Abstract

The split-screen has a long, yet relatively under-theorized, place in the history of the moving image. Salt finds examples as early as 1901 - including several instances of the use of the split-screen to simultaneously represent two sides of a telephone call. Gance used the split-screen spectacularly in the closing sequence to his masterpiece, *Napoleon*. The use of this technique has never disappeared, but despite a brief flowering in the late sixties and early seventies, it has generally remained a minor trope in the poetics of the moving image. However, it is more in evidence in a range of contemporary films, sometimes as a tour-de-force (*Timecode, The Tracey Fragments*), but more commonly integrated and subordinated within the overall single-screen aesthetic.

This resurgence of the split-screen is supported by ongoing cultural changes in the production, distribution and reception of the moving image. The computer desktop, electronic games, television news, print comics and graphic novels have accustomed us to reading the many-windowed visual screen. The video short forms (commercials, music videos and series opening sequences) have acted as a testbed and incubator for the development of more hyper-mediated visual grammars - including the split-screen. Contemporary domestic media technologies privilege the pleasure of complex moving image narratives and visual constructions. Larger high-definition video screens provide the effective real estate for the display of multiple images, and ever-increasing home playback options support the repeated viewing of more intricately faceted storylines and imagery.

Some contemporary media theorists recognize the power and the potential of this form of cinematic expression. Manovich argues that the twentieth century moving image
devalued what he calls “spatial montage” but that the digital imperative of this century - both technical and cultural - are favorable to a more spatialized aesthetic that includes the split-screen. Spielman maintains that the digital moving image uniquely privilege the collaged and the spatial. Willis notes that contemporary filmmakers such as Greenaway and Figgis use digital capabilities to break what Greenaway calls "the tyranny of the frame" and make expressive use of a multi-windowed cinematic environment.

However, there is little theoretical work on the poetics or cinematic design of the split-screen. This paper argues for a robust approach to the deconstruction and analysis of split-screen sequences. This approach examines the phenomenon at three levels: the narrative, the structural and the graphic. The narrative level considers the relationship of the split-screen sequence to critical story parameters such as plot, character and storyworld. The structural level investigates the formal relationships between the frames, including the treatment of cinematic time and space, the identification of any overall master-frame or figure-ground relationship, and the relationship of the split-images to the sound track. The graphic level is a closer look at the design details, considering variables such as frame shapes, number, layout, sequence initiation, and treatment of motion. This three-level analysis is applied in a close-reading of Norman Jewison’s Thomas Crown Affair (1968).

The Split-Screen: Critical Background

My research is concerned with the poetics - the design - of media works. In this regard, the cinematic split-screen is an interesting - and somewhat puzzling phenomenon. Despite its long history, the cinematic split-screen has attracted relatively limited attention in the literature of film history or film style. Much of film literature either ignores the form, or relegate it to brief and passing mention. Those few texts that do consider it, generally do not examine the poetics of the form as it has been used by film artists.
Salt goes further than most in his overview of cinematic styles and technologies, where he devotes two paragraphs in separate parts of the book, the first referring to two early silent works, the second referring to three examples from the 60’s. However, he has no significant explication of the aesthetics in back of the stylistic choice.

Manovich has helped to trigger a more substantive examination of the expressive possibilities of the form. He grounds his analysis in the tradition of Eisenstein's "montage within the frame", and argues that the new digital technologies support a "spatial montage", where multiple cinematic frames offer narrative paths where "montage in time [editing] is no longer privileged over montage [in space]". This is a relatively bold position for Manovich to take. The essence of the filmmaking art is the plasticity and therefore the power inherent in cinema’s ability to present and juxtapose events – that is to say, shots – in time. His claim for a co-equal cinematic “spatial montage” is a significant departure, but is supported by Spielman, who argues that the digital moving image privileges the spatial, the morph and the collage.

