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Semantic, Aesthetic, and Cognitive Effects of Flashbacks in Film

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Abstract

Principles of narrative and intellectual film editing were investigated by assessing the semantic, cognitive, and aesthetic consequences of inserting flashbacks. A short narrative film was presented, either with flashbacks or in chronological/linear order. In Experiment 1, the gravity of the acts committed by the two main actors was perceived to be more salient in the linear than in the flashback version (based on Osgood's semantic differential ratings). Aesthetic assessment did not vary as a function of the linearity. In reconstructing the movie segments into the right order, the linear film condition showed a better match with the chronological ordering than the flashback condition. In Experiment 2, pupil size of the viewers, as a measure of mental load, was registered on-line. In the flashback version, mental load was heightened due to the flashbacks disrupting the linear story grammar. In the discussion about distinctive advantages of intellectual versus narrative editing, intellectual editing lost the case in the present study. Flashbacks did not enhance aesthetic judgments, and linearity emphasized the semantic features of the leading actors with less consumption of mental resources.

Introduction

The year that the film was born is considered to be 1895. The race to be the first to present "living photographs" was won by the Skladanowsky brothers in Berlin on November 1, 1895. The presentation of the Lumière brothers with their technically superior cinematograph in the Grand Café in Paris on December 28 of the same year, however, is considered as the point of departure of modern film technique. In the first motion pictures of the 1890's, filmmakers positioned the camera and filmed until the spool to hold the film ran out. This means that the entire scene consisted of one single shot, showing continuous limited action at one place.

David Llewelyn Wark Griffith (1875-1948), often referred to as the founding father of the classical Hollywood Cinema, is generally recognized as the inventor of film montage. Ever since, montage or editing (i.e., connecting different film shots and segments) has historically been accepted by film makers and film theorists as a crucial parameter of the film medium. Griffith claimed that an individual shot, rather than the scene, constitutes the central element of cinematic language. He therefore made use of a large amount of cuts and shots. In order to safeguard the temporal and spatial logic and linearity despite the large number of different shots, he developed guidelines for preserving continuity, which is still the prevailing standard in classical Hollywood cinema (Griffith, 1969). Griffith employed the new technique of montage primarily for heightening the dramatic tension. However, the Russian avant-garde filmmakers were the first ones to use the montage techniques very systematically. Vsevelod Pudovkin (1893-1953), often called the second greatest film maker next to Sergei Eisenstein (1898-1948), considered montage as a process of construction: Shots are like bricks that, joined together, build a sequence (Pudovkin, 1958). He maintained that concepts were best developed by successively presenting shots, which refer to the same general idea. This is called "narrative editing". Based on several experiments with Lev Kuleshov (1899-1970), Pudovkin suggested that viewers' expectations, inferences, deductions, and associations guide perception of montage sequences.

Kuleshov conducted a series of experiments, called "films without film", and developed the notion of the "Kuleshov effect" in which, through montage, each shot acquired a different shade of meaning according to its place in the sequence. He inserted identical frames of the actor Ivan Mazouchin (1889-1939) between scenes of different events (shots of a bowl of soup, a girl, a teddy bear, and a child's coffin) and asked viewers to describe the actor's facial expression. Viewers interpreted the frames in accordance with the nature of the adjacent events, although the actor's facial expression had not varied at all. Kuleshov proved that two shots projected in succession are not interpreted separately by the viewer; in the audience's mind, they are integrated into a whole. The meaning of a shot depends on its context, a general principle that has so strongly been stressed by Gestalt psychology.

After studying Kuleshov's montage experiments, Eisenstein became convinced that in cinema one could manipulate time and space to create new meanings, especially if the images were not to be merely linked to create an impression of continuity, as Kuleshov and Pudovkin suggested, but juxtaposed (Eisenstein, 1949). Eisenstein stressed that montage is the basic and unique characteristic of cinema, the basis for its distinctive power as a medium and for its aesthetic principles. In particular, he theorized that the collision or conflict between temporally and spatially unrelated or unmatched shots or scenes could give rise to a new concept eliciting special emotional and cognitive reactions in the audience.

According to his theory, the maximum effect of screen expressiveness can be gained if the shots do not fit together perfectly but create a shock to the viewer. This is called "intellectual editing". Eisenstein proposed that the viewer organizes the film's spatial and temporal structures, linking shots and scenes logically and chronologically, provoking emotions, and creating expectations. This implies that meaning and aesthetic experience are based on the arrangement of film units. In contrast to Eisenstein, Pudovkin felt that editing should be based on principles of ordinary viewing, stressing the perceived or experienced continuity of the story, causing Pudovkin's films to be much closer to Griffith and the classical narrative Hollywood cinema.

