

The University of Hong Kong Department of Psychology

Departmental Seminar

Crowding happens at a late stage of visual processing: Evidence from effects of illusory contour formation and object orientation on crowding strength

Date: August 16, 2011 (Tuesday)
Time: 11:30 a.m. to 12:30 p.m.
Venue: Room 624, Knowles Building, HKU
Speaker: Mr. Jonathan Lau
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Visual crowding refers to the breakdown of object recognition due to the presence of nearby objects. Cortical mechanism of crowding remains largely unresolved. Experiments were conducted to relate crowding to two perceptual phenomena in terms of the stage in visual processing. My first set of experiments revealed that illusory contours survived through crowding, suggesting that at least a portion, if not all, of the crowding happens after the formation of Kanizsa illusory contours. In my second set of experiments, crowding was studied using upright and inverted Chinese character as target and flankers. For an inverted target, upright flankers were found to be more interfering than inverted flankers. Upright target was also found to be more resistant to crowding in general. These observations taken together suggested that crowding took place after the visual system perceives illusory contours and discriminates Chinese character orientation. With suggested loci of illusory contour formation and Chinese character recognition being lateral occipital complex (LOC) and fusiform gyrus respectively, lost of visual information due to crowding would have happened after these visual areas.