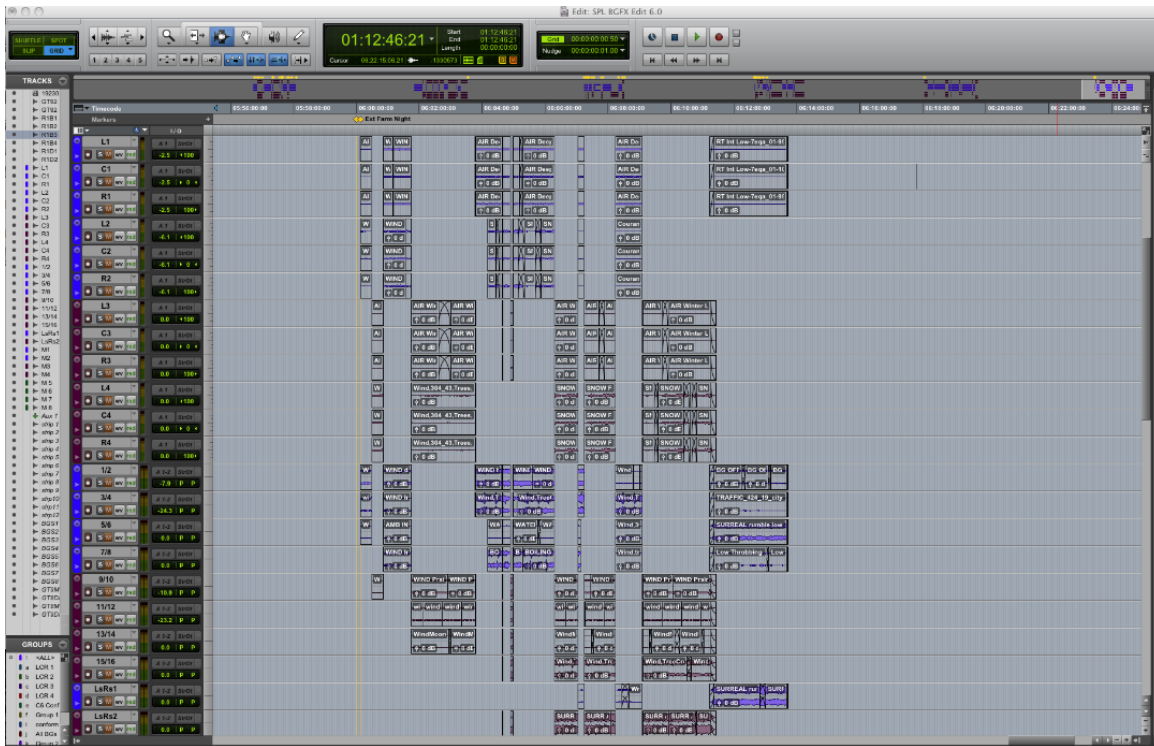


Figure 11. Screenshot of atmospheric sounds for Reel Six.

Intrasoundtrack Interactions

An analysis of the final scene of the film shows that the multitude of sounds used to form the soundtrack does not necessarily cause a louder film. Rather, the soundtrack for *Splice* takes advantage of dynamic range by alternating between quiet and loud sequences. According to Mark Kerins, such a strategy was apparent in Hollywood films from the 1990s, when “one common approach filmmakers [used] to heighten the perception of dynamic contrast [was] to exploit both the loud and soft extremes of a soundtrack’s capabilities in close succession.”⁵ In *Splice*, dramatic shifts in volume are used to

punctuate individual actions and events that are significant to the narrative. For example, near the beginning of the scene, Dren captures and kills William Barlow. At 01:30:01, Dren's attack and Barlow's screams interrupt the relative calm of the previous moment. The sudden jump in volume places stress on this pivotal action that signals Dren's transformation into a male aggressor, but it is also a technique that can shock or scare the audience.

The soundtrack makes use of the broad dynamic range afforded by digital exhibition formats. While Dolby Stereo had previously expanded frequency ranges, Kerins explains that digital surround sound channels were designed to offer the full range of frequencies that humans can hear (20 Hz to 20,000Hz).⁶ For *Splice*, the sound editors and mixers layered sounds across this wide range of pitches in a manner that constructed a rich, dense soundtrack without having sounds mask each other by sharing the same, narrow frequency range. This approach is similar to *The Fly* wherein the music, dialogue, and sound effects are combined to make use of high, mid, and low-frequency sounds; however, *Splice* makes use of a wider frequency range. For instance, when Clive is pulled into the lake at 01:31:56, the soundtrack consists of music that occupies mid-frequencies and complements Elsa's higher pitched cries. The lower frequencies are dedicated to a low-pitch rumbling of water in combination with low-frequency winds. Together, these sounds fill out the frequency range to create a dynamic soundtrack where each element is clearly audible.

In addition to these techniques, sound editors and mixers sometimes position sounds at the opposite ends of the frequency range next to each other. For example, when Dren rapes Elsa at 01:34:00, the creature's low rumbling breathing is juxtaposed with Elsa's high-pitched screams. The music at this point adds to this oscillation as it moves

from low rumbles during Dren's vocalizations to a high-pitch melody underscoring Elsa's screams, specifically as she asks, "What do you want?" The extreme jump in frequency levels not only provides a sonic analogue to Bordwell's bipolar extremes in lens lengths, but also accentuates Dren's aggression and Elsa's vulnerability, as Elsa is powerless to stop the rape from occurring. The rapid fluctuations between low and high frequencies emphasize the narrative climax of the film.

As this short analysis demonstrates, by 2009 Toronto sound editors were incorporating aspects of intensified continuity sound into their soundtracks. This approach to included more layers of sound in the effects and dialogue tracks, increasingly complex applications of atmospheric sounds, and expanded uses of frequency ranges to enhance intrasoundtrack interactions. Even though it is still too early to determine the exact reasons why the Toronto postproduction sound industry began to incorporate aspects of an intensified continuity sound aesthetic, one possible explanation for this continued trend is an increase in translocal collaborations.

Local to Translocal

In the previous chapter I suggested that Pro Tools became the standard system, in part because most studios would have at least one Pro Tools system and it was one of the most cost-efficient systems on the market. In Toronto, productions could employ more than one facility to work on a project because sound practitioners working in different locations in the city had the ability to share files and collaborate. The ubiquity of the system was not just limited to Toronto or Canada; it also became the system of choice

globally, and the widespread availability of the software, along with faster Internet speeds for file sharing, facilitated transnational collaborations.

Since the mid- to late 2000s, there seems to have been a greater number of working partnerships between Toronto-based practitioners and international colleagues. The sound edit and mix for the film *Silent Hill* (Christophe Gans, 2006), for example, was completed in Toronto, but the film's producers hired two French sound editors to work with the Toronto team in shaping the soundtrack. The creation of the soundtrack for *Splice* also made use of different locations: Toronto for the sound editing and Paris for the mixing phase. It is important to note that before Pro Tools and the Internet, Toronto sound practitioners were already working with their international colleagues, but such collaborations were rare because the process of exchanging files was expensive and slow, and each local industry had its own standards of quality. Today, such partnerships appear to be much more commonplace. Consequently, soundtrack creation appears to be moving away from multiple local industries (such as Toronto, Paris, London, San Francisco, New York, Los Angeles) into a global media economy.⁷

The internationalization of the Toronto industry can be best seen in the changes to a veteran postproduction house, Tattersall Sound and Picture, over the course of one year. In April 2015, Tattersall Sound and Picture merged with the SIM Group, an international conglomeration of film services. An article in *Playback* reported on the event in positive terms, noting that "Tattersall will continue to operate independently and retain its name, its location and all staff. Under the new structure, it will also work with SIM's post-production division, which now includes Bling Digital, Chainsaw and Pixel Underground."⁸ This business deal was seen by those in the industry as a *coup* for Tattersall, as the SIM Group had previously focused on only visual postproduction. This

meant that the Toronto sound house rounded out the group's offerings, so that everything from lighting equipment to the final mix could be completed by a facility within the conglomerate's stable with the promise that Tattersall would see an increase in its clientele.

The direction presently undertaken by Tattersall is not without precedent. In 1989, Film House was purchased by the international conglomerate Deluxe Entertainment Service Group. However, even though Deluxe's Toronto location was part of an international corporation, the facility remained focused on serving the local community, as opposed to attracting international clients. In contrast, the merger of Tattersall with the SIM Group has been marketed as a strategic move to attract more international clients to the Toronto postproduction facility. Jane Tattersall highlighted the desire to attract clients from across the globe in April of 2015: "Our alliance with SIM ensures a stable and long-term future for our business, which benefits our clients, our employees and the industry we serve," she said. "It allows us to compete on par with the biggest players in sound."⁹ Tattersall's claim suggests a desire for the company to build a clientele base beyond the borders of Toronto.

Later in the year, Tattersall complemented this business merger with the introduction of new, inexpensive technology to facilitate collaboration across vast distances. In November 2015, Tattersall announced a new, cost-effective remote monitoring setup. In order to allow the Los Angeles-based producers of the television series *Fargo* to provide timely feedback on the sound of the show, Tattersall's technical division created a virtual mixing stage in a Los Angeles editing suite that mirrored the acoustical environment of the Toronto mixing stage. While this is not a new concept, as the process of linking two mixing stages through Integrated Services Digital Network

(ISDN) lines has been used for several years, such solutions often prove to be expensive and difficult to schedule because a second mixing stage would need to be booked for the duration of the mix. Tattersall Sound's Chief Engineer Ed Segeren heralded the benefits of the facility's new system in an online article: "This new approach makes it easier for producers to attend playbacks, while also giving them confidence in knowing that what they were hearing is exactly what the mix sounds like back in Toronto."¹⁰ Segeren's claim suggests that Tattersall is planning to market this technical solution as a way to expand the facility's business outside of Toronto, as the northern location of Tattersall has traditionally been a barrier for attracting Los Angeles-based productions.

The rising trend of international business strategies and affordable international communication technologies raises questions about the future of local industries. For instance, will co-productions make use of postproduction sound teams from multiple industries? Will postproduction sound facilities need to compete on an international level, and if so, how will this affect local industries? And will such strategies increase individual house or sound auteur styles or minimize them? While it is too early to answer such questions, it will be important for scholars to remain aware of how translocal strategies are affecting workflows and practices.

Now that the Toronto postproduction sound industry in general has adopted a Hollywood aesthetic, such questions seem to be of particular importance. Given that the Toronto industry no longer has a unique aesthetic and that it is now working towards obtaining a global clientele, as opposed to focusing on providing services for its local or even national media communities, can we still refer to Toronto as a local industry? Or do these changes mark the end of an era and the beginning of the Toronto postproduction community's entrance into a global film sound industry? Currently, we cannot answer

these questions. But, with historical distance, it will be worth returning to study how the sound practitioners within Toronto negotiate the apparent globalization of their industry.

Introduction

¹ Joanne Morgan, "Gael MacLean's Fidelity to Sound," *Playback* (January 17, 1994): 21, 23.

² Jay Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979" (The University of Iowa, 2003); William Whittington, *Sound Design & Science Fiction* (Austin: University of Texas Press, 2007); Benjamin Wright, "Sound from Start to Finish: Professional Style and Practice in Modern Hollywood Sound Production" (Carleton University, 2011); Mark Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age* (Bloomington: Indiana University Press, 2011).

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⁴ Tino Balio, *United Artists: The Company Built by the Stars* (Madison: University of Wisconsin Press, 1976); Tino Balio, *United Artists: The Company That Changed the Film Industry* (Madison: University of Wisconsin Press, 1987); Richard B. Jewell, *RKO Radio Pictures: A Titan is Born* (Berkeley: University of California Press, 2012).

⁵ Paul S. Moore, *Now Playing: Early Moviegoing and the Regulation of Fun* (Albany: State University of New York Press, 2008). 2-3.

⁶ For the sake of clarity I have selected to term all instances of dialogue recorded in postproduction ADR, rather than using the terms "looping," "and "dubbing," as ADR is now the most widely accepted term for this practice. Further, the terms looping and dubbing both refer to additional postproduction sound practices, whereas ADR has a single meaning. While the term ADR seems to first come into use by the film industry in the 1980s, in Hollywood, the practice was in use during the studio era. See James Buhler, David Neumeyer, and Rob Deemer, *Hearing the Movies: Music and Sound in Film History* (New York: Oxford UP, 2010), 99.

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⁸ Robert Allen and Douglas Gomery, *Film History: Theory and Practice*, vol. Alfred A. Knopf (New York, 1985). 113.

⁹ David Bordwell and Janet Staiger, "Technology, style and mode of production," in *The Classical Hollywood Cinema: Film Style & Mode of Production to 1960* (New York: Columbia University Press, 1985), 243-4.

¹⁰ Charles O'Brien, *Cinema's Conversion to Sound: Technology and Film Style in France and the U.S.* (Bloomington: Indiana University Press, 2005). 9.

¹¹ *Ibid.*, 12.

¹² *Ibid.*, 50.

¹³ Gianluca Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood* (Manchester: Manchester UP, 2004). 29; Whittington, *Sound Design & Science Fiction*: 28-9; Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 3.

¹⁴ Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*; Whittington, *Sound Design & Science Fiction*.

Chapter One

¹ For examples of Canadian film scholarship that employs either the Atwood or Frye models see: Gina Freitag and André Loiselle, eds., *The Canadian Horror Film: Terror of the Soul* (Toronto: University of Toronto Press, 2015); Bart Testa, "Technology's Body: Cronenberg, Genre, and the Canadian Ethos," *Post Script: Essays in Film and the Humanities* 15, no. 1 (September 1995): 38-56; William Beard, "The Canadianness of David Cronenberg," *Mosaic* 27 (June 1994): 113-33; Seth Feldman, "The Silent Subject in English Canadian Film," in *Take Two*, ed. Seth Feldman (Toronto: Irwin Publishing, 1984), 48-57.

² Bruce Elder, "The Cinema We Need (1985)," in *Documents in Canadian Film*, ed. George Fetherling (Peterborough, Ont.: Broadview Press, 1988), 260-71.

³ Bart Testa, "So, What Did Elder Say? (1985)," in *Documents in Canadian Film*, ed. George Fetherling (Peterborough, Ont.: Broadview Press, 1988), 272-83; Piers Handling, "The Cinema We Need? (1985)," in *Documents in Canadian Film*, ed. George Fetherling (Peterborough, Ont.: Broadview Press, 1988), 284-93; Peter Harcourt, "Politics or Paranoia? (1985)," in *Documents in Canadian Film*, ed. George Fetherling (Peterborough, Ont.: Broadview Press, 1988), 294-300; Michael Dorland, "The Shadow of Canadian Cinema: Bruce Elder's Immodest Proposal (1985)," in *Documents in Canadian Film*, ed. George Fetherling (Peterborough, Ont.: Broadview Press, 1988), 316-22; Geoff Pevere, "The Rites (and Wrongs) of the Elder or The Cinema We Got: The Critics We Need (1985)," in *Documents in Canadian Film*, ed. George Fetherling (Peterborough, Ont.: Broadview Press, 1988), 323-36.

⁴ Dorland, "The Shadow of Canadian Cinema: Bruce Elder's Immodest Proposal (1985)," 320.

⁵ Testa, "Technology's Body: Cronenberg, Genre, and the Canadian Ethos," 38-56.

⁶ Beard, "The Canadianness of David Cronenberg," 113-33.

⁷ Will Straw, "Dilemmas of Definition," in *Slippery Pastimes: Reading the Popular in Canadian Culture*, ed. Joan Nicks and Jeannette Marie Sloniowski (Waterloo: Wilfrid Laurier University Press, 2002), 103.

⁸ Kay Armatage et al., eds., *Gendering the Nation: Canadian Women's Cinema* (Toronto: University of Toronto Press, 1999).

⁹ Christopher E. Gittings, *Canadian National Cinema: Ideology, Difference and Representation* (New York: Routledge, 2002); Thomas Waugh, *The Romance of Transgression in Canada: Queering Sexualities, Nations, Cinemas* (Montreal: McGill-Queen's University Press, 2006).

¹⁰ Gerald Pratley, *Torn Sprockets: The Uncertain Projection of the Canadian Film* (Newark: University of Delaware Press 1987); Manjunath Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry* (Detroit: Wayne State University Press, 1990).

¹¹ Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry*: 29.

¹² Ted Magder, *Canada's Hollywood: The Canadian State and Feature Films* (Toronto: University of Toronto Press, 1993); Michael Dorland, *So Close to the State/s: The Emergence of Canadian Feature Film Policy* (Toronto: University of Toronto Press, 1998).

- ¹³ Peter Urquhart, "1979: Reading the Tax-Shelter Boom in Canadian Film History" (McGill University, Montreal, 2004); Peter Urquhart, "You Should Know Something—Anything—About This Movie. You Paid For It," *Canadian Journal of Film Studies* 12, no. 2 (2003): 64-80; Peter Urquhart, "Cultural Nationalism and Taste: The Place of the Popular in Canadian Film Culture," in *Screening Canadians: Cross-Cultural Perspectives on Canadian Film*, ed. Wolfram R. Keller and Eugene P. Walz (Marburg: Universitätsbibliothek Marburg, 2008), 35-57.
- ¹⁴ Urquhart, "You Should Know Something—Anything—About This Movie. You Paid For It," 71-3.
- ¹⁵ Zoë Druick, *Projecting Canada: Government Policy and Documentary Film at the National Film Board of Canada* (Montreal: McGill-Queen's University Press, 2007).
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³⁴ Christine York, "'Versions, Revisions, and Adaptations': Film Production in Two Languages at the National Film Board," in *Cinephemera: Archives, Ephemeral Cinema, and New Screen Histories in Canada*, ed. Zoë Druick and Gerda Cammaer (Montréal, Québec: McGill-Queen's University Press, 2014), 94-111; Michael Brendan Baker, "Dresden Story and the Emergence of the Talking Head in the NFB Documentary," *Canadian Journal of Film Studies* 17, no. 2 (2008): 2-17.

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- ⁷⁹ David Bordwell, Janet Staiger, and Kristin Thompson, *The Classical Hollywood Cinema Film Style & Mode of Production to 1960* (New York: Columbia University Press, 1988). 213.
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Chapter Two

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visual image. Beachell, "Notes on the Sprocketape Magnetic Sound Recording System," 742-5.

⁴⁷ Beachell, "Some Activities / Technical and Production Service Branch / In The Past Thirty-Five Years," 2.

⁴⁸ This system predates the much more portable Nagra system which was first used for film in 1961.

⁴⁹ Beachell, "Some Activities / Technical and Production Service Branch / In The Past Thirty-Five Years," 2.

⁵⁰ The National Film Board of Canada, *Bulletin on Technical Developments: Issue Number Four*: 7-11.

⁵¹ National Film Board of Canada, "Technical Achievements of The National Film Board Summary," [Undated Press Release]: 2. NFB Archives, Montreal.

⁵² Beachell, "Some Activities / Technical and Production Service Branch / In The Past Thirty-Five Years," 2. Gerald G. Graham, *Canadian Film Technology, 1896-1986* (Newark: University of Delaware Press, 1989). 205. Prior to the board's experimentations, NFB filmmaker, Michel Brault, modified a camera for sync sound when working as a cinematographer for Rouch in France. Brault's lightweight camera allowed for sync dialogue to be recorded on location and was used in the outdoor sequences of *Chronicle of a Summer* (1960). Brault brought back this technological modification to the NFB where the filmmakers used the lightweight sync sound compatible camera in combination with portable sound recording equipment for shooting on location. Gary Evans, *In the national interest: a chronicle of the National Film Board of Canada from 1949 to 1989* (Toronto: University of Toronto Press, 1991). 71

⁵³ Bounsall, "Sound Recording Facilities in Canada's Newest Film Studio," 736.

⁵⁴ Graham, *Canadian Film Technology, 1896-1986*: 103.

⁵⁵ When a recording is "off-mic" the line becomes difficult to understand because the microphone is focused on room tone than rather the voice. This produces a similar effect as an out of focus visual image.

⁵⁶ Ted Magder, *Canada's Hollywood: The Canadian State and Feature Films* (Toronto: University of Toronto Press, 1993). 100.

⁵⁷ *Ibid.*, 99.

⁵⁸ For a short overview on Crawley Films, the Berkley Studio, and Shelly Films, Ltd see Graham, *Canadian Film Technology, 1896-1986*: 127-36.

⁵⁹ Michael Dorland, *So Close to the State/s: The Emergence of Canadian Feature Film Policy* (Toronto: University of Toronto Press, 1998). 75.

⁶⁰ Graham, *Canadian Film Technology, 1896-1986*: 137. Jaan Pill, "Precarious Establishment," *Cinema Canada* October/September, no. 49/50 (1978): 45-6.

⁶¹ Connie Tadros, "Toronto Bellevue Lab Closed," *Cinema Canada* December/January, no. 33 (1976/7): 12. Pill, "Precarious Establishment," 45-6.

⁶² One of the most comprehensive histories of the CBC is found in Mary Jane Miller, *Turn Up the Contrast: CBC Television Drama Since 1952* (Vancouver: University of British Columbia Press, 1987). For an overview of both the private and private broadcasters see Andrew Stewart and William H. N. Hull, *Canadian Television Policy and the Board of Broadcast Governors, 1958-1968* (Edmonton: University of Alberta Press, 1994).

⁶³ Paul Gottlieb, "Grimaldi Brothers," *Playback* (February 9, 1987): 9.

⁶⁴ For more on the interconnectedness of film and television see Liz Czach, "Television, Film, and the Canadian Star System," in *Canadian Television: Text and Context*, ed. Marian Bredin, Scott Henderson, and Sarah A. Matheson (Waterloo: Wilfrid Laurier University Press, 2012).

⁶⁵ The end credits for *Wojeck*, *Forest Rangers*, *King of Kensington*, *Seeing Things*, and *Beachcombers* only list a sound editor and re-recording mixer. *The Edison Twins* is an exception to this practice as two sound editors and a Foley editor are listed in the end credits.

⁶⁶ Louis Applebaum et al., "Report on the Federal Cultural Policy Review Committee," ed. Department of Communications Information Services (Ottawa: Government of Canada 1982), 252-3.

⁶⁷ Canadian Film Development Corporation, "Briefing Document Prepared by the Canadian Film Development Corporation for its Appearance at the Standing Committee on Culture and Communications," April 8 1982, 1.

⁶⁸ Ibid.

⁶⁹ Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 209.

⁷⁰ Manjunath Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry* (Detroit: Wayne State University Press, 1990); Dorland, *So Close to the State/s: The Emergence of Canadian Feature Film Policy*.

⁷¹ This chapter only examines how the aesthetic remained stable regardless of budget. For details on the lack of aesthetic with the introduction of new Dolby Stereo technology see the analysis of *Heavy Metal* in Chapter Two.

⁷² Urquhart, "You Should Know Something—Anything—About This Movie. You Paid For It," 67-70; Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 83-5; Dorland, *So Close to the State/s: The Emergence of Canadian Feature Film Policy*: 21-2.

⁷³ Stephen Azzi, *Walter Gordon and the Rise of Canadian Nationalism* (Montreal: McGill-Queen's University Press, 1999). 118-23, 69-70.

⁷⁴ George Grant, *Lament for a Nation: The Defeat of Canadian Nationalism*, 40th anniversary ed., Carleton library series (Montreal: McGill-Queen's University Press, 2005). 86.

⁷⁵ Azzi, *Walter Gordon and the Rise of Canadian Nationalism*: 127.

⁷⁶ Stephen Azzi, *Reconcilable Differences: A History of Canada-US Relations*, First edition. ed. (Oxford: Oxford University Press, 2014). 166-9.

⁷⁷ The chart was created from the data available in the Canadian Feature Film Database. Library and Archives Canada, "Canadian Feature Film Database," <http://www.bac-lac.gc.ca/eng/discover/films-videos-sound-recordings/canadian-feature-film-database/Pages/canadian-feature-film-database.aspx>.

⁷⁸ Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry*: 29-30.

⁷⁹ Ibid., 170.

⁸⁰ Qtd. in Dorland, *So Close to the State/s: The Emergence of Canadian Feature Film Policy*: 123.

⁸¹ The need for a film industry to protect Canada's national identity was also promoted by the Directors Guild Canada and the Association of Motion Picture Producers and Laboratories of Canada. Magder, *Canada's Hollywood: The Canadian State and Feature*

Films: 109-10; Dorland, *So Close to the State/s: The Emergence of Canadian Feature Film Policy*: 59.

⁸² Firestone noted that paid theatre admission per person per year averaged 11.8 for the United States compared to 5.9 in Canada. O. J. Firestone, "Film Distribution Practices, Problems, and Prospects: A Report for The Interdepartmental Committee on the Possible Development of Feature Film Production in Canada," (Ottawa: The Government of Canada, 1965), Part I, Volume I, S-14 and 4-23.

⁸³ *Ibid.*, Part I, Volume II, 10-15.

⁸⁴ *Ibid.*, Part II, 6-6 & R-6-10.

⁸⁵ *Ibid.*, Part I, Volume II, 10-24 to 10-28.

⁸⁶ Government of Canada, *Acts of the Parliament of Canada (27th Parliament, 1st Session, Chapter 1-97)*, (Ottawa: Queen's Printer, 1966-67), <https://archive.org/details/actsofparl196667v01cana.861-6>.

⁸⁷ *Ibid.*, 863.

⁸⁸ Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 147.

⁸⁹ *Ibid.*, 130.

⁹⁰ *Ibid.*, 137.

⁹¹ Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry*: 170.

⁹² *Ibid.*

⁹³ Urquhart, "1979: Reading the Tax-Shelter Boom in Canadian Film History," 10.

⁹⁴ Michael Spencer and Suzan Ayscough, *Hollywood North: Creating the Canadian Motion Picture Industry* (Montreal: Cantos International Publishing, Inc., 2003). 158.

⁹⁵ Government of Canada, *Acts of the Parliament of Canada (27th Parliament, 1st Session, Chapter 1-97)*. 863.

⁹⁶ Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 137.

⁹⁷ *Ibid.*

⁹⁸ Canadian Film Development Corporation, "Press Release: Canadian Film Development Corporation," May 10 1968.

⁹⁹ Canadian Film Development Corporation, "Canadian Film Development Corporation Policies on Loans and Investments in Canadian Feature Film Production," December 1972, 1.

¹⁰⁰ Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 184; Urquhart, "1979: Reading the Tax-Shelter Boom in Canadian Film History," 19.

¹⁰¹ The Government of Canada, "Amendments to the Income Tax Regulations," (1974).

¹⁰² Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 184; Urquhart, "1979: Reading the Tax-Shelter Boom in Canadian Film History," 19. Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry*: 170-1; Canadian Film Development Corporation, "Film Investments For 100% Tax Write-Off," *The Hollywood Reporter: Canadian Special Issue CCXLII*, no. 50 (August 31, 1976): 18. The Canadian Film and Videotape Certification Office (CFVCO) was in charge of granting Canadian Content status to films and approving the tax write offs.

¹⁰³ For examples see "Film Investments for 100% Tax Write-Off," *The Hollywood Reporter: Canadian Special Issue CCXLII*, no. 50 (August 31, 1976): 18; "Secretary of State News Release" August 5 1976, Canadian Film History File: 1975, TIFF Film

Reference Library; Sid Adilman, "100% Tax Break, 'If Truly Canadian,'" *Variety* (July 9, 1975): 5, 75.

¹⁰⁴ Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry*: 170. Urquhart, "1979: Reading the Tax-Shelter Boom in Canadian Film History," 19.

¹⁰⁵ Magder, *Canada's Hollywood: The Canadian State and Feature Films*: 137.

¹⁰⁶ Urquhart, "1979: Reading the Tax-Shelter Boom in Canadian Film History," 19.

¹⁰⁷ George Melnyk, *One Hundred Years of Canadian Cinema* (Toronto: University of Toronto Press, 2004), 248-9.

¹⁰⁸ For an example of the media's portrayal of the scheming producer against the honest Canadian tax payer see Alan Burke, "Let's Make a Deal," *The Fifth Estate* (CBC, December 4, 1979), <http://www.cbc.ca/archives/entry/tax-breaks-for-canadian-movies>.

¹⁰⁹ With the exception of the expenses for film music composition, the costs of all post-production sound positions were combined with laboratory costs. The inclusion of the composer and picture editor and the exclusion of sound editors from the point system suggests that sound editors and mixers were viewed as technicians, rather than as key creative crew members. I expand on this distinction in Chapter Three.

¹¹⁰ Canadian Film and Videotape Certification Office Government of Canada, "The Canadian Film and Videotape Certification Process: Breakdown of Costs: Certification Only," (1982), 5.

¹¹¹ Serge Grünberg, *David Cronenberg: Interviews with Serge Grünberg* (London: Plexus, 2006). 87.

¹¹² Firestone, "Film Distribution Practices, Problems, and Prospects: A Report for The Interdepartmental Committee on the Possible Development of Feature Film Production in Canada," Part II, 6-3 to R 6-4. The issue of isolation in the post-production sound industry was addressed in 1988 when Film House hired Andy Nelson from Shepperton Studios in England. This hire was widely promoted in Canadian trade papers as Nelson was seen as bringing an international influence to the film on which he worked and the sound department he oversaw. Film House, "Sounds Great! [Advertisement]," *Cinema Canada* (December 1988): 42.

¹¹³ Kenneth Heeley-Ray was originally from the United Kingdom and Findlay Quinn was from Ireland; it is unclear if either became a Canadian citizen, but as both worked at the NFB for ten years before moving over to the private film industry, they would qualify as landed immigrants and were therefore classified as "Canadians" under the regulations. "Schedule [Subsection 1104 (2) of the Income Tax Regulations]", Canada – Production Files 1974, TIFF Film Reference Library.

¹¹⁴ Firestone, "Film Distribution Practices, Problems, and Prospects: A Report for The Interdepartmental Committee on the Possible Development of Feature Film Production in Canada," Part I, Volume II, 9-39 to R-9-40.

¹¹⁵ *Ibid.*, Part I, Volume II, 9-14, 9-40, 10-7 and Part II, 6-6.

¹¹⁶ *Ibid.*, Part I, Volume II, 9-18 to 9-20 and 9-40 to 9-41.

¹¹⁷ *Ibid.*, Part I, Volume II, 9-46 to R-9-47.

¹¹⁸ Canadian Film Development Corporation, "CFDC Moves to Ensure Greater Canadian Input in Films Made Under Coproduction Treaties.," (Montreal January 19, 1981), 1.

¹¹⁹ The Council of Canadian Filmmakers, "Canada and Co-Productions: A Report on Canada's Participation on International Feature Film Co-Productions and Their Impact on the Canadian Film Industry," (March 3, 1980).

¹²⁰ Canadian Film Development Corporation, "CFDC Moves to Ensure Greater Canadian Input in Films Made Under Coproduction Treaties.," 1.

¹²¹ *Ibid.*, 2.

¹²² Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 331-2.

¹²³ Amy McGill, "The Contemporary Hollywood Film Soundtrack: Professional Practices and Sonic Styles Since the 1970s" (University of Exeter, 2008), 189.

¹²⁴ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 388.

¹²⁵ McGill, "The Contemporary Hollywood Film Soundtrack: Professional Practices and Sonic Styles Since the 1970s," 196.

¹²⁶ *Ibid.*, 195-6.

¹²⁷ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 390; McGill, "The Contemporary Hollywood Film Soundtrack: Professional Practices and Sonic Styles Since the 1970s."

¹²⁸ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 354-64, 444-55.

¹²⁹ *Ibid.*, 361.

¹³⁰ George Groves interview with Irene Atkins, *AFI/Louis B Mayer Oral History Collection*. 346-5.

¹³¹ Paul Burkhardt Ramaeker, "A New Kind of Movie: Style and Form in Hollywood Cinema 1965-1988" (University of Wisconsin-Madison, 2002), 41-2.

¹³² Jay Beck, *Designing Sound: Audiovisual Aesthetics in 1970s American Cinema* (New Brunswick, NJ: Rutgers University Press, 2016). 31-3.

¹³³ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 329.

¹³⁴ McGill, "The Contemporary Hollywood Film Soundtrack: Professional Practices and Sonic Styles Since the 1970s," 211.

¹³⁵ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 494; McGill, "The Contemporary Hollywood Film Soundtrack: Professional Practices and Sonic Styles Since the 1970s," 208-9.

¹³⁶ For fiction films of other genres that also use the NFB aesthetic see *Wedding in White* (William Fruet, 1972), *Meatballs* (Ivan Reitman, 1979), *Ticket to Heaven* (Ralph L. Thomas, 1981), *Porky's* (Bob Clark, 1981), and *The Grey Fox* (Philip Borsos, 1982).

¹³⁷ Caelum Vatsdal, *They Came from Within: A History of Canadian Horror Cinema* (Winnipeg: Arbeiter Ring Publishing, 2004). 70-7. John P. McKinnon, "Videodrome: Insidious Effects of High Tech," *Cinema Canada* February, no. 81 (1982): 32.

¹³⁸ Kozloff, *Overhearing Film Dialogue*: 120.

¹³⁹ The idea of using atmospheric tones as a base for the soundtrack is most clearly discussed in Alec Nisbett, *The Technique of the Sound Studio For Radio, Television, and Film*, 3rd ed. (New York: Hasting House, 1974). 484-5, 509. Books on picture editing with a short section on sound also encourage editors to layer sounds. For example see

Karel Reisz and Gavin Millar, *The Technique of Film Editing*, 2nd Enlarged Edition ed. (New York: Hasting House, 1968). 271.

¹⁴⁰ Nisbett, *The Technique of the Sound Studio For Radio, Television, and Film*: 482.

¹⁴¹ The soundtrack for *Cannibal Girls* has fewer atmospheric jumps because the filmmakers relied on long takes, so that even though the dialogue may be off-microphone, the room tones recorded with the dialogue remain fairly consistent for the scene because there are few sonic cuts; furthermore, it appears that the soundtrack has been slightly restored and any clear cuts have been smoothed out. Additionally, all atmospheric jumps have been removed from the Criterion edition of *Videodrome*.

