CAN WE AFFORD NARRATIVE?
A Design Approach to Interactive Film

by

Douglas Grant
Bachelor of Arts, University of Calgary, 1977

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APPROVAL

Name: Douglas Grant

Degree: Master of Applied Science (Interactive Arts)

Title of Project: Can We Afford Narrative?:
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Examining Committee:

   Chair: _____

                                   Dr. Chris Shaw
                                   Associate Professor of the School of Interactive Arts and
                                   Technology

                                   _____

                                   Jim Bizzocchi
                                   Senior Supervisor
                                   Assistant Professor of the School of Interactive Arts and
                                   Technology

                                   _____

                                   Dr. Richard Smith
                                   Supervisor
                                   Associate Professor of the School of Communication

                                   _____

                                   Suzanne Stein
                                   External Examiner
                                   Faculty and Lead Lecturer at the Canadian Film Centre's
                                   Habitat New Media Lab

Date Defended/Approved: _Nov. 15, 2006_____

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ABSTRACT

The project proposes and examines an interactive narrative film design based on an original script by the author, providing a test-bed for difficult issues in these domains. It addresses the well-recognized problem of whether interactivity and narrative (especially attributes of coherence and immersion) can "play well together." A survey of theory leads into a design-oriented solution, based on a cognitive science approach to narrative. An interactive mechanism is proposed and examined that augments narrative and filmic experience, while keeping that dynamic highly 'user-friendly.' This can support degrees of coherence and immersion characteristic of the range of 'traditional' narratives in film. The research closes with analysis, based on historical precedent, of how this prototype effort may point to future development of interactive narrative film forms. A brief overview regarding technical implementation is included.

Keywords: interactive narrative film; interactive cinema; interactive film; interactive video

Subject Terms: Mass media -- Technological innovations

DEDICATION

To the theorists I relied on, both those who appear in these pages and the many others

which this written product is too brief to accommodate; they pointed directions to

investigate, and affirmed what I managed to discover.

ACKNOWLEDGEMENTS

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INTRODUCTION

This project examines and proposes an answer to the research question: How might we design fictional 'hypervideo' so that the interactive possibilities provided offer a viewer the opportunity to enrich her engagement with the narrative experience?

The hypothesis advanced and investigated is that one promising way to implement an answer to the research question is to design the navigation interaction possibilities offered so they support making 'explicit' a key process that viewers engage in as part of a narrative experience. That process is the forming of hypotheses (by the viewer) about the story based on what is presented in the narrative *and* the viewer's subsequent checking and possible reformulation of such hypotheses as the narrative unfolds.

In 'non-interactive' contexts a viewer's hypothesis-checking is internalized and 'implicit' as the viewer has no significant control over how the narrative unfolds; a hypervideo that affords some degree of control to a viewer over what information is presented to her, when, will allow the viewer to 'inter-activate' the process of hypothesis-checking, altering her engagement with this key narrative aspect of the experience.

The approach to investigating the question and validating the hypothesis is a design exploration, based on an analysis of theory in related domains. The theoretical background (covered principally in Chapter 1) takes in narrative generally and interactive narrative more specifically, as well as some prominent thinking about both 'traditional,

non-interactive' film narration and what the notion of 'interactive film' requires. This analysis is used to produce (as outlined in Chapter 2) a set of guidelines or 'requirements' for designing an interactive film. The research then presents a film design, to the script stage of development, intended to satisfy those guidelines. That design is analyzed (principally in Chapter 3) against the requirements and the background research they are based on, to evaluate which of the requirements it will be likely to meet if implemented, which it will likely fail to meet, and why in each case. Finally (Chapter 4) the • implications of this analysis and conclusions from it are drawn.

A full script for the film suitable for the purposes of the thesis is presented in Appendix A, and key technical requirements for implementing a prototype of the proposed design are outlined in Appendix B.

CHAPTER 1: PROJECT FOUNDATIONS

Any design for something labeled an 'interactive narrative film' will proceed according to the guidelines the designer reckons characterize 'interactive,' 'narrative,' and—seemingly obviously—film; and the success of the design will be evaluated according to whether it meets those guidelines, assuming the evaluator reckons they in fact adequately characterize those terms.[1]

So, before proceeding to describe and analyze the design artifact that's the subject of this thesis, I will first spend time describing and justifying the guidelines for *narrative*, *interactive*, and *film* that were used in the design process and which will be employed in the latter part of this thesis to analyze the result.

As a survey of pertinent writings shows, the categories of *narrative* and *interactive* (especially in conjunction with narrative) are subject to considerable debate and difference of opinion. To clarify the use of these terms in this project I will first outline the concept of narrative and then examine the notion of 'interactive narrative.' Following this, I will look at the concept of 'interactive film.'

'Narrative' and Interactivity

A selection from the essays written or edited by Marie-Laure Ryan in the volume *Narrative across Media* provide a very useful frame for much of my examination.

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[1] Throughout the thesis I use 'film,' 'video,' 'cinema,' and 'movie' fairly interchangeably; when these terms need to be differentiated for any specific purpose, I do so. The proposed implementation for the 'film' under analysis is in digital video.

Although the broad objective of that book is to discern what similarities and differences

narrative displays across a wide variety of media, Ryan's own chief concern (and of the

essays I will cite from the volume) is with 'digital media.' I will usually use the term

'new media' rather than 'digital media,' though I give pretty much the same meaning to

both; the reason for preferring *new media* should become evident in my analysis of how

we make 'new media' (or make media *new*) and how an awareness of that needs to

influence both those attempts to create new media and the analysis of how and why it's

different from 'old' media.

As Ryan indicates, much of the debate and disagreement regarding the nature of

narrative results from the fact that what one sees as narrative will depend on one's

purpose, one's methods, and especially which medium or media one's analysis focuses

on. To address this relativity, she (2004b, p. 2) surveys the broad framework of

overarching approaches to narrative, including existential, cognitive, aesthetic,

sociological, and technical. After doing so, she (p. 8) "propose[s] to regard narrative

meaning as a cognitive construct, or mental image, built by the interpreter in response to

the text." Prominent among her reasons for doing so is precisely that she believes this

approach "universal" enough to accommodate wide variety in the notion of narrative

across the full spectrum of media.[2]

Ryan (2004a, p. 330) *is* concerned as to whether "narrative [can] be radically

different from what it was in previous ages and still be called narrative" but while

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[2] Narrative as a cognitive construct on the part of an interpreter in response to a text is the model I have
employed for my film design; in the latter part of this chapter I will develop this concept in detail, based on
David Bordwell's analysis in *Narration in the Fiction Film*, then use it in Chapter 3 to analyze the film
design. My choice of this model is based on it providing the best framework for the design and summative
evaluation of a narrative film that incorporates viewer interactivity.

maintaining that the concept is not open-ended, she accedes to the fact that narrative has

varied historically and that our present reality is one of a rich narrative 'ecology'[3] in

which many narrative types coexist. In fact, one cause of this variety in types or degrees

of "narrativity" is that as with all media, the properties of digital or 'new' media "affect

narrativity in either a positive or a negative way" (Ryan, 2004c, p. 338).

And chief among these properties, according to Ryan (2004c, p. 338), is

interactivity. Although other prominent analysts are more circumspect about the term and

its distinctiveness in and to new media, Ryan is unabashed about it being digital media's

"truly distinctive" property. This leads her (2004a, p. 330) directly to the question of

whether interactive media are a natural, or even particularly promising, site for narrative:

> ...the question of the narrative benefits of interactive environments is far
> from settled. ...is the most distinctive property of digital media a boost, or
> is it an obstacle, to the creation of narrative meaning? When an interactive
> text achieves narrative coherence, does it do so by working with or against
> its medium?

Although Ryan couches the question of the effects of interactivity on narrative in

terms of coherence, there are two other aspects of narrative experience that need to be

considered in interactive environments. Many analysts claim an 'immersive' nature for

narrative (perhaps more so in some media, such as film, than in others), and many of

those worry that interactivity detracts from or even destroys such immersion.[4] Many

critics also assert that to justify itself, interactivity must be 'non-trivial,' i. e., it must alter

the narrative experience in some significantly discernible fashion[5] (and, obviously, in a

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[3] This notion is analogous to that of "media ecology," which Ryan (2004b, pp. 30–31) describes.
[4] We will see these arguments made by Glorianna Davenport in the section **Interactivity and Film** later in
this chapter.
[5] So, for example, in Ryan's model of narrative as a 'cognitive construct built by an interpreter...'
interactivity should significantly affect the construction/building/interpretation.

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way that doesn't diminish the experience). Thus, the question of how interactivity affects narrative is actually a nexus of three interrelated questions:

- What effect does interactivity have on coherence?

- How does it affect immersion?

- Is its effect on narrative experience significant?

The first question regarding coherence is easier to answer for some species in the 'narrative ecology' than others: for varieties of narrative in which coherence is not privileged, or for those which lay little responsibility for coherence on authored artifacts—leaving that principally to reader or viewer—the effect of interactivity can be a non-factor or even an 'emancipatory' one. For others types of narrative, the question is a genuine concern. Ryan examines it and concludes that interactivity and narrative coherence are not fundamentally incompatible, but can be reconciled through good design. We will return to this in more detail later. An attempt to answer the other two questions, about the narrative effect of interactivity in general and on immersion specifically, can benefit from a look at what Ryan (2004b, p. 31) calls

> the most ambitious account we have so far of the nature and history of both old and new media. This landmark is Jay Bolter and Richard Grusin's concept of "remediation." The authors define *remediation* as "the formal logic by which new media refashion prior media forms."[6]

> In short, we need to know how new media become new.

How Media Become New

For Bolter and Grusin, "remediation" amounts to one medium incorporating and attempting to 'surpass' another. They describe the attempt to surpass as a quest for

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[6] Unless otherwise indicated, all *italics* in quotations are original.

"immediacy," and immediacy in turn as characterizing media experiences that seem

'transparent,' or 'immersive.' Bolter and Grusin (1999, p. 45) identify a "spectrum of

different ways in which digital media remediate their predecessors." At one end of the

spectrum, "the computer is offered as a new means of gaining access…, as if the content

of the older media could simply be poured into the new one. Since the [new] version

justifies itself by granting access…, it wants to be transparent."

Further along the spectrum, remediation is more ambitious in its aims. The new

medium is "offered as an improvement, although the new is still justified in terms of the

old and seeks to remain faithful to the older medium's character. There are various

degrees of fidelity….The borrowing might be said to be translucent rather than

transparent" (Bolter & Grusin, 1999, p. 46). Thus, like remediation,

immediacy/transparency is a matter of degree and this introduces another term in the

Bolter and Grusin rubric. "Hypermediacy" is an awareness of the medium one is engaged

with, when the medium itself (rather than only its contents) 'interpellates' or 'gets the

attention of' the spectator. The less transparent and immediate the medium, the more

hypermediating will be the spectator's experience of it.

Progressing further along the spectrum still, "The digital medium can be more

aggressive in its remediation. It can try to refashion the older medium…entirely, while

still marking the presence of the older media and therefore maintaining…hypermediacy"

(Bolter & Grusin, 1999, p. 46).

Coming to the other end of the spectrum, "Finally, the new medium can remediate

by trying to absorb the older medium entirely, so that the discontinuities between the two

are minimized. The very act of remediation, however, ensures that the older medium cannot be entirely effaced" (Bolter & Grusin, 1999, p. 47).

Note that although in moving along the spectrum the traces of an older medium become less easy to discern (even though "the new medium remains dependent on the older one in acknowledged or unacknowledged ways" [Bolter & Grusin, 1999, p. 46]), in the same progression hypermediacy waxes but then wanes. In other words, transparency dominates at both ends of the spectrum.

To understand why this is and what it means, it's helpful to see the correlation between this spectrum and Ryan's (2004b, p. 16) distinction between "transmissive" and "artistic" functions of media. Her analysis helps us understand that Bolter & Grusin's spectrum is not only a synchronic set of categories but a diachronic progression outlining 'evolutionary' possibilities of media.

The theoretical implication is that new media begin in a transmissive role, 'a new means of gaining access, as if the content of the older media could simply be poured into the new one.' Prototypical examples are early film and, later, early television, in their presentation of live events such as plays, carried out in the beginning with a single fixed camera. Janet H. Murray (1997, p. 66) calls this an "additive art form (photography plus theater)." The basic form of hypermediation in this instance is the frame and framing themselves.

As Ryan (2004b, p. 18) points out, not all media evolve beyond transmission; for those that do, this happens when and because, in response to a seeming 'evolutionary imperative' to surpass the media they are remediating, they begin to develop different means of presentation, a new language of expressivity (as opposed to being merely

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'additive'). To use the example of representing drama in film, techniques of staging for film took advantage of the adoption of post-production techniques such as editing to achieve greater 'realism' by adapting theatrical staging; for instance, filming moved away from frontal address of actors by the camera (Bordwell, 1985, p. 238). However, to drive home the point that this whole process is incremental and takes considerable time to unfold, those actors continued to be called 'players' and film narratives 'photoplays'[7] (Murray, 1997, p. 66), for a considerable time after movies were actively remediating stage productions. That is, were becoming an 'artistic' medium in their own right, rather than merely a transmissive one.

Ryan (2004b, p. 30) describes this phenomenon for what we currently call 'new media,' pointing out that different varieties of new media occupy different points on the spectrum depending on whether they use computers simply for transmissive functions or instead for productive ones, and if the latter, how 'new' the effects they achieve:

> From drama to film, photography to painting, architecture to music, virtually every "old medium" has a new, digital twin, though whether or not this twin counts as an autonomous [i. e., 'artistic'] medium is a debatable question. (It will, according to the criteria adopted in this book, if it makes a difference in terms of narrative expressivity.)

In moving across the spectrum, how can we describe and explain the flux from immediacy to hypermediacy and then back to transparency in the progression from transmissive to what Ryan calls 'autonomously' artistic functions? As suggested above, the source of hypermediation in a medium playing a transmissive role is the frame in which it puts the established medium it remediates; if we can keep our eyes inside the frame, transparency is maximized. But when a new medium moves to more aggressively

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[7] For example, the sign of my local rep cinema, built in the 1930s, says "Pick o' the Best Plays." <http://www.hollywoodtheatre.ca/frontphoto.JPG>

remediate an older one, it does so by altering techniques of presentation; this modification of older presentation technique can't help but call attention to itself, forcing the new medium itself into the awareness of spectators by the very use of new technique.

As Bolter & Grusin's spectrum lays out, when a medium evolves beyond playing only a transmissive function, the hypermediacy it engenders at first increases proportionate to the aggressiveness of its remediation; however, in one of many 'double movements' which characterize the concepts of remediation, immediacy, and hypermediacy, sufficiently aggressive remediation begins to turn the experience back to immediacy and transparency. This occurs because with sufficient remediation, altered techniques that characterize the new medium become progressively 'naturalized' for spectators. They (and the medium they characterize) are then not salient in the spectator's experience because they're no longer compared with techniques of the older medium they developed out of; a casual observer, for example, does not think (may not even have adequate experience of theatrical productions) to compare staging techniques of the play with those of the film.[8] The new medium has reached a state where it can again present its contents in relatively 'transparent' fashion.

The foregoing analysis regarding how media become new points up three important implications for the project of creating interactive narrative film. First, it suggests that a positive answer to the question—

> *Is the effect of new digital media's 'truly distinctive' trait, interactivity, significant vis-à-vis narrative experience?*

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[8] The concept of remediation suggests that while recognizing surface similarities such as that their scripts each call for characters, locations, events, and dialogue, a casual observer will feel there are far more important differences between plays and movies than there are likenesses.

—is dependent on the extent to which interactivity engenders and supports techniques that are expressive rather than merely additive. That is (as set out prior to this section), these techniques must alter the constructive activity that is the spectator's narrative experience in some significantly discernible fashion. A more practical understanding of how this might work will be provided later in this chapter when I outline in more detail the model of narrative activity this thesis employs; for now, it's sufficient to know that—to invoke a rather hoary example—novels can't be made to become new media 'page turners' simply by enabling interactive page turning.

The second, related, implication is that while interactivity-spawned techniques must be more than simply additive, history suggests their development will be evolutionary rather than revolutionary. That is, it will likely be neither highly radical in nature, nor 'overnight' in its manifestation. To entertain a notion otherwise is, as Peter Lunenfeld (2004, pp. 382, 389) says in his essay "The Myths of Interactive Cinema," "utopian." Bolter and Grusin (1999, pp. 49–50) share his criticism of any false hope that new media spring, transcendently, '*ex machina*.' To illustrate historical reality, Lunenfeld (p. 389) points to video itself as it emerged as art form: "…it was precisely because video as a medium moved through its utopian phase that…video installation artists were able to come into their own…freed of the psychic burdens imposed by the impossibly lofty expectations" that video would be "sui generis."

