Seeing and liking: Biased perception of ambiguous figures

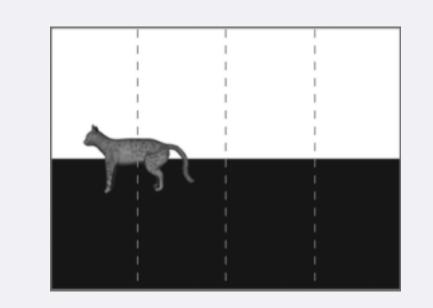
Perception & Cognition based on aesthetic preferences for how objects should face within a frame

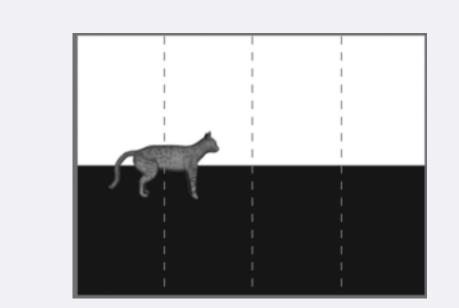
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Motivation

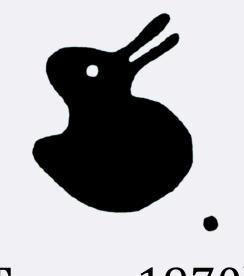
Inward Bias

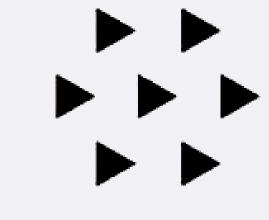
We prefer an object in a frame more if the object is facing inward toward the center (vs. outward) (Palmer, Gardner, & Wickens, 2008)





Perception of Ambiguous Figures





(Torrey, 1970)

(Attneave, 1968)

Do aesthetic preferences influence perception?

Our Question

Method

Task

Press a key or click the mouse to indicate...

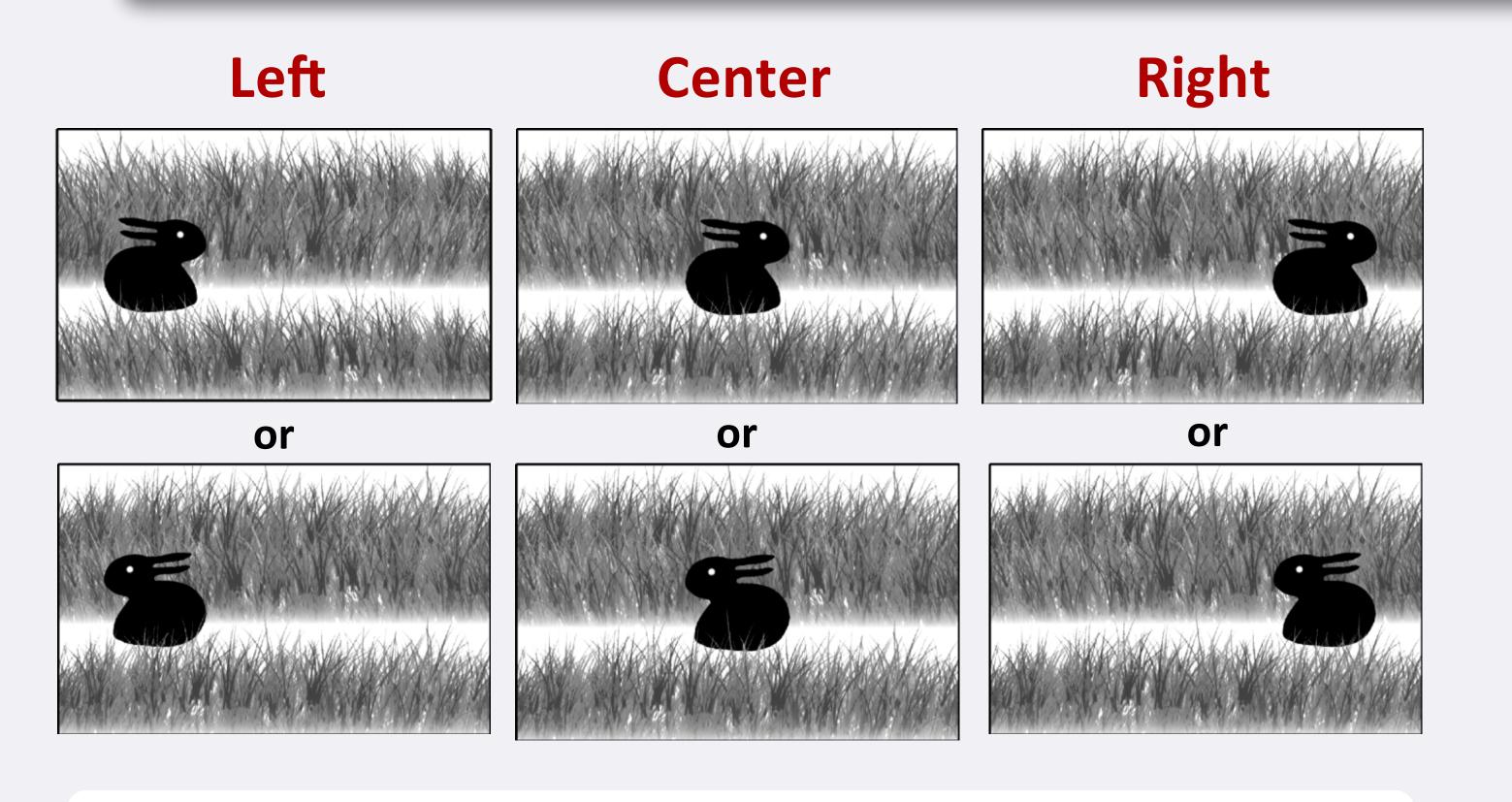
Exp1: ...whether you see a duck or a rabbit

