S6-4: Visual awareness modulated by conditioned fear during bistable perception

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Bistable perception has been considered as a useful means to study visual awareness since it induces spontaneous fluctuation in awareness despite constant physical stimulation. Whether visual awareness during bistable perception is modulated by emotional valence associated with one of the two visual interpretations has been of great interest. This talk will present results from a couple of recent studies in my lab to investigate this issue. By comparing bistable perception prior to and followed by Pavlovian fear conditioning using disambiguated versions of the ambiguous figure, I and my colleagues found that negative emotional valence associated with one of two interpretations significantly influences conscious visual awareness during bistable perception. Specifically after fear conditioning, participants tended to be consciously aware of the interpretation associated with the aversive stimulation (CS+) longer at a time compared to the other (CS-). This influence of fear conditioning on bistable perception occurs only when the fear conditioning was effective indicated by the participant's differential physiological response (heart rate) to CS+ and CS-. Changes in bistable perception after fear conditioning were also found to be correlated positively with the State-Anxiety score. I will also discuss results from the follow-up study showing that visual awareness during bistable perception is also modulated “unconsciously” conditioned fear.

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