

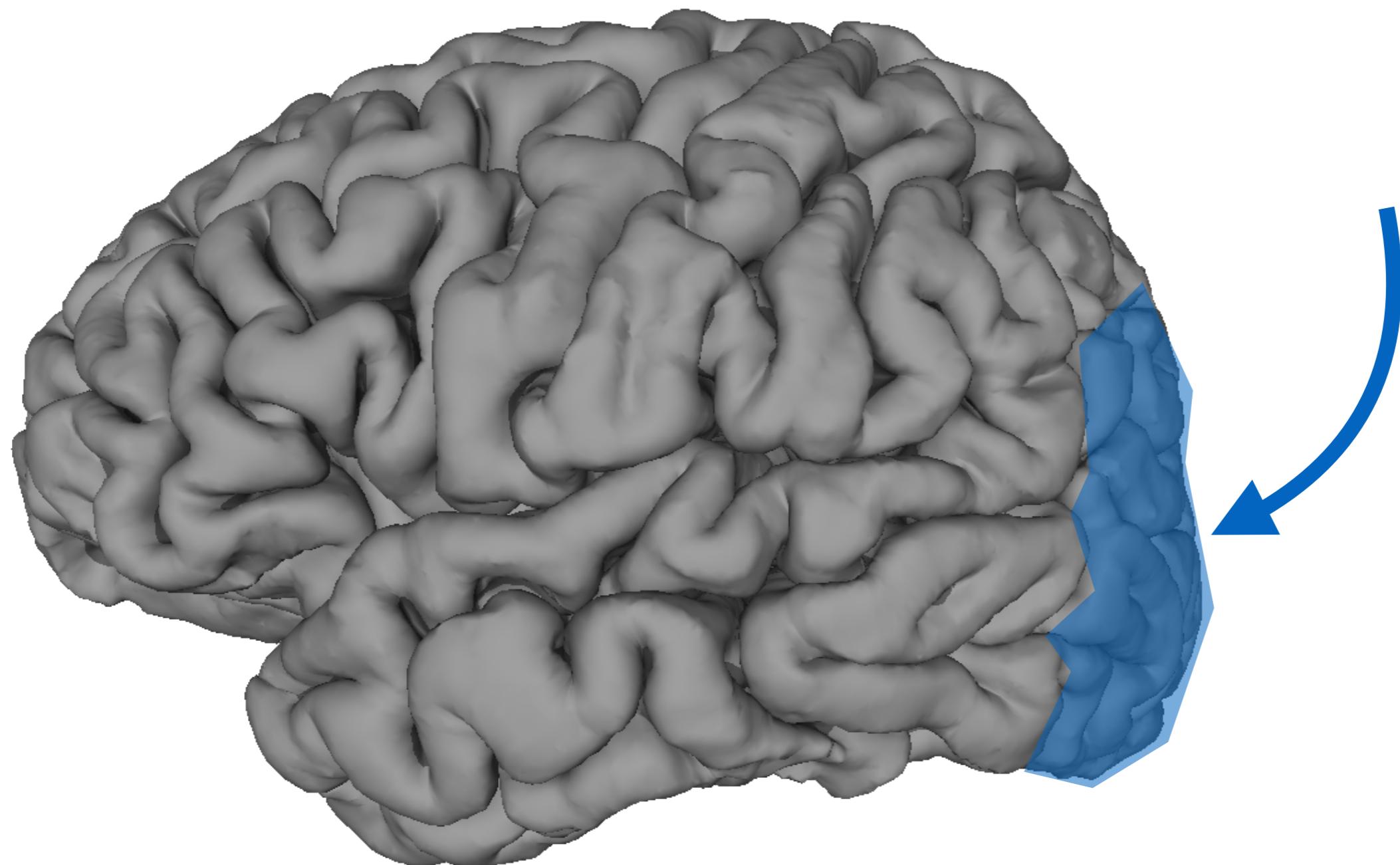
MAPPING HUMAN CORTEX

Prof. Alexander Huth
2.10.2021

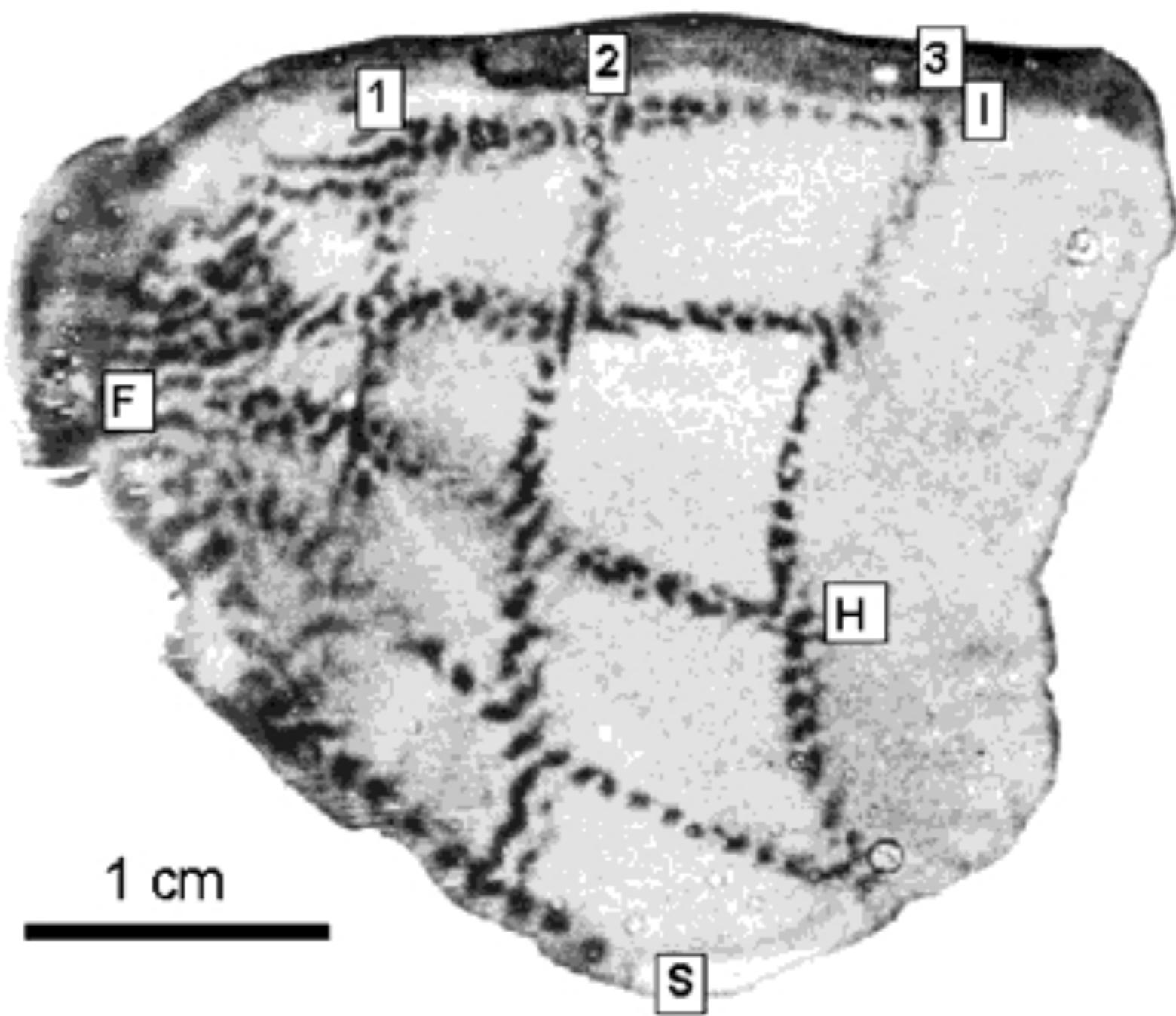
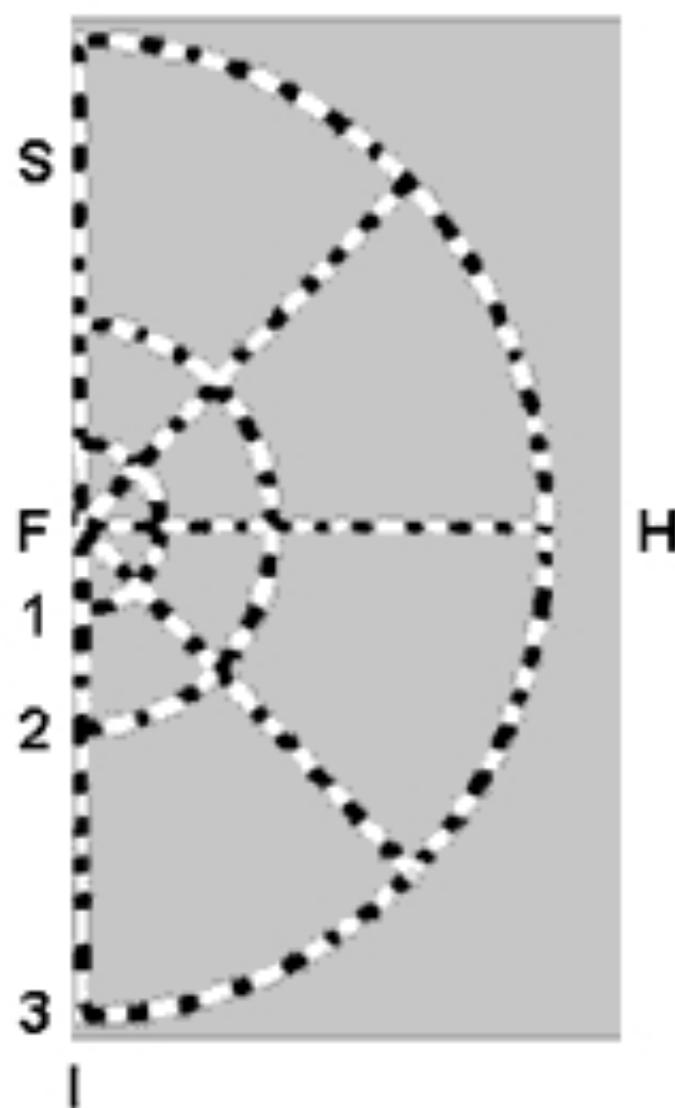
INFOGRAPHIC

- * Your first **infographic** homework is due in **1 week** (2/17)
- * I posted a video demo for how to do this!
- * You can find all the info you need on the class github page!