These two implications provide a summary answer for questions Ryan (2004a, pp. 334–335) poses rhetorically—

> Are we still waiting for the interactive masterpiece that will raise the novel
> and the narrative movie to a higher level? Or should we give up the idea of

improving on what we already have and look for radically different ways
to place the power of computers in the service of artistic expression?

That answer is 'no' to either, and 'yes' to a bit of both. In other words, the way

forward won't be 'more of the same, but better,' nor something totally new. Instead, the

expressive language of interactive narrative film will emerge out of remediation of

existing filmic technique in an incremental and iterative manner, becoming in that

process a qualitatively different experience than the media it develops from.

Interactivity and Immersion

The third implication is that the concept of immediacy and hypermediacy may

help provide a productive answer to the question—

How does interactivity affect immersion?

A full understanding of immediacy–hypermediacy makes it clear that the relationship of

degree in which they coexist is manifested not only *between* categories[9] of new media

along Bolter & Grusin's spectrum but also *within* a spectator's experience of any new

media 'object' as it unfolds through time. As Bolter and Grusin (1999, p. 19) say, "new

digital media oscillate between immediacy and hypermediacy."

Now if immediacy is the impression of immersion in the content being presented

by media, and hypermediacy is the state of the spectator's attention being got by the

presentation itself (rather than only what's presented), what is the consequence of this

oscillation for the condition of immersion widely held to be native to narrative

experience? Such oscillation would seem to entail that hypermediating interactivity

precludes narrative immersion, and many critics have indeed asserted a fundamental

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[9] and concrete instances

incompatibility between the two.[10] Ryan (2004a, p. 331), however, argues that "much of

the debate between traditional narrativity and interactive textuality has been conducted on

the level of propaganda," and that "one of the few critics who have been willing to look

at the roots of the problem is Lev Manovich."

Manovich (2001, p. 205) agrees with Bolter and Grusin that "hypermedia

applications are characterized by a peculiar temporal dynamic—constant, repetitive

oscillation between an illusion and its suspens[ion]." For Manovich (p. 227), database is

foundational for new media and therefore interactivity can be characterized as

information search or access. He (p. 216) states that often "goals of information access

and psychological engagement compete...*the opposition between information and

'immersion' can be thought of as a particular expression of the more general opposition

characteristic of new media—between action and representation*" and therefore

"database and narrative are natural enemies" (p. 225). In fact though, Manovich is much

more ambivalent about the relationship between interactivity and narrative than such a

slogan indicates, and he labors throughout his book *The Language of New Media* to

recuperate their coexistence and even cooperation, calling for "*'info-aesthetics'—a

theoretical analysis of the aesthetics of information access as well as the creation of new*

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[10] It's interesting and important to note here that interactivity is of course not the only source of
hypermediacy. Difficulty inherent in content itself may create hypermediacy; Mihaly Csikszentmihalyi
(1990, pp. 118–119, 52) deals with this in his book *Flow*. And of course aspects of *how* the content is
presented in 'non-interactive' media can also cause hypermediacy; germane to this thesis is David
Bordwell's notion of "self-conscious" narration as he describes it with respect to traditional film. For
Bordwell, narration can be less self-conscious and more transparent (as in what he calls "Classical
Hollywood Narration") or more self-conscious and less transparent (for example, in what he calls "Art-
Cinema Narration"). This is discussed a bit later in this chapter. (It must also be said here that Bordwell
[1985, p. 156] doesn't favor the term "transparent.")

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media objects that 'aestheticize' information processing"[11] (p. 217). He (p. 216) provides

an example of an attempt, germane to this thesis, to bridge the gap between interactivity

and the aesthetic demands of narrative experience: "Appropriately, games such as *Johnny*

Mnemonic (SONY, 1995) that aspired to become true interactive movies, chose to avoid

hyperlinks and menus altogether, instead relying on a keyboard as the sole source of

interactive control."

And the illusion of representational immersion need not be totalizing. Manovich

(2001, p. 208) says that oscillation

> does not seem to distract the user from giving in to the reality effect....It is
> tempting to compare these temporal shifts to the shot/counter-shot
> structure in cinema and to understand them as a new kind of suturing
> mechanism. By having periodically to complete the interactive text
> through active participation, the subject is interpolated in it. Thus if we
> adopt the notion of suture, it would follow that the periodic shifts between
> illusion and its suspension are necessary to fully involve the subject in the
> illusion.

In other words, "The user invests in the illusion precisely because she is given

control over it" (Manovich, 2001, pp. 208–9). Manovich (p. 209) traces this phenomenon

not just in new media but in our modern society-at-large within which those media are

embedded: "The oscillation analyzed here is not an artifact of computer technology but a

structural feature of modern society, present not just in interactive media but in numerous

other social realms and on many different levels."

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[11] For some years as of this writing, Manovich has been talking about and working on a book to be titled
Info-aesthetics, which should expand on this aesthetics of interactivity. The book proposal can be found at
<http://www.manovich.net/IE_MIT_proposal_2004.doc>. At Manovich's Website
<http://www.manovich.net/> there are also links to download his "Info-Aesthetics" series of papers and one
to a third party site on Information Aesthetics.

Janet Murray (1997, p. 99) agrees with Manovich that immersion is "a participatory activity."

> The pleasurable surrender of the mind to an imaginative world is often described, in Coleridge's phrase, as "the willing suspension of disbelief." But this is too passive a formulation even for traditional media. When we enter a fictional world, we do not merely "suspend" a critical faculty; we also exercise a creative faculty. We do not suspend disbelief so much as we actively *create belief*. Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience.[12] (p. 110)

Murray (pp. 99–100) describes both computers and narrative as "liminal" or "threshold" phenomena; thus, in our experiences with either—or especially with both together—we actively 'transition' a continuum between immersion/immediacy and hypermediacy.

Interactivity and Film

According to these arguments, then, a degree of hypermediacy can be an immersive 'feature,' not a 'bug.' But if this is arguably the case for narrative, what about for film *qua* film? Manovich's analogy to shot/counter-shot is a nice one, but we need to bear in mind that suture is a device of continuity; considering the continuous, 'time-based' nature of film itself, what happens when designers of interactive media

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[12] For Murray (1997, p. 74), activity is participatory when what we are participating with is "responsive to our input," and more tightly structured participation results in more sustained engagement. This is directly related to agency, which she (p. 126) defines similarly. Murray (p. 153) makes a point of trying to distinguish between agency and authorship, stating that "The interactor is not the author of the digital narrative, although the interactor can experience one of the most exciting aspects of artistic creation—the thrill of exerting power over enticing and plastic materials. This is not authorship but agency." Although Murray is not always as clear about the distinction as this quote would indicate (especially at points throughout the latter half of the book), this initial, strong formulation and much of her analysis is in close keeping with the design this thesis proposes, which supports the interpretation that while a user's agency in viewing the interactive film helps to shape the narration and thus the resulting narrative experience, this does not constitute an authorship role. Or, as Murray (p. 275) puts it: "Just as we have only recently learned to think of the solitary reader as playing an active role through an imaginative engagement with the story, so too are we just beginning to understand that the interactor in digital environments can be the recipient of an externally authored world."

"conspicuously...structure the subject's temporal experience as a series of periodic

shifts...[forcing] the subject...to oscillate between the roles of viewer and user, shifting

between perceiving and acting, between following the story and actively participating in

it"? (Manovich, 2001, p. 207) And, more importantly when

> during one segment, the computer screen presents the viewer with an
> engaging cinematic narrative. Suddenly the image freezes, menus and
> icons appear, and the viewer is forced to act—make choices, click, push
> buttons....Moscow media theorist Anatoly Prokhorov describes these shifts
> in terms of two different identities of the computer screen—transparent
> and opaque. The screen keeps shifting from transparent to opaque—from a
> window to fictional 3-D universe to a solid surface, full of menus,
> controls, text, and icons. Three-dimensional space becomes surface...the
> screen keeps alternating between the dimensions of representation and
> control. What at one moment was a fictional universe becomes a set of
> buttons that demand action. (pp. 207–208)

Does the effect on the cinematic (or filmic) experience make the notion of

interactive film (and in particular interactive narrative film) a contradiction in terms? Of

the many theorists and practitioners who decry such 'intertitle' style interaction,

Glorianna Davenport of MIT's 'Media Fabrics: Interactive Cinema'[13] is notable. She

(Davenport & Murtaugh, 1997) criticizes "the cumbersome and disruptive nature of the

control interface" in offerings where "the presentation would grind to a halt, and the

audience would be offered two or three predetermined choices of where to go next."

Davenport (Davenport, Evans, & Halliday, 1993, p. 2) asserts that

> Many interactive experiences are created as a pre-computed structure that
> requires input (interaction) from the user at specified pre-defined narrative
> junctions. The reverie of the experience so important to any successful
> cinematic narrative is lost in the imperative of such interactions. A viewer
> should be able to sit back and enjoy the show without frequent
> interruptions caused by mandatory interactions.

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[13] <http://mf.media.mit.edu/>; titled the 'Interactive Cinema Group' from 1987–2004
<http://ic.media.mit.edu/>

Instead she (pp. 2–4) advocates

> personalizable movies which allow a more fluid kind of interaction. The viewer can sit back and watch the movie but he can also subtly change the direction of what appears on-screen at any time....Imagine a narrative that progresses much like a linear film, but when the viewer is interested in changing the flow or feel of the experience he is free to manipulate it along certain dimensions. This type of interaction provides an experience that lies somewhere between the constant clicking and decision making of current interactive narratives (e.g. computer adventure games or interactive training programs) and the lack of interaction inherent in linear films. The viewer can get caught up in the reverie of the experience without the interruption of interaction until he desires to change the film experience. Changing the experience might be as subtle as speeding up the pacing a bit or it might be as drastic as changing the focus of the narrative from Dave's character to Thomas'.

But writing in 2000 Davenport (Davenport, Agamanolis, Barry, Bradley, & Brooks, 2000, p. 12) observes that although "over the past 25 years, story makers and engineers have grappled with the implementation as well as with the underlying architecture for interaction," no satisfactory means of achieving her desire had been developed. Still, as do Ryan, Bolter & Grusin, Murray (1997, pp. 65–68), and Manovich, Davenport (p. 12) understands that "Like every form that came before, technological 'convergence art' will be the locus for decades of vigorous experimentation and discovery before its underlying language and grammar are well understood." And knowing this, she had in 1997 set out a program for research needed to develop that expressive language and grammar, outlining that before interactive narrative could become a "mature art form," it would need not only to establish appropriate conventions for interaction, but also a "truly systematic approach to narration and story structure" and a "flexible, universally applicable representational schema that describes the form, content, composition, and subtext of media elements" (Davenport & Murtaugh, 1997, p. 3).

Fittingly, these latter two requirements bring us back around to where the present discussion of narrative and interactivity began—the question of coherence which we 'parked' while considering how media become new, and to which we now return.

Back to Coherence

Like Ryan, Davenport (Davenport, Smith, & Pincever, 1991) is concerned not only with immersion but also with the other aspects of narrative we have under examination, such as how goals that users bring to interactive narrative may work against coherence. She outlines coherence as a property of "a sequence of events, or a plot, based on the potential actions of characters' internal rules (or "motivations") [that maintains] certain global rules (such as gravity or logical cause and effect)." The 'systematic approach to narration and story structure' and the 'representational schema' we see her calling for at the end of the previous section are instruments that work together to control and constrain narrative artifacts and a user's interaction with them to produce mature story forms. Ryan and Davenport agree that such a design approach is key to this; Ryan (2004a, p. 332) states "it will take proper design—that is, proper limitations of users' fields of options, proper selection of plot structure, and proper choice of themes—to coax narrative meaning out of an interactive database."

According to Ryan (2004a, p. 333; 2004c, p. 354), such design will facilitate new presentational strategies or techniques for narrative, the important consequence of which will be altered modes of user involvement and participation in the "narrative performance" (such as allowing the user to actively "explore a world in the pursuit of a story"). This in turn necessitates revised "interpretive strategies on the part of users" (the narrative experience may, for example, be more puzzle-like) (2004c, p. 356). The end

result is a different set of "relations between the author..., the plot (or plots), and users" (2004a, p. 333). And a by-product is that these efforts will result in "various degrees of prominence" of narrative (*i. e.*, coherence)[14] (2004c, p. 354). If coherence is to be sustained, Ryan (p. 356) says that "the most urgent of the issues that faces developers of new media narrative is...finding the right fit between the medium and the form and substance of the narrative content." Davenport (Davenport, Evans, & Halliday, 1993) echoes her: "The real challenge for interactive filmmakers is to come up with content that will create a compelling and entertaining experience within the framework of an interactive environment."

To arrive at a fuller understanding of what roles a narrative artifact (specifically in the medium of film) and its viewers play in producing coherence we will now examine in detail the theory illustrating how narrative is a 'cognitive construct on the part of an interpreter in response to a text' that this project is predicated on. Although the account to be sketched is drawn from analysis of 'traditional, non-interactive' films, it will become apparent how this model supports significant augmentation of the narrative experience through explicit as well as implicit interaction.

As stated in footnote 2 of this paper, the model the design of my interactive film is based on is drawn largely from the body of theory developed by David Bordwell in his book *Narration in the Fiction Film*. I believe, and will attempt to show in this thesis, that Bordwell's account of how the full complexity of a spectator's activity endeavors to generate narrative coherence out of a film artifact is a highly suitable framework for

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[14] These various degrees of narrativity map to different types in the narrative 'ecology.'

design and summative evaluation of a narrative film that incorporates viewer

interactivity.[15]

How Viewers 'Construct' Films: Bordwell's Narrative Theory

David Bordwell (1985, p. 30) bases his analysis on the Constructivist theory of

perceptual–cognitive activity descended from Helmholtz. Such activity involves active,

goal-oriented processes, as indicated by Karl Popper's description of it as the

"searchlight" theory of mind (p. 31). These processes are both 'bottom up' (basic

perception such as color recognition) and 'top down' (employing higher-order cognitive

organization involving expectations, background knowledge, and other cognitive

operations). Though top down processing is more complex, Bordwell emphasizes that

bottom up processing also takes place on the basis of "'premises' furnished by the data,

by internalized rules, or by prior knowledge." The whole is a matter of "active

hypothesis-testing." Prior knowledge is organized into clusters called "schemata," the

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[15] As indicated by the preceding paragraph, that interactivity will be both implicit and explicit. These terms are in basic concordance with Eric Zimmerman's (2004, p. 158) four categories of narrative interactive experience. I interpret explicit interaction in keeping with Zimmerman as "participation with designed choices and procedures." His other three categories, cognitive, functional (utilitarian), and meta or cultural make up what I term here 'implicit' interaction. Obviously this project is most concerned with explicit and cognitive interactivity but is far from indifferent to the other two types. On page 49 I briefly discuss the expected treatment of a film based on my design in a cultural discourse generated by it, as well as how design variants might affect that discourse. I'm grateful to my senior supervisor, Jim Bizzocchi, for helping shed light on how utilitarian interaction can operate to remediate the media ecology. His paper, "Run, Lola, Run—Film as Narrative Database," presented at the MiT4 conference and SIAT in 2005, demonstrates how in interesting limit cases of films that feature no explicit interactivity, utilitarian interaction afforded by VCR and DVD functionality can be employed by users to interrogate the multiplicity of such films. This argument is similar to that of Kyle Weise, cited in the conclusion of this thesis, that film and television can display attributes of new media short of explicit interactivity. Besides this lack of explicit interactivity, there are two principal differences between the phenomena described by Bizzocchi and the experience the design this thesis proposes is intended to support. The first is that in the Bizzocchi model utilitarian interaction stands in for explicit interactivity to support cognitive interaction; with the introduction of explicit interaction, that interactivity largely intervenes between utilitarian snd cognitive activities, with any utilitarian interaction now mainly a support for explicit interaction. The second is that while the interaction described by Bizzocchi is more reflectively analytical, more hypermediated, the explicit interactivity in the design proposed by this thesis is intended to enable a 'hot pursuit' of story through the narrative.

importance of which Bordwell asserts not only for perception and cognition at large, but also for its specialized sub-domain of story comprehension.