A narrative is a chain of events in cause-effect relationship occurring in time and space. Thus, a narrative film provides the viewer with a sequential and highly systematic input of visual information: Each informative fact (e.g., an action, a shot, a scene…) is not only related to the preceding and to the following one, but also to the whole story. As the viewer watches the film, he or she picks up cues, recalls information, and anticipates what will follow. The film shapes particular expectations by summoning up uncertainty, curiosity, suspense, and surprise that has to be satisfied or cheated during the progression of the film.

Every perturbation of the continuity of the narrative (e.g., by means of intellectual editing, a flashback, a hallucination…) causes a perturbation of the interplay between the elicited expectations and the answers provided by the film: Spatial and visual continuity becomes distorted, and actions and events change their meaning. This limits the integration, the restitution of the content, and the structure of the message. Denis (1972) showed that minor chronological disturbances in a sequential visual message significantly lowered the capacity of participants to recall items of information conveyed by the message. In a second experiment however, this effect could not be repeated and, with even larger disturbances of the chronological order, participants recalled almost as many items as the control group that saw the chronological version of the visual message.

Narrative schemata allow the viewer to identify the relative importance of propositions and the interdependency of the story elements. Roberts, Cowen, and MacDonald (1996) found that not only recall of important information, but also comprehension and impressions of the main protagonists and their goals were influenced by the narrative structure. Deviations from linearity had also significantly different effects on the aesthetic judgments of the film. Viewers thus comprehend and recall film information as a story, and not just as an summation of facts in a certain order.

When the order of propositions in the narrative is unconventional, comprehension and recall may become distorted. In Cowen (1988), deviations from linear montage produced four different versions of a short narrative film; recall of the presented actions and the reconstruction of the linear order of events were strongly associated with the degree of montage linearity. Research on verbal story comprehension leads to similar results. In Mandler and Goodman (1982), for example, deviations from the expectations, caused by an altered order of presentation or context in the verbal story, affected comprehension and recall of actions and events.

We are quite accustomed to films that present events out of story order. A flashback is an alternation of story order in which the plot (i.e., the actual presentation of events in the story) moves back to show events that have taken place earlier than ones already shown. It is a portion of the story that the plot presents out of chronological order (Bordwell & Thompson, 2004). From the plot order, the story order is inferred. If story events can be thought of as ABCD, then the plot containing flashbacks presents something like BADC. In most Hollywood films, the flashbacks are fairly simple and it takes little mental effort to reconstruct the story order. But some films provide us with the challenge of unpredictable presentations of story events.

An example of the latter is Sergio Leone's *Once upon a time in America* (1984), with a non-linear plot-structure. Spanning five decades in the lives of two men, the sprawling story, which moves continuously among 1922, 1933, and 1968 on New York City's gangster-ruled Lower East Side, is memorably conveyed through flashbacks, flash-forwards, dreams, and fantasies. The film was initially released in the US as a 2 1/4-hour, studio-edited version of the original 3 3/4-hour version. This was an attempt to organize Leone's epic chronologically to make the film "easier" and more accessible. There are currently at least five differently edited versions.

The distinction between narrative and intellectual montage is at the level of the story line. At the perceptual level, there are also mainly two opposing viewpoints, the classical and the modern one. The classical viewpoint (e.g. the Hollywood concept of editing; see Bretz, 1962; Mascelli, 1965; Reisz, 1953/1968; Wurtzel, 1983) is characterized by the Formal Editing Principle: There are certain empirical rules concerning good perceptual editing which film makers have to follow in order to obtain smooth transition between the images of the successive shots. These rules tell which shots may be connected and where this may happen. The rules can be standardized, independently of the film content. The modern viewpoint (see Wurtzel, 1983), however, defends the thesis that the classical film editing rules have lost a lot of their absolute value: The viewer has already seen such an amount of film and television that a cut that doesn't follow the rules, will not disturb the viewing process anymore. Most important is to have an editing that is narratively consistent, and suits the content of the action. The French film maker Jean-Luc Godard talks about a self-conscious camera (Godard, 1966).

The present study is about the narrative versus intellectual montage at the story level. Following the intellectual-editing rules of Eisenstein, inserting flashbacks may elicit emotions and create expectations, thus enhancing expressiveness and aesthetic judgments. On the other hand, and in contrast to Eisenstein, narrative editing is based on principles of ordinary viewing, stressing the perceived continuity of experience; the chronological/linear presentation of the narrative segments should facilitate the semantic and cognitive processing of the film with less consumption of mental resources.