Exp2: ...which direction you see the triangle pointing

Dependent variable

First percept: % of each interpretation seen first Total duration: % of each interpretation seen overall

Expt 1: Do you see a duck or a rabbit?



Conclusion

Interpretations of ambiguous figures are chosen to make them face inward in a frame.

First Percepts Percepts: Facing Left

Position in frame

Total Duration Percepts: Facing Left Percepts: Facing Right

Position in frame

Conclusions

Inward Bias in Perception

VSS 2013

Inward biases in aesthetic preferences can also influence perception of ambiguous figures.

Aesthetics and Perception Interact

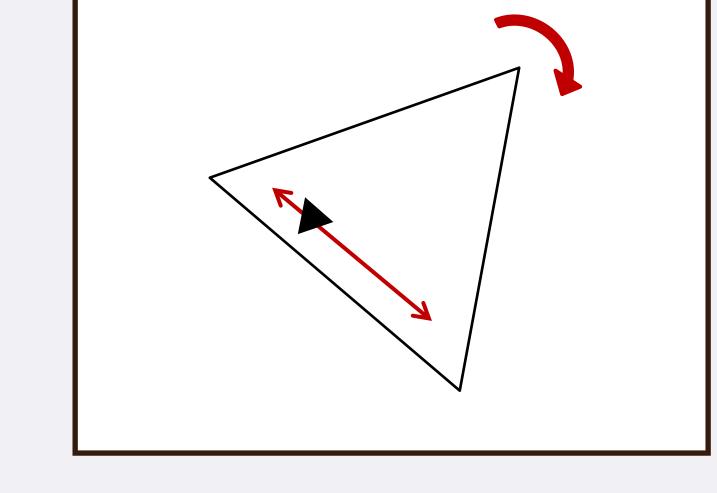
Aesthetic preferences are not epiphenomenal!

Future Directions

Individual differences

By assessing individual differences, we will be able to correlate inward biases in aesthetic preferences to those in perception.

Expt 2: Which direction do you see the small triangle pointing?



