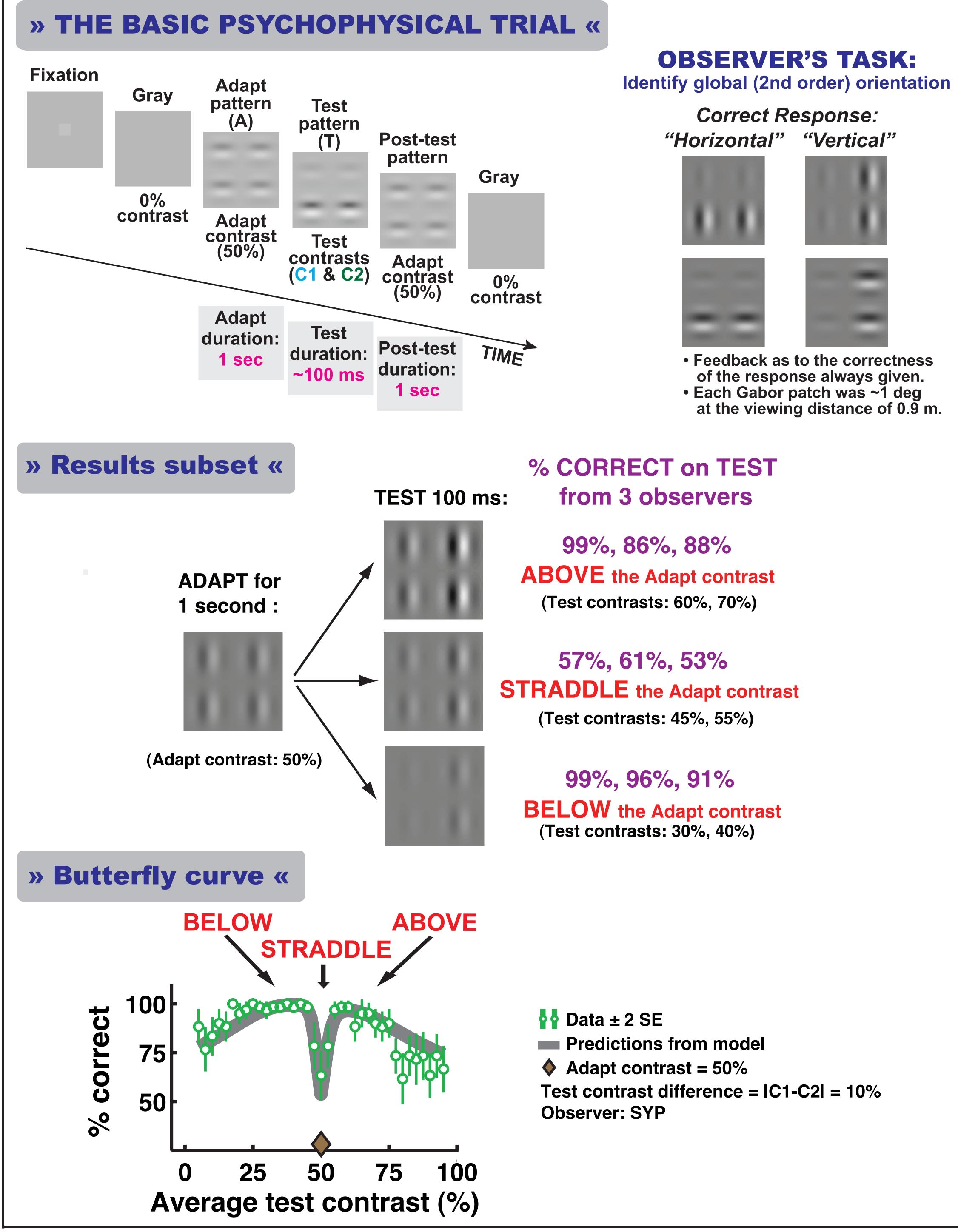
# The Straddle (Buffy) Effect in temporal contrast processing (adaptation) is spatially very local Norma Graham & S. Sabina Wolfson Columbia University, Department of Psychology, New York, NY

