

Bottom up Decisions

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Interruptions

In the real world there is a constant stream of potential interruptions

Bottom up perceptual systems constantly find things and pass them up

Using the procedural system to evaluate them means constantly interrupting the procedural system

What is needed?

Generic Procedural structures to handle interruptions without disruption

- Good, but does not address the constant bottom up flow of information

To prevent a flooding of the procedural system there needs to be an intelligent filtering of bottom up information for relevancy

How the brain does it

Amygdala

- Parallel, fast access to bottom up perceptual information
- Direct two way communication with the frontal cortex
- Reactive to negative and alarming stimuli

How we do it

Parallel production system to represent the amygdala

Limited to reactive productions (so far)

Emotional buffer - represents communication with frontal cortex

Operation

Contents of buffer trigger an amygdala production

Production places a chunk in the emotional buffer identifying the scary object and the buffer it came from

Emotional buffer contents trigger an interruption response in the procedural system

More complexity

Access to declarative memory

- Emotional learning
 - Via association with bad outcome
- Context
 - through spreading activation
- Iowa gambling task