

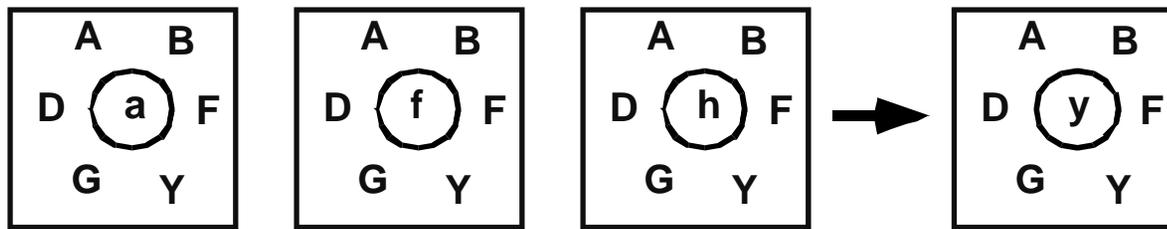
Scene perception after those first few hundred milliseconds

Jeremy Wolfe

Brigham and Women's Hospital and Harvard Medical
School

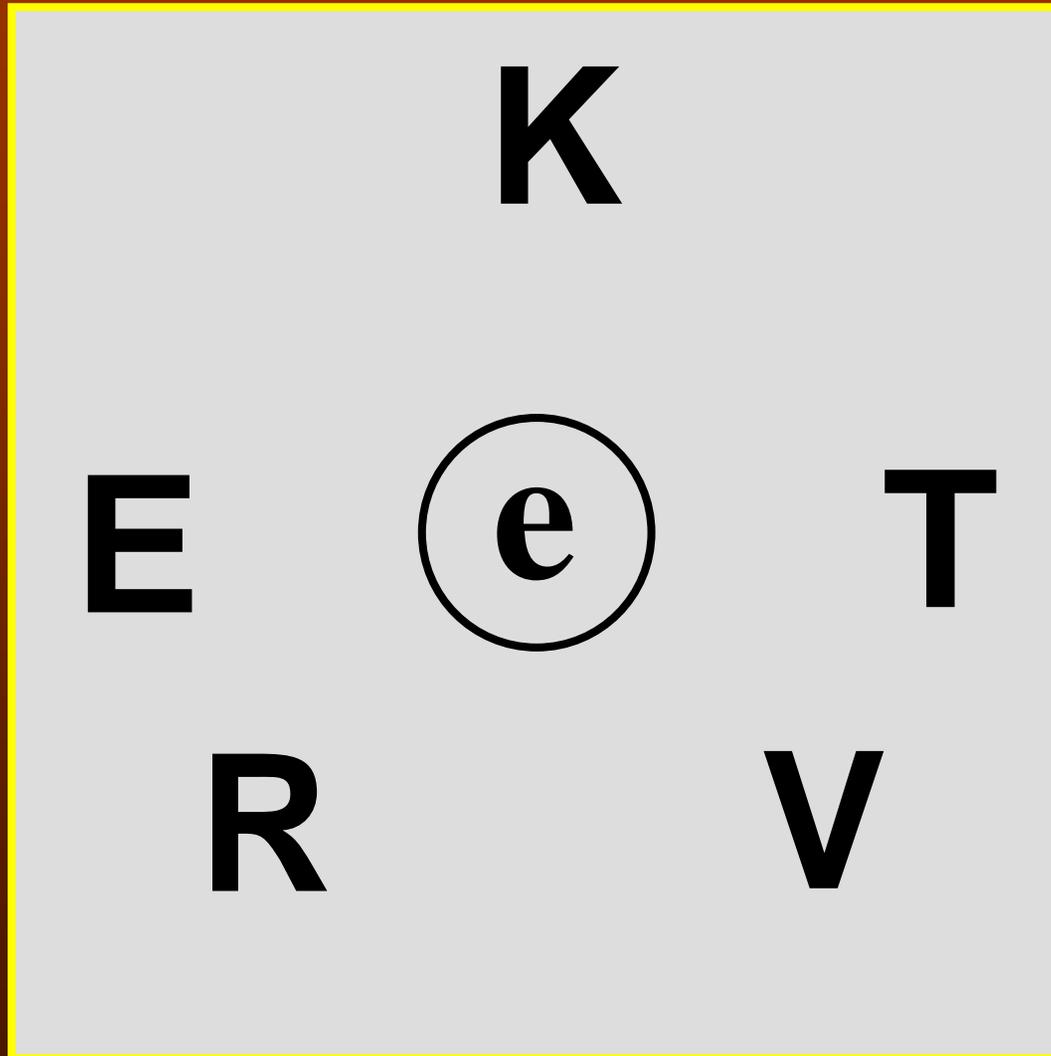
What is the evidence for this claim?

The repeated search task

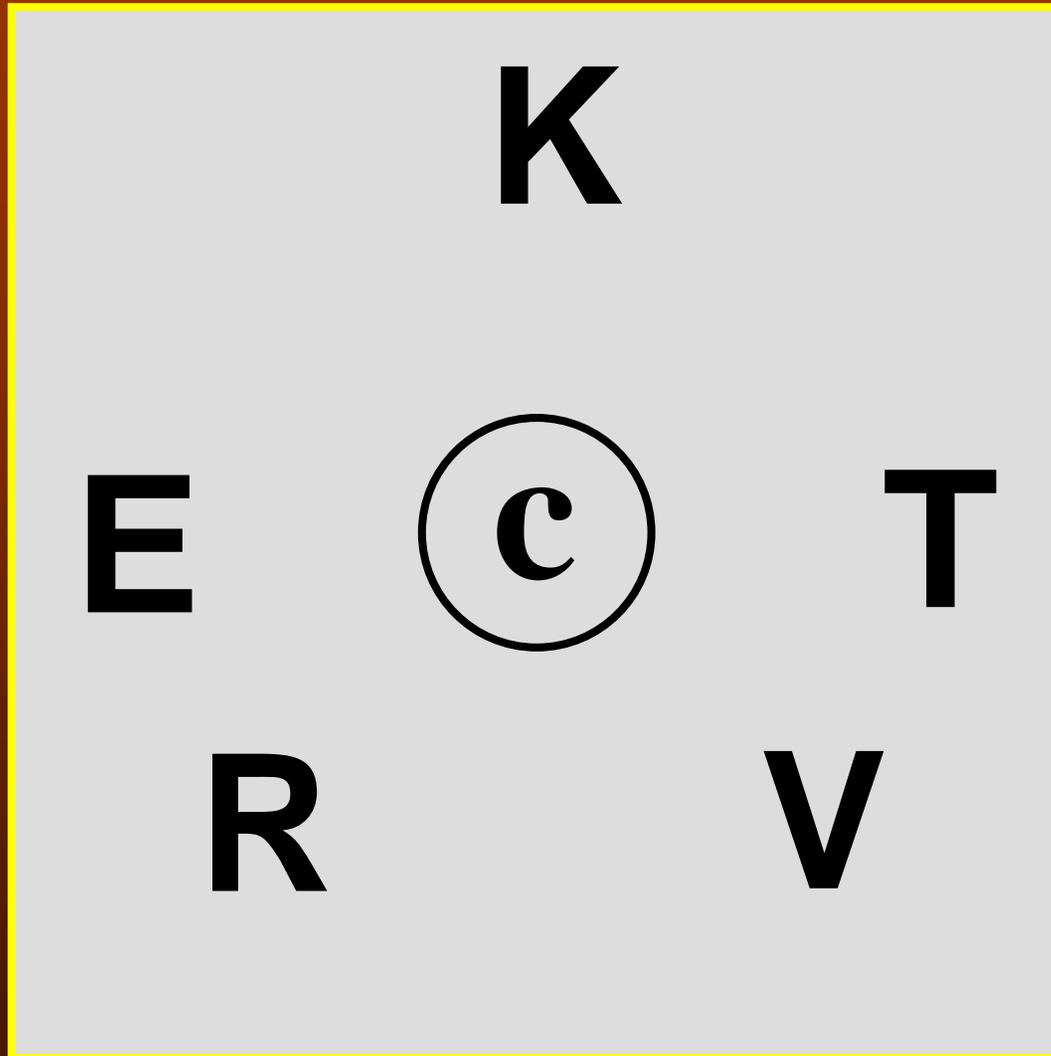


- The capital letters are the search array.
- The lower case letter at the center tell you what to look for on this trial.
- In repeated search, the search array does not change from trial to trial.

