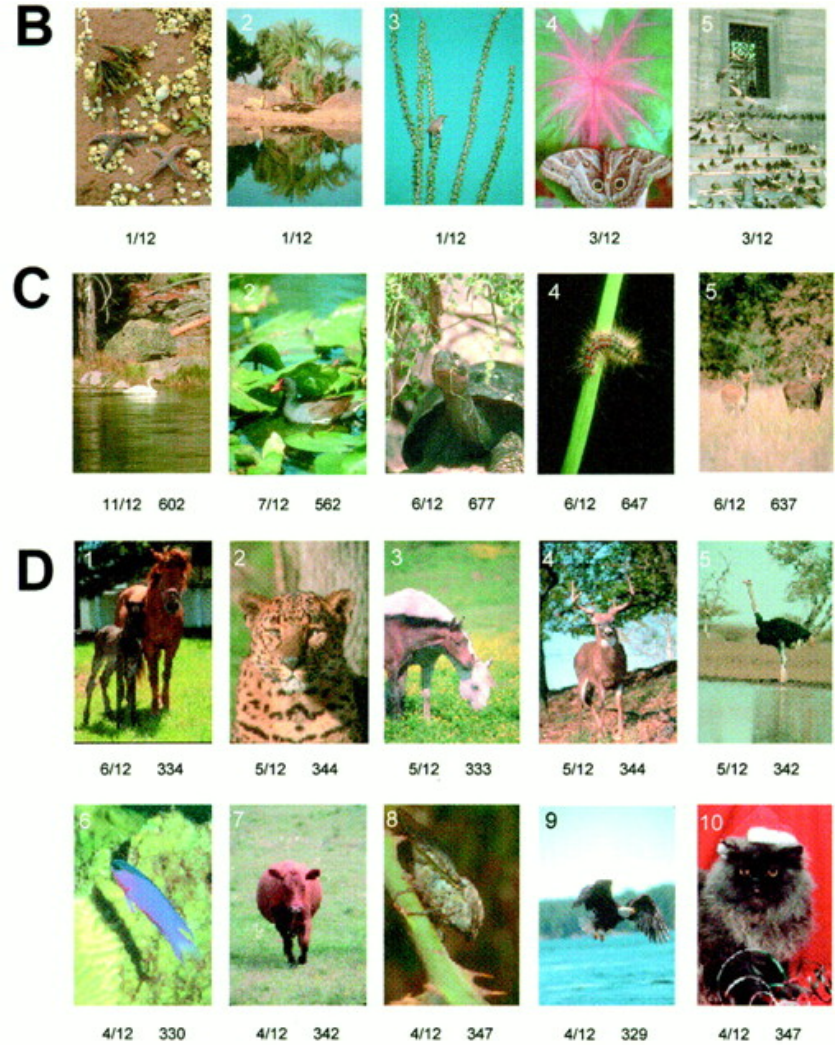
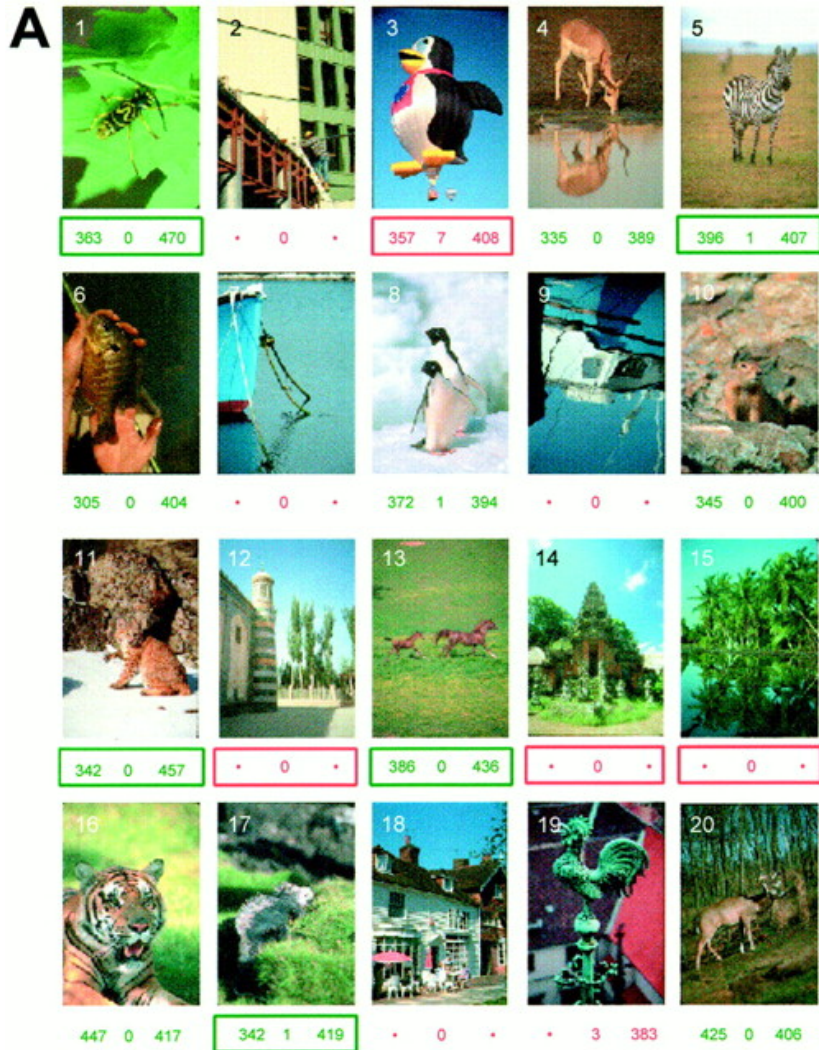
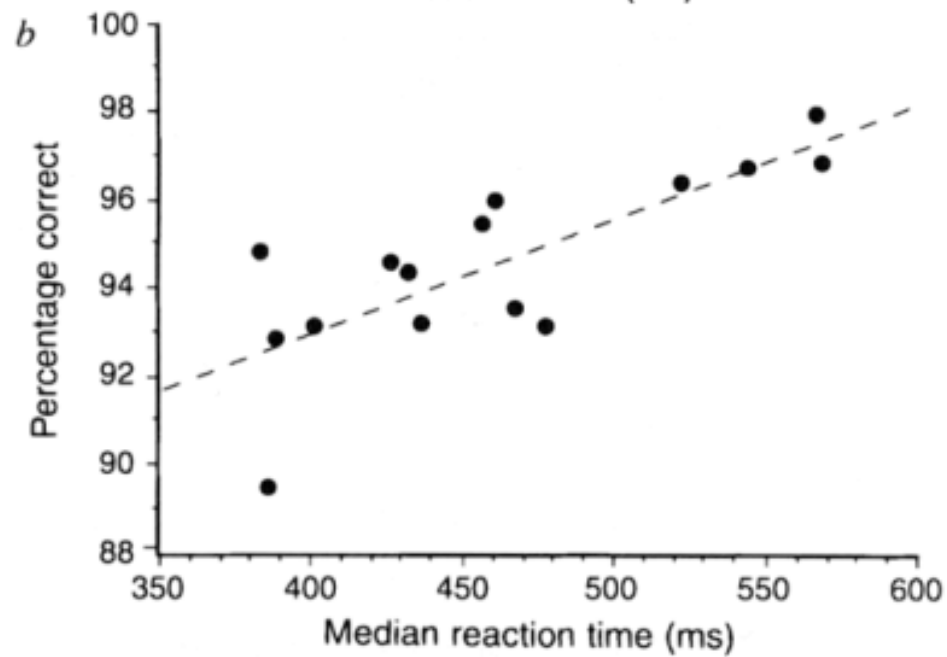
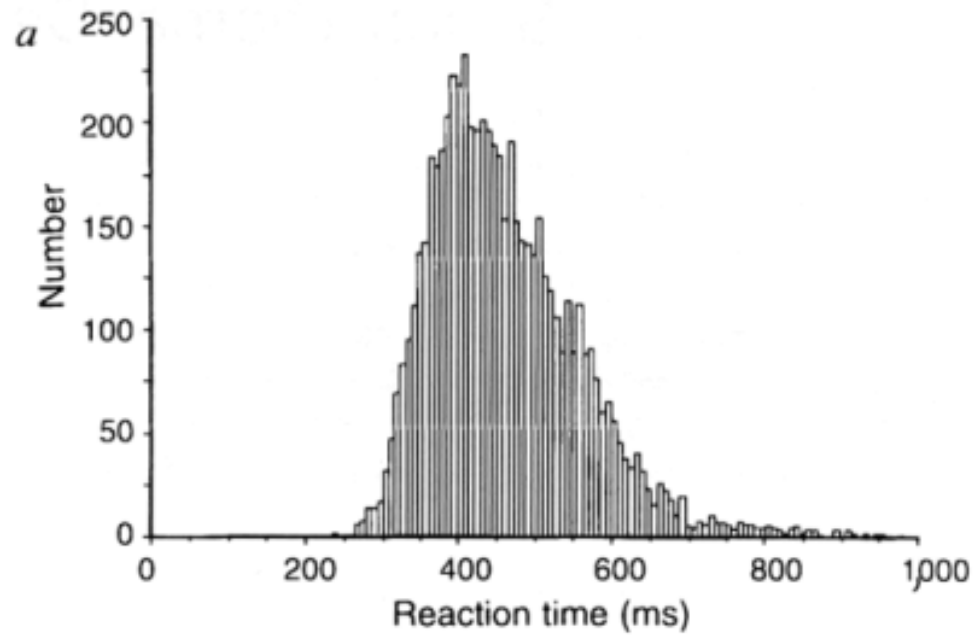


