Affective blindsight

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Affective blindsight: are we blindly led by emotions?
Beatrice de Gelder, Jean Vroomen, Gilles Pourtois and Larry Weiskrantz

The recent findings that facial expressions can be recognized in the absence of awareness by blindsight patients suggest that, as the saying goes, we might indeed be blindly led by emotions.

Although we are entirely in agreement with the comments made by Heywood and Kentridge [Heywood, C.A. and Kentridge, R.W. (2000) Affective blindsight? Trends Cognit. Sci. 4, 125–126] we would like to take this opportunity to discuss some of the questions that they raised and to describe our most recent data that may clarify some of the important issues.

Heywood and Kentridge remark, the finding of covert discrimination by a blindsight subject of facial expressions presented to his blind field ('affective blindsight') raises the question of how this performance is achieved. An MRI approach should provide new evidence with regard to the activation processes sustaining affective blindsight, but it is worth noting that behavioral experiments can also help to clarify the neural basis of this phenomenon; for example, by determining which stimulus categories and attributes can be processed by blindsight patients (as the superior sensitivity of the right hemispheric visual cortex). Whatever the outcome of that particular debate we do now have some preliminary evidence suggesting that stationary images of facial expressions can support affective blindsight [de Gelder et al., unpublished data]. In our study, we measured the impact of a face presented to the intact, seeing field on the response to a facial stimulus presented to the intact, seeing field. The results showed that incongruity between the expressions of the two fields significantly delayed the facilitation of the facial expression in the seeing field.

This is an illustrative example that covert processing can often only be found with an indirect rather than a direct method, in which subjects are required to ‘guess’ the identity of stimuli they patently deny seeing. As Heywood and Kentridge suggest – in line with some recent findings about qualitative differences between overt and covert processes – the superior sensitivity of the right hemisphere to uncovering covert processing or residual processing abilities might be due to an absence of conflict between overt, reflexive answering and covert responding. We addressed

References

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Homologies for numerical memory span?

Marc D. Hauser

For some, the case of Clever Hans represents the kind of trap that animal researchers often fall into when searching for human capacities in other creatures. Hans was certainly clever with respect to picking up on human cues, but was unquestionably clueless when it came to solving mathematical problems. Ever since the debunking of Clever Hans, researchers often fall into when searching for human capacities in other creatures (!). Might be less than willing to accept that there is any point in continuing vigilance with forced-choice guessing. Indirect methods completely remove this counterintuitive element.

Further research is needed to discover whether affective blindsight is restricted to emotions for which the amygdala is at present known to play a special role. But even if the amygdala’s role is specific only to particular emotional stimuli or states, and other emotional states depend critically on other targets, our results suggest that these too can be assumed to be well-provided in terms of visual projections via the subcortical-cortical-pulvinar route (among others) that bypass the primary visual cortex.

References
4 Rosenblum, L.D.
6 Rossion, B.