## » The Straddle Effect «

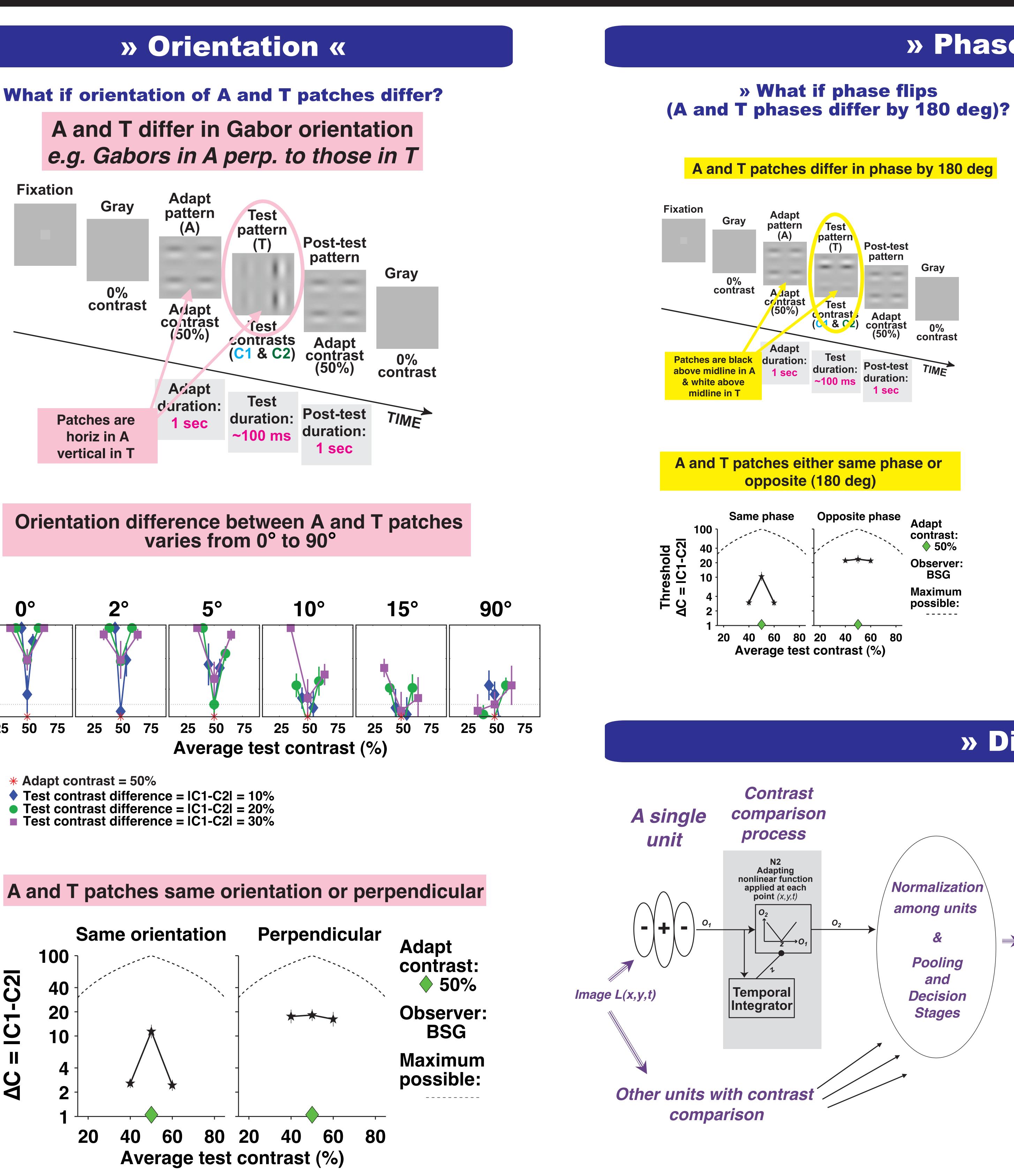
The Test pattern is <u>difficult</u> to perceive correctly when its contrasts **STRADDLE** the Adapt contrast. The Test pattern is <u>easy</u> to perceive correctly when both its contrasts are **ABOVE** or both are **BELOW** the Adapt contrast.