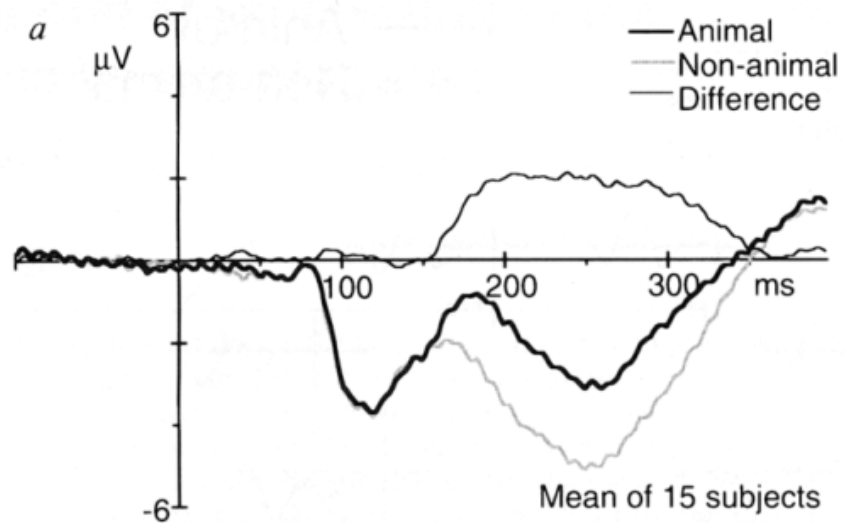
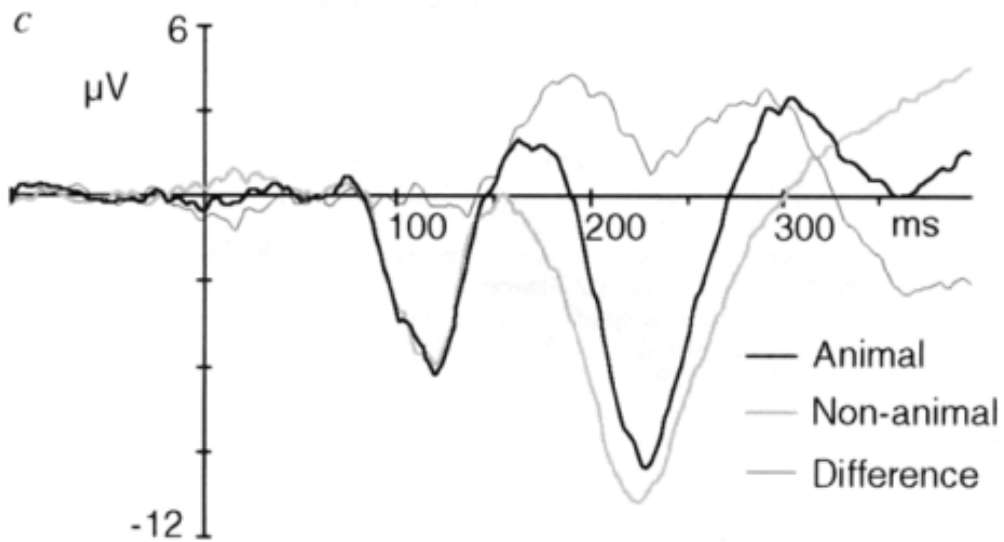
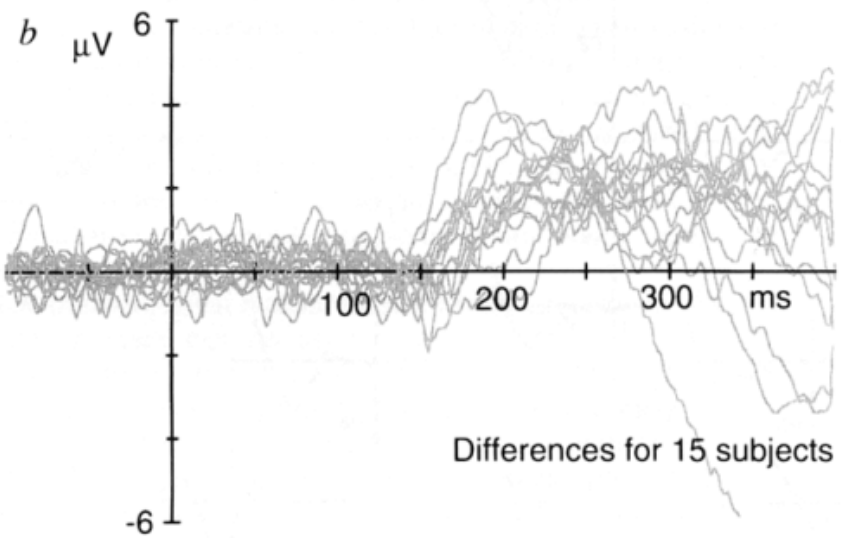
Processing speed of human visual system

