

- [Home](#)
- [About the CVR](#)
- [News](#)
- [Members](#)
- [Seminar Series](#)
- [Conference](#)
- [Resources](#)
- [CVR Summer School](#)
- [Research Labs](#)
- [Training at the CVR](#)
- [Partnering with the CVR](#)
- [Contact Us](#)

- Friday, January 5, 2007

Unconscious but under control: The processing of subliminal information for action

In masked priming, a briefly presented visual stimulus (the prime) is rendered invisible if it is followed immediately by a second visual stimulus (the mask). Although participants remain unaware of the prime, motor responses to the mask can be influenced by information contained in the prime. For example, we have shown that primes can influence both (1) the speed with which a two-alternative response is initiated on the mask, and (2) the on-line control of a goal-directed movement regarding the mask (Cressman et al., 2006). My current research examines if it is possible to gain strategic control over the influence of masked primes. Based on our results it is evident that the influence of subliminal visual stimuli on action differs depending on the task and the prime-mask sequence displayed. To account for our findings we have proposed an accumulator model with a fluctuating activation threshold. An "accumulator" is tuned to a specific stimulus-response mapping such that if participants are instructed to make a left or right response, two separate accumulators are established with one collecting sensory evidence for stimuli mapped to the left response and the other collecting sensory evidence for stimuli mapped to the right response. Both primes and masks are equally effective at driving the accumulators and a response is initiated as soon as the accumulated neural evidence for one response reaches a critical threshold. The level of this threshold can be set strategically, depending on task constraints and the prime-mask sequence displayed.

Erin Cressman
University of British Columbia