Importantly for an understanding of how all this is dynamic or active (and, I will argue, can be productively *interactive*), Bordwell (1985, p. 31) maintains that a "perceiver in effect bets on what he or she takes to be the most likely perceptual hypothesis," and that such betting is "capable of being challenged by fresh environmental situations." When necessary, a perceiver can change hypotheses, or even schemata.[16]

All this is similar whether the object of perception–cognition is the world or a 'text' or film. Although Bordwell (1985, p. 32) says that no Constructivist theory of aesthetic activity has yet been formulated, he maintains there is at least general agreement as to how authors design aesthetic artifacts and 'consumers' interpret them. In effect, artworks are "made so as to encourage the application of certain schemata, even if those must eventually be discarded in the course of the perceiver's activity" (p. 32). This underlines the dynamic nature of the activity; the artifact suggests schemata to apply, those schemata condition perceptual activity, and are "in turn modified by the data" of the film (p. 34). Thus, a film offers "structures of information"—cues, patterns, and gaps that inform what schemata and attendant hypotheses a viewer applies and tests (p. 33). As with our engagement with the real world, this is a highly active rather than passive experience:

> Watching a movie may seem as effortless as riding a bicycle, but both
> draw on a range of practiced acts. [Similarly], reading is an immensely
> intricate achievement, requiring the selection of salient cues, the

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[16] Although the singular of schemata is schema, *Narration in the Fiction Film* employs 'schemata' almost exclusively, even when the likeliest interpretation according to context indicates the singular. To avoid confusion vis-à-vis Bordwell's usage, this thesis also uses 'schemata' exclusively, endeavouring to set it in contexts that indicate whether it should be taken as singular, plural, or potentially both.

processing of large units, decisions about how to sample the text, anticipations, and the projection of an ongoing semantic whole. Comprehending a painting seems no less formidable. E. H. Gombrich has shown that the beholder needs a knowledge of the medium's constraints and conventions, a sense of the painting's purpose, the ability to fill in what is missing, and a proclivity to compare the painting with pertinent experiences of the world. (p. 33)

What distinguishes aesthetic experiences from experiencing the real world is that most everyday perception–cognition focuses on the results of the process, whereas with aesthetic objects attention is also often given to the process itself: "What is nonconscious in everyday mental life becomes consciously attended to.[17] Our schemata get shaped, stretched, and transgressed" (Bordwell, 1985, p. 32). The essence of narrative art is this shaping, stretching, and transgression. Bordwell's analysis depends heavily on Meir Sternberg's thinking regarding this process of how an author shapes a reader's framing and testing of hypotheses (p. 37). Suspense—anticipation about forthcoming events—is a primary focus of the reader's activity and the author's attempted manipulation of it. Often this takes the form of 'retardation,' artfully delaying delivery of information to confirm or deny reader hypotheses (p. 38). But that manipulation can also involve stretching and transgression that derail "the most common assumptions, the most valid inferences, the most probable hypotheses, and the most appropriate schemata" (p. 39). Thus, narrative is a game between author and reader, which the author designs to "reward, modify, frustrate, or defeat the perceiver's search for coherence"[18] (p. 38). And this being a betting game, 'the advantage is with the house.' Though some films "undermine our conviction in our acquired schemata" and create "implausible alternatives that turn out to

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[17] *i. e.*, because aesthetic experience is mediated, rather than an immediate experience of the real, it involves hypermediacy

[18] Each of these outcomes can be seen as representing a type in the narrative 'ecology' mentioned in the **'Narrative' and Interactivity** section earlier in this chapter.

be valid," they can rely on typical viewers to proceed, at least initially, under assumptions that seem most likely (p. 47).

According to Bordwell (1985, p. 33), authors have two principal tools or 'structures of information' with which to manipulate reader assumptions—a narrative system and a stylistic one. We will consider the 'narrative' system first.

Story and Plot; *Fabula* and *Syuzhet*

To understand Bordwell's conception of this "narrative system" it's necessary to clearly distinguish the "difference between the story that is represented and the actual representation of it" (Bordwell, 1985, p. 49). Bordwell traces this distinction back to Aristotle, but for terminology to express it, he relies on the Russian Formalist school. According to their theory, a reader's activity constructs, "progressively and retroactively," what the Formalists called the *fabula* (sometimes translated as 'story')— the "developing result of picking up narrative cues, applying schemata, framing and testing hypotheses." The subjective–intersubjective nature of a fabula depends on the particular narrative: "In principle, viewers of a film will agree about either what the story is or what factors obscure or render ambiguous the adequate construction of the story."

A fabula, according to Tynianov, "can only be guessed at, ...it is not a given" (Bordwell, 1985, p. 50). To distinguish between *the fabula represented* and *the representation of it*, Bordwell asks what is given and answers that the *syuzhet* (usually translated as 'plot') is the "actual arrangement and presentation" of fabula information. Thus, a filmmaker designs a syuzhet according to how he thinks viewers are likely to

"infer a fabula from it" (p. 345 [Footnote 7]). The syuzhet is the "cues prompting us to infer and assemble story" (p. 52).

Syuzhet and Style

Syuzhet is then the first information structure or tool which authors use to manipulate reader assumptions; the other is "style," the use of techniques such as "mise-en-scène, cinematography, editing, and sound" (Bordwell, 1985, p. 50). Given these systems, syuzhet and style, Bordwell formally defines narration as the interaction of the two in the process of cueing and constraining (channelling) the viewer's activity.

As mentioned above, an author designs according to assumptions about how the reader will react to the design; but while the design artifact "triggers and constrains" a reader's constructive activities, it can't "specify or determine them" (Bordwell, 1985, p. 39). While Bordwell (p. 49) states his theory won't necessarily predict specific actual responses of spectators, he says it does suggest the most logical range of responses in accordance with the historical-conventional contexts of the author's work and an audience's experience of it. Let's examine how this is possible for both syuzhet and style, starting once more with syuzhet.

Bordwell (1985, p. 50) first maintains that an author "composes story situations and events according to specifiable principles" and then details these basic tactics of syuzhet patterning. A key principle is control of the "information to which we have access" (p. 54). The syuzhet may be either "rarefied" or "overloaded" (too little and too much information—respectively—at any point to allow "coherent and steady" fabula construction). Over the course of a narrative the syuzhet may transition from one to the

other of these states, or from either to a more "ideal" or "correct" position between them;

all these states are relative, and movement back and forth between them may be frequent

or continual. As general and specific examples of these criteria, Bordwell (p. 54) tells us

that while

> the momentarily overloaded or rarefied approach of the mystery film is in
> fact normal for syuzhet construction in its genre...Antonioni's *Blow-Up*
> fails as a detective story: it presents too few pieces of information to
> enable the protagonist, or us, to solve the crime....

And of course the syuzhet selects which fabula events to present, creating "gaps."

(Bordwell, 1985, p. 54) In addition to such temporal gaps, a syuzhet may also build in

spatial gaps, whereby it holds back

> a character's whereabouts or neglects to define the action's locales. Gaps
> are among the clearest cues for the viewer to act upon, since they evoke
> the entire process of schema formation and hypothesis testing. (pp. 54–55)

Gaps can be temporary or permanent (Bordwell, 1985, p. 55). They can also range

on a scale from "diffuse" to "focused." Authors will sometimes initiate a diffuse gap

which will later be brought into focus. Furthermore, gaps can be "flaunted" or

"suppressed." Bordwell describes the effects of various types of gaps. Permanent gaps

can compel us to retroactively employ a "scanning" strategy, "sorting back...for

information we might have missed." (p. 55) Surprise is the likely outcome of suppressed

gaps, "especially if the omitted information ranks low on a scale of probabilities."

A key form of gapping is delayed exposition of fabula events that occurred prior

to the initial scene. (Bordwell, 1985, p. 56) Bordwell explains that whereas

concentrated and preliminary exposition supplies a strong primacy effect, solid grounds for confident hypothesis formation[19]...in a limit case, our primacy effect might be completely undermined by the suppression of key fabula information; we would then be forced to revise our assumptions and hypotheses when the data come to light.

But this 'game' of gapping is much more subtle than simply what's present and what's not; *how* things are presented is also crucial. To help comprehend this, Bordwell (1985, p. 57) introduces the concept of "range of knowledge": "commonly, portions of the syuzhet will be organized around one character's knowledge and other portions will confine themselves to the knowledge held by another character" (p. 58).

In addition to division and restriction of knowledge based on several characters, two other possibilities are more or less common: restriction of knowledge to that matching a single character's experience, and a range of knowledge that is 'omniscient,' that comprehends the whole story world (Bordwell, 1985, p. 59). For reasons both 'practical' and artistic, the range of knowledge presented is actually rarely restricted totally to one of these categories. In fact some sort of blend of the experience of one or more characters and a 'limited omniscience' that presents some information outside their ken is typical; Bordwell gives the example of mystery or detective genres which usually maintain—and heighten—suspense by largely restricting what's presented to the experience of the protagonist(s) but which also provide the audience with a judicious degree of 'omniscience' beyond that. In melodrama, by contrast, narration tends to be more omniscient to draw spectator attention to "ironic and pathetic twists of which the characters are unaware" (p. 60).

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[19] According to Bordwell (1985, p. 38), "The sequential nature of narrative makes the initial portions of a text crucial for the establishment of hypotheses."

Observing the fluidity with which authors can and do deploy knowledge in the unfolding of narratives helps us see the true subtlety of gapping. For example, gaps may be more or less completely suppressed. A case of a completely suppressed gap would be when an author turns the tables on us—instead of giving us some particular bit of information a detective's not privy to, she completely omits presenting an event that provides the detective with important knowledge that we become aware of only subsequently. The author thus 'suppresses' this gap until such time as she's ready to reveal it by some recounting of the prior omitted event. By contrast, a gap can be flaunted. One way to do so is by partially presenting an event; a corresponding example to the one just cited would be for us to see the detective in a situation that clearly foreshadows some important development that the author then withholds from us (one way to do this is to cut away from the unfolding action before its resolution to another 'line' and/or time in the story).

More subtle still are the cases where an author could be said to be partly flaunting and partly suppressing a gap at the same time. A clear example of this is when something is hidden in plain sight—it is presented to us, but we are distracted from it or otherwise not in the right cognitive 'position' to see it. A specific case relies on the 'overloading' of the syuzhet mentioned near the beginning of this section: hints or clues injected by an author at particular points may fail to be distinguished if presented in conjunction with other (especially more prominent) hints or clues, or any action, dialogue, or description that occupies our attention. Or something may not be noticed simply in light of the schemata we are interpreting the film with; or noticed, but understood *according to that schemata*, which we subsequently come to doubt, or even replace. Again, the 'advantage

in this game is with the house,' and film makes the odds against the audience even longer: the fact that films typically run continuously makes it problematic for a viewer to pause for reflection if she is to 'keep up' with the narrative continuing to unfold onscreen. Filmmakers can make the odds longer still by increasing the cutting tempo, further exacerbating these problems for the spectator.

Authors' gapping strategy and tactics often rely on shifting the range of knowledge. As we saw two paragraphs above, prototypical examples from the detective genre occur when the knowledge possessed by the protagonist and the audience diverge significantly, the convention for the genre being rough equivalence of the knowledge range for each. If this manipulation strays often and/or far from what the audience expects (*i. e.*, what is 'naturalized' for them in any or all of: the genre; the historical-social context more broadly; or even the major part of the narrative artifact itself), the audience will experience some degree of hypermediacy. For instance, in the example above where an author sets up a dramatically interesting situation but cuts away from it before the payoff, the audience is conscious of the ploy at work. Bordwell calls situations when we are made consciously aware of narrative technique "self-conscious narration." The audience is aware not only of the gap but also that to create it the author knowingly derogated from the range of knowledge they should conventionally expect. Knowledge withheld under these circumstances makes the narration not only 'self-conscious,' but "unreliable." Bordwell (1985, p. 42) nicely illustrates interrelations between gapping and these effects it can produce in an encapsulation of Hitchcock's narrative technique.

> ...the division of knowledge between characters and audience is fundamental to suspense, which [Hitchcock] describes as "providing the audience with information that the characters do not have." This is only a half-truth, though. In most of his films, such data are never pure; they

always come filtered through a narration that withholds crucial facts. Though we are more knowledgeable than the protagonists, we remain less knowledgeable than the narration, and the film rubs our noses in the partial and ambiguous quality of our information.

As Bordwell (1985, p. 60) points out, we may "spot 'unreliable' narration as it is occurring or recognize it only after the fact." In the case I describe immediately above we can recognize unreliability in 'realtime.' Recognition after the fact is the case in our other example above: the author engineers our temporary parting of ways with the detective with whom we normally 'share' the narrative so as to confer on them some knowledge thus withheld from us until revealed later by other means.

The forms which gapping takes and the effects it produces in narrative have varied across historical and social contexts. We will examine its use and results in particular historical-social contexts subsequently, but first we need to look generally at how Bordwell's second formal system, style, cues and constrains the way a viewer constructs story.

As we saw at the beginning of this section, Bordwell treats style as the application of techniques such as mise-en-scène, cinematography, editing, and sound. We need not look at all of these, but will limit our examination to how the syuzhet's presentation of information can be "facilitated or blocked by the style's representation of space" (Bordwell, 1985, p. 99), and in particular how space is stylistically represented by editing.

Both bottom-up and top-down processes of perception shape our cognitive construction of filmic space. (Bordwell, 1985, p. 101) Though bottom-up cues work in an 'automatic' fashion, top-down influences such as expectations can override that.

Bordwell asserts that when we look at images, prior understanding of their purpose and of the medium in which they're represented, including its stylistic conventions, condition the conclusions we draw.

What we assume to be an image's purpose can be of key importance: "...the drive to construct a coherent fabula out of what we see and hear will lead us to seek particular spatial cues and rely upon particular spatial schemata" (Bordwell, 1985, p. 104). But the medium and its traditions are also important: "...film editing draws upon the spectator's knowledge of narrative context, generic conventions, schemata of human behavior, and the historical context of filmmaking and film viewing" (p. 113). Of the cues, schemata, conventions, and historical contexts we rely on, the "most explicitly codified into rules is the system of classical continuity editing." (p. 163) This is true to the extent of being 'paradigmatic'; Bordwell says that, typically, scenes open with an establishing shot, followed by the continuity shooting–editing technique of shot/reverse shot, possibly in conjunction with eyeline matching. And the typical expectations this style supports are so strongly inculcated that viewers will preconsciously 'assume' a following shot, usually with such high reliability that Bordwell (p. 112) goes so far as to say viewers can 'know' the next shot before it appears.

This anticipation, however, can play into an author's strategy and tactics for manipulating us. We saw how tactics of syuzhet patterning can be used to block straightforward fabula construction by providing an insufficient or incompatible supply of cues (Bordwell, 1985, p. 93); the process of manipulation can also reach down to "the stylistic tissue of the film...to perpetuate the game" through combinations of syuzhet material and editing that work to confound classical continuity assumptions. Thus,

authors employ style to trigger and constrain viewer activity so as to shape and condition it in accordance with their design intentions. If the intention is to stretch and transgress viewer schemata, we have already seen that typically a viewer will initially apply a schemata that seems most appropriate to normative social conventions of behavior and that 'fits' with a medium's stylistic canons. "Expectations about how the narration may manipulate time and space are circumscribed by the possibilities and probabilities of particular traditions" (p. 149).

Stretching and transgression of such traditions in the 'narrative ecology' works in a very similar fashion to remediation in the 'media ecology': existing historical-social narrative types beget newer types that then work to naturalize preconceptions and conventions that attend them. Up to now we have been looking in a general, abstract way at how syuzhet and style affect narrative; we can now examine the results somewhat more specifically with respect to what Bordwell calls "historical modes of narration."

"Historical Modes of Narration"

Bordwell's concept of narrational modes reiterates his claim, which we saw near the beginning of the previous section, that the ways in which viewers endeavor to construct story correspond to types of narrative structures and cues and that this relationship is 'specifiable' (Bordwell, 1985, p. 150). The idea of modes makes explicit the important rider that this claim is historically dependent. Thus, a mode of narration is a relatively stable (through one or more periods of history) group of characteristics that serve audiences to help comprehend films within that mode, (by) providing filmmakers with a model for addressing audiences through the mode.

The first historical mode Bordwell discusses, and this because he uses it as the

benchmark to measure the others against, is 'classical Hollywood' narration. Bordwell

(1985, p. 156) makes this choice because he asserts it as the form of film classicism

wielding the greatest historical influence, defining it as filmmaking typical of Hollywood

in the 1917–1960 period. According to Bordwell (p. 164), through a process of

naturalization this period established conventional practices regarding fabula, syuzhet,

and style that resulted in the latter two being 'backgrounded,' relatively speaking.

Audience interest is maintained in the fabula, letting them focus on content—rather than

the media and its techniques—resulting in a higher degree of immediacy and immersion

than of hypermediacy. Bordwell reminds us, however, that the apparent resulting

'transparency' of classical films does not mean spectators are passive, but that their

cognitive activity, through habit, recedes from the foreground.