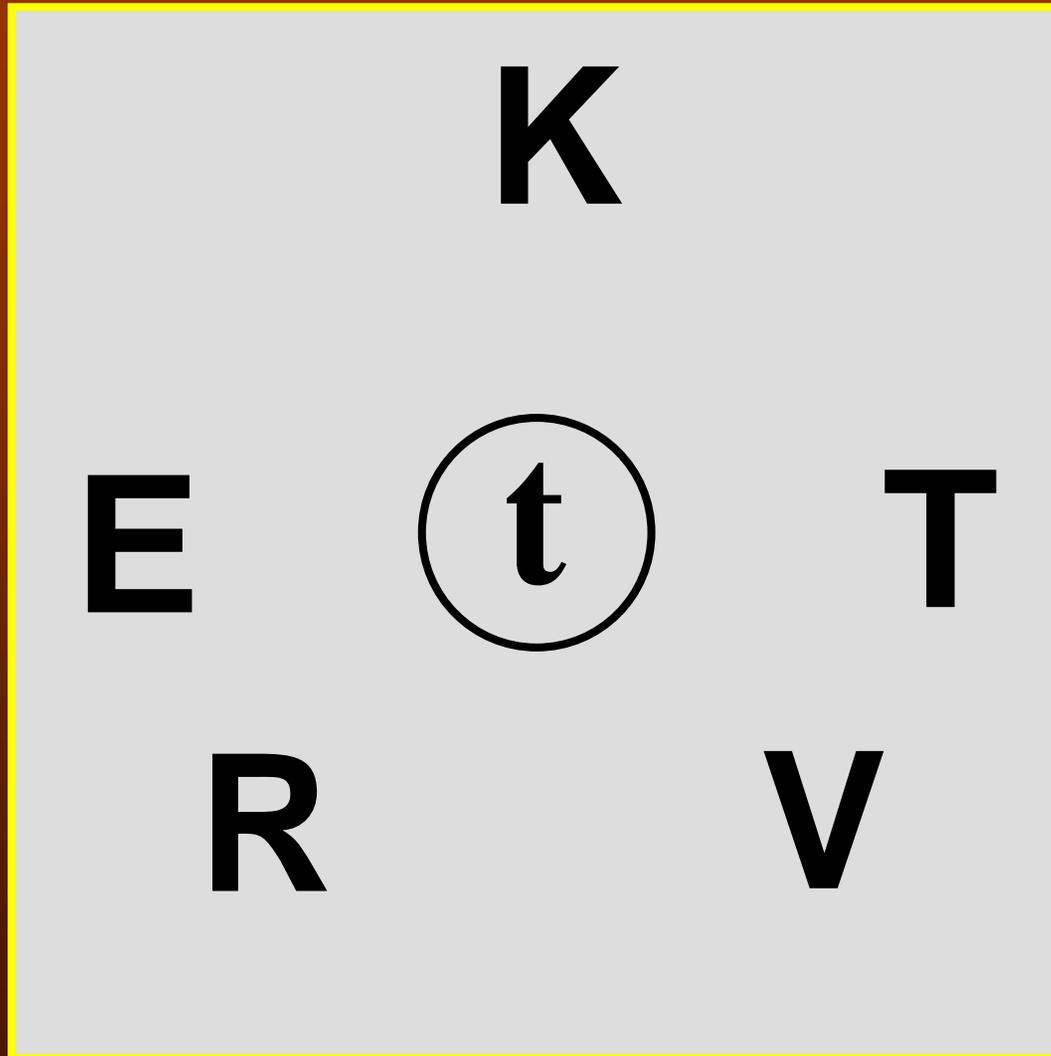
Repeated Search



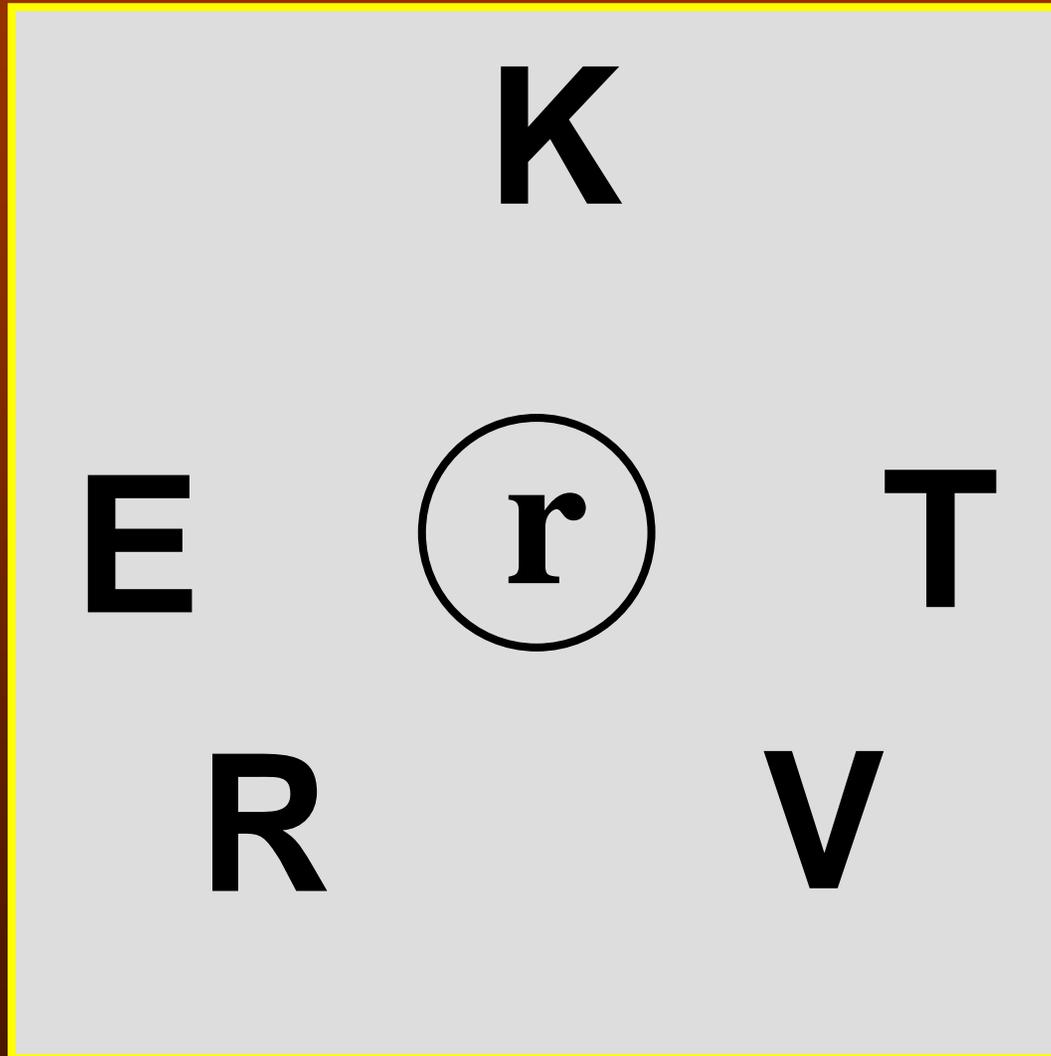
Repeated Search



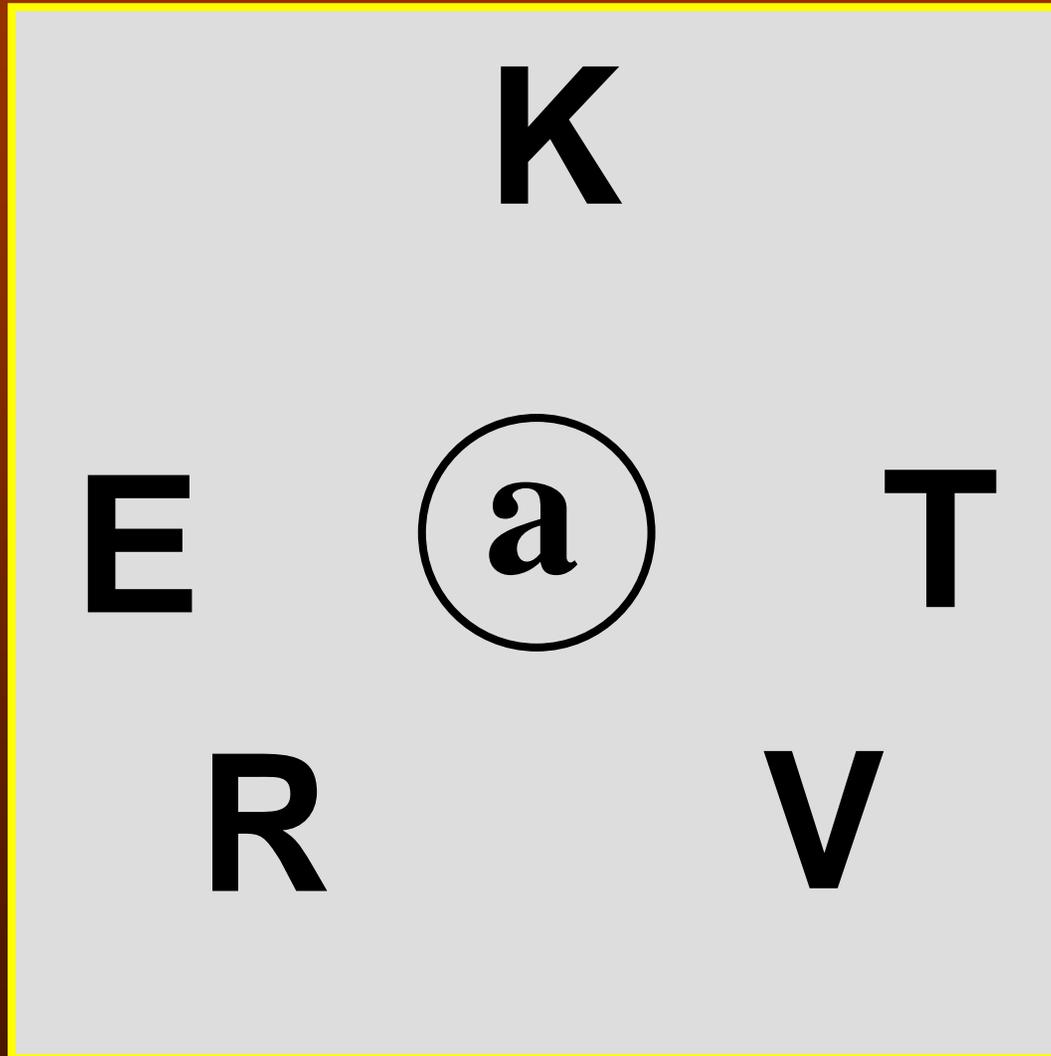
Repeated Search



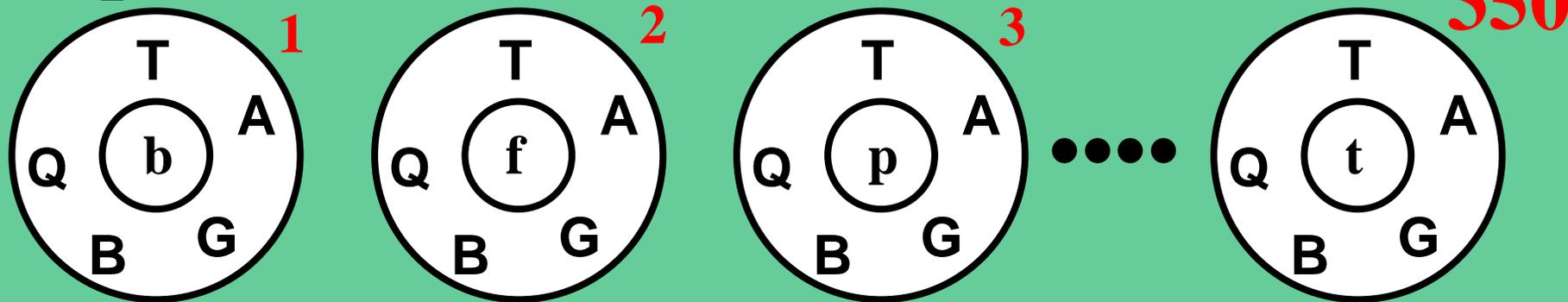
Repeated Search



