

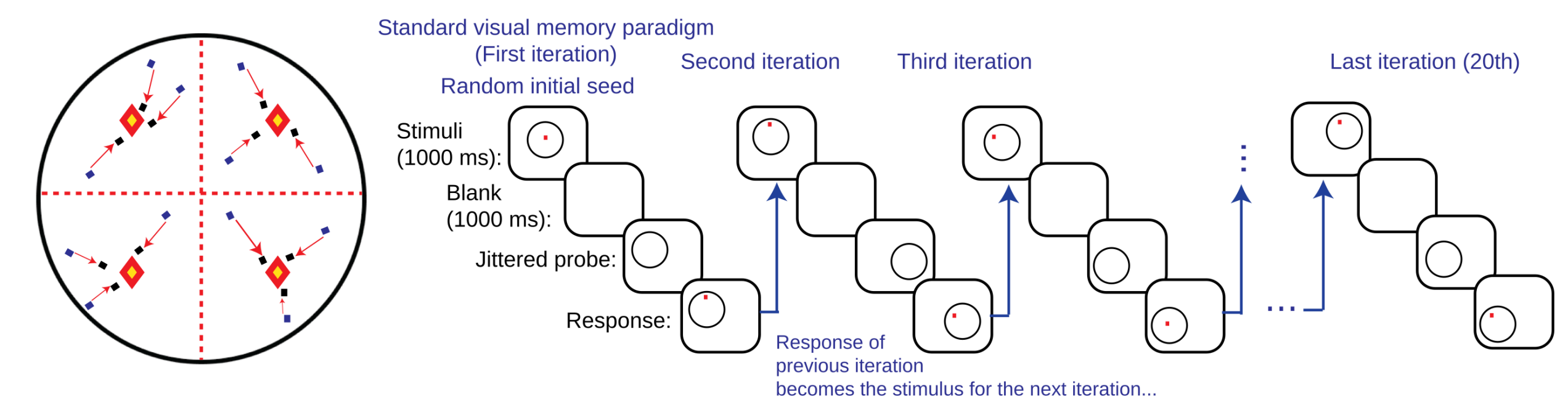
# Orthogonal multi-view three-dimensional object representations in memory revealed by serial reproduction

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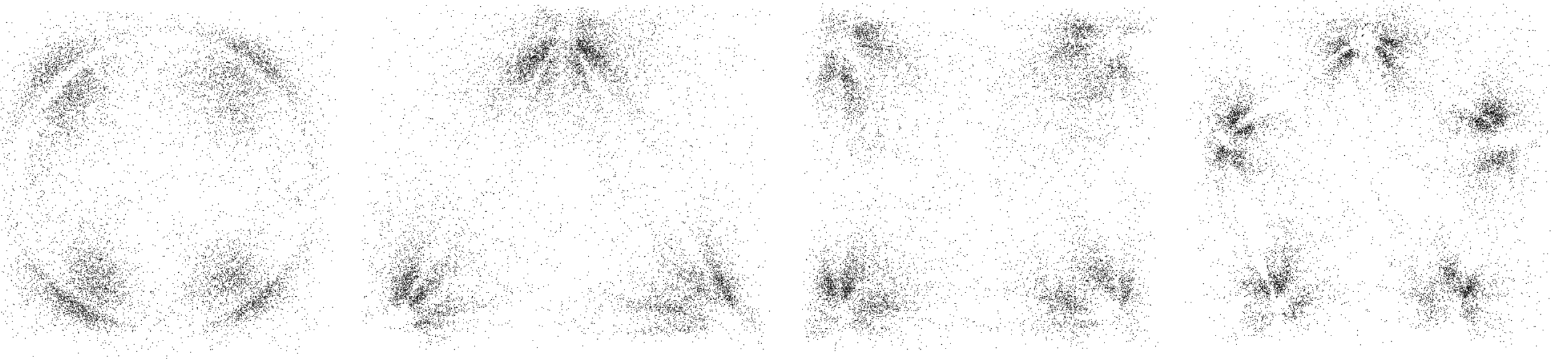
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## BACKGROUND

