Notice of the Final Oral Examination
for the Degree of Master of Science

of

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BAA (Kwantlen Polytechnic University, 2013)

“Form Follows Function: The Time Course of Action Representations Evoked by Handled Objects”

Department of Psychology

Wednesday, July 29, 2015
1:00pm
Cornett Building
Room A228

Supervisory Committee:
Dr. Michael E. J. Masson, Department of Psychology, University of Victoria (Supervisor)
Dr. Daniel N. Bub, Department of Psychology, UVic (Member)

External Examiner:
Dr. Olav Krigolson, School of Exercise Science, Physical and Health Education, UVic

Chair of Oral Examination:
Dr. Christopher Upton, Department of Biochemistry and Microbiology, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

To investigate the role of action representations in the identification of upright and rotated objects, we examined the time course of their evocation. Across five experiments, subjects made vertically or horizontally oriented reach and grasp actions primed by images of handled objects that were depicted in upright or rotated orientations, at various Stimulus Onset Asynchronies: -250 ms (action cue preceded the prime), 0 ms, and +250 ms. Congruency effects between action and object orientation were driven by the object's canonical (upright) orientation at the 0 ms SOA, but by its depicted orientation at the +250 ms SOA. Alignment effects between response hand and the object's handle appeared only at the +250 ms SOA, and were driven by the depicted orientation. Surprisingly, an attempt to replicate this finding with improved stimuli (Experiment 3) did not show significant congruency effects at the 0 ms SOA; a further examination of the 0 ms SOA in Experiments 4 and 5 also failed to reach significance. However, a meta-analysis of the latter three experiments showed evidence for the congruency effect, suggesting that the experiments might just have been underpowered. We conclude that subjects initially evoke a conceptually-driven motor representation of the object, and that only after some time can the depicted form become prominent enough to influence the elicited action representation.