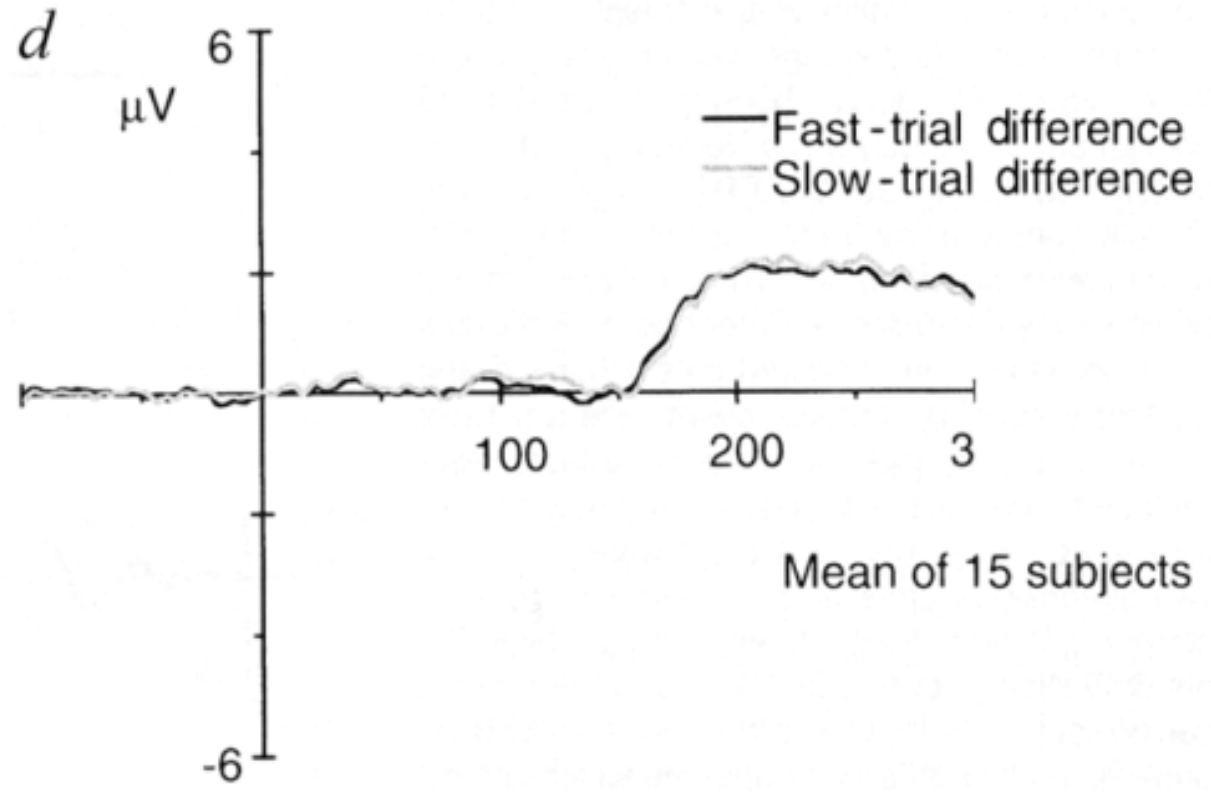
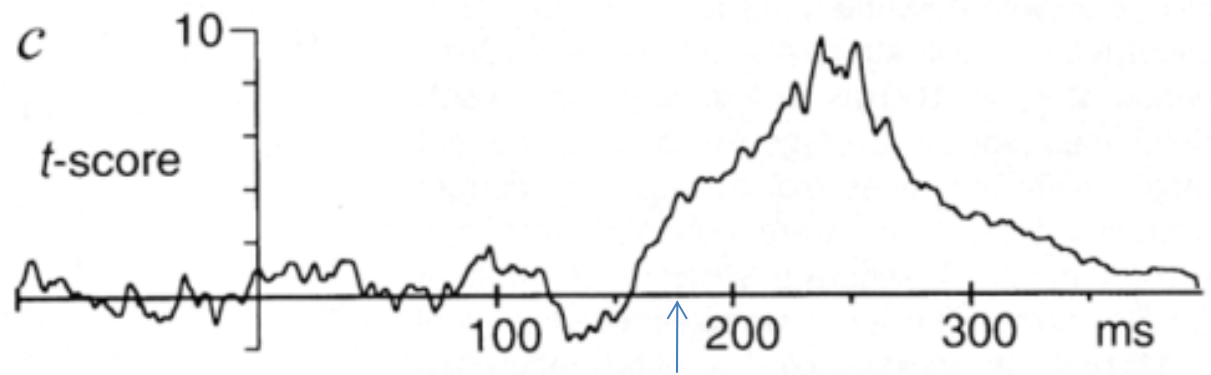
Thorpe, Fize, and Marlot

