

Parallel Processing in near Absence of Attention: A Study Using Dual-Task Paradigm

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Abstract : Simple discrimination in near absence of attention has been widely observed. Dual-task studies with natural scenes studies have been claimed as being preattentive in nature that facilitated categorization simultaneously with the attentional demanding task. So in this study, multiple images at the periphery are presented, initiating parallel processing in near absence of attention. For the central demanding task rotated letters were presented in both conditions, while in periphery natural and animal images were presented. To understand the breakpoint of ability to perform in near absence of attention one, two and three peripheral images were presented simultaneously with central task and subjects had to respond when all belong to the same category. Individual participant performance did not show a significant difference in both conditions central and peripheral task when the single peripheral image was shown. In case of two images high-level parallel processing could take place with little attentional resources. The eye tracking results supports the evidence as no major saccade was made in a large number of trials. Three image presentations proved to be a breaking point of the capacities to perform outside attentional assistance as participants showed a confused eye gaze pattern which failed to make the natural and animal image discriminations. Thus, we can conclude attention and awareness being independent mechanisms having limited capacities.

Keywords : attention, dual task paradigm, parallel processing, break point, saccade

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