¹⁴² Again, it is worthwhile noting that I have observed this tendency on films that have not been sonically restored. In the films that have been restored, Criterion editions in particular, these atmospheric jumps have been removed. For instance, the liner notes on the soundtrack for *Scanners* reports "Clicks, thumps, hiss, hum, and crackle, were manually removed using ProTools HD, AudioCube's integrated workstation, and iZotope RX 3." As these sounds are considered by current DVD collectors to be "undesirable" it is reasonable to assume that the versions that contain such sounds reflect the original soundtrack.

¹⁴³ In his chapter "Altman, Dolby, and the Second Sound Revolution" Charles Schreger notes that the average Hollywood in 1985 was five million. *Videodrome*'s reported budget was six million. Charles Schreger, "Altman, Dolby, and the Second Sound Revolution," in *Film Sound: Theory and Practice*, ed. Elisabeth Weis and John Belton (New York: Columbia UP, 1985), 354. John P. McKinnon, "Videodrome: Insidious Effects of High Tech," *Cinema Canada* February, no. 81 (1982): 32

¹⁴⁴ Film House, "Sounds Great! [Advertisement]," *Cinema Canada* (December 1988): 42.

¹⁴⁵ Urquhart, "Cultural Nationalism and Taste: The Place of the Popular in Canadian Film Culture," 55.

Chapter Three

¹ Garth Drabinsky, "The Canadian Feature Film Industry: An Assessment of its Present State and a Policy for its Future," in *An Address to the Canadian Club* (Royal York Hotel, Toronto October 29, 1979), 19-20.

² Grünberg, *David Cronenberg: Interviews with Serge Grünberg*: 87.

³ See for example Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*; Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979."; Whittington, *Sound Design & Science Fiction*; Schreger, "Altman, Dolby, and the Second Sound Revolution," 348-55; Paul Grainge, "Dolby and the Unheard History of Technical Trademarks," in *Brand Hollywood Selling Entertainment in a Global Media Age* (New York: Routledge, 2008), 88-106.

⁴ One exceptional example in English-language scholarship is Julian Stringer, "Understanding the Role of the South Korean Cinema Industry's "Dolby consultants"," *Transnational Cinemas* 3, no. 1 (2012): 41-52. Yet the article discusses Dolby Digital, a different technology than Dolby Stereo. In general, there is a conspicuous paucity of English-language studies of how Dolby Stereo was adopted outside of the United States.

⁵ Since Dolby consultants oversaw the mixes in San Francisco, Los Angeles, New York, and London, England, I consider all of these re-recording studios to be part of the

Hollywood Dolby style because they mainly worked on Hollywood sponsored projects and exhibit similar traits.

⁶ Whittington, *Sound Design & Science Fiction*: 7.

⁷ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 50-1.

⁸ *Ibid.*, 37-41, 42-5, 50-2.

⁹ "Dolby Equipped Theatres," (San Francisco: Dolby Laboratories Inc, July 1980), 31.

¹⁰ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 50-1.

¹¹ Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 31; Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*: 21-2.

¹² Film House, "Film House," *Cinema Canada* 24(December 1975 /January 1976).

¹³ Mary Maddever, "'Godfather of Sound' Gets Salute," *Playback: Canada's Broadcast and Production Journal*, November 8 1993, 24.

¹⁴ The Heeley-Ray Sound System (Inside Press Kit), *Death Ship* Film File, FRL-37400, General Collection, TIFF Film Reference Library.

¹⁵ *Ibid.*

¹⁶ Graham, *Canadian Film Technology, 1896-1986*: 136-7.

¹⁷ Cineplex, "Another World's First The Ultimate Sound Experience: 'Modular 4' will open at Cineplex," (April 17, 1979). Cineplex Odeon File, TIFF Film Reference Library.

¹⁸ *Ibid.*

¹⁹ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 46.

²⁰ *Ibid.*, 8.

²¹ *Ibid.*, 46-7.

²² Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 35.

²³ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 46-7; Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 31.

²⁴ "Dolby Laboratories Inc U.S. Motion Picture Service Agreement," Post Production File, *When Night is Falling*, 2001-002-05.0327, Patricia Rozema Collection, TIFF Film Reference Library. While the sheet is filled out for a 1994 production, there is a date at the bottom of the form that indicates that it was created in 1990.

²⁵ "Motion Picture Soundtrack Agreements: A Word of Explanation," (San Francisco: Dolby Laboratories Inc., 1990).

²⁶ See analysis of *Heavy Metal* later in this chapter.

²⁷ See the analysis of *Spacehunter* later in this chapter for more detail.

²⁸ Grünberg, *David Cronenberg: Interviews with Serge Grünberg*: 87.

²⁹ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 36; Grainge, *Brand Hollywood: Selling Entertainment in a Global Media Age*: 88-106; Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 32; Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*: 28-30.

³⁰ Variety Staff, "International: 'Star Wars' Heralds Advent of New Sound Era Via Dolby Rigs," *Variety* May 17, 1978, 132.

³¹ Grainge, "Selling Spectacular Sound: Dolby and the Unheard History of Technical Trademarks," 254.

³² Grainge, *Brand Hollywood: Selling Entertainment in a Global Media Age*: 91-2.

³³ Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*: 21-3.

³⁴ Schreger, "Altman, Dolby, and the Second Sound Revolution," 354. Additionally it is important to note that Schreger does not verify what is included in this figure or what year this figure is from. Nevertheless, it does provide an estimate of the cost increases acquired by the utilization of the system and the added costs were significant in relation to the majority of Canadian film budgets of the time.

³⁵ For the first advertisement see "Bellevue Pathé Canada's Largest Full Service Laboratory," *Cinema Canada* June, no. 108 (1984): 4.

³⁶ In addition to *Cinema Canada*, I also examined the advertisements in *The Canadian Film Editor*.

³⁷ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979."; Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*.

³⁸ Buhler, Neumeyer, and Deemer, *Hearing the Movies: Music and Sound in Film History*: 340-1; Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 24-7; Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*: 20. In contrast, Beck notes that while some formats like CinemaScope were extremely expensive for theatres (\$25,000), Perspecta was an affordable alternative at only \$900. Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 72, 76.

³⁹ Schreger, "Altman, Dolby, and the Second Sound Revolution," 354.

⁴⁰ "Dolby Equipped Theatres," 51; "Equipped Theatres," (San Francisco: Dolby Laboratories Inc, February 1981), i.

⁴¹ "Dolby Equipped Theatres," 51; "Equipped Theatres," i.

⁴² Variety Staff, "International: 'Star Wars' Heralds Advent of New Sound Era Via Dolby Rigs," 132.

⁴³ "Dolby Equipped Theatres: February, 1980," in *Dolby: Background Information on Film Sound* (San Francisco: Dolby Laboratories, 1980), 31.

⁴⁴ John Belton, "Digital Cinema: A False Revolution," in *Film Theory and Criticism*, ed. Leo Braudy and Marshall Cohen (Oxford: Oxford University Press, 2004), 911.

⁴⁵ Douglas Gomery, "Thinking About Motion Picture Exhibition," *The Velvet Light Trap* 25(Spring 1990): 3.

⁴⁶ During the early 1980s, Sonolab in Montreal also invested in Dolby Stereo mixing facilities. Canadian Dolby Stereo films from the early 1980s include *Death Ship* (Alvin Rakoff), *Running Brave* (D.S. Everett and Donald Shebib, 1983), and *Heavenly Bodies* (Lawrence Dane, 1984). For a full list see appendix two.

⁴⁷ "Dolby Equipped Theatres: February, 1981," (San Francisco: Dolby Laboratories, 1981), 12; Patricia Thompson, ed. *Canadian Film Digest 1981 Yearbook: Canadian Professional Film Directory* (N.A. Taylor, 1981), 34, 36.

⁴⁸ Gomery, "Thinking About Motion Picture Exhibition," 7.

⁴⁹ Canadian Press, "Ottawa Says Deal Will Give Cineplex Access to Top Films," *Toronto Star* June 4, 1983, D9; Canadian Press, "Deal Will Open Up Film Distribution: Officials," *Toronto Star* June 8, 1983, D13.

⁵⁰ Firestone, "Film Distribution Practices, Problems, and Prospects: A Report for The Interdepartmental Committee on the Possible Development of Feature Film Production in Canada," Part I, Volume II, R-7-14a; Garth Drabinsky, "Competition Legislation and the Canadian Exhibition Industry," in *Address Made To The Broadcast Executives Society* (January 13, 1983).

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- ⁵¹ Jay Scott, "Cronenberg Caters to Dolby Fans," *The Globe and Mail* October 18, 1983, E6. The Combines and Investigation Act was passed in 1923. The act was amended in 1976 to cover film exhibition practices.
- ⁵² "Cineplex Offering Fully Subscribed, Renovation and Dolby in View," *Cinema Canada* November, no. 112 (1984): 42.
- ⁵³ Gomery, "Thinking About Motion Picture Exhibition," 9. Jaimie Hubbard, *Public Screening: The Battle for Cineplex Odeon* (Toronto: Lester & Orpen Dennys, 1990). 119.
- ⁵⁴ Hubbard, *Public Screening: The Battle for Cineplex Odeon*: 7-8.
- ⁵⁵ Scott, "Cronenberg Caters to Dolby Fans," E6.
- ⁵⁶ Ibid.
- ⁵⁷ Ibid.
- ⁵⁸ Sid Adilman, "Hot Thriller Movie *Dead Zone* Lands in Local War Zone," *Toronto Star* October 18, 1983, C1.
- ⁵⁹ "Stephen King's *The Dead Zone* (Advertisement with Theatre Listings)," *Toronto Star* October 21, 1983, C4.
- ⁶⁰ "Cineplex Offering Fully Subscribed, Renovation and Dolby in View," 42.
- ⁶¹ "Dolby Equipped Theatres: February, 1981," i.
- ⁶² Gomery, "Thinking About Motion Picture Exhibition," 5.
- ⁶³ Ibid., 5-6.
- ⁶⁴ Ibid., 6-7.
- ⁶⁵ Ibid., 7.
- ⁶⁶ Ibid.
- ⁶⁷ For example, an article on the opening of Cineplex Odeon's Yonge and Eglinton theatre highlighted sound: "Two of the theatres are the first built in Canada specially for the THX stereo sound." Sid Adilman, "Cineplex Theatre Praised," *Toronto Star* December 16, 1985, D1.
- ⁶⁸ This trend was not limited to Toronto – a January 17, 1984 article in *The Globe and Mail* reports the opening of a new complex in Vancouver with Dolby Stereo equipped theatres and Dolby 70mm upgrades to existing Cineplex Odeon Theatres in Ottawa, and Edmonton. "Cineplex to Open 3 New Complexes," *Globe and Mail* January 17, 1984, 17.
- ⁶⁹ "Cineplex Odeon Woodbine Centre Grand Opening Advertisement," *The Globe and Mail* August 2, 1985, E4.
- ⁷⁰ "Now Open: Cineplex Odeon Sherway Cinemas, Oakville Mews, Pantages Theatre Advertisement," *The Sunday Star* December 27, 1987, E5.
- ⁷¹ Ibid.
- ⁷² Ibid.
- ⁷³ "The Return of The Elegant Theatre Advertisement," *The Globe and Mail* April 23, 1988, C6.
- ⁷⁴ Cineplex Odeon Corporation, "Annual Report 1986," (Toronto 1987), 14-5.
- ⁷⁵ Cineplex Odeon Corporation, "Annual Report 1985," (Toronto 1986), 15.
- ⁷⁶ As discussed in the introduction, both Cronenberg and Drabinsky noted the inferiority of Canadian soundtracks during this era. For Cronenberg's comments see Grünberg, *David Cronenberg: Interviews with Serge Grünberg*: 87. Drabinsky, "The Canadian Feature Film Industry: An Assessment of its Present State and a Policy for its Future," 19-20.

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- ⁷⁷ Drabinsky, "The Canadian Feature Film Industry: An Assessment of its Present State and a Policy for its Future," 19-20.
- ⁷⁸ Jennifer Holt, *Empires of Entertainment Media Industries and the Politics of Deregulation, 1980-1996* (New Brunswick, N.J.: Rutgers University Press, 2011). (109-10)
- ⁷⁹ Cineplex Odeon Corporation, "Annual Report 1986," 3.
- ⁸⁰ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 46.
- ⁸¹ "Film House Opens," *Playback* (April 4, 1988): 5.
- ⁸² Film House, "Sounds Great! [Advertisement]," *Cinema Canada* (December 1988): 42.
- ⁸³ Cineplex Odeon Corporation, "Annual Report 1986," 3.
- ⁸⁴ Hubbard, *Public Screening: The Battle for Cineplex Odeon*: 104.
- ⁸⁵ Tony Van Alphen, "Cineplex Faces \$18 Million Suit," *Toronto Star* April 3 1990, C1.
- ⁸⁶ A newspaper article on a lawsuit launched by six Film House managers against Cineplex Odeon for unpaid bonuses, reveals that the deal was not straightforward and in order for the deal to stand, Film House needed to increase its sales. To summarize the case, Drabinsky allegedly promised the managers massive bonuses if they substantially increased Film House's revenue in 1989, but the efforts of the managers went under-rewarded by Cineplex Odeon. The chain maintained that while the managers did indeed produce great returns for the 1989 calendar year, the profits fell short of those promised to Rank and Cineplex Odeon had to pay Rank a penalty. *Ibid.*, C1, C14.
- ⁸⁷ For example, Cronenberg's films *Dead Ringers* (1988) and *Naked Lunch* (1991) were mixed at Film House.
- ⁸⁸ "Cineplex Offering Fully Subscribed, Renovation and Dolby in View."
- ⁸⁹ Chion, *Audio-vision: Sound on Screen*: 149-50.
- ⁹⁰ Whittington, *Sound Design & Science Fiction*: 30-41 (noise reduction), 42-5 (35mm SVA), and 50-2 (70mm).
- ⁹¹ *Ibid.*, 36.
- ⁹² Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 458.
- ⁹³ *Ibid.*, 458 note 204.
- ⁹⁴ Lastra, "Film and the Wagnerian Aspiration: Thoughts on Sound Design and the History of the Senses," 124.
- ⁹⁵ Eric Dienstfrey, "The Myth of the Speakers: A Critical Reexamination of Dolby History," *Film History* 28, no. 1 (2016): 17-8. (Forthcoming)
- ⁹⁶ See Alec Nisbett, *The Technique of the Sound Studio For Radio, Television, and Film*, 3rd ed., The Library of Communication Techniques (New York: Hasting House, 1974). 484-5; Reisz and Millar, *The Technique of Film Editing*: 271.
- ⁹⁷ Additionally, according to sound editor Steve Munro, the majority of the Toronto sound team travelled to London for the mix, at their own cost, in order to learn from the experience. Steve Munro, "Interviewed by author," (Toronto. November 4, 2010).
- ⁹⁸ Sergi, *The Dolby Era: Film Sound in Contemporary Hollywood*: 103.
- ⁹⁹ Munro, "Interviewed by author." Further, during my time working at Tattersall Sound and Picture, I was asked to transfer these recordings to CD for easy use. Moreover, restricted files in the David Cronenberg Collection in the TIFF Film Reference Library verify that time was allotted for recording sound effects.

¹⁰⁰ Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 463-4.

¹⁰¹ [Production Binder], *The Fly*, 2000-001-05.0135 and 2000-001-05.0136, David Cronenberg Collection, TIFF Film Reference Library.

¹⁰² See the analysis of *Cannibal Girls* and *Videodrome* in Chapter Two.

¹⁰³ Alternatively, atmospheric jumps may have been removed when the film was released on DVD.

¹⁰⁴ Pendakur, *Canadian Dreams and American Control: The Political Economy of the Canadian Film Industry*: 171-3.

Chapter Four

¹ Daniel Pellerin, "The Best of Both Worlds: Traditional Mixing Approaches with New Technology Make Better Sound," *Playback: Canada's Broadcast and Production Journal*, August 1 2005, 20.

² Deuze, *Media Work*: 184.

³ Caldwell, *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television*: 154-60.

⁴ *Ibid.*, 5.

⁵ Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 150-1.

⁶ *Ibid.*, 151.

⁷ Wright, "Sound from Start to Finish: Professional Style and Practice in Modern Hollywood Sound Production," 148.

⁸ *Ibid.*, 317.

⁹ Whittington, *Sound Design & Science Fiction*: 1.

¹⁰ Mark Kerins, "The Modern Entertainment Marketplace, 2000-Present," in *Sound: Dialogue, Music, and Effects*, ed. Kathryn Kalinak (New Brunswick, NJ: Rutgers University Press, 2015), 135.

¹¹ Athabasca University Library & Scholarly Resources, "Cinema Canada," <http://cinemacanada.athabascau.ca/index.php/cinema>.

¹² When *Cinema Canada* began publishing in 1962 it was known as *Canadian Cinematography*. The name was changed in 1967, but it was only in 1972 that *Cinema Canada* changed from being a semi-regular newsletter to being a monthly magazine. *Ibid.*

¹³ Editorial, "Trading on Distinctions," *Cinema Canada*, November 1986, 4.

¹⁴ Editorial, "From Coffee Stains to Printer's Ink, Welcome," *Playback: Canada's Broadcast and Production Journal*, September 29 1986, 4.

¹⁵ Athabasca University Library & Scholarly Resources, "Cinema Canada".

¹⁶ Editorial, "From Coffee Stains to Printer's Ink, Welcome," 4.

¹⁷ For examples see Harris Kirshenbaum, "Technical News: "It Might be Done With Mirrors" The Mirrophonic Story," *Cinema Canada* December/January, no. 17 (1974/5): 16-17; Pill, "Precarious Establishment," 44-47.

¹⁸ For example on article that educate members on postproduction practices see Ian Jacobson, "The Delicate Art of Film Mixing," *The Canadian Film Editor*, June 1974, 4, and Chris Stone and John Parry "What Every Producer Should Know About Music Rights," *The Canadian Film Editor*, Summer 1976, 27; pay rates, John Gaisford "Recommended Minimum Rates for Freelance Film Editing Personnel," *The Canadian*

Film Editor, September 1977, 41, and "Minimum Rates," *The Canadian Film Editor*, Autumn 1978, 4; and the formation of the Federation of Canadian Film and Television Guilds and Unions Alan Collins "Towards a Film Editors' Union," *The Canadian Film Editor*, Spring 1977, 14-6, "The Guild and The Federation," *The Canadian Film Editor*, August 1979, n.p. and "Federation Profile," *The Canadian Film Editor*, September 1979, n.p..

¹⁹ Andy Hoffman, "Foley: 'Everything we do is weird'," *Playback: Canada's Broadcast and Production Journal*, July 28 1997, 21.

²⁰ "Digital Audio Workstations: As Good as They Sound?," *Playback: Canada's Broadcast and Production Journal*, January 20 1992, 11.

²¹ Ibid.

²² Sarah Anson-Cartwright, "Pathé Sound Faces Major Upgrade in Toronto," *Playback: Canada's Broadcast and Production Journal*, October 17 1988, 13. Sarah Anson-Cartwright, "New Digital Systems Prompt Audio Debate," *Playback: Canada's Broadcast and Production Journal*, October 31 1988, 23-4. Leslie Goodson, "Doing it All on the Macintosh," *Playback: Canada's Broadcast and Production Journal*, November 13 1989, 42, 44. "Digital Audio Workstations: As Good as They Sound?," 11. "How Dyaxis Saved the Day for Soundhouse," *Playback: Canada's Broadcast and Production Journal*, January 6 1992, 11.

²³ Susan Tolusso, "Mastertrack Reacts," *Playback: Canada's Broadcast and Production Journal*, November 23 1992, 10.

²⁴ Karen Murray, "It's a Sound Climate for Audio Companies," *Playback: Canada's Broadcast and Production Journal*, January 21 1991, 25.

²⁵ "Digital Audio Workstations: As Good as They Sound?," 11, 14, 15, 17.

²⁶ Ibid., 11.

²⁷ Teressa Iezzi, "Sound Goes to the Dogs," *Playback: Canada's Broadcast and Production Journal*, October 7 1996, 40.

²⁸ Tolusso, "Mastertrack Reacts," 10.

²⁹ Iezzi, "Sound Goes to the Dogs," 40.

³⁰ "Saved by Technology: Music & Audio Production Systems," *Playback: Canada's Broadcast and Production Journal*, April 16 2001, Sound Technology and the American Cinema: Perception, Representation, Modernity.

³¹ Teressa Iezzi, "Talent Beats Toys in Audio Post," *Playback: Canada's Broadcast and Production Journal*, April 7 1997, 19.

³² "Saved by Technology: Music & Audio Production Systems," Advertising Insert.

³³ Ibid.

³⁴ Ibid.

³⁵ In January of 1992 Pro Tools retailed for \$6,999, while similar systems such as WaveFrame 400/1000 started at \$40,000. "Digital Audio Workstations: As Good as They Sound?," 14, 17.

³⁶ Mark Dillon, "DAVE Debates Digital's Mixed Blessing," *Playback: Canada's Broadcast and Production Journal*, July 10 2000, S24.

³⁷ "Saved by Technology: Music & Audio Production Systems," Advertising Insert.

³⁸ Dillon, "DAVE Debates Digital's Mixed Blessing," S24.

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- ³⁹ Sean Davidson, "The Sound and The Hurry," *Playback: Canada's Broadcast and Production Journal*, October 14 2002, 31, 37.
- ⁴⁰ Chris Miller, "Thillaye Makes Sounds for One Giant," *Playback: Canada's Broadcast and Production Journal*, October 14 2002, 33, 36.
- ⁴¹ Pellerin, "The Best of Both Worlds: Traditional Mixing Approaches with New Technology Make Better Sound," 19.
- ⁴² Laura Bracken, "Audio Shops Face Hurdles of Long-Form," *Playback: Canada's Broadcast and Production Journal*, April 15 2002, 13.
- ⁴³ Mark Dillon, "The Freelance Life of the T.O. Sound Editor," *Playback: Canada's Broadcast and Production Journal*, March 14 2005, 18.
- ⁴⁴ Iezzi, "Sound Goes to the Dogs," 29-30.
- ⁴⁵ Daniel Pellerin, "Industry Benefits From the Old and the New," *Playback: Canada's Broadcast and Production Journal*, April 15 2002, 13.
- ⁴⁶ Susan Tolusso, "Dyaxis II Audio System Allows Great Flexibility," *Playback: Canada's Broadcast and Production Journal*, August 29 1994, 15.
- ⁴⁷ Cheryl Binning, "Tight Budgets, No Time -- It's the Music Biz," *Playback: Canada's Broadcast and Production Journal*, July 28, 1997 1997, 23.
- ⁴⁸ Mary Ellen Armstrong, "Crashing and Banging with Foley and Effects," *Playback: Canada's Broadcast and Production Journal*, October 9 1995, 30.
- ⁴⁹ Peter Vamos, "Boom or Bust, Hurdles Remain the Same for New Audio Shops," *Playback: Canada's Broadcast and Production Journal*, February 4 2002, S7.
- ⁵⁰ Bracken, "Audio Shops Face Hurdles of Long-Form," 13, 14.
- ⁵¹ Joanne Morgan, "More is Less for B.C. Post Sector," *Playback: Canada's Broadcast and Production Journal*, July 20 1992, 22. Mark Dillon, "B.C. Feature Biz Spurs Post Modern Growth: Audio Post House Spending \$4.5 Million on Expansion," *Playback: Canada's Broadcast and Production Journal*, August 21 2000, 14.
- ⁵² Armstrong, "Crashing and Banging with Foley and Effects," 37.
- ⁵³ Mark Dillon, "Audio Shops Reconsider Core Business," *Playback: Canada's Broadcast and Production Journal*, April 14 2003, 25.
- ⁵⁴ Janice Lee, "Breaking the Sound Barrier," *Playback: Canada's Broadcast and Production Journal*, October 10 1994, 17.
- ⁵⁵ Ibid.
- ⁵⁶ Ibid.
- ⁵⁷ Daniel Pellerin, "Wished You Were There: A Post-NAB Audio Report," *Playback: Canada's Broadcast and Production Journal*, June 11 2001, 15.
- ⁵⁸ Hoffman, "Foley: 'Everything we do is weird'," 21.
- ⁵⁹ Armstrong, "Crashing and Banging with Foley and Effects," 30.
- ⁶⁰ Mark Dillon, "Post Shops Cope with Slowdown," *Playback: Canada's Broadcast and Production Journal*, October 15 2001, 19, 22.
- ⁶¹ Dillon, "Audio Shops Reconsider Core Business," 25.
- ⁶² Caldwell, *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television*: 157.
- ⁶³ Mark Dillon, "Pellerin Dismissed from Deluxe," *Playback: Canada's Broadcast and Production Journal*, May 12 2003, 15.
- ⁶⁴ Dillon, "The Freelance Life of the T.O. Sound Editor," 15.

⁶⁵ Ibid.

⁶⁶ These changes only applied to sound editors as re-recording mixers have never been a part of a union in Canada.

⁶⁷ Dillon, "The Freelance Life of the T.O. Sound Editor," 18.

⁶⁸ Matt Stahl, "Privilege and Distinction in Production Worlds: Copyright, Collective Bargaining, and Working Conditions in Media Making," in *Production Studies: Cultural Studies of Media Industries*, ed. Vicki Mayer, Miranda J. Banks, and John Thornton Caldwell (New York: Routledge, 2009), 57.

⁶⁹ Deuze, *Media Work*: 103.

⁷⁰ Fred Brennan, "Dialogue Editing: A Voice in the Dark," *Playback: Canada's Broadcast and Production Journal*, October 13 2003, 23.

⁷¹ John Storey, Graeme Salaman, and Kerry Platman, "Living with Enterprise in an Enterprise Economy: Freelance and Contract Workers in the Media," *Human Relations* 58, no. 8 (2005): 1042, 46.

⁷² Ibid., 1047-8.

⁷³ For examples of this coverage see Etan Vlessing, "Union Battle in Quebec," *Playback: Canada's Broadcast and Production Journal*, January 23 2006 12; Matthew Hays, "Senator to Mediate Union Spat," *Playback: Canada's Broadcast and Production Journal*, April 3 2006, 2; Matthew Hays, "Quebec Union Talks Resume," *Playback: Canada's Broadcast and Production Journal*, June 12 2006, 2; Matthew Hays, "QFTC Looks to Broker Quebec Union Spat Conflict Between AQTIS and IATSE Remains Unresolved," *Playback: Canada's Broadcast and Production Journal*, November 13 2006, 18.

⁷⁴ Ian Edwards, "Low-budget Contract: IATSE Votes in BC," *Playback: Canada's Broadcast and Production Journal*, May 18 1998, 9.

⁷⁵ Dillon, "The Freelance Life of the T.O. Sound Editor," 18.

⁷⁶ Since the introduction of DAWs into Canada coincided with the founding of *Playback* in 1986, Canadian postproduction sound practitioners had minimal access to the promotion of their craft as neither *Cinema Canada* nor the *Directors Guild of Canada Newsletter* addressed postproduction sound in detail and *The Canadian Film Editor* only published a handful of articles on postproduction sound practices. In sum, due to the relative newness of the Canadian feature film industry and the mandate of the guild to educate members, published discussions of postproduction sound in Canada before the introduction of DAWs centered on establishing a solid postproduction industry in Canada.

⁷⁷ Caldwell, *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television*: 116.

⁷⁸ Teresa Iezzi, "Talent Beats Toys in Audio Post," 19.

⁷⁹ Jay Beck and William Whittington make similar observations in relation to the use of the term "sound designer". Beck, "A Quiet Revolution: Changes in American Film Sound Practices, 1967-1979," 291-2; Whittington, *Sound Design & Science Fiction*: 21-5.

⁸⁰ Fiona MacDonald, "Sounds Good: Is Digital Technology Homogenizing Sound Design?," *Playback: Canada's Broadcast and Production Journal*, July 10 2000, S21.

⁸¹ Iezzi, "Talent Beats Toys in Audio Post," 19, 31, 32.

⁸² MacDonald, "Sounds Good: Is Digital Technology Homogenizing Sound Design?," S21, S26.

⁸³ Pellerin, "Industry Benefits From the Old and the New," 13, 15, 17.

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- ⁸⁴ Dave Lazar, "Marko's Strobl: Profile of a Platinum Ear," *Playback: Canada's Broadcast and Production Journal*, October 16 2000, 31.
- ⁸⁵ Brennan, "Dialogue Editing: A Voice in the Dark," 23.
- ⁸⁶ Daniel Pellerin, "Mixing in 5.1 Surround," *Playback: Canada's Broadcast and Production Journal*, October 15 2001, 20.
- ⁸⁷ *Ibid.*, 27.
- ⁸⁸ Caldwell, *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television*: 118.
- ⁸⁹ Bordwell, *The Way Hollywood Tells It: Story and Style in Modern Movies*: 121-38.
- ⁹⁰ *Ibid.*, 21-2.
- ⁹¹ Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 119.
- ⁹² *Ibid.*, 122.
- ⁹³ *Ibid.*, 53-83, 95-102.
- ⁹⁴ Mark Kerins, "The Modern Entertainment Marketplace, 2000-Present," in *Sound: Dialogue, Music, and Effects*, ed. Kathryn Kalinak (New Brunswick, N.J.: Rutgers University Press, 2014), 151.
- ⁹⁵ Smith, "The Sound of Intensified Continuity," 336.
- ⁹⁶ Wright, "Sound from Start to Finish: Professional Style and Practice in Modern Hollywood Sound Production," 386-88.
- ⁹⁷ *Ibid.*, 396.
- ⁹⁸ *Ibid.*, 389-90.
- ⁹⁹ *Ibid.*, 148.
- ¹⁰⁰ *Ibid.*, 399.
- ¹⁰¹ Smith, "The Sound of Intensified Continuity," 338.
- ¹⁰² *Ibid.*, 347.
- ¹⁰³ *Ibid.*, 336-8.
- ¹⁰⁴ *Ibid.*, 342.
- ¹⁰⁵ See for example: Iezzi, "Talent Beats Toys in Audio Post," 19, 31, 32. Lazar, "Marko's Strobl: Profile of a Platinum Ear," 23, 31. Brennan, "Dialogue Editing: A Voice in the Dark," 23.
- ¹⁰⁶ For fiction films of other genres that also follow this trend see *Exotica* (Atom Egoyan, 1994), *Soul Survivor* (Stephen Williams, 1995), *Kids in the Hall: Brain Candy* (Kelly Makin, 1996), *The Sweet Hereafter* (Atom Egoyan, 1997), and *Sunshine* (István Szabó, 1999).
- ¹⁰⁷ The Canadian Film Centre is a program founded by Norman Jewison in 1988 to develop the art of filmmaking in Canada. Young directors are paired with mentors in order learn their craft. For more information see <http://cfccreates.com>.
- ¹⁰⁸ For a description of the electrical sounds in *The Fly* see Chapter Two page 35.
- ¹⁰⁹ Smith, "The Sound of Intensified Continuity," 344.
- ¹¹⁰ Based on the films I have screened as part of my research, the technique of using sound to replace, while being a long standing tradition in Hollywood, was only used minimally in Canada prior to the late 1990s. Instead, Canadian filmmakers tended to privilege the visual shock (a la Cronenberg).
- ¹¹¹ Kerins, "The Modern Entertainment Marketplace, 2000-Present," 135-6.
- ¹¹² Beck, "The Sounds of 'Silence': Dolby Stereo, Sound Design, and *The Silence of the Lambs*," 82.

¹¹³ For more on the use of atmospheric sounds in these films see pages 37-39 of Chapter Two.

¹¹⁴ Firestone, "Film Distribution Practices, Problems, and Prospects: A Report for The Interdepartmental Committee on the Possible Development of Feature Film Production in Canada," Part I, Volume II, 10-15.

Conclusion

¹ Morgan, "Gael MacLean's Fidelity to Sound," 21, 23.

² Geoffrey Nowell-Smith, "But Do We Need It?," in *British Cinema Now*, ed. Martin Auty and Nick Roddick (London: British Film Institute, 1985), 154; Toby Miller and Richard Maxwell, "Film and Globalization," in *Communications Media, Globalization and Empire*, ed. Oliver Boyd-Barrett (Eastleigh: John Libbey Publishing, 2006), 35; Diana Crane, "Cultural Globalization and the Dominance of the American Film Industry: Cultural Policies, National Film Industries, and Transnational Film," *International Journal of Cultural Policy* 20, no. 4 (2014): 365.

³ Smith, "The Sound of Intensified Continuity," 338.

⁴ Bordwell, *The Way Hollywood Tells It: Story and Style in Modern Movies*: 121.

⁵ Kerins, *Beyond Dolby (Stereo): Cinema in the Digital Sound Age*: 61.

⁶ *Ibid.*, 79.

⁷ Tino Balio notes a general trend for Hollywood companies to expand horizontally into emerging world markets beginning in the 1980s in Tino Balio, "'A Major Presence in All of the World's Important Markets': The Globalization of Hollywood in the 1990s," in *Contemporary Hollywood Cinema*, ed. Steve Neale and Muarry Smith (London: Routledge, 1998), 58-73.

⁸ Playback Staff, "Tattersall Merges with SIM Group," *Playback: Canada's Broadcast and Production Journal*, April 7 2015, <http://playbackonline.ca/2015/04/07/tattersall-merges-with-sim-group>.

⁹ *Ibid.*

¹⁰ "Tattersall Turns Edit Suite into a "Virtual Mix Stage" For Second Installment of Multi-Award Winning Limited Series "Fargo"," *Shoot Online*, November 11 2015, <https://shootonline.com/spw/tattersall-turns-edit-suite-%E2%80%9Cvirtual-mix-stage%E2%80%9D-second-installment-multi-award-winning-limited>.