VISUAL CORTEX



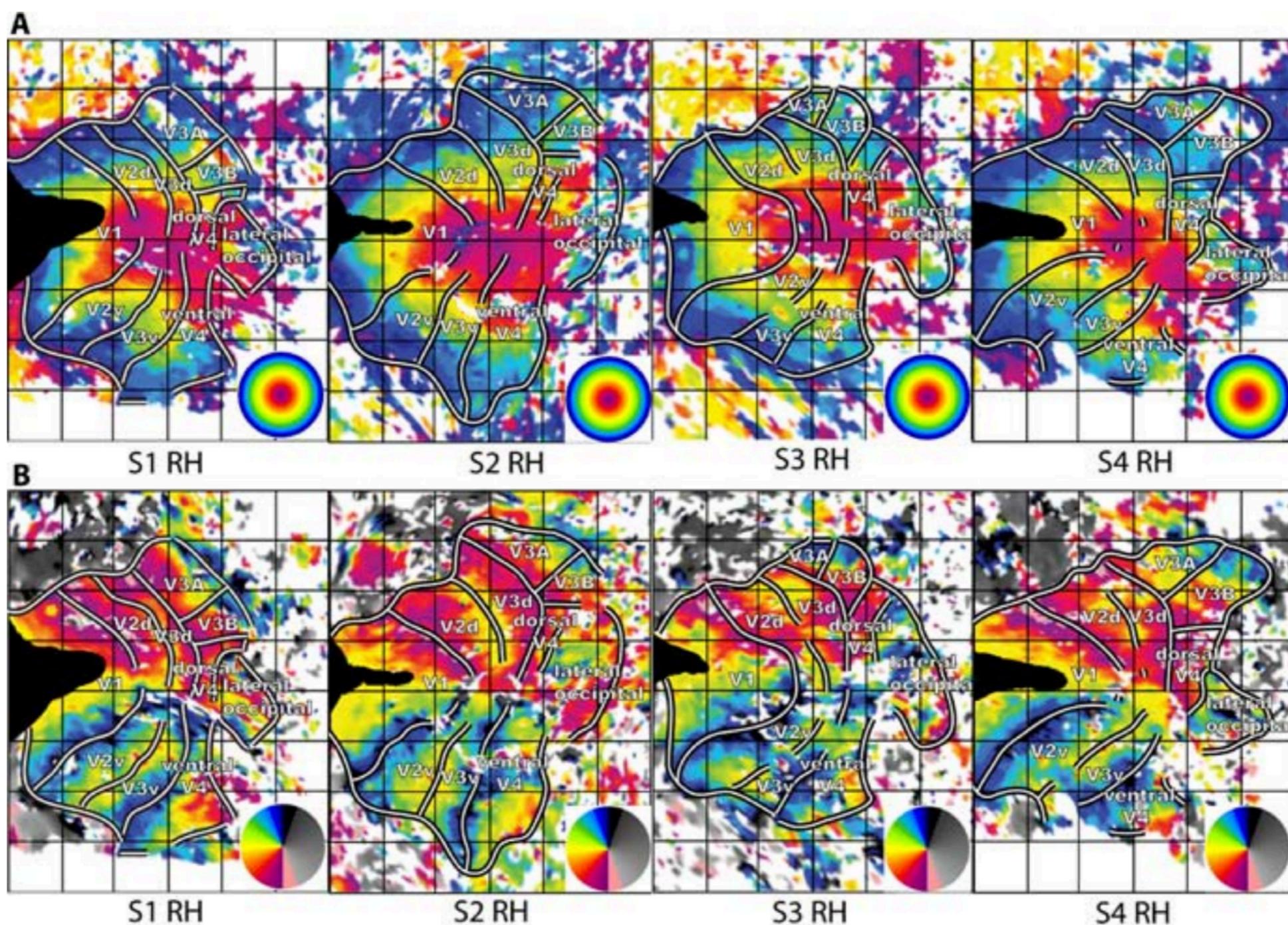
RETINOTOPIC MAPS



