

Supplemental Figure Captions

Supplemental Figure 1: Example stimuli from each of the six object categories (face, animal, car, sculpture, body part, house).

Supplemental Figure 2: Definition of LO-1 and LO-2. Adjacent regions are outlined in dotted lines. For hemispheres without LO-1 or LO-2 marked, the determination of the respective ROI was too ambiguous to include in our analyses. LO is outlined in white.

Supplemental Figure 3: **(a)** Mean correlation coefficients for different comparison types (compare to Figure 10) for each session in the object experiment. **(b)** Mean correlation coefficients for different comparison types in the disc ROI illustrated in Figure 11, across subjects and sessions.

Supplemental Figure 4: Response patterns in V1. **(a)** Example V1 voxel response patterns to different object categories and stimulus positions. Each panel shows the amplitude (beta weight from a general linear model, after subtracting the mean response across conditions) of each voxel in V1. **(b)** Zoom out of the medial view of the cortical surface to illustrate the location on the brain being depicted in **(a)**. **(c)** Mean correlations for different comparison types for the split-half analysis (same format as Figure 10).

Supplemental Figure 5: Results of split-half analysis when not subtracting the mean response across conditions. **(a)** Example LO voxel response patterns to different object categories and stimulus positions. Each panel shows the estimated amplitude (beta weight from a general linear model) for one stimulus compared to the blank baseline condition of each voxel. **(b)** Zoom out of the posterolateral view of the cortical surface to illustrate the location on the brain being depicted in **(a)**. **(c)** Mean correlations for different comparison types for the split-half analysis (same format as Figure 10).