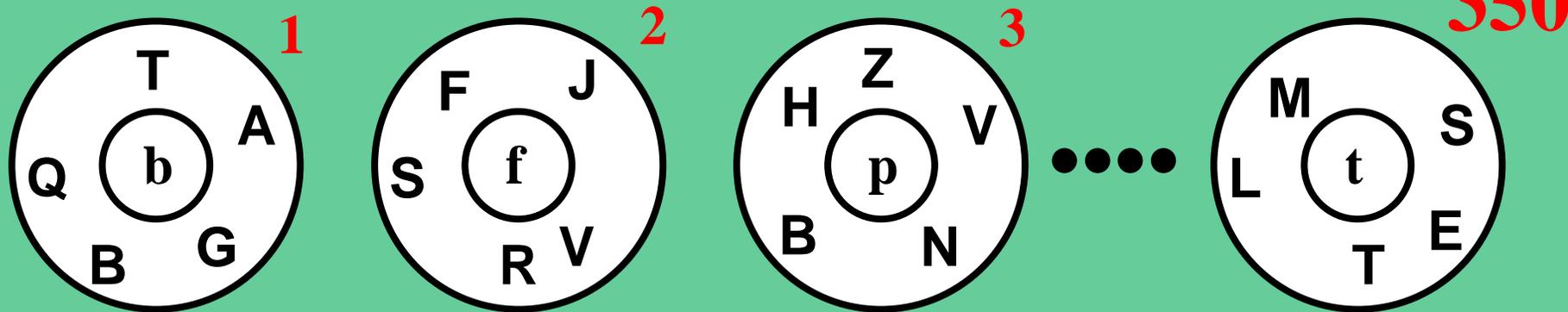
Repeated Search



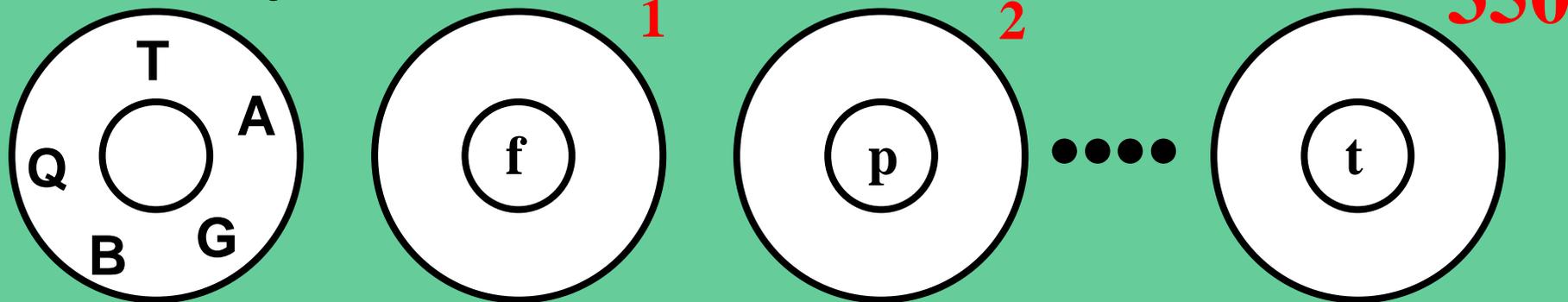
Repeated Search



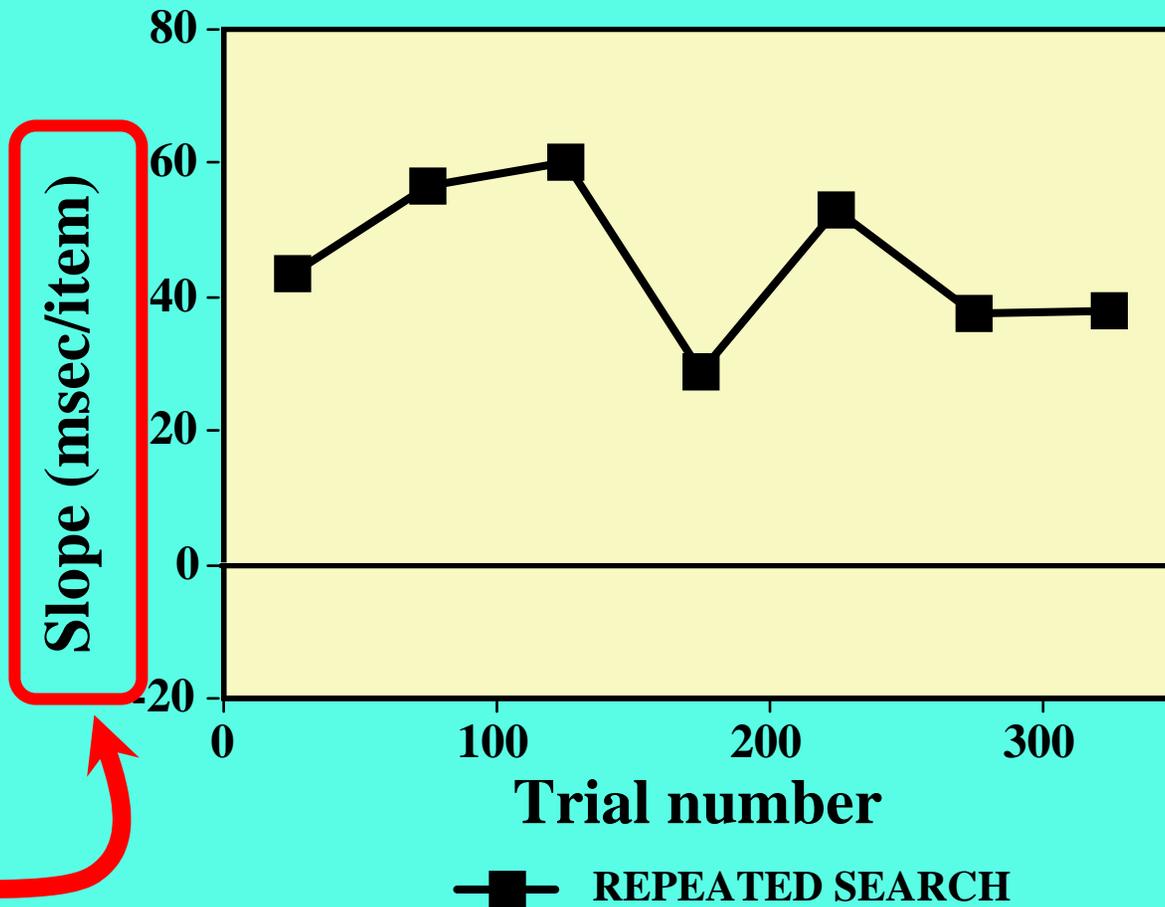
Standard Search



Memory Search

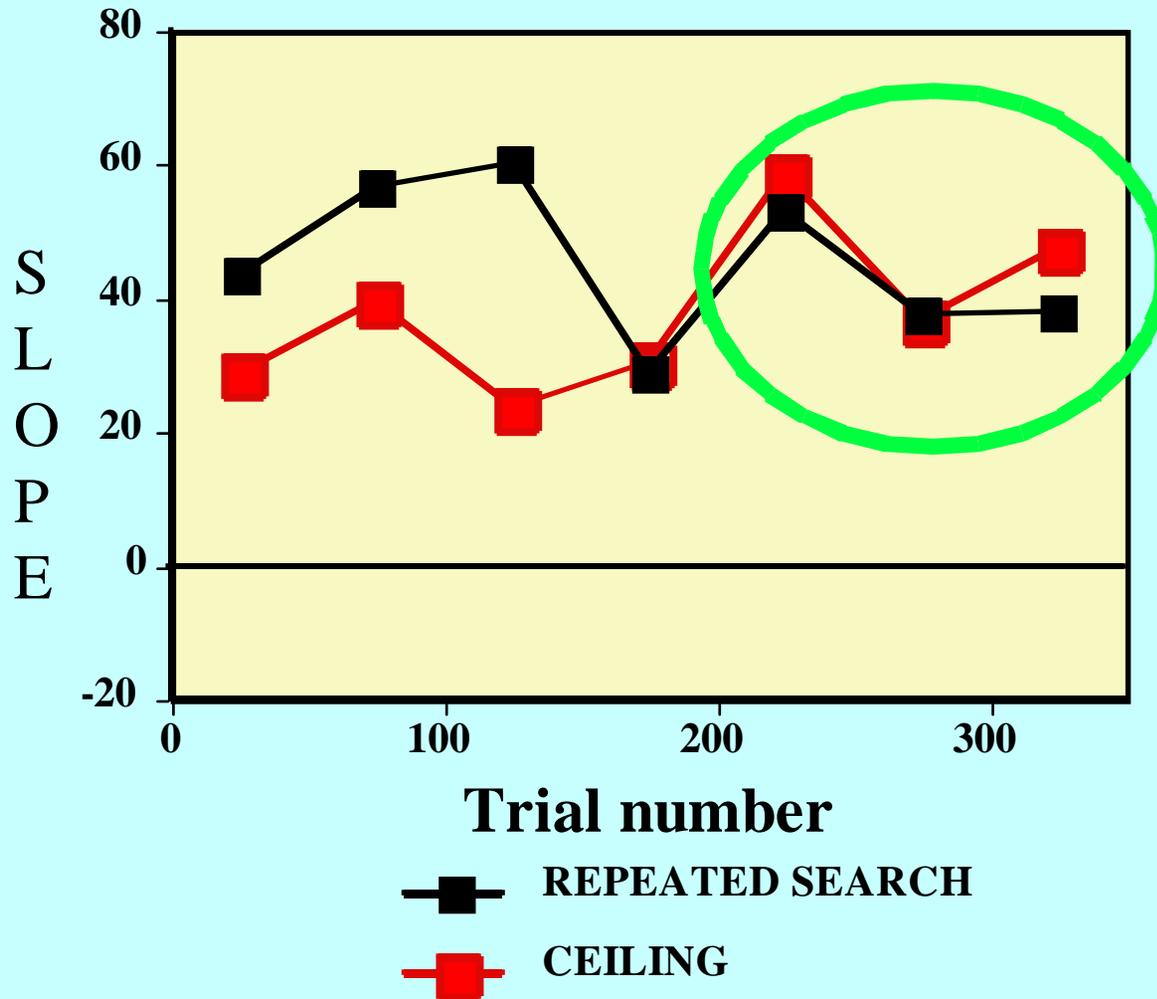


Repeated search never becomes efficient.