This is thrown into sharp relief by the detective or mystery genre; its art is to

employ a sufficient degree of familiar convention in the face of complicated gapping, the

virtuosic confirmation of classical narration's ability to guide readers toward closure:

> The mystery film, with its resolved enigma at the end, is only the most
> apparent instance of the tendency of the classical syuzhet to develop
> toward full and adequate knowledge. Whether a protagonist learns a moral
> lesson or only the spectator knows the whole story, the classical film
> moves steadily toward a growing awareness of absolute truth. (Bordwell,
> 1985, pp. 158–159)

This tendency of classical narration toward full, adequate knowledge or 'truth'

contrasts with another of Bordwell's types of narrative mode, "art-cinema" narration. For

Bordwell (1985, p. 88) this is characterized by "serious" postwar European cinema and

particularly its use of "devices and/or systems which generate an ambiguous, gamelike

process of narrative construction." This is an "equivocal narration which compels us to form hypotheses about the narration's own operations, to live with the dissonance of withheld fabula information and incompatible cues" (p. 89). Unlike classical narrative, in which "future-oriented 'suspense' hypotheses are more important than past-oriented 'curiosity' ones" (p. 165), this type appeals to both suspense and curiosity (p. 88) and is thus not only anticipatory or prospective, but also highly retrospective. And being a hypermediated experience, the curiosity and suspense regard not only the syuzhet, but the narrative process itself. Authors accomplish this by designing their narratives to work "with and against dominant schemata," formulating a combination of syuzhet and style that "lures us with the promise of an intelligible fabula and then enmeshes us in elusive but tenacious formal processes" (p. 98).

Bordwell (1985, p. 234) enumerates several other narrational modes, including "historical-materialist" narration as exemplified by Soviet cinema from 1925–1933 and "parametric" narration, a type in the ecology in which displaying permutations of stylistic techniques is privileged over facilitation of coherent fabula construction[20] (p. 274). As a form of 'limit case' that rounds out his typology, Bordwell discusses the films of Jean-Luc Godard from 1959–1967; Godard's type of narration aggressively 'remediates' other narrational modes (pp. 315–316), making it an excellent case study of narrative ecology *in action*, rather than as merely a set of static-sounding category labels. Historical-materialist and parametric narration are less germane to analyzing the film design which is the basis for this project, so I won't spend time describing those modes. Bordwell's analysis of Godard bears interestingly in several aspects on that design, but as his

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[20] In Ryan's terms, this type in the ecology is characterized by relatively low 'narrativity.'

classical and art-cinema modes prove quite satisfactory for describing and analyzing that design, I will resist bringing Godard into play if only for sake of analytical simplicity and clarity. This then brings us to the close of our survey of Bordwell's theory of how viewer activity constructs films (and how filmmakers can design films to anticipate that activity).

We are now, in conjunction with our prior analysis of interactivity and immersion, in position to formulate guidelines that can be used for design and subsequent evaluation of film that incorporates explicit viewer interactivity. Before starting our survey of Bordwell, I asserted that our analysis of his theory would make apparent how interactivity could support narrative experience. This thesis proposes that the viewer's highly *active* cognitive construction of narrative can be explicitly *interactive*; in other words, the iterative cycles of schemata application, hypothesis formation/testing/revision, and possible schemata switching that viewers conduct could be augmented by choices the spectator makes as to what's presented onscreen. Outlining the requirements for doing this, including attendant requirements regarding narrative coherence and immersion, is the concern of the next chapter.

CHAPTER 2: DESIGN GUIDELINES

As indicated in the previous one, this chapter outlines the guidelines employed for the film design, and for the corresponding analysis of that design, that are the chief creative product of this thesis. These guidelines are a coalescing of the considerations regarding narrative, interactivity, and immersion that we examined in the previous chapter, set out as high-level 'requirements' and some corresponding lower-level specifications, along with accompanying rationale as appropriate. The results are summarized in **Table 1** on the next page.

As can be seen there, these requirements divide out into those that the logic of analysis requires for any interactive narrative film design—*pan-design*—and those that instead depend on a particular design—*design-defined*. For instance, logic dictates that for anything to be recognized as a narrative, it needs to be designed in keeping with some reasonable definition of what *is* narrative. (In the case of the design proposed by this project, this is the definition advocated by Ryan of a 'cognitive construct built by an interpreter in response to a text,' and more specifically detailed by Bordwell in *Narration in the Fiction Film*.) By contrast, Ryan's analysis indicates there is an ecology of many degrees of narrativity or coherence consistent with that definition, leaving the degree of narrativity for any particular design dependent on that design's intent. We will look further at the design-defined requirements regarding narrative in a moment, but for the time being let's continue our focus on requirements that are pan-design, examining those that regard interactivity.

Table 1   Summary of Guidelines for Design and Analysis of Proposed Interactive Narrative Film

[Discussion of the table takes place on the preceding and the 3 following pages.]

	Pan-Design — Specification(s)	Requirements	Design-Defined — Specification(s)	Design-Defined — Rationale
Narrative	Reflects Definition — Cognitive Construct built by an interpreter in response to a text (as per Bordwell, *Narration in the Fiction Film*)	Narrativity (degree)	characteristic of a range between 'Classical Hollywood' and 'Art-Cinema' 'modes of narration'	n/a
	Non-Trivial (*i. e.*, alters narrative experience significantly) — significantly affects construction/building /interpretation	Narrative Immersion (degree)		
Interactivity		Spectator Choices augment her process of schemata application, hypothesis formation/testing/revision, (possible) schemata switching by exercising meaningful control as to what's presented onscreen	n/a	
Filmic/Cinematic	n/a	Filmic Immersion (degree)	characteristic of a range between 'Classical Hollywood' and 'Art-Cinema' 'modes of narration'	provide an experience of film immersion in keeping with the experience of narrative coherence and immersion provided by the design instance (*e. g.*, when mode is characteristic of 'Classical Hollywood,' a 'naturalized' filmic immersion which in turn supports a correspondingly naturalized narrative immersion)

As indicated in the previous chapter, interactive techniques justify their use in narrative contexts insofar as they significantly and positively affect the narrative experience. More specifically that involves altering the construction/building/interpretive activity predicated by the definition of narrative the interactive narrative vehicle is designed and operates under[21]; more specifically still in the case of the design instance proposed by this project, 'augmenting the iterative cycles of schemata application, hypothesis formation/testing/revision, and possible schemata switching that viewers conduct, through providing choice as to what's presented onscreen.' At this level of detail we are now driving down to design-defined requirements; in the case of the actual mechanism of interactivity proposed to be employed, things can be specified still further but we will save that even deeper level of detail for the description and analysis of the proposed design in the next chapter.

Note from **Table 1** that there are no pan-design requirements listed regarding the filmic/cinematic aspect of interactive narrative films. Film is the particular medium being remediated and remediation of media is an experimental, trial-and-error process; thus, while the techniques of presentation to be developed for and by interactive film are rightly the subject of prognostication (which is properly the province of design-defined requirements for particular design experiments), actual techniques and style appropriate for the newly-developing, 'film-like' medium cannot be prescribed abstractly in advance. For the empirical proposal which is the basis of this thesis, I advance a design which does not aggressively remediate the key aspect of filmic immersion described and advocated

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[21] or, if the particular design were based on a definition not fundamentally concerned with such constructive activity, a similarly significant alteration of whichever aspect(s) of experience that definition was concerned with

by Davenport in the previous chapter's **Interactivity and Film** section. The rationale for this is highly pragmatic in nature. As we saw in the previous chapter, early stages of remediation are characterized by relatively lesser hypermediacy; one very practical reason for designing for this outcome is that it supports user acceptance of the new media experience.

I believe this is particularly important for remediation of filmic/televisual media, which were arguably the hallmark forms of media experience in the twentieth century (Manovich, 2001, p. 82). This is worth spending a little time developing here. In Chapter 1, I cited Davenport's criticism of interactivity that 'requires input at pre-defined junctions.' She advocated instead forms of interaction that allow a spectator to 'subtly change direction of what appears on-screen at any time,' 'narrative that progresses much like a linear film, but when the viewer is interested in changing the flow he is free to manipulate it along certain dimensions.' This supports a viewer being 'caught up in the experience.'

I believe these assertions and suggestions by Davenport encapsulate key design considerations for interactive narrative film, at least in the initial stages of remediating 'non-interactive' film. I strongly believe that interaction on the part of users should not be mandatory; interactive potential should be available as an invitation or opportunity, the interactivity always optional (in the absence of user input, the system should unfold an expository arc derived from intelligently-crafted defaults). I 'violently agree' that the immersion[22] crucial to movies as we currently know them, and the pacing that undergirds it, are highly susceptible to disruption by common mechanisms of interactivity and that it

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[22] Davenport calls it "reverie," though immersion may often be achieved by 'jolts per second' intensity rather than by techniques that result in reverie.

behooves design of incunabular interactive narrative films to pay careful attention to appropriately fostering these mainstays of film. In short, the key requirement here is that availability of interactivity and the ways viewers take advantage of it must be designed to intelligently support pacing and immersion.

From this analysis it can be seen that the key challenge in designing interactive narrative film is devising an interactive form or forms that support the degrees of narrativity and immersion (both filmic and narrative in nature) the design calls for. And as we have seen both Ryan[23] and Davenport[24] assert, design is content-dependent. So in Bordwell's terms our key challenge is to determine how syuzhet and style might be inflected by interactivity to engender degrees of coherent, immersive narrative experience. The next chapter demonstrates this in detail for the proposed design, describing and evaluating how the film script and supporting interactive mechanism could be expected to cue and constrain viewer activity to construct story in ways that accord with the design's requirements and specifications.

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[23] 'the most urgent of the issues is the right fit between the medium and the form and substance of the narrative content'

[24] 'the real challenge is to come up with content that will create a compelling and entertaining experience within the framework of an interactive environment'

CHAPTER 3: ANALYSIS AND EVALUATION—
HOW IT COULD WORK

This chapter attempts to analyze and evaluate the proposed film design with respect to the guidelines set out in the previous chapter; this work must be speculative to some degree as, to be worthwhile, it must extrapolate how users might be likely to view, interact with, and 'construct' a realized interactive film predicated on the design. Thus, unlike Bordwell's (1985, p. 336) "historical poetics of cinema," grounded on a retrospective body of works, this is a prospective exercise, a 'speculative poetics.' I believe this exercise is useful if it credibly demonstrates, on the basis of the analysis shown so far, the degree(s) to which the design could succeed in being 'narrative,' 'interactive,' and 'filmic,' if produced.

In order to do this, the chapter examines the design against three question sets—

- Would the design support the narrative experience of cognitive construction as outlined by Bordwell? And specifically, what degrees of narrativity (coherence) and 'narrative immersion' could it support?

- Could spectator choices augment the process of schemata application, hypothesis formation/testing/revision, and potential schemata switching, significantly affecting the construction of story?

- To what degree(s) would the experience remain recognizably filmic (for our purposes, the sort of 'naturalized' filmic immersion typified by Bordwell's "classical Hollywood" mode will be used as a benchmark for comparison)?

This examination proceeds by first outlining the film and the proposed mechanism of viewer interaction with it (**Appendix A**, page 77, provides a 'complete'

version of the script). It then analyzes at a closer level how users could be expected to view and interact with the film, describing how they might variously: apply schemata; form, test, and revise hypotheses; and potentially adopt alternative schemata. This analysis looks for indications that interaction would augment that process significantly. Analysis of resulting degrees of coherence and immersion will be benchmarked against Bordwell's concept of 'modes of narration,' particularly those of 'classical Hollywood' and 'art-cinema.' Finally, this analysis returns to the thinking of Bolter and Grusin and of Ryan regarding media and narrative ecologies and how presentation techniques evolve to produce new expressive types in those ecologies.

Outline of the Film Design and Interactive Mechanism

The film design this thesis analyzes is a short script titled *Steppin' Out*, designed principally to test the premises and proposals of the thesis. It tells a story about three young people (Em, Jared, and Brian) in the process of trying to arrange and consummate a meeting in a city setting. Discussion regarding where and when to meet takes place by means of the three characters' cell phones. Each of the characters is already going somewhere in the city when we first see them, one on foot, each of the other two by public transit.

While initially it appears that getting together will involve just the regular to-and-fro of three people arranging a convergence when only two are talking to each other at any one time, the viewer quickly sees there is more at play, and at stake, in this situation. One of the characters is reneging on a meeting place that was agreed with another the previous night; as this develops, the viewer can see that underlying it is a conflict over primacy between these two. As is usual in a three-character triangle, the third character

aligns with one of the contenders against the other. This conflict evokes a question as to whether they will end up meeting at all, and if so, where. In the terminology of Robert McKee (1997, p. 198), the "major dramatic question" becomes 'Will one of the two contenders prevail, or will the convergence collapse under exigencies of time and space, and the conflicting motivations of the characters?'

The film's structure, based on its dynamic, is key to the mechanism for interaction afforded the viewer. The film consists of scenes in which various pairs of the characters are involved in phone conversation, punctuated by other scenes in which one of the three has just finished a conversation and is getting ready to call the third, or is simply shown moving through the cityscape. For any scene which involves a conversation, each side of that conversation will be separately filmed, so that each is *available* for presentation to the viewer. The film will be implemented so that for any time interval involving a conversation, there are two 'channels' in the film, each consisting of one side of that conversation.

Figure 1 on page 44, representing the seventh, eighth, and ninth scenes (or segments) of the film, illustrates this structure. The seventh segment shows us Brian, just after he has been on the phone to Jared. The following segment, number 8, involves Brian and Em on the phone to each other and shows the two separate channels for that conversation, one for each side of it. Following Segment 7, the channel on the left will play by default (this is always the case in segments with two channels). At any time during play of the Default side of a conversation, the viewer can perform a simple 'toggle' operation to switch over to viewing (and hearing) the other side of the

conversation in the Alternate channel.[25] Thus, the viewer can choose to see *and hear* one

side of a conversation or the other at any instant, but not both at the same time. At any

point while watching and listening to the Alternate channel, the viewer can toggle back to

the Default channel using the same simple operation. Thus, she can switch freely back

and forth at any time between the two sides of any phone conversation, picking up the

one side at exactly the point in time she left off from the other. If the play of the Alternate

side of a conversation reaches the end of that conversation (*i. e.*, the viewer is watching

that channel when the segment ends), the film automatically moves on to the next

segment's default play. That may be the 'single channel' of a non-conversation segment

such as 9 (and 7) or the Default channel of another directly ensuing phone conversation.[26]

Of course if the viewer is watching the Default channel when a conversation ends, the

film's behaviour is the same; *i. e.*, no matter which channel she is watching, the next

segment always automatically begins in accordance with the film's 'default' structure.

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[25] On the preferred platform for prototype implementation, the standard PC, this operation could be assigned to the button on the sort of remote control used to advance 'slide shows' on computers; of course the operation should also be assigned to one or more of left mouse-click and the keyboard's Enter key and Spacebar for redundancy.
[26] as is the case in one instance in the film

Figure 1   Segments 7, 8, and 9 of the Film's Structure

[There is discussion of this excerpt from the film's script on the 2 preceding pages.]

ANOTHER YOUNG MAN RIDING A LIGHT RAIL TRAIN; HE LOWERS HIS PHONE. The
seats this fellow sits in are two abreast between the windows and the
aisle and he's cramped into his by a large woman sitting next to him.
He focuses intently on his phone in front of him, thumbing through a
Speed-Dial menu. He selects the letter 'M' from the menu and speed-
dials a call, the phone Chirping digit tones as he puts it to his ear
and waits momentarily...

BRIAN
Okay, the plan is meet at
Clark-VCC Station in 10...
 	
        BRIAN (cont'd)
Jar' said--
 	
        BRIAN (cont'd)
    (uncertainly)
I don' know about that... (beat)
Better call Jared...
 	
        BRIAN (cont'd)
Good.
He pushes 'End' and moves straight
into hammering a Game as we--
CUT TO:
	Em in the Street; she has answered
	her Phone
	        EM
	    (with Umbrage)
	The plan is for Commercial...
	
	        EM (cont'd)
	I don't care what Jared says,
	last night I told him we'd
	meet this morning at
	Commercial.
	
	        EM (cont'd)
	(beat) Okay...
	
	She lowers her phone... [Go to
	Default playout]

EM in the STREETSCAPE. She sips from her coffee, and manually dials a
number, PASSING STORE FRONTS THAT ARE BECOMING INCREASINGLY SCUZZY. Up
ahead, in the same block, is a LIGHT RAIL TRAIN STATION.

Analysis of Potential Viewing and Interaction

> If the world consists of only three things...and the teller of the story has the
> power to reveal their motives and to show us all three, each in its perfect time,
> then the teller has all the power in the world, but so also do we....
>
>   Edward Branigan, *Narrative Comprehension and Film* (1992, p. 64)

How then can this apparently simple form of interaction significantly alter, and

augment, the way a viewer may apply schemata, and form, test, and revise hypotheses

based on those, to construct a fabula (story)? As per a main tenet of Bordwell's narrative

theory, one way for it to do so would be if switching from one side of a phone conversation to the other opens, or closes, gaps in the viewer's knowledge. A reading of the script, however, should indicate that the film's design supports, or at least does not undercut, construction of a basically similar fabula no matter which side of any phone conversation is watched and listened to. The plot and style can be seen in keeping with key fixtures of a 'classical' narrative type—establishment of character goals, complications, ensuing action—unified in time and space by continuity editing as it moves toward resolution. In short, no glaring surprises or startling revelations await on the other side of a phone call to disrupt the story to be gleaned from a purely linear, default viewing.