Willis agrees with Manovich’s formulation, noting that filmmakers such as Peter Greenaway and Mike Figgis use digital capabilities to break what Greenaway calls "the tyranny of the frame" and make expressive use of a multi-windowed cinematic environment. Rhodes applies an ontological framework to the split-screen spatial montage, arguing that the viewer of “multi-channel” films actively constructs meaning out of the separate channels using a model related to metonymy. Friedberg situates the split-screen in the history of screen practices, and constructs a taxonomy of “multiplicity”: the use of a “frame within the frame” strategy in standard single-screen

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1 Salt, Film Style and Technology: History and Analysis
2 Manovich, Language of New Media
3 Eisenstein, Film Form
4 Manovich, Language of New Media
6 Willis, New Digital Cinema - Reinventing the Moving Image, pgs. 38 - 41
7 Greenaway, The Pillow Book, The Tulse Luper Suitcases, and others
8 Figgis, Timecode
diegesis ("Rear Window")\textsuperscript{10}, the self-conscious construction of separate split-screens as sub-frames within a master frame, and the projection of films onto multiple screens (Gance’s \textit{Napoleon}, “expanded cinema” such as Vanderbeek’s videodrome, and the tradition of World’s Fairs and international expositions).\textsuperscript{11}

Unfortunately, these theorists offer little detail on the actual or the potential poetics of a split-screen cinema. Sergei Eisenstein is more helpful in this regard, with his detailed list of the visual “dynamics” – or to use his term: “conflicts” - that can be utilized for building a montage within the frame. He lists the following (among others):

- Conflict of graphic directions
- Conflict of planes
- Conflict of volumes
- Conflict of scales and masses
- Close shots and long shots
- Conflict of depths
- Conflicts of light and darkness\textsuperscript{12}

These dynamics were intended for standard single-screen cinematic compositions, but as general guidelines, they also apply to the world of the fragmented frame – the split-screen

\section*{History}

Filmmakers have paid more attention to the possibilities of the split-screen than the theorists. The split-screen device has never been wildly popular, but it has been around for a long time, and despite periods of waxing and waning, has never gone away. The most famous early example is Able Gance's triple-screen ending to \textit{Napoleon}, which switches between a stitched and unified Cinerama look and an alternative triptych arrangement, with the two side screens providing commentary and amplification of the

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\begin{itemize}
  \item \textsuperscript{10} Hitchcock, \textit{Rear Window}
  \item \textsuperscript{11} Friedberg, A., \textit{The Virtual Window: from Alberti to Microsoft}, 2006, MIT Press, Cambridge, MA
  \item \textsuperscript{12} Eisenstein, op cit, pg. 38 - 39
\end{itemize}
images and themes of the dominant central screen. Barry Salt\textsuperscript{13} describes even earlier films that used the split-screen to show both sides of a telephone conversation, a standard convention which has survived through \textit{Pillow Talk} down to the television series \textit{24}. Hager argues that the depiction of the shared-but-separate telephonic space is one of three major technological influences that have motivated the exploration of cinematic split-screens.

The split-screen form had a renaissance in the late 60's and 70's, with such examples as \textit{The Thomas Crown Affair, Woodstock, The Boston Strangler, The Longest Yard, More American Graffitti,} and \textit{Sisters} and many others not shown such as \textit{Carrie, The Twilight's Last Gleaming,} and \textit{The Andromeda Strain} - all of which can be characterized as having an aggressive stance towards the use of split-screens as an integral part of the film's dramatic and visual structure.

The experimentation with the device seemed to diminish significantly over the next two decades, but its use is being actively revisited in many contemporary films dating from the end of the 90's until today. Among many others, these more recent examples include \textit{Timecode, Run Lola Run, Rules of Attraction, The Hulk, Requiem for a Dream,} and \textit{Phone Booth} - plus others such as \textit{City of God, Snatch, The Pillow Book, Tulse Luper Suitcase, Conversations with other Women, The Tracey Fragments,} and the television series \textit{24, Trial and Retribution,} and \textit{CSI-Miami.}

Interestingly, the current rebirth differs from the 60's/70's renaissance in that the split-screens today are used with comparatively more restraint. They tend to act as a punctuation within a film's broader style, rather than as a defining visual motif as in the earlier period. Notable exceptions to this trend are the television series examples, and the films \textit{Timecode, Conversations with other Women,} and in particular \textit{The Tracey Fragments.} These works foreground the commitment to the split-screen device as a stylistic hallmark.