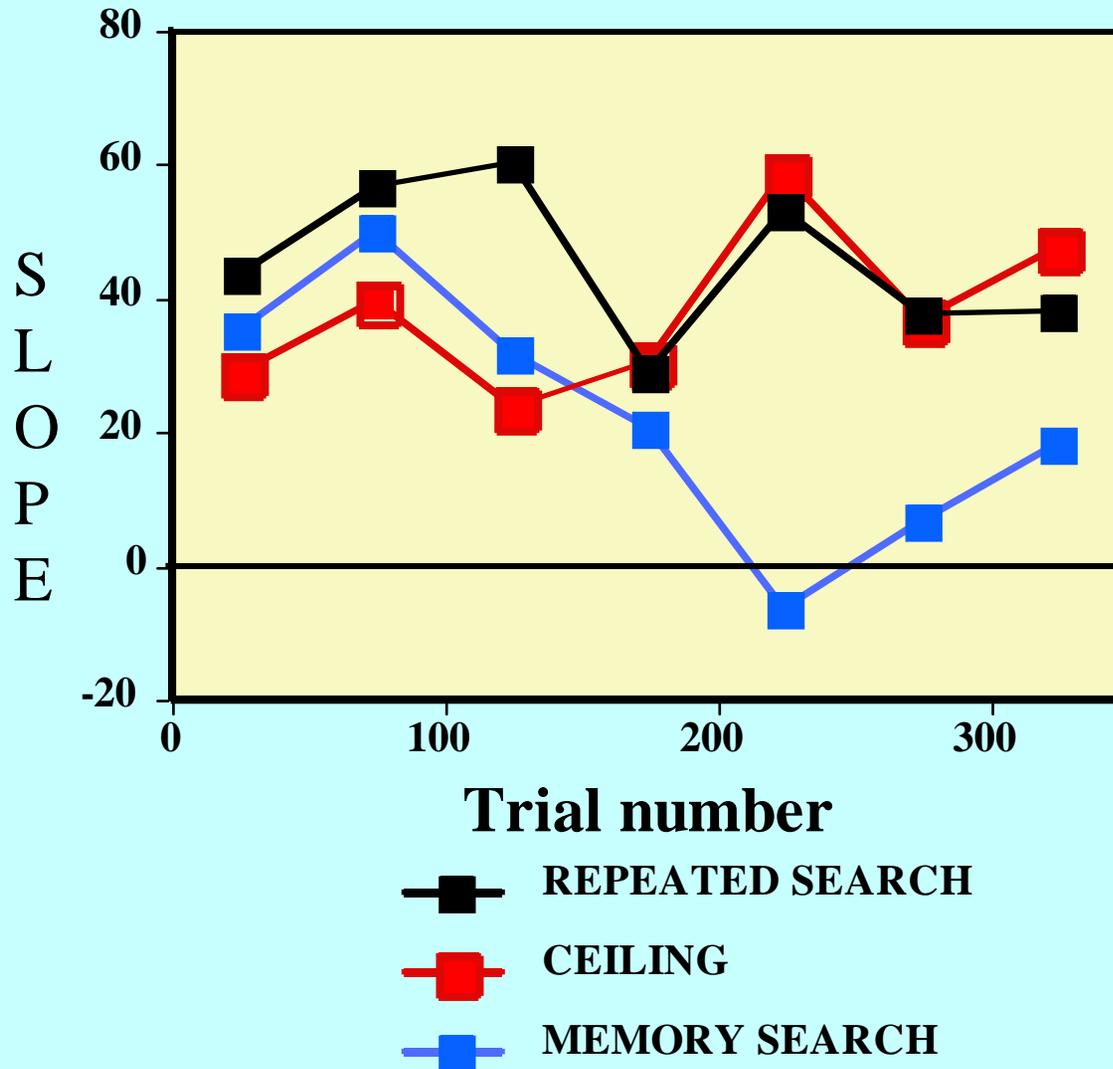


Slope of the RT x set size function is the measure of search efficiency

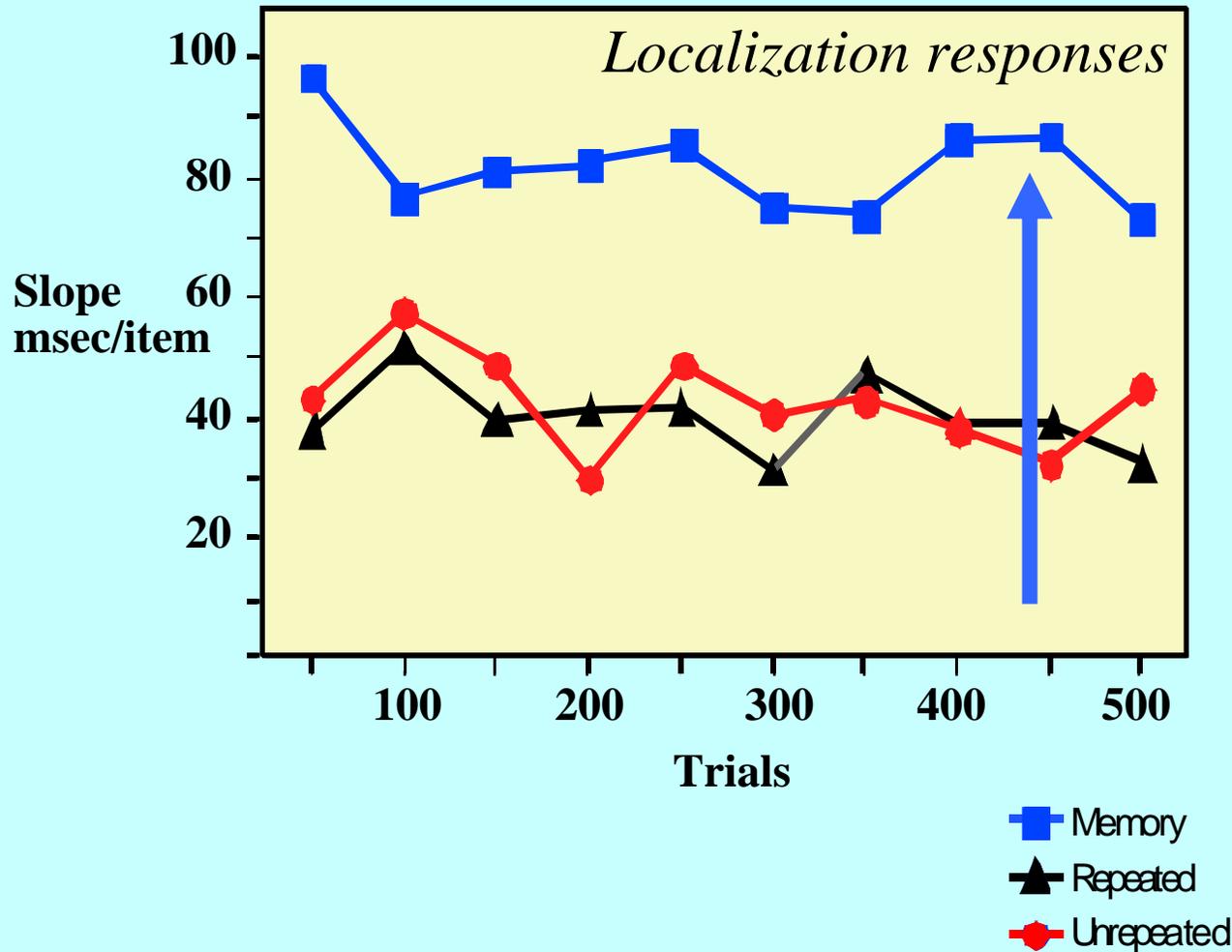
Repeated search is up at the “ceiling”



Memory search is actually more efficient



Actually, only 2AFC memory search is efficient



Melina Kunar's mouseclick experiments. (Kunar, Flusberg, & Wolfe)

But this is a meeting about scenes



So Aude and I did a version with scenes like this

Same basic result

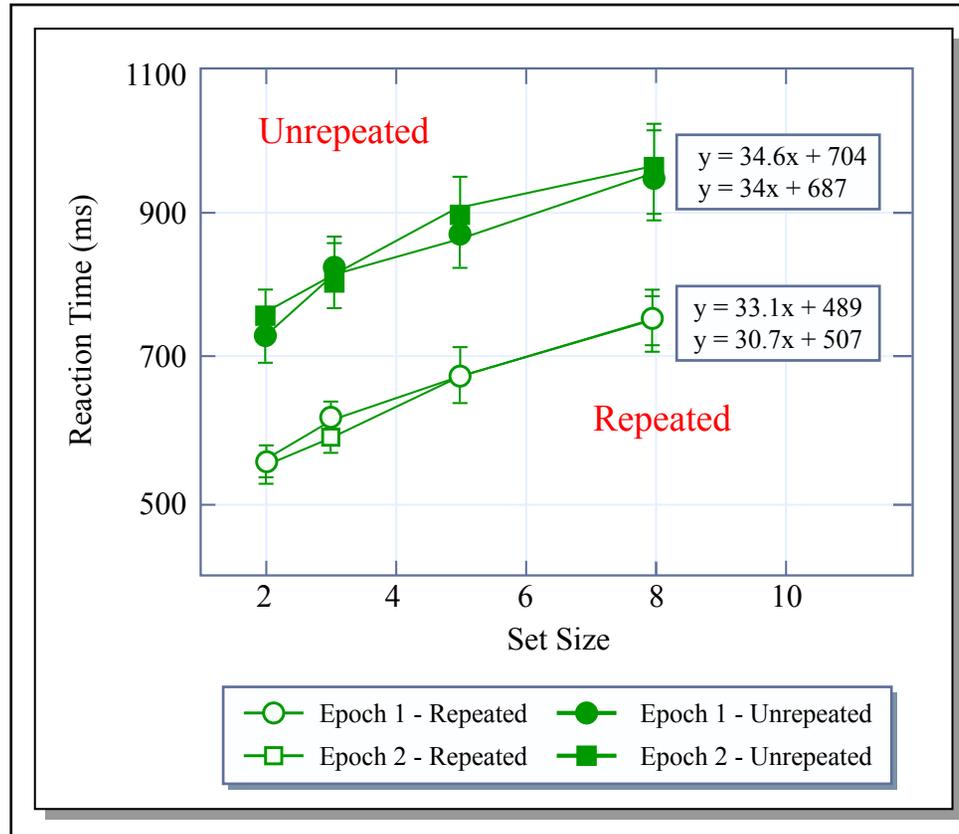


Figure by MIT OCW.

Note: Mean RT is faster, but search efficiency is unchanged.