Prior work utilized crowdsourced transmission chain experiments to study spatial memory biases



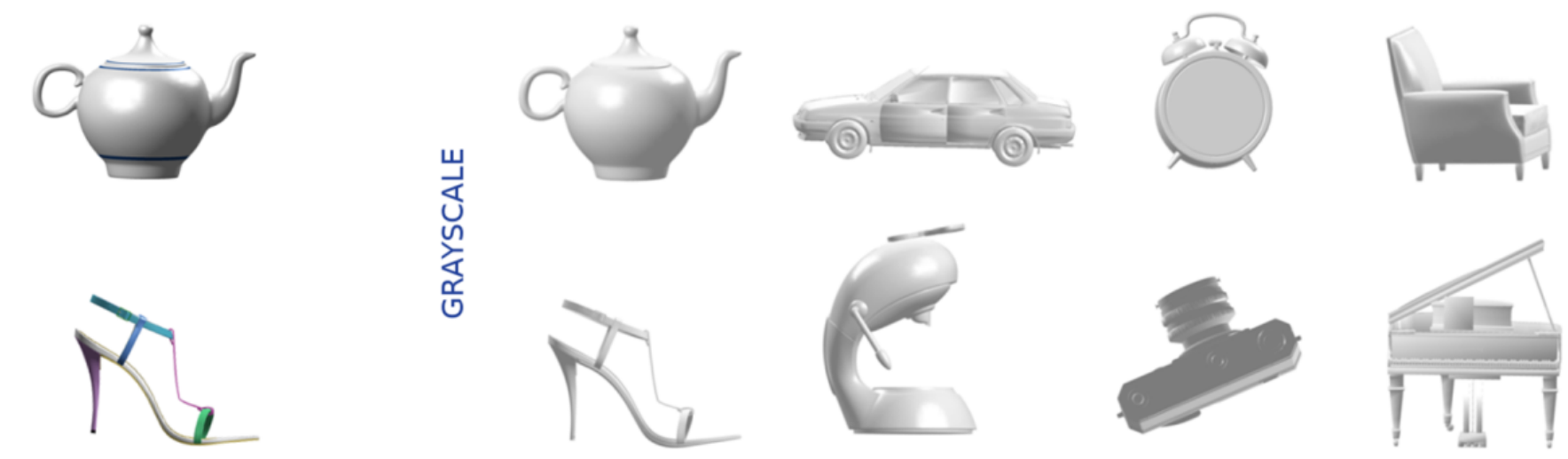
This non-parametric technique proved effective at revealing nuanced and structured patterns



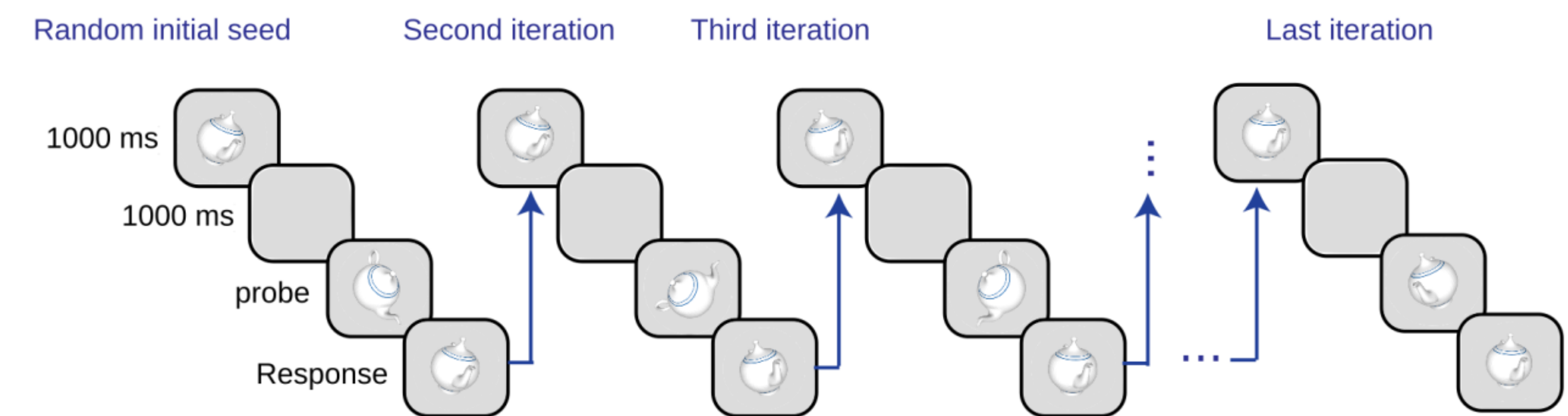
QUESTION: Can the same tool be used to uncover structured biases in 3D orientation memory?

