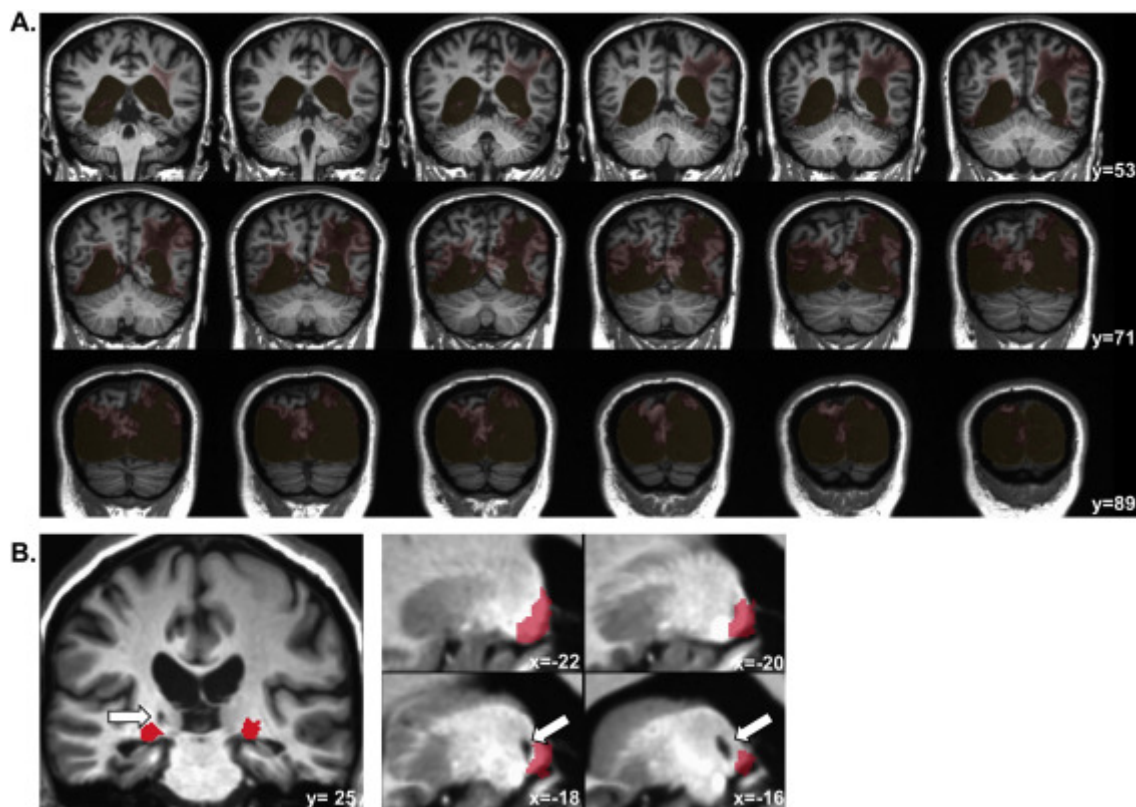


Appendix A. Supplementary material

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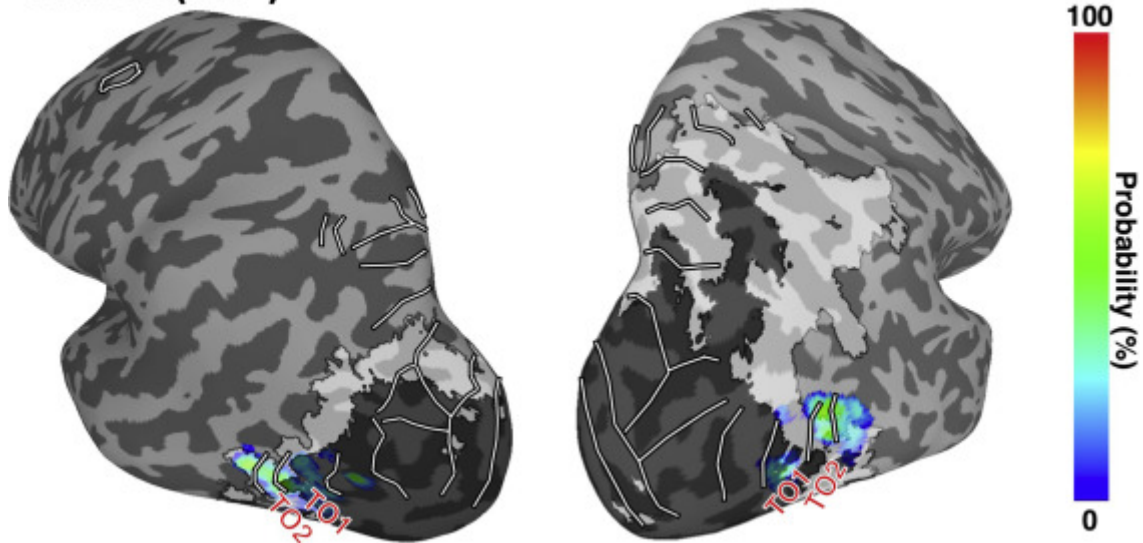


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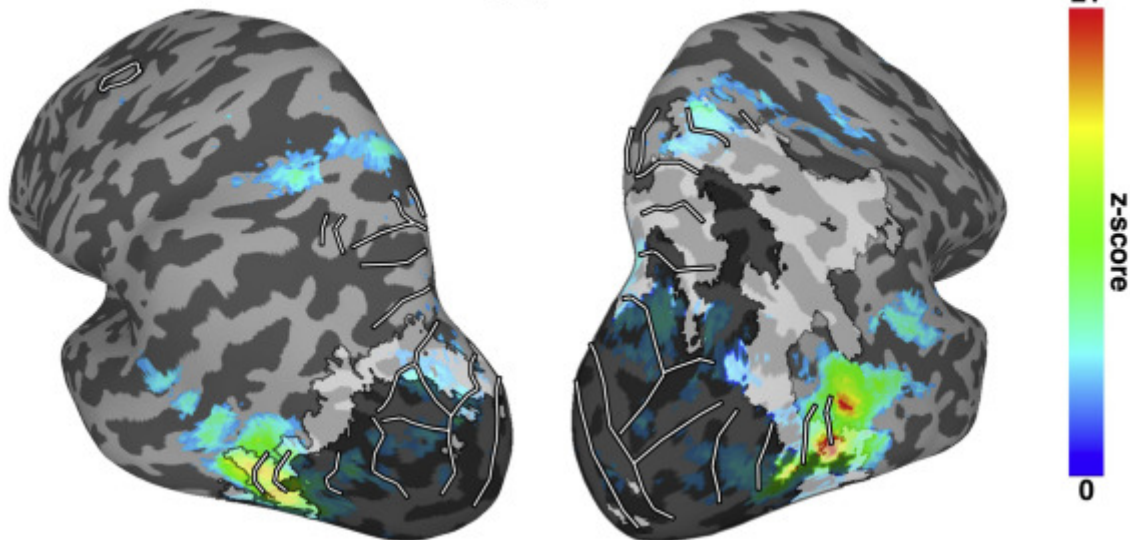
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Fig. S1. Lesion mapping in volume. (A) Cortical lesion mapping illustrated in coronal sections of MC's T1 anatomical image. The transparent tan colored region corresponds to parts of MC's brain where no tissue was detected. The transparent red colored regions correspond to parts of MC's brain where abnormal tissue was detected. MNI y-coordinates inset in rightmost images. (B) MC's [thalamus](#) illustrated in a single coronal and four sagittal sections of MC's T1 anatomical image. MC's LGN and pulvinar were visible on T1 images. The LGN appeared compressed and partially atrophied in both hemispheres, though was in good alignment with a probabilistic map of the visual thalamus ([Arcaro et al., 2015](#)). A lesion within the posterior thalamus of the right hemisphere (indicated by arrow) was identified just anterior to the visual pulvinar. This region appears to correspond with somatosensory nuclei of the thalamus including subregions of VP ([Morel et al., 1997](#), [Krauth et al., 2010](#)). MNI y- and x-coordinates inset in coronal and sagittal images, respectively.