We also did “panoramic” search



Panorama Experiments



Panorama Experiments



Panorama Experiments



Panorama Experiments



Panorama Experiments



Panorama Experiments



Panorama Experiments



You can search for a visible target



You still get a slope

If the same target is hidden



The slope can vanish

Subjects make a pragmatic choice

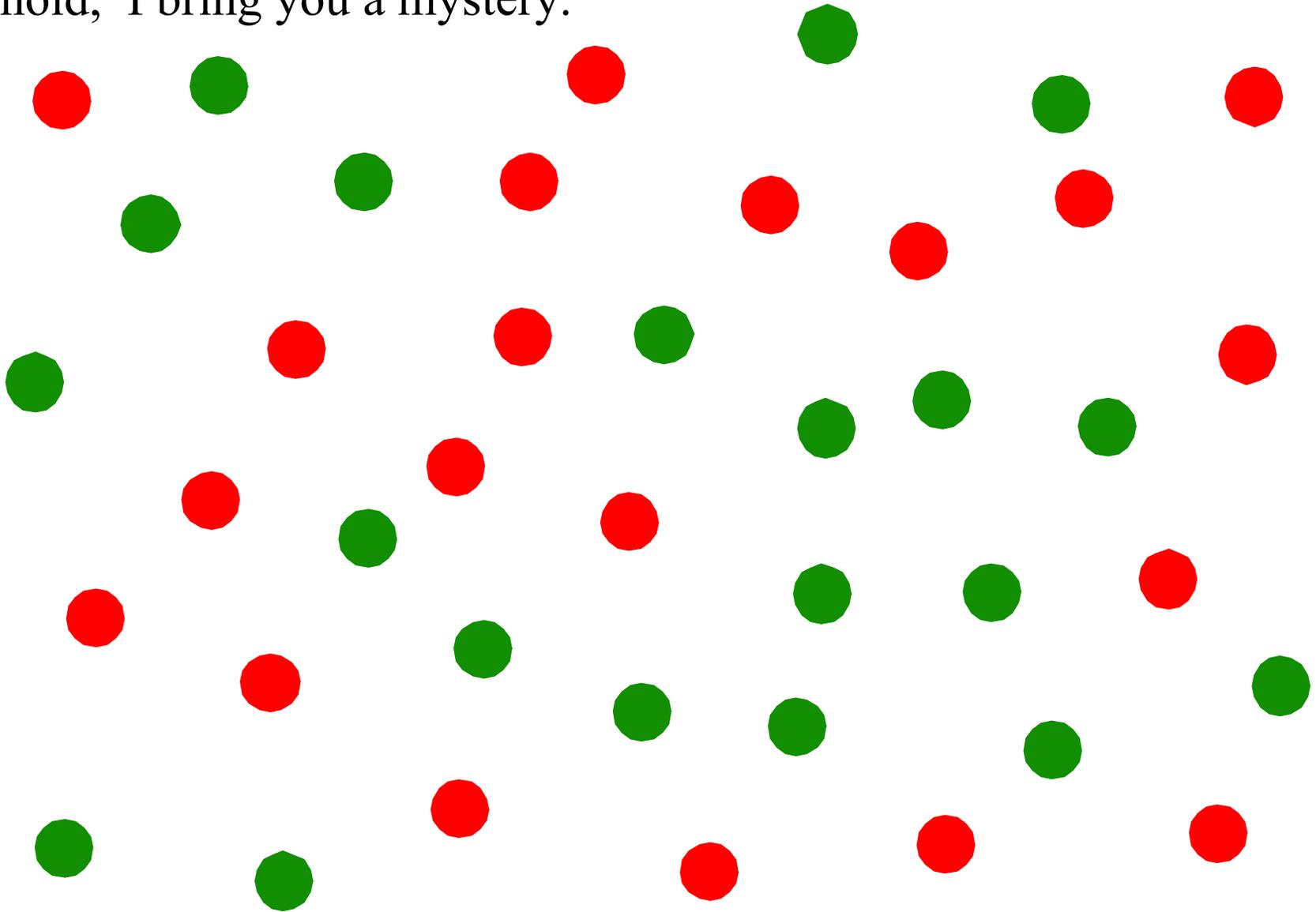


Search if the target is visible

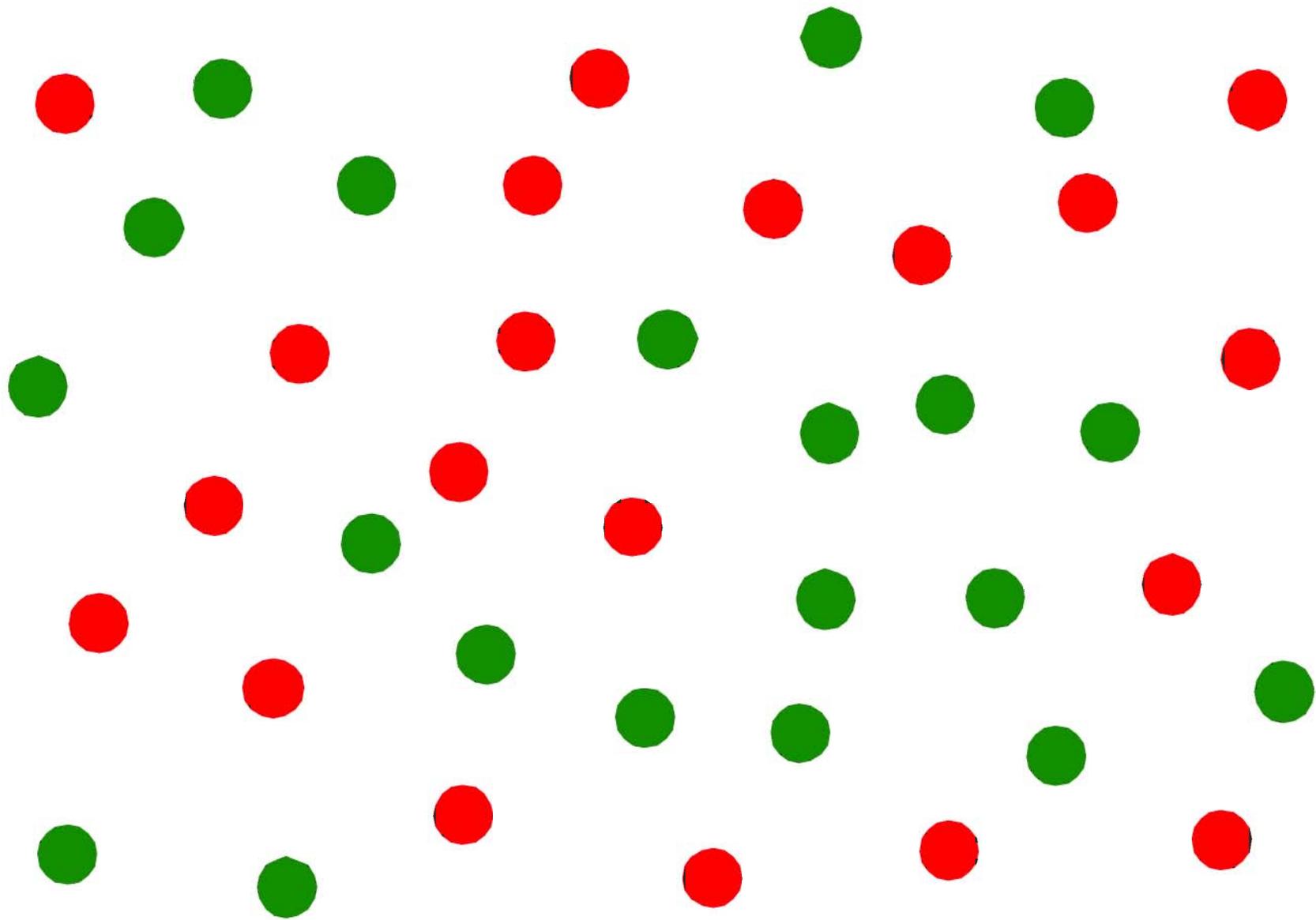
The “Is Was” Paradigm

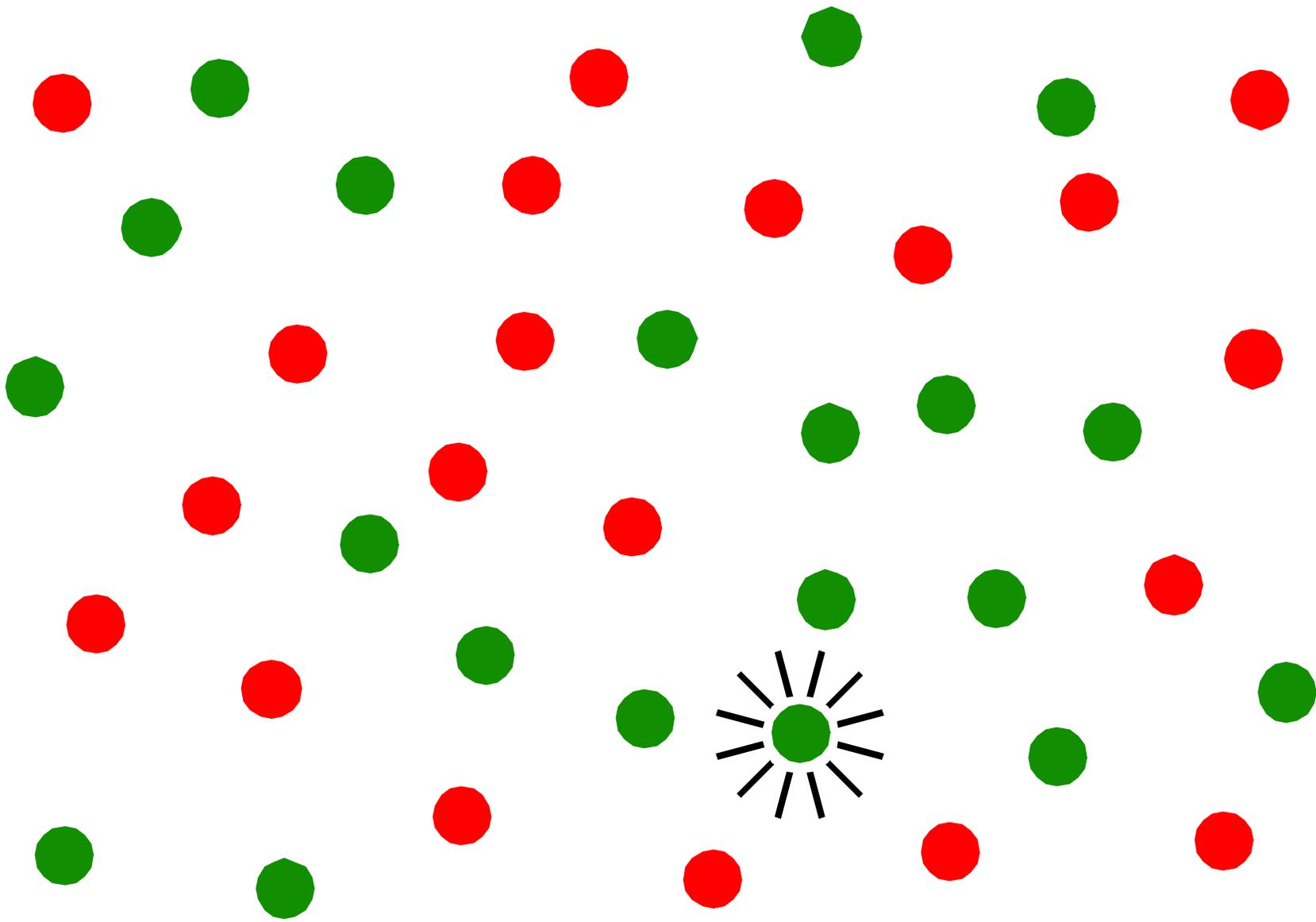
Minimal Change Blindness

Behold, I bring you a mystery.