\textsuperscript{13} Salt, op cit
One might ask - why this checkered history? Part of the answer goes back to the defining forces at the beginning of cinema. The early dominant form was not the cinema of narrative to which we are now accustomed, but what Gunning calls “the Cinema of Attractions”. Early commercial film exhibition consisted of a series of shorts, often actuality films – primitive documentaries. These shorts initially featured relatively mundane subjects, but were nonetheless “attractions” for viewers not used to cinema. A series of “attractions” such as “Workers Leaving the Factory”, “Demolition of a Wall”, or the famous “Arrival of a Train” were strung together to form the program. The power of these attractions is reflected in the famous apocryphal story about the Train film. Sophisticated turn-of-the-century Parisians were alleged to run out of the cinema in fear of the oncoming train. The longevity of this patently absurd tale is an indication of the power that early cinematic attractions did have over their audience. Other famous attractions include the Edison films “The Kiss” and “Electrocution of an Elephant” – even then sex and violence were compelling attractions for cinematic content. A film program would consist of a heterogeneous series of these shorts – with no overarching theme or story to join them. The draw was the “attraction” of both the content of the films and the experience of the novel technology.

The cinema of attractions eventually lost out as the dominant cultural and economic form. The cinema of attractions never disappeared, but became subordinated within a stronger imperative towards a monolithic cinema of seamless narrative. Led by Hollywood, and copied by other national cinemas globally, the narrative feature film became the mainstream cinematic form. This form has traditionally relied on the erasure of visible craft in order to privilege what Bolter and Grusin call the transparent and immediate pleasure of story. The split-screen is some ways a throwback - a hypermediated attraction that calls attention to itself, and therefore to the process of mediation. In doing so, the split-screen breaks the suspension of disbelief and the commitment to transparency and narrative.

If this is so, why the initial renaissance of the split-screen in the 60's and 70's? The answer may lie in broader cultural and marketing realities. Hagener recognizes the late
60’s split-screen phenomenon, and argues that it was cinema’s response to the threat of television.\textsuperscript{14} He sees the split-screen as the marker for cinema’s “otherness” vis-à-vis television, which lacked the size and resolution needed to effectively display multiple windows. I agree with this analysis of the importance and the expressive quality of the split-screen in this era, but disagree with the conclusion about the economic motivation. The threat from television was most directly felt in the fifties. The film industry’s response from that era did include some split-screen works. However, this minor direction (along with the other cinematic novelty - 3D films) was overshadowed by that decade’s far more emphatic moves to color and to a variety of wide-screen processes. It is interesting to note that all of these innovations are an appeal to the “cinema of attractions” - displaying filmic visual attractions that the new competing medium of television could not match.

In the late 60's on the other hand, the hegemony of cinema within popular culture was threatened most acutely by a vibrant youth culture – one that was strongly oriented towards music. The release of the next Beatles (or Dylan, Rolling Stones or Jimi Hendrix) album was a more significant cultural event than the release of the next Hollywood blockbuster movie - even if the star was the popular Steve McQueen. However, in the context of the 60's and 70's, an aggressive commitment to the split-screen was a cinematic attraction that was capable of "blowing the minds" and capturing the attention of a youth culture comfortable with expanded consciousness and oriented towards the visceral pleasures of the sensorium.

The rebirth of the cinematic split-screen today may be rooted in a similar dynamic. Cinema's rivals for ascendancy within popular culture are more varied now than ever before - video games, the internet, high-definition home theatre, a variety of mobile video platforms - with more combinations appearing every year. As in earlier struggles for cultural dominance, a general shift to a more hypermediated aesthetic is one tactic cinema will employ.

There are also specific ongoing trends that have acclimated us to a multi-windowed visual narrative environment. Most direct is perhaps the cumulative effect of 30 years of the video short form. Commercials, rock-videos, and television series openers are hypermediated forms that aggressively combine the cinema of visual attractions with the cinema of narrative. They have developed the art of narrative compression and in the process have taught us to see and follow faster and more visually complicated presentations of story. In a slower paced, but just as hypermediated fashion, news and sports programming has built up an acceptance of frames and windows as an integral part of our televisual world. Finally, both Manovich\textsuperscript{15} and Bolter and Grusin\textsuperscript{16} point out that the interactive screen has become a dominant cultural paradigm, and as such has the power to reshape – in their terms “remediate” our expectations of other forms such as cinema. An audience that is capable of switching among the multiple screens of the computer desktop's standard Graphic User Interface, or the more rapid oscillation between the control and display frames of a video game, is certainly on the way to parsing a controlled and well-crafted multi-framed cinematic narrative.