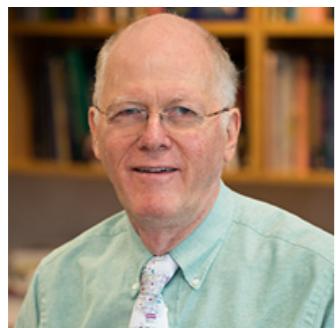
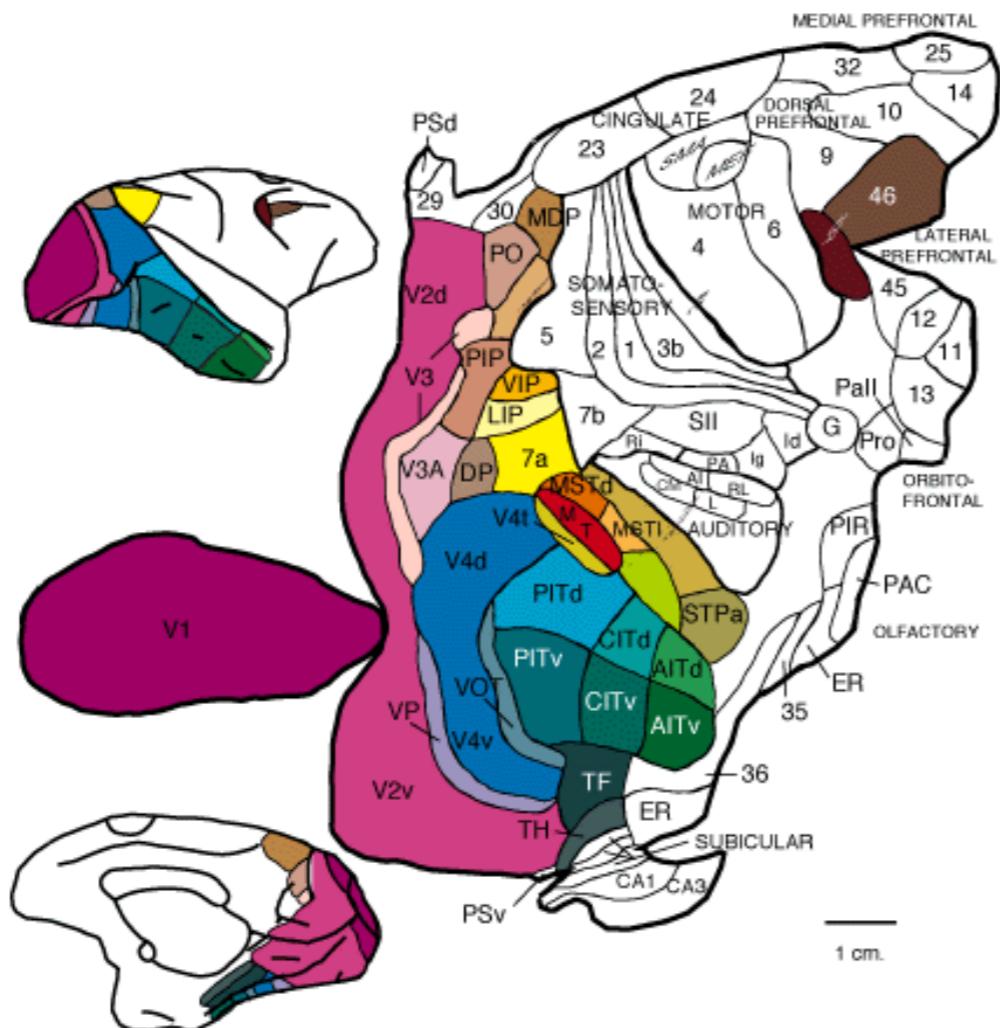
RETINOTOPIC MAPS