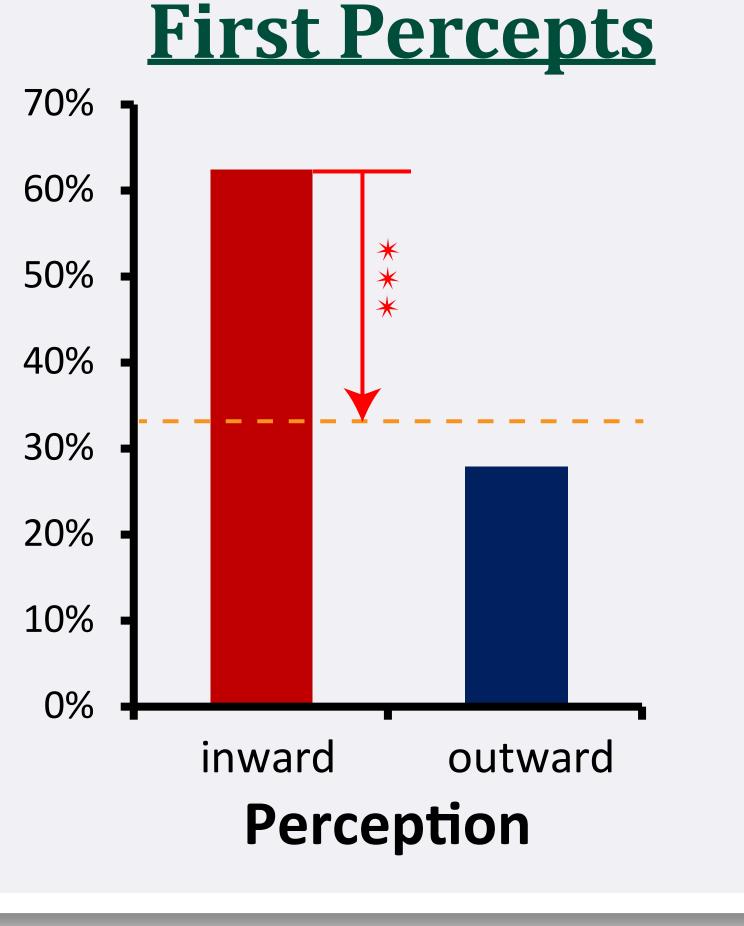
Upright

Inverted

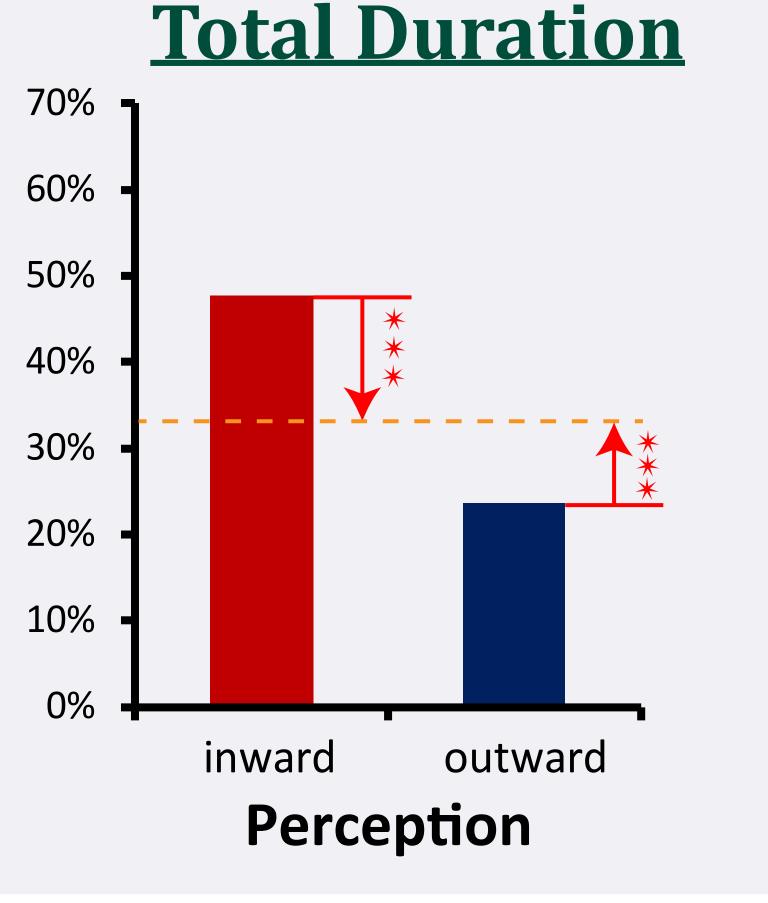
The orientation of the frame and the position of the ambiguous triangle are randomized

Conclusion

The effect persists even with simple stimuli without any semantic content.



Position in frame



References

Attneave, F. (1968). Triangles as ambiguous figures. American Journal of Psychology, 81,

Palmer, S. E., Gardner, J. S., & Wickens, T. D. (2008). Aesthetic issues in spatial composition: Effects of position and direction on framing single objects. Spatial Vision, 21, 421-449.

Torrey, C. C. (1970). Trace localization and the recognition of visual form. *American Journal of* Psychology, 83, 591-600.

Reprint?