All of this, of course is somewhat removed from the discourse of cinema. If film theory hasn't addressed the split-screen options now readily available to filmmakers, what theory will help? One place to look is in the histories of multi-screened film/video installations. There is good writing on this domain, in a discursive arc that stretches from Gene Youngblood's "Expanded Cinema"\textsuperscript{17} to Shaw's and Weibel's "Future Cinema"\textsuperscript{18}. However, there are few texts that include a detailed analysis of the expressive use of the multiplied screen. They don't reveal a concrete multi-screen poetics that could be tested against the actual use of split-screens within a single-frame cinematic context.

\textsuperscript{15} Manovich, op. cit
\textsuperscript{16} Jay Bolter & Richard Grusin, \textit{Remediation}
\textsuperscript{17} Youngblood, \textit{Expanded Cinema}
\textsuperscript{18} Shaw and Weibel, \textit{Future Cinema}
There may be more immediate help in the world of graphic media. Guides to visual arts production and layout\textsuperscript{19} stress stylistic concepts such as balance, unity, proportion, and the dynamic between consistency & experimentation. These parameters should interest filmmakers who wish to develop an effective layout of frames within a moving image. Another rich source is the medium of comics. Both Greg Smith\textsuperscript{21} and Michael Cohen\textsuperscript{22} see the connection between the poetics of the film frame and those of comics, with Cohen arguing that the use of split-screen in the cinematic *Hulk* is part of a conscious effort to recreate the aesthetic of the comic inside the film. As it should be with cinema, the relationship of comic book frames to the overall narrative is a crucial variable. The *DC Comics Guide to Pencilling Comics*\textsuperscript{23} maintains that whether using a grid or a more free-form panel layout, the comic book artist must avoid unclear flow, and take responsibility for panels that are "arranged and designed in a comprehensible way [to pull] the eye of the reader" through the story.

Practical guidelines on how a filmmaker can meet that objective in a moving medium should be found in critical and practical texts on television – although again the literature is surprisingly light. Herbert Zettl does address the design of split-screens within the televisual world and gives some specifics to consider:

- the relationship between the primary and secondary frame
- the effect of directional vectors in the various frames
- the treatment of time and space across the frames.\textsuperscript{24}

**Thomas Crown Affair**

We need to bridge from these general guidelines to a more robust understanding of the expressive parameters of the multi-framed cinematic aesthetic. This paper relies on a

\textsuperscript{19} Parker, R., *The Aldus Guide to Basic Design*
\textsuperscript{20} White, Alex W., *The Elements of Graphic Design*
\textsuperscript{23} Klaus Janson, *The DC Comics Guide to Pencilling Comics*
\textsuperscript{24} Herbert Zettl, *Sight, Sound and Motion*
close reading of an archetypal work of split-screen film to do so. Let’s consider the 1968 *Thomas Crown Affair*, directed by Norman Jewison, with Pablo Ferro as the split-screen designer. A careful examination of the role of the split-screen within this work reveals creative design decisions at three separate but complementary levels: the narrative level, the structural level, and the graphic level.

On the narrative level, let's first examine the role that the split-screen sequences play in the overall development of plot and story. There are four major split-screen segments within the film, and each one serves a clear set of narrative functions.

The first split-screen segment is the title sequence. In addition to the production credits, the split-screen images provide initial impressions of the two protagonists (Thomas Crown and Vicky Anderson), hints at their ultimate romantic connection, and begin to build the storyworld within which Crown lives - a world of money and privilege with a dark side underneath.

The second split-screen segment of the film is concerned with the major caper of the film - a daring business-district daylight robbery. The 6 separate split-screen sequences in this segment are intercut with longer running full frame shots and sequences. The split-screen sequences support both plot and character development. They show the preparations and the aftermath of the robbery, and in the process they introduce the members of the gang. At the same time the sequences make it clear that the gang members are mere agents of Crown's will.