Go/No-go for animal







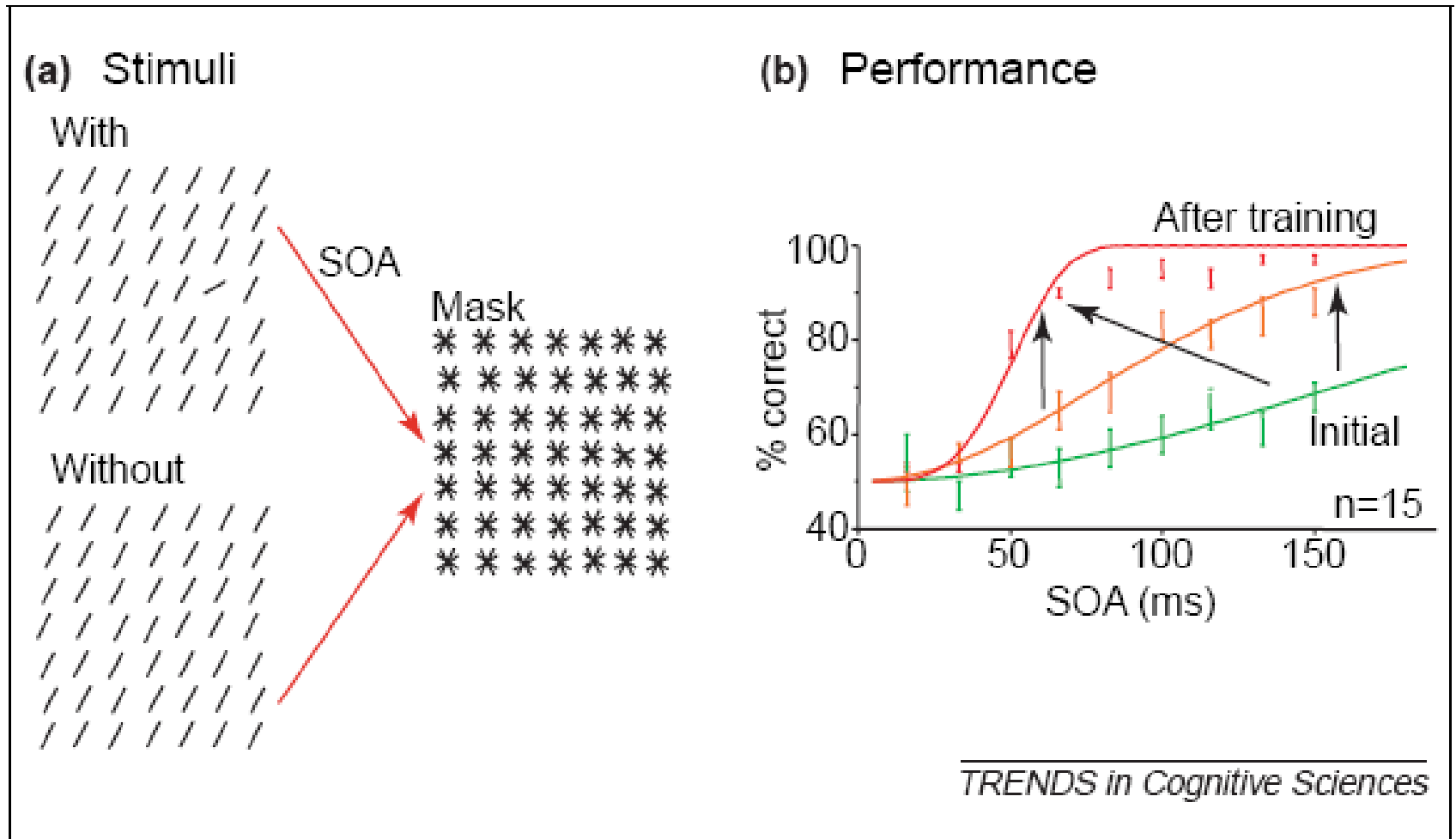


Reverse Hierachy Theory

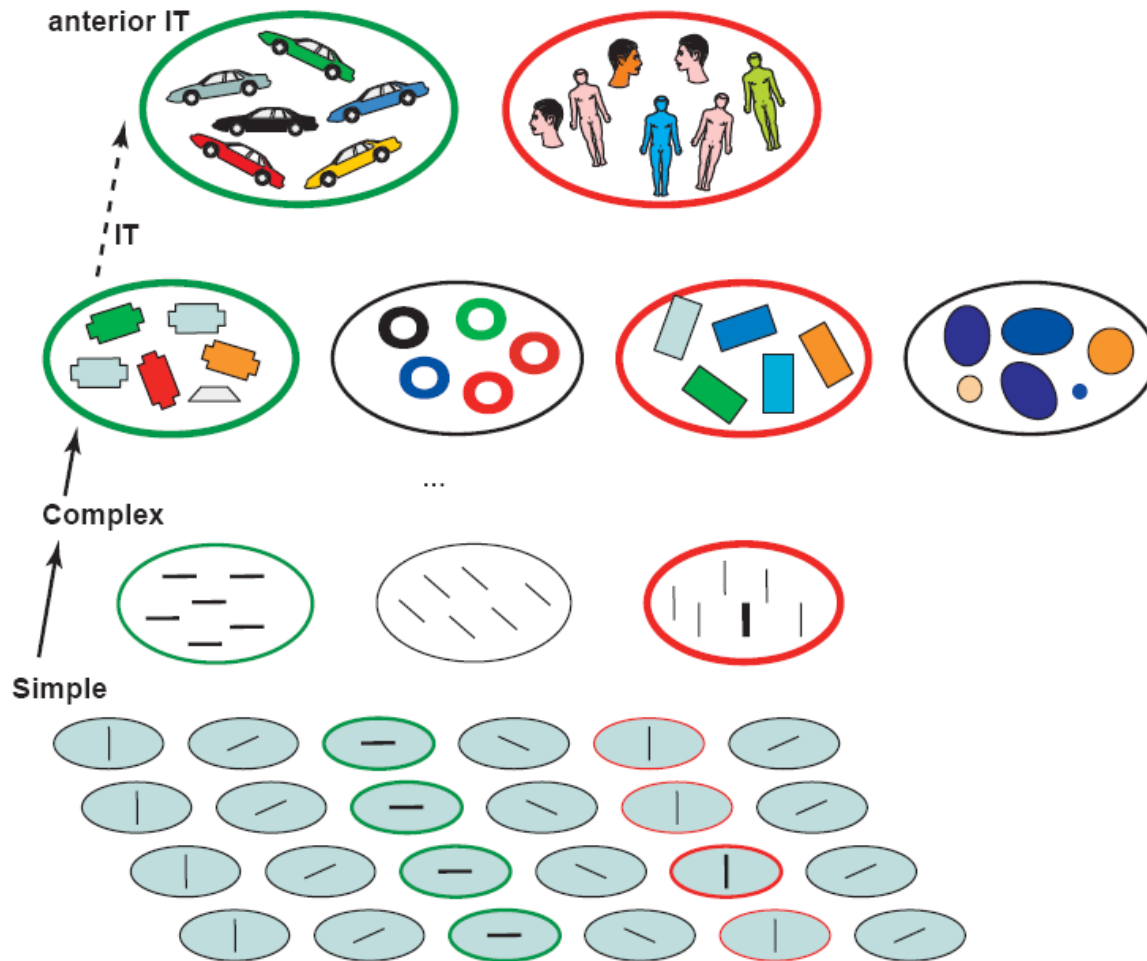
Ahissar and Hochstein

Presented by Hanlin Tang