## EXPERIMENTAL DESIGN

3D Objects used in the memory experiments



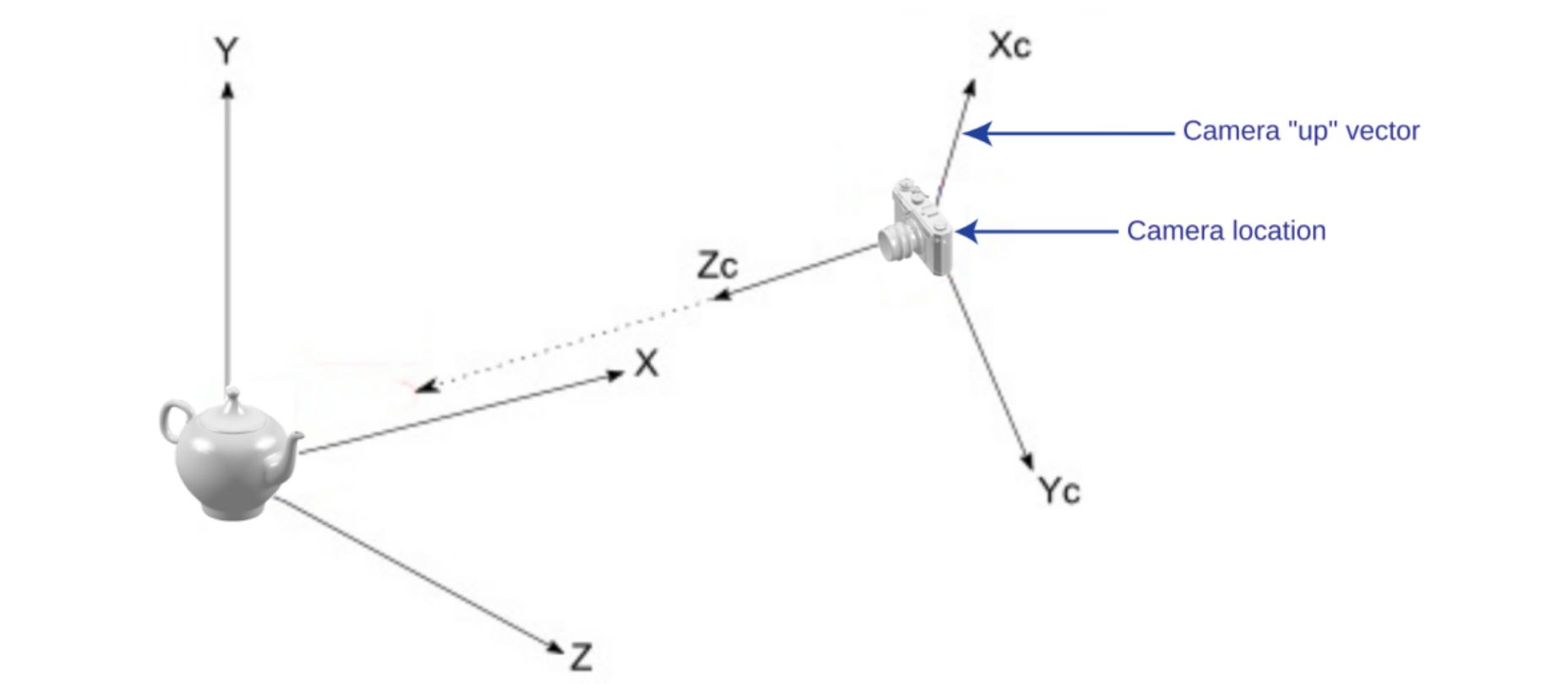
Transmission memory chain