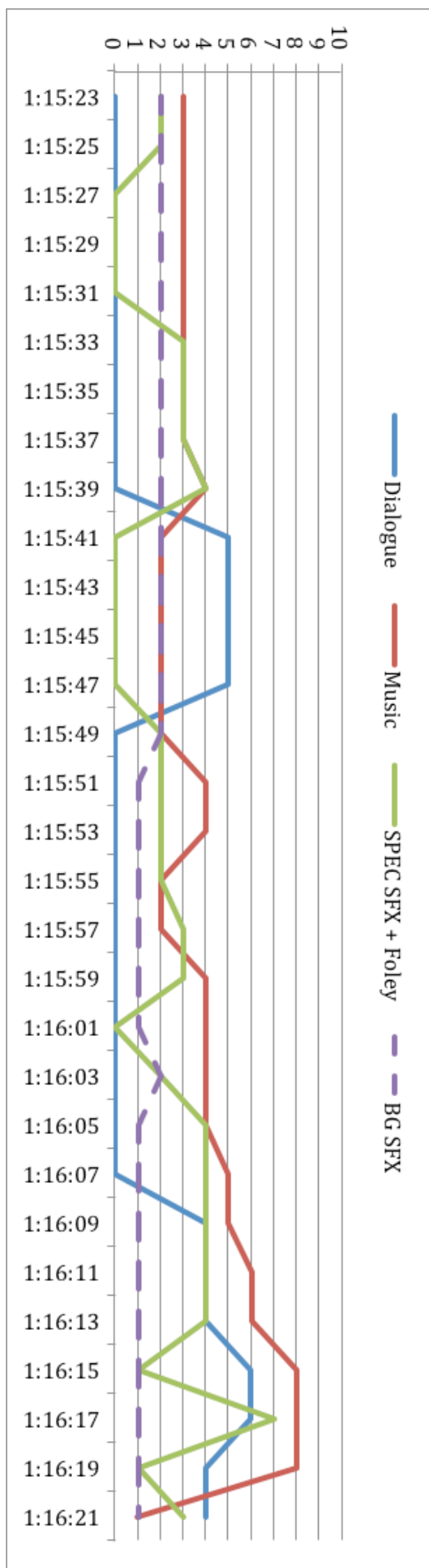
Cannibal Girls - 1

MS of Gloria and Clifford from hallway in house - tracks into the next room

Wide shot of living room - Gloria and Clifford enter

MCU of the disfigured slave

Wide shot of living room
MCU of the disfigured slave



Cannibal Girls - 2

Wide shot of living room - the Rev St John enters with the girls from an exterior door

MCU of Rev and Gloria

Wide shot of the living room

CU of the disfigured slave

MCU of Rev and Gloria

CU of Clifford
XCU of the Rev's eyes

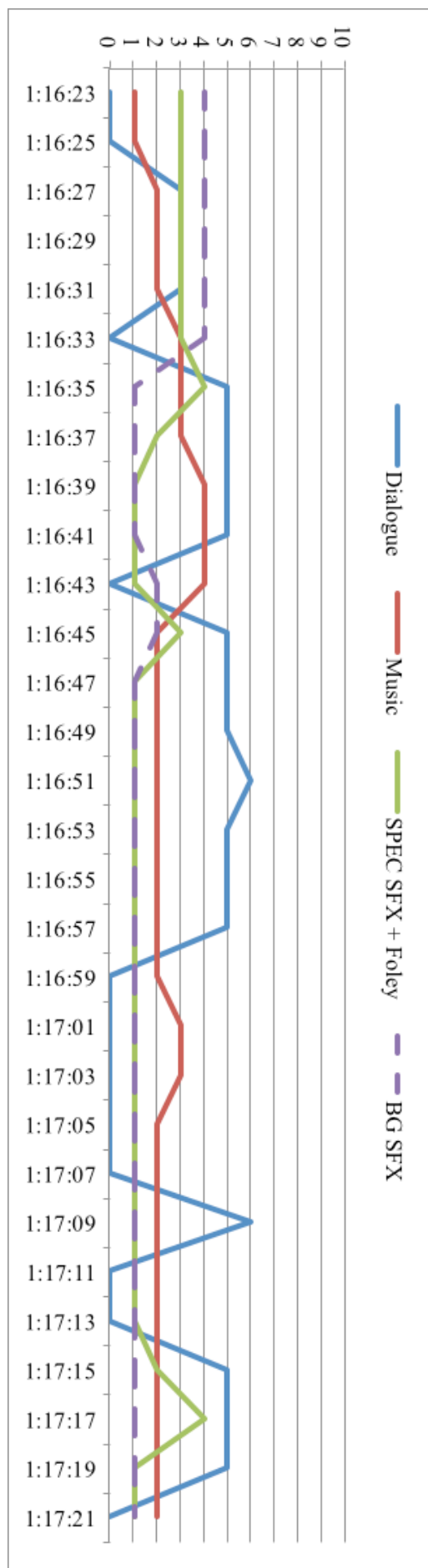
MCU of Rev and Gloria

Wide shot of living room

CU of Gloria's hand picking up weapon

Wide shot of room

CU of Clifford



Cannibal Girls - 3

CU of Gloria
CU of Clifford

Wide shot of living room
CU of Clifford

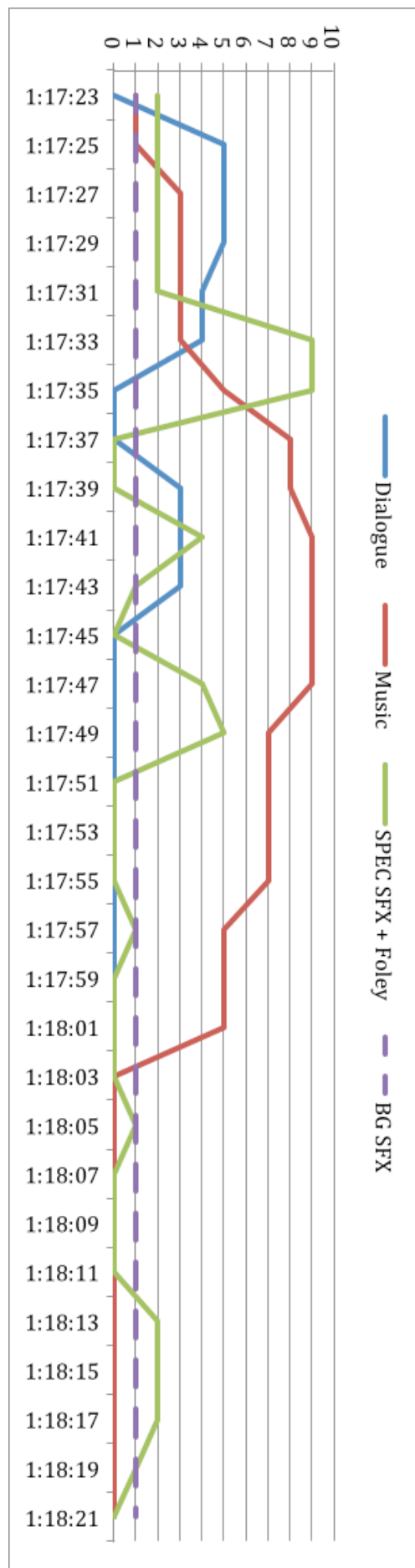
CU of Gloria swinging weapon
Wide shot of living room

CU of Clifford / CU of Gloria
CU of Clifford / CU of Gloria
MS of Clifford being hit / CU of Clifford

CU of Clifford's wound
CU of Clifford

CU of Clifford's wound
CU of Clifford

Wide shot of room

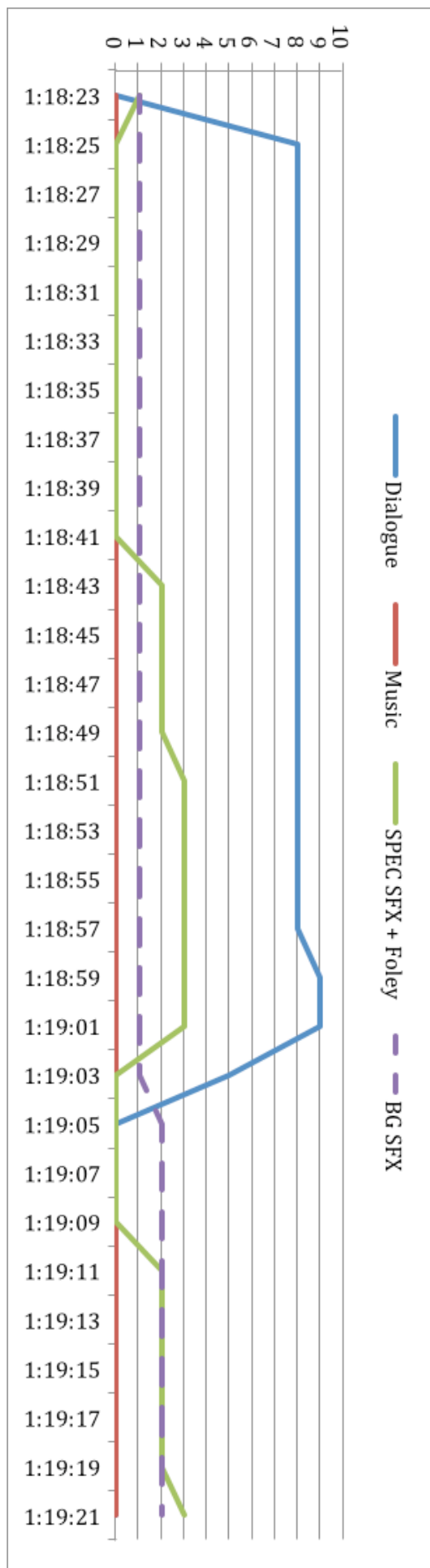


Cannibal Girls - 4

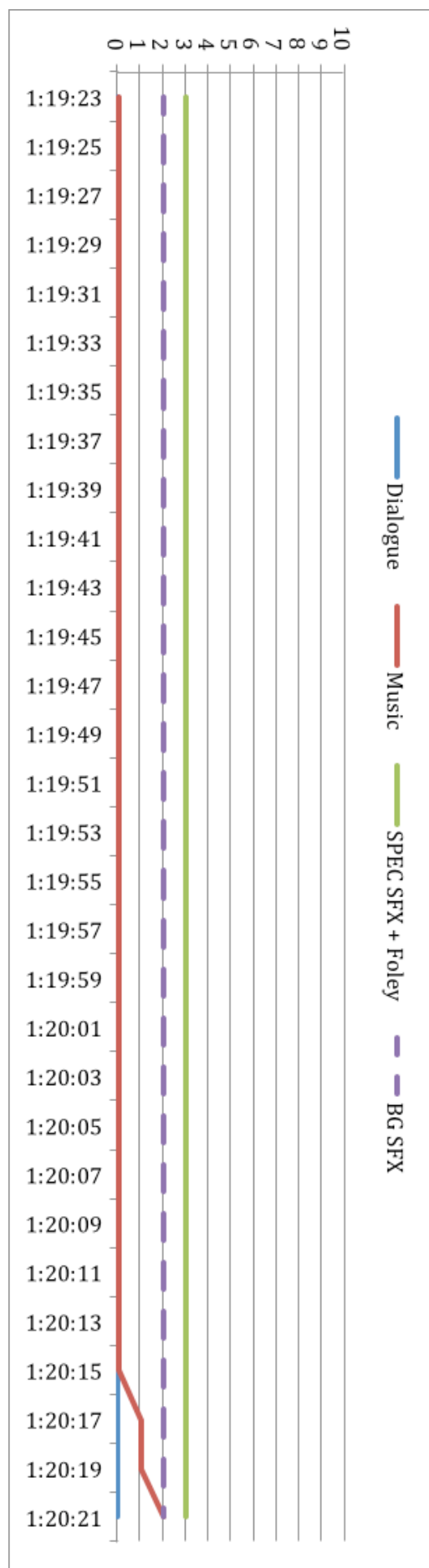
Overhead shot of girls, Rev, and Clifford's body

Wide shot of room - the disfigured slave drags out body

CU of plate of meat, pans up and around dining room to the girls eating the meat with their hands



Cannibal Girls - 5

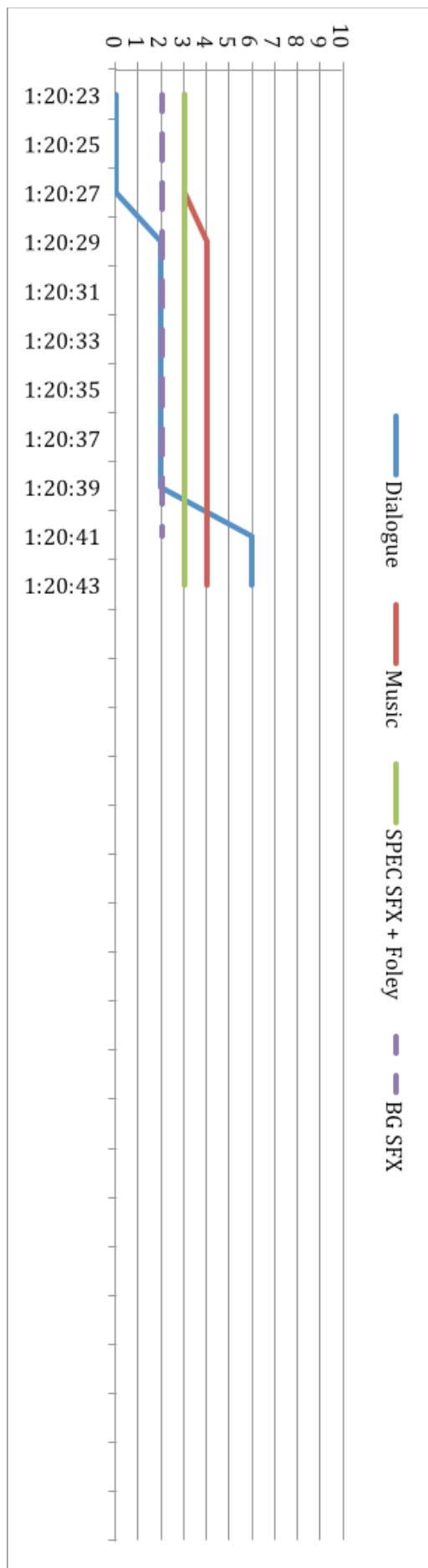


Pan continues and stops in front of Gloria who is not eating

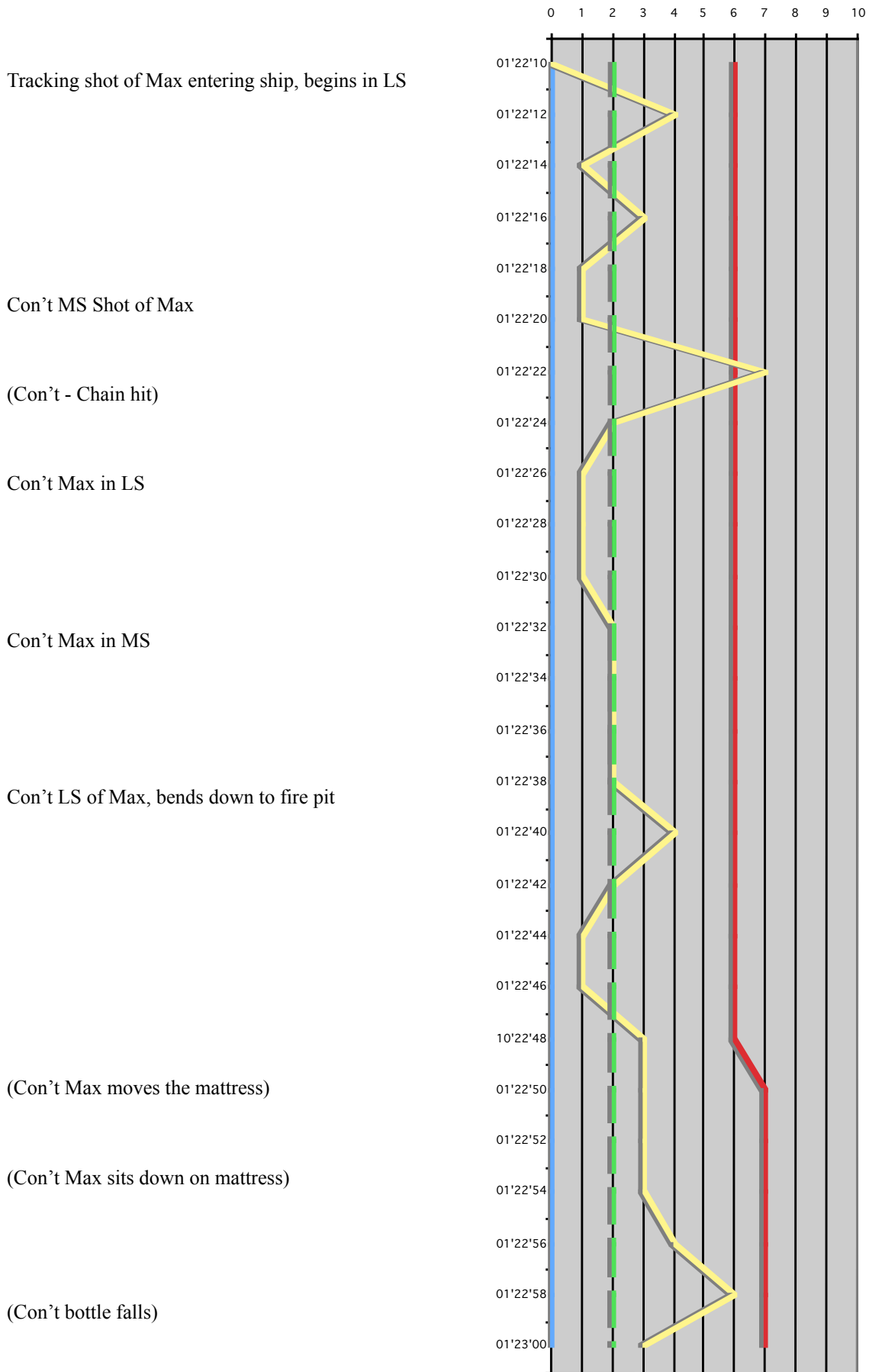
Cannibal Girls - 6

MCU of Rev

CU of Gloria - she begins to eat the meat



Videodrome - 1



Tracking shot of Max entering ship, begins in LS

Con't MS Shot of Max

(Con't - Chain hit)

Con't Max in LS

Con't Max in MS

Con't LS of Max, bends down to fire pit

(Con't Max moves the mattress)

(Con't Max sits down on mattress)

(Con't bottle falls)

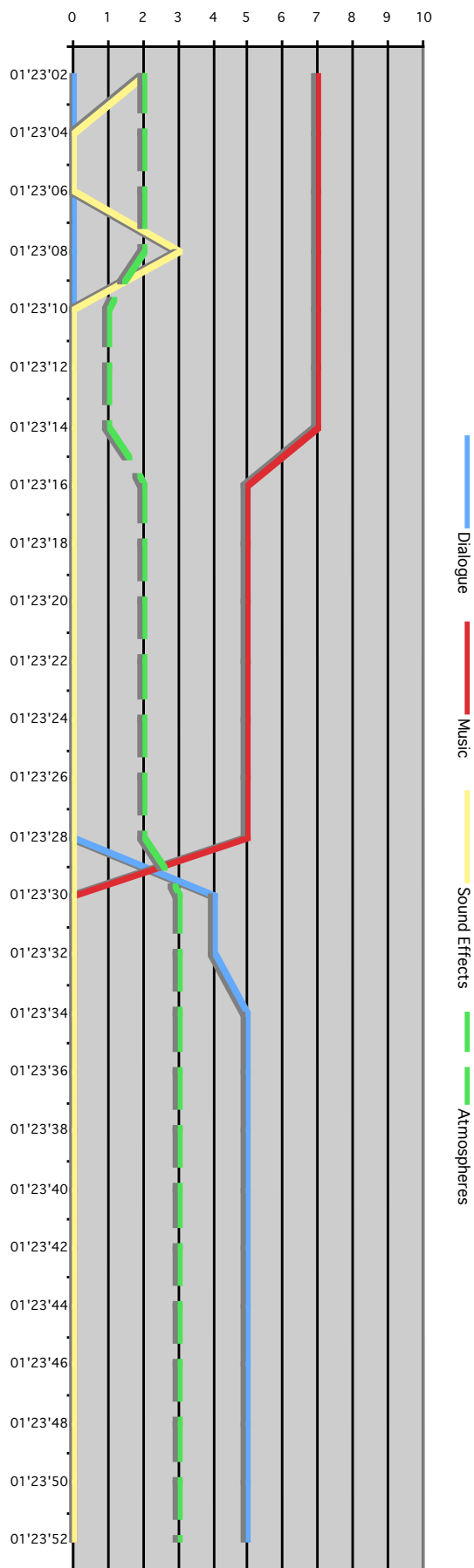
Videodrome - 2

CU of Max (cigarette pack tossed, no sound for hand rubbing face)

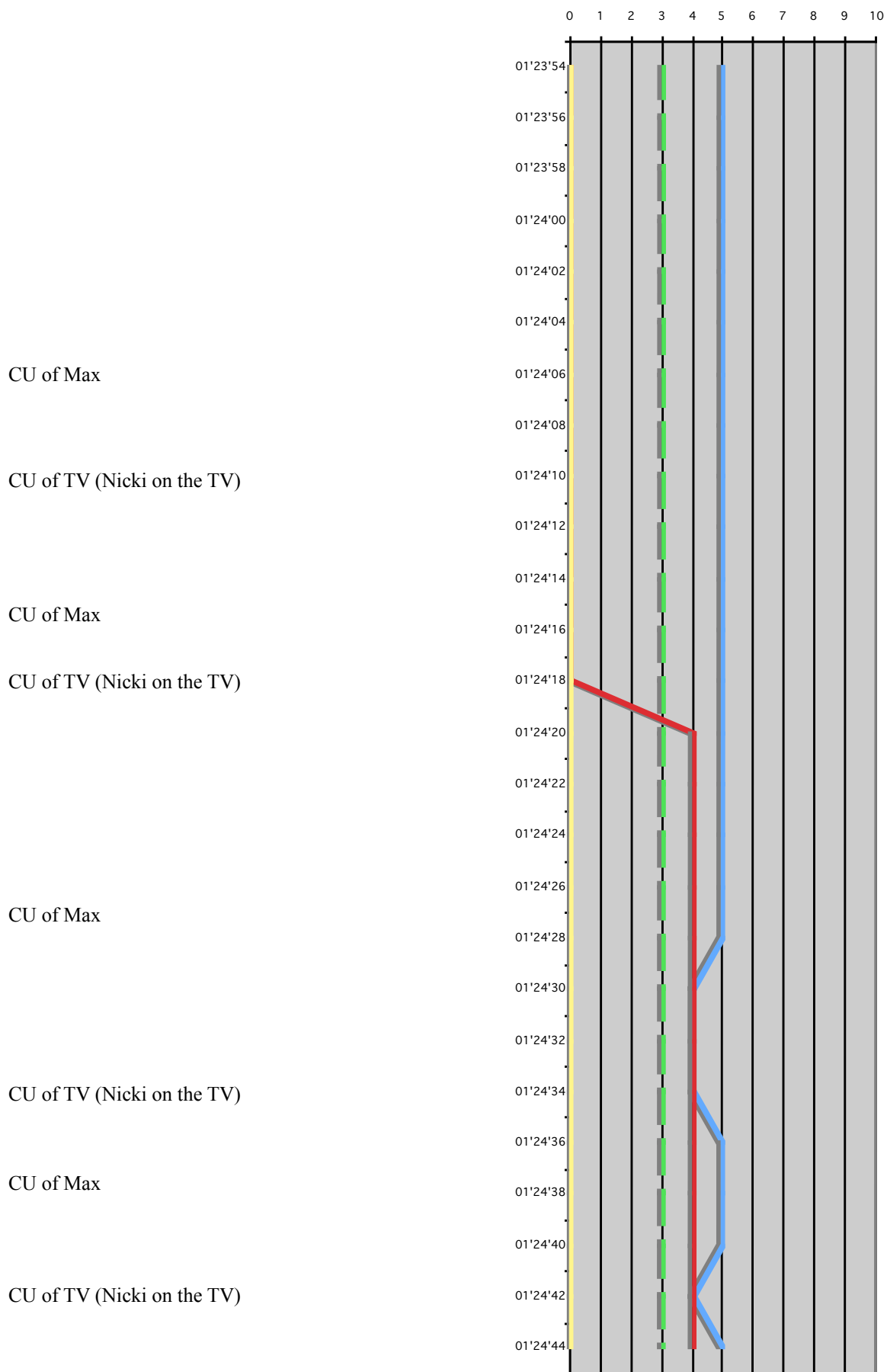
MS of TV (Nicki on the TV)

CU of Max

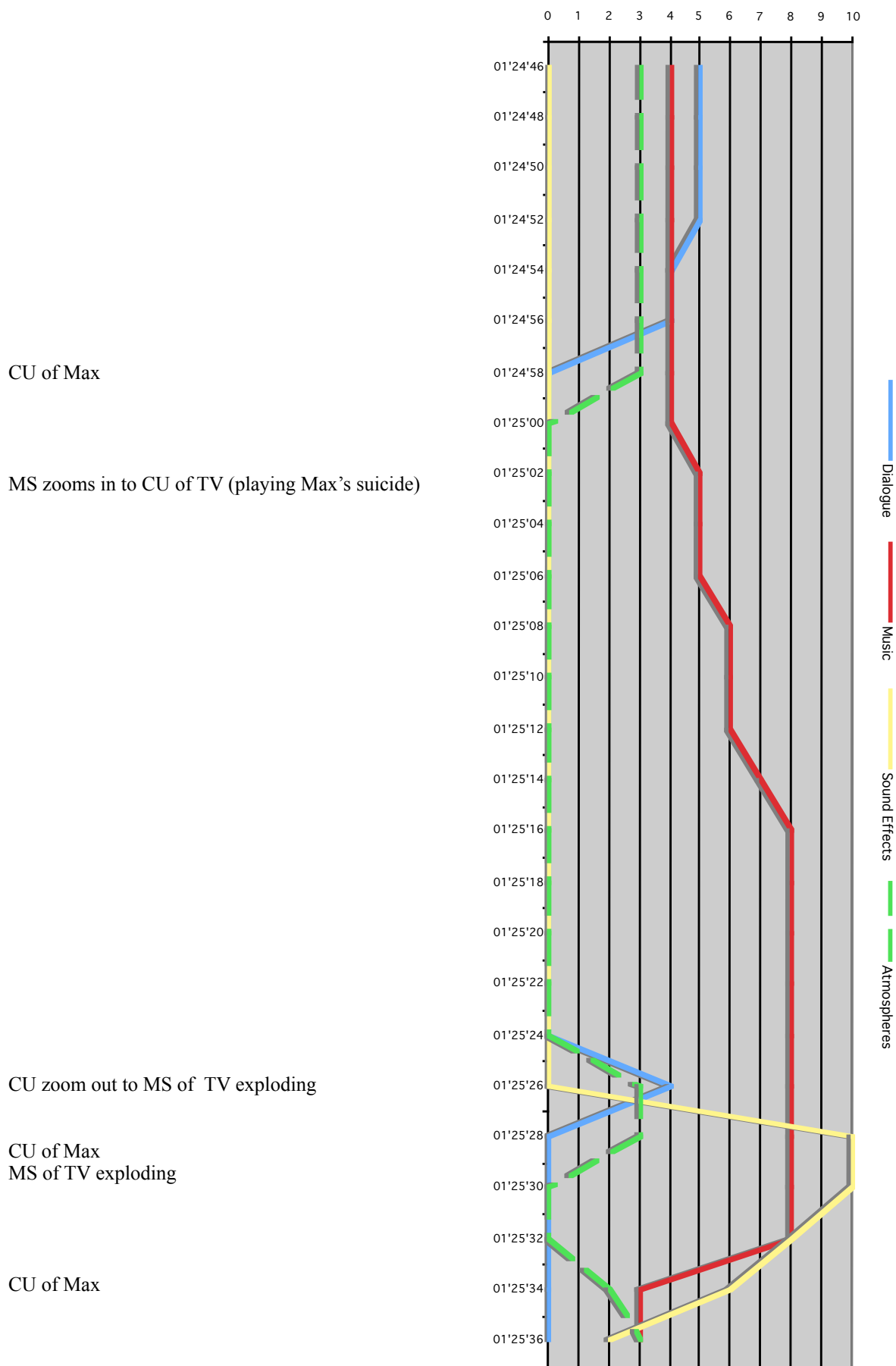
CU of TV (Nicki on the TV)



Videodrome - 3



Videodrome - 4



Videodrome - 5

(Con't Max stands up)

MS of TV

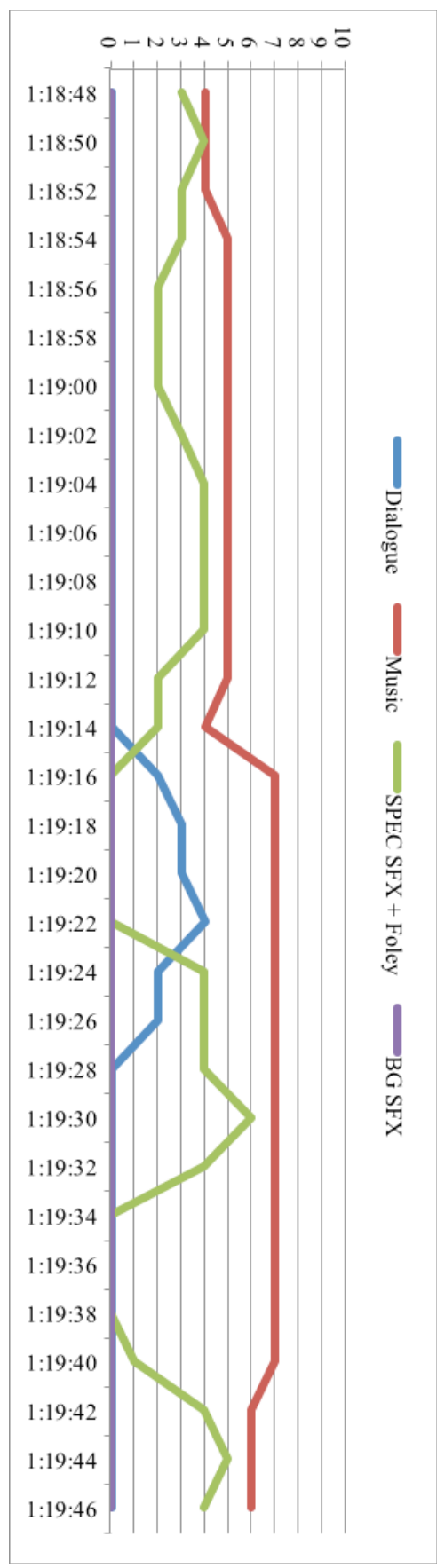
LS zooms into CU of Max

Cut to black



Heavy Metal - 1

XLS of Taarna and her bird in canyon
 LS of Taarana and bird
 MS of Taarna and bird
 CU of Taarna pulling arrow out of her bird's neck
 MS of Taarna and bird
 Insert of volcano
 MS of Taarna and bird
 CU of Taarna looking behind her as the enemy army gathers at the top of the canyon (camera pans across the crowd)
 MS of Taarna
 MS of Taarna, the Barbarian Leader flies into the shot on his bat (the camera pans to follow the flight)
 LS of the Barbarian Leader's landing, Taarna stands up
 LS of the Barbarian Leader dismounting from his bat
 CU Earl
 CU of Barbarian Leader
 CU of the Barbarian Leader's saw hand
 XCU of Taarna's eyes



Heavy Metal - 2

CU of the Barbarian Leader, he cuts a metal pipe
with his saw hand

XLS of the Barbarian Leader and his bat, bat takes off,
Taarna steps into the shot (CU of her boots)

CU of Taarna, she picks up her sword

XLS of Taarna and the Barbarian Leader

LS of Taarna and the Barbarian Leader, circling each
other
Insert of volcano

LS of Taarna and the Barbarian Leader fighting / LS of
Taarna and the Barbarian Leader / LS of Taarna and the
Barbarian Leader

CU of Taarna, the saw cuts her arm

CU of Taarna looking at her cut / CU of the Barbarian
Leader

CU of Taarna's stomach being cut / LS of Taarna and
the Barbarian Leader

LS of Taarna and the Barbarian Leader

CU of the Barbarian Leader / LS of Taarna and the
the Barbarian Leader

XCU of the sword and saw hand

CU of Taarna

CU of Taarna and the Barbarian Leader
LS of Taarna and the Barbarian Leader / MS of Taarna
falling to the ground