The third split-screen segment comes about half way through the film. This complicated and highly hypermediated segment is also intercut with full frame shots and sequences, but the split-screen portions dominate this segment. The 21 separate split-screen sequences within this segment support the development of both plot and character. In this scene, Vicky reveals herself to Thomas, and captures his initial attention. At the same time the split-screen images reinforce the active and forceful nature of his character,
and the flirtatious and bold nature of hers. The complex play of the small inset screens reinforce a growing sense of their mutual attraction.

The fourth and final split-screen segment comes near the end of the film. In this segment, consisting of 8 short split-screen sequences intercut with full-frame shots, we see the second robbery of the film. This segment is designed to directly service plot - we learn nothing new about any of the characters, but we do see the final robbery.

It's clear from this high-level overview that split-screen segments can be used to support broad narrative concerns: plot, character, and storyworld. However, a closer view will help identify the detailed work of the split-screen at various levels:

- first, the narrative level,
- second - the structural level of formal relationships - such as the treatment of time or space across the frames,
- and finally, the visual - or graphic - level.

Let's start with a sequence from early in the film. Scene one ends with a hidden Thomas Crown interviewing one of his prospective minions who is blinded by an array of harsh spotlights. This leads directly into scene two, which is dominated by a series of split-screen sequences.

Fig. 1 - Thomas Crown Affair - sequence 2 - open
Let’s deconstruct this scene from our three perspectives: narrative, structural, and graphic. This sequence serves several narrative functions. The first half of the scene introduces the members of Crown's gang. (See Figure 1 above) It also advances the plot, showing them in motion, presumably with a common goal. In the process, it reinforces the sense of Crown's character - the controller of the subsidiary players. The second half of the scene goes to storyworld - it reveals Crown's location, and the destination of the gang members. (See Figure 2 below)

At a structural level, the formal relationships of the treatment of time and space in the split-frames support the narrative goals. In the first part of the sequence, the split-frames are introduced sequentially, but diegetically they share a common timeline, and imply a convergent space. This reinforces the sense of shared purpose for these men. The central landscape later in the sequence has the dominant position in the frame. This feature further reinforces both their shared purpose and the location of their spatial convergence.
The graphic decisions in this sequence play their part as well. Despite their sequential introduction, the first half of the sequence carefully builds a strong sense of informal balance to the layout of the frames. (see Figure 3 below)

Fig. 3 - *Thomas Crown Affair* - sequence 2 - early
Note the informal balance
(Split-screen frame boundaries *emphasized* in Yellow by the author)

This informal balance is reinforced by the role played by the directional vectors - both explicit motion vectors and implicit look vectors. (see Figure 4 below)
Fig. 4 - *Thomas Crown Affair* - sequence 2 - early
Note the motion vectors (Red) and the look vectors (Yellow)

In the second half of this segment, the balance is more formal. The combination of the color values, the relative clarity of the frame lines, the position of the key frame at the fulcrum of the balance, the zoom forward within that key frame - all combine to form a figure-ground relationship which draws the eye in to the center and the Boston landscape which forms the location of the next scene. (See figure 5 below)
This reading of one short sequence from the *Thomas Crown* demonstrates the detail and care that can go into the design of a split-screen sequence. In order to fully analyze and understand such a sequence, it is useful to review three inter-connected but still distinct levels of cinematic decision-making:

First, consider the **narrative level**. What is the overall narrative arc of the film, and what particular narrative aspects (plot, character, storyworld, emotion) does the split-screen sequence support? At a finer level of granularity, what is the narrative flow within the split-screen sequence itself?

Second, consider the **structural level** - the formal relationships between the frames. How is time represented in the various frames? How is space represented? Do some frames combine to form larger images? Are specific images repeated or duplicated? Is
there a dominant master frame? If so, what is the relationship between the master frame and the subordinate frames? How do the split-screen visuals relate to the sound track?