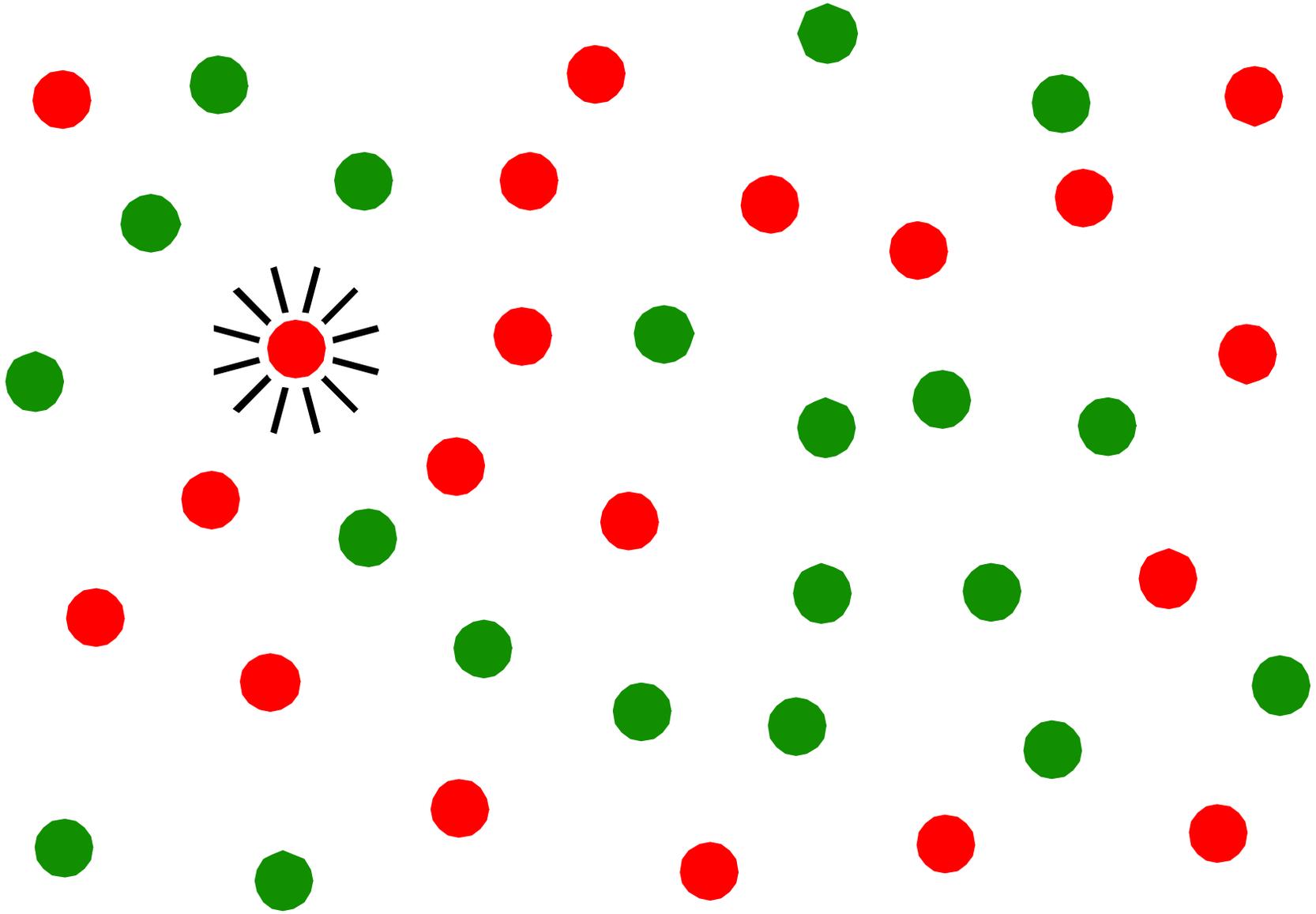


Does the cued dot change color?

