

## The relational and informational organisation in the orbital and medial prefrontal cortex A study using virtual experimentation

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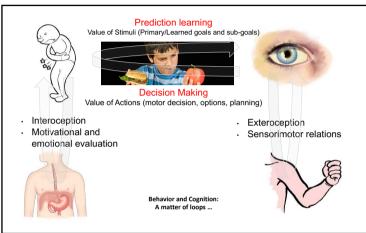
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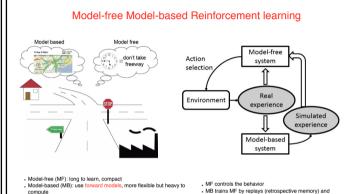
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## The relational and informational organisation in the orbital and medial prefrontal cortex

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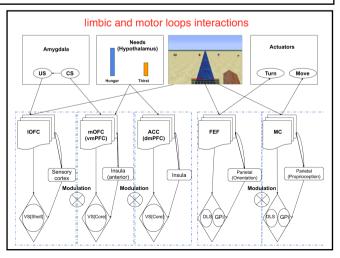


With forward models, goal-driven strategies more tractable than

Role of the limbic loops: Foraging or decision between several targets?

IOFC: learns values of stimuli (pavlov); menu dependent; sensory representation of rewards, consummatory behavior, Model Based; select the best two options mOFC: reward representation for preparatory behavior (operant, Model Free), integrate levels of need; value difference signal; decide for the goal ACC: integrate cost of effort to decide for the action; inverse value difference signal; if strong signal of conflict, ask for a switch

### 



### Autonomous learning

We define our goals by ourselves

- detection of primary reinforcers
- learning of secondary reinforcers
- attentional processes

### We have a motivation to act :

- Fundamental needs
- · intrinsic motivation
- goal-driven behavior

### and

- We self-evaluate our performances
- We associate different kinds of learning and information representation
- We cumulate and re-exploit previously learnt knowledge and strategies in different context

Defining executive control for a cognitive agent in ecological conditions by autonomous learning

- Role of the loops between the frontal cortex and the basal ganglia for predicting values, decision making and planning
- The limbic loops decide for the goal and the action
- The associative loops bias the default behavior
- The motor loops execute the behavior
- Forward models associated with limbic and associative loops

## 28... Sensory Cortex

# Sensory Cortex Sensory Cortex Action space Action space Action space Timble Cortex Timble

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