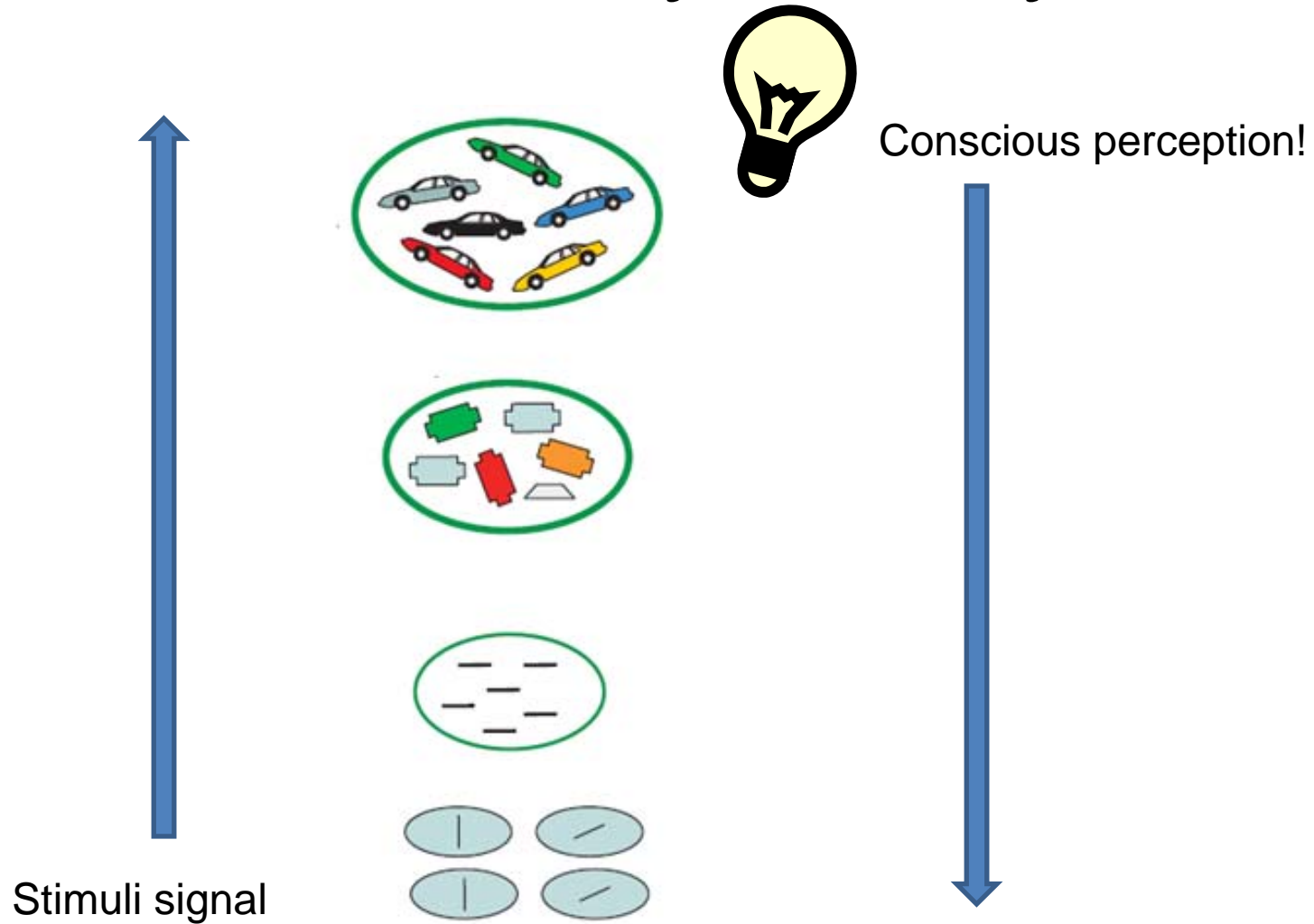
Perceptual Learning



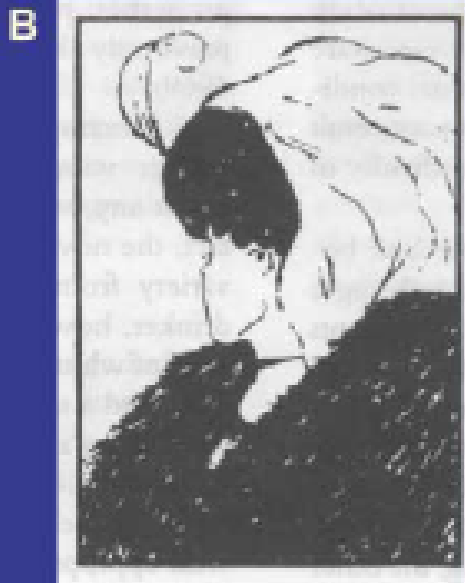
Organization



Reverse Hierarchy Theory



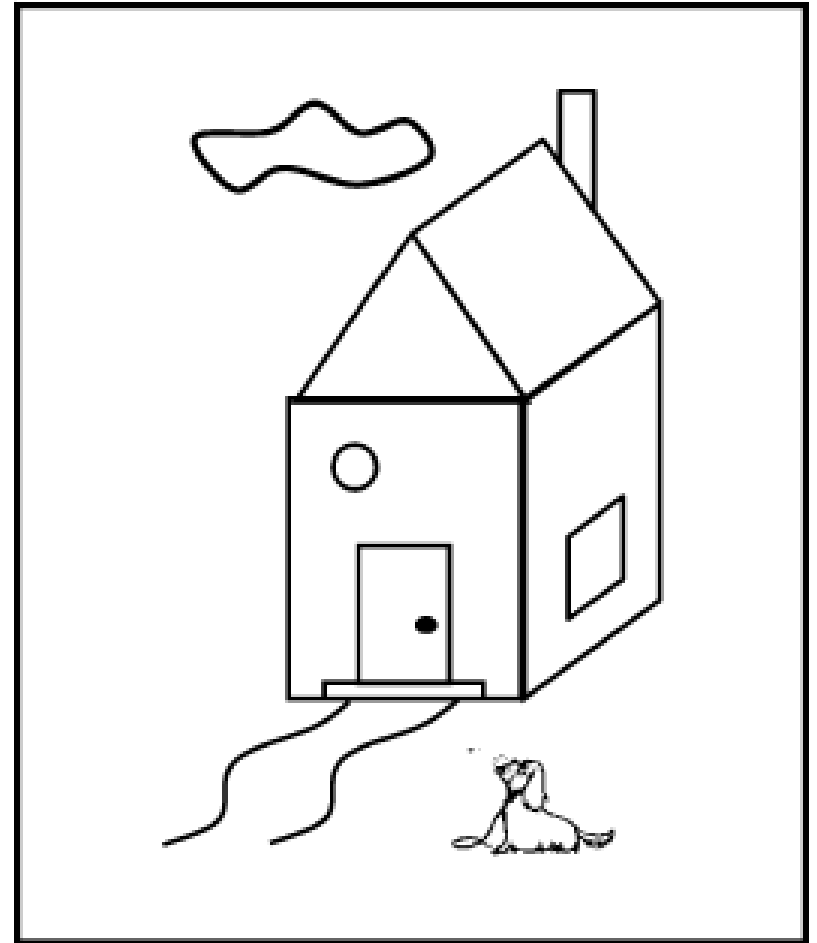
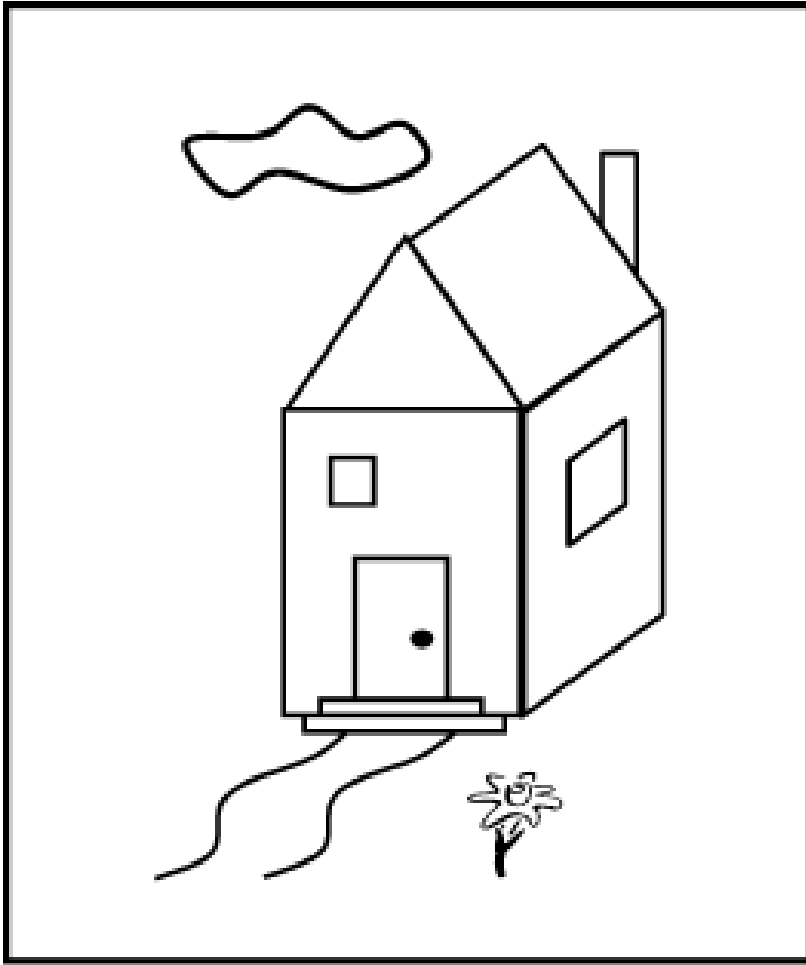