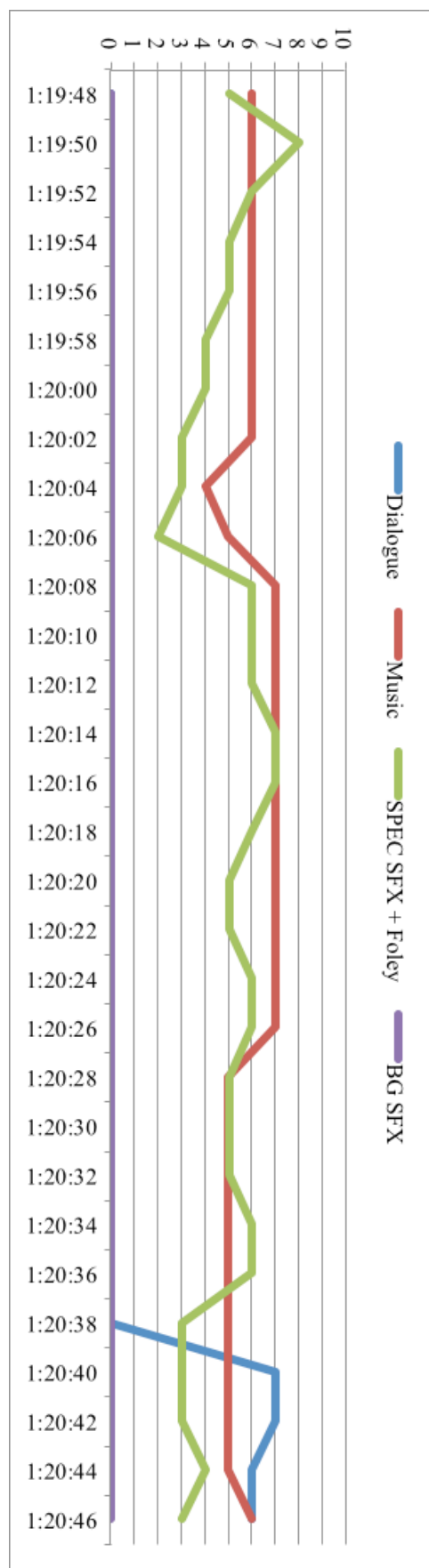
XLS of Taarna and the Barbarian Leader

MS of Taarna and the Barbarian Leader

CU of Taarna and the Barbarian Leader

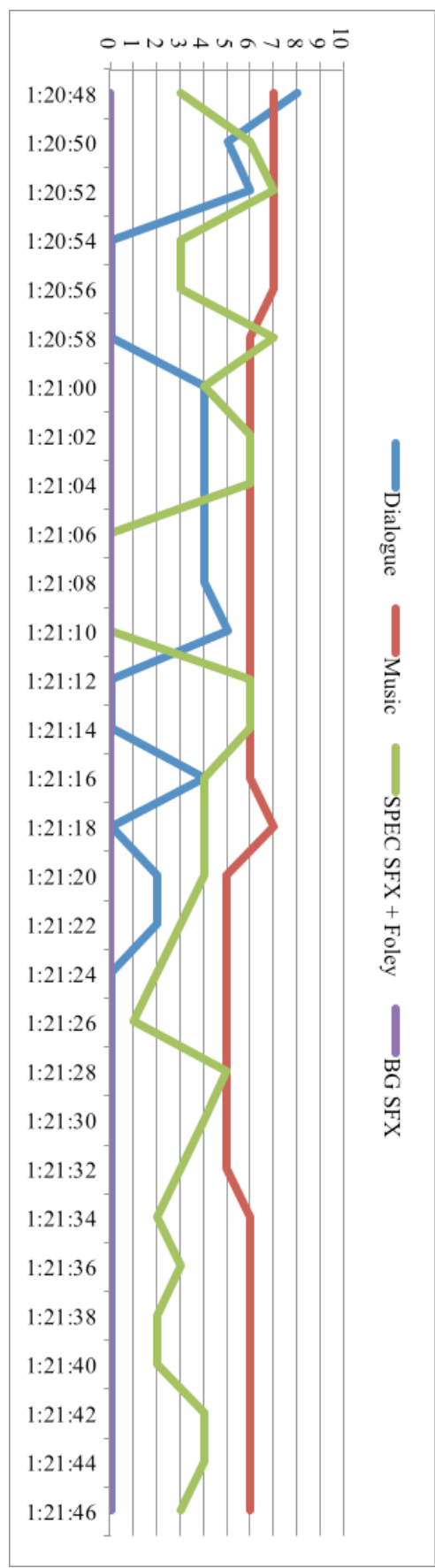
CU of Taarna's bird biting the Barbarian Leader's leg

CU of the Barbarian Leader
XLS of the bird dragging the Barbarian Leader



Heavy Metal - 3

CU of the Barbarian Leader
 CU of Taarna
 MS of the Barbarian Leader
 CU of the Barbarian Leader
 CU of Taarna CU of the Barbarian Leader being hit with a pipe by Taarna
 CU of Taarna and the Barbarian Leader / CU of the Barbarian Leader as Taarna pushes saw into his throat
 MLS of Taarna and the Barbarian Leader
 CU of the Barbarian Leader
 MS of the Barbarian Leader and Taarna
 MLS of the Barbarian Leader and Taarna
 CU of Taarna punching the Barbarian Leader
 LS of Taarna standing over the Barbarian Leader's body
 LS of the enemy army
 XLS of army, Taarna, her bird, and the Barbarian Leader's body
 CU of Taarna
 LS of Taarna looking at the volcano
 CU of Taarna / CU Taarna, LS of bird, Taarna walks to bird
 MS of Taarna and bird
 Taarna mounts bird
 LS of Taarna and bird
 CU of Taarna and bird



Heavy Metal - 4

LS of Taarna and bird taking off and flying towards the volcano

LS of Taarna and bird in flight

XLS of Taarna and bird in flight

XLS of Taarna and bird flying to the green orb on top of the volcano

LS of Taarna and bird

CU of Taarna

CU of bird

MS of Taarna and bird

CU of Taarna holding sword and being surrounded by lightning

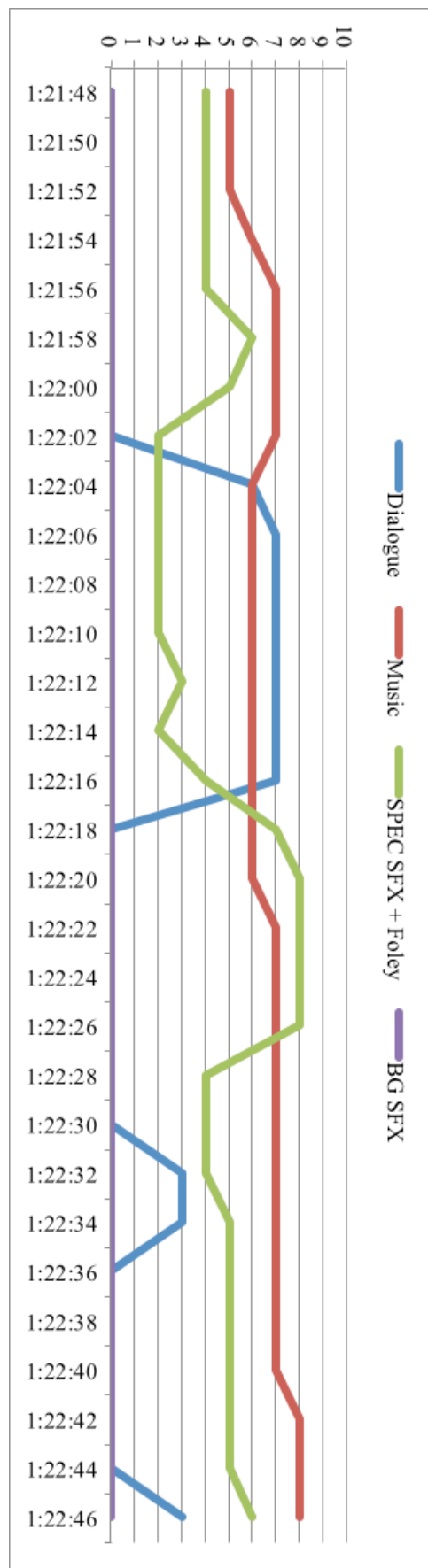
LS of Taarna and bird engulfed in lightning

XLS of Taarna and bird

LS of Taarna and bird turning into a lightning ball

XLS of the lightening ball destroying the green orb

CU of orb cracking, zoom out to interior of house from the beginning of the film with the little girl



Heavy Metal - 5

MCU of little girl

MLS of little girl running out of the house as it starts to fall apart

LS of exterior house, little girl exits

LS exterior house, little girl runs away

CU of little girl running, the house explodes in the background

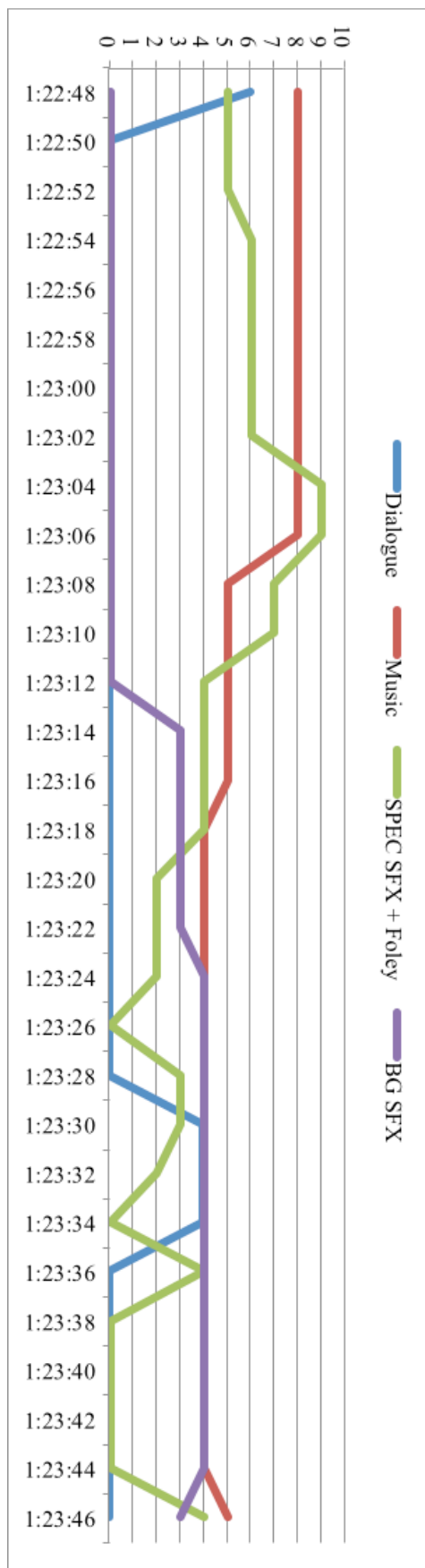
LS of smoke in the sky, tile down to a LS of little girl lying on the ground, zoom in

LS of little girl

MS of little girl standing up, zoom out to a LS

XLS pan of landscape

(Continued pan, bird appears in the sky)



Heavy Metal - 6

CU of little girl

LS of bird, little girls runs to the bird

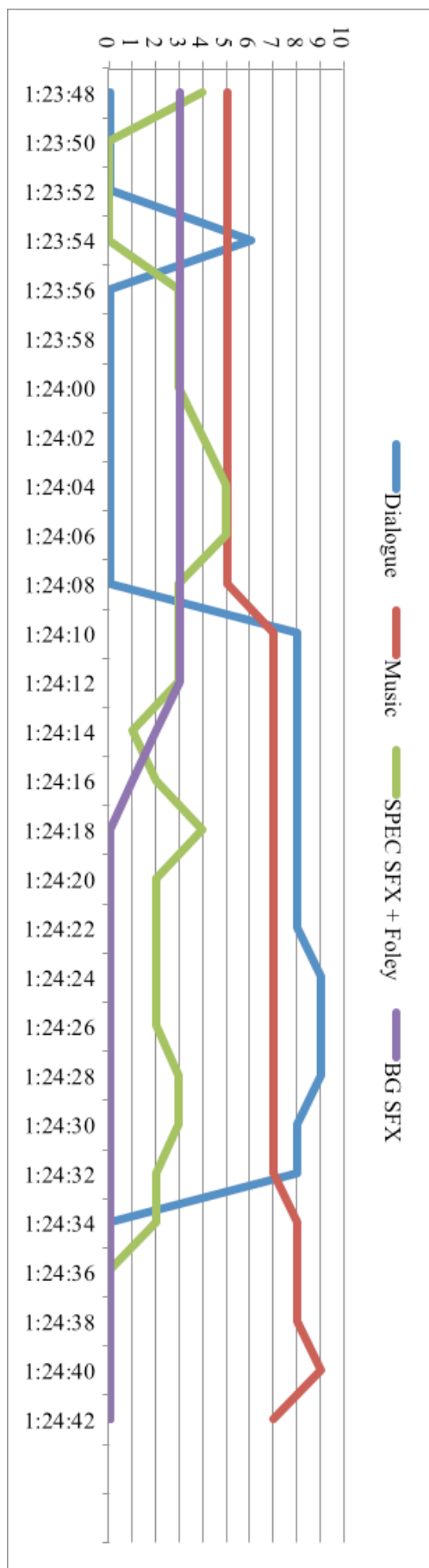
MS of bird and little girl, she hugs the bird and then mounts it

LS of little girl and bird taking off

XLS of little girl and bird in flight

CU of little girl, she turns into the new Taarakian warrior

XLS of little girl and bird flying off into distance, they slowly disappear



Spacehunter - 1

LS of fusion tube

MS of Overdog

MS of Niki

MS of Overdog

MS of Niki

CU of Overdog

MS of Niki

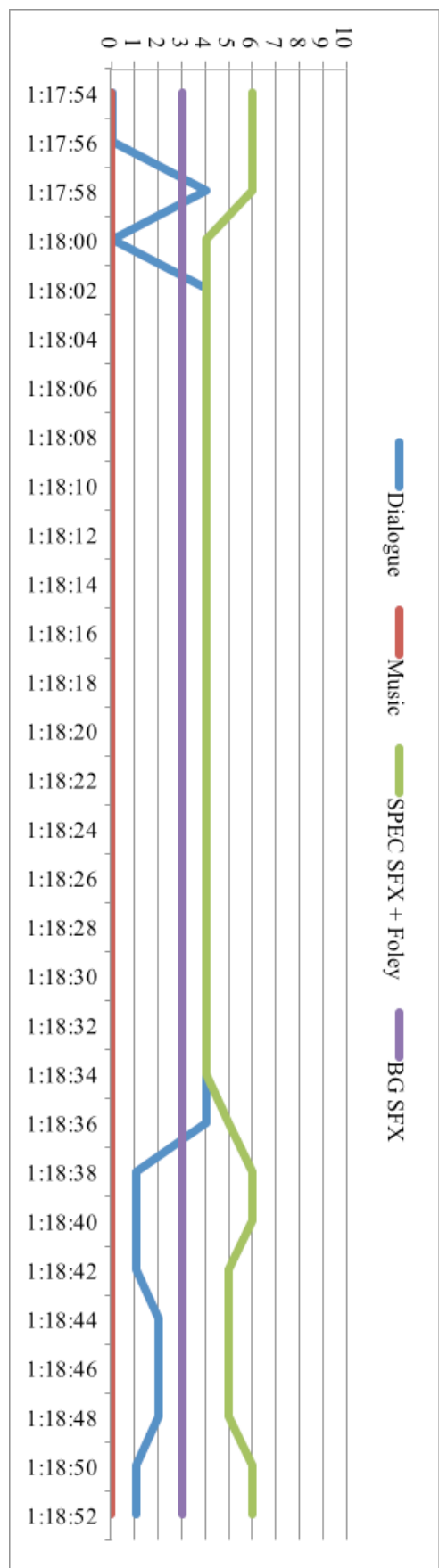
MLS of Overdog

MS of Niki

MLS of Overdog

MS of Niki

CU of Overdog



Spacehunter - 2

CU of Chemist
 MS of Chemist

 LS of door opening to hall
 LS of hall, Wolff hides in frame left

 MLS of Wolff

 LS of Chemist and workers in hall
 LS of hall with Wolff in corner of frame
 MS of Wolff shooting

 LS of hall / Insert of fusion tube
 CU of Overdog
 MLS Niki
 LS of explosion in hall, Chemist runs

 LS of Wolff climbing down from hiding spot

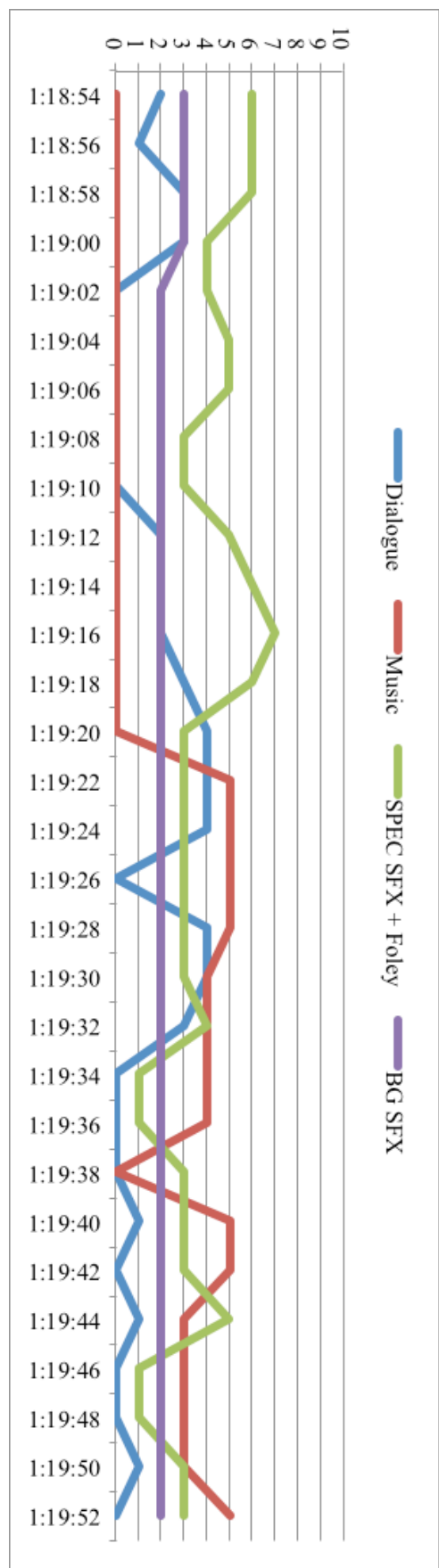
 Insert fusion tube
 MLS of Niki
 MS of Overdog (he fades out of the shot)

 LS of Wolff running and fighting Chemist
 MS of Wolff and Chemist fighting

 LS of Wolff running
 LS of Wolff running into the main room
 MS of Overdog
 LS of Wolff entering room

 LS of Niki on the fusion tube
 LS of Wolff running

 LS of Overdog



Spacehunter - 3

MLS of Wolff running
 CU of Overdog
 MLS of Wolff running
 LS of Overdog
 MLS of Wolff

CU of Overdog's gun firing

LS of room, Overdog's shot flies towards Wolff
 MS of Wolff

MLS of Niki
 CU of Wolff
 MLS of Niki

CU of Overdog
 MLS of Wolff / LS of room, Overdog fires again

LS of Overdog
 MLS of Wolff, he fires back at Overdog
 MS of Overdog, he is hit by Wolff's shot
 LS of Overdog

LS of Overdog
 MLS of Wolff

LS of Overdog
 MLS of Wolff / MS of Wolff firing and LS of Overdog
 being hit

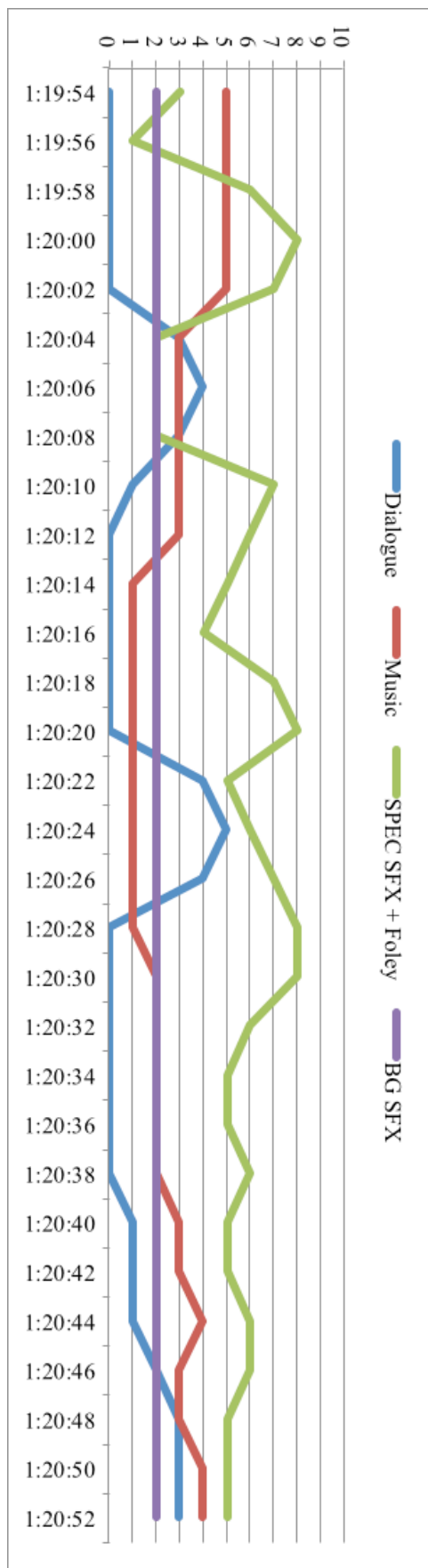
CU of Wolff covered by smoke
 MS Overdog
 MS of Wolff / MS of Niki

MS of Wolff and LS of Overdog, Wolff walks over to
 Overdog

MS of Niki

CU of Overdog's claw
 MS of Niki
 CU of Wolff
 CU of Overdog
 CU of Wolff

CU of Overdog



Spacehunter - 4

LS of Overdog and Wolff

MS of Wolff

MS of Overdog

LS of Overdog and Wolff

CU of Wolff

MS of Overdog

LS of Overdog and Wolff

CU of pipe on fire

CU of Wolff

CU of pipe, Wolff picks it up

LS of Overdog and Wolff
 CU of Wolff / LS of Overdog and Wolff
 MS of Wolff / LS of Overdog and Wolff

LS of Wolff

LS of Overdog

MS of Niki
 MS of Overdog
 LS of Wolff

CU of Overdog
 LS of Overdog
 MS of Niki, Wolff unties her

LS of Overdog

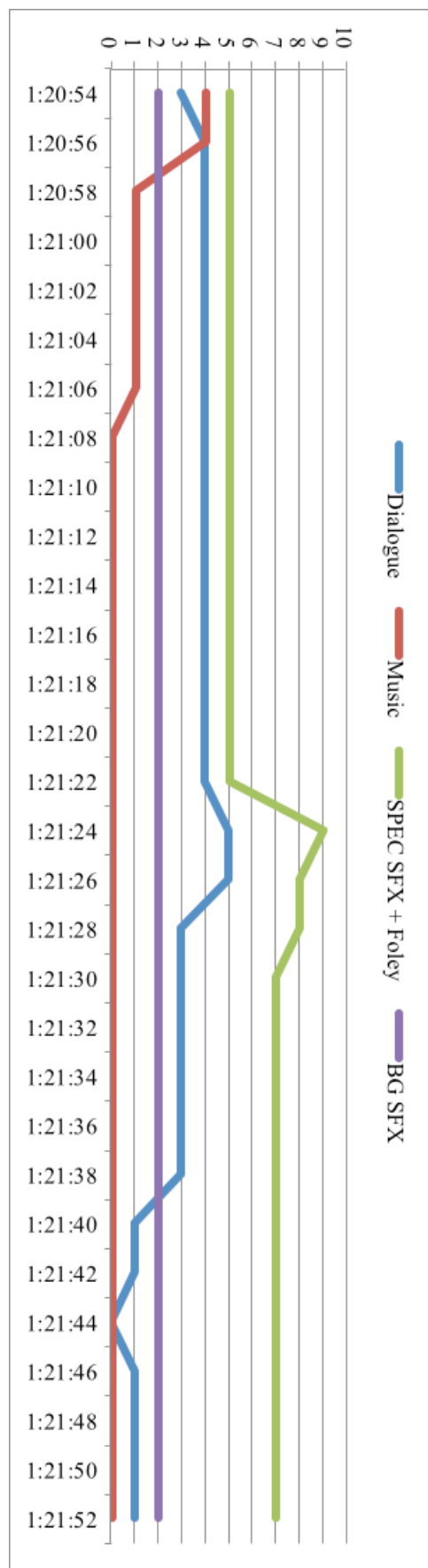
MS of Niki and Wolff
 MS of Overdog

MS of Niki and Wolff

LS of Overdog

MS of Niki and Wolff

LS of Overdog



Spacehunter - 5

CU of tubes exploding

LS of Niki and Wolff

CU of tubes exploding

LS of Niki and Wolff running

MS of Overdog

MLS of Wolff and Niki running

CU of tubes exploding / LS of Overdog

LS of Wolff and Niki running

MLS of Overdog / MS of Wolff and Niki running

MLS of Wolff and Niki

LS of tank crashing through wall

LS of Wolff and Niki

LS of tank

MLS Wolff and Niki

LS of Wolff and Niki running to tank

LS of Wolff and Niki climbing into tank

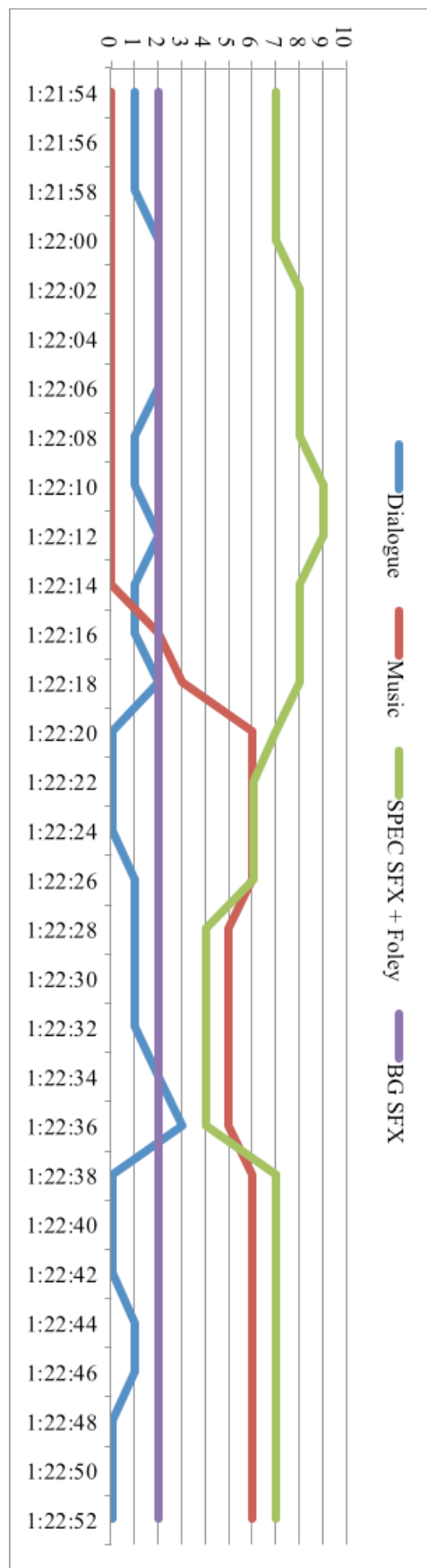
LS of the tank driving out

XLS of people running

LS of Overdog

LS of fusion tube

LS of tank driving out of building



Spacehunter - 6

XLS of the city, tank drives out

XLS of the city exploding

LS of city exploding

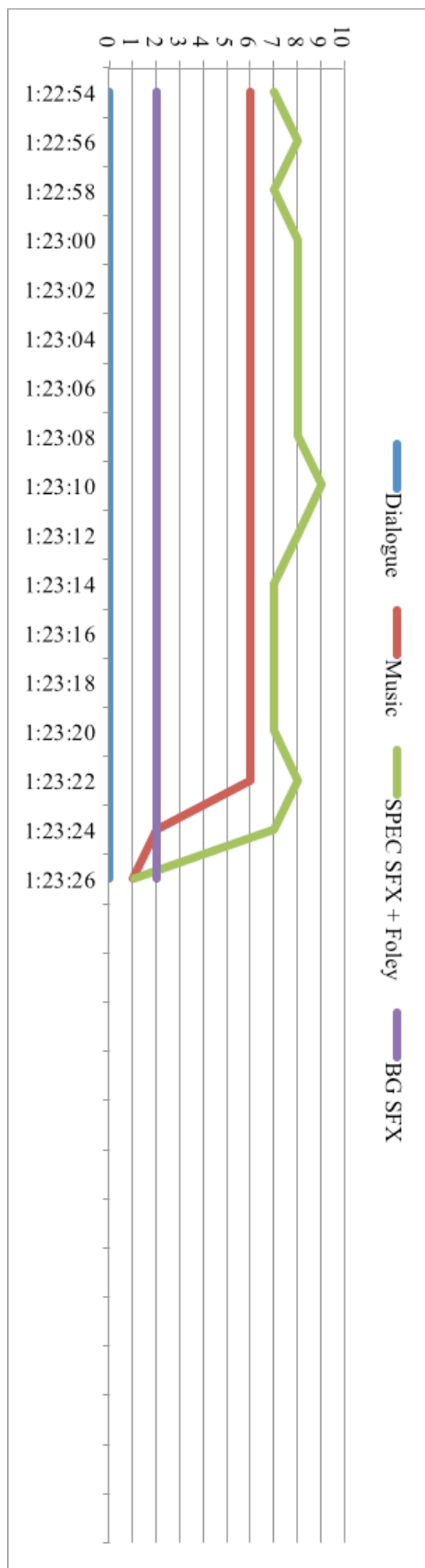
Explosions

LS of tank driving through explosions

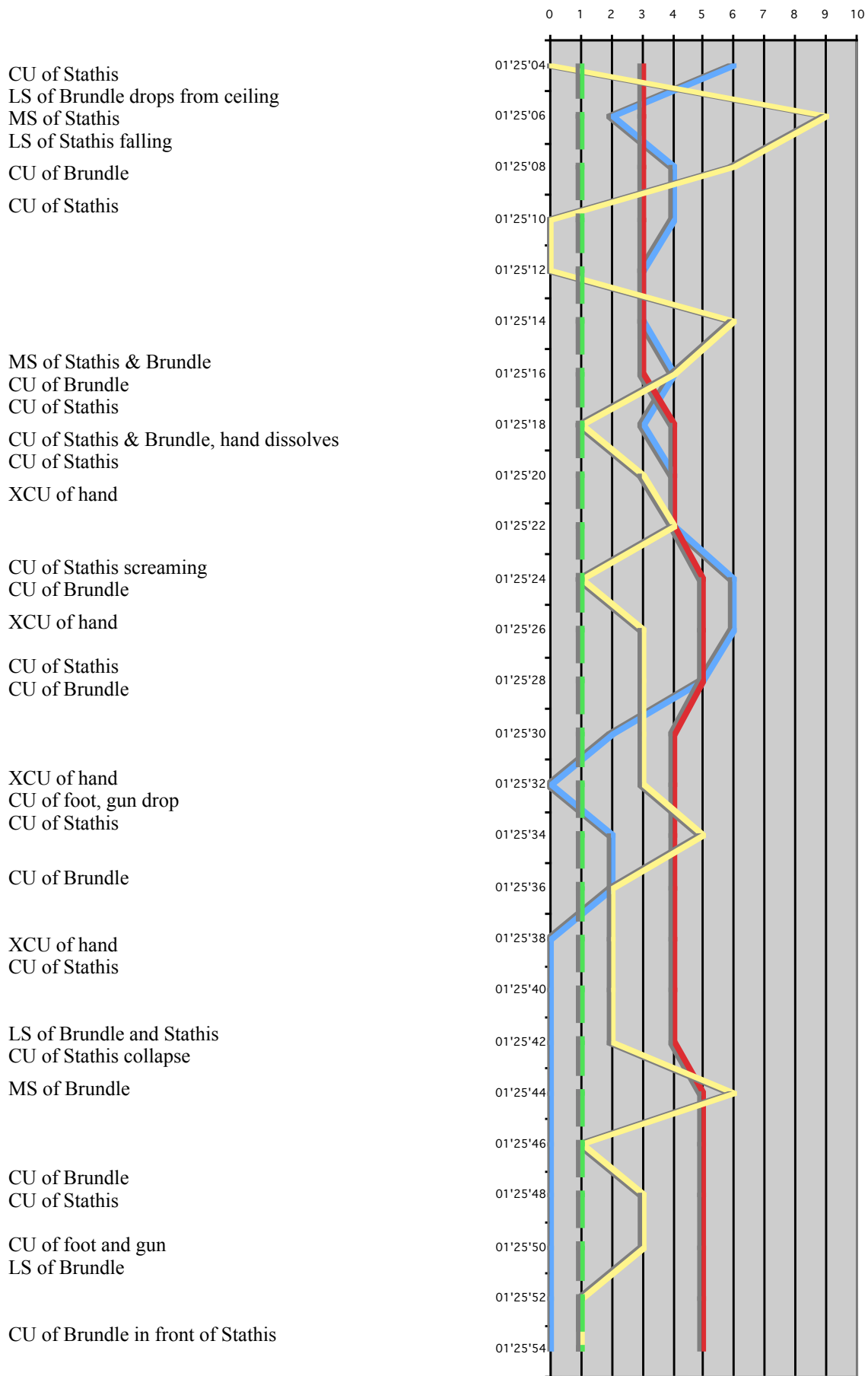
Explosions

XLS of explosions

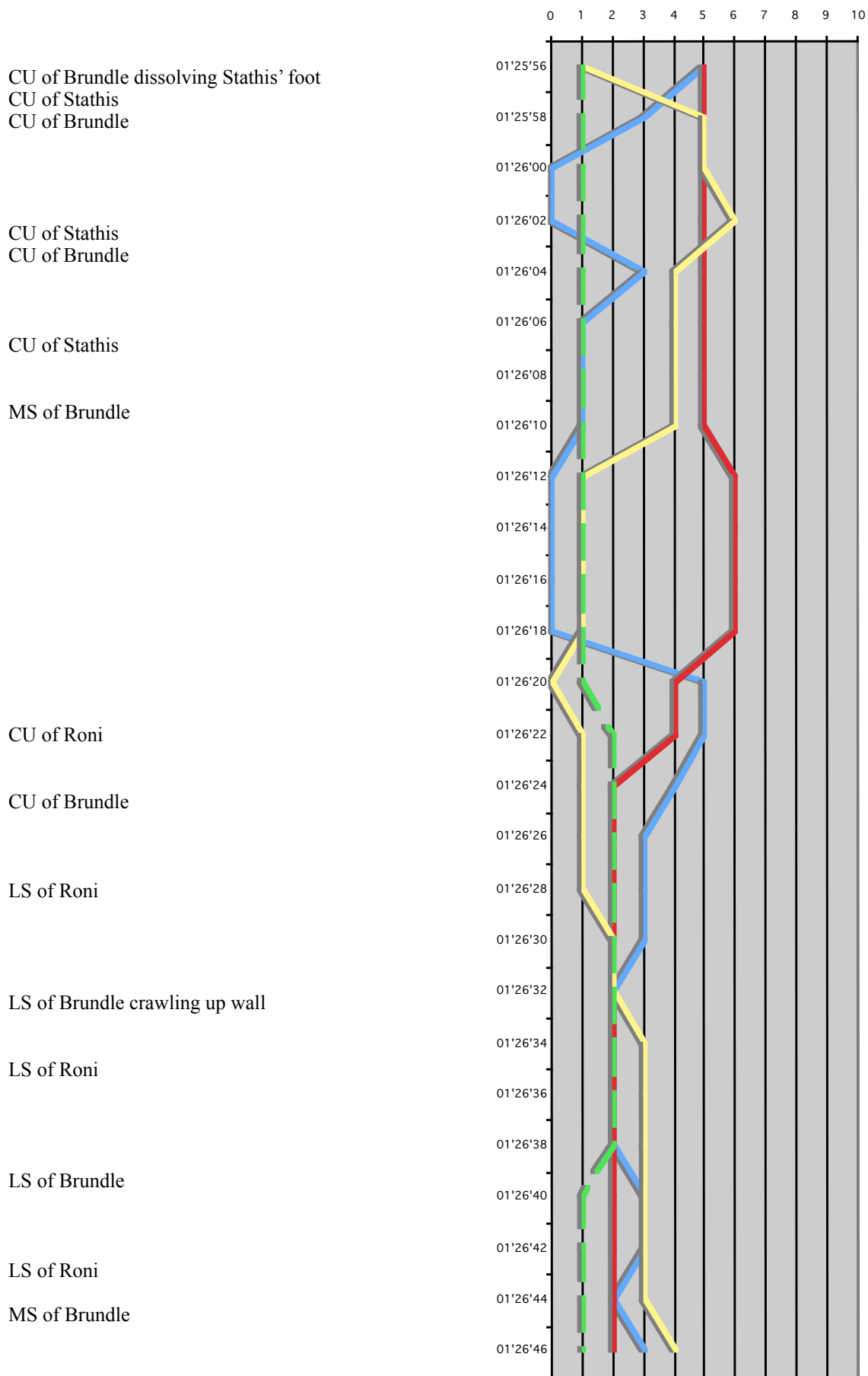
(Continued, fades to black)