A. hOc5 (MT+)



B. Neurosynth: Motion Map (383 studies)



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Fig. S2. **Consistency of motion responses for moving vs. static checkerboards.** Across three sessions over two years (on two scanners), MC consistently showed motion-selective activation in MT+ . A contrast of moving > stationary revealed strong activation in dorsal MT+ in both hemispheres in all sessions and in ventral MT+ in the 2009 sessions. All other conventions are the same as Fig. 3.

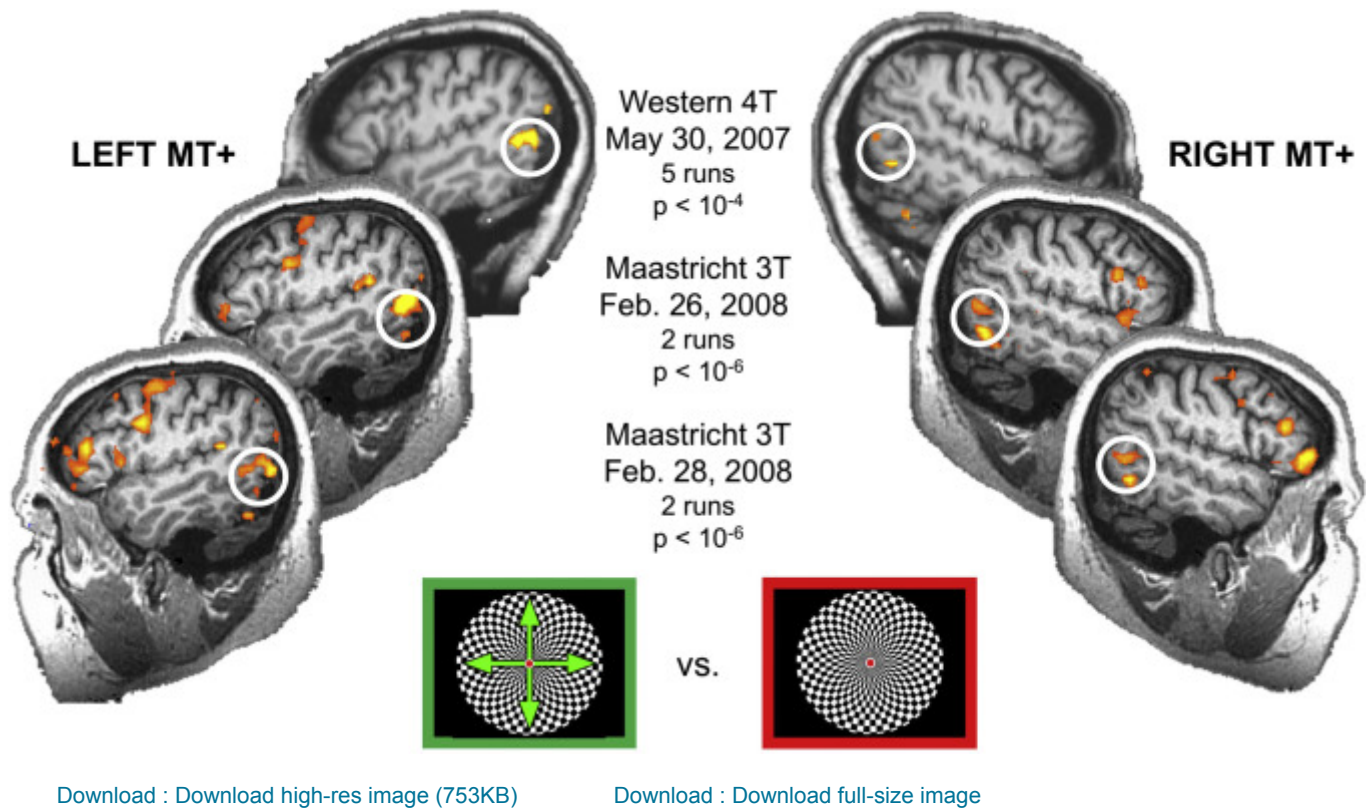
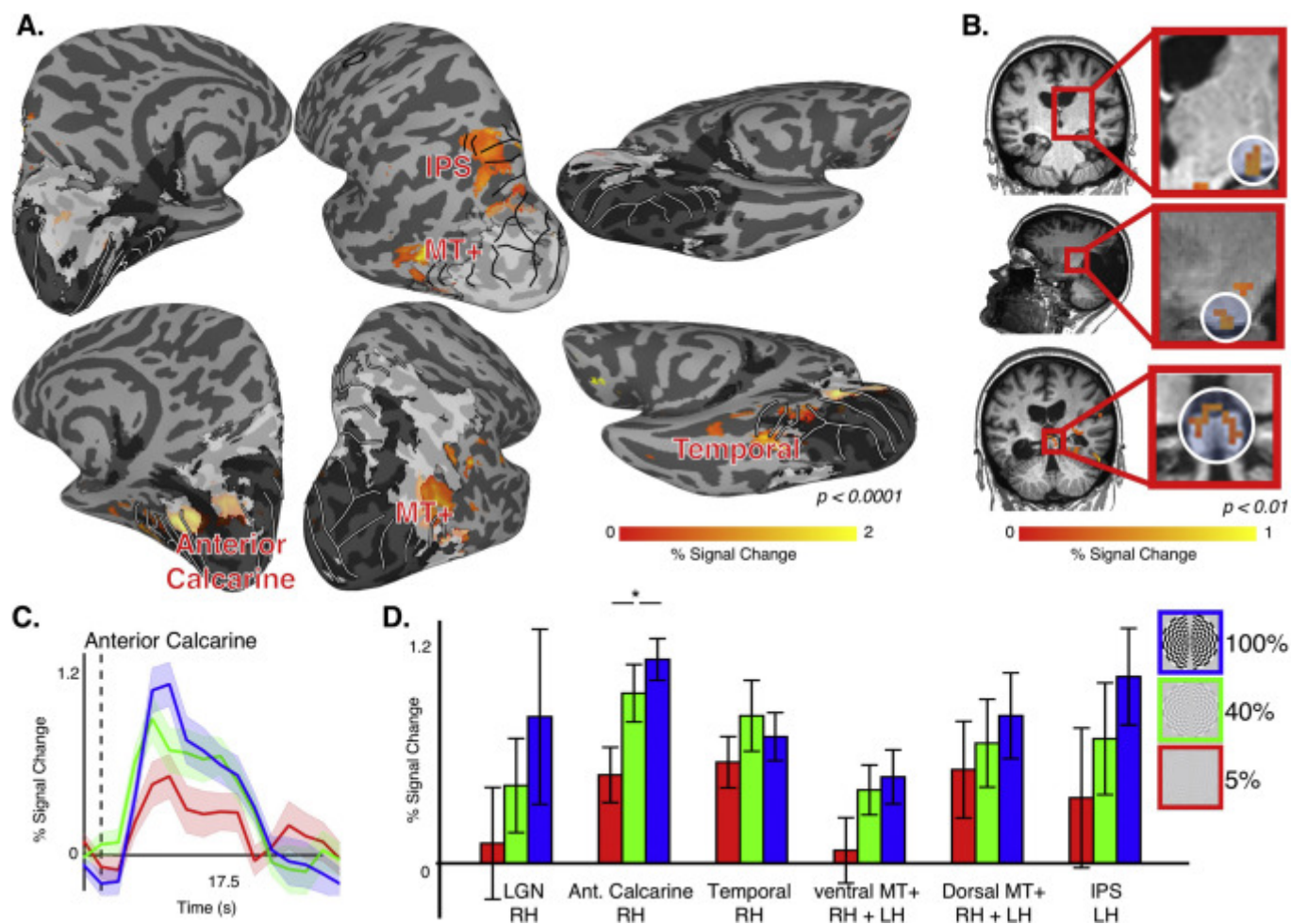