Motivations



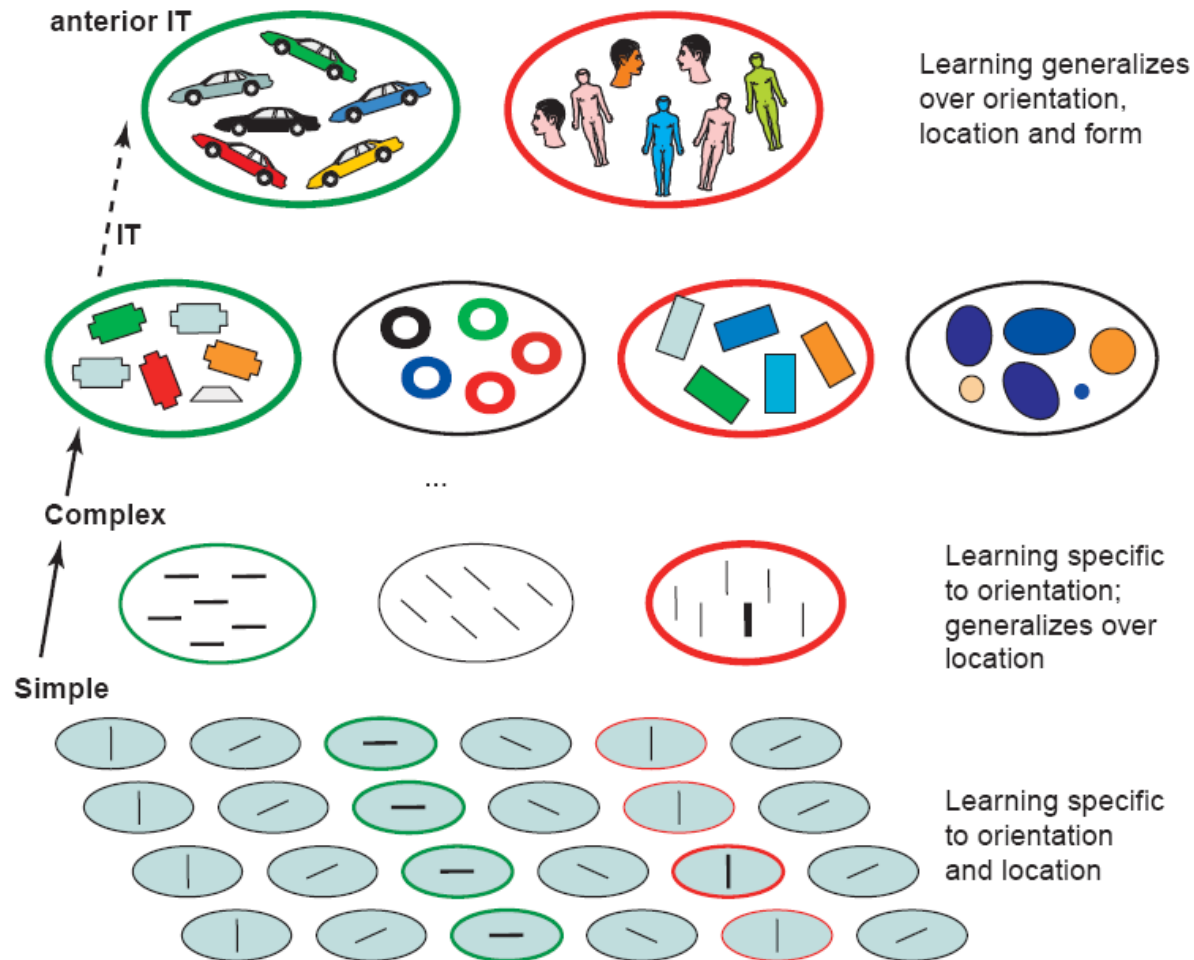
C

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F F	I I	T
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F F	I I	T