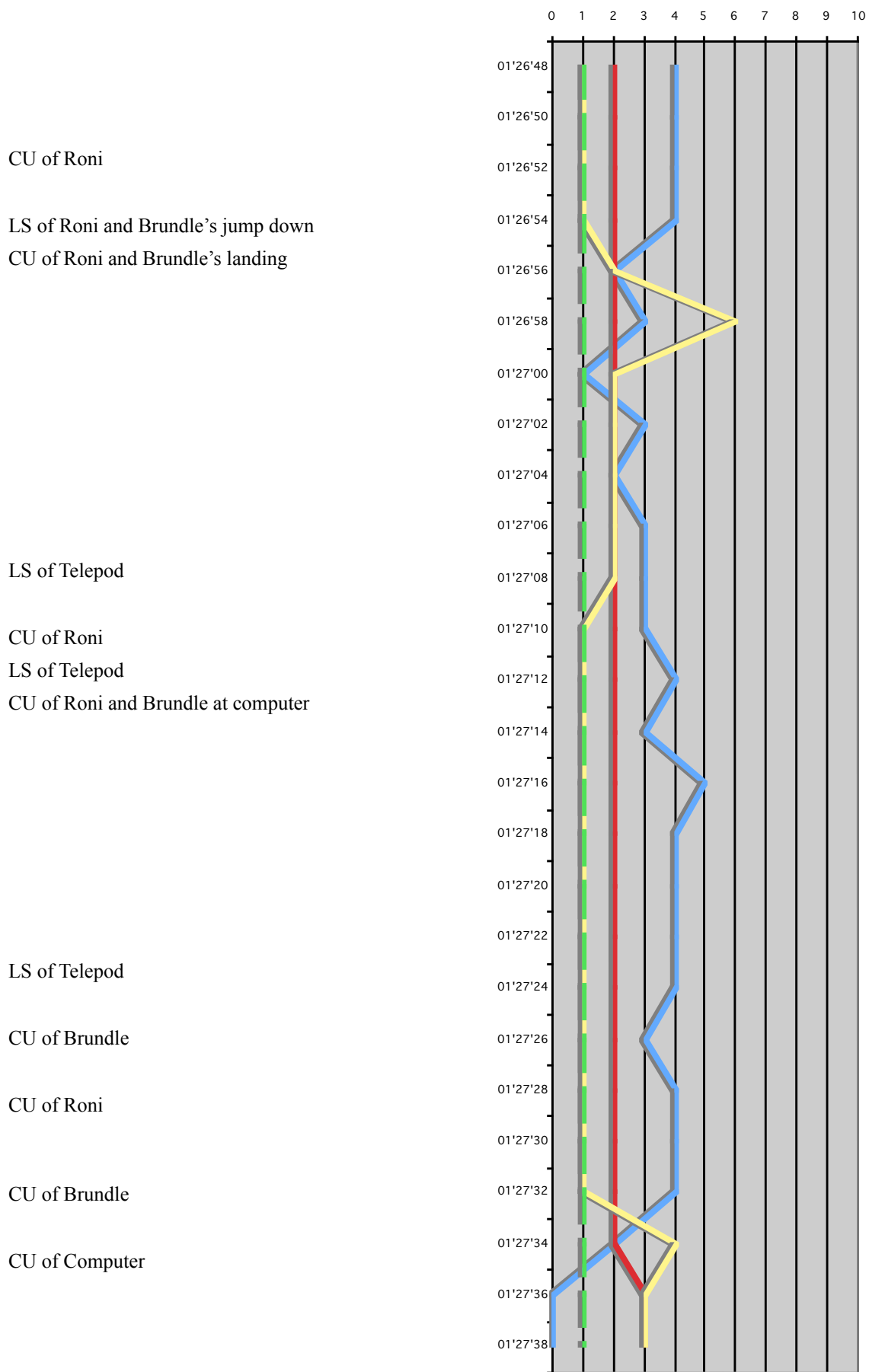
The Fly - 1



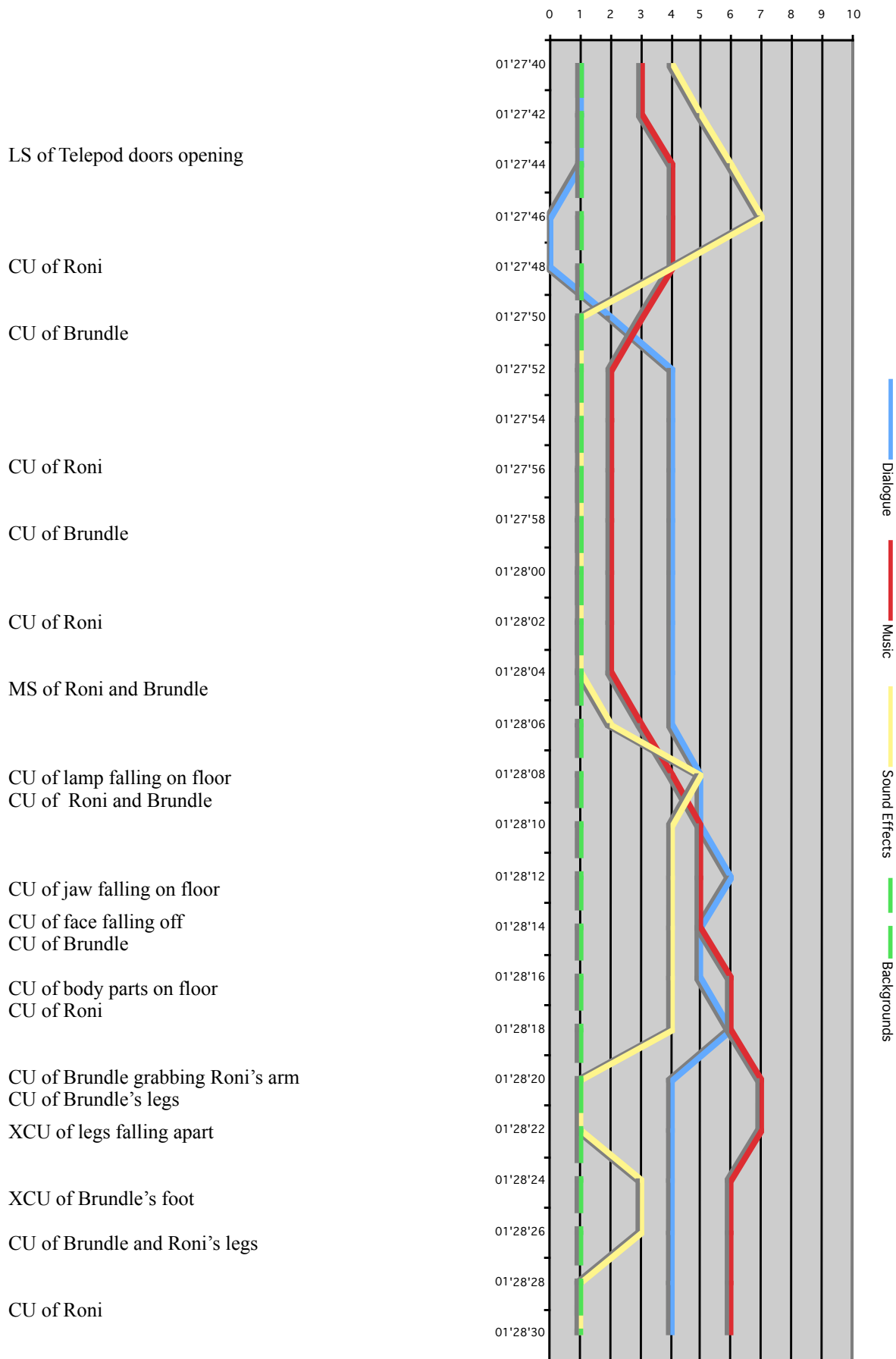
The Fly - 2



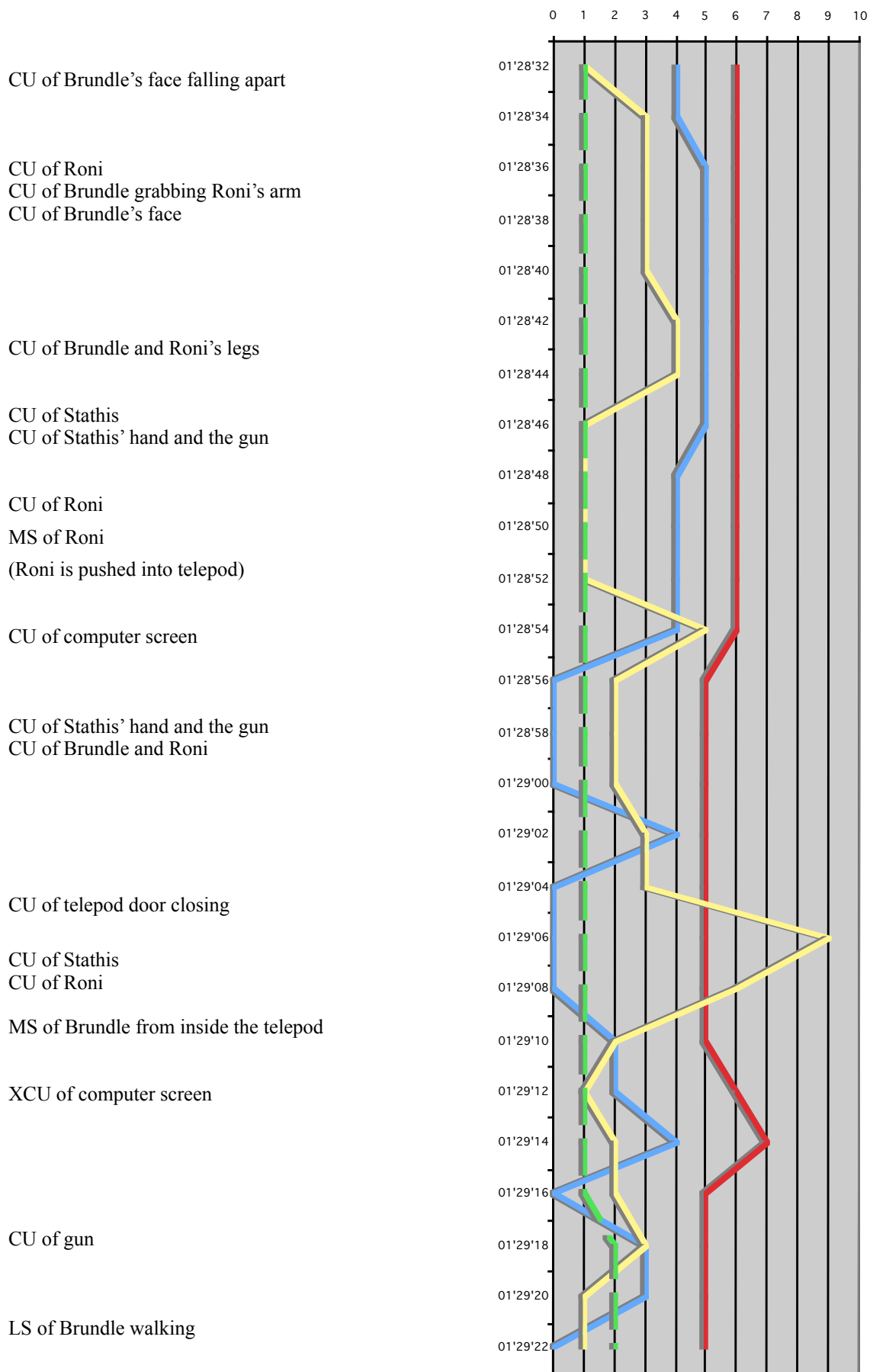
The Fly - 3



The Fly - 4



The Fly - 5



CU of Brundle's face falling apart

CU of Roni
 CU of Brundle grabbing Roni's arm
 CU of Brundle's face

CU of Brundle and Roni's legs

CU of Stathis
 CU of Stathis' hand and the gun

CU of Roni
 MS of Roni
 (Roni is pushed into telepod)

CU of computer screen

CU of Stathis' hand and the gun
 CU of Brundle and Roni

CU of telepod door closing

CU of Stathis
 CU of Roni

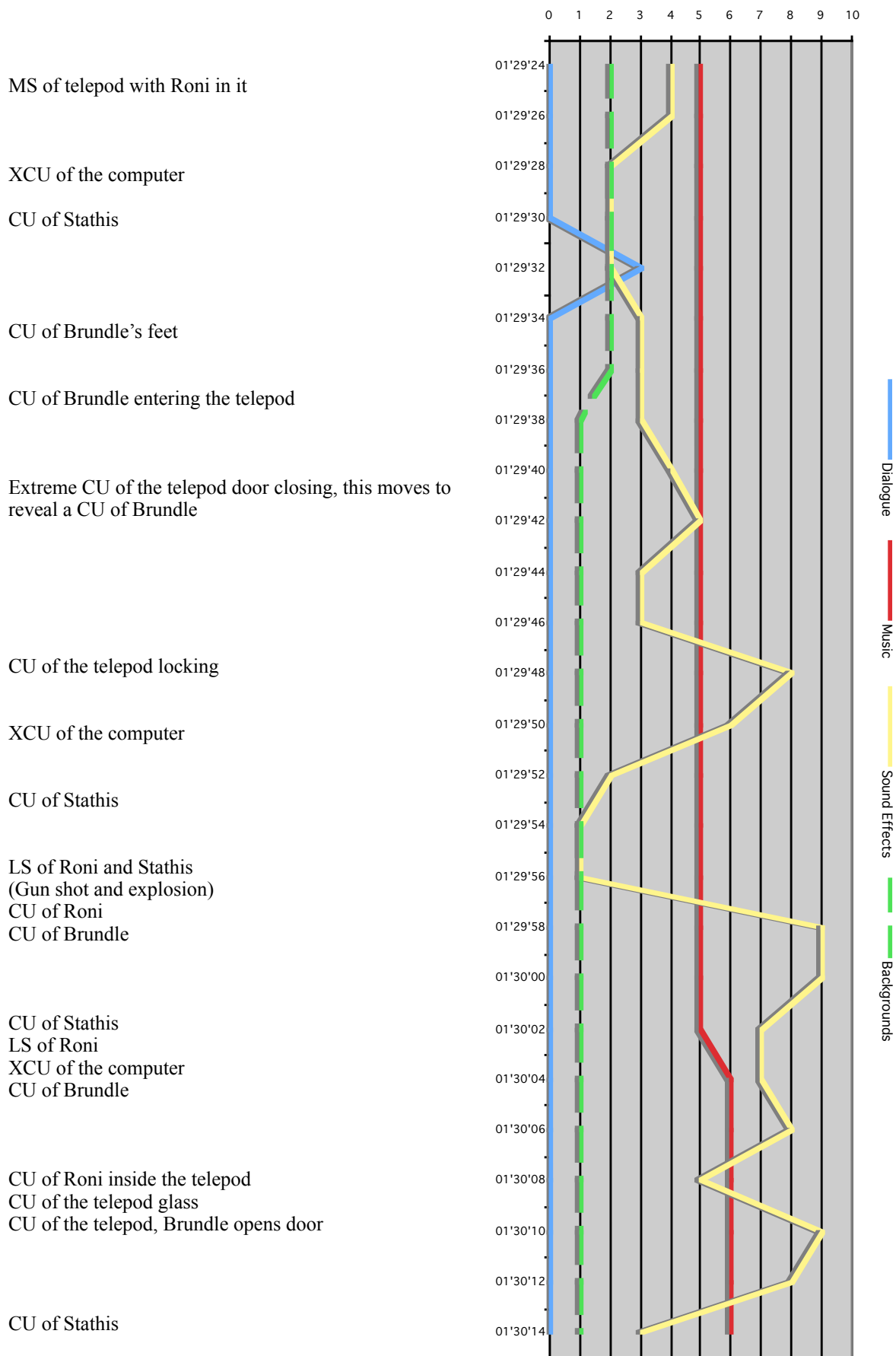
MS of Brundle from inside the telepod

XCU of computer screen

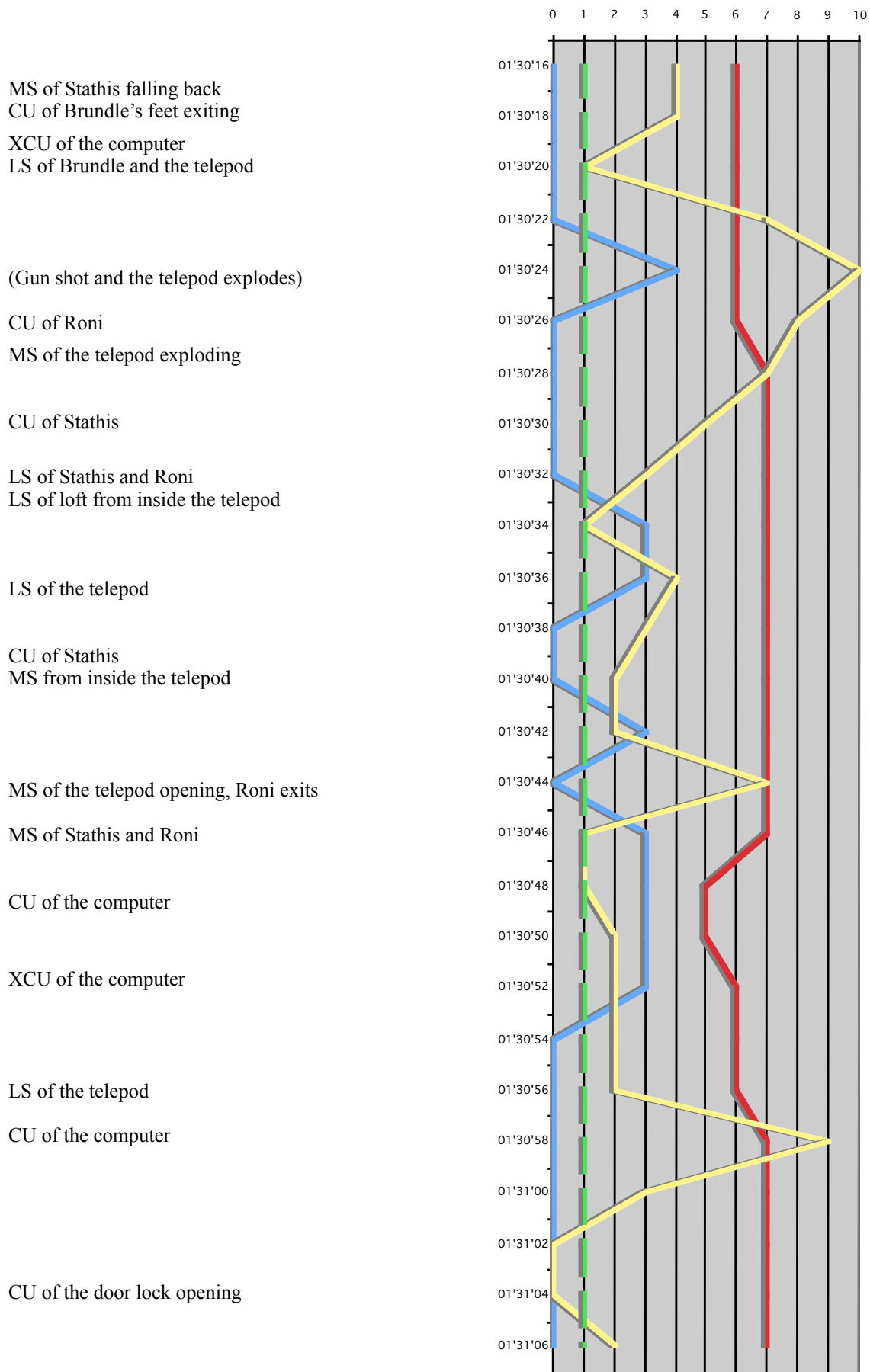
CU of gun

LS of Brundle walking

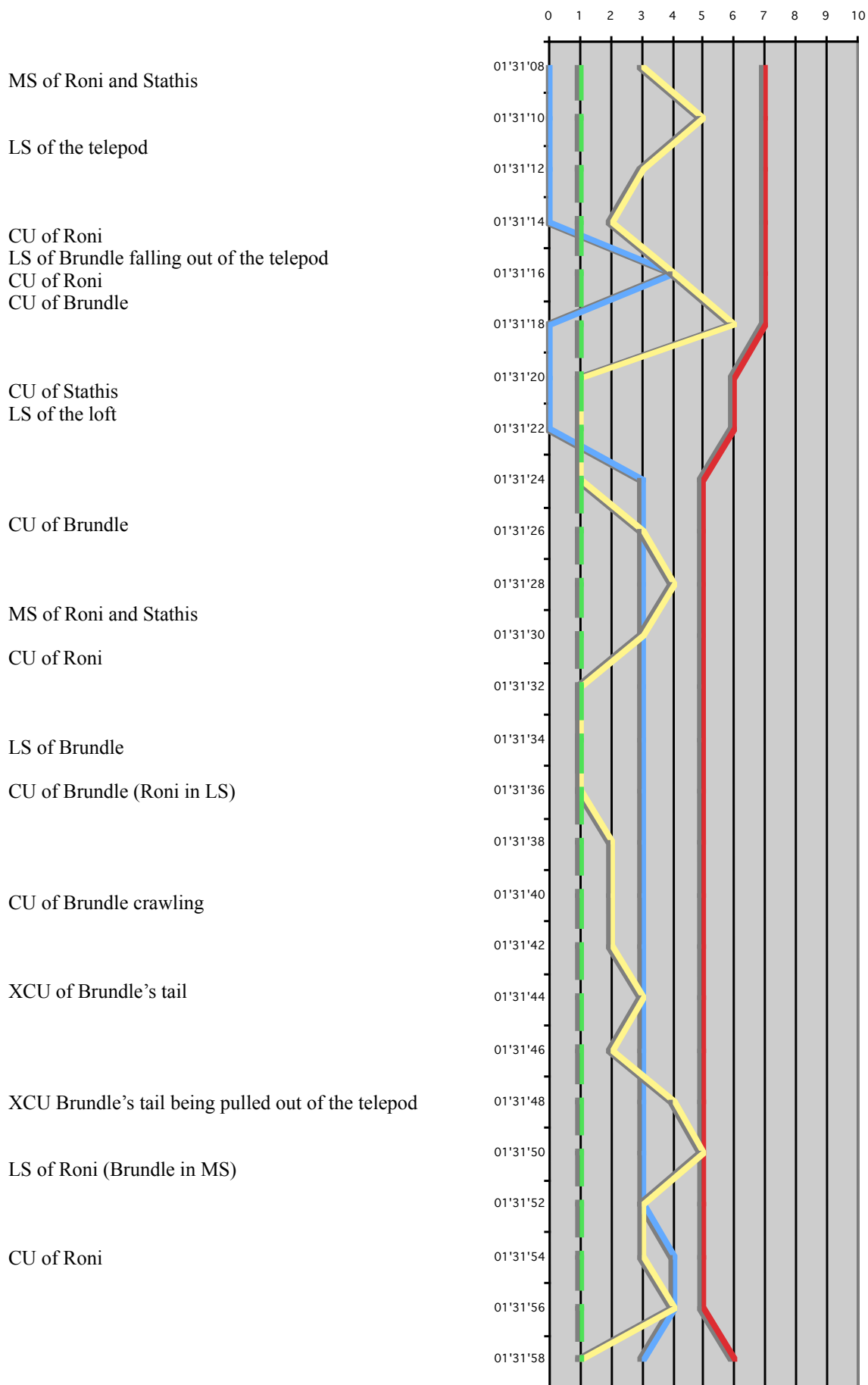
The Fly - 6



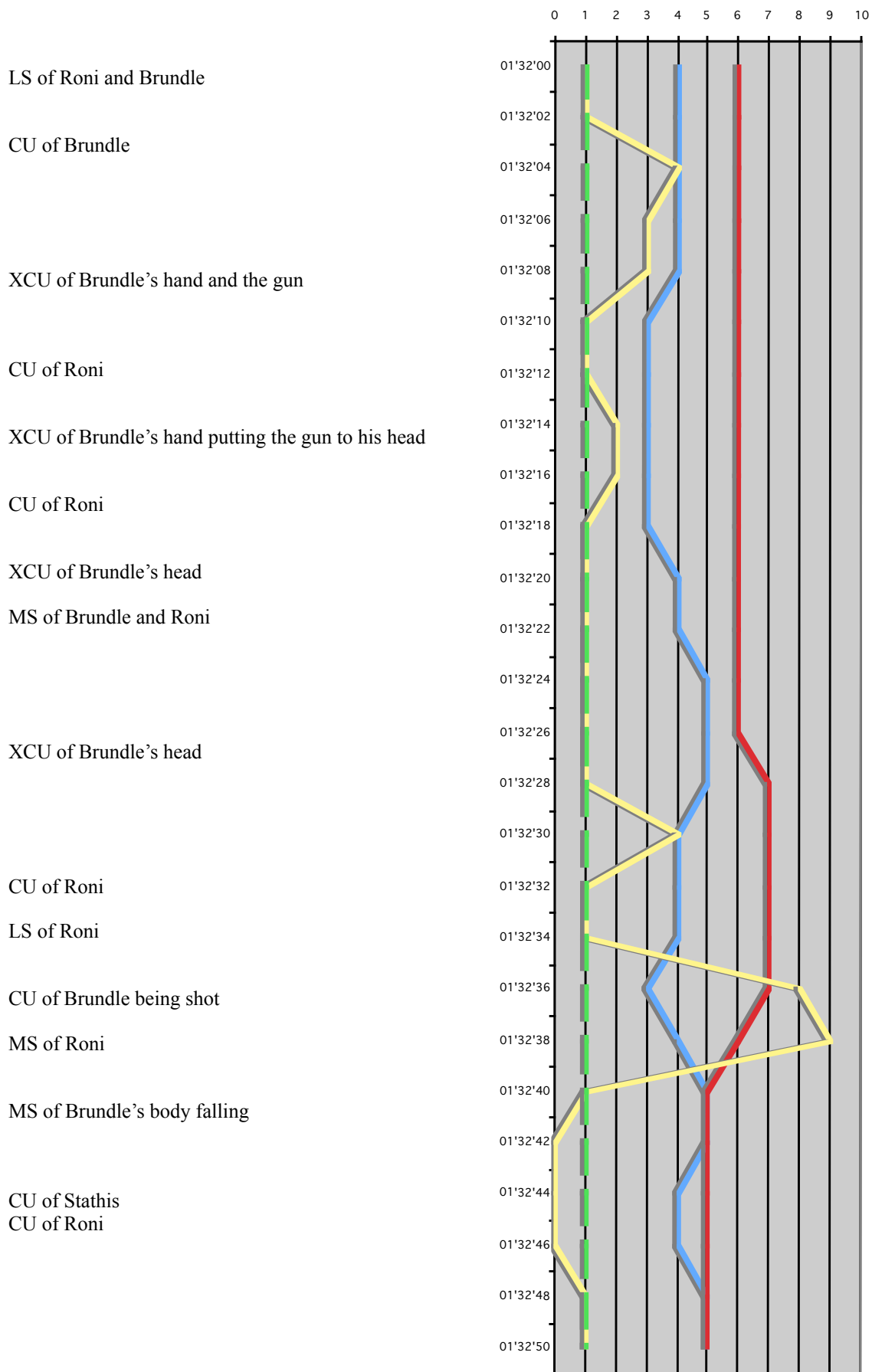
The Fly - 7



The Fly - 8



The Fly - 9

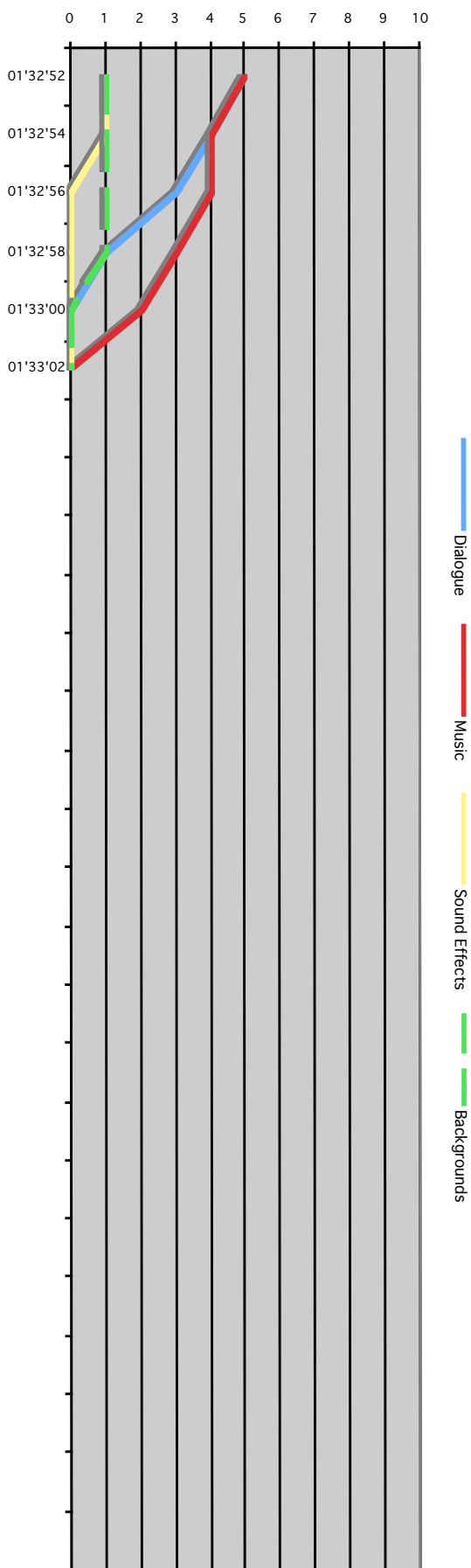


The Fly - 10

LS of Roni

Fades to Black

Black

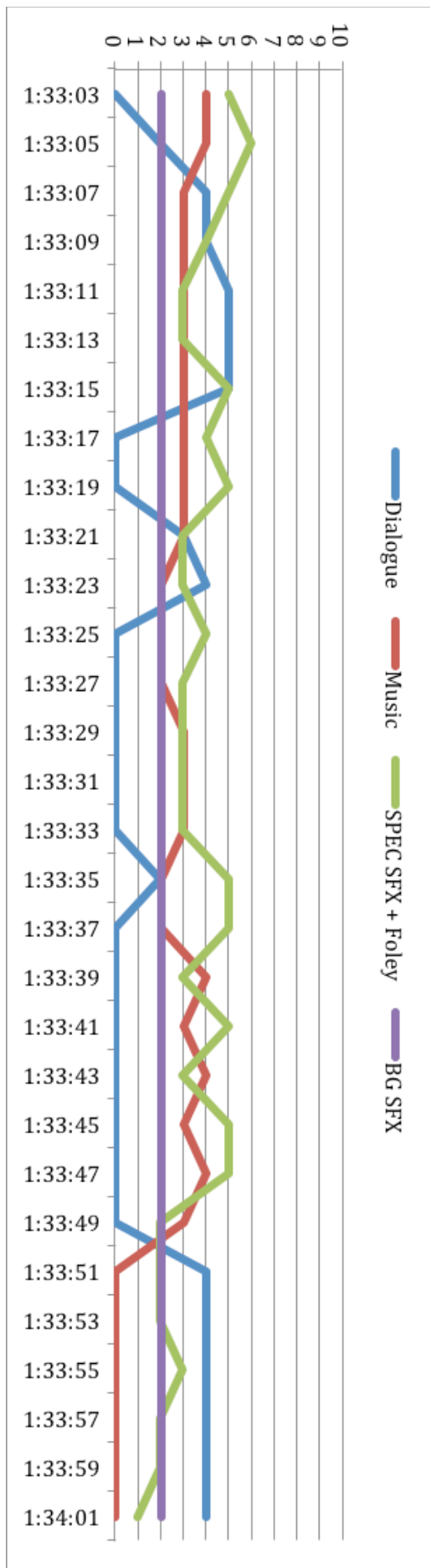


The Gate - 1

LS of Glen on the ground and walking to his bedroom

LS of Glen walking in his bedroom

LS of Glen walking to window, zooms to the tornado in the backyard



The Gate - 2

CU of Glen

LS of tornado

CU of Glen

LS of Glen collapsed on the floor

CU of Glen on the floor

CU on doll which Glen picks up

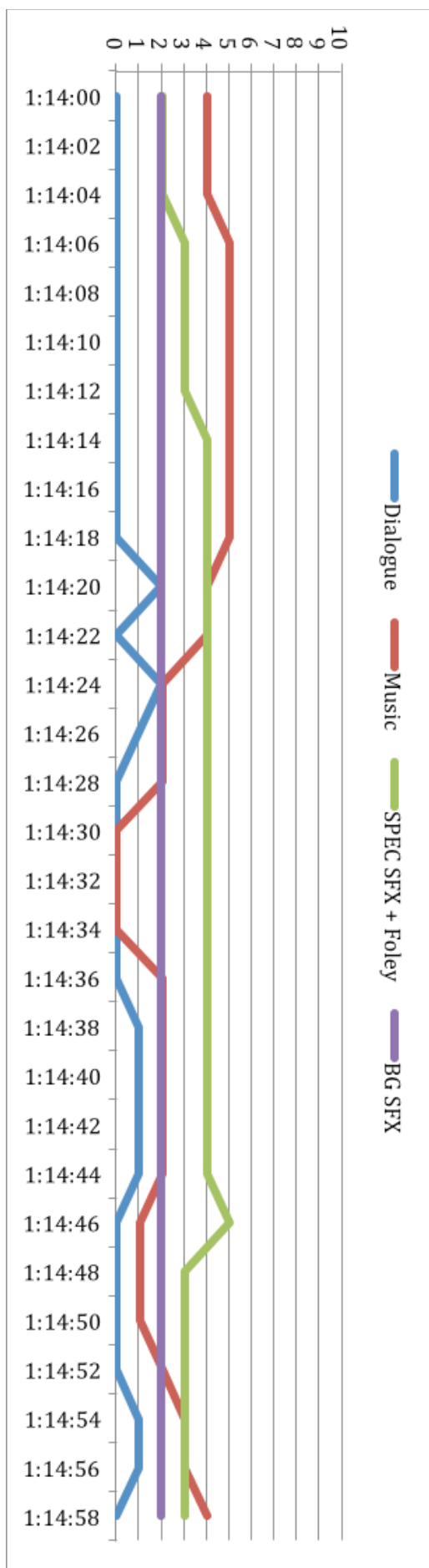
MCU of Glen looking at the doll

CU of a jar of moths falling

CU of doll and jar rolling into the shot / Glen picks up the jar

CU of Glen looking at the jar

CU of Glen



The Gate - 3

CU of jar

CU of Glen throwing the jar and yelling

MS of window

MCU of Glen

MLS of Glen looking at his hand

CU of Glen picking up glass shard

CU of hand with eye
CU of Glen

CU of Glen stabbing his hand
CU of Glen

CU of hand with blood

MS of Glen being thrown back

MS of Glen landing on the bed

CU of hand

MS of the window

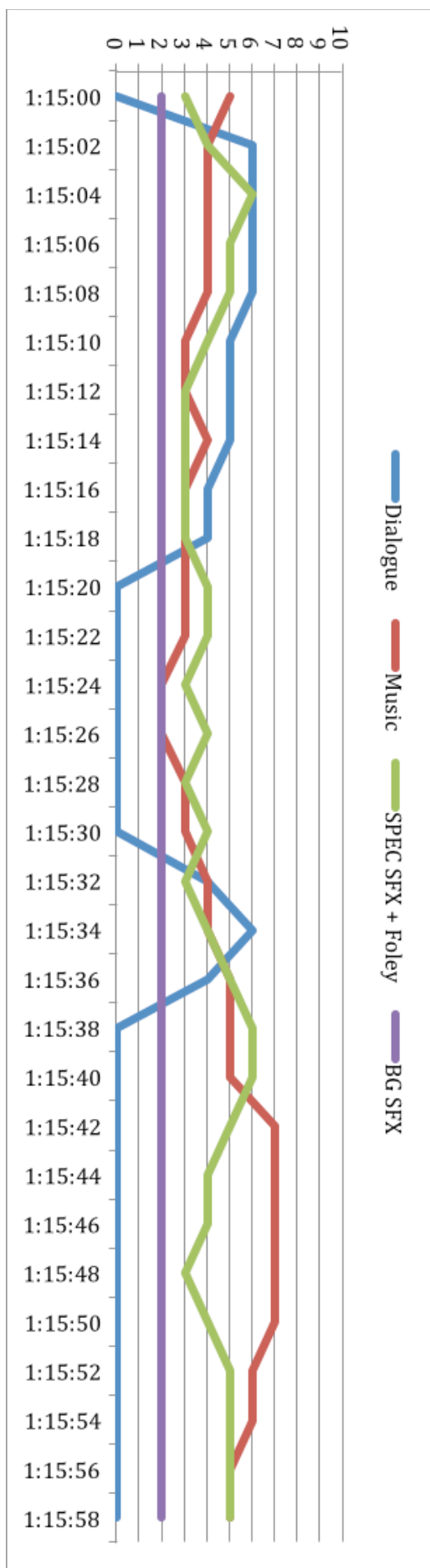
LS of the tornado

LS Glen crawling under his bed

CU of rocket launch box

MS of Glen grabbing box

LS of the mattress flying off the bed and Glen getting up and looking around the room



