Visual knowledge

Announcements

• In Chapter 11, these will not be on exam 3:
  – Spatial Images and Visual Images (pp. 351-352)
  – Long-Term Visual Memory (pp. 361-end)
• Exams will be handed back in shifts:
  – S-Z on 4/05
  – I-R on 4/07
  – A-H on 4/12

Two types of representation

Are they different in the brain?

• Behavioral approaches:
  – Mental chronometry: Measure response time
  – Do longer distances in images lead to longer response times?
• Neuroimaging approaches:
  – Do the same brain regions support perception and imagery?
• Yes (both approaches converge)
Mental rotation
(Shepard & Metzler, 1971)

Interpretation

- The further you have to rotate the images to try to match them, the longer it takes
  - The further you rotate a physical object, the longer it takes
  - So images share a characteristic of physical objects
- Similar results from mental scanning times
  - “Kosslyn’s Island” (Fig. 11.1)

That picture...

Boundary extension
(Intraub & Richardson, 1989)

- Boundaries were extended in almost all drawings
  - 96% of drawings of close-up pictures
  - 87% of drawings of wide-angle pictures

Boundary extension

- Authors’ interpretation:
  - Distortion caused by a schema
  - “Implied space” — what you would see if you looked around in that physical context