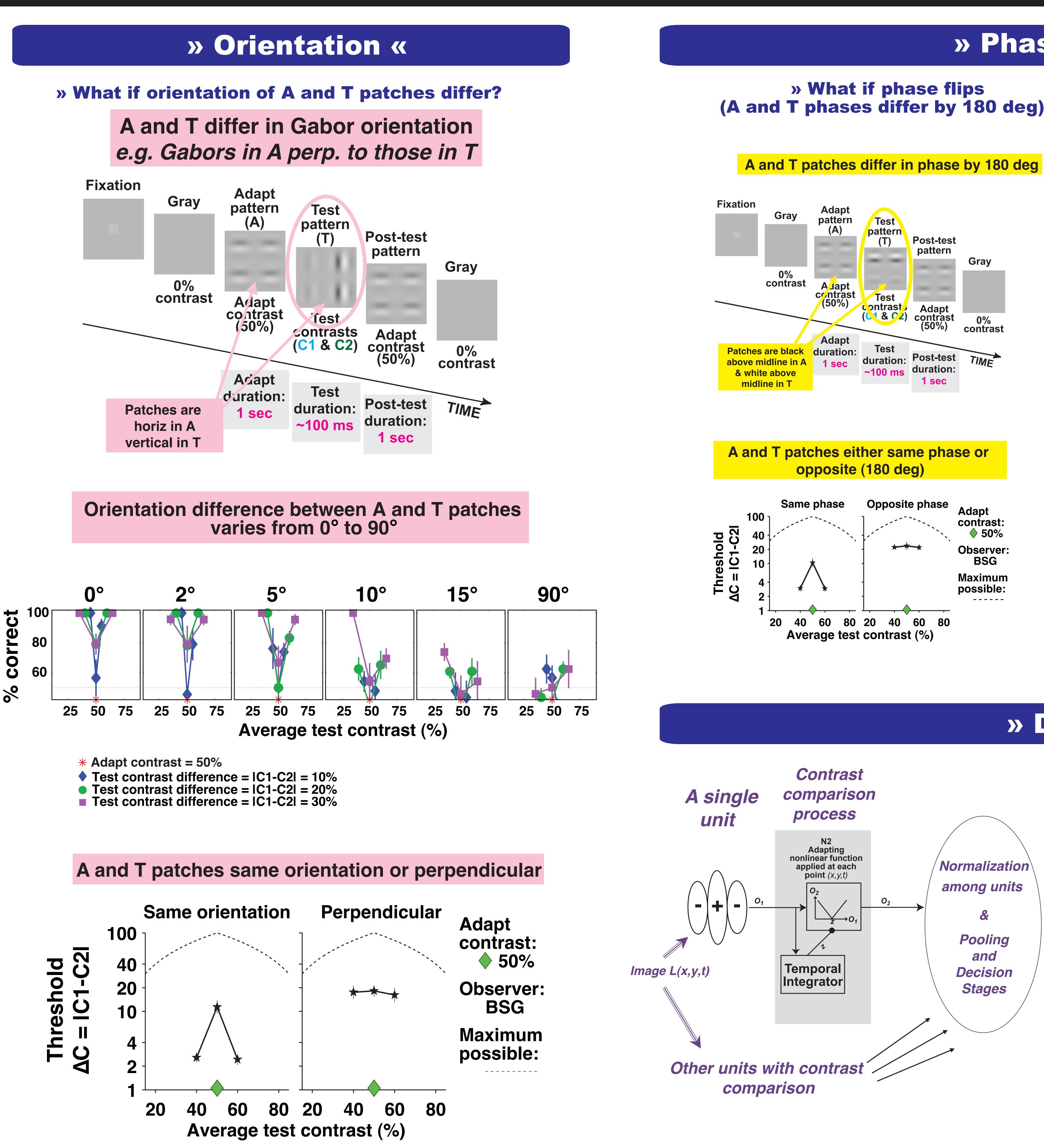


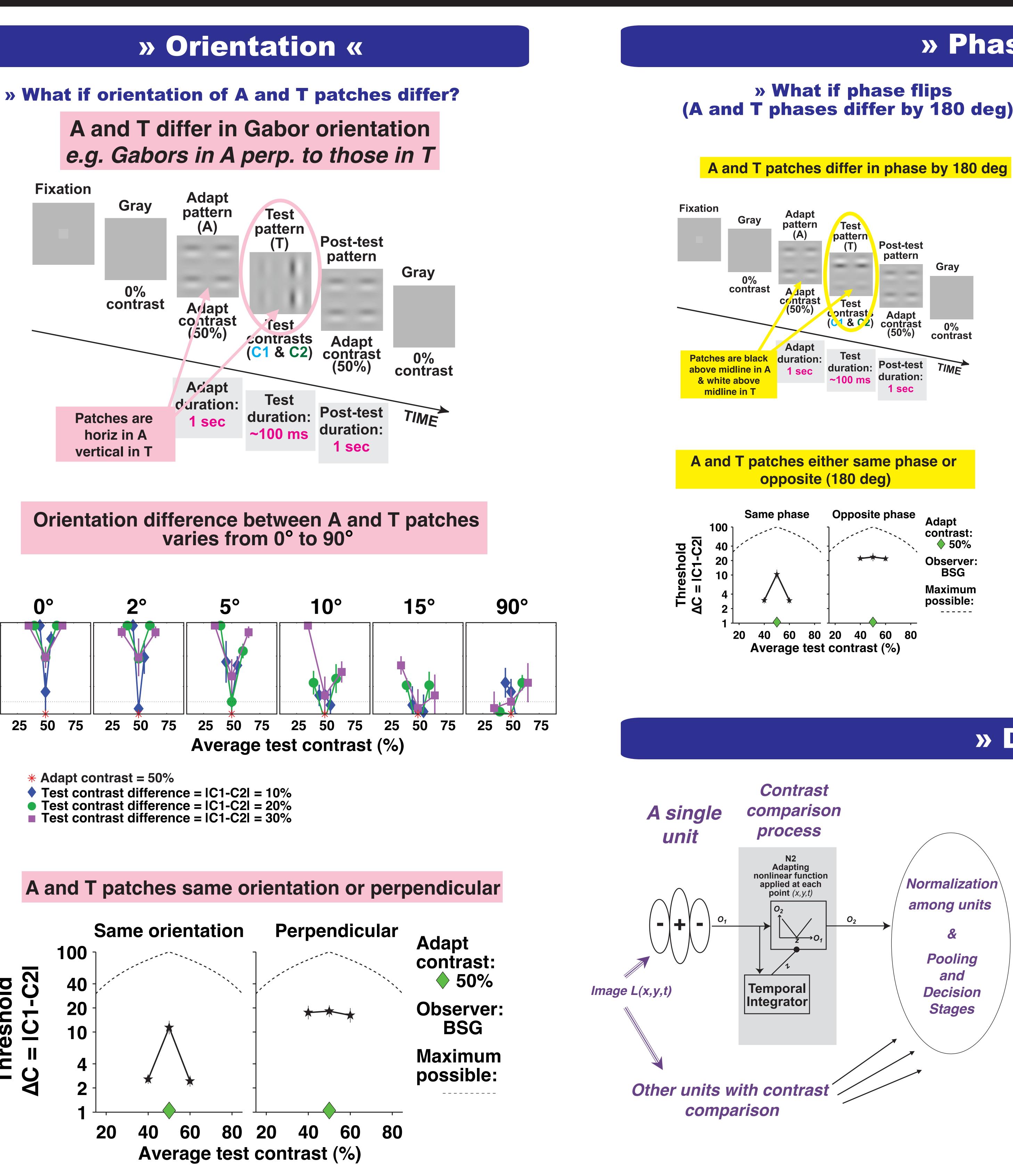
### **OBSERVER'S TASK:**

"Horizontal" "Vertical"

 Feedback as to the correctness of the response always given. • Each Gabor patch was ~1 deg