The Gate - 4

LS of stuff flying out of Glen's closet

CU of Glen
LS of shelves falling

CU of Glen
LS of shelves falling

LS of rocket in hall, Glen enters the frame

CU of rocket falling down the stairs
CU of rocket landing downstairs

MS Glen running to look at rocket

LS of downstairs and the pit
MS of Glen
LS of Glen

CU of Glen throwing launch box downstairs

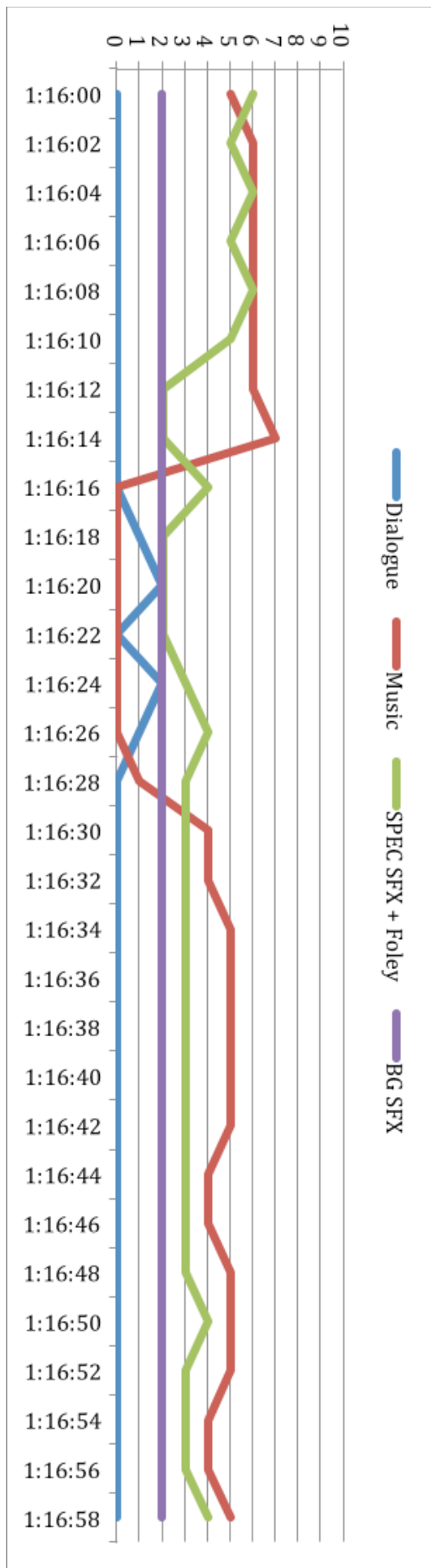
LS of Glen climbing downstairs

CU of Glen's feet on broken steps

LS of Glen holding on to the railing and climbing down the stairs

MS of Glen climbing down and getting the box

LS of Glen looking at the pit



The Gate - 5

MCU of Glen opening the box

CU of the box

CU of Glen

CU of Glen's hands hooking up rocket to launch pad

MCU of Glen and the rocket

XCU of box sign "batteries not included"

MS of Glen grabbing the flashlight

MCU of the flashlight

CU of Glen

CU of batteries being put into launch pad

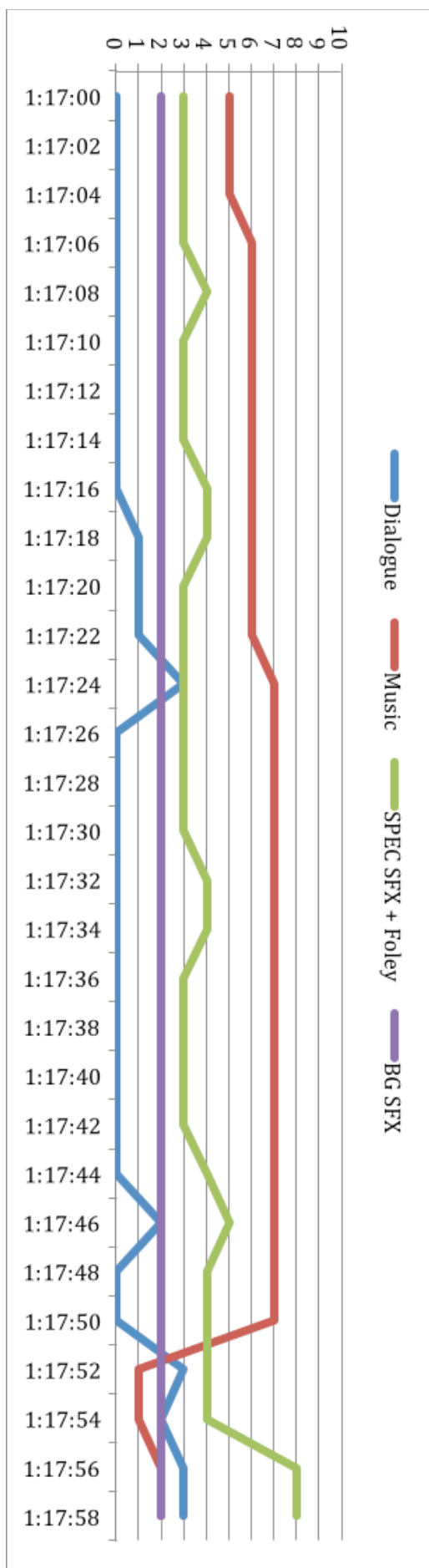
LS of the pit

MS of Glen and demon appears

MS of demon

MCU of Glen's reaction

MLS of Glen and LS of demon



The Gate - 6

CU of demon

MLS of Glen and LS of demon

CU of Glen

MCU of Glen
CU of demon

MCU of Glen

CU of Glen
CU of launch pad controller button
CU of rocket launch

CU of demon

CU of Glen
MS of demon and rocket
CU of rocket hitting demon

CU of Glen
MS of demon
CU of Glen
MS of Glen and LS of demon, demon grabs Glen

MS of Glen

MCU demon who begins to explode

MS of Glen falling

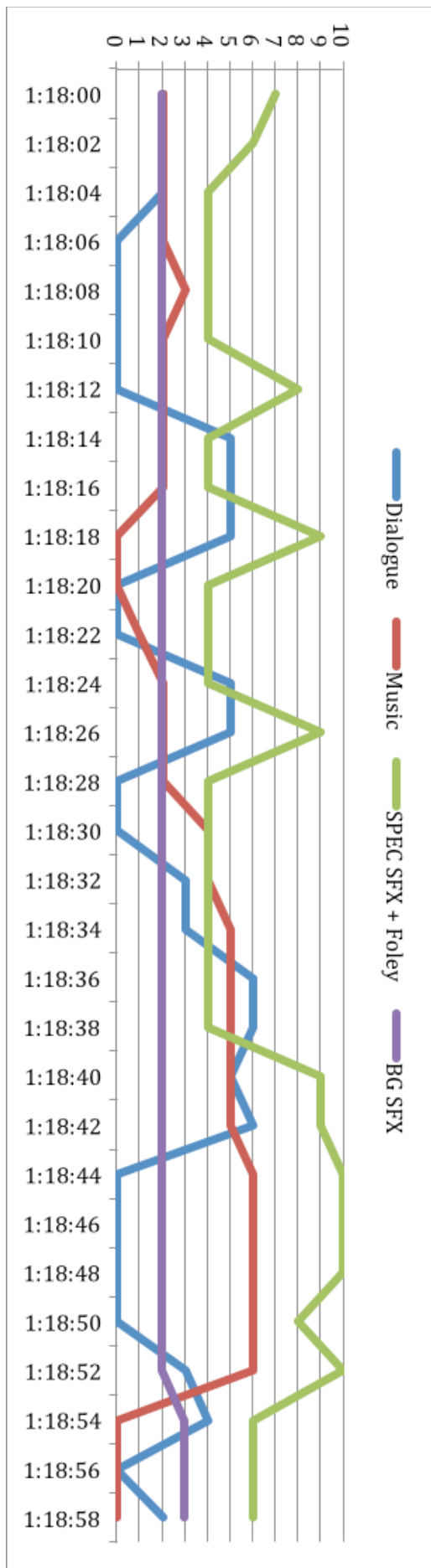
MS of Glen and LS of demon exploding

LS of Glen moving towards the door

MCU of demon

LS exterior of the house exploding, Glen flies out of the house

MS of Glen falling onto the lawn



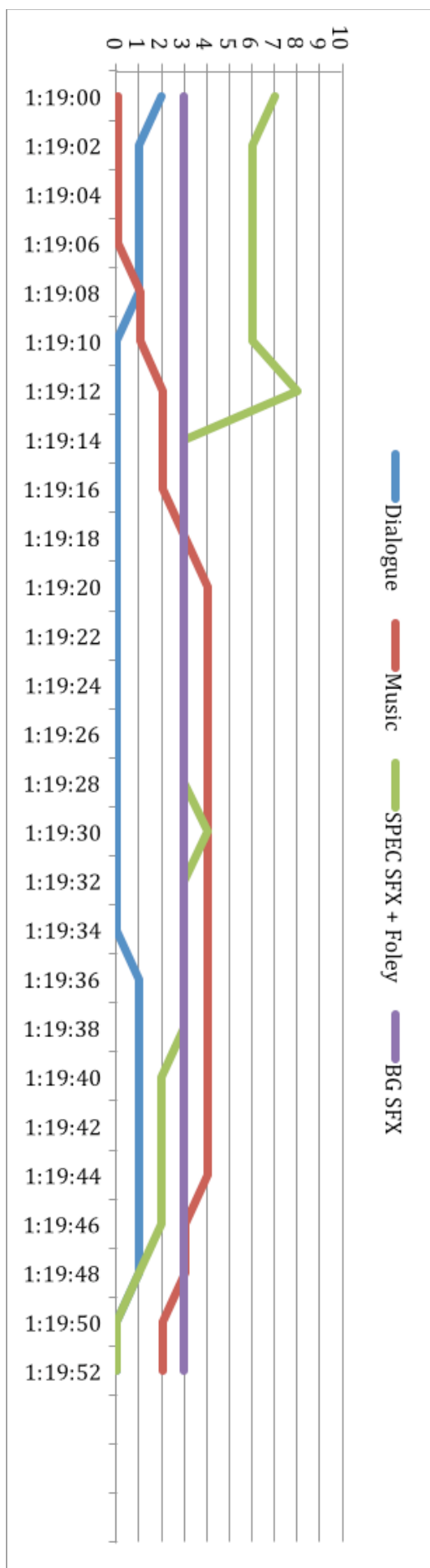
The Gate - 7

LS of the house exploding, pan up to the fireworks

MCU of Glen watching

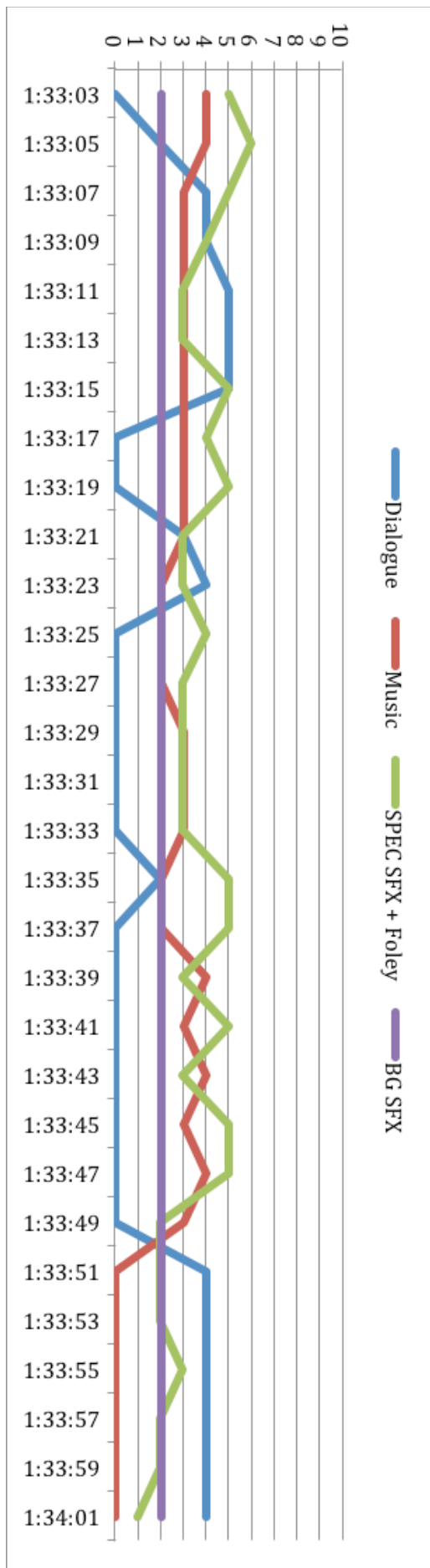
LS of sky with the darkness beginning to clear

CU of Glen



Millennium - 1

LS of the gate and Louise and Bill landing in the future
 LS of Bill rolling out from the gate
 CU of Bill's face
 CU of Sherman's boots and pans up to Sherman's face
 CU of Bill's reaction
 CU of Sherman talking
 CU of Bill's reaction
 MCU of Louise helping Bill up
 MCU of Sherman
 MCU of Louise and Bill
 LS of Louise and Bill running through hanger, Sherman follows
 LS of Louise and Bill running
 LS of control room and Louise and Bill enter
 MS of Coventry
 MS of Louise and Bill
 MS of Coventry



Millennium - 2

MS of Louise and Bill

CU of Bill
MS of Coventry

MS of Louise and Bill

CU of Coventry

CU of Bill

CU of Louise

LS of council chamber
MS of council woman

CU of Coventry
CU of Louise

CU of Coventry

LS of control room

CU of Coventry

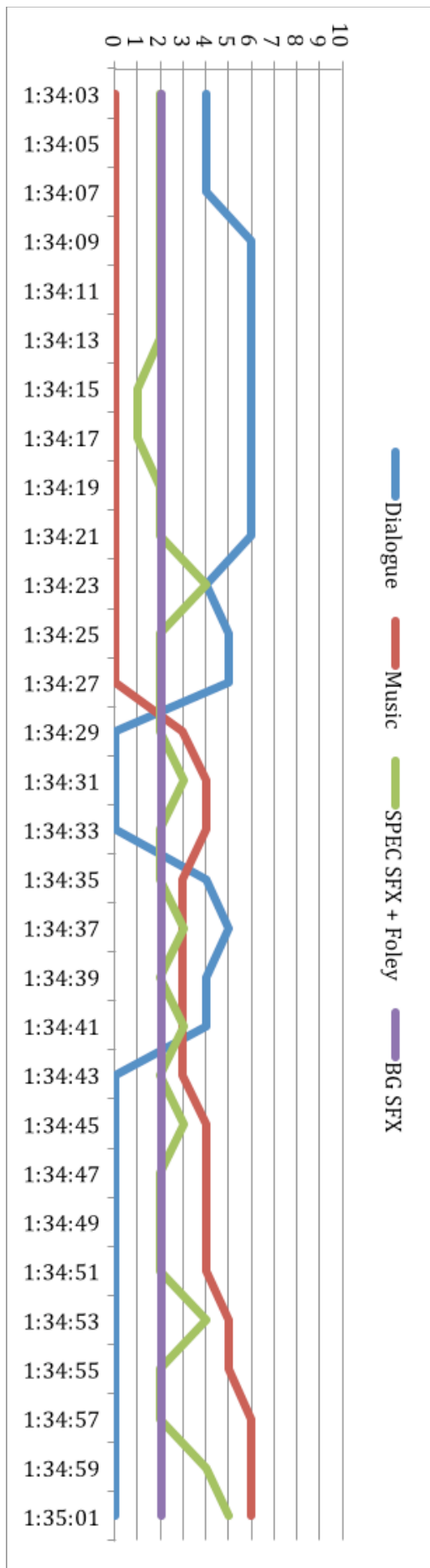
MS of Bill, Louise, and Coventry, zooms into a CU of Coventry

CU of Louise

CU of Coventry

CU of Bill
LS of Bill and Louise leaving control room

LS of the gate



Millennium - 3

CU of council woman

LS of council chamber

LS of the holding pens and the people waking up

LS of holding pen hall, soldiers run through to move people

MLS of Coventry reversing the gate controls

XCU of the gate control

LS of the gate reversing direction

XCU of the gate control

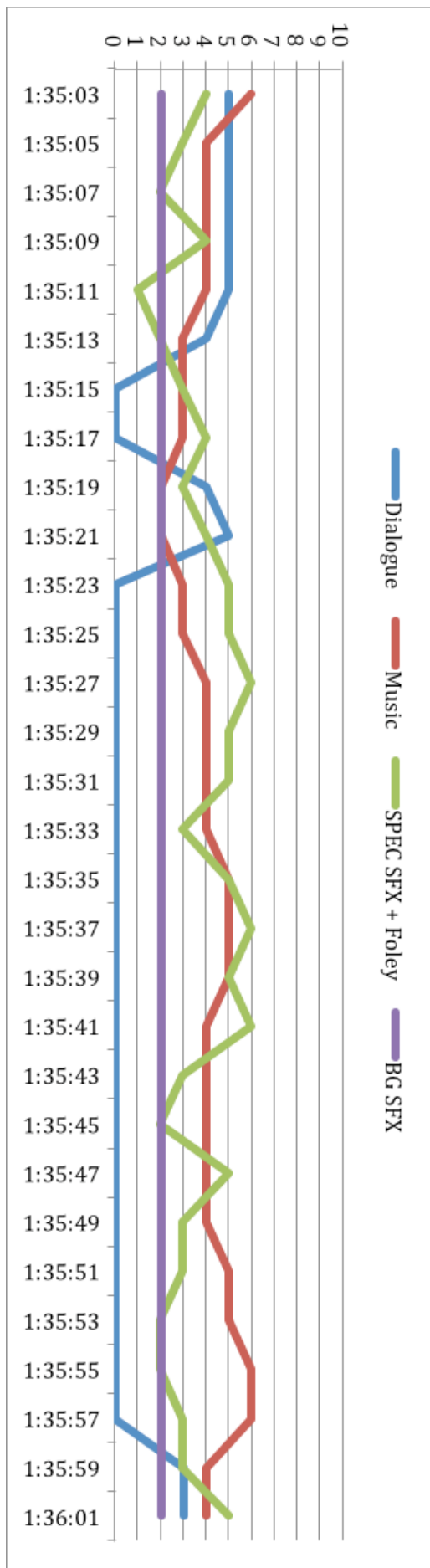
LS of the gate

CU of Coventry
XCU of the gate control

LS of the gate

MLS of Coventry getting electrocuted

CU of Coventry



Millennium - 4

LS of Coventry

LS of the gate opening

LS of people moving from their holding pens

LS of people moving from their holding pens

XLS of people walking towards the terminal with the gate

LS of people walking to the gate

LS of light

LS of man running from falling debris

CU of man falling

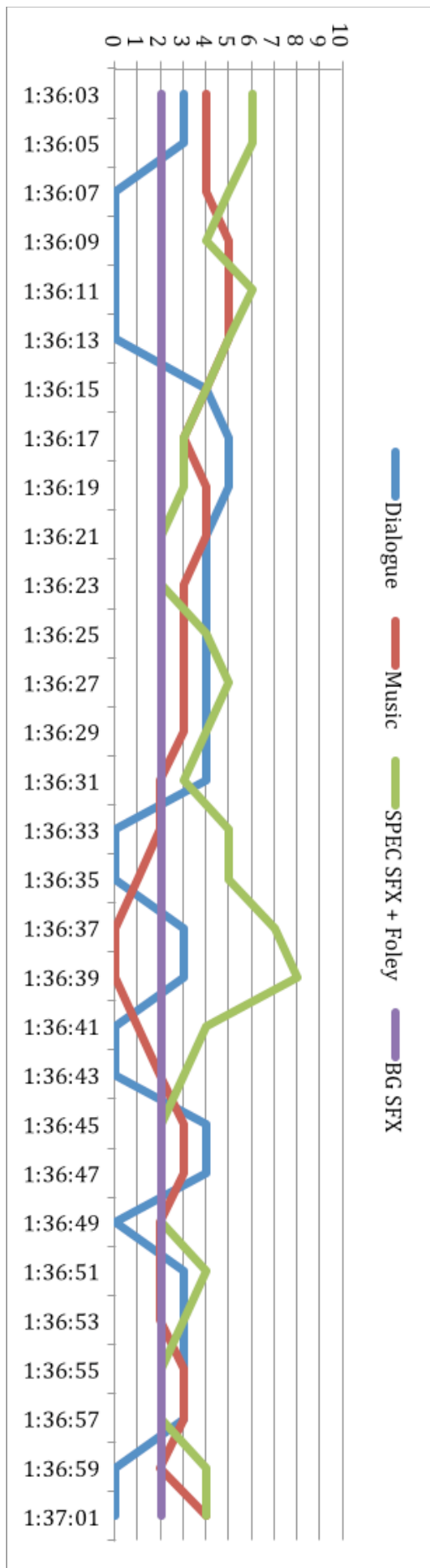
LS of explosions

LS of people walking to the gate

LS of Louise and Bill guiding people to the gate

MLS of Sherman guiding people to the gate

XLS of the people walking through the gate



Millennium - 5

LS of light
MS of controls exploding

LS of man jumping away from explosion

LS of people walking into the gate

MCU of Louise guiding people

MCU of Bill guiding people

MCU of Louise guiding people

LS of people walking to the gate

LS of light exploding

LS of men jumping out of the way

MLS of men jumping out of the way
LS of men jumping out of the way
MS of man working on equipment which explodes

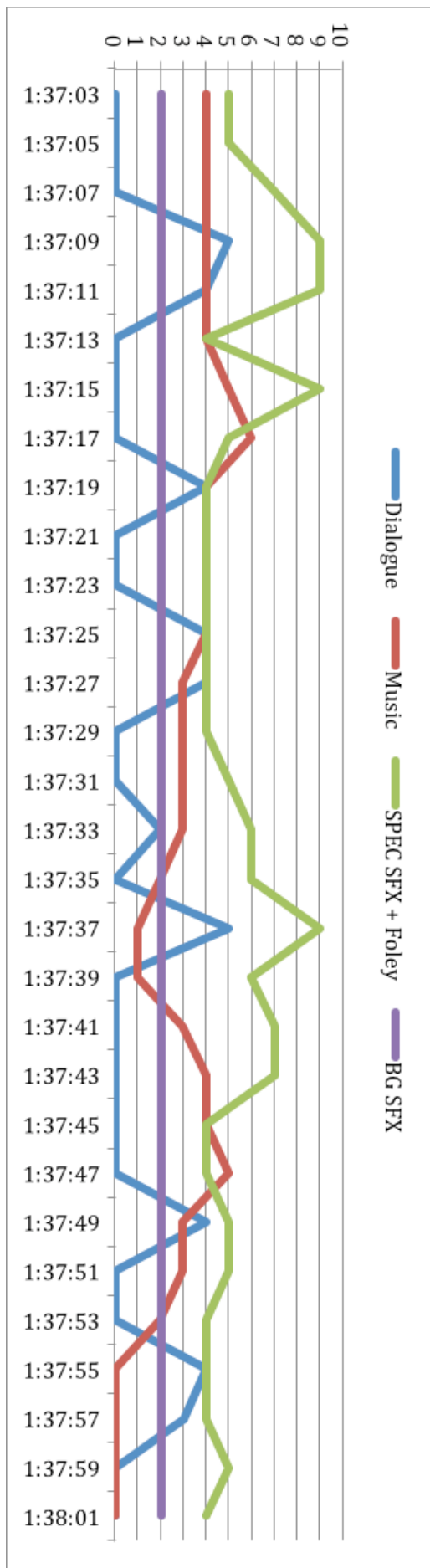
XLS of people walking to the gate

LS of council chamber

MCU of council woman

LS of council members exploding in their pods

CU of council member exploding in pod
LS of council members exploding in their pods



Millennium - 6

MLS of Louise and Bill guiding people

LS of council room exploding

MLS of council pods exploding

LS of council room

LS of window exploding
MS of window exploding

MCU of Louise
LS of light

MCU of Bill

MCU of Louise

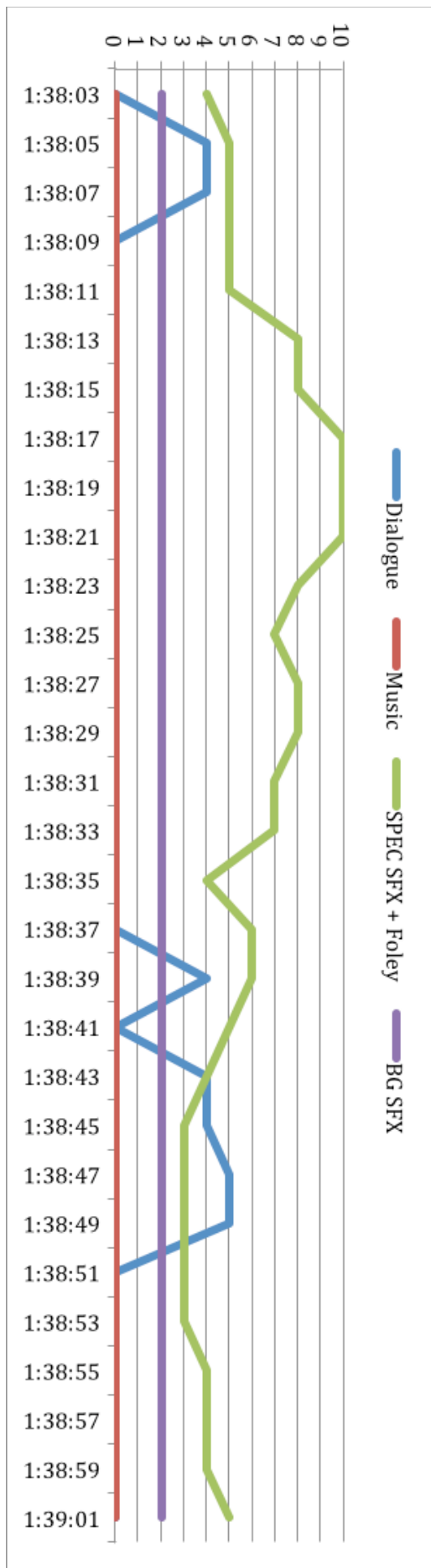
MCU of Bill

MS of Louise and Bill climbing the stairs to meet Sherman

LS of light

LS of gate and Bill, Louise, and Sherman walk towards it

Reverse MS of Bill, Louise, and Sherman



Millennium - 7

Reverse MS of Louise and Bill

MCU of Louise and Sherman

CU of Bill

MCU of Louise and Sherman

CU of Bill

CU of Louise

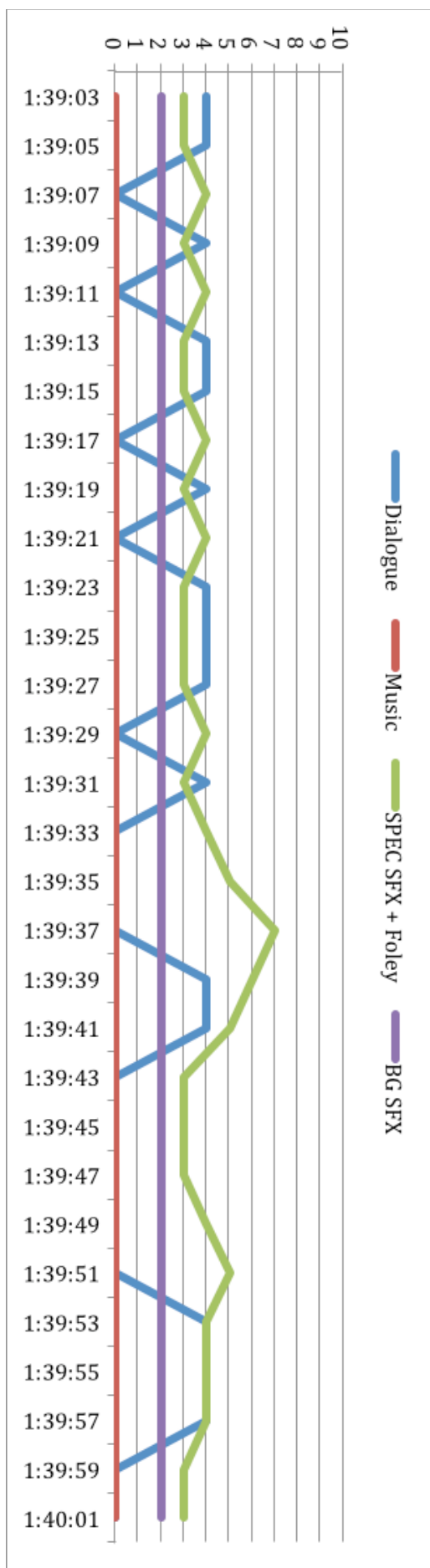
MS of Louise and Bill

CU of Louise
CU of Sherman

MCU of Louise and Bill

MCU of Sherman

MCU of Louise ad Bill



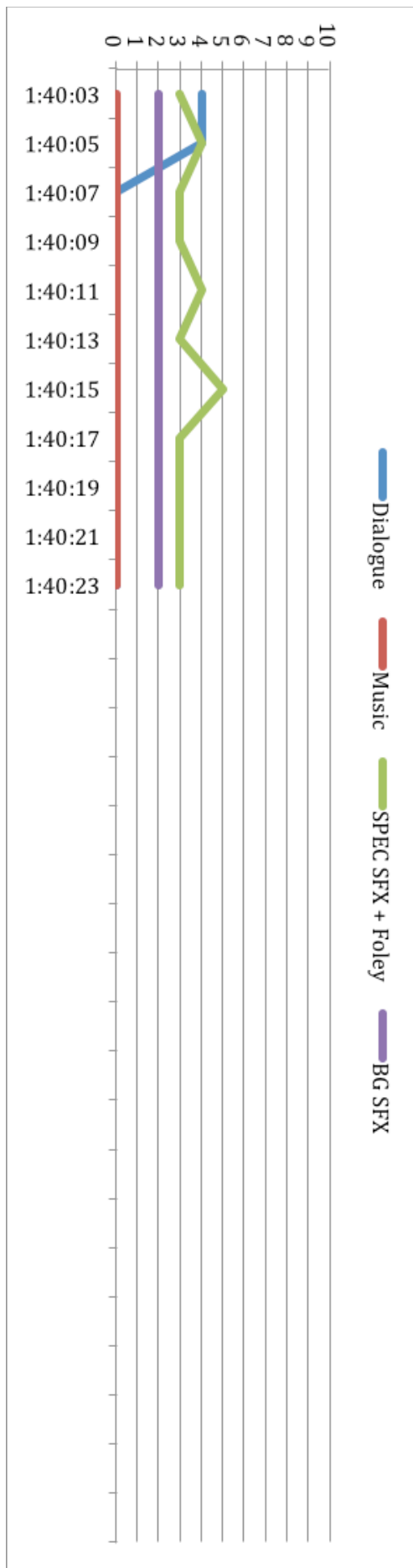
Millennium - 8

MCU of Sherman

MCU of Louise and Bill

CU of Sherman

XLS of Sherman - the world explodes and the picture fades to black (there is no sound for the explosion because it is like a nuclear bomb which, according to the film, has no sound)



