

Name of Symposium:

Eye movements and the peripheral retina: Yarbus's ideas and current data

Far peripheral vision and pattern recognition

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Peripheral vision has been studied quantitatively for over a century yet relatively little is known about the far periphery. Ironically, many current textbooks give values of the lateral extent that are too small, below 90°, even though correct values of around 110° (due to refraction of the lateral rays) were reported by Hueck in 1840). Eccentricity dependencies for visual performance measures like MAR, letter contrast sensitivity, critical crowding distance etc. vary widely between functions but their study typically stops at the mid periphery, 60° at most. Only studies from the perimetry tradition, like Zigler et al. (1930) or Collier (1931), studied the full visual field for form vision. Yet with the introduction of intraocular lenses the far periphery has regained interest because patients often experience strange shadows at their visual field border, termed negative dysphotopsias. Here I review knowledge on peripheral vision, on peripheral form recognition, and crowding, with an emphasis on large eccentricities.

Teaser

Textbooks often state the extent of the visual field smaller than it really is. Here is a review of knowledge on peripheral vision and on peripheral form recognition and crowding, with an emphasis on large eccentricities.