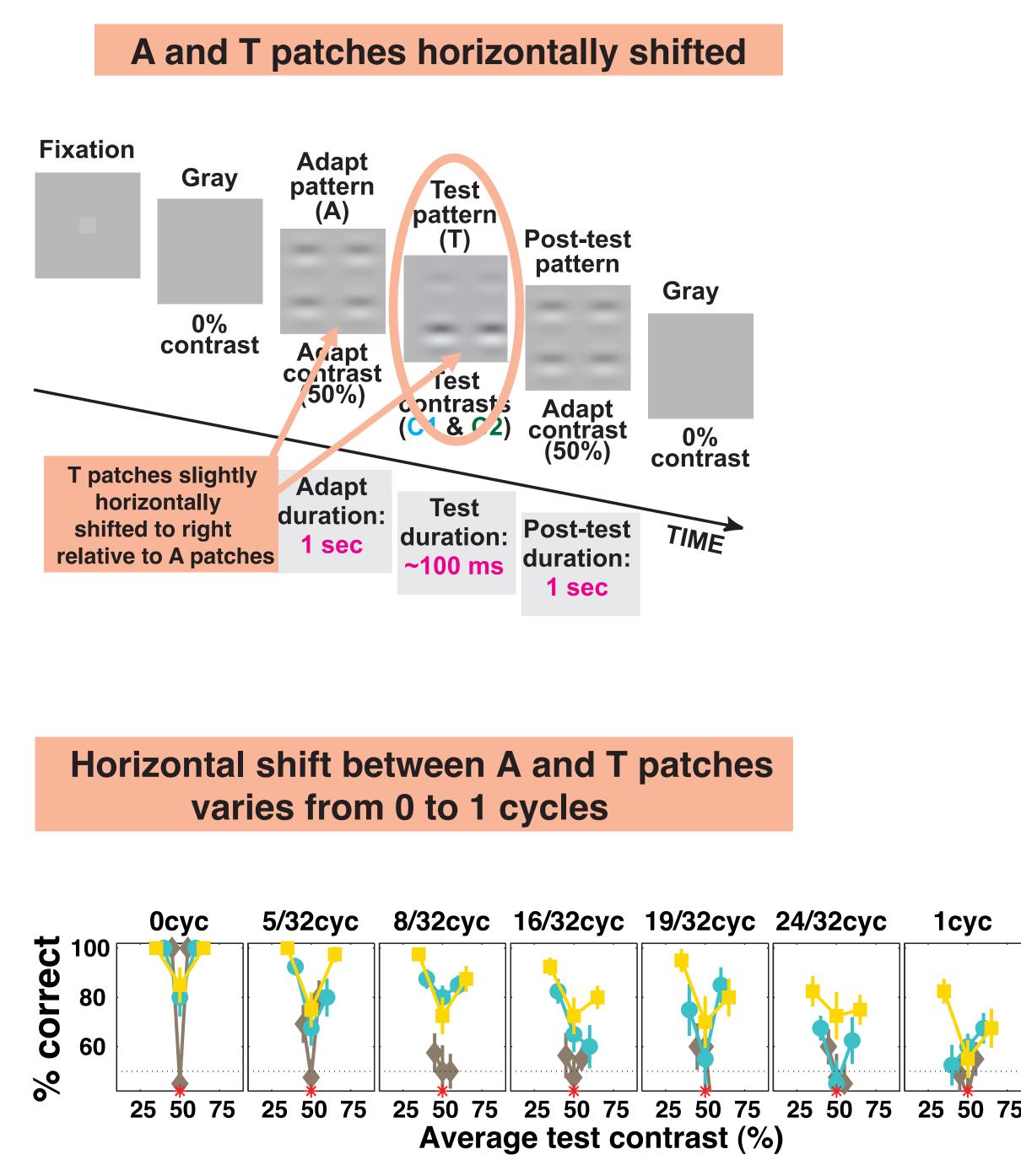






### » Phase & Position «

### » What if T patches horizontally shifted from A patches?



**\*** Adapt contrast = 50%

Test contrast difference = IC1-C2I = 10% Test contrast difference = IC1-C2I = 20%

Test contrast difference = IC1-C2I = 30%

### » Discussion «

When the spatial characteristics of A and T patterns are identical, there is always a straddle effect.

When the spatial characteristics of A and T patterns differ more than a small amount, the straddle effect becomes less dramatic and can disappear.

Observer's response

The way it disappears is NOT that the Straddle Test pattern becomes easier to see correctly. Instead the patterns just Above and just Below the straddle range become much harder to see correctly.

- It is as if the visual system encodes the magnitude of the change but NOT the *sign* of the change. Why?
- Is the Straddle Effect a side effect of the visual system having evolved to detect quick changes (i.e., transients)?