Narrative 'Reset'

Steppin' Out's design is not in fact as straightforward as the immediately preceding gloss would indicate, but without some compelling incentive to closely investigate it, many viewers will be 'at loose ends' regarding its interactivity. It may seem just a chance to play voyeur, without an apparent return worth even a mouse-click. To avoid triviality, the user must discern reasonable potential for meaningfulness in the options she's offered—there must be good reasons for exercising choice. And *Steppin' Out*'s design does afford strong incitement for viewers to avail themselves of its interactive opportunities. In the climactic scene, a device of cinematic style is employed to trigger what I will term 'narrative reset.' Jared has just emerged from the front side door of a train car onto a station platform, where Em is waiting for him. Suddenly the camera 'whip pans' toward the rear of the train. This rapid sideways movement of the camera momentarily blurs the shot, coming to rest on the rear side door of a train car

from which Brian now emerges; as he looks to the front of the train we cut back with his glance, showing Jared looking to the rear of the train. Jared greets Brian, who walks into the frame. Whip pans conventionally signal a transition in time and/or space, but how much time and space has this one encompassed? If Brian gets off the train at one moment, and Jared greets him the next as he moves into the frame, how much space can the whip pan have traversed—from one train to another, only several cars in the same, or just the length of a single car from front to rear?

Thus, in the same instant we watch who prevails about the meeting spot (Em), different dramatic questions jostle to the fore: Have Jared and Brian been on the same train all the time, perhaps even in the same car? Did they know it (talking by phone within earshot), yet keep it from Em while haggling about a 'three-way' get-together?

The film has come to an end, but is the story complete? A plot that has to most appearances moved to closure, suddenly foregrounds a gap. In Bordwell's terms it has taken on characteristics of the art-cinema mode of narration, one of which is that "often we will learn the most important causal factors only at the film's end" (Bordwell, 1985, p. 210). The effect of such narrative 'reset' has historically been to 'make you leave the theater thinking.' In a context that offers explicit affordances for interacting with the film, I expect instead for this kind of reset to be a strong catalyst in provoking users to interactively re-view the work. The proposed film design allows viewers the agency to challenge a typical convention of an art cinema 'open' ending, that "the 'real ending' is knowable but has been withheld…. The story is abandoned when it has served the director's purpose but before it has satisfied the spectator's requirements" (p. 209). And the interactive (re-)engagement is likely to be all the more vigorous for the fact that it's

not just a hypothesis that's been overturned, but that the film appears to have skirted the whole spatial schemata under which principal assumptions about the characters and action were triggered and constrained. This environment provides the potential to generate intense and complex activity on the part of the viewer. In non-interactive film environments most post-viewing activity is limited to cognitively entertaining questions about what happened. Viewers now have the option to actively pursue an alternate schemata and new attendant hypotheses through the narrative again, exercising a judicious degree of control over what's presented, and able to directly engage and investigate questions about how what happens is revealed, and why it's designed that way. A considerable portion of the viewer's attention will be focused on process and design of narration; in film terms this is characteristic of the art-cinema mode. In terms more familiar with respect to analyzing interactivity, the experience is explicitly game-like. But as we saw in the first chapter, these concepts intersect in the 'ambiguous, gamelike' narration of art cinema.

Game-Like Narration

In this context the game is for the viewer to determine whether the filmmaker has managed to build in key cues where that viewer wasn't looking and listening during her initial viewing. The energy with which this game can be played, on both sides, is indicated by Robert McKee's (1997, pp. 235–238) description of how the audience "rushes back" (cognitively) through a non-interactive film when the filmmaker thus "cracks open reality, creating surprise and curiosity, sending us back through his story again and again. On each trip back, we gain deeper and deeper insight into the natures of his characters and their world..." (p. 237).

But it can only be well-played if the cues have been "quietly but carefully layered in" (McKee, 1997, p. 235). To achieve these effects, whether in 'non-interactive' or interactive environments, the setup must be neither too obvious nor too subtle; intended to tug gently at the spectator's preconscious, if and when viewed, without prematurely unraveling the overall design (p. 240).

Table 2 on page 50 outlines some of the important cues built into the film design, indicating their distribution across the film and its 'channels,' and briefly discussing how they might be expected to operate within that overall design. Before we examine those particulars, however, there's a question it will be useful to address: If this is a game, can it be won?

A definitive answer to that depends on designer intent. It would be relatively easy to build into the film one or more 'gotcha' moments that could provide objectively conclusive evidence that Jared and Brian are riding the same train. The two most obvious examples would be to see them both in the same frame or to hear it divulged in a conversation between the two of them. The variant of the script this thesis is based on contains no such 'gotchas.' The reason for that is an attempt to be fair to viewers. While this might seem paradoxical, such a straightforward 'solution' is unlikely to optimize satisfaction for viewers looking for an interesting challenge rather than just a ready

conclusion. This is especially probable in a story-space of the 'size'[27] furnished by this

script. Instead, this design provides a variety of suggestive but individually inconclusive

cues, leaving each viewer to make her own subjective judgment based on the weight of

circumstantial evidence she discerns. I expect that such a strategy would provoke a lively

discourse amongst viewers, indicative of their engagement with this process and varying

assessments within it and of it. It would also be relatively easy to develop and distribute

two variants of the film, each employing differing cues with different degrees of

conclusiveness (right up to a gotcha); the likely result would be an even more active

discourse. However for relative simplicity and clarity of analysis, this thesis entertains

only the one version; let's now turn to **Table 2** (next page), and to surveying more

closely the kind of experience that the cues the film's design embeds might be expected

to support.

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[27] The 'size' of a story-space (what the author designs and the 'reader' experiences, in whole or part) is related to, but not the same as the size of the artifact. Because of this, a particular short film could present a 'larger' story-space than a particular longer film. Size of story-space and of artifact are not directly proportional because complexity of the experience depends not merely on the length of the syntagmatic chain (number of pages in a book, running length of a traditional film). A better measure of this size (complexity), though still rough, is the number of cues the author embeds to help shape the reader experience. This quantitative measure remains rough because cue 'density' depends not only on number, but also on the sophistication of particular cues and their interrelationships with each other. Of course this 'measurement' is further complicated in instances (such as interactive ones) in which there is an instrumental paradigmatic axis or dimension to the narrative, as well as the syntagmatic one. A rough measure of the 'effectiveness' of a story-space with respect to its size is that the satisfaction that most readers can derive from it should be in good proportion to the size and complexity of the story-space they experience to derive that satisfaction. A story-space that affords small satisfaction for much reader investment is a poor one; one that offers relatively large satisfaction vis-à-vis reader investment is a good one, at least by this measure. However, and this is the point being made in the text above, reader satisfaction can in part be *a direct function of the complexity of the experience, rather than just something 'objective' to be stacked up against that experience* (it's not just the realization, but the realizing of it). In other words, if a key cue in a puzzle-like experience (such as this project's design affords) is too easily found just because there is only a small space in which to search for it, many 'readers' are likely to feel cheated of a worthwhile challenge. So when authors set out to design satisfactions and story-spaces that are proportionate to each other, they have to keep in mind that the 'satisfaction' they are trying to design will be dynamically affected by the complexity of the space they're designing to support it. This kind of challenge is of course common in any sophisticated kind of design undertaking, but especially in experience design where experience and 'result' are as inseparable as two sides of a phone conversation.

Table 2 Summary of Selected Cues in the Film's Design

Segment	'Channel'	Type	Cue	Description
6	Alternate	Visual	shows **Brian** along w. a glimpse of the '**Mother**' character	The 'Mother' is an incidental character who appears along with Jared in segments 10 and 11 (see below). If seen in segment 6, along with either or both instances of the cue that appears in segments 10 and 11, a viewer might then recognize this character as being the same woman they have seen in conjunction with both Brian and Jared; in effect, this would be an indirect 'gotcha.' However, viewers are apt to have some difficulty making such a positive identification because of a variety of factors such as differing camera angles and distances from which she is seen in the different segments, and especially the fact that while she is glimpsed by herself in this segment, she is seen and strongly identified in the context of the 'Daughter' in segments 10 and 11.
10	Alternate	Visual	shows **Jared** along w. '**Mother**' & '**Daughter**' characters	see description for segment 6 above
11	Default	Visual	shows **Jared** along w. '**Mother**' & '**Daughter**' characters	see description for segment 6 above
12	Default	Visual	shows **Jared** along w. a glimpse of some of the '**Large Woman's**' **shoulder & arm**	The 'Large Woman' is the incidental character sitting next to Brian; this shot starts as a medium shot of Jared, *showing none of the Large Woman*, then zooms out to a long shot that takes in *some of her shoulder & arm, but fairly out of focus because of depth of field*. Because of these various factors, viewers are apt to have some difficulty positively identifying this as part of the woman next to Brian, in the same frame as they see Jared. (If they did, it would in effect be an indirect 'gotcha.') Viewer chances could be somewhat improved by having the woman wear clothing of distinctive color and/or pattern, but lack of focus at this plane close to the camera may make even these details too blurry to allow positive identification.
21	Default & Alternate	Sound Effect	'Next stop—Commercial Drive.'	Canned background announcement on train; if a viewer's experience with the film results in them hearing this in both channels of this segment, it will likely suggest to them that the simultaneity is an indication that Jared and Brian are on the same train (the force of the suggestion will be increased if they toggle from one channel to the other in the course of the announcement and thus hear it seamlessly continued from one side to the other).

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The cues in **Table 2** (previous page) all have reasonable potential to be judged

conclusive by some viewers, although in each case there are factors that also militate

against that (*i. e.,,* their conclusiveness is not 'airtight'[28]). The film also incorporates

numerous cues that are more circumstantial in nature. Many of these are of a type that

combines dialogue and action. For example, there are several instances in which Jared

insists that he, not Em, call Brian; one such instance that particularly suggests some kind

of subterfuge on Jared's part plays out in the Alternate channel of Segment 10 and in

Segment 11 (see script in **Appendix A**). There are also multiple instances in which what

appears to be innocent banter between Jared and Brian if taken in isolation suggests a

different significance if interpreted in context of other cues. An example of this is seen

and heard at the end of Segment 5 and the beginning of Segment 6 (involving both

channels). Note that all these are syuzhet or plot-related cues. The film design also

embeds a number of important cues related to stylistic devices. We have already looked

at one of these, the whip pan in the film's climactic segment, in the **Narrative 'Reset'**

section preceding this one. That device uses momentary blurring caused by the quick pan

to foster ambiguity, thus stimulating viewers' interpretive activity. The film also contains

a whole set of stylistic cues which are the most pervasive, and potentially the most

powerful it deploys, and this pervasiveness and power are strongly linked to the film's

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[28] As a perceptive reviewer of this thesis noted, the cue that could be 'objectively' argued to be most conclusive is the simultaneous identical announcement of the next station stop in both the Default and Alternate channels in Segment 21. There are complications, however, for viewers not only in attending to this cue, but in objectively judging it conclusive. The complications in attending to it are incidental with respect to any argument regarding its conclusiveness, but worth noting nonetheless before we deal with that argument. The cue is a background sound effect which plays interspersed with the dialogue in each of the channels in that segment, and this particular segment is one of the most dramatically charged, leading directly to climax. Regarding the conclusiveness of the cue, even though its simultaneity militates for it being more than coincidental events on two separate trains, the objective possibility remains for it to be just that, with two trains arriving at the station at the same time. In Segment 24, the climactic scene, that is exactly what happens.

interactive design. This set of cues draws upon film editing practice and the spatial

schemata a viewer interprets a film with. As we saw in Chapter 1, schemata operate 'top-

down' and we will now examine specifically how the schemata a viewer uses in

conjunction with the film design conditions how she 'reads' narrative through the editing.

The analysis that follows will attempt to show how this can be pivotal to how a viewer

interprets the narrative to construct a story and how interactively viewing the film can be

fundamental to that activity.

To facilitate that analysis, **Figure 2** on the next page incorporates all the film's

important cues (including the set of editing-related ones, indicated in the Figure as

"potential 'shot/reverse shot'" or "potential 'POV-only'"), this time indicating their

distribution across the whole film and its channels. Detailed discussion of the Figure

takes place in the pages following it.

Figure 2   Outline of Important Cues in the Film's Design

[Discussion of this figure takes place in the preceding 2 and following 6 pages.]

Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Camera Direction																								
Default Channel																								
Alternate Channel																								
Camera Direction																								

Default Channel:
- shows Brian w. glimpse of 'Mother' (segment 6)
- shows Jared w. 'Mother' & 'Daughter' (segment 11)
- shows Jared w. some of 'Large Woman's' Arm (segment 12)
- Station Announced (segment 21)
- Whip Pan; Brian Exits Train (segment 24)

Alternate Channel:
- shows Jared w. 'Mother' & 'Daughter' (segment 10)
- Station Announced (segment 21)
- Facial Expression strongly indicates Eyeline Match (segment 21)

Legend:

potential 'shot/reverse shot'

potential 'POV-only'

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In order to see how a viewer's interpretation of a shot and the spatial schemata with which she's constructing the film work with each other, *and* how they may be made to work against each other, let's take the example of Segment 21. The key to **Figure 2** (preceding page) labels this segment as 'potential shot/reverse shot.' Shot/reverse shot is a standard editing convention that serves to provide continuity between successive film shots. The labeling of Segment 21 (and the other similarly color-coded segments) is qualified as *potential* because the likelihood of it being apprehended by a viewer as displaying this type of editing is contingent on how the viewer interacts with the film. In fact, at least initially, channel-switching in this segment is likelier to provide the impression of another standard editing form—crosscutting—that looks very similar, but which is quite different from a cognitive point of view. Segment 21 could be interpreted plausibly in light of either of these conventions. Because crosscutting is initially likelier, let's look at it first.

Because Segment 21 presents a cell phone conversation between Jared and Brian, a viewer can switch the presentation freely back and forth between Jared's side of the conversation (in the Default channel) and Brian's side of it (in the Alternate channel); in effect, the viewer is able to edit the presentation on-the-fly. The segment starts by showing Jared in the Default channel. Switching to the Alternate channel, the viewer would see Brian; she has, in effect, interactively cut from one 'shot' to another. How a viewer interprets the connection between these shots depends on the cues she perceives, applied against the background of the schemata she has been operating under on the cumulative basis of the film's cues to the present moment. The cue for schemata selection and application that dominates this context is the phones, the use of which supports the

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characters' ostensible efforts to coordinate a three-way convergence. And the straightforward interpretation that flows from this is supported by the perception that the film is crosscutting between parallel action (two sides of a phone conversation) in separate locales. But if the schemata that underpins this comes to be challenged (radically by the 'narrative reset' cue described above, or more incrementally by some other 'disrupter' cue or cues), if a viewer no longer takes for granted that because Jared and Brian talk by phone they can't be in the same place, new possibilities for constructing the story open up. We have already seen how some syuzhet or plot-related cues might work to suggest these possibilities. The set of stylistic cues embedded in the film can contribute powerfully to a viewer's sense that although they use their phones to talk, Jared and Brian may in fact be on the same train. Further analysis of Segment 21 in the next section shows how this is possible.

Shot/Reverse Shot Effects

As **Appendix A** (page 89) indicates, in Segment 21 Jared is 'looking' off-screen. Switching to the Alternate channel, the viewer would see Brian. Filmmaking practice (Bordwell & Thompson, 2001, p. 266) shows that if a shot featuring a person looking off-screen is followed directly by a shot showing an object or person not in the first shot, viewers will tend to assume that what appears in the second shot (the 'reverse shot') is what the person in the first was looking at. In other words, the object of the 'subjective point of view' ('POV') of the person in the first shot (pp. 272–273). Of course this is impossible if prevented by their separation in space, but not if they happened to be seated facing each other from opposite ends of a train car.

The impression of spatial continuity this shot/reverse shot convention engenders in a viewer is magnified by the phenomenon of eyeline matching, whereby the person or object in the second shot is 'matched' to the line of sight of the person in the first (Bordwell & Thompson, 2001, p. 266). It's amplified even further if the second person is looking back off-screen in the direction from which the first person was looking, and of course further still if a third shot cuts back to the first person (as a viewer can readily do in the proposed interactive design). *Steppin' Out* will be filmed to emphasize (within dramatic verisimilitude) this phenomenon of eyeline matching on both sides of conversations between Jared and Brian. (See the script in **Appendix A**, page 77, for cursory indications of this, noting that with reverse eyeline matching as described in this and the preceding paragraph, a shot of Brian denoted as being from 'Jared's point of view' can readily show Brian looking [back] and, of course, a shot of 'Jared looking' can be filmed from 'Brian's POV'.)