http://gallantlab.org/pycortex/retinotopy_demo/

RETINOTOPIC MAPS

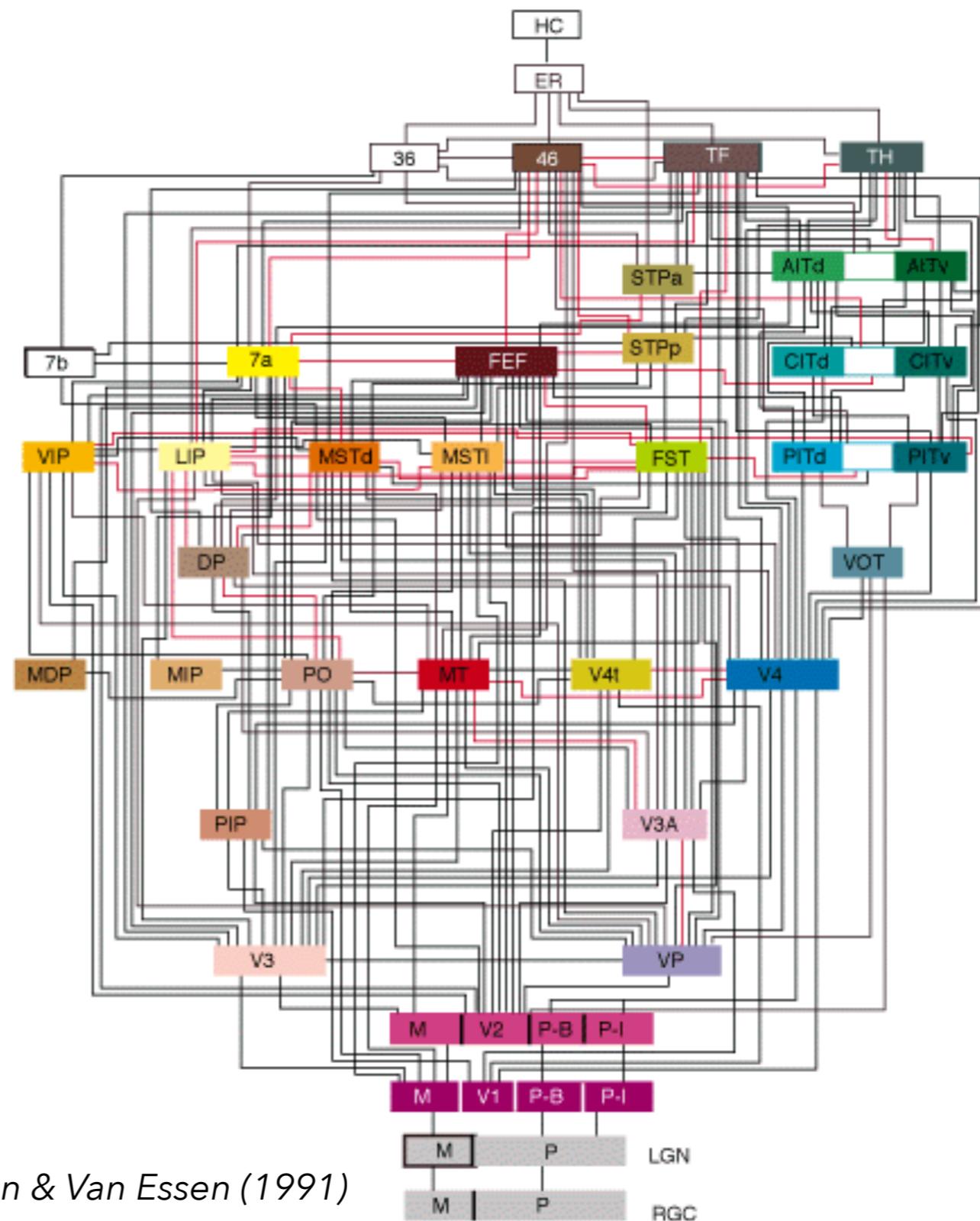


VISUAL CORTEX AREAS



David Van
Essen

Felleman & Van Essen (1991)



CATEGORY SELECTIVITY

- * What if some of these areas are **selectively** involved in processing some specific **category** of stimuli?

FACE AREAS

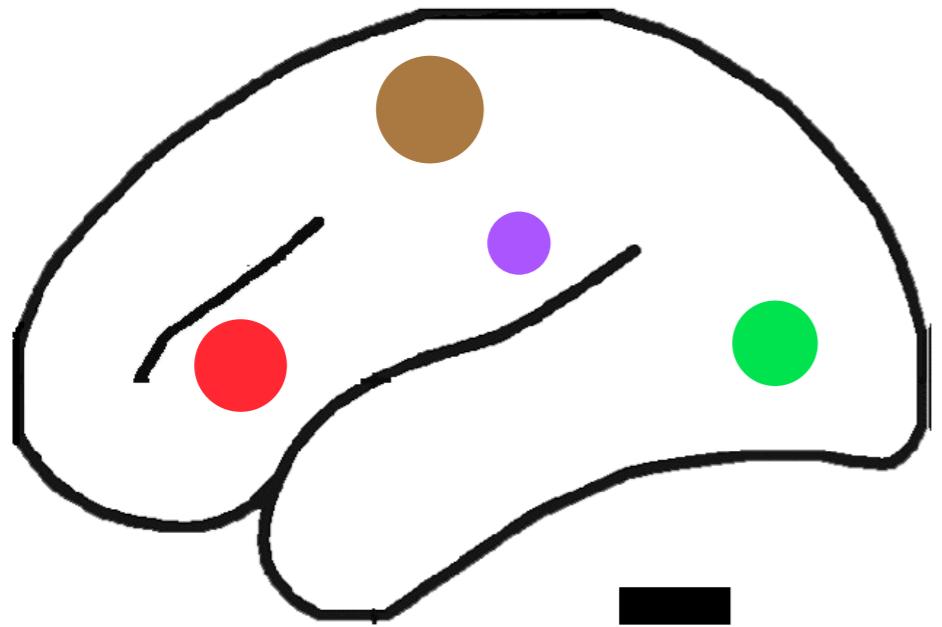
- * The first putative “semantic” areas in visual cortex were the **face-selective** areas
 - * FFA, OFA, etc.