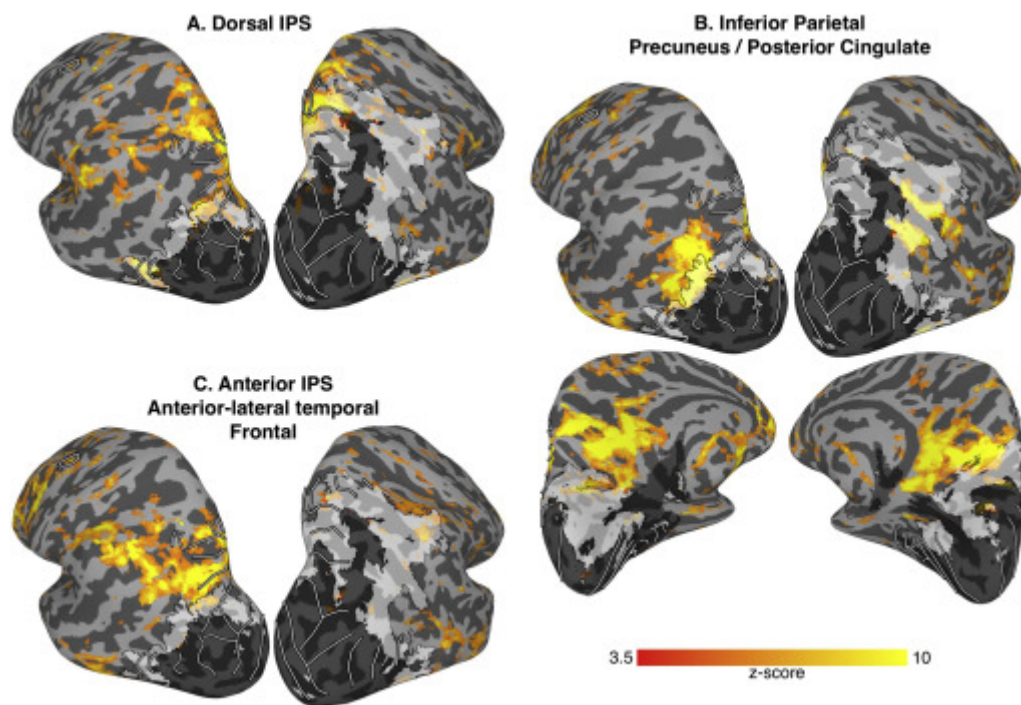
Fig. S3. **MT+ localization in typical population.** (A) The extent of architectonically-defined MT+ (hOc5; [Malikovic et al., 2007](#) CC) mapped onto the MNI surface and overlaid on MC's lesion. (B) A [meta-analysis](#) map from 383 fMRI studies that involved motion stimulation. Maps were generated by Neurosynth.org using the search term 'motion'.



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Fig. S4. Contrast sensitivity across visual cortex. (top) Maps of visually-evoked activity to full field, full contrast checkerboard stimulation at 4 Hz. (A) Visually-evoked activity was apparent in anterior occipital, lateral temporal, ventral temporal, and posterior parietal cortex ($p < 0.0001$, uncorrected). (B) At a lower threshold ($p < 0.01$, uncorrected), visually-evoked activity was apparent within the anatomical extent of the LGN and SC. Top two images illustrate coronal and sagittal slices of MC's LGN activity in the right hemisphere. The bottom coronal image illustrates activity in MC's SC. (C) Within the spare island of tissue in the anterior calcarine sulcus, the amplitude of visual response increased systematically with contrast from 5%, 40%, and 100%. Vertical dashed line marks stimulus onset. Shaded region illustrates SEM across blocks. (D) Similar increases were evident in temporal cortex and the LGN, though were not significant.



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Fig. S5. **Resting state ICA components.** Spatial ICA yielded distinct activity maps associated with functional networks. One component (A) comprised activity in posterior parietal cortex. Another component (C) comprised activity within anterior parietal, anterior lateral temporal and frontal cortex. A third component (B) comprised activity in the [inferior parietal lobule](#), [precuneus](#), and [posterior cingulate](#).