Channel-switching is central to the experience of these shot/reverse shot and eyeline matching cues; the overall tendency should be that the more a viewer interacts with conversations between Jared and Brian and especially the more she switches back and forth within any particular conversation, the more insistent will become the sense of co-location of the two that this effect creates. The resulting impression may be quite powerful, but nonetheless it falls short of the 'gotcha' conclusiveness of catching the two characters in the same frame. One more embellishment, however, can be added to increase its suggestive power. Shot/reverse shot can involve not only someone looking at someone or something else, but also *reacting* to it, through facial expression or other

'body English.'[29] Of all the potential shot/reverse shot instances in the film, Segment 21 will provide the strongest example of this. As the film's action approaches its dramatic climax in that segment's Default channel, the presentation in the Alternate channel is coordinated to show a very evident look by Brian down the train car, combined with a strong facial expression indicating reaction to something important happening at the place he's looking to.

While shot/reverse shot is the principal set of stylistic cues the film embeds, there remains one last related group of cues for us to briefly examine. These occur in segments in which either Jared or Brian appears, but not in conversation with each other. These segments take advantage of the fact that in these contexts, Jared, say, can still be filmed as though from the 'point of view of Brian'; for viewers already under the influence of the full shot/reverse shot effect from other segments, these may be interpreted as just such POV shots, contributing to some degree or other to a sense that the friends are in the same train car. Because these cues aren't capable of producing a full shot/reverse shot effect across two channels, they are indicated in **Figure 2** (page 53) as 'POV-only.'

The actual effects of any of these cues can only be projected in the absence of producing the film and surveying viewer reaction to it, but some numbers can nonetheless be noted in support of this section's analysis. As **Figure 2** shows, 6/24 (25%) of the film's segments could potentially engender a full shot/reverse shot effect, with another 8 'POV only' segments (33% of all segments) potentially contributing to a viewer's impression that Jared and Brian are riding the same car. Thus, a total of 58% of the film's segments have the capacity to help generate this effect as intended by the film's design.

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[29] Bordwell (1985, p. 126) cites William Simon that such a reaction works to "clinch" another shot as POV.

If the foregoing analysis as to how users might view and interact with the design is reasonable, we can prospectively conclude that the interactivity afforded by the film would significantly alter and augment a viewer's constructive activity by allowing them to actively pursue schemata and attendant hypotheses throughout the narrative by means of controlling what's presented, 'driven' by style- and plot-related cues as set out above. But the design's operation enables viewers not only to uncover and act on cues unavailable in the default playout, but can also serve to elaborate a viewer's experience of cues whether those occur in an alternate part of the playout chosen by the viewer or in any part of the default experience. This asserts a claim that key effects this interactive design is intended to create could not be as well-achieved in a non-interactive format. This claim requires examination and substantiation. That can be done by posing and answering the question 'If the design intention of the film is to generate a challenge to the likely initial schemata and then 'test' that challenge, will giving viewers control over the pattern of cutting between the two sides of phone conversations better generate and/or support testing such a challenge?'

This thesis suggests that, theoretically, this is affirmed several ways. A non-interactive implementation of the plot would rely on the 'traditional' approach of presenting a pattern of editing those conversations determined by the final cut agreed upon by director and editor. Given an implementation in which viewers have the power of the 'final cut'—or in fact over a potential series of cuts which can only ever be provisional and penultimate in a context where any sense of final cut is without authority—the viewer isn't obliged to found her interpretation and testing on a mandate of the filmmaker(s). She can instead work the system to trace her own pattern, or

multiplicity of them, to manifest a combination of cues in one, several, or many

trajectories. This latitude not only enables the viewer to collate a set of cues to support a

challenge but can also work actively to amplify the potency of cues for viewers. This can

perhaps be most tellingly seen in terms of the potential shot/reverse shot effect discussed

above. Because her role in switching between channels 'implicates' the viewer in that

effect, it seems likely to generate a personal investment in it. To transfer terms we saw

Manovich use in Chapter 1 to this context, she invests in it because she controls it.

We now need to review what effects, if any, such interactivity exercises on

narrative coherence.

Degrees of Coherence

According to what I have sketched as the 'likely' scenario in the foregoing

analysis, a 'typical' viewer's experience of endeavoring to construct a logically consistent

story from this narrative will need to be analyzed from the aspect of each of the spatial

schemata she might apply in the course of that activity. The logic that drives story

construction under the likely initial schemata is the apparent effort on the part of the

characters to engineer a three-way convergence among themselves. As we have seen, a

viewer will be unable to complete the coherent construction of a story under this

schemata, but not because of any interactivity she might engage with. What blocks

closure along that line of logic is the designer's choice to force a 'narrative reset' through

the device of the whip pan in the film's climactic segment, which is not contingent on

interactivity (the last segment is part of the film's default playout, so the viewer's seeing

it does not depend on interactivity). The logic on which the likely alternative schemata is

predicated is that Jared and Brian are in fact in the same location, but that they keep that

fact from Em in attempting to manipulate her into meeting where Jared chooses. The weight of circumstantial evidence a viewer may discern from cues supporting this schemata can make conclusive closure seem tantalizing close... But once again a design decision blocks that; and again, this is not due to any operation of interactivity, but this time to a deficiency of information that interactivity can reveal. As set out in the discussion about **Game-Like Narration** above, the author decided against embedding cues that would provide conclusive evidence that Jared and Brian are in the same location, opting instead for a design characteristic of art cinema ambiguity and open ending(s). But because this is the result of design decisions rather than anything inherent in the nature of the interactive mechanism, it could have been otherwise. Thus it appears that interaction is not inimical to coherence, at least not in the context of this particular interactive design. This could be proved straightforwardly by implementing a version of the film more in keeping with Bordwell's classical mode of narration, one that offers a 'gotcha' moment showing Jared and Brian in the same frame, or overhearing in one of their conversations that they're riding the same train.[30] From this we can reasonably conclude that this design approach to interactivity can support narrative coherence ranging from degrees characteristic of Bordwell's art-cinema mode of narration to those more characteristic of his classical Hollywood mode.

Degrees of Immersion

What degree or degrees of immersion, both filmic and narrative, will the design approach support? Although these types are intertwined, let's begin our analysis with the

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[30] Again as discussed in the preceding section titled **Game-Like Narration**, such a design would want a larger story-space (one that is more syntagmatically complex) to make the effort of uncovering such cues commensurate with maintaining challenge and interest for viewers.

filmic variant. As the analysis in Chapter 1 outlines, hypermediacy (lessening of immersion) is the state of being aware of the medium of presentation, not just what it's presenting. In other words, when awareness of the medium itself is foregrounded. And as Glorianna Davenport asserts (also discussed in Chapter 1), a prime way that interactivity with film engenders hypermediacy is by affecting the 'continuous' nature of the medium. This can be avoided if the mechanism of interaction satisfies two conditions:

- the action that triggers the interactive operation and that operation itself can occur 'on-the-fly'

- the action is simple enough that it can become readily 'naturalized' into the viewing experience

The interactive mechanism proposed in the section **Outline of the Film Design and Interactive Mechanism** near the beginning of this chapter meets these conditions. As described there, the preferred (but not the only suitable) implementation for 'channel-switching' within the film would be to toggle back and forth between them using the equivalent of the 'Enter' button on the type of remote control used with personal computers to advance 'slide' presentations. Pushing that button at any time during an onscreen phone conversation would instantaneously toggle to the other side of the conversation, on-the-fly. This action is simple enough to become quickly naturalized, which is important to prevent the action itself distracting the viewer from what's happening onscreen. Of course viewers can also be distracted from following a film if what they see and/or hear from moment to moment is sharply incongruous with what they have witnessed in the preceding interval; this, however, can best be analyzed with respect to the phenomenon of narrative immersion, which we will now bring into consideration.

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Narrative immersion is lessened by the foregrounding of how a narrative is being told (and any reflection on why it's being told that way), at the expense of a viewer focusing on reception of plot/construction of story. As we saw in our analysis of Bordwell's narrative theory in Chapter 1, immersion is optimized by a smooth flow of cues supporting the schemata with which a viewer is interpreting the film; disruption of this usually centers around the sort of visual and/or auditory incongruity alluded to in the preceding paragraph. Insofar as possible, both sides of the film's phone conversations have been designed and written to be paradigmatically 'equivalent,' no matter which of the schemata outlined as likely in the analysis above a viewer operates under. In other words, if a viewer believes Jared and Brian are in separate locations, either side of a phone conversation can be reasonably interpreted to support that; if a viewer believes they're on the same train, the same conversations, on both sides, can be just about as readily interpreted to support this different belief. While this assertion is difficult to entertain, *prima facie*, it speaks directly to the compelling power of schemata to condition our perception and cognition through interpretive processes. What this means regarding the effect of the film's interactivity on immersion is that distracting incongruities don't arise from switching back and forth between sides of phone calls. (This will be the case paradigmatically, within a particular conversation, and syntagmatically, if a viewer is watching the Alternate channel when a segment ends and the playout automatically goes to default; in other words, dialogue and events follow smoothly on from each other regardless of channel-switching within a conversation or which side of a conversation is being followed when it ends and the narrative moves on from it.)

This analysis indicates that the immediate results of the design's interactivity on the presentation should not significantly disrupt viewer immersion. However, as we saw in the foregoing analysis specific to filmic immersion and interactivity, there is the potential for immersion to be affected not only by the 'output' of interactivity but also by any effort involved in the 'input' to trigger an interactive operation. Thus, to fully examine the effect of the interactive mechanism on immersion, our analysis of what we called simply the triggering 'action' when discussing filmic immersion on its own must become a little more sophisticated, being understood as composed of both the actual physical triggering action *and* the cognitive decision-making that produces the physical action. We have already established that the proposed physical action for triggering the film's interactivity, a simple button press, is sufficiently non-intrusive ('naturalized') so as to avoid significantly distracting viewers from following a film as a 'continuously unfolding' perceptual phenomenon, whether the contents of it are narrative or otherwise. We can also reasonably conclude that a simple button press itself is equally unlikely to distract viewers from the core cognitive activity associated with a film that is narrative, *i. e.*, story construction. What remains to determine, in order to analytically demonstrate whether the proposed film design can support high degrees of narrative and filmic immersion, is how much 'overhead' is attached to the cognitive activity that decides whether to switch channels or not at any point. In other words, how much is a choice to interact (or not) foregrounded in a viewer's mental activities?

This thesis posits that such overhead and foregrounding will vary with circumstances. Under some it should be relatively low. Any typical viewer is always involved to some extent in constructing the other side of a phone conversation, whether

or not she has the interactive option of switching over to test her inferences about it; because of this, an extra step of deciding to switch or not doesn't constitute a radical alteration of the mental processes at work. This should be especially the case when a viewer's interpretive activity is operating firmly under the influence of either one or the other of the schemata I have asserted as likely. When such is the case, the analysis above indicates that a smooth flow of cues that can support the operating schemata results no matter which side of a conversation a viewer watches, producing a self-reinforcing feedback loop between schemata, hypotheses and inferences, and decisions about interacting. A viewer's prime focus can remain on following the film and constructing a story from it, in keeping with degrees of filmic and narrative immersion characteristic of Bordwell's classical Hollywood mode of narration. It's when things don't add up in such an orderly fashion, when for example one schemata 'slips,' or a 'fresh' one has been adopted but is not yet well-validated in the viewing experience, that overhead and foregrounding will be relatively higher. With the proposed film design this could typically occur if the whip pan device in the film's climactic segment generates a narrative reset of schemata. So, if this chapter's analysis is right, a typical viewer's immersion 'profile' throughout viewing and re-viewing the film could be expected to display two aspects, paralleling her endeavors to construct a story that coheres fully, coming to closure: one before viewing the climactic segment for the first time and the other in subsequent reviewing of the film. As with the two stages of the viewer's 'closure experience,'[31] the first will have characteristics of classical narration, the other will be more in keeping with the 'ambiguous, game-like' experience engendered by art-cinema narration.

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[31] discussed in the preceding **Degrees of Coherence** section

This analysis indicates that the proposed film design, if implemented, can be expected to be consistent with the design guidelines that were set out in Chapter 2. The question remains whether the implementation of the interactive mechanism designed to achieve this provides a remediation of film technique that can usefully contribute to the evolution of an expressive language for interactive film generally, or whether its applicability is limited more or less closely to the film for which it was designed. In order to successfully answer this question, the interactive mechanism proposed in this project needs to be comprehended in the context of remediating traditional film editing and in the context of the potential for broader remediation of film's expressive language. To understand the evolutionary impacts that can stem from innovating incunabular technique in 'local' instances at first and subsequently broadening the application and impact through the iteration of filmmaking practice, we begin the next and concluding chapter with examination of a key historical precedent.

CHAPTER 4: IMPLICATIONS

Remediation and Crosscutting: an Historical Precedent

Film histories often cite D. W. Griffith as the key creator of the crosscutting technique of editing (Gunning, 1981, pp. 11, 16), and focus that judgment on his use of it in *The Birth of a Nation* (1915) as an expressive tool *par excellence* for helping tell sophisticated narrative. But although crosscutting came to historical prominence with that landmark work, it did not originate with it or spring fully-fledged from it. In several pieces of film scholarship, Tom Gunning deconstructs crosscutting's creation into what we can recognize as the evolution of technique within a process of remediation.

According to Gunning's analysis, crosscutting's development was driven by the competition of the nascent film industry with some of its established rivals in the media ecology. Into the first decade of the twentieth century, films were still principally *re-presenting*, in a mildly remediated fashion, the content of other media. (Gunning, 1981, p. 16) Film had proved to be a good 'transmissive' medium, or 'container,' for media forms that according to Marie-Laure Ryan's distinctions would be categorized as of relatively lower narrativity, including "vaudeville and burlesque sketches, fairy tales, comic strips, and popular songs." Early film's techniques of presentation suited the "spectacular effects or physical action" these forms relied heavily on. But in the years leading up to 1908 and beyond, the need for security and economic growth drove the industry to broaden its appeal to segments of society that preferred media characterized by greater narrativity, such as plays and novels. (p. 16) Complicating this, the film 'language' that worked for a

cinema devoted to spectacle couldn't adequately accommodate and express these more narrative forms. In the absence of film techniques for presenting sophisticated narrative, attempts at adaptations from novels and theater literally baffled audiences. The film industry needed to develop techniques "that could articulate the narrative elements and involve the audience in their unfolding."

Gunning (1991, p. 188) links this and the place of Griffith in the evolution of crosscutting (which Gunning describes as 'parallel' editing, and sometimes as intercutting) to Griffith's first film containing a crosscut phone conversation—*The Medicine Bottle*, shot in February 1909—and even more particularly to *The Lonely Villa*, shot by Griffith two or three months later and also featuring the device of a crosscut phone call. If it seems strange to modern sensibilities that Griffith would make for release by the same studio[32] two films within 120 days that both depended on this particular gambit, several things need understanding. First, in this pre-feature period films were short, averaging 15 to 30 minutes. Second, competing studios and even individual directors habitually 'recycled' both content and the techniques for expressing it, sometimes iteratively refining those in the process, sometimes not; a public fascinated by new technologies such as the telephone, and film itself, provided an eager test-bed for the product that evolved from these practices.

