

Of places and faces – cortical visual disorders

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Session SST16

T7B Neuro-ophthalmology

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Disclosures: none

## Learning objectives

- to review the various disorders that can lead to topographic disorientation:
  - Place agnosia
  - Impaired cognitive map formation and use
- to discuss the new disorder of developmental topographic disorientation.
  
- to discuss models of face recognition
- to review the various variants of prosopagnosia, including:
  - Apperceptive
  - Associative
  - Amnestic
  - Developmental
- to discuss object specificity and the relation of visual word to face recognition

## Key messages 1. **Topographagnosia**

- Topographic orientation is a complex task that can be solved through a number of routes, and draws on a number of cognitive operations.
- Correspondingly topographic disorientation can occur for a number of reasons, including failure to recognize landmarks, inability to situate those landmarks in a mental map, and inability to orient oneself in an environment.
- Subjects can be born with poor navigational skills, and often this developmental variant is due to impaired ability to form and use a cognitive map.
- Acquired topographagnosia occurs with both occipitotemporal and anterior temporal lesions, mainly of the right hemisphere, and is a common accompaniment of prosopagnosia.

## Key messages 2. **Prosopagnosia**

- Face recognition is an equally complex task that also draws on a number of cognitive operations.
- Models of face recognition include a series of sequential stages. Failure can occur at any stage, resulting in one of several variants of acquired prosopagnosia. These include:
  - a) Apperceptive form, in which the face is not perceived in sufficient detail
  - b) Associative form, in which an accurate percept cannot be linked to intact facial memories
  - c) Amnestic form, in which facial memories are degraded.
- A developmental variant may affect as many as 2% of the population.
- Whether non-face object recognition can be completely spared in prosopagnosia is a contentious issue. Several conceptual and practical issues stand in the way of a definitive answer.
- Face and visual word processing have interesting parallels. The two hemispheres participate in processing both, but show a degree of specialization so that right and left sided damage differ in what sort of deficits are found.