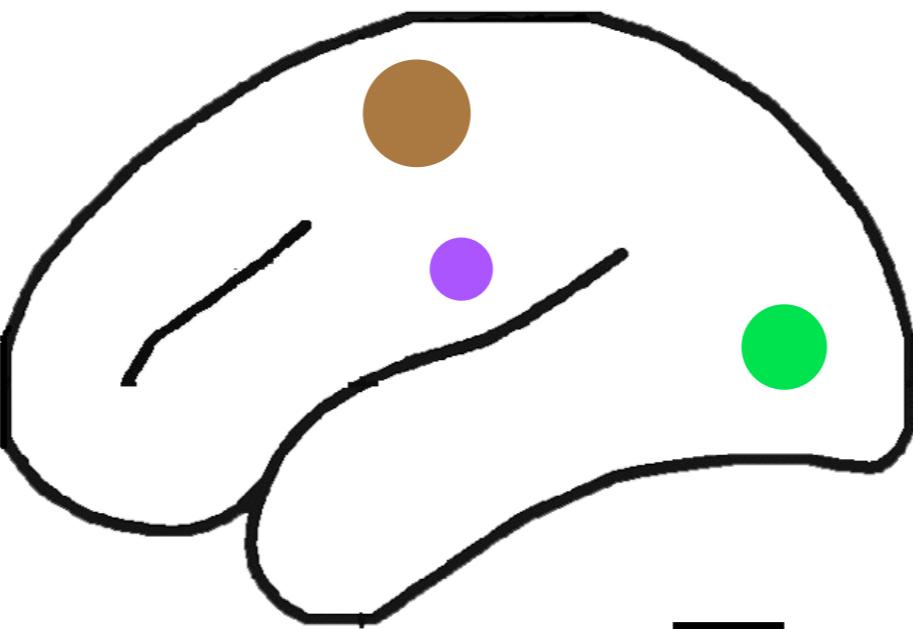
*Nancy
Kanwisher*

DEDUCTIVE APPROACH

- * the “**contrast method**”
aka “**localizer method**”
aka “**subtraction method**”
- * Subtract response in **control condition** from response in **experimental condition**
- * Use some **statistical method** to determine whether difference in response is **significant**

