



Figure S1. The set of letter-like stimuli used in these experiments. During the experiment each letter is rotated to the preferred orientation, and scaled to the preferred stimulus size of the neuron under study.

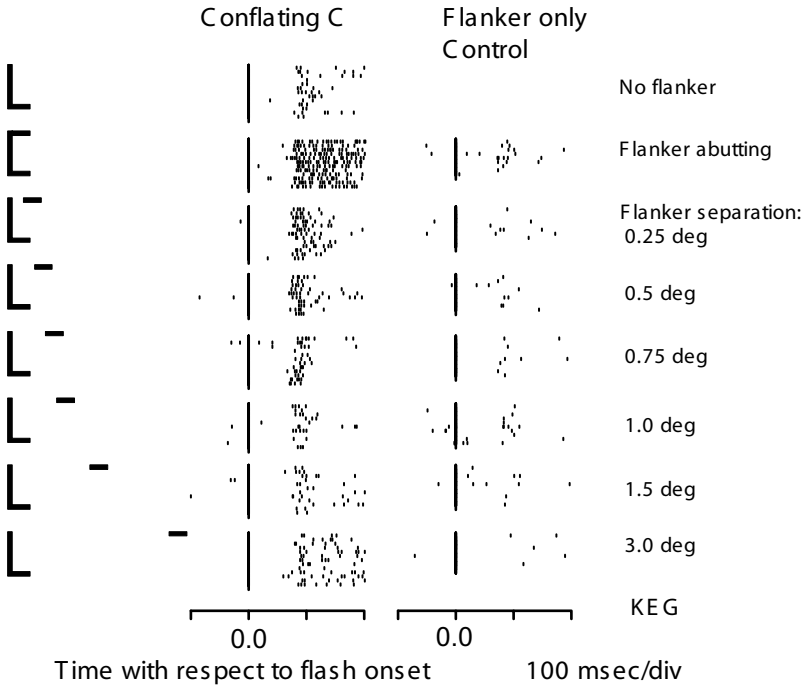


Figure S2. Conflating interactions of letter-like components. An additional example of facilitative conflation resulting in formation of an optimal stimulus from a non-optimal pair of stimuli. Labels on far right denote separation extent, flanker positions depicted on far left starting at top with the letter 'L' presented. Spike rasters on left show the response to the 'L' followed beneath by responses to the 'C' and then to the various flanker separation combinations. The flanker only control raster shows the relative lack of response to the single flanker presented alone. A slight increase in response can be seen starting at a separation of 0.75 degrees and then a transformative change in response as the flanker abuts the 'L' forming a 'C'.

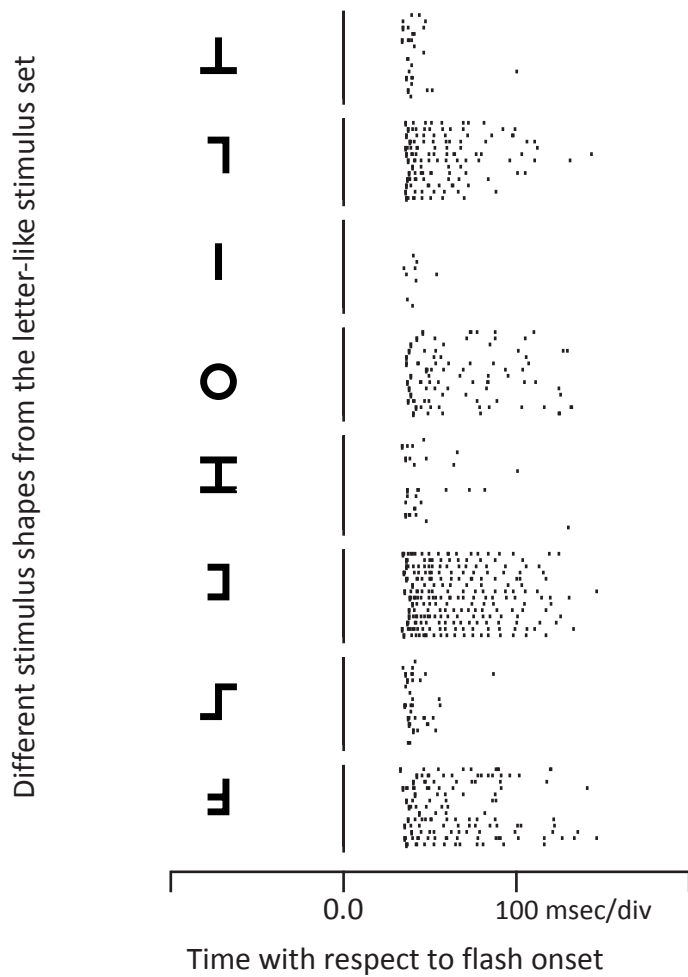


Figure S3. Variations in the duration and appearance of the responses to different shapes in a sensitively tuned V4 neuron. The figure shows the tuned response of an area V4 neuron to a series of 8 letter-like shapes (shown on left) that were presented to the center of the receptive field at the orientations shown. The letter height was 1.5 degree, and stroke width was 0.2 degree. The receptive field eccentricity was 4.4 degrees. The same sorts of fluctuations in the timing and decay of the responses seen in the flanking studies (Figs 3 & 5 of main paper) are visible here in the response to different shapes. One way of characterizing these differences is to think of the response as a mountain whose peak and slope sink into the background as the stimulus becomes less effective.