By Gunning's (1991, p. 188) estimation, *The Lonely Villa* (not *Birth of a Nation*) is the "*locus classicus*" of crosscutting. But if this technique merits scholarly recognition on the basis of Griffith's use of it in *Lonely Villa* and broader recognition based on *Birth of a Nation*, Gunning argues that its full genealogy stretches back much further and

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[32] Biograph

deeper than even *Medicine Bottle*. He (p. 191) traces a distinct line back to *Au téléphone*, a 1901 stage play whose basic plot comes from an even earlier short story written by one of the play's coauthors. The plot basis and techniques of this two-scene play and those of its antecedent short story were remediated through three more films produced after *Au téléphone* and before *Medicine Bottle*. Working backward from *Medicine Bottle* at the beginning of 1909, these include: *Heard over the Phone*, directed in August 1908 by Edwin Porter for the Edison Studio (p. 188); *The Physician of the Castle*, produced by the Pathé studio earlier that same year (p. 189); and *Terrible angoisse*, a previous version of *Physician of the Castle*, from Pathé in 1907 (p. 190). Gunning (p. 189) was unable to find extant copies of *Terrible angoisse* and *Heard over the Phone*, so his reporting about them is taken from the plot descriptions found in catalogues. Because of this it's impossible to know whether and how they may have employed crosscutting or other specific techniques, but it's interesting to speculate. According to Gunning (pp. 187–8) the use of split-screen technique (rather than crosscutting) initially predominated in film portrayals of phone conversations; he cites prominent examples from 1901, 1904 (a Biograph film), and as late as 1907 (by Edwin Porter). But although Gunning (p. 188) writes that "split-screen devices remain[ed] an alternative method of conveying phone conversations into the classical period," his scholarship traces the rise of crosscut phone calls and he asserts that by the end of 1908, this was the technique employed most frequently for phone conversations. Although Gunning (p. 190) allows that Porter was "adept at split-screen images," it would not be unreasonable to think that perhaps either or both of *Heard over the Phone* (made by Porter for Edison in the interval between Pathe's *Physician of the Castle* and Griffith's *Medicine Bottle* and *Lonely Villa*) and *Terrible angoisse* (Pathe's

prior version of *Physician*) used crosscutting to 'work' the plot whose basis was a common framework for all these films as well as for *Au téléphone*. *Physician of the Castle* certainly did this, giving Gunning reason, along with other film scholars (p. 188), to cite it as the "direct inspiration" for *Lonely Villa*. It's here that we can most closely discern the evolution of technique characteristic of the more active forms of remediation: while the plot of these two films shows almost no distinction from one to the other, Griffith wields crosscutting to much more complex and sophisticated effect than did the makers of *Physician*. In purely quantitative terms, *Physician* depicts the central phone conversation in four shots while Griffith's *Lonely Villa* develops that plot material over the course of eighteen (p. 189); but these numbers alone don't capture the full extent of the expressive differential that Griffith's crosscutting produces compared to that of the antecedent *Physician*. Although the principle effect crosscutting is used for in both films is suspense (tracing directly back to *Au téléphone*, which used techniques of theatrical drama to create that same effect), by the time of *Lonely Villa* Griffith had already begun to significantly evolve the semantics of crosscutting. Gunning (1981, pp. 18–24) traces, through at least 19 other short Griffith films between 1909 and 1913,[33] how Griffith used crosscutting not only to "create suspense by interrupting action and delaying information," but how he developed the facility to employ it to "make moral judgements, underscore characters' desires, and reveal motivation." (Gunning, 1991, p. 186) Gunning ends his close analysis of Griffith's role in the overall evolution of crosscutting with discussion of *Death's Marathon* (yet another Griffith short featuring a crosscut phone call) from 1913 (the year Griffith left the Biograph studio). But of course Griffith's later

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[33] at least several of them either a remake of one of the other 18 or a remediation of plot and technique sourced from another medium

work, including *Birth of a Nation* (1915), also makes Gunning's (1981, pp. 23–24) case

that the "multiple meanings gained from this one technique in different situations show

something of its enormous power and far-reaching implications." And of course if the

evolution of crosscutting did not begin in its *locus classicus*, *Lonely Villa*, neither did it

end in *Birth of a Nation*, despite that film's broad recognition as exemplar of the

technique; nor was Griffith the only filmmaker energetically remediating plot and

technique supporting it to expand the grammar of film along these lines. As Gunning

(1991, p. 196) recounts, this course of remediation can also be traced through: *The*

Telephone Call (1909) from the Phoenix Company studio; *Help, Help*, a 1912 parody of

Lonely Villa directed for Biograph by Mack Sennett (reputed screenwriter of *Lonely*

Villa) (p. 194); a 1914 Russian version (directed by Yakov Protazanov) of the 'original'

plot from *Au téléphone*; and *Au secours* (1923), directed by Abel Gance and featuring a

witty send-up of that plot standard not only to all these but also to the many others

described as such above.

Reflecting the reality of a complex ecology, this remediation process was not

limited to the technique of crosscutting. We have seen how by 1909 crosscutting had

surpassed split-screen technique in prominence for depicting phone conversations. Split-

screen nonetheless remained an active contender in the competition among techniques

that characterizes remediation, as evidenced by director Lois Weber's 1913 use of a

three-way split-screen in *Suspense*, her short film that evolves the plot and expressive

language of the chain running from *Au téléphone* to *Lonely Villa* and beyond. Gunning

(1991, pp. 188, 195) calls this the "most elaborate example [of split-screen] from the pre-

feature era" in "perhaps the single most original one reeler from the period of transition to features."

We can see from this that the process of remediation is not straightforward. Even the evolution of a particular technique does not always plainly evince a greater expressive power than it had been capable of before. This can be seen through Griffith's own work with crosscutting. In what appeared an evolutionary or at least commercial 'dead end,' his highly ambitious extrapolation of that device to depict different eras of civilization 'in communication' with each other across the gulf of centuries in *Intolerance* (1916) seemed 'stillborn'; it baffled audiences no less than had initial tentative efforts at film narrative before techniques that could express the form began to coalesce (Gunning, 1991, p. 195; Gunning, 1981, p. 24). With the benefit of hindsight regarding the evolutionary nature of remediation, we can now see this overreach by Griffith as a gesture toward the "radical understanding of montage" that established itself through the films of Sergei Eisenstein, something the latter acknowledges (p. 24). In the hands of Eisenstein and others who came after Griffith, this extrapolation would come into its own as a new means of expressing non-narrative as well as narrative (Bordwell, 1985, pp. 234–273), owing something not only to the narrative forms that preceded it but also to the cinema of 'spectacle' from which those had arisen.

Prospects for Extending the Proposed Design

With the precedent in mind of how crosscutting technique has evolved (and continues to do so), let's now shape answers to the key question with which we closed the previous chapter. How might the admittedly incunabular technique of interactivity that drives the film design proposed by this thesis evolve and develop what Gunning

would call its "power" and "implications"? As stated at the end of the previous chapter, in order to see how the application and impact of this technique might be expanded, we need to understand first the terms in which it remediates existing film techniques. The proposed interactive mechanism can be understood as remediating both crosscutting and shot/reverse shot editing—combining the potentials of both—by 'inter-activating' spectator choice regarding what to view and conditioning their resulting construction of film space according to the particular schemata under which they're interpreting the film. Its operation depends on a simple form of 'selective framing': a viewer can see and hear one or the other side, but not both, of a phone conversation at any instant. One potential way to remediate selective framing could be based on insight drawn from our historical survey of crosscutting, specifically how the technique of split-screen has 'paralleled' crosscutting throughout that history. Each of these techniques can create some of the same effects and some that the other can't; use of one or the other depends on the specific effects desired and also (as we saw in the preceding section) on the dominance of one or the other throughout history. Their shifting predominance is based on factors such as narrative practice at the time and the technology available to implement them. Split-screen is another form of selective framing. Just as, traditionally, filmmakers decided *which* parts of a phone conversation to portray *when* with crosscutting, they traditionally decided if simultaneous plot events would be portrayed in split-screen, and what would be portrayed by each of the 'sub-frames' into which the screen was split. And just as interactive technology can allow us to let the viewer decide whether to switch sides of a phone conversation in a design based on parallel editing, in another design it could allow the viewer to split the screen or not during a phone call. In fact, such a design could be

paradigmatically more sophisticated than the one this thesis analyzes in detail—interest

and challenge for viewers could be increased by a design whose capacity for selective

'framing' supports discrete choices of sound and visuals, letting users select various

appropriate combinations of those from either or both sides of a conversation. Such a

design is, in a similar fashion to the one this thesis features, predicated on what we saw

Lev Manovich term the 'aestheticization of information access and processing.' Both

hold out to viewers the offer of relatively omniscient knowledge about what's going on,

but as we have seen, the design for *Steppin' Out* constrains omniscience by letting

viewers see and hear only one side of phone conversations at any instant. The split-screen

alternative just outlined will require a different strategy for constraining omniscience in

order to keep the viewer engaged by never allowing them to actually see and hear

everything related to a phone conversation at once. In short, to not give away *all* the keys

to the narrative kingdom at the same time. Visually, the strategy for maintaining gapping

in that design would rely on the limit of screen size: contextual information available in .

the periphery on either side of a conversation when framed by itself would not be seen if

both sides of the conversation were selected for simultaneous viewing. Aurally, a similar

'more is less' effect could be accomplished by opposite means, following the strategy

Bordwell outlines of overloading the viewer (discussed in the **Syuzhet and Style** section

of Chapter 1). As in life so in film design: the more sources of sound available, the higher

the noise-to-signal ratio will tend to be, increasing the difficulty of discerning and

following the design's important sound cues. Such aesthetics would require the viewer to

tactically optimize (not naively maximize) her information access and processing,

continuously posing questions that echo Marshall McLuhan—*not only what may be gained in information access and processing, but also what may be* lost.

Using interactive viewer control to remediate split-screen technique would be in keeping with both theoretical projections and current trends. Following the same line of thinking that leads him to the imperative for 'aestheticizing information access,' Manovich (2001, pp. 324–326) foresees multiple "windowing" in film as a central practice in its remediation. Examples already proliferate. In "Spaces of Surveillance: The (Digital) Aesthetic of Contemporary Hollywood Spy Films," Kyle Weise (2005, pp. 1–5) conducts a penetrating examination of how surveillance camera images displayed on computer monitors within the film's diegesis provide a 'picture-in-picture' variation of split-screen technique in films like *The Bourne Identity*. A more standard form of split-screening is a frequent feature in the popular and Emmy award-winning contemporary TV series *24*.[34] Weise's (pp. 8–11) analysis points out that the spatial montage of split-screen imbues even the traditional forms of film and television with aesthetics characteristic of new media; together, the narration and the viewer navigate through an information-dense environment to collate data dispersed among multiple framings.[35] He convincingly argues that this experience has attributes of digital media right up to (but not including) the one Marie-Laure Ryan claims distinguishes that category— interactivity.

Interestingly and perhaps not surprisingly, many (though certainly not all) instances of split-screen in *24* involve phone conversations. And the series' director and

[34] http://www.fox.com/24/
[35] This technique could also be 'motivated,' arguably more realistically, by employing the still and video imaging capability of omnipresent cell phones to provide 'picture-in-picture' framings, rather than relying on the gambit of surveillance monitors.

co-executive producer ("CBC Radio", 2006) says the show uses those conversations as plot devices so frequently that the central character could spend as much as half of any episode engaged in them. We closed the previous chapter leaving in abeyance a question whether the gambit of giving viewers choice regarding how they see phone calls portrayed could be engagingly sustained in narrative domains broader than the single brief script this thesis analyzes. In the tele-connected era that *24* and films such as *Bourne Identity* reflect, it appears that a contemporary social reality of ubiquitous communication could readily provide a solid foothold for the selective framing types of interaction envisioned by this thesis. I will close then with a last projection, suggesting that such techniques, though far from fully-fledged, might serve as signposts in the evolution of an expressive language for interactive narrative film.

APPENDICES

Appendix A:
Script for the Proposed Film Design

This appendix contains the script for the proposed film design, titled *Steppin' Out*.

Detailed analysis of how viewers might be expected to view and interact with it is

provided in the **Analyis of Potential Viewing and Interaction** section (page 44). There

is a brief discussion of important technical requirements and specifications for

implementing the design in **Appendix B**, immediately following this appendix.

An explanation of how to read the script in the context of the proposed

mechanism of interaction is provided in **Chapter 3**'s **Outline of the Film Design and**

Interactive Mechanism section, but directions for doing so are also provided

immediately below, preceding the script.

Reading and Interactivity Protocol for the Script

The film's segments (scenes) are numbered; for any scene that involves a phone
conversation (such as 2; see page 80), each side of the conversation will be separately
filmed, so that each is *available* for presentation to the viewer. The film will be
implemented so that for any time interval involving a conversation, there are two
'channels' in the film, each consisting of one side of that conversation. This is indicated
in the script by splitting such a segment into one channel on the left and one on the right.

In any such segment, as the film plays, the channel on the left will always play by default.
At any time during play of the Default side of a conversation, the viewer can perform a
simple 'toggle' operation to switch over to viewing (and hearing) the other side of the
conversation in the Alternate channel. Thus, the viewer can choose to see *and hear* one
side of a conversation or the other at any instant, but not both at the same time.

At any point while watching and listening to the Alternate channel, the viewer can toggle
back to the Default channel using the same simple operation. Thus, she can switch freely
back and forth at any time between the two sides of any phone conversation, picking up
the one side at exactly the point in time she left off from the other.

If the play of the Alternate side of a conversation reaches the end of that conversation
(*i. e.*, the viewer is watching that channel when the segment ends), the film automatically
moves on to the next segment's default play. That may be the 'single channel' of a non-
conversation segment (such as 3; see page 80) or the Default channel of another directly

ensuing phone conversation. Of course if the viewer is watching the Default channel when a conversation ends, the film's behaviour is the same; *i. e.*, no matter which channel she is watching, the next segment always automatically begins in accordance with the film's 'default' structure.

For some but not all segments there are brief 'camera directions' indicated by text running vertically, sometimes for only one channel in a segment, sometimes for both. These are important for the film's interactivity, as explained in pages 55–57 of the thesis; where there are no such indications, such a specification isn't critical to the interactivity, and decisions regarding how to shoot such a segment will be a matter of cinematic choice as in any film. *Understanding these camera directions is* not *necessary for an initial reading of the script to get a sense of the film.*

Filmscript: *Steppin' Out*

1	FILMSCRIPT: *STEPPIN' OUT*
	FADE UP FROM BLACK:
	EXT. A PLAIN GLASS DOOR IN A PLAIN GLASS STOREFRONT
	As though ascending from depth underwater a figure is moving toward the door from inside, then it swings open onto the sidewalk and, breaking surface, the young woman stepping into the street can be seen clearly.
	This is EM. The shadow cast alongside her says morning -- not too early -- of a bright and pleasant day. The sun highlights her dark features and the jumble of color and textures of her clothes. Her style might have been put together by computer program, but very much using the 'Random' function -- something from the 'hat' menu, something again from 'coat' and 'pants', something tangential from 'shoes'; definitely no 'Coordinate All' filter applied. She moves along the street, alternately blending in and standing out against the small shops and their window displays.
	SHE'S CARRYING A BRIM-FULL CUP with care not to spill, but then a RING-TONE sounds and she juggles, sloshing steaming COFFEE on her hand. She fishes a CELL PHONE from her pocket and flips it open, grimacing just a bit at the coffee and glancing at the screen as it sweeps to her ear.

#		
2	EM Yeah. Bri'. 's up? She takes a dab with her tongue at the coffee dripping from her other hand, and a short sip from the cup... EM (cont'd) Definitely. (beat) Where ya at? EM (cont'd) Good, I'll call Jar' and remind 'im. EM (cont'd) (happily) Tok soon.	'Jared POV', But fairly Tight	[brief pre-figuration of Brian's first establishing shot from Default playout (see Segment 7), but he is on the Phone] BRIAN Dunno, we still gonna meet this morning...? BRIAN (cont'd) On the train into town. BRIAN (cont'd) Sure... He hangs up... [Go to Default playout]
3	She pushes 'End' and still walking, thumbs a few keys. The little TUNE of a number being speed-dialed plays from her phone as she bends for a sip and manages to wipe her mouth with the back of her hand in the same motion--		

4

[brief pre-figuration of Jared's first establishing shot from Default playout (see segment 5), but he has answered his Phone]

                    JARED
Heyy 'M.

          JARED (cont'd)
Dunno, hasn't started yet. (beat) How're you?--

               JARED (cont'd)
               (laughs slightly)

               JARED (cont'd)
Sure, where are ya?

               JARED (cont'd)
'K, what time we setting all this up for?--

               JARED (cont'd)
Cool, I'm on it; letcha know.--

He lowers the phone, pushing 'End'... [Go to Default playout]

`Brian POV', But fairly tight

--Her head cocks to the phone--

               EM
Jar'. Hey...
          EM (cont'd)
How's your day, so far?

--She is just pouring about an inch off the too-full coffee onto the street and not avoiding stepping in it too well as she replies--

          EM (cont'd)
--Totally spilling this A-M's first cup. Gotta put more in than on or I'm in line for a refill already.

          EM (cont'd)
          (a bit peevishly)
NOT funny--
(--and regaining composure--)
We're meeting this morning...

          EM (cont'd)
West side of Clark, headed for Commercial.

          EM (cont'd)
Not sure yet...Bri's headed into town but didn't say his ETA--

          EM (cont'd)
          (a little hesitantly)
Okay... (trailing off)
--She frowns at the phone, then pushes 'End' and takes a big pull on the coffee, still frowning...
CUT TO:

FILMSCRIPT: *STEPPIN' OUT*

5

SOMEWHERE ELSE IN THE CITY A YOUNG MAN IS RIDING A LIGHT RAIL TRANSIT TRAIN. He sits with his back to the windows on a bench-style seat that runs parallel to the wall of the car. The fellow is tall and rangey and the baggy white track suit that droops from him simultaneously emphasizes his slimness and exaggerates his size. He is sprawled across several seats and his widespread knees and feet and the arm outstretched along the bench's back take up space that other passengers, standing in the aisle, would be happy to have for themselves.

His phone is held at chest level but moving down toward his lap; as he languidly thumbs the keypad the candy-bar rings; the young man listens to most of its brief Melody (cutting off the last note) and puts it to his ear, saying--

'Brian POV,'

JARED
Brian; just gonna call...

JARED (cont'd)
Psycho, more like...

JARED (cont'd)
Yeah..How 'bout the Clark Drive Station? Say 10 minutes.

JARED (cont'd)
Cool...

CUT TO:

6

Brian on the Phone.

BRIAN
I'm psychic...

BRIAN (cont'd)
(Snickers, then--)
So Em's good to meet...

BRIAN (cont'd)
...Okay. (beat)...I'll ring Em...