Experiment 1

Method

Participants Thirty first-year students (23 female and 7 male) from the Faculty of Psychology and Educational Sciences at the University of Leuven, Belgium participated on a voluntary basis. All had normal or corrected-to-normal vision.

Materials The short film in the experiment was entitled "Salvation", a graduation project at a Media High School in Brussels. In the thriller (duration: 14 min 16 s, with 13 shots), a young ballerina is assaulted by a group of men. In a fight, the leader of the group deliberately twists her foot causing her to give up her dancing career. As an old woman, she takes revenge on her assailants and murders them one by one. The film was chosen because of its narrative structure, containing a large amount of flashbacks in its original form. A second version of the short film was constructed by editing the shots in a manner that restored the chronological order of the story. Both versions had the same shots, and differed only with regard to the montage. In the linearly edited version, the scenes were presented in the following order: ABCDEFGHIJKLM. In the original, non-chronological version, the order of the scenes was HABCMDEFGKIJL.

Dependent measures and procedure Twelve seven-point rating scales from Osgood's semantic differential (Osgood, Suci, & Tannenbaum, 1957) were used for assessing both the male leader and the ballerina. The scales friendly/unfriendly, innocent/guilty, happy/sad, and good/bad measured the evaluation factor; strong/weak, fearless/afraid, tall/short, and dominant/submissive were indicators of the potency factor; and active/passive, impulsive/deliberate, violent/peaceful, and emotional/unemotional measured the activation factor. All participants were presented the same randomized sequence of the 12 scales, separately for the male leader and the ballerina.

The eight rating scales for the specific aesthetic judgments were all Likert-type and concerned the following topics: comprehensibility of the story-line, scenario, cinematography, originality, montage, acting of the ballerina, acting of the male leader, and film music. Finally, they had to give a global judgment of the film on a Likert-type scale ranging from 1 (extremely bad) to 7 (extremely good).

In the ranking task, titles of 10 of the scenes in the short film were presented in a random order. Participants had to put the 10 titles in chronological order, thus not necessarily in the order they had seen them. To avoid ceiling effects, this task was administered after Osgood's semantic differential ratings and the aesthetic judgments.

Participants viewed the film in small groups of four up to eight. Sixteen participants saw the original version and 14 participants were presented the edited version. Afterwards they immediately performed the two rating and one ranking tasks.

Results and Discussion

The rating scores for each of the three factors of Osgood's semantic differential (evaluation, potency and activity) were averaged; the averages were then submitted to an analysis of variance which included the two film versions (linear vs. flashback versions) as between-subjects variable, and the two main actors and three semantic differential factors as two within-subjects variables.

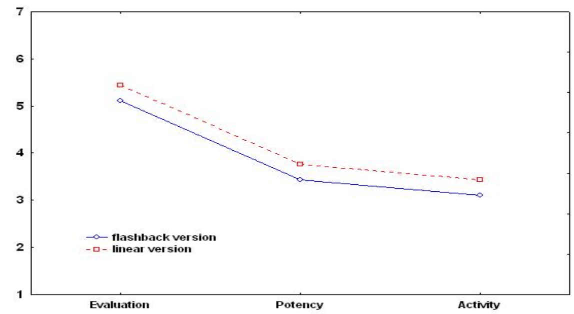

Figure 1: Average rating as a function of the three semantic differential factors and conditions (flashbacks vs. linear).

The difference between the two film conditions is significant, $F(1, 28) = 10.648$, $MSE = 1.783$, $p < .001$. The two main actors are rated higher on the three factors in the linear condition than in the flashback condition (see Figure 1). Separate analyses of variance on each rating scale show film condition to be significant each time on one scale per semantic differential factor: Both main actors are judged to be more sad [$F(1, 28) = 7.310$, $MSE = 1.612$, $p < .02$; Evaluation factor], more dominant [$F(1, 28) = 5.021$, $MSE = 1.112$, $p < .04$; Potency factor], and more active [$F(1, 28) = 7.616$, $MSE = 1.482$, $p < .02$; Activity factor] in the linear version than in the original version. Clearly, the goals, intentions, and actions of the main actors are more intelligible and transparent in the linear version due to the chronological succession of the events. Not only the gravity of the acts committed by the male aggressor is magnified, but also the cruelty of the ballerina's activities is more salient.

