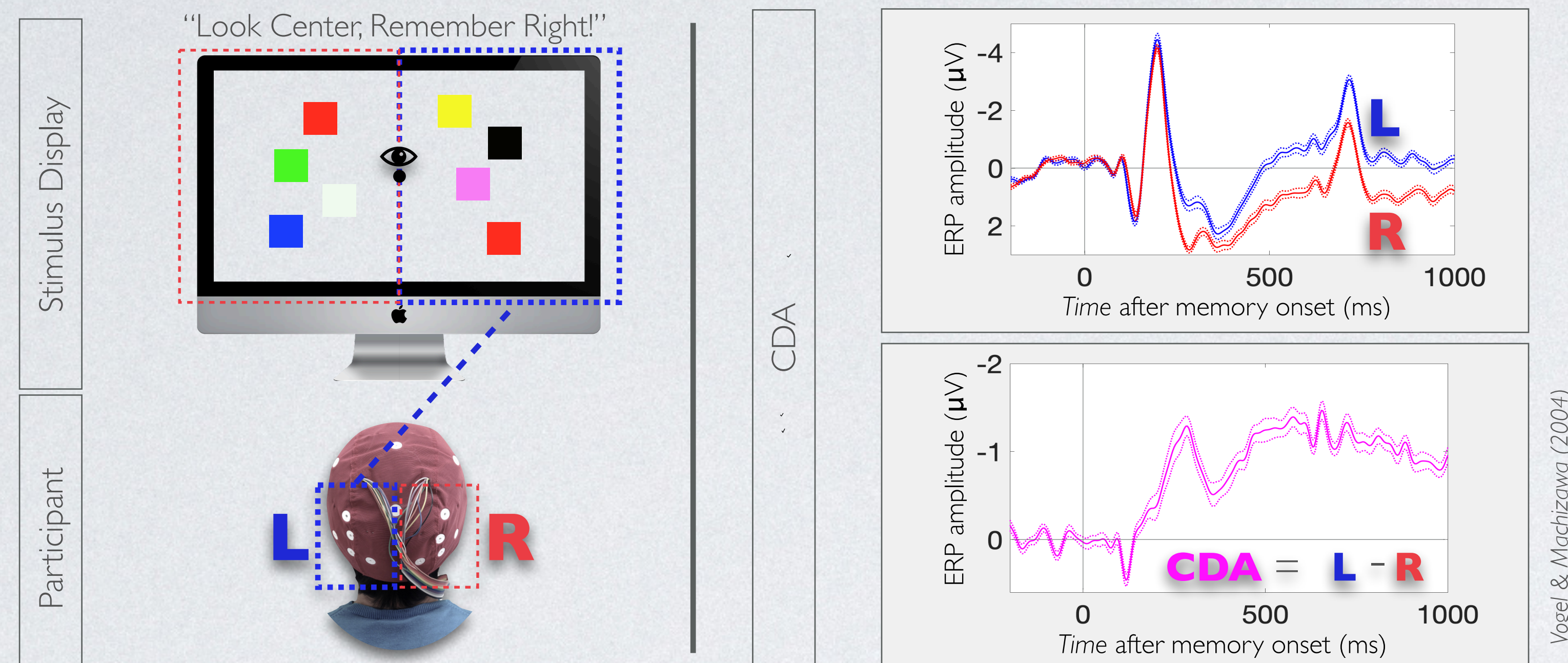
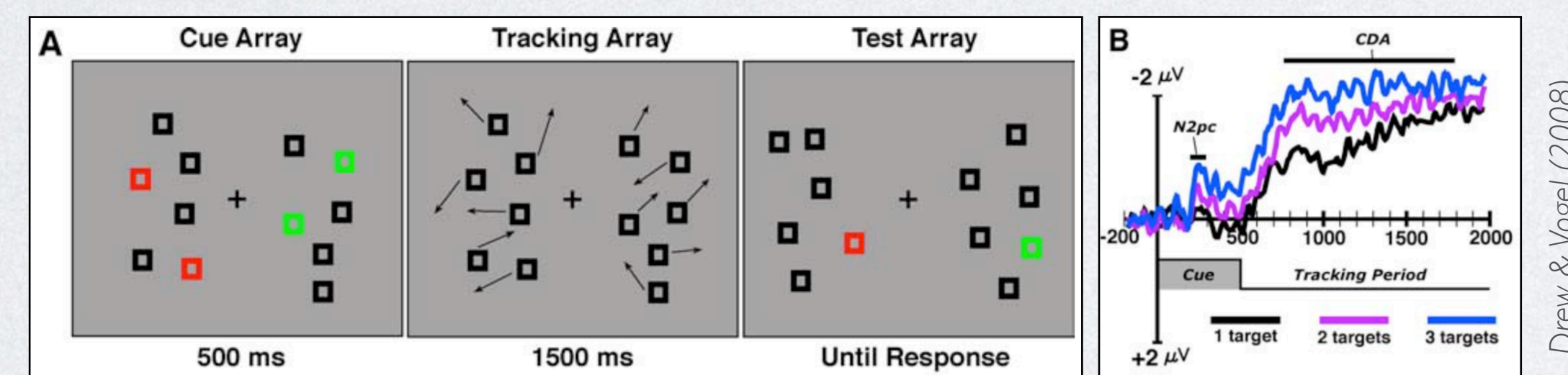