Finally, consider the frames as graphic elements. How many frames are there? What shape are the frames? What is the layout of the small frames within the full cinematic frame? What are the individual and overall dynamics of the frames' directional vectors such as look space or subject motion? Do the frames themselves move or change size or shape? Are there other strong graphic variables (color, shape) within the frames? What was the visual flow of the split sequence: how was it introduced, how did it evolve, how was it phased out?

**Broader Considerations**

Finally, I want to complicate the common understanding of the experience the moving image. We call this experience “linear”, in opposition to other experiences, which we term “interactive”. However, the differences are more subtle than this dichotomy would suggest, and my claim is that they are shrinking in the face of new technologies.

Watching a film has always been an interactive experience. The viewer actively participates in the process. Besides a long tradition of reader-response media theorists ranging from Bakhtin\textsuperscript{25} to Umberto Eco\textsuperscript{26}, we can rely on one of the foremost authors in the area of game design. Eric Zimmerman maintains there are four levels of interactivity: cognitive or interpretive interactivity, functional or utilitarian interactivity, explicit interactivity, and meta or cultural interactivity.\textsuperscript{27,28}

Any film (or book/poem/painting/dance) operates at level one – but the level one interactive demands of split-screen films are higher than most. The multi-framed film offers a visualized version of increased narrative bandwidth. This style of presentation

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\textsuperscript{25} Bakhtin, M.M. "Discourse in the Novel", *The Dialogic Imagination*, 1981, University of Texas Press, Austin, TX
\textsuperscript{26} Eco, U. *The Open Work*, 1989, Harvard University Press, Cambridge MA
\textsuperscript{27} Zimmerman, E. “Against Hypertext”, <http://www.ericzimmerman.com/texts/Against_Hypertext.htm>
\end{flushright}
puts more pressure on the viewer to actively work in order to keep up with the story. (Allegedly, this was part of Figgis’s motivation for filming TimeCode in a four-way split - he wanted the viewer to have to pay close attention in order to follow all four visual streams.)

However, let's look at Zimmerman's second level of interactivity: functional interactivity. He defines functional interactivity as a combination of mental and physical acts we perform when we are interacting with a text and its medium, be that text a film, painting, or a book. With a book the supports for functional interactivity are the pages and the binding (the "codex" that supplanted the papyrus roll), the numbers on each page, the TOC, the index, the footnotes. Each of these affords certain types of user interaction. This combination of artifact affordance and user interaction is what Zimmerman labels functional interactivity. I argue that through this definition, we can see yet another connection to the pleasure of split-screen cinema.

Consider the modes of functional interactivity that are available to film viewers today:

- the multiplex theatre - with multiple locations & viewing times
- standard television release, with multiple channels and broadcast time slots
- pay-per-view television
- DVD – both standard and Blu-Ray - with a full range of motion controls (forward, reverse, fast, slow, freeze, plus chapter stops and a limited random access capability
- legal (or quasi-legal) digital files on TiVo and other PVR devices
- rogue ripped versions on the internet – either excerpts or entire works

These devices afford possibilities for increasingly rich narrative constructions of the moving image. These possibilities include:

- the split-screen examples that are the subject of this paper,
- the use of heavily layered digital constructions such as Pan’s Labyrinth or MirrorMask,
• and the use of convoluted plot structures such as in *Run Lola Run*, or the films of Quentin Tarentino and his many imitators.

The first two opportunities for complexity – split screens and rich CGI storyworlds – are supported even further by the increasing adoption of larger and larger HD screens in the home – the venue where intense viewer manipulation and control is possible. In any case, the ability to easily control the playback and the frequency of moving image presentation enables all of these more complex forms, and in the process turns the experience into a more explicitly interactive process. Certainly, the full visual richness of *The Thomas Crown Affair* can only fully be realized after repeated playback and viewing. *The Tracey Fragments* is an example of an even more complex multi-channeled visual construction, carrying with it a stronger imperative for playback review in order to comprehend the filmic text.

This is not to say that the pleasures of traditional narrative and suspension of disbelief will go away. These traditional cinematic pleasures are far too satisfying for that to happen. However that experience will increasingly be supplemented with the more hypermediated pleasure of unriddling the complex visual and narrative constructions that filmmakers can now build into their cinematic works.¹

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