

The University of Hong Kong  
Department of Psychology

*Departmental Seminar*

***Distinction between Nonconscious and Conscious Vision:  
Evidence from Hemispheric Asymmetry Effects***

Date: July 10, 2014 (Thursday)  
Time: 11:30 a.m. – 12:30 p.m.  
Venue: Room 813, 8/F, The Jockey Club Tower, Centennial Campus, HKU  
Speaker: Mr. Chen Jing  
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Here we examined hemispheric differences in conscious and nonconscious perception using a masked priming paradigm. In Experiment 1, participants judged the direction of a grey target arrow (either left- or right-pointing), which was preceded by a grey prime arrow in either the left visual field (LVF)/right hemisphere (RH) or the right visual field (RVF)/left hemisphere (LH). The prime was either masked or unmasked. Participants reported unaware of the prime in the masked condition. We found a significant congruency effect (i.e., a faster response when the prime and target directions were congruent than when they were incongruent) when the prime was presented in the LVF/RH but not the RVF/LH in the masked (subliminal) condition. In contrast, in the unmasked (supraliminal) condition, the RVF prime had a stronger congruency effect than the LVF prime. In Experiment 2, a backward mask was used in all trials and the prime duration was manipulated to create subliminal and supraliminal conditions. In the subliminal condition, LVF/RH primes but not RVF/LH primes generated a congruency effect, whereas in the supraliminal condition, RVF/LH primes had a bigger congruency effect than LVF/RH primes. These qualitatively different hemispheric asymmetry effects in Experiment 1 and 2 suggest that nonconscious and conscious perception may involve different underlying mechanisms. In Experiment 3, color stimuli instead of grayscale stimuli were used. Neither the congruency effect nor the LVF/RH advantage was found in the subliminal condition, while a similar RVF/LH advantage in the congruency effect was found in the supraliminal condition. This result suggests that parvocellular input does not support the subliminal priming effect in the LVF/RH. Taking together, our results revealed a dissociation between the mechanisms underlying nonconscious and conscious processing, and this dissociation may be due to the dominant role of the magnocellular pathway in nonconscious vision.