Motivations



Psycho-anatomy Logic

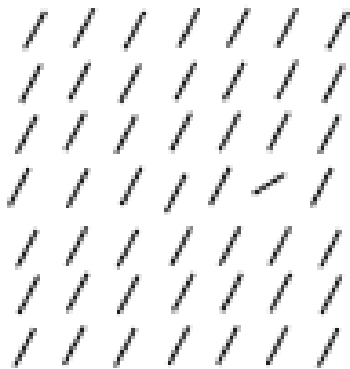




Learning with RHT

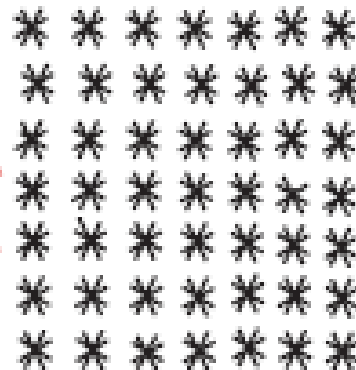
(a) Stimuli

With

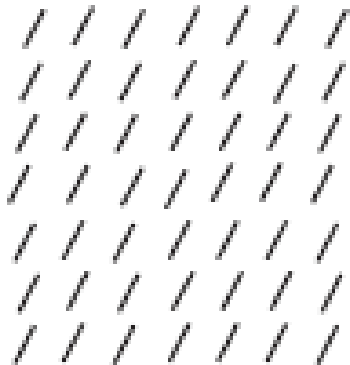


SOA

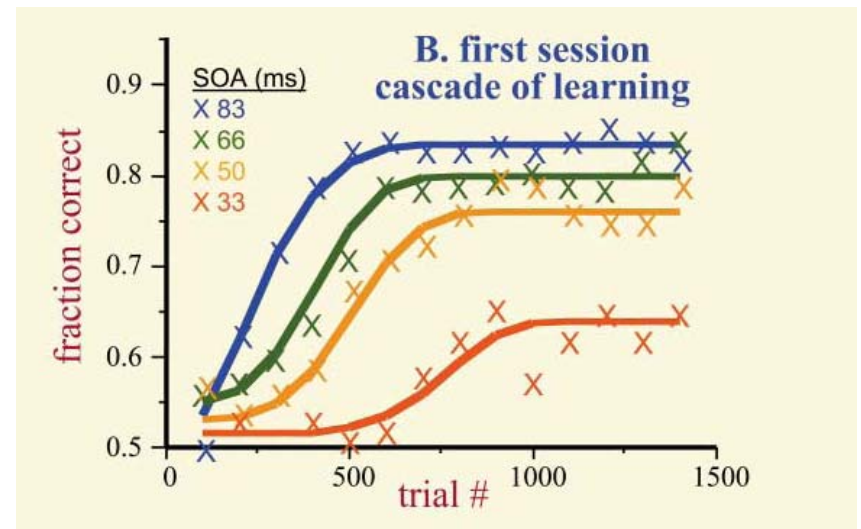
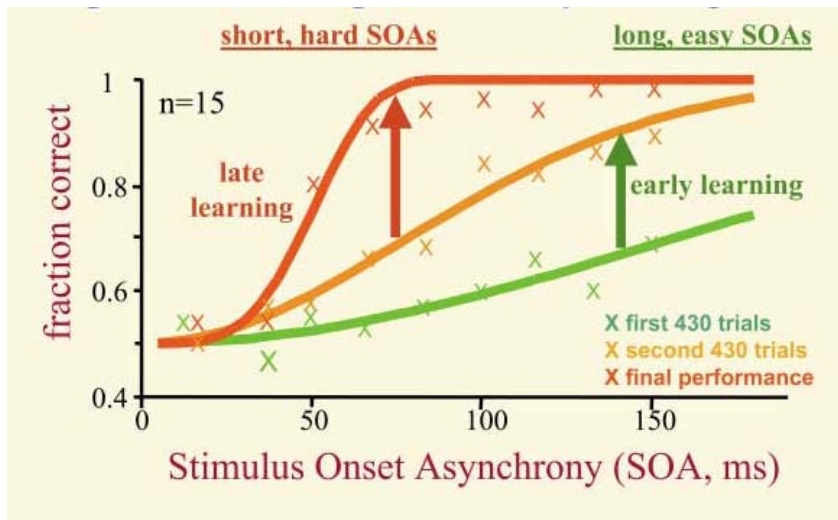
Mask



Without



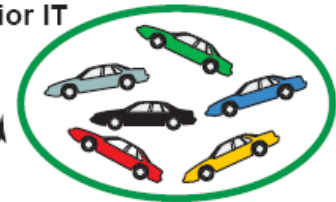
- Easy general, hard orientation-specific
- Learning easy before hard