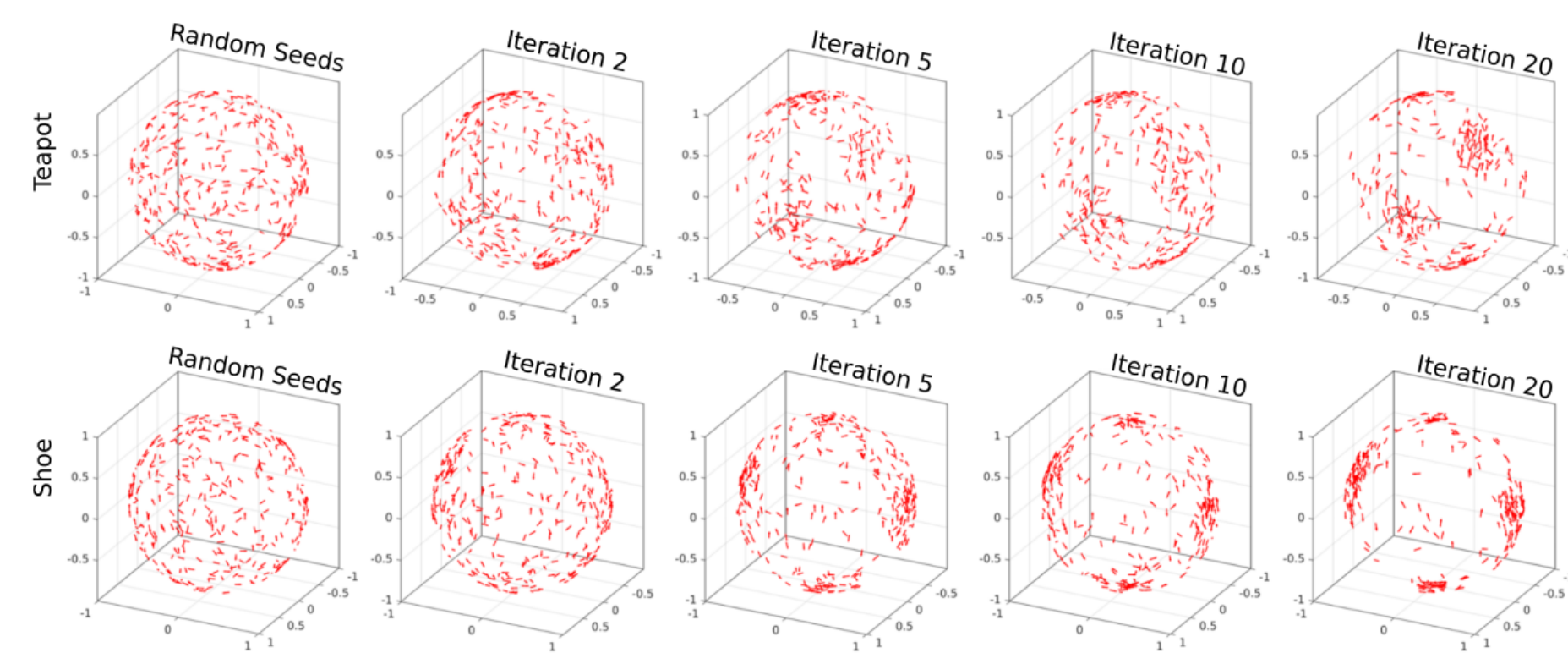
Transmission chain: a participant's remembered 3D orientation becomes the next stimulus