He lowers his phone... [Go to Default playout]

'Brian POV,'

'Brian looking,'

'Jared looking,'

'Jared POV, w. Glimpse of Mother,'

7

ANOTHER YOUNG MAN RIDING A LIGHT RAIL TRAIN; HE LOWERS HIS PHONE. The seats this fellow sits in are two abreast between the windows and the aisle and he's cramped into his by a large woman sitting next to him. He focuses intently on his phone in front of him, thumbing through a Speed-Dial menu. With a couple of exceptions, his color of choice is black. He selects the letter 'M' from the menu and speed-dials a call, the phone Chirping digit tones as he puts it to his ear and waits momentarily...

FILMSCRIPT: *STEPPIN' OUT*

8		
BRIAN Okay, the plan is meet at Clark-VCC Station in 10...	'Jared POV'	Em in the Street; she has answered her Phone EM (with Umbrage) *The plan is for Commercial...*
BRIAN (cont'd) Jar' said--		
BRIAN (cont'd) (uncertainly) I don' know about that... (beat) Better call Jared...	(Switch Angle to See Game)	EM (cont'd) I don't care what Jared says, last night I told him we'd meet this morning at Commercial.
BRIAN (cont'd) Good.		EM (cont'd) (beat) Okay...
He pushes 'End' and moves straight into hammering a Game as we -- CUT TO:		She lowers her phone... [Go to Default playout]

9	
EM in the STREETSCAPE. She sips from her coffee, thinking momentarily, then manually dials a number, PASSING STORE FRONTS THAT ARE BECOMING INCREASINGLY SCUZZY as she waits for an answer. Up ahead, in the same block, is a LIGHT RAIL TRAIN STATION.	

10.

EM	'Brian POV,' But Medium-Tight	Jared on the Phone.
(launching in determinedly)		
Jared, *hey*, last night we agreed to meet at Commercial...		**JARED (cont'd)**
		(unruffled)
EM (cont'd)		Yeah, well, Clark seemed like a better idea in the clear light of day.
(looking ahead)		
I'm *looking* at it in the light of day, this whole area *sucks*.		**JARED (cont'd)**
		(unperturbed)
EM (cont'd)		So waiting there a few minutes won't get ya *killed*...
(irritated)		
You say so; Hanging here for 10 makes me the acquaintance of every druggie, panner, and low-life come-on in the 'hood. *No way*...		**JARED (cont'd)**
		(taking another tack)
Her brow furrows...		Well I'm just not sure Commercial works for Brian; maybe he and I should just hook up, 'n' catch you tomorrow...or next week...
...then she frowns...		
EM (cont'd)		**JARED (cont'd)**
(determination wilting away...)		(with quick authority, sensing Em weaken)
Hold on...		I'll call Bri' and ask 'im.
EM (cont'd)		**JARED (cont'd)**
(a last, uncertain effort to retain control of the situation...)		(foreclosing her suggestion...)
I can call...		No, let me; right back at ya--
She lowers the phone and in doing so says--		He lowers the phone, pushing 'End' and looking at it for a moment, then a Scene in a nearby seat catches his attention... [Go to Default playout]
EM (cont'd)		
(partly in anger, partly in resignation...)		
Whatever...		

FILMSCRIPT: *STEPPIN' OUT*

	She's just reached the entrance to the STATION and surveys the environs and its HABITUÉS with distaste. She bends her head to take a drink of coffee; as she does her shoulders hunch a bit, almost as if to cocoon out the hoi polloi. CUT TO:	
11	JARED ON THE TRAIN, obviously in no great hurry to call Brian; he is looking at what seems like a MOTHER AND HER VERY YOUNG DAUGHTER, seated side-by-side, but EACH ENGROSSED IN THEIR OWN CELL PHONE CONVERSATION as the CITY LANDSCAPE ROLLS BY OUTSIDE THE TRAIN WINDOW. His phone Rings and he answers it without looking--	'Brian, POV, But Medium
12	'Brian POV', Zoom out from Medium to Long; Long Shot shows some of the 'Large Woman's', Shoulder and Arm, Out of Focus because of Depth of Field JARED Spooky, dude...got me under surveillance or somethin'? (Grins largely at this) JARED (cont'd) Relax...Em's coolin' her jets for us... CUT TO:	Brian on the Phone. Brian 'looking', BRIAN Yeah well a guy gets to wonderin' what's goin' on when you don't phone home... Listens... [Go to Default playout]
13	EM PACING OUTSIDE THE STATION; she fidgets, taking a pull at the coffee...checking the clock on her cell phone...pulling at the coffee again... CUT TO:	

85

FILMSCRIPT: STEPPIN' OUT

#			
14	BRIAN So what's the deal, one station or the other works for everyone... (Smirks...) CUT TO:	Brian 'looking', 'Brian POV',	JARED Buddy...it's not about where we meet...it's about her knowing her place... (beat) [Go to Default playout]
15	EM STOPS PACING; she calls up the Speed-Dial Menu on her phone, but then hesitates, uncertainly... CUT TO:		
16	JARED ...around here she's not the leader...she's the cheerleader... (Smirks) CUT TO:	'Brian POV', 'Jared POV', But Tight	BRIAN (...even Larger Smirk) [Go to Default playout]
17	EM's head comes up, looks around her...she TRASHES THE COFFEE IN A BRIMMING WASTEBASKET, startling a few BYSTANDERS with a declaration of-- EM (Defiantly) Whatever. --stepping out at a brisk pace along the STREET; three or four long blocks ahead, we see another STATION. CUT TO:		

18		
JARED Anywayyy, she's probably sweated long enough...call the princess and tell her you'll be right along to rescue her. He Smiles and hangs up as we-- CUT TO:	Jared 'looking',	'Jared POV', BRIAN Can do. Lowers his phone... [Go to Default playout]

19	EM MOVING ALONG THE STREET TOWARD US, AT A BRISK PACE. We can see she's put some distance between her and the STATION we last saw her at. A TRAIN CLATTERS BY ALONG THE RAISED TRACK THAT RUNS BESIDE THE STREET, receding rapidly toward the station. As it passes we can just catch the RING of Em's phone below its noise; she pulls it out and puts it to her ear.

20

Brian on the Phone.

                    BRIAN
          Hey...I'll be at Clark right away, so
          don't wander off and get lost...
          (Smirking)

                    BRIAN (cont'd)
          Naa...but should be there in 3 or 4...

The Smirk changes to a Scowl...

...then a Splutter...

Quickly lowers his phone and thumbs for a
Speed-Dial... [Go to Default playout]

'Jared POV, But Tight'

                    EM
          Hi...

A worried look creases her face, and she looks
back at the Station behind her.

                    EM (cont'd)
          You're not there now...?

As her head turns back toward us she wears a small
smile of relief.

                    EM (cont'd)
          That's too late. (beat) I'm already closer to
          Commercial than Clark--

She passes the camera and it swivels with her as
she does, so that we now see her moving away; we
can see that the STATION ahead is not yet as close
as the Station we just saw behind her.

                    EM (cont'd)
          --Haul your ass off at Commercial, I'll see
          ya there--

--She hangs up, pockets the Phone and redoubles
her pace.

CUT TO:

FILMSCRIPT: *STEPPIN' OUT*

21		
JARED answering his Phone--	Jared 'looking'	Brian on the Phone.
JARED		BRIAN
Yeah...?	'Jared POV'	She says she's already closer to Commercial than Clark...
JARED (cont'd)		
Bullshit! Not unless she grew wheels, she's not.		
[SFX: Canned Announcement: Next stop -- Commercial Drive.]		[SFX: Canned Announcement: Next stop -- Commercial Drive.]
He's already moving the Phone away from his mouth to thumb 'End' as he says--		
JARED (cont'd)	Zoom to Tight	
I'll handle this--		
--and Speed-Dialing with the same motion as we--		Lowers his phone and looks down the Car... (offscreen) [Go to Default playout]
CUT TO:		
22		
EM, closing on the STATION...but it's still across a last BUSY INTERSECTION and at the end of the block ahead.		

23

Her phone Rings and she answers it--

                    EM

    Hel-lo...

              EM (cont'd)

        (her eyes go to the Station as she
        says--)
    Matter of fact, I'm at the station now...

              EM (cont'd)

        (hard)
    Yesss...sir.

Her eyes go out past the Station and a TRAIN
APPEARS AROUND A CURVE ON THE ELEVATED TRACK,
RAPIDLY APPROACHING. The sight takes her aback for
a split second, then galvanizes her--

              EM (cont'd)

    Riiight...I'm here waitin'; see ya soon...
CLAPPING THE PHONE SHUT SHE BREAKS INTO A FULL
SPRINT AND LAUNCHES HERSELF ACROSS THE LAST STREET
before the station. CARS FROM BOTH DIRECTIONS
STAND ON THEIR BRAKES, THEN THEIR HORNS, BUT EM IS
ACROSS AND PELTING DOWN THE BLOCK toward the
Station ENTRANCE.

CUT TO:

Jared on the Phone.

                    JARED

        (icily)
    You are nowhere *near* Commercial.

              JARED (cont'd)

    No way.

              JARED (cont'd)

        (getting a grip)
    Okay--I'm rollin' in there right now,
    and when I don't see you I'm blowin'
    straight through; see *you* whenever.

'Brian POV'

Lowers his phone, staring at it, then OUT
THE WINDOW AT AN APPROACHING STATION; gets
out of his seat and goes to the DOOR... [Go
to Default playout]

90

24 STATION PLATFORM

A TRAIN BRAKES HISSING TO A HALT ON THE FAR-SIDE TRACK just as EM's head and shoulders appear at the top of a STAIRWAY LEADING DOWN TO STREET LEVEL ON THE CLOSE-SIDE; ANOTHER TRAIN PULLS IN FROM THE OTHER DIRECTION ON THE CLOSE-SIDE TRACK as the rest of her clears the top of the staircase on the run; both the Train and Em brake to a halt simultaneously. The FRONT and REAR SIDE DOORS of the CAR NEXT TO EM SLIDE OPEN. JARED LEANS OUT THE FRONT DOOR, one foot on the Platform and one still in the Car, turning immediately to look up the Platform, scanning with concentration. His back is turned to Em who spots his white figure...a few steps forward bring her up behind him, just as he swivels to see her; a look of dawning triumph collapses as she gives him a mock-playful punch in the chest; she is smiling broadly.

THE CAMERA DOES A QUICK WHIP PAN DOWN THE TRAIN, COMING TO REST AT A REAR SIDE CAR DOOR from which BRIAN emerges, turning to look offscreen up the Platform as we CUT BACK TO:

Jared looking past Em, down the Platform (offscreen). As he says--

JARED

...Hi, Bri'...

--Brian steps into the frame behind Em. Brian smiles wryly as Em turns to see him...

EM

...Hey, Bri'--

--Her mouth is open -- perhaps to say something more -- but her RING-TONE sounds; as she reaches to answer--

GO OUT OF FOCUS, HOLD FOR 8 SECONDS, THEN...

...FADE TO BLACK.

Appendix B:
Key Technical Requirements for Implementing a Prototype

This appendix briefly outlines key technical Requirements necessary for

implementing the film design proposed by this project. **Table 3** describes the Rationale,

Specifications, and Background (as necessary) for these requirements.

Table 3   **Requirements and Specifications Necessary for Implementing the Proposed Design**

Requirements-Specifications List
Requirement   **'Instantaneous' Channel-Switching**
Rationale   To avoid disconcertingly obvious latency when a viewer switches channels, *i. e.*, to maintain the impression that the experience is similar to a cut in a traditional film
Specification   Depending on the play-rate (24 or 30 frames per second) of the implementation, the interval from pressing the channel change button until the other channel is 'loaded' and has begun to be displayed should not significantly exceed 12 (24 fps) or 15 (30 fps) frames (if a viewer invokes a channel change in Pause or Scrub-through mode, the system will change channels 'instantaneously,' or as quickly as possible, which should be very close to 'instantaneous')   Of course image and sound synching will need to be maintained in this operation (note that sound will not play on Scrub-through)   A possible alternative implementation to loading the other channel on button press would be to have both channels running simultaneously, hiding and showing them variably according to the switching; while this would avoid incurring additional 'loading' time, system requirements would be greater to accommodate simultaneous play of two video streams
Background   In changes from shot to shot, viewers can become cognitively aware of objects and fit them into a spatial or narrative schemata in about half a second (Bordwell, 1985, p. 74); thus, to fulfill the Rationale for this requirement, the interval from pressing the channel change button to the other channel beginning to be displayed should not significantly exceed half a second

Requirements–Specifications List

Requirement
Minimum Interval for which a Channel can be Displayed   (*exception to 'Instantaneous' Channel-Switching* requirement immediately preceding)

Rationale
In keeping with the Background for the 'Instantaneous' Channel-Switching requirement preceding this requirement, in order for a viewer to register that an invoked channel change has been carried out, the channel switched to needs to be displayed for at least half a second before any switching back to the previous channel takes place

Specification
To best handle the condition of rapid multiple button presses that may take place for a number of reasons, the system will not register a button press that occurs within half a second of a previously registered button press   See the 'Channel Change Error Notification' requirement below for a brief discussion of why no error message will be generated under this condition.   This requirement is related to the 'Interactive "Dead Zone" at end of phone conversations' requirement immediately following this one

Requirement
Interactive 'Dead Zone' at the end of phone conversations   (*exception to 'Instantaneous' Channel-Switching* requirement above)

Rationale
To prevent viewers toggling to the other side of a conversation when insufficient time remains in the conversation segment for them to adequately begin to perceive and cognitively process what's presented in the other channel before the film moves on to the next segment

Specification
Channel-Switching function not available within a specified 'dead zone' at the end of conversation segments; dead zone is 1 second plus whatever the interval from pressing the channel change button to the other channel beginning to be displayed is (in keeping with Specification for 'Instantaneous' Channel-Switching requirement, this should not significantly exceed 1.5 seconds)   See the 'Channel Change Error Notification' requirement below for a brief discussion of why no error message will be generated under this condition.

Requirements–Specifications List

Background

See Background for the 'Instantaneous' Channel-Switching requirement above

Requirement

Conversation Synching

Rationale

To support frame-accurate toggling between two sides of a conversation

Specification

The time codes on both sides of a conversation need to be synchronized, *i. e.*, each side of a conversation must be composed of the same number of frames as the other, mapped to each other on a frame-by-frame basis

Shooting must take this into account with precise timing, and by ensuring sufficient 'head' and 'tail' on each shot so that all necessary adjustments can be made during editing

Note that this synching must be maintained throughout all available modes of video 'play' functionality, such as Rewind, Fast Forward, Scrub-through

Requirement

Channel Change Button Mapping

Rationale

To make the act of button-pressing for a channel change as non-intrusive as possible

Specification

On the preferred target platform for the prototype implementation, the standard PC, the best implementation would be to map this operation to the button on the sort of remote control used to advance computer 'slide shows' on PCs; of course the operation should also be assigned to one or more of left mouse-click and the keyboard's Enter key and Spacebar

Requirement

Channel Change Error Notification

Rationale

To avoid disrupting viewer's narrative and filmic immersion

Specification

Although standard conventions for interaction call for user notification if the Channel-

Switching operation is invoked by button press when it's not programmatically available—non-conversation segment, in an interactive 'dead zone' (see the Interactive 'Dead Zone' and Minimum Interval for Channel Display requirements above)—this is **unnecessary or undesirable with the proposed design**. In the first instance invoking channel-switching in a non-conversation segment violates the design's rule for interaction but does not result in a condition that users will need notification to recover from. In the case of the Interactive Dead Zone, viewers can understand from the smooth progression from the channel they're viewing to the following segment that they pressed the channel change button too late in the conversation to effectuate a change (remember that the maximum interactive 'dead zone' at the end of conversations should be about 1.5 seconds). The case of the Minimum Interval for Channel Display is the most problematic of these conditions; in that instance the proposed design requires users to learn, without the aid of error messages, that the system requires a minimum interval for channel toggling. While this imposes a learning curve on users who do engage in multiple rapid button pressing with a frequency greater than half a second (an unlikely instrumental strategy on the part of a user), it better maintains narrative and filmic immersion overall.

Requirement

Channel 'Memory'

Rationale

To provide a stable basis for a viewer to re-view the film and explore alternative paths through it

Specification

The implementation will retain in memory which side of a conversation the viewer watched at each time code within that conversation (for the most recent viewing of the conversation); on a subsequent pass through that conversation, whether by the operation of standard Play, Rewind, Fast Forward, or Scrub-through, the implementation's virtual 'play head' will move through the conversation according to that path unless, in standard Play, Pause, or Scrub-through mode, the viewer makes a channel switch (in this case the memory then writes over itself to trace this new branch)

Of course for any conversation or part of a conversation a viewer has not yet seen in either channel, there is no memory record and any viewing of those will proceed according to default until such time as the viewer makes a channel switch

There will be an option for viewers to 'Clear Memory' at any time, erasing the entire memory record

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