Easy Cases →

anterior IT

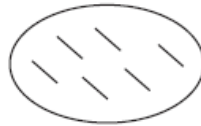


Learning generalizes over orientation, location and form

Learning cascade

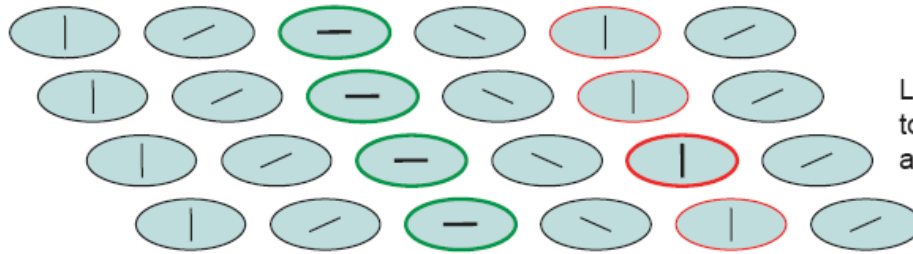


Complex



Learning specific to orientation; generalizes over location

Simple

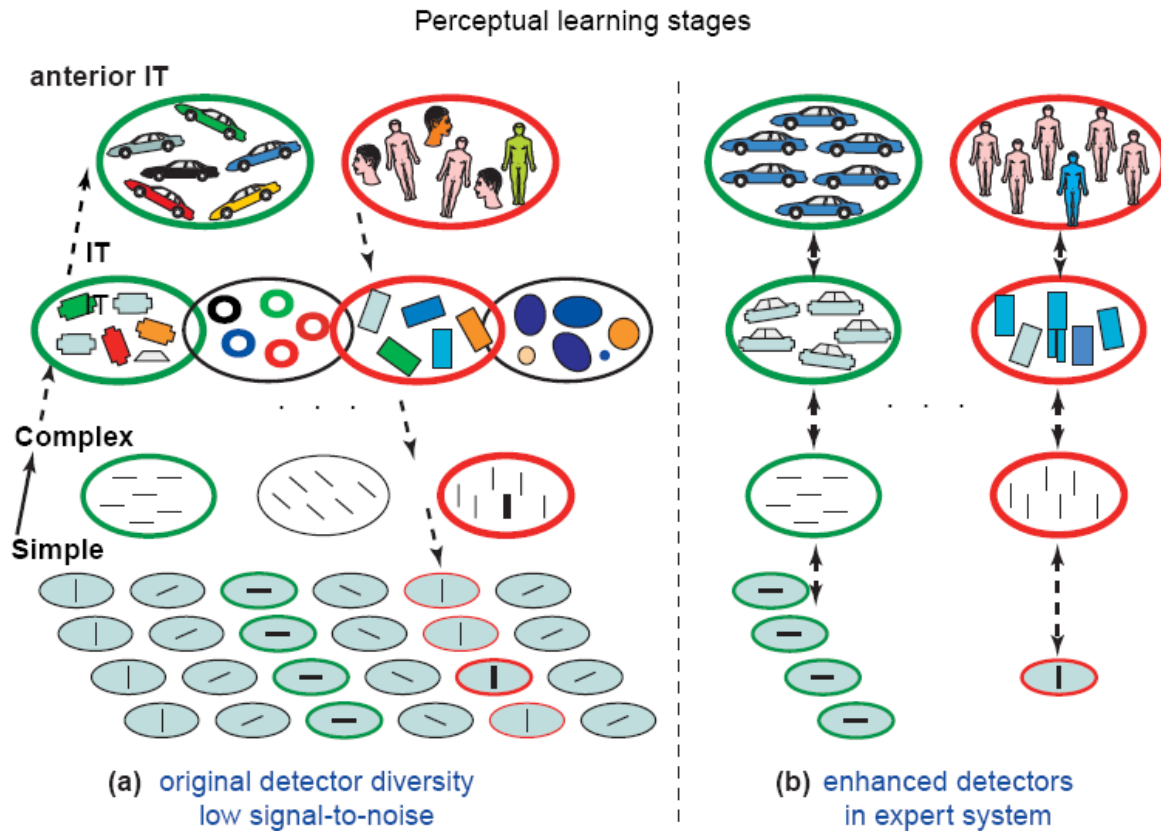


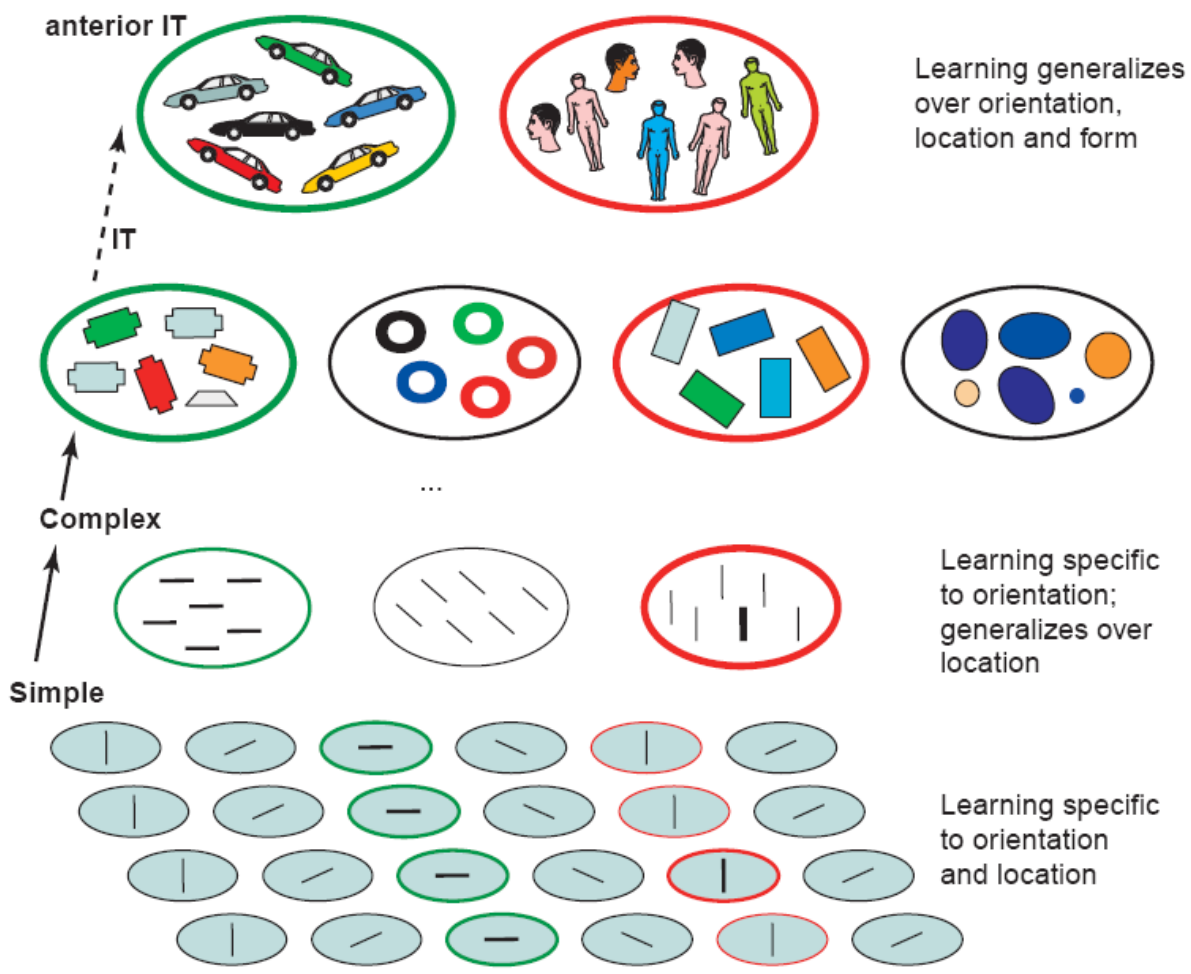
Hard Cases →

Learning specific to orientation and location

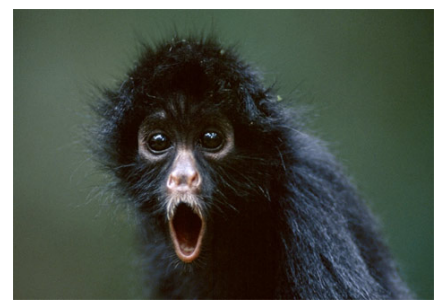


Becoming an expert

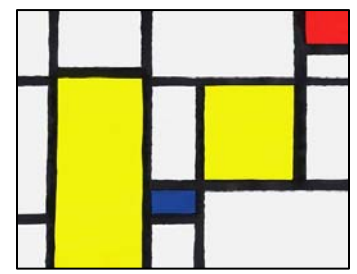




TRENDS in Cognitive Sciences



ECOLOGICAL RELEVANCE



Electrophysiological support

- Training on orientation difference begins with IT, and induces modification in receptive fields in V4 for narrower orientation tuning curves.
- Greater stimulus variability during training → lower likelihood of low-level modifications

RHT Learning Summary

- Top-down guided learning
- Ecological considerations first
- Not mutually exclusive with bottom-up adaption or other mechanisms