The interaction between the two main actors and three factors of Osgood's semantic differential is also significant, $F(2, 56) = 13.498$, $MSE = 2.522$, $p < .001$. Subjects rate the male aggressor higher than the ballerina on the evaluation factor [$F(1, 28) = 41.71$, $MSE = 418.630$, $p < .01$] and on the potency factor [$F(1, 28) = 17.690$, $MSE = 253.456$, $p < .01$], while no significant difference emerged on the activity factor.[1] Given the content of the film and the actions committed by both characters, the results were to be expected. The male aggressor in the story is depicted as the dominant and demonic "bad guy" who has no scruples at all about ruining the life of his victim. The ballerina on the other hand plays the role of this victim and is characterized as a broken woman who revenges the crime that has been done to her. These characterizations are covered by the Evaluation and Potency factors; the absence of an effect on the Activity factor is not surprising.

Aesthetic assessment does not vary as a function of the linearity of the movie sequence. Nothing significant emerges

1 Separate analyses of variance on each rating scale show male aggressor to be judged as more unfriendly [$F(1, 28) = 18.277$, $MSE = 1.059$, $p < .001$], more guilty [$F(1, 28) = 40.882$, $MSE = 2.115$, $p < .001$], and more bad [$F(1, 28) = 70.256$, $MSE = 0.916$, $p < .001$] than is the ballerina (Evaluation factor). The male aggressor is judged more fearless [$F(1, 28) = 14.658$, $MSE = 1.791$, $p < .001$], taller [$F(1, 28) = 12.205$, $MSE = 1.586$, $p < .002$], and more dominant [$F(1, 28) = 20.546$, $MSE = 1.704$, $p < .001$] than the ballerina (Potency factor).

from the multivariate analysis on the data of the eight specific rating scales. The influence of the linearity on each of the eight rating scales was also analyzed separately. For none of the eight rating scales is there an influence of linearity on the aesthetic judgments. The global judgment also fails to show a linearity effect. Judgments were expected to be more positive for the linear version because this version was more intelligible and/or because knowing the resolution in advance in the nonlinear version may spoil the pleasure of watching the film. However, this was not the case. Whether the scales were related to linearity (comprehensibility, scenario, originality, editing, and global judgment), or were unrelated to linearity (cinematography, acting of the leads and film music), there were no significant rating differences. Maybe the benefits of intelligibility are undone by the lack of challenge provided by the linear version.

The rank ordering of the 10 movie segments by the participants were correlated with the chronological ordering. The correlations were subjected to an analysis of variance, after appropriate Fisher z transformations. Not surprisingly, the linear film condition shows a better match (average $r = +.868$) with the chronological ordering than the nonlinear condition (average $r = +.749$), $F(1, 28) = 5.187$, $MSE = 0.036$, $p < .04$.

Experiment 2

For centuries, the eye pupil has been thought of as the figurative window to one's mind. Incidental observations of pupillary dilation associated with increased interest or arousal were well known, urging the poker player to wear eyeshades obscuring any betraying pupil dilation. With the advancement of medical sciences and physiology, the pupil began to serve as a literal window on brain functioning. In neurology, for instance, an examination of the pupils and their size changes is used to establish the integrity of the brain stem nuclei and pathways (Adams & Victor, 1981). The primary function of the pupillary reflex is to regulate the amount of light entering the eye, both in response to changes in the illumination and in order to maintain visual acuity under changes in the state of accommodation of the eye (Lowenstein & Lowenfeld, 1962). However, under conditions of constant illumination and accommodation, pupil size has been observed to vary systematically in relation to a variety of physiological and psychological factors.

The subject of "pupillometrics", a word invented by Eckhard Hess (Janisse, 1977), comprises the effects of psychological influences, perceptual processes and mental activity on the size of the pupil (Hess, 1972; Hess & Polt, 1964). Contrary to galvanic skin response that produces conflicting results, pupillary dilation is in fact one measure of peripheral autonomic activity that appears to be most consistent in its relations with attention, cognitive processing, and "mental effort" (Backs & Walrath, 1992; Deijen, Heemstra, & Orlebeke, 1995;.Kahneman, 1973; Karatekin, Couperus, & Marcus, 2004; Krüger, Nuthmann, & van der Meer, 2001).

