Which kinds of motion silence awareness of visual change?



BACKGROUND. In *silencing*, a set of objects changing in brightness, hue, size, or shape appears to stop changing when it moves.

Why does silencing happen?

THE BRIEF WINDOW HYPOTHESIS. Change detection relies on the success of local detectors, which fail when a fast-moving object affords them only a brief a glance.



The brief window hypothesis (correctly) predicts a speed dependency: the faster the motion, the less noticable the change.



It also (correctly) predicts that only retinotopic motion will produce silencing.



THE FALL OF THE BRIEF WINDOW HYPOTHESIS. We show three new forms of silencing in which the objects don't change position: background, local, and illusory motion.

BACKGROUND MOTION. In which a set of motionless changing dots rests on a rotating pinwheel background (see figure at left).





LOCAL MOTION. In which the set moves as a rigid sheet in a small circular path.



ILLUSORY MOTION. In which the set and background are motionless, but before viewing them, the observer adapts to a rotating pinwheel pattern, producing a motion aftereffect.



motionless test



CONCLUSION. 🐼 The brief window hypothesis is insufficient to explain silencing via background, local, and illusory motion. 🐼 Instead, we propose suppression or misattribution.

http://visionlab.harvard.edu/silencing/