

Feature based vs. holistic processing

Composite Face Effect

Aligned Misaligned

Face Inversion Effect

Upright

Inverted

- identical top halves seen as different when aligned with different bottom halves
- when misaligned, top halves perceived as identical

- inversion disrupts recognition of faces more than other objects
- prosopagnosics do not show inversion effect

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Feature based vs. holistic processing

Whole-Part Effect

Whole

Part

Study

Test conditions

Identification of the "studied" face is significantly better in the whole vs. part condition

Which features are more diagnostic?

Eyebrows are important!

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View generalization mediated by motion?

✓ **Hypothesis:** Temporal association is used to link multiple views of a person's face

A

B

C

α β γ δ

-90° -45° 0° +45° +90°

image sequences were created that morph between two different faces

TRAINING

TESTING

Probe Target

12 female faces scanned for 3D shape and visual texture

performance within morph groups was compromised by temporal association

observers viewed morph sequences, back and forth

same or different person? (shown separated in time)

Wallis & Bulthoff, *PNAS*, 2001

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The power of averages (Burton & colleagues)

average "shape"

Morph

Improves accuracy in the recognition of famous faces

- PCA
- commercial system
- human experiments

average "texture"

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Faces everywhere...



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