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Interplay between semantic and emotional information in visual scene processing

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Abstract: We examined whether and how image's semantics and emotion content interact during visual processing. In each trial, we briefly presented two emotional or neutral images (a scene context and an object), manipulating the semantic consistency and the emotional consistency of the pair. Participants categorised one image semantically or emotionally. Semantic categorisation was overall better than emotional categorisation, but reduced in emotional compared to neutral images, and especially in negative images. Emotional categorisation was better for positive than neutral or negative images; moreover, it was facilitated by emotional consistency and, for accuracy in context images, by semantic consistency. Our results show easiness of semantic compared to emotional categorisation. They suggest that semantic and emotion processes are interdependent, although emotional influence on semantic processing seems stronger than the counterpart, with in particular an interfering effect of aversive images. Conversely, image's attractiveness seems beneficial when evaluating the quality of the emotional content.