Task-evoked pupillary responses occur at relatively short latencies, that is 300-500 ms following the onset of cognitive processing and disappear just as rapidly once processing is terminated. The pupil size then normalizes to its baseline. Dilations, caused by changes in light intensity or illumination of the stimulus, occur at 200 ms following the presentation (Hakerem, 1967). The magnitude of the task-evoked pupillary dilation during cognitive processing is independent of baseline pupillary diameter over a reasonable range of values (Kahneman, Beatty, & Pollack, 1967) and reflects the momentary effort that a task demands, rather than the total amount of mental effort required to complete the task (Beatty, 1982; Beatty & Lucero-Wagoner, 2000).

It is hypothesized that participants viewing the flashback version of the short film from Experiment 1 will present pupillary dilation during the 300 to 500 ms interval following the beginning of the scenes that are not presented in chronological order. Viewers of the chronologically edited version are expected to present smaller pupillary dilation during the same time-interval because, since the scenes are already presented to them in the linear order, viewing and understanding the movie require less mental effort.

Method

Participants and materials Eight last-year students (5 female, 3 male) at the Faculty of Psychology and Educational Sciences at the University of Leuven, Belgium, participated on a voluntary basis and had normal or corrected-to-normal vision. Experiment 2 used the same movies as Experiment 1.

Dependent measures Participants' pupil diameter was registered with the Eyelink eye-tracking system. The Eyelink system is based on video technology and has a sampling rate of 250 Hz. This means that every 4 ms the Eyelink system determines pupil size (and pupil position) of the registered eye and the relative head position. The data are processed in real time to compute almost instantaneously the pupil size (and position).

The data are recorded in an EDF file (Eyelink Data File). The EDF file is then converted to a regular text file for further analysis. At the beginning of the registration, but also every 4 ms when the pupil size is registered, a time stamp is recorded. The time stamps in the text files, in combination with video output that maps the momentary true gaze position onto the originally displayed movie and also contains a time indicator, allow narrowing down the data files to only the relevant portions. Therefore, pupil sizes are registered during the period of 300-500 ms after the beginning of each scene. The measurement is noise-limited, with a resolution of 0.015 mm for a 5 mm pupil.

Pupil size (an integer number, in arbitrary units) is not calibrated, as the distance from the eye to registering camera for each participant varies. Therefore, for each participant, the pupil size is also registered 100 ms preceding the beginning of the first scene. This benchmark allows comparing the relative changes in pupil size between participants

Procedure and design Participants were tested individually in a dim room. Light intensity was kept constant within and between participants. They were seated in a comfortable stable chair with adjustable height, with the eyes at a distance of about 110 cm from the television screen (i.e., the prescribed "ideal" distance for a screen with a display size of

55 cm width). In order to minimize head movements, participants' heads were fixed in a specially constructed headrest.

After the calibration (consisting of fixating a 9-point grid with randomized target order, followed by a calibration-accuracy validation), participants were asked to watch the movie in the way they would do when watching television at home.

Pupil size was registered during the 300 to 500 ms following the beginning of the scenes which were presented in a non-chronological order in the flashback condition (i.e., scenes A, D, H, I, K, L, and M). Pupil sizes, registered during the first 300-500 ms of scenes A, D, H, I, K, L, and M in the flashback version, were then compared to the pupil sizes during the same interval of scenes A, D, H, I, K, L, and M in the linear version.

Results and Discussion

An analysis of covariance was conducted on the pupil sizes with the two movies as between-subjects variable and the seven scenes as within-subjects variable. Participant's pupil size during 100 ms preceding the beginning of the first scene served as covariate.

The interaction Scene x Movie is significant, $F(6, 30) = 2.683$, $MSE = 2607.6$, $p < .04$. Planned comparisons show a larger pupil size ($p < .05$) in all scenes of the non-linear condition, except in Scenes D and H (see Figure 2).

Scene H has the smallest pupil size in the non-linear movie; similarly, Scene A has the smallest pupil size in the linear movie. It is worth mentioning that both scenes were the first presented ones in the two movies. Accordingly, cognitive load is not yet heightened and therefore pupil size is not enlarged.

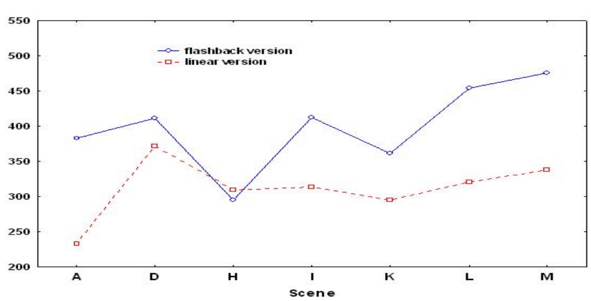

Figure 2: Average pupil size as a function of scenes and conditions (flashbacks vs. linear).