How can we measure a mental response to dynamic stimuli?

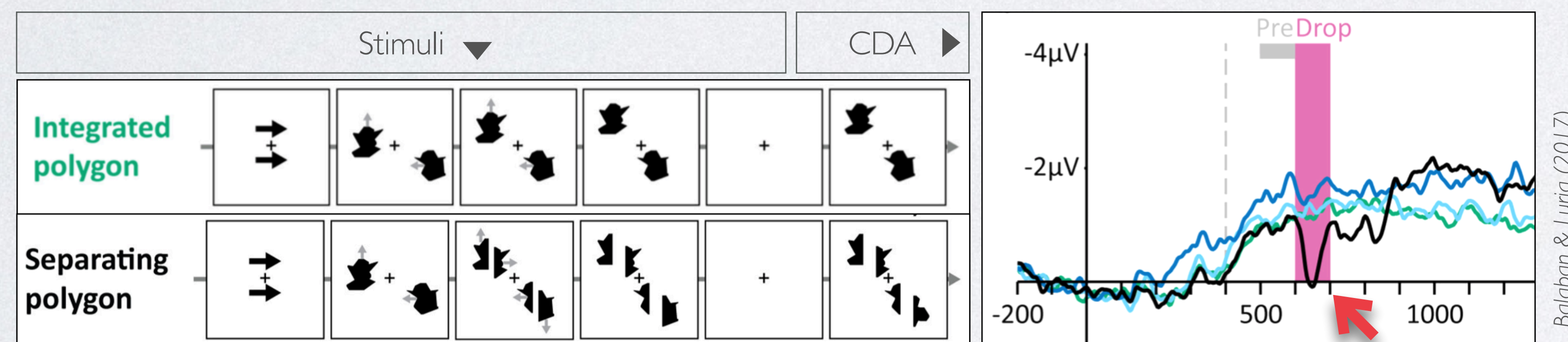
- ▶ **VWM** is a theoretical mental workspace that can represent limited amount of visual information for a task-related behaviour.
- ▶ **Contralateral Delay Activity (CDA)** is an ERP component whose amplitude tracks the number of discrete items currently held in VWM.
- ▶ More items = higher CDA amplitude.



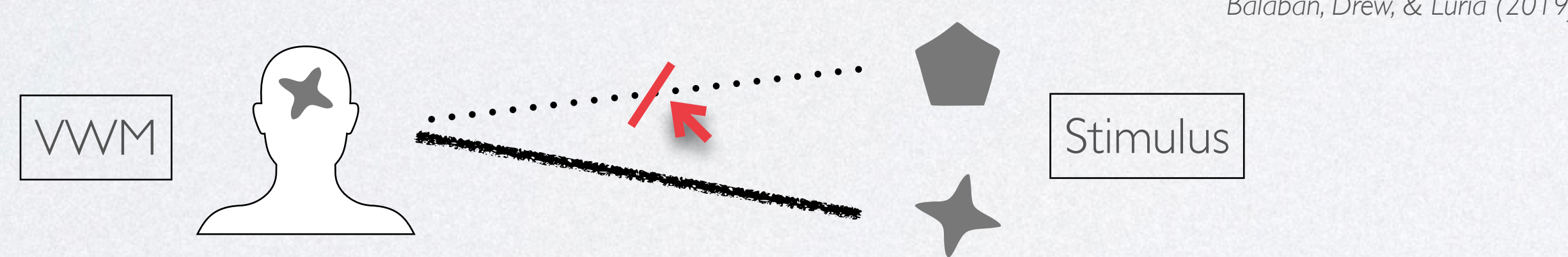
- ▶ **Translocating stimuli** are accordingly reflected in CDA.
- ▶ More *moving* items = higher CDA amplitude.