## GLOBAL CAMERA LOCATION BIASES

3D perspectives: global camera position and local frame orientation:



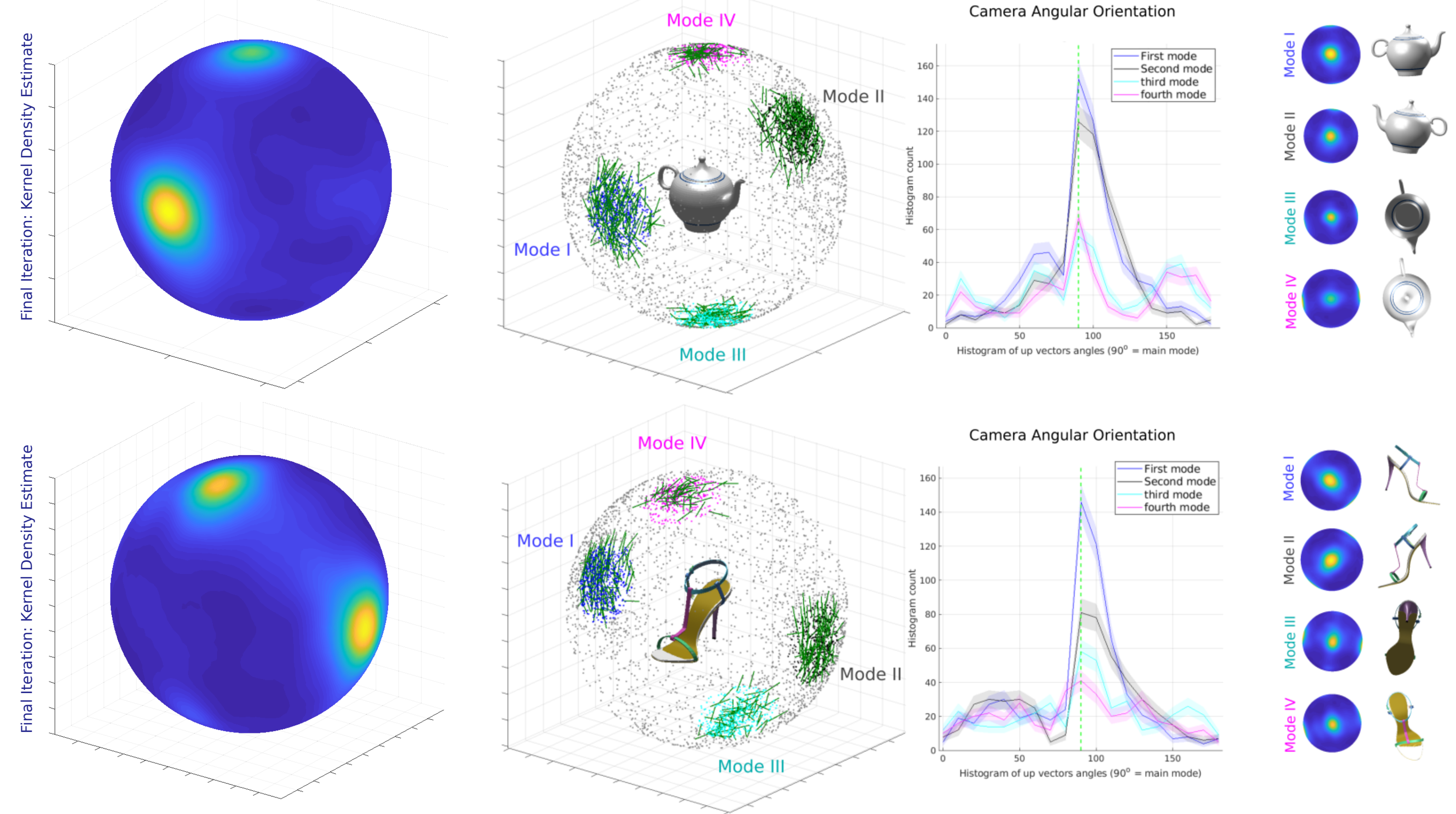
Initial uniform seeds, and distribution of views in chain iterations