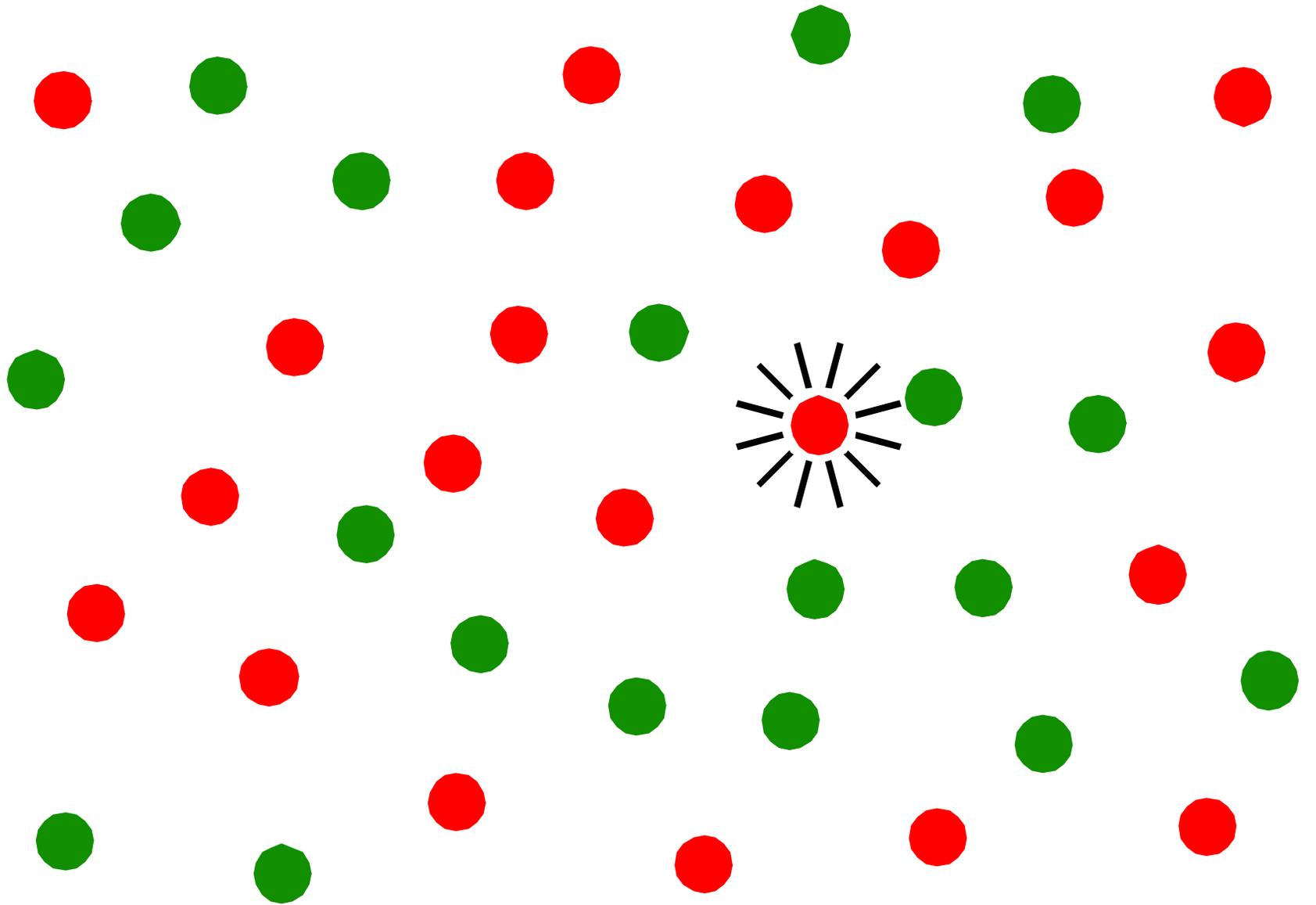




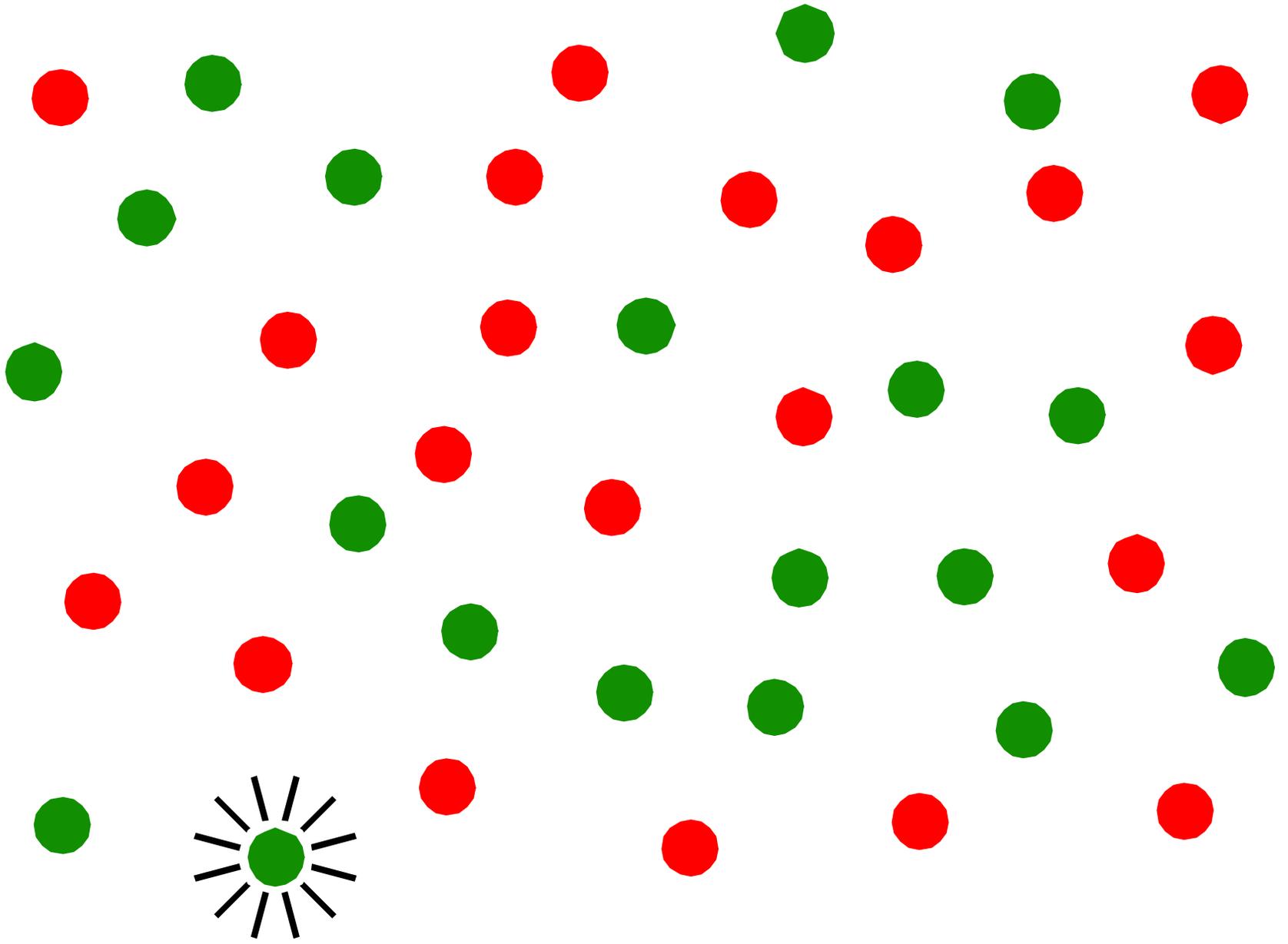
No



No



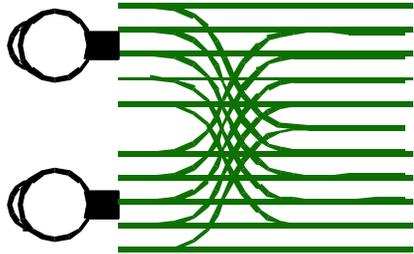
Yes



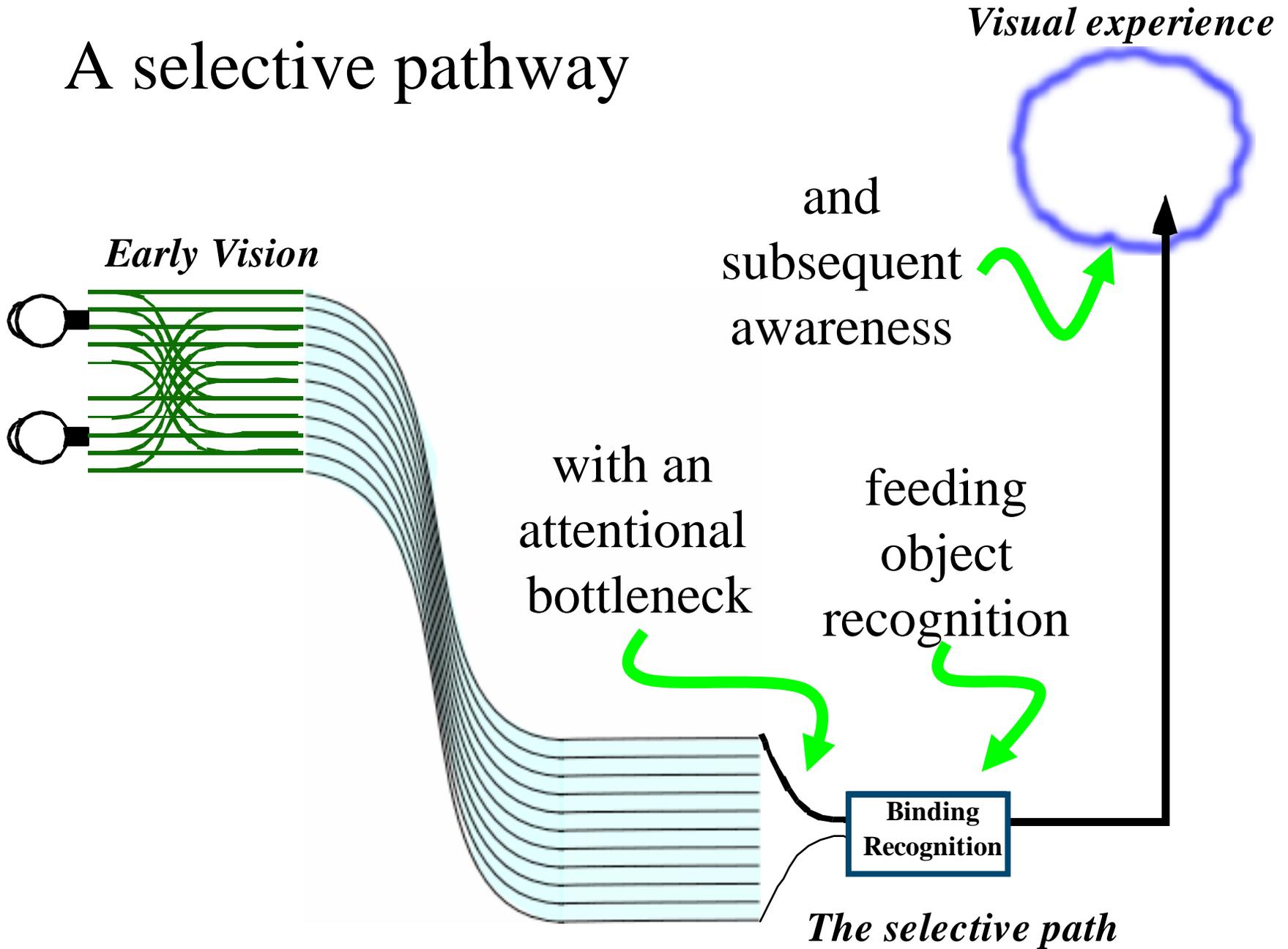
No

So...to summarize

