When Categories Collide: Interference Effects in Gist Processing.

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Abstract

Observers can report on semantic content of scenes presented for milli- seconds amid masks. Under these conditions, few objects can have been selectively attended. How nonselective is this nonselective processing? We cued observers with one of nine target categories (e.g., beach, ani- mal, bridge) before presenting a scene for 20 msec in a stream of masks. Targets were present on 50% of trials. Critically, on half of target-present trials, an uncued target category was also present. That is, "beach" would be cued but the scene might include both beach and animal—a target category on other trials. On trials containing only a cued target, observ- ers were 76% correct. When a trial-irrelevant category was also present, however, performance dropped to 52% correct. Apparently, observers can activate multiple templates at once. Indeed, here, they seem unable to avoid it. When two possible targets are present in these brief presentations, they interfere destructively.