In 5 out of the 7 "flashback" scenes, pupil size, as an online measure of mental load, is significantly larger in the flashback version than in the linear version. In the flashback version, cognitive load and thus pupil size are heightened due to the flashbacks disrupting the linear story grammar: The implicit mental ranking and integration of information as a function of the expectations are requiring more mental effort.

General Discussion

In Experiment 1, judgments about the two main actors on Osgood's semantic differential depended on linearity: The actions and intentions of the main actors were more intelligible and transparent in the linear version. Despite the fact that the acts and intentions of the main actors were so pronounced and extreme that they could be unambiguously interpreted in the flashback version of the movie, linearity still magnified the effect (see Figure 1).

The study did not yield effects of linearity on esthetic judgments which, however, had been found in a previous paper (Roberts, Cowen & MacDonald, 1996). On the one hand, the movie makers inserted flashbacks in order to make the movie more attractive; hence, a more positive judgment for the flashback version was to be expected. In the flashback version, the resolution of the story was perhaps presented too early, spoiling the viewers' pleasure of watching the film. The film should be edited into additional versions, manipulating the amount of information concerning the outcome of the plot offered to the observers in advance. On the other hand, judgments could be expected to be more positive for the linear version because this version was more intelligible. Maybe reconstructing story order was seen as a pleasant and challenging mental game instead of as a cognitive demanding assignment.

In the flashback condition, it was more difficult to rank the scenes into chronological order than in the linear condition. It is assumed that the linear version was actually better understood and thus caused less mental load than the flashback version. In Experiment 2, pupil sizes of the participants seem to confirm the presence of less mental load in the linear condition. Generally, pupil sizes were smaller for participants watching the linear version than for participants watching the flashback version.

With flashbacks, movie makers deliberately shift later shots earlier in the sequence (and/or vice versa) with the explicit attempt to elicit reconstruction into the right sequence by the viewers. Shuffling of the shots was also done in d'Ydewalle and Vanderbeeken (1990, Experiment 1) but this was scrambling the shots with the intent to destroy the narrative structure. A television film of 8 min, involving 44 shots, was shown in two versions. In Version 1, nothing of the film was changed. In Version 2, all shots were re-edited in a random way, with the restrictions that no shots followed each other that followed each other in the original version. All participants were required to respond manually as soon as possible at the transition from one shot to another one. The results indicated a significant difference between the two versions, with 780 ms for Version 1 and 685 ms for Version 2. The explanation went into two directions. In Version 2, the scrambling of the shots made the cuts more salient, and this emphasis increased the response alertness. In Version 1, the plot of the story hid more easily transitions from one shot to another one. The same finding was also explained in terms of the diminished availability of resources in Version 1: As the discourse sequence of the film absorbed some resources from the observers, fewer resources were available for the second task, the speeded response to the transitions.

There is here an apparent inconsistency, to be solved: The linear condition in d'Ydewalle and Vanderbeeken (1990, Experiment 1) was assumed to use more resources than the nonlinear condition while the present study suggests the opposite. However, the nature of the nonlinearity in the two studies is vastly different. In d'Ydewalle and Vanderbeeken, the nonlinear version represented a chaotic sequence of scrambled shots, with no perceived challenge to reconstruct them into the right order. On the other hand, the nonlinear condition of the present study invited implicitly the viewers to re-arrange the order of the shots. A possible alternative explanation of the effect on pupil size might be that the flashback version goes along with less perceptual continuity between scenes than the linear version. So, the higher load could at least partly be due to more perceptual changes between non linear scenes. It would be interesting to test pupil size with a movie that contains a sequence of chronologically parallel scenes which take place in (perceptually) different contexts. This would not violate the linear story grammar but still be perceptually less overlapping than linear scenes in the same context.

In the discussion between Eisenstein and Pudovkin about distinctive advantages of intellectual versus narrative editing, Eisenstein lost the case in the present study. Flashbacks did not enhance aesthetic judgments, and linearity emphasized the semantic features of the leading actors with less consumption of mental resources. Of course, in the present experiment a short-film was used and it is uncertain whether the benefits of a strictly linear structure are applicable to a full-length movie? Positive effects of flashbacks on attention and memory may be assumed. Furthermore, a rather complex story may become confusing through flashbacks, a simple one not. Complexity may vary in terms of number of threads, people, places, etc. In future research, the nature and frequency of the flashbacks need to be manipulated; Eisenstein may be right when the flashbacks are not too frequent and not too complex.

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