Animal Affect and Decision-making

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There is growing interest in the study of animal emotion (affect) in animal welfare science, behavioural biology, neuroscience, and psychopharmacology. In order to study animal emotion scientifically, and in the absence of definitive knowledge about whether such states are consciously experienced in other species, we use an operational definition of emotions as states elicited by rewarding or punishing events, where a reward is anything that the animal will work for and a punisher is anything that it will work to avoid (Rolls 2005). The evolutionary function of affective states has been the subject of much speculation and one common proposal is that they play a key role in guiding behaviour and decision-making in order to obtain rewards, avoid harm, and maximize survival chances. In this talk we consider how affective information may influence decision-making processes. We take a dimensional core-affect view of emotions as being characterised by valence (positivity/negativity) and arousal and integrate this with a reinforcement learning perspective on decision-making. Within this framework we discuss the putative role of both short-term ('emotions') and longer-term affective states ('moods'). A pragmatic outcome of these considerations is the suggestion that alterations in decision-making can themselves be used as objectively measurable indicators of an animal's affective state, with cross-species applicability.