

# Individual Differences in Artistic Capture of Peripheral Appearance

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The appearance of objects viewed in the periphery strongly differs from their appearance in central vision. However, precise characterizations of peripheral appearance are still lacking. Here, we investigated peripheral vision with a gaze-contingent drawing paradigm to shed light on appearance characteristics in the peripheral visual field. Our results show what is - and what is not - consistently extracted from the visual periphery, and illustrate the variance of peripheral appearance in different observers.

## METHODS

Art students were presented with a picture consisting of a range of geometric shapes. The picture was presented at 12 degrees eccentricity in the right visual field. Eye tracking ensured that the image was only presented when observers fixated a central fixation dot.

## TASK

Participants were asked to capture peripheral appearance as accurately as possible by making drawings that looked as similar as possibly in central vision as the presented image in the periphery.

## RESULTS

The resulting images strongly differed from the presented images. Differences were more pronounced in cluttered image regions (i.e., crowding), and increased with eccentricity. There were strong inter-individual differences, again increasing with clutter and eccentricity. While salient features were maintained by most participants, the location, shape, extent and number of the features varied strongly.

## DISCUSSION

Our results show characteristics of peripheral appearance. While individual differences are partly due to perception and partly to production, we suggest that the images give a good first pictorial account of variability in peripheral appearance. As part of our interdisciplinary course on visual perception, gaze-contingent peripheral drawing showed to be valuable for deepening art student's realization and implementation of drawing what is "seen", not what is "known".