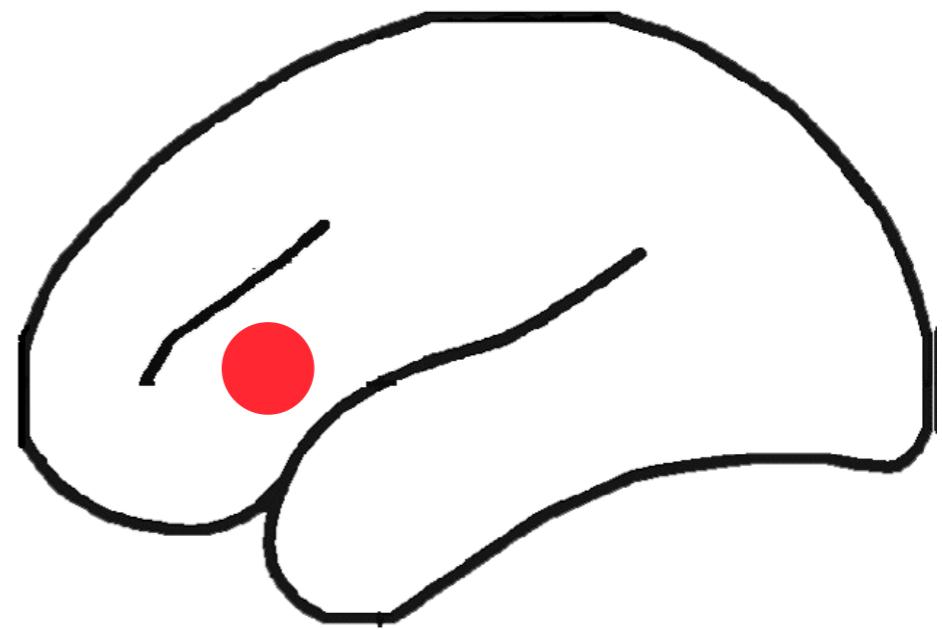


Task



Control

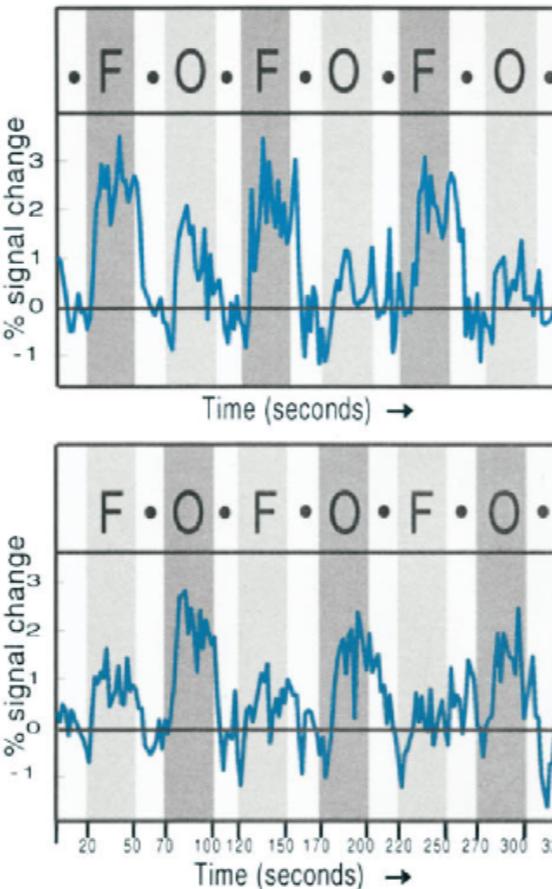
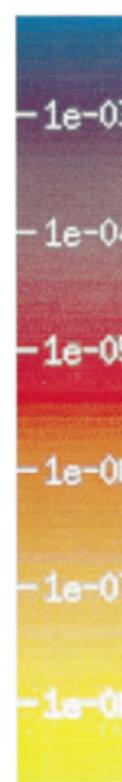
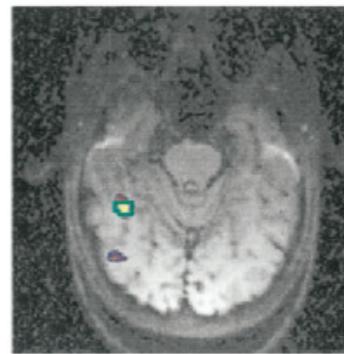
=



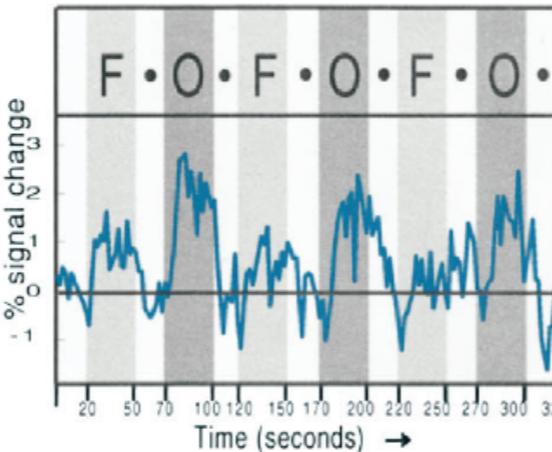
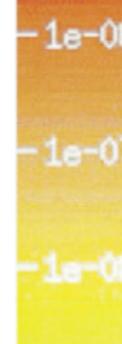
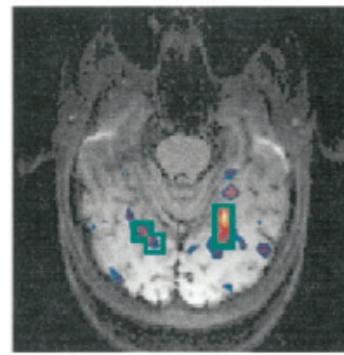
Difference

Functional localizer for the fusiform face area

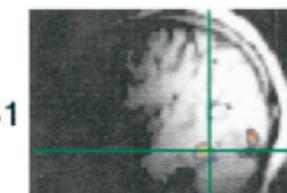
1a. Faces > Objects



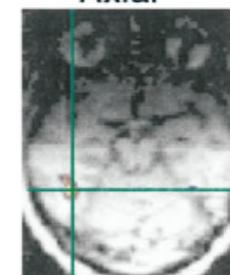
1b. Objects > Faces



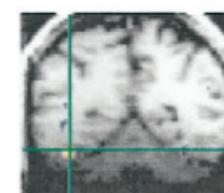
Sagittal



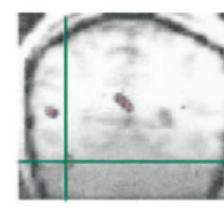
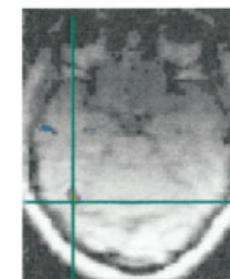
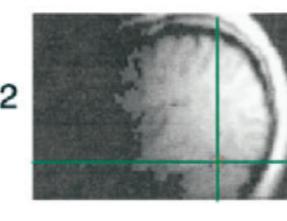
Axial



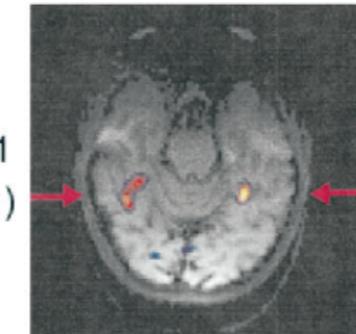
Coronal



S2



S11
(Lh)



S12
(Lh)

