The interplay between the thalamus and cerebral cortex is central to mammalian brain function. In my talk, I will present data from experiments in nonhuman primates examining how the visual thalamus and cortex contribute to the perception and selection of visual stimuli. First I will show that "blindsight", or the residual vision following V1 damage, involves extensive extrastriate visual processing and is critically dependent on information passing through the thalamic lateral geniculate nucleus (LGN). Next, using ambiguous stimuli that give rise to perceptual suppression, I will show that whereas neurons in the LGN respond based on physical structure of a visual stimulus, those in the adjacent thalamic pulvinar nucleus respond based on a monkey's subjective interpretation of the stimulus. Finally, I will show that the temporary inactivation of the dorsal portion of the pulvinar nucleus disrupts visual perception and visually guided action in a manner that is fundamentally different from that resulting from inactivation of the LGN, producing a reversible syndrome that in some ways resembles visual hemineglect. These results, taken together, illustrate key differences between primary and higher-order thalamic relay nuclei, their interaction with cortex, and their relationship to visual perception.