- ▶ **Separating stimuli** result in a **VWM Reset**.



- ▶ **VWM Reset** is the temporary nullifying of a current VWM representation when there is a **lost correspondence** between that representation and its corresponding stimulus.



If **VWM Reset** is due to such lost correspondence, then we should see **VWM Reset** to a discontinuous change, but not continuous change in **identity** of the stimulus.

- ▶ Stimulus **identity** is a characterizing feature of a stimulus:

- ▶ Shape (1)
- ▶ Color (2)

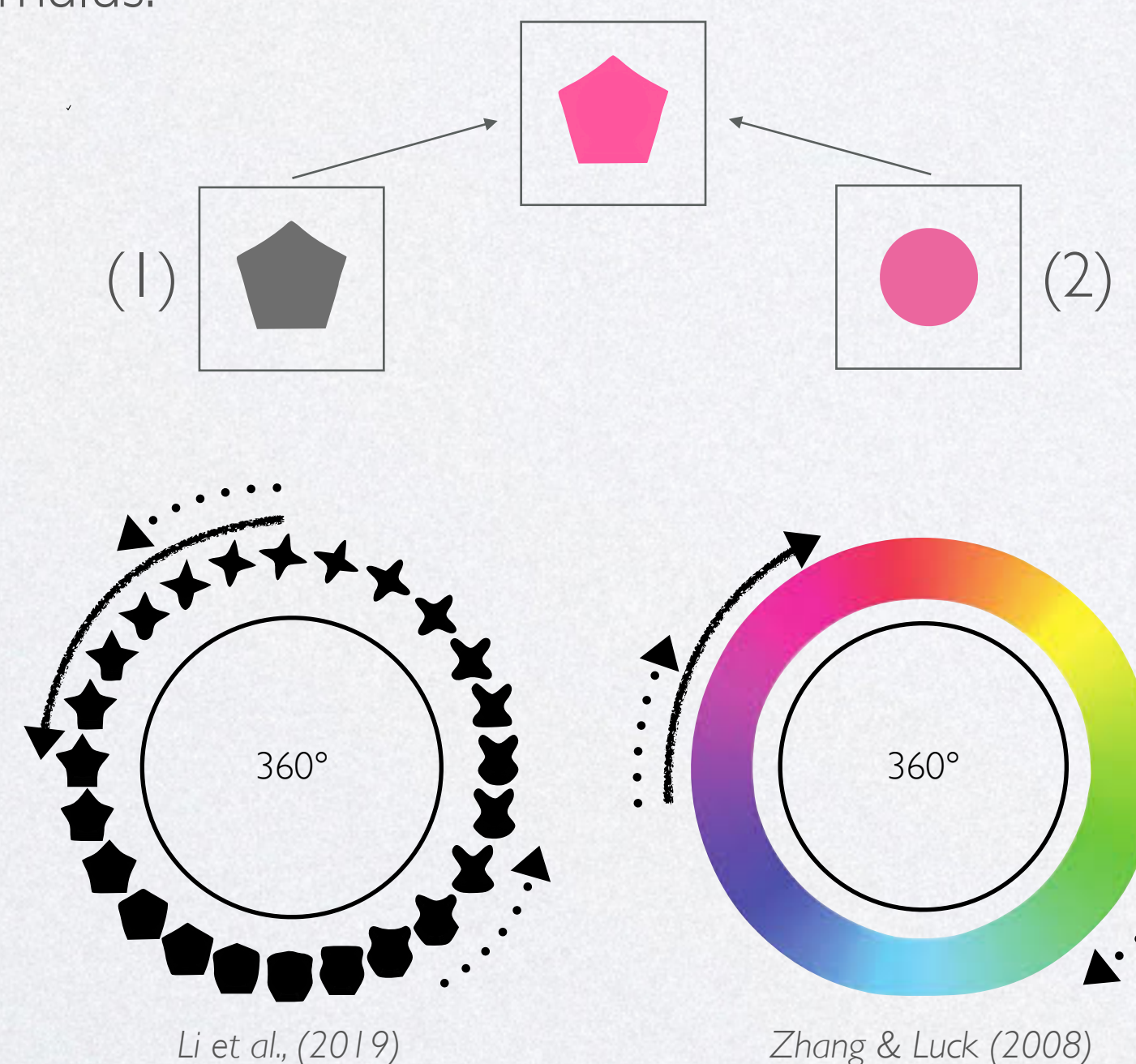
- ▶ Types of dynamic change in stimulus identity:

Continuous Change:

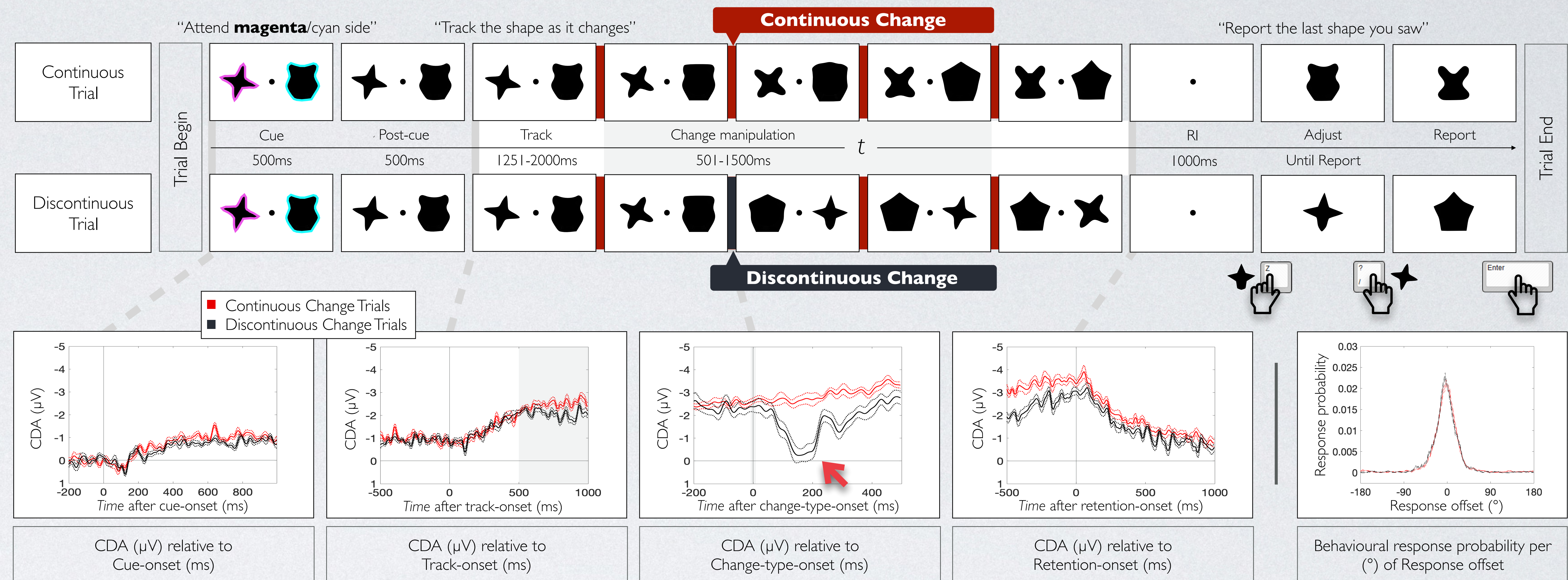
- ▶ A sequential presentation of stimuli from circular shape or colour space.

Discontinuous Change:

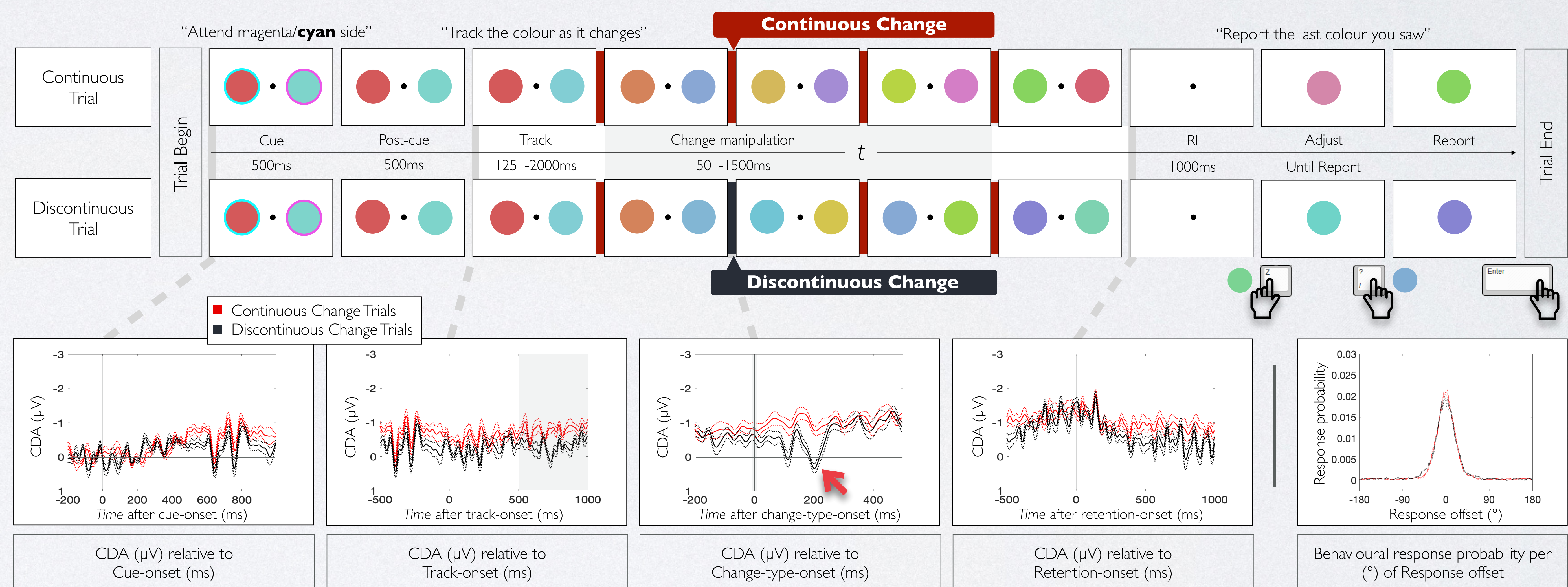
- ▶ A non-sequential presentation of stimuli from circular shape or colour space.



Does a Discontinuous Change in Shape cause VWM to Reset?

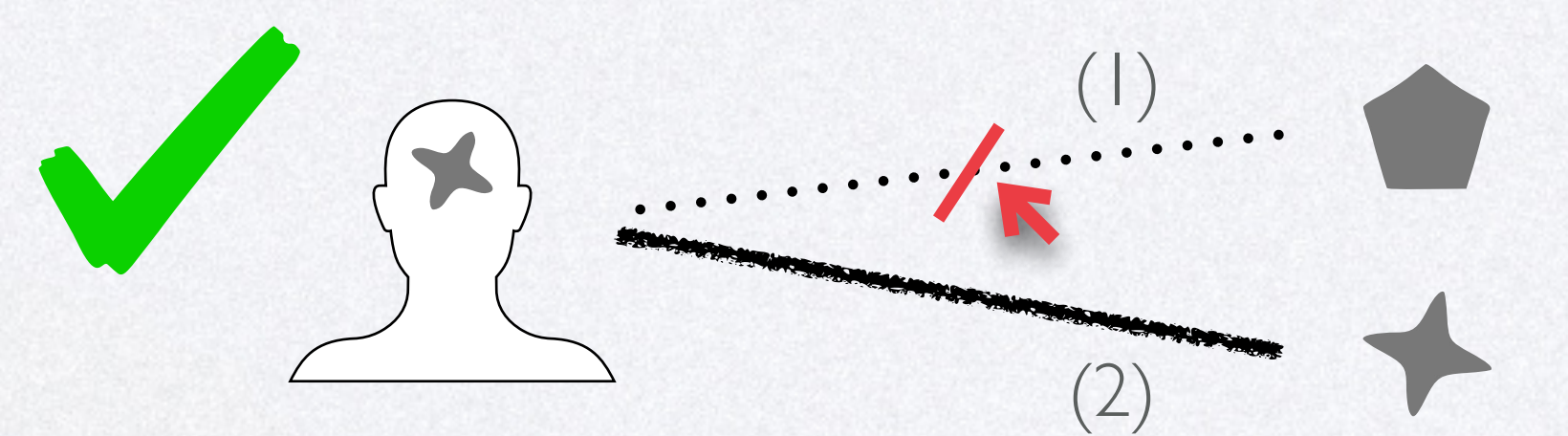


Does a Discontinuous Change in Colour cause VWM to Reset?



Discussion

- ▶ (1) The lost correspondence elicits **VWM Reset**.
- ▶ (2) When the stimulus changes its identity continuously, **VWM Updates** the corresponding representation without discarding it.



Future Directions

- ▶ How might **expectation** of the future state of a stimulus influence its corresponding VWM representation?
- ▶ Are dynamic VWM representations dependent on the **task-relevance** of a **feature** of a stimulus?



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