Blood & Donuts - 1

MLS of Earl and Boya outside of car, Boya lays Earl down

CU Earl

CU Boya

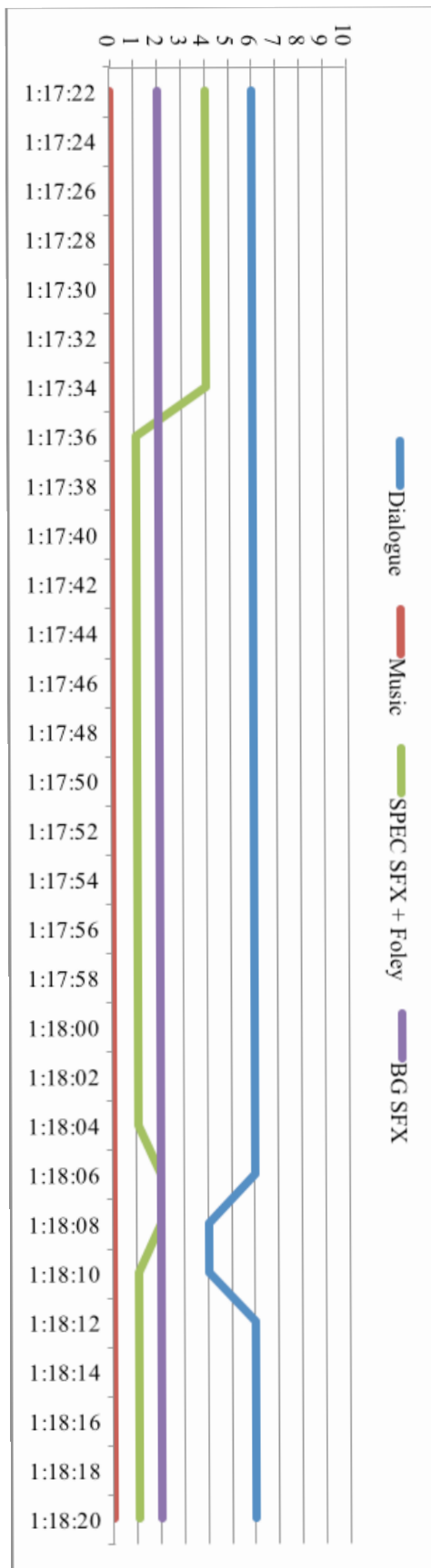
CU Earl

CU Boya

CU Earl

CU Boya

CU Earl



Blood & Donuts - 2

(Con't CU Earl)

CU Boya

CU Earl

CU Boya

CU Earl (he dies)

CU Boya

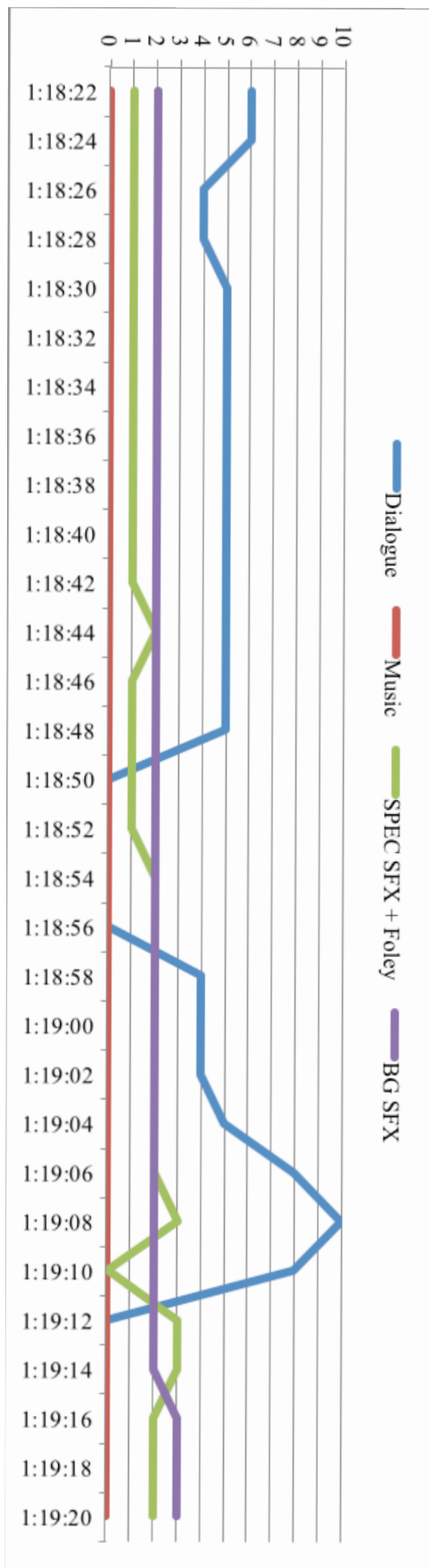
MS Boya and Earl

CU Boya as he screams

Insert shot of the moon

Molly's POV in car: XLS of Boya

CU of Molly in car



Blood & Donuts - 3

XLS of Molly's car pulling in to parking lot, continues as a tracking shot as Molly runs to Earl and Boya

CU Molly

CU Boya / CU Molly

CU Boya

CU Molly

LS of Molly performing CPR on Earl

CU Boya

CU Molly

CU Boya

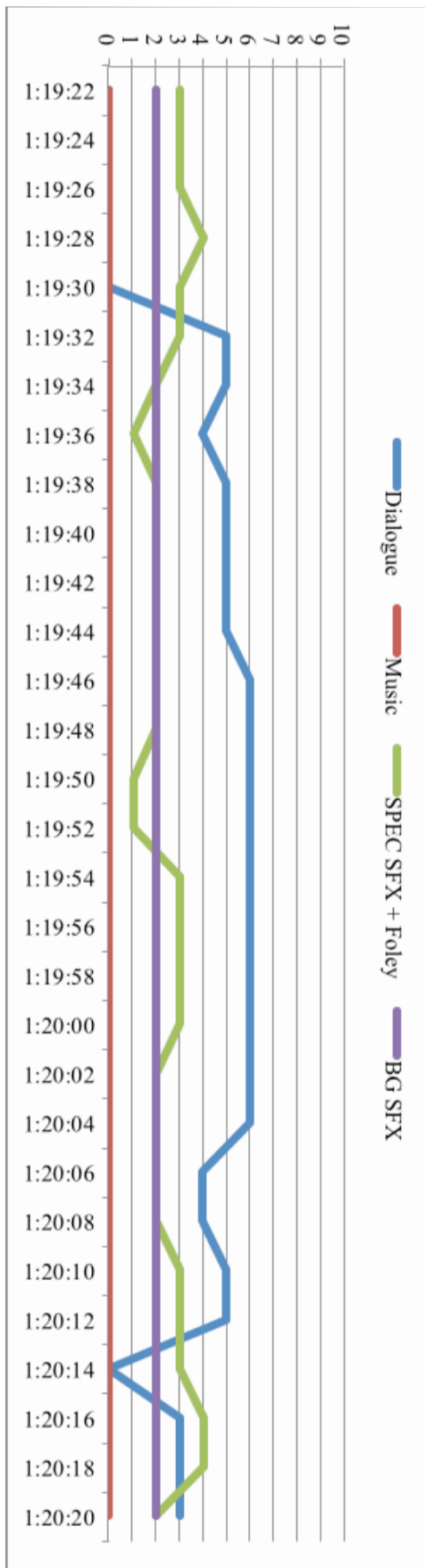
CU Molly / CU Boya

LS Boya with Earl's body, Molly runs off screen

CU gas peddle as Molly grabs the car mat

CU of box on the back seat, which Molly also grabs

CU Boya laying Earl's body on the hood of the car



Blood & Donuts - 4

CU Molly handling jumper cables

LS of Earl on the car with Boya and Molly standing beside the car

CU of jumper cables

CU of Molly's hand wiping Earl's hand with a sponge
tilt up to CU of Molly's face

CU of iron rod in Earl's hand / CU of Boya, pan to Earl's hand, tilt up to Molly

CU Boya / CU Molly, tilt down to hand

CU of Earl's other hand

CU Boya / CU of hand

CU of Boya

CU of car engine and cables being hooked up

CU of electrical sparks / CU Molly

CU jumper cable clamp hitting rod / LS of Molly, Boya, and Earl

CU of electrical sparks

LS of Molly, Boya, and Earl

CU Earl / CU Molly

CU Earl

LS of Molly, Boya, and Earl / CU of car radio

CU jumper cable clamp hitting rod / CU Earl

CU Molly

LS of Molly, Boya, and Earl / MS of Molly, Boya, and Earl

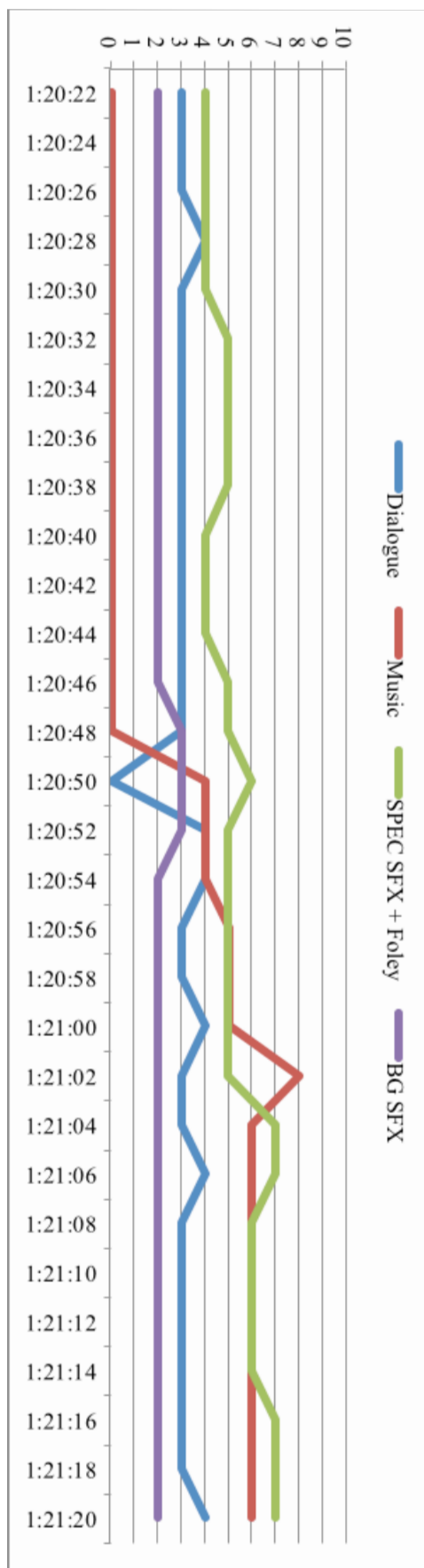
CU jumper cable clamp hitting rod / LS of Molly, Boya, and Earl

CU Molly / CU Earl

CU of car radio / CU Boya

MS Earl / MS of Molly, Boya, and Earl

CU jumper cable clamp hitting rod / CU Earl



Blood & Donuts - 5

CU Molly / CU of rod / CU of Earl's chest / CU of car radio

CU Earl

CU Boya

CU Molly

MS Earl

MS of Molly and Boya

CU Earl

MS Molly and Boya

MS Earl

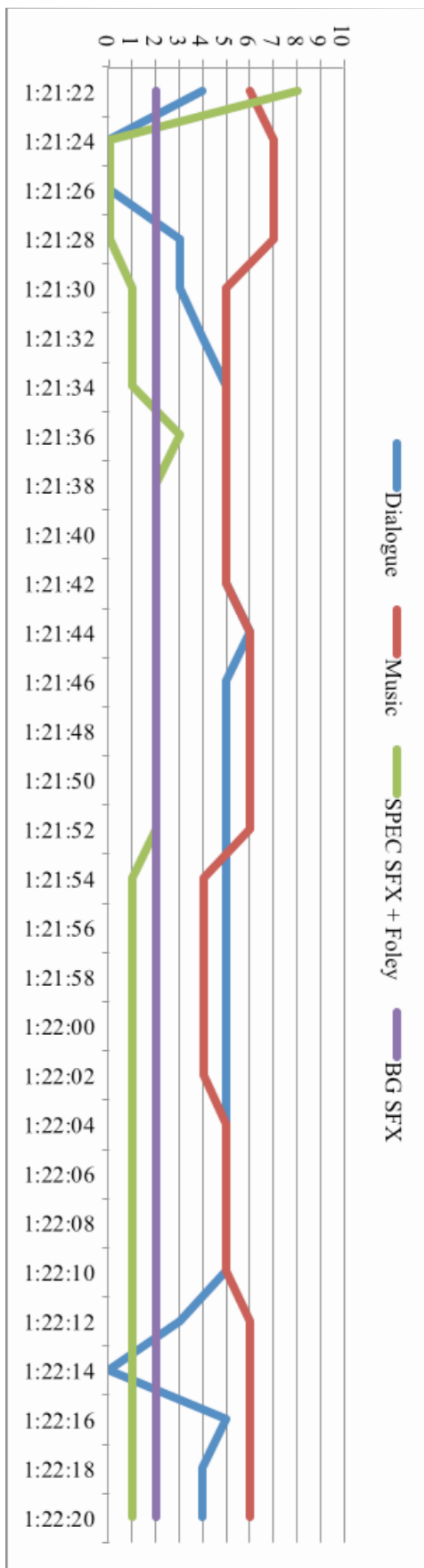
MS Molly, Boya, and Earl

CU Earl and Molly

CU Molly and Earl

CU Boya

CU Molly and Earl, tilt to CU of Molly kissing Boya



Blood & Donuts - 6

(Continued CU of Molly kissing Boya)

XLS of the city at dawn

CU Molly

CU Boya

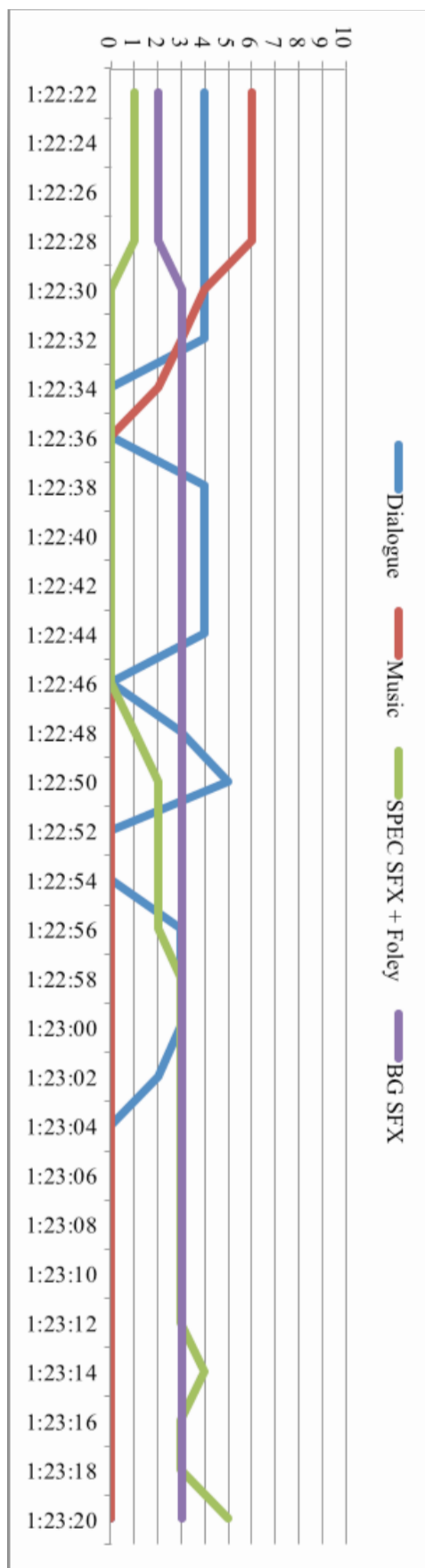
CU Molly

CU Boya

CU Molly

CU Boya

LS of Earl and Boya, Boya carries Earl, tracking shot as
Boya carries Earl to the car, LS as they get into the car

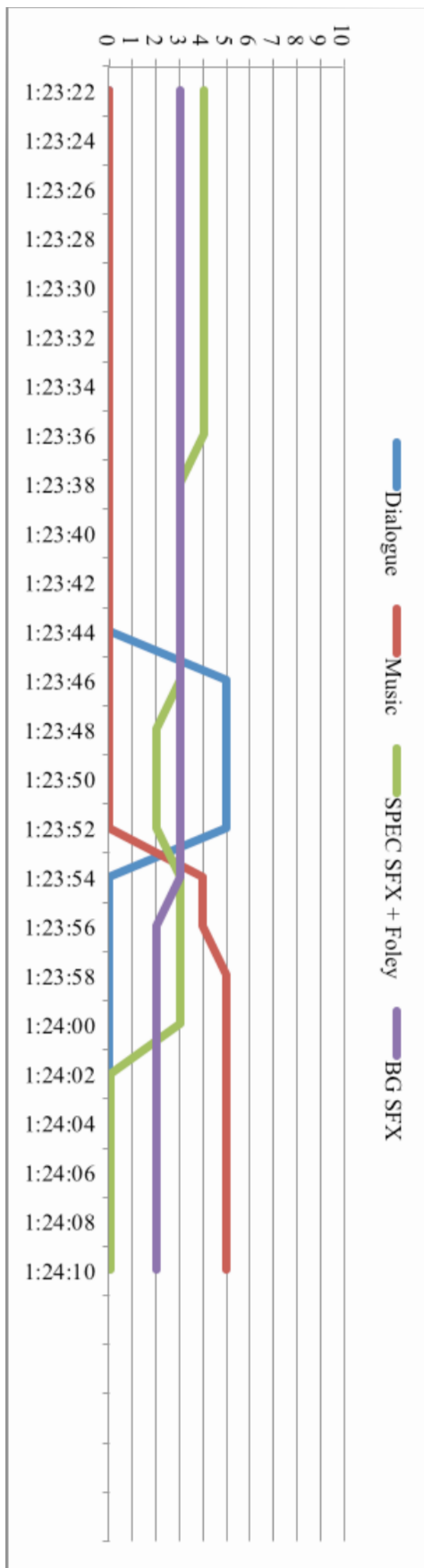


Blood & Donuts - 7

(Continued LS of Earl and Boya getting into car)

(Continued LS, car drives away)

MS of car driving down the road, tilt up to a LS of the city as the sun rises



Cube - 1

LS of Kazan

MS of Worth and Leaven

CU of Kazan

CU of Worth and Leaven

LS of Kazan, Worth, and Leaven

CU of Kazan

CU of Worth and Leaven

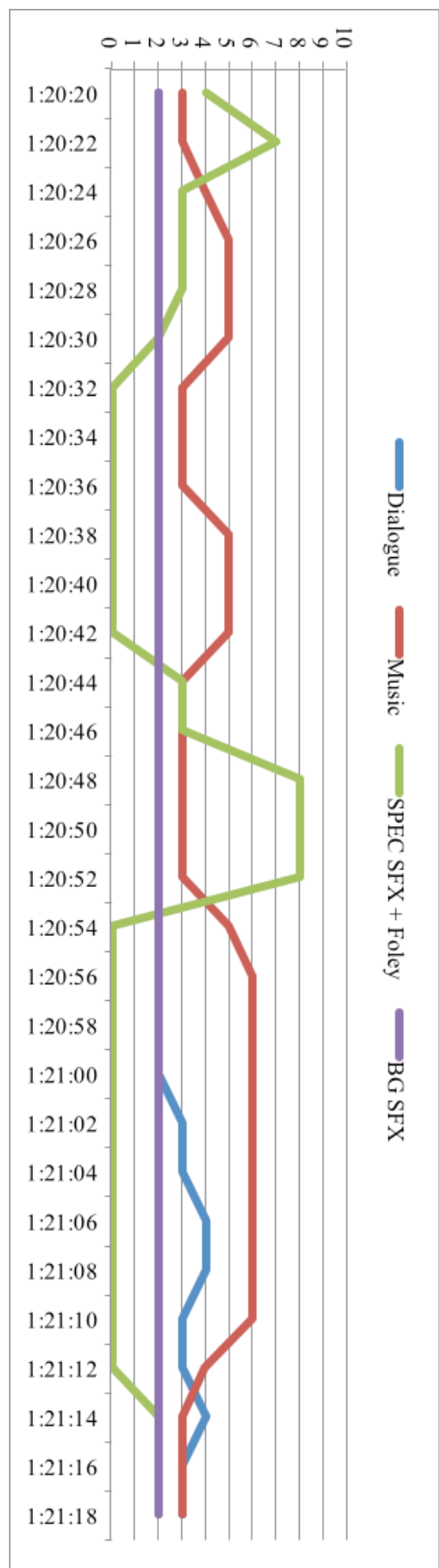
CU of Kazan

CU of Worth and Leaven

LS of Worth, Leaven, and Kazan

MS of Worth sitting down

CU of Leaven



Cube - 2

MS of Worth and Leaven

CU of Leaven

CU of Worth

CU of Leaven

CU of Worth

CU of Leaven

CU of Worth

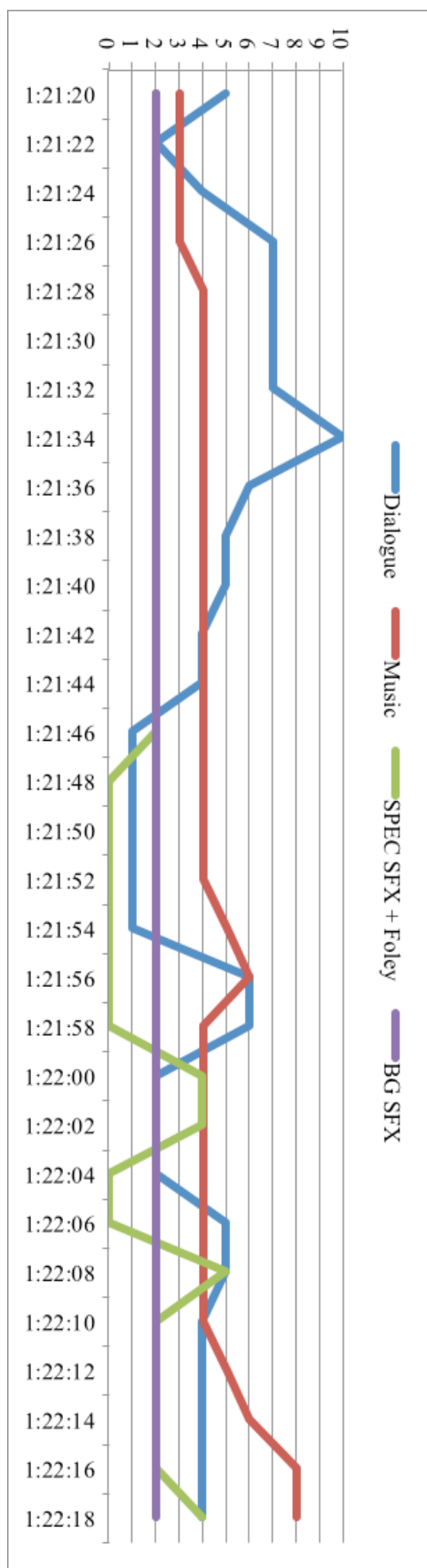
Insert of door to the outside of the maze

CU of Leaven

(Continued, Leaven is stabbed)

CU of Worth

MS of Leaven being lifted by Quentin



Cube - 3

CU of Kazan

CU of Quentin / CU of Worth

MS of Worth / MS of Quentin / CU of rod

CU of Worth

CU of Worth

CU of rod, Quentin picks it up

CU of Worth, CU of Worth and Quentin

CU of Worth being stabbed by Quentin

CU of Worth and Quentin

CU of Worth and Quentin

CU of Worth and LS of Kazan and Quentin

CU of Quentin

CU of Kazan / CU of Quentin

CU of Kazan

CU of Quentin

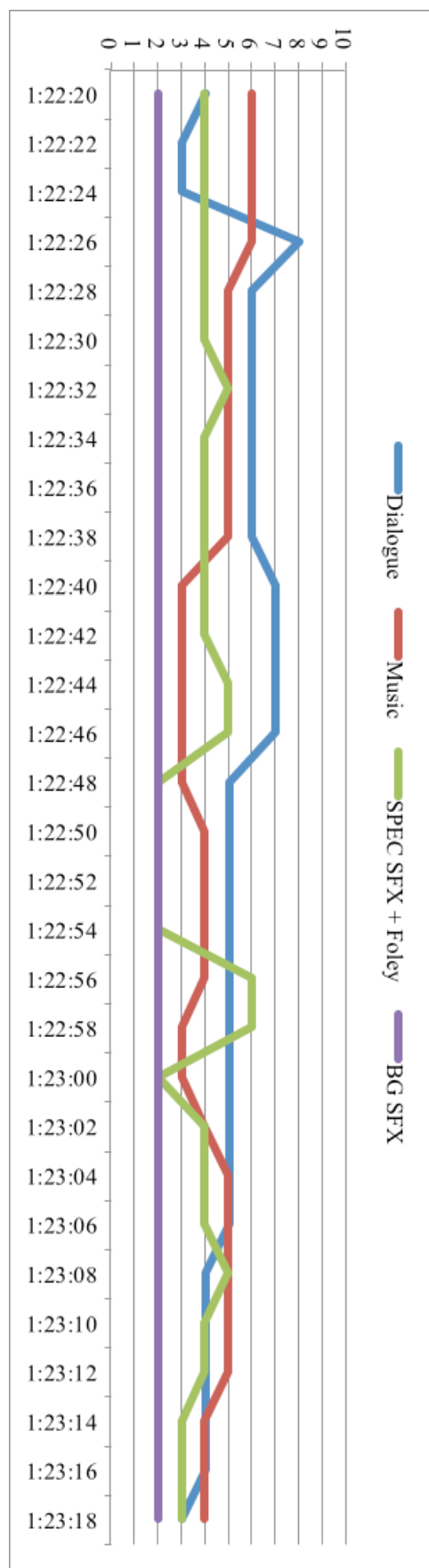
CU of Kazan outside cube / CU of Quentin's leg
outside of the cube

CU of Kazan / CU of Quentin / CU of Quentin's hand
grabbing Kazan's shirt

MS of Quentin and Kazan

CU of Quentin

MS of Worth holding Quentin's other leg inside cube /
MS of Quentin and Kazan / CU of Quentin



Cube - 4

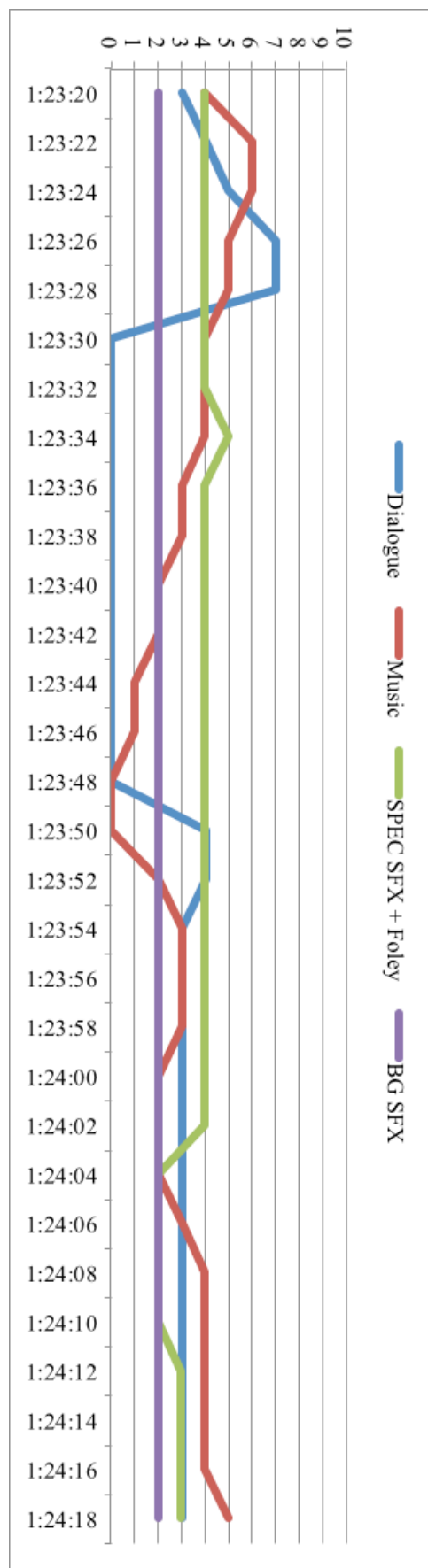
MS of Quentin and Kazan

MS of Worth holding Quentin's leg

MS of Quentin's body / MS of Kazan and Quentin

MS of Worth / XCU of Quentin's eyes / Ext LS of the cube moving and revealing blood splatter

MS of Worth lying down inside cube



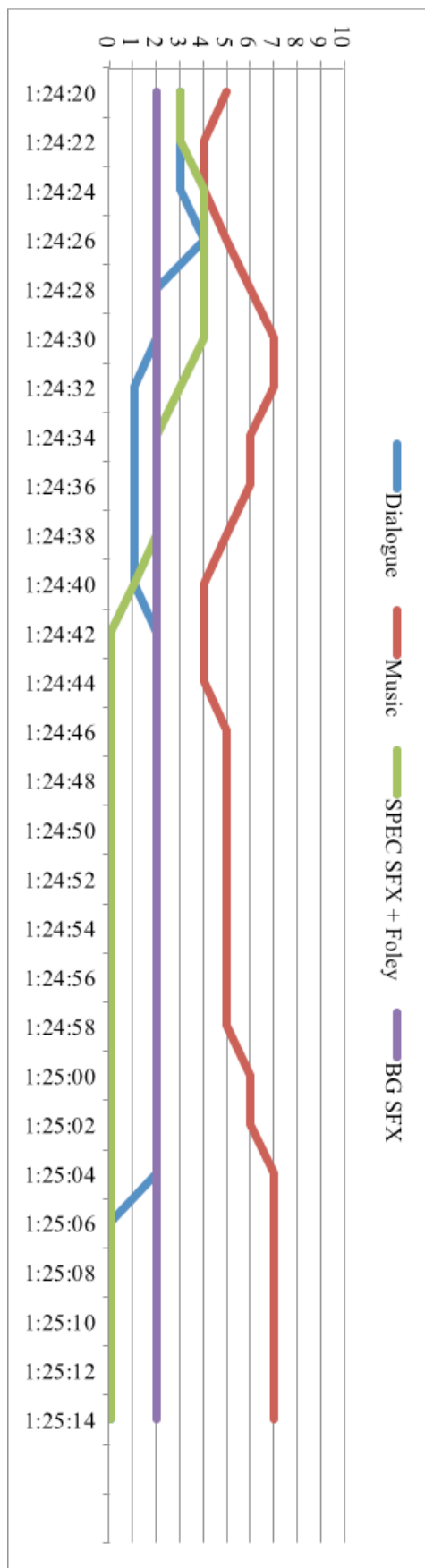
Cube - 5

LS of Worth crawling to Leaven's body

CU of Kazan

MLS of Kazan

(Continued, fades to white)



