Akio
Beyond Customer eXpectations

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Memoires dans les chatbots

cnrs

Léon-Paul Schaub

MEMORY IN A DIALOG

Memories

- (1) Sensory memory
- (2) Working memory
- **Long-term Memory**
  - **Declaratory :**
    - (3) Episodic
    - (4) Semantic
  - **Non-declaratory :**
    - (5) Procedural
    - **Retention**
    - **Sleep**

Dialog model [Clark and Marshall, 1981]:

(1) Dialog turn

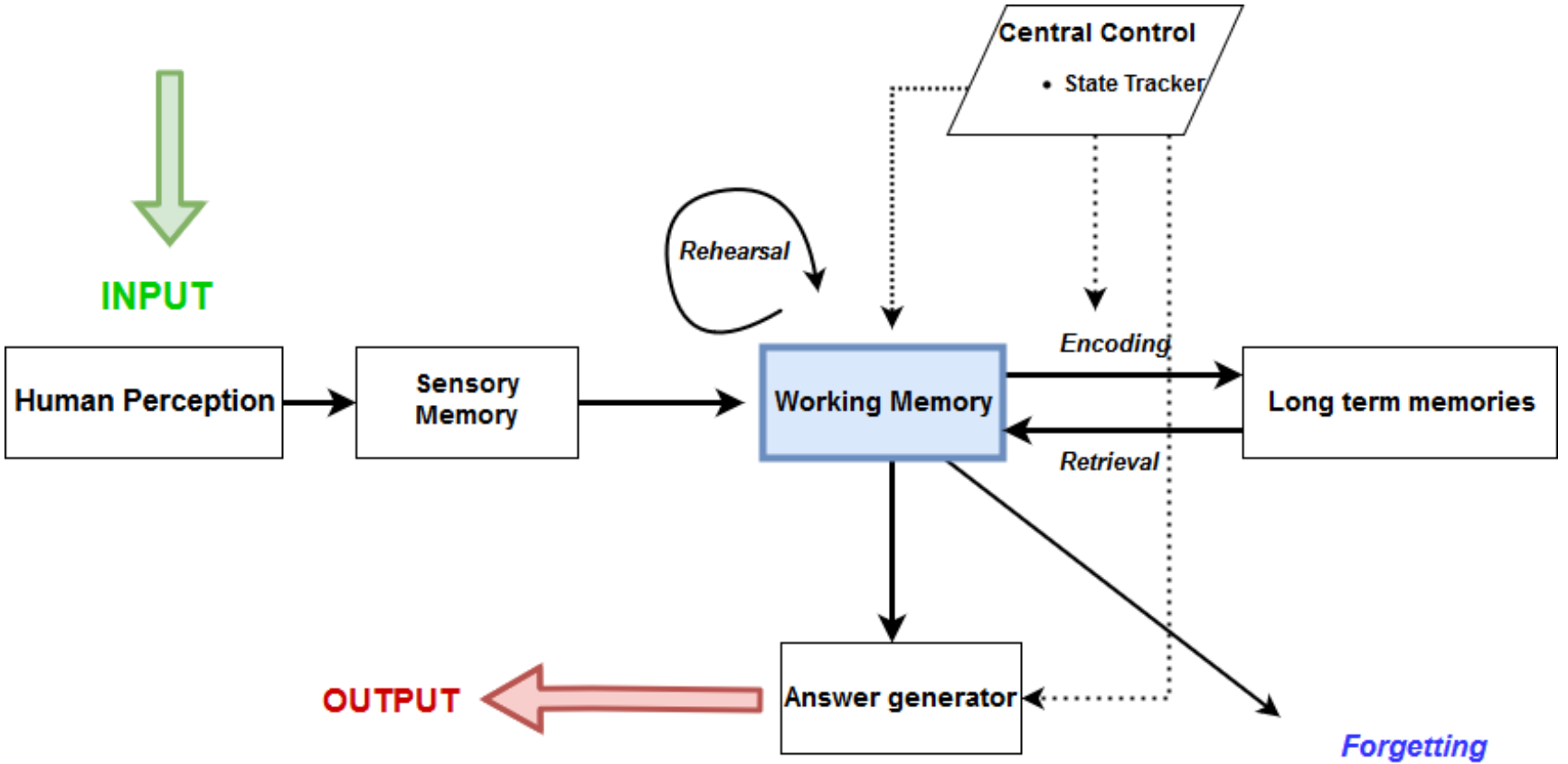
(2) Conversation history

(3) Past conversations

(4) World Knowledge

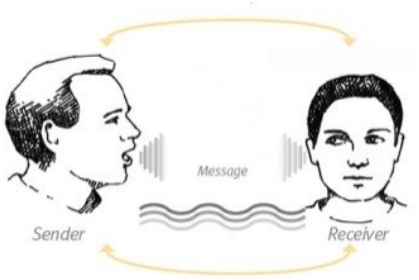
(5) Conversation environment

MEMORY MODEL



ADVERSARIAL MODEL

COSMO Model



Perceptual-motor theory

Dual coupling **hearer/speaker**

Adversarial learning

Variation of co-training

Separate similar **good and bad examples**

Generative Adversarial Networks (GAN) [Goodfellow et al. ,2014]

Used in NLG module of dialog system

Intuition

Adversarial learning for NLU

Three reasons

Better interpretation, optimised **exploration focus** Paliate **lack of training data**

Reflective aspect probably **more robust**

Dev. framework : RASA STACK

POMDP and Interactive learning

User friendly

Already tested : **operational**

CONCLUSION

- Memory essential in dialog acts
- More cognitive memory models better adapted for dialogue
- Adversarial training can make systems more accurate
- **RASA STACK** : an operational framework to develop industrial performant systems.

TARGET : cognitive memory adversarial model between NLU & DM