Transmission chain results reveal biases towards orthogonal views

## LOCAL CAMERA ORIENTATION BIASES

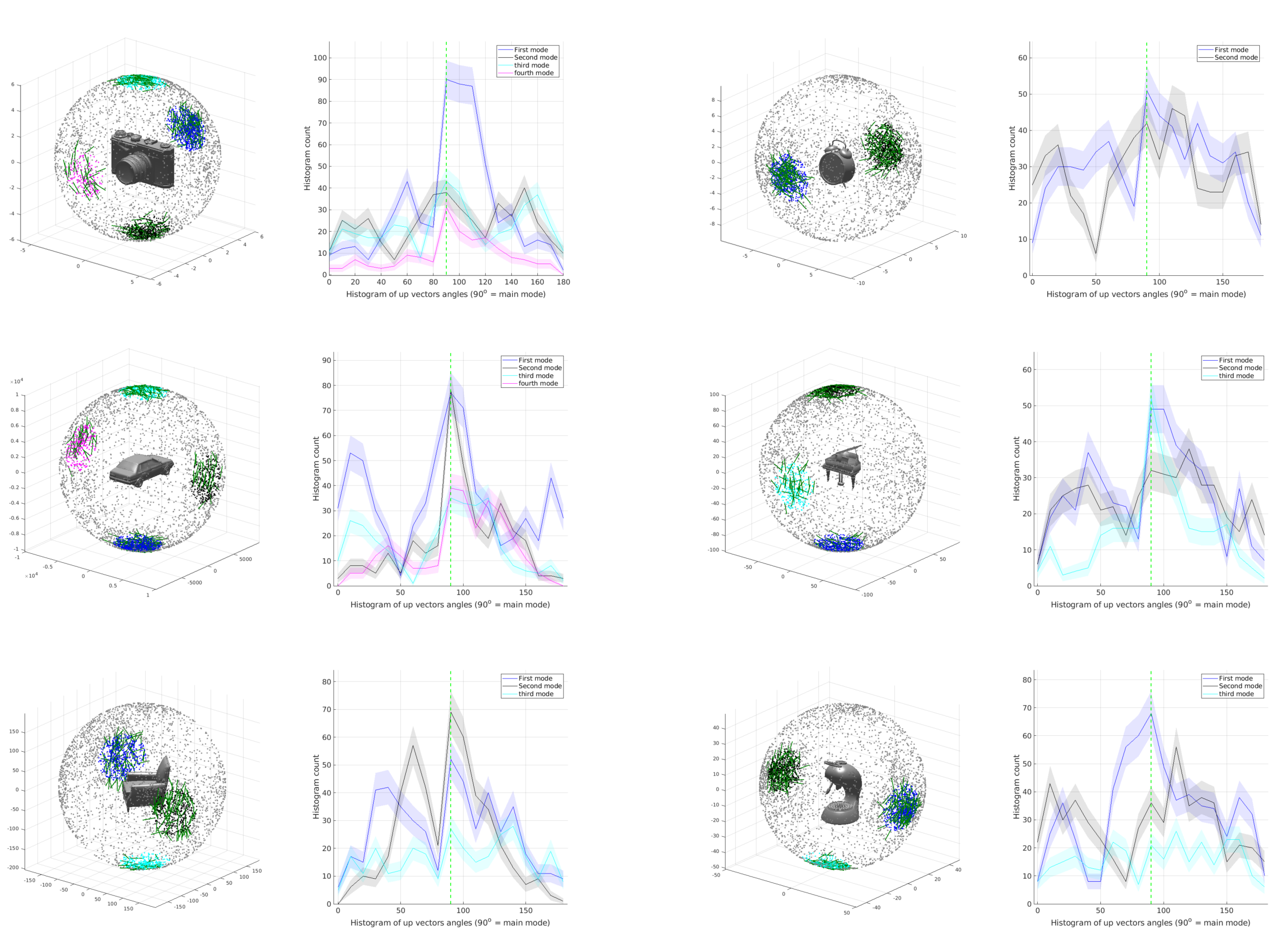
Memory biases: global camera views and local camera orientations