Ginger Snaps - 1

MS of pantry, Brigitte and Sam enter

CU of Brigitte and Sam preparing the remedy

CU of alcohol being poured into the bowl, tilt up to CU of Sam

CU of bowl / CU of Brigitte, tilt down to her pouring the mix

CU of spoon / CU of Brigitte

CU of spoon and lighter

CU of Brigitte

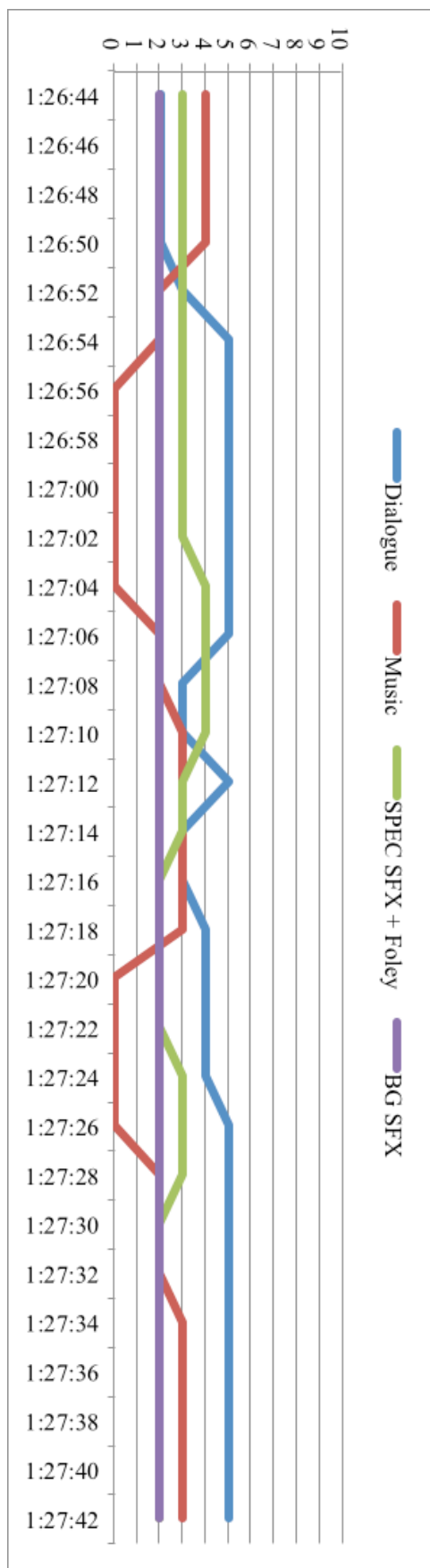
CU of Sam

CU of Brigitte and Sam

CU of Sam

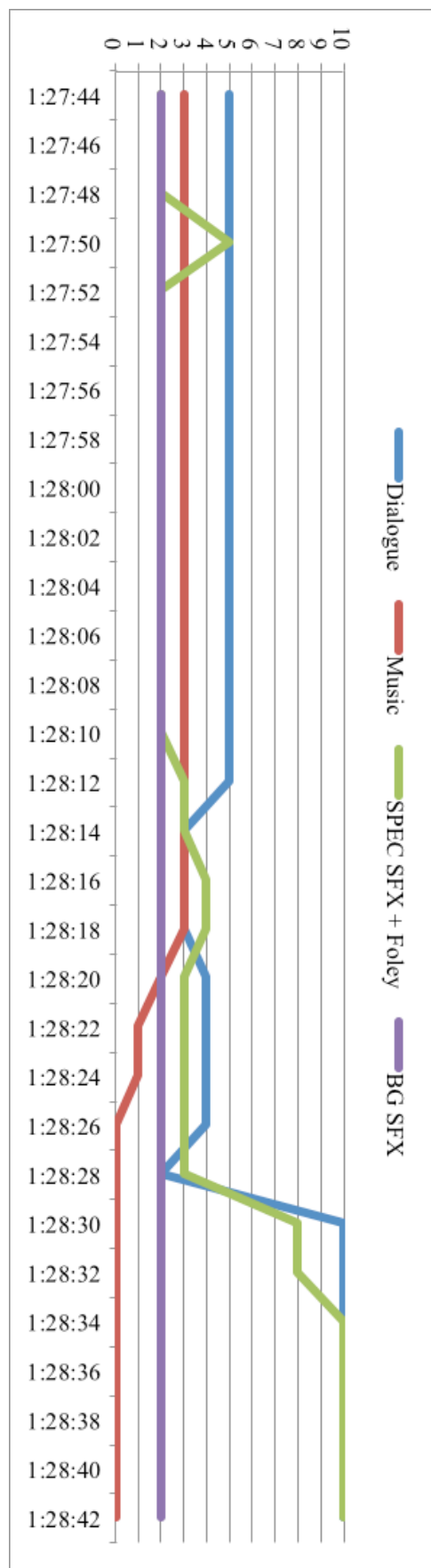
CU of Brigitte

CU of spoon and needle



Ginger Snaps - 2

CU of Sam
 CU of Brigitte
 CU of needle and spoon
 CU of Sam
 CU of Brigitte
 CU of Sam
 CU of Brigitte
 CU of Sam
 CU of Brigitte
 CU of Sam
 CU of Brigitte
 CU of door opening
 CU of Sam, Sam gets dragged out of the pantry
 LS of pantry, high angle on Brigitte, CU of Brigitte
 MS of Brigitte / CU of Sam
 CU of can in pantry / CU of door
 MS of Brigitte / CU of door / CU of Sam / CU of cans
 CU of Brigitte / CU door / CU of Sam, MS of Brigitte



Ginger Snaps - 3

CU of door / CU of cans / CU of Brigitte

CU of door

CU of blood under the door

CU of Brigitte

CU of door (door opens)

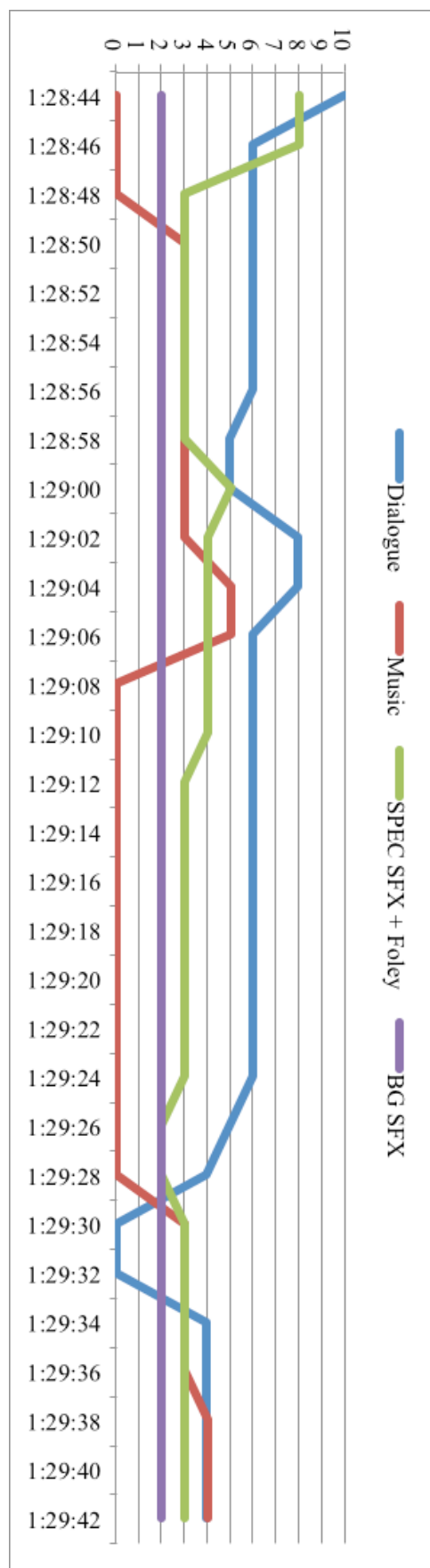
MS of Brigitte

Brigitte's POV of kitchen (LS), door slams

CU of Brigitte

Black screen

LS of living room and kitchen, Brigitte enters the frame in CU



Ginger Snaps - 4

CU of door covered in blood
 (Continues, tilts up to Brigitte leaving the pantry)

CU of the needle in a pool of blood

CU of Brigitte

MS of Brigitte

CU of needle, Brigitte picks it up

MS of Brigitte

LS of trail of blood

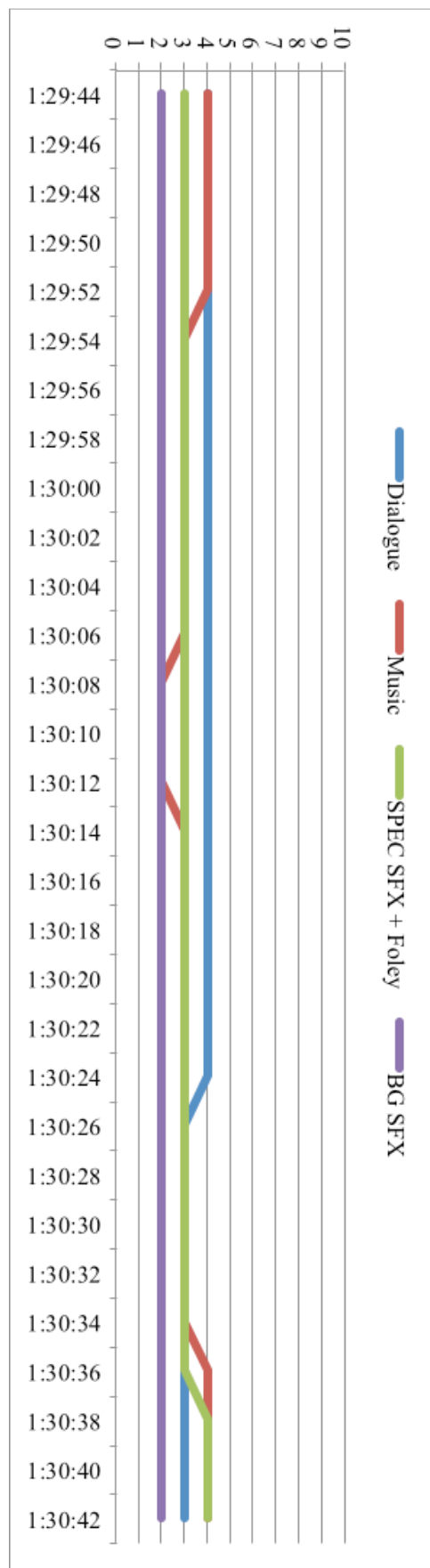
CU of Brigitte

MS of Brigitte

CU of of basement steps covered in blood

MS of Brigitte

LS of Brigitte on steps



Ginger Snaps - 5

CU of Brigitte

MLS of Brigitte on stairs

MLS of Brigitte falling / MS of Brigitte

CU of needle drop, camera tracks the needle's fall /
CU Brigitte gets up

Brigitte's POV, LS of basement

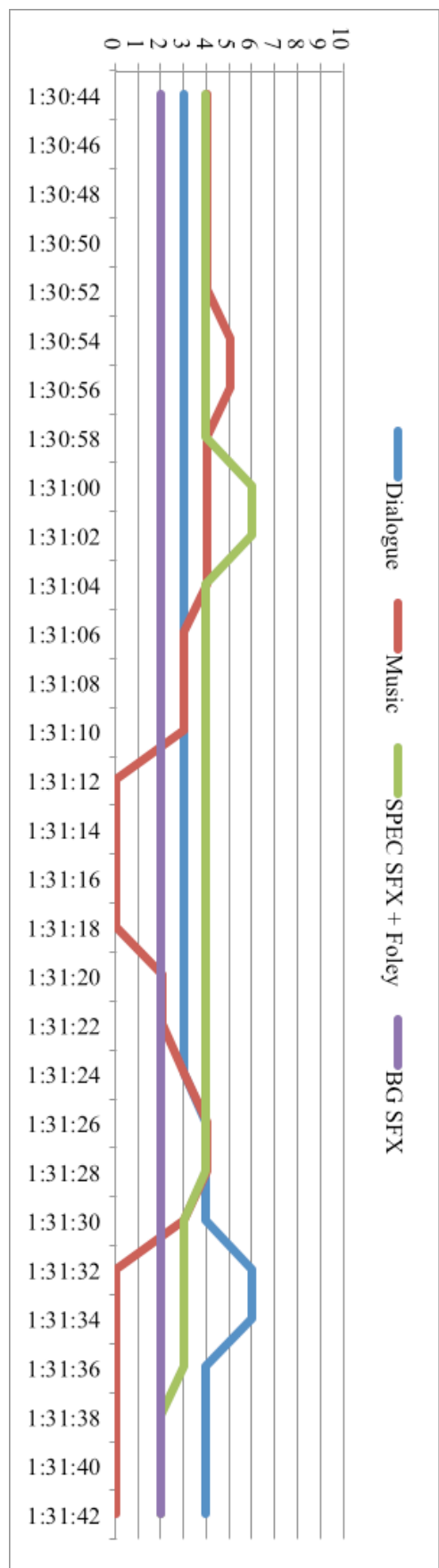
MLS of Brigitte

CU of Brigitte / CU of needle under the stairs

MLS of Brigitte trying to get the needle

MLS Brigitte

MCU Brigitte / MLS of Brigitte



Ginger Snaps - 6

LS of Brigitte, tracks into CU of Sam

CU of Brigitte

LS of Brigitte, Sam, and Ginger

CU of Brigitte

CU of Ginger

CU of Brigitte

CU of Sam, LS of Brigitte

CU of Brigitte crawling

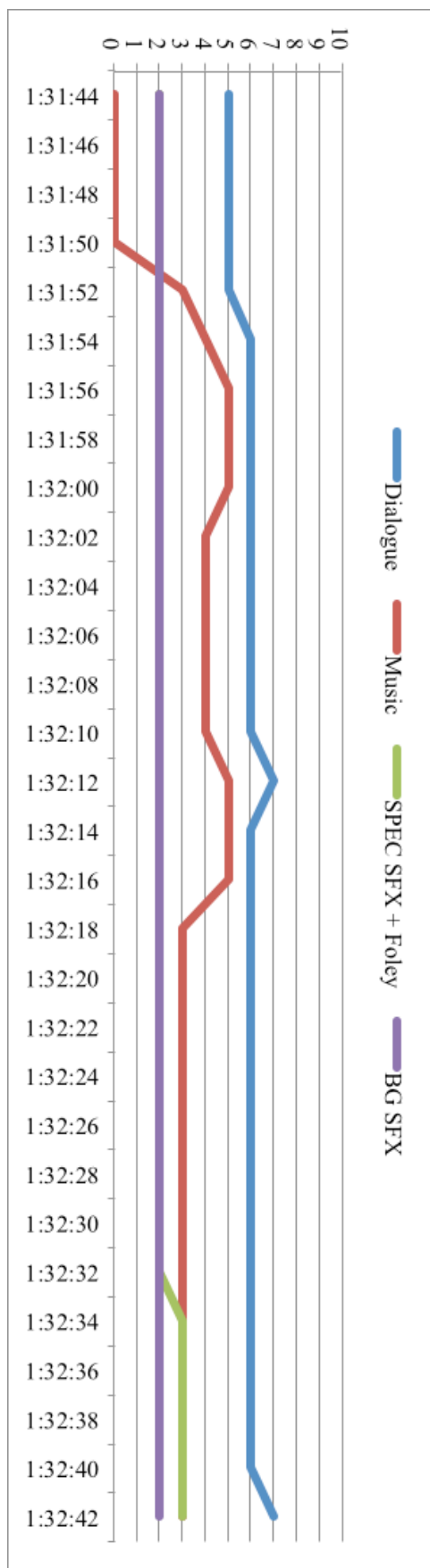
MS of Brigitte crawling to Sam

CU of Sam and Brigitte

CU of Sam and Brigitte

CU of Sam and Brigitte / CU of Sam and Ginger

CU of Sam and Brigitte



Ginger Snaps - 7

CU of Sam and Brigitte

CU of Brigitte, she eats Sam's blood

LS of Ginger, Sam, and Brigitte

CU of Brigitte

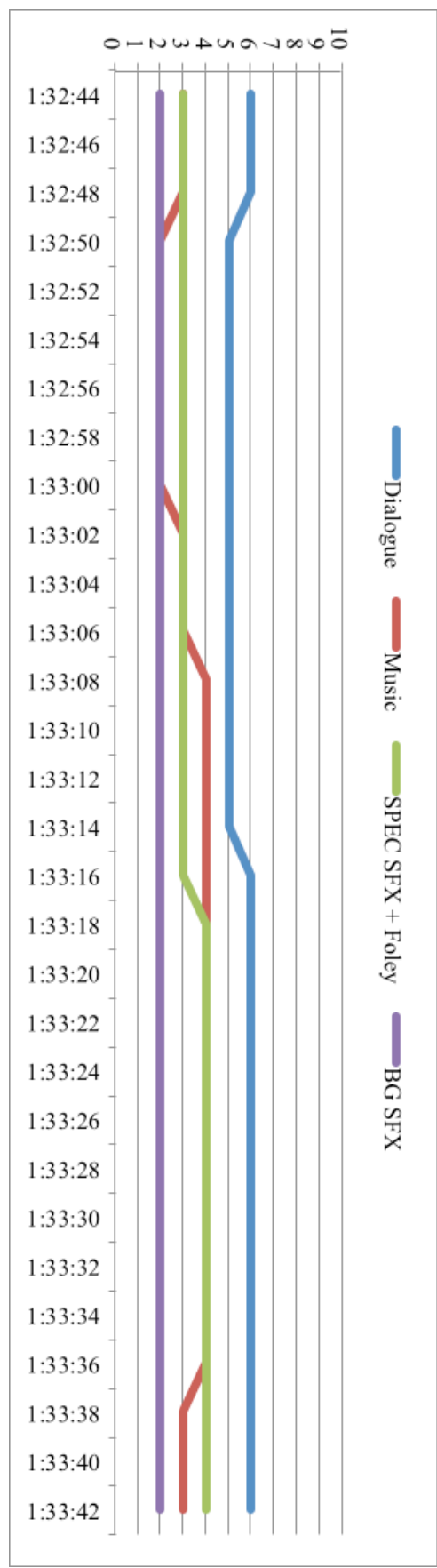
CU of Ginger eating the blood

CU of Brigitte

CU of Brigitte throwing up the blood

CU of Ginger

CU of Brigitte



Ginger Snaps - 8

CU of Ginger / CU of Brigitte

CU of Ginger / CU of Sam, Ginger bites his neck

CU of Sam's hand / CU of Brigitte

CU of Ginger killing Sam / CU of Sam's hand / CU of Sam

MS of Brigitte running / CU of Ginger / MS of Brigitte

CU of Brigitte / MS of Brigitte / CU of Ginger

MS of Brigitte / MS of Ginger

MS of Brigitte / CU of Ginger / MS of Brigitte

CU of Brigitte

CU of Brigitte and Ginger / CU of Ginger
CU of Brigitte / CU of Ginger

CU of Brigitte / CU of her jacket ripping

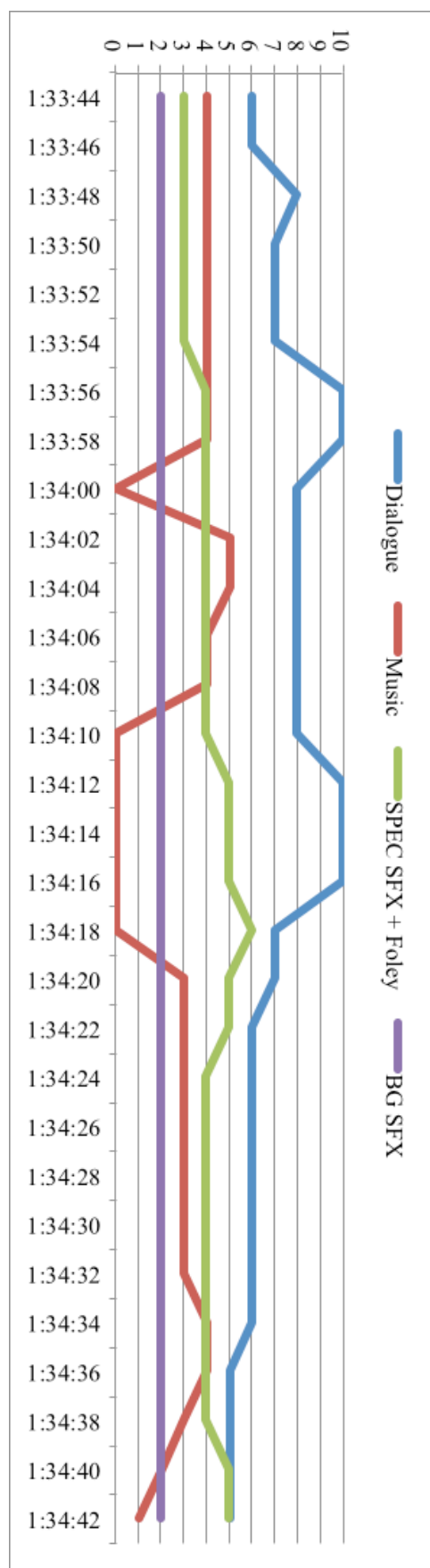
CU of Brigitte

CU of Brigitte

MS of Brigitte in crawl space

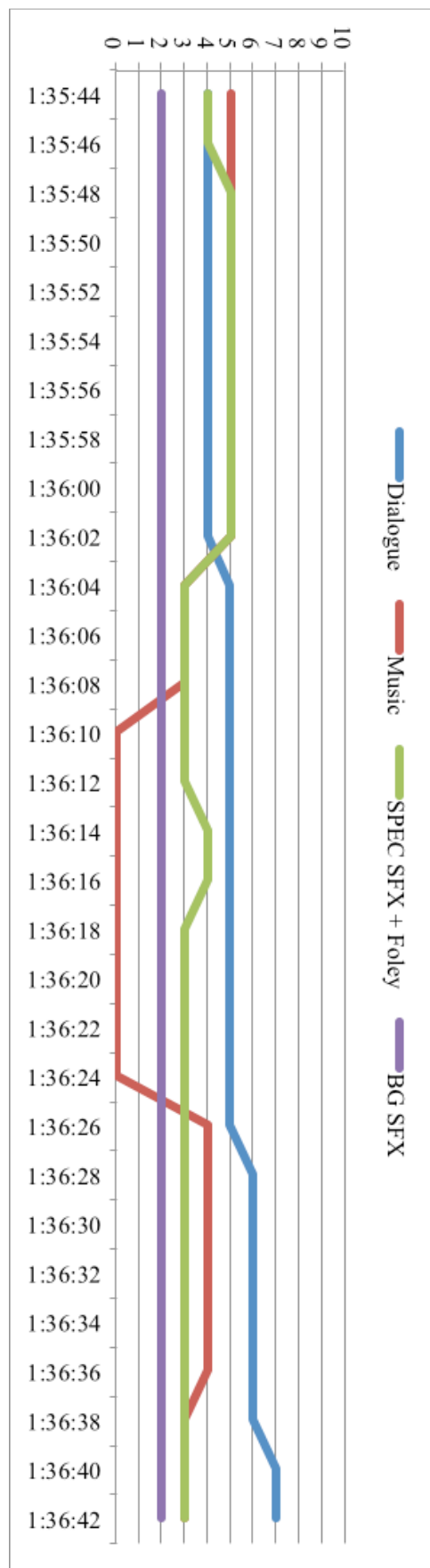
MS of needle / MS of Brigitte

MS of Brigitte under the stairs



Ginger Snaps - 10

CU of Brigitte closing door
 CU of door being locked
 MS of Brigitte
 CU of Brigitte holding knife
 MS of Brigitte
 MLS of Brigitte, camera swings to look for where Ginger is
 CU of Brigitte backing up
 CU of Ginger entering
 MS to CU of Brigitte
 CU of Ginger
 CU of Brigitte
 CU of Ginger
 LS of Brigitte backing up



Ginger Snaps - 11

CU of Ginger walking to Brigitte

LS of Brigitte

CU of Ginger

CU of Brigitte

CU of Ginger

CU of Brigitte

CU of Ginger / CU of Brigitte

CU of Brigitte's feet

CU of Brigitte

CU of Ginger's feet / CU of Ginger

CU of Brigitte

CU of Ginger

Ginger's POV of Brigitte in LS

CU of Brigitte / CU of Brigitte

CU of Ginger

CU of Brigitte

MLS of Brigitte / CU of Ginger

MS of Brigitte / LS of Ginger / CU of Brigitte

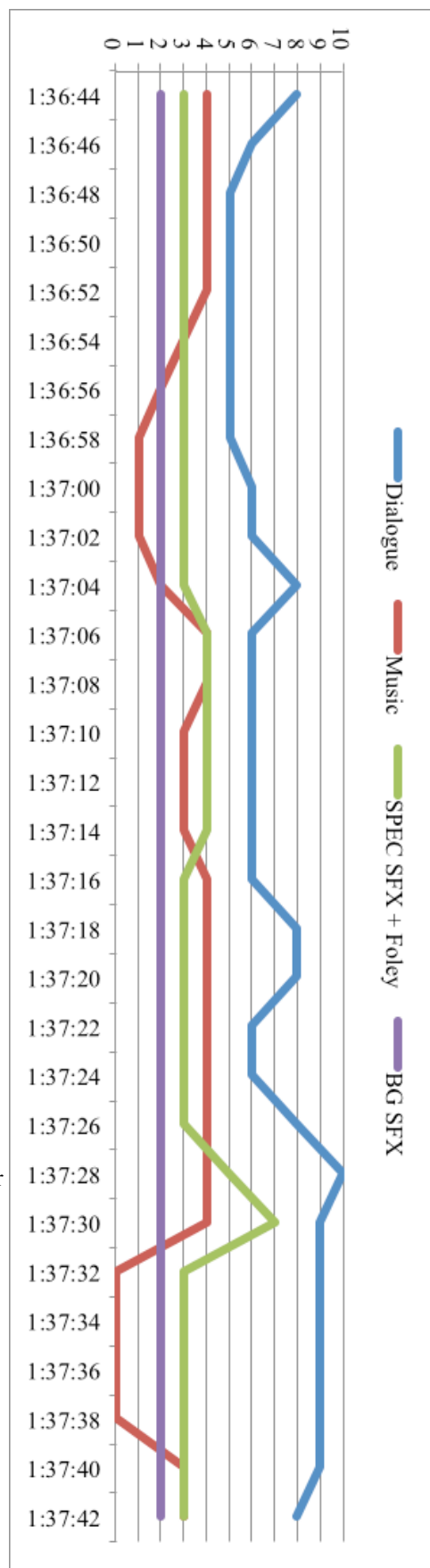
MS of Ginger / CU of Brigitte and Ginger / MS of Ginger
and Brigitte / MS of Brigitte and Ginger / MS same
CU of Brigitte and Ginger falling / CU Brigitte

CU of Ginger and Brigitte

CU of Ginger

CU of Brigitte

XCU of knife in Ginger's stomach

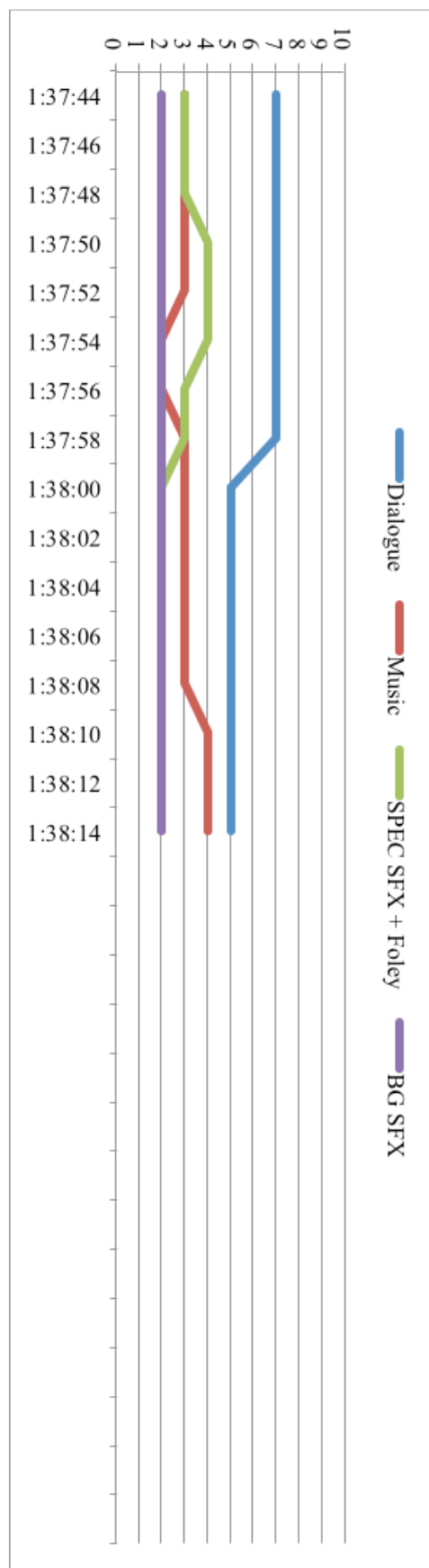


Ginger Snaps - 12

- CU of Brigitte
- CU of Ginger
- CU of Brigitte
- LS of Ginger and Brigitte, Brigitte rolls the body off her
- CU of Brigitte's feet / CU of Brigitte

- MS of Ginger's body

- CU of Brigitte



List of Multichannel Canadian Films from 1980-1989*

Title	Year	Director	Format	Facility	Location
<i>La Guerre du Feu (Quest for Fire)</i>	1981	Jean- Jacques Annaud	Dolby Stereo	Pathé Sound	Toronto
<i>Heavy Metal</i>	1981	Gearld Potterton	Dolby Stereo	Pathé Sound	Toronto
<i>If You Could See What I Hear</i>	1982	Eric Till	Dolby Stereo	Pathé Sound & Film House	Toronto
<i>Rock & Rule</i>	1983	Clive A. Smith	Dolby Stereo	Film House	Toronto
<i>Running Brave</i>	1983	D.S. Everett, Donald Shebib	Dolby Stereo	Ryder Sound	Los Angeles
<i>Spacehunter: Adventures in the Forbidden Zone</i>	1983	Lamont Johnson	Dolby Stereo	The Burbank Studio	Los Angeles
<i>The Hotel New Hampshire</i>	1984	Tony Richardson	Dolby Stereo	Goldwyn Sound Facility	Los Angeles
<i>Heavenly Bodies</i>	1984	Lawrence Dane	Dolby Stereo	Pathé Sound	Toronto
<i>Agnes of God</i>	1985	Norman Jewison	Dolby Stereo	Pathé Sound	Toronto
<i>No Surrender</i>	1985	Peter Smith	Dolby Stereo	De Lane Lea Ltd	London, UK
<i>One Magic Christmas</i>	1985	Phillip Borsos	Dolby Stereo	Pathé Sound	Toronto
<i>Anne Trister</i>	1986	Lea Pool	Dolby Stereo	National Film Board of Canada (NFB)	Montreal
<i>Flying</i>	1986	Paul Lynch	Dolby Stereo	Goldwyn Sound Facility	Los Angeles
<i>Pouvoir Intime</i>	1986	Yves Simoneau	Dolby Stereo	NFB	Montreal
<i>Last Man Standing (Circleman)</i>	1987	Damian Lee	Dolby Stereo	Film House	Toronto
<i>The Pink Chiquitas</i>	1987	Anthony Currie	Dolby Stereo	Pathé Sound	Toronto
<i>Un Zoo La Nuit</i>	1987	Jean-Claude Lauzon	Dolby Stereo	NFB	Montreal

<i>Blue Monkey</i>	1987	William Fruet	Dolby Stereo	Film House	Toronto
<i>City of Shadows</i>	1987	David Mitchell	Dolby Stereo	Film House	Toronto
<i>The Gate</i>	1987	Tibor Takacs	Dolby Stereo	Pathé Sound	Toronto
<i>The Virgin Queen of St. Francis High</i>	1987	Francesco Lucente	Ultra*Stereo	Unknown	Unknown
<i>Captive Heart</i>	1987	Paul Almond	Ultra*Stereo	B&B Sound Studios	Los Angeles,
<i>Dead Ringers</i>	1988	David Cronenberg	Dolby Stereo	Film House	Toronto
<i>Dans Le Ventre Du Dragon (In the Belly of the Dragon)</i>	1988	Yves Simoneau	Dolby Stereo	Sonolabs	Montreal
<i>Pin</i>	1988	Sander Stern	Dolby Stereo	The Saul Zanetz Company	Berkeley, California
<i>The Kiss (The Host)</i>	1988	Pen Densham	Dolby Stereo	Pathé Sound	Toronto
<i>Shadow Dancing</i>	1988	Lewis Furey	Dolby Stereo / THX	Unknown	Unknown
<i>Iron Eagle II</i>	1988	Sidney J. Furie	Ultra*Stereo	Pathé Sound	Toronto
<i>Screwball Hotel</i>	1988	Rafal Zielinski	Ultra*Stereo	Unknown	Unknown
<i>The Fly II</i>	1989	Chris Walas	Dolby SR	Saul Zanentz Center	Berkeley, California
<i>Bye Bye Blues</i>	1989	Anne Wheeler	Dolby Stereo	Film House	Toronto
<i>Bye Bye Chaperon Rouge</i>	1989	Márta Mészáros	Dolby Stereo	Sonolabs	Montreal
<i>January Man</i>	1989	Pat O'Conner	Dolby Stereo	Film House	Toronto
<i>Eddie and the Cruisers II: Eddie Lives!</i>	1989	Jean-Claude Lord	Dolby Stereo	Sonolabs	Montreal
<i>Jesus of Montreal</i>	1989	Denys Arcand	Dolby Stereo	National Film Board	Montreal
<i>La Revolution Francaise</i>	1989	Richard Heffon, Robert Enrico	Dolby Stereo	Unknown	France

<i>Prancer</i>	1989	John D. Hancock	Dolby Stereo	Film House	Toronto
<i>The Jeweller's Shop (La Boutique de L'Orfevre or La Bottega Dell'Orefice)</i>	1989	Michael Anderson	Dolby Stereo	Pathé Sound	Toronto
<i>The Last Winter</i>	1989	Aaron Kim Johnston	Dolby Stereo	Film House	Toronto
<i>Millennium</i>	1989	Michael Anderson	Dolby Stereo / THX	Film House	Toronto
<i>One Man Out</i>	1989	Michael Kennedy	Matrix Surround	Film House	Toronto
<i>American Boyfriends</i>	1989	Sandy Wilson	Ultra*Stereo	Film House	Toronto
<i>Buying Time</i>	1989	Mitchell Gabouvie	Ultra*Stereo	Film House	Toronto
<i>Matinee</i>	1989	Richard Martin	Ultra*Stereo	Sprocket Systems / Lusasfilm Sound	Nicasio, California
<i>Quarantine</i>	1989	Charles Wilkinson	Ultra*Stereo	Unknown	Unknown
<i>The Gate II</i>	1989	Tibor Takacs	Ultra*Stereo	Film House	Toronto

*This list was created by examining the available promotional material and credits for all films listed in the Canadian Feature Film Database. Many listed films do not have accessible material; as a result, those films were not counted.

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