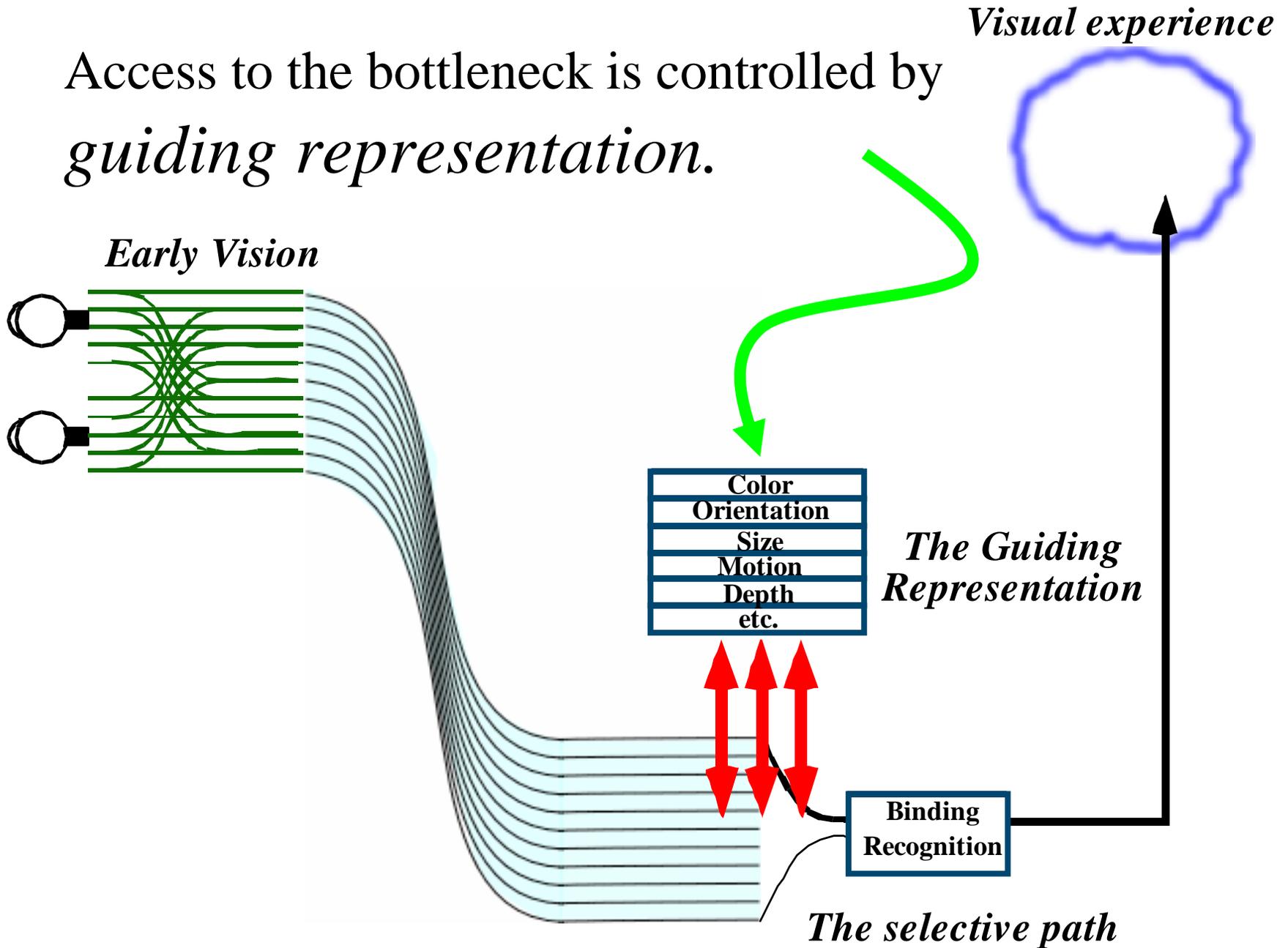
Early Vision



A selective pathway



Access to the bottleneck is controlled by *guiding representation*.



A non-selective pathway can fill in the rest of the experience

