



When Time is Space

SE367 : Cognitive Science

Avinash Koyya
Y9156

Abstract Thought

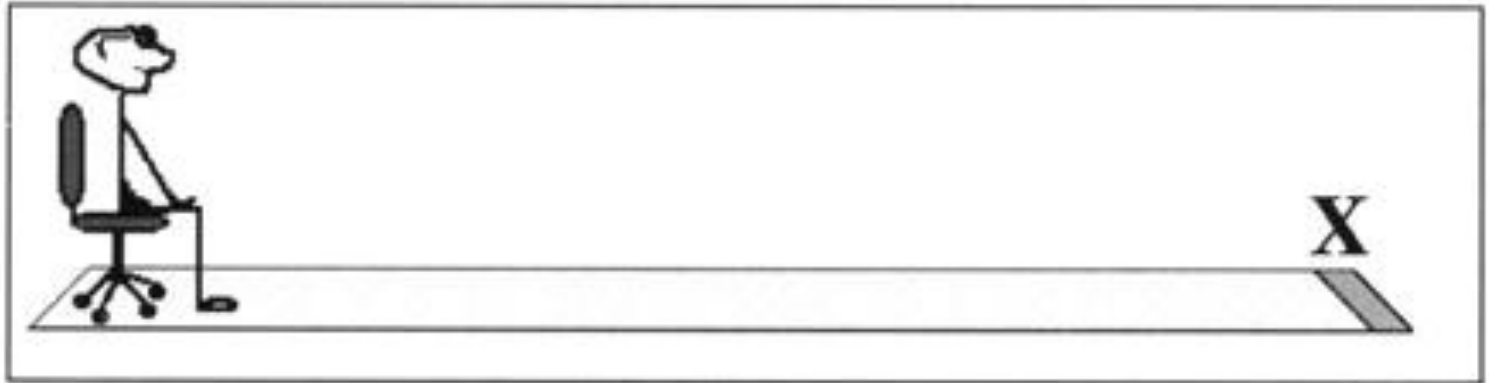
- Not perceivable through the senses
 - Ex. time, justice
- Built analogically from more experience-based knowledge

Time - Space

- “*Back* in the 60’s”
- “I look *forward* to meet you”
- Past (behind) –time→ Future (in front)
- Universal experience of moving forward

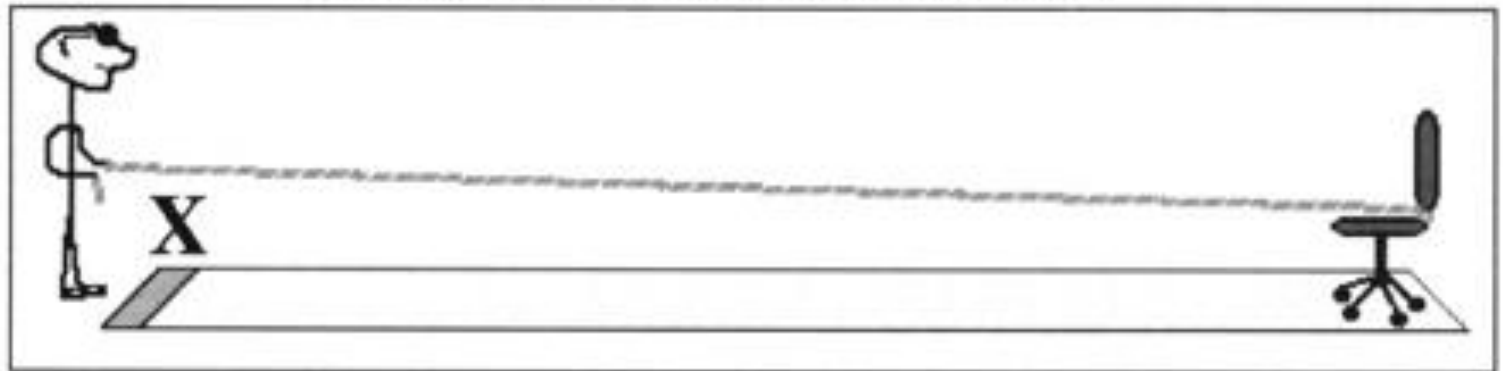
A

Riding the chair (ego-moving prime)



B

Roping the chair (time-moving prime)



Context Dependency

- “Next Wednesday's meeting has been moved *forward 2 days.*”

- *What day is the meeting now ?*

- Ego-moving Friday
- Time-moving Monday

Context Dependency