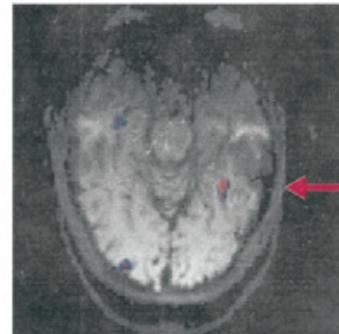
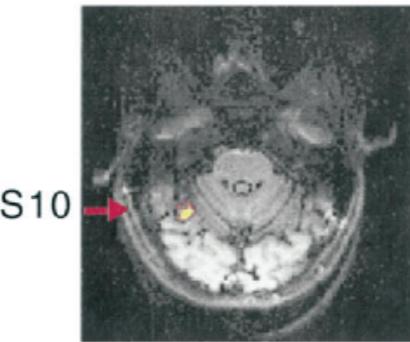
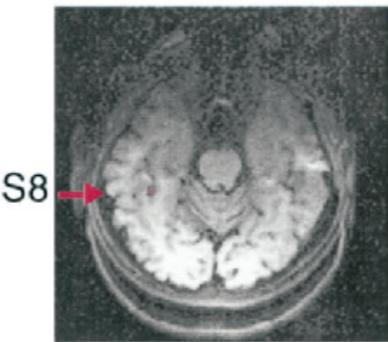
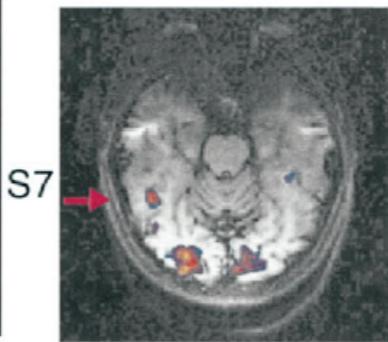
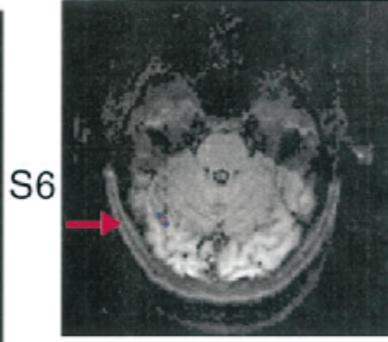
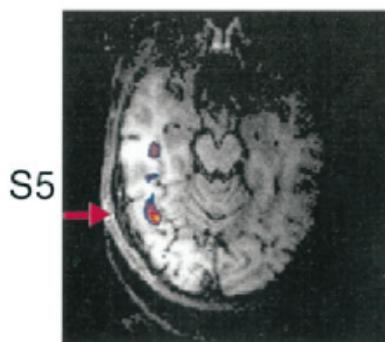
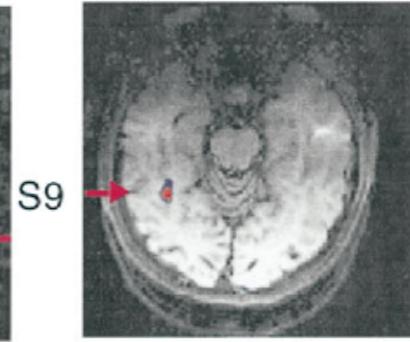
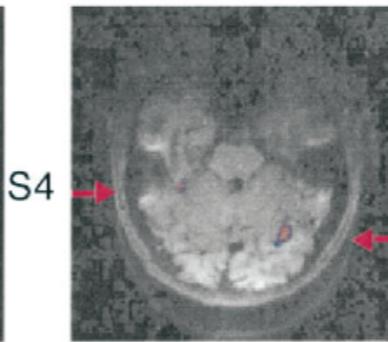
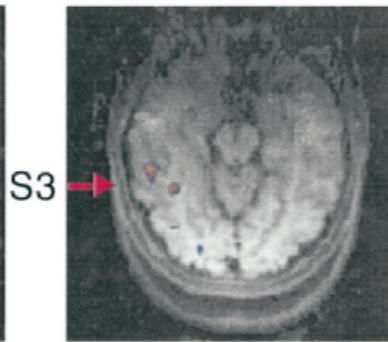
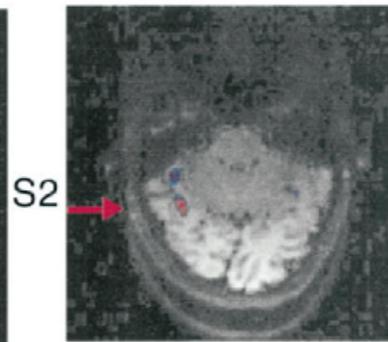
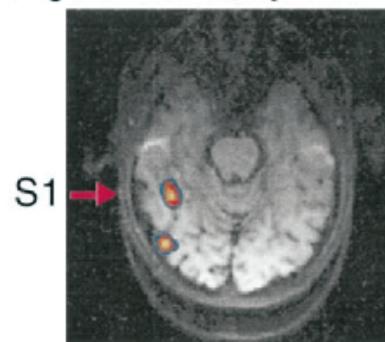


Fig 2. 12 Subjects



LOCALIZATIONISM

- * Do we believe that this area is actually specific to processing faces?
- * What is **special** about faces?
- * **Why faces** & not other categories of stimuli?