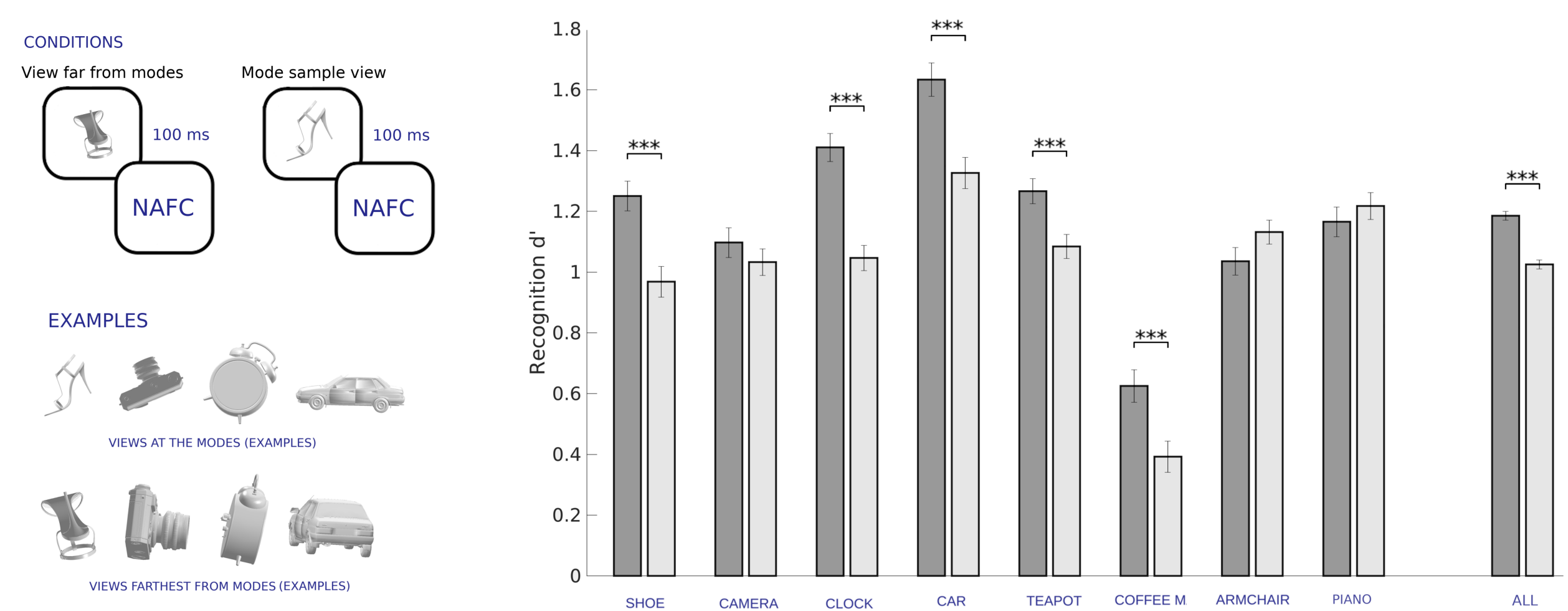
Transmission chain results also reveal an interaction: viewpoint-specific biases of the local camera orientations

## MORE RESULTS

Transmission chain results reveal biases towards orthogonal views for different grayscale objects



## RECOGNITION RESULTS



## ACKNOWLEDGMENTS

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