

# Implicit memory biases attention and gaze after cuts in edited movies

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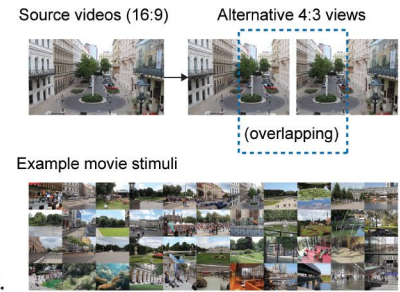
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- ▶ A Hollywood movie contains between 1,500 and 2,500 cuts [1]. Continuity editing reduces awareness of cuts [6] but the underlying perceptual mechanisms are not well understood [5].
- ▶ Hypothesis: Following a cut, attention is pulled quickly toward locations that visually resemble the preceding scene. To test this, we manipulated visual continuity in two experiments.

- ▶ Cuts with a high degree of visual continuity support directing the viewer's attention to the continuing movie (Exp. 1), and following continuity cuts, viewers preferably fixate on repeated scene contents (Exp. 2).
- ▶ Our data suggest that during a brief period following cuts, attention is guided by implicit memory (e.g., priming [3,4]) of the preceeding scene. This could explain the success of continuity editing.

**Aim:** Test if viewers fixate on scene content that repeats from the preceding scene in natural, full screen viewing.

**Stimuli:** From each of 240 Full HD clips two alternative 4:3 views were created which overlapped by exactly 50%.

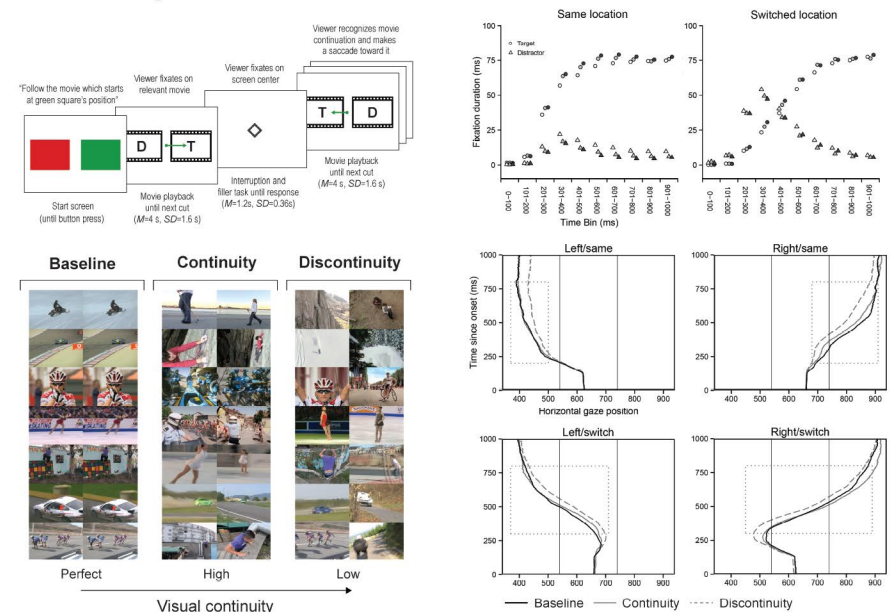


**Aim:** Test if attention following cuts is attracted by visual continuity with respect to the preceding scene.

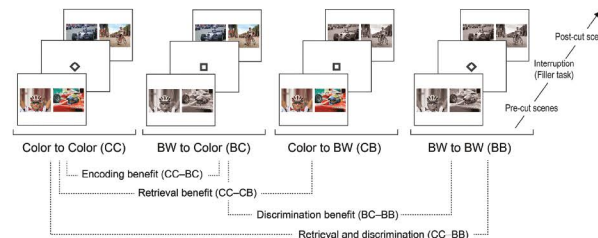
**Procedure:** Viewers watched a target movie (T) and ignored a distractor movie (D) presented side by side. At each cut, movies were interrupted for a filler task and a central fixation. Then, movies continued at the same or the switched positions and participants resumed fixation on the target movie.

**Stimuli:** 10 sets of two sports movies were edited, such that they contained cuts of three degrees of continuity. Movies were always interrupted with the last pre-cut frame and resumed with the first post-cut frame.

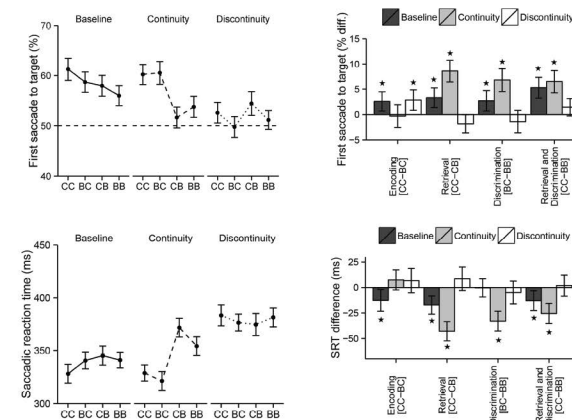
**Results:** During a time window of 200 to 800 ms following a cut, visual continuity ('baseline' and 'continuity' cuts) facilitated directing the viewers' gaze toward the target movie's continuation.



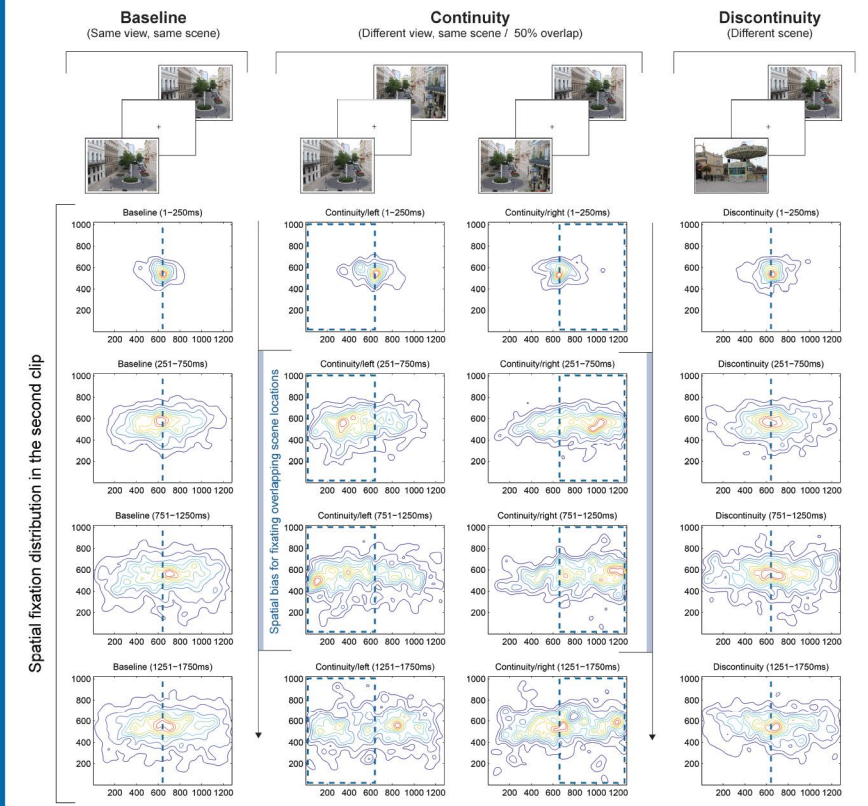
**Aim:** Test if attention is guided by color similarity. Same procedure as in Exp. 1A but movies could switch between color and black and white at every cut.



**Results:** A combination of sensory (i.e., discrimination) and cognitive (i.e., memory) color benefits [2] facilitated directing attention to the target movie, especially in continuity cuts.



**Procedure:** Viewers saw 160 two-clip sequences. The first clip ended with a central fixation. The second implemented one of three conditions of visual continuity.



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**References**

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