

CONSCIOUSNESS 3

REPRESENTING THE WORLD FROM A POINT OF VIEW

- Mental representations are subjective insofar as they involve a point of view
- Photographs are always from a point of view
 - They specify where the viewer is with respect to what is photographed
 - Albeit not precisely



AERIAL PERSPECTIVE

- Distant objects are portrayed as fainter, hazier, and bluer than those closer
- Provides information about where one is with respect to what is represented

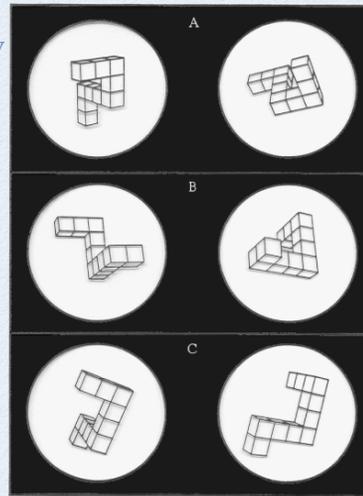


EGOCENTRIC MENTAL REPRESENTATIONS

- Mental representations, like photographs, can specify a viewpoint
 - When we represent something in vision we represent it from a perspective
 - When we imagine seeing something, we imagine it from a perspective
- We can also represent objects allocentrically
 - You can describe an object's features without saying how you are situated with respect to it
 - My computer has a silver case, 13 inch screen, 2 USB connections, one audio connection, has an Intel processor, Has 4GB memory, etc
 - That is not perception, but knowing

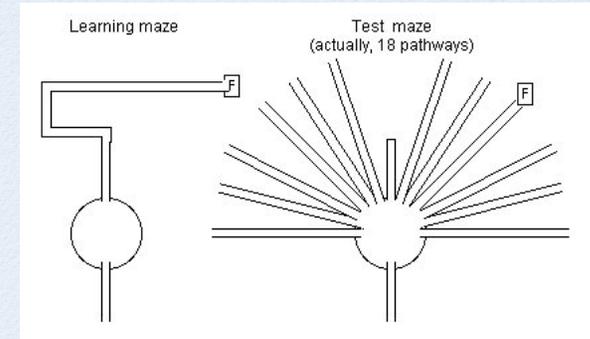
SHEPARD'S MENTAL ROTATION STUDIES

- Shepard and Cooper argued that people employ visual mental representations by showing that the time it took people to answer the question whether two objects were the same depended on the amount they were rotated
- Mandik treats this as evidence that viewers represent things from points of view
- And can modify their point of view by, e.g., rotating the object in one's imagination



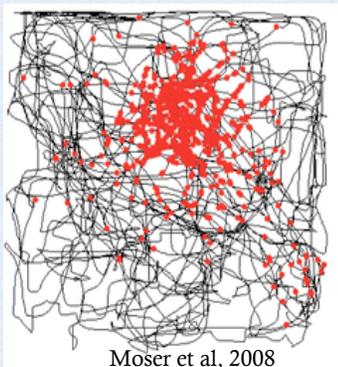
ALLOCENTRIC VERSUS EGOCENTRIC NAVIGATION

- If a normal rat learns the maze on the left and then is placed in the start box of the one on the right, it will pursue the most direct route to the target
- But a rat with a hippocampal lesion will try to follow the same route
- Two navigational systems
 - One representing the external layout
 - The other the layout from the organism's point of view



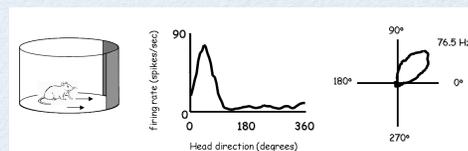
PLACE CELLS AND HEAD-DIRECTION CELLS

- In the hippocampus and surrounding regions, cells have been identified that respond to allocentric place and egocentric head direction



Moser et al, 2008

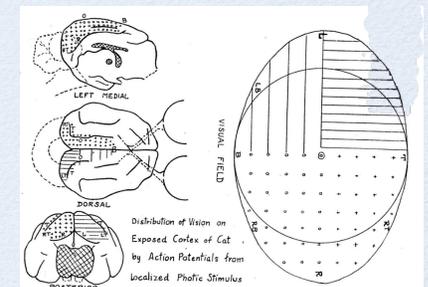
Place cells in the hippocampus



Head direction cells in post-subiculum, entorhinal cortex, thalamus, etc.

MANDIK'S ACCOUNT OF SUBJECTIVITY

- Mandik characterizes representations as subjective if, in addition to having the function of carrying information about what is represented, it also has the function of carrying information about the relation of the represented to the subject
 - When run off-line, as in mental imagery, it is the perspective the imager takes with respect to what is represented
- Example: Topographical representations in visual areas that preserve (with distortion) relations in the visual field
- Example: recall an past experience
 - Do you see yourself in the experience?
 - Or do you imagine it as you saw it?



Talbot and Marshall, 1941

MARY, INDEXICALS, AND PICTORIAL REPRESENTATIONS

- A common response to Jackson's Mary argument is that Mary does not learn any new facts when she experiences color
- She merely learns to pick out the color with a different indexical
 - No different from you only being able to refer to the site of the Egyptian pyramids as *there* until you actually go there. While there you can speak of them as *here*.
- Mandik: Mary has learned a new subjective physical fact
 - A fact about a subjective point of view that can only be represented from that point of view
 - Yet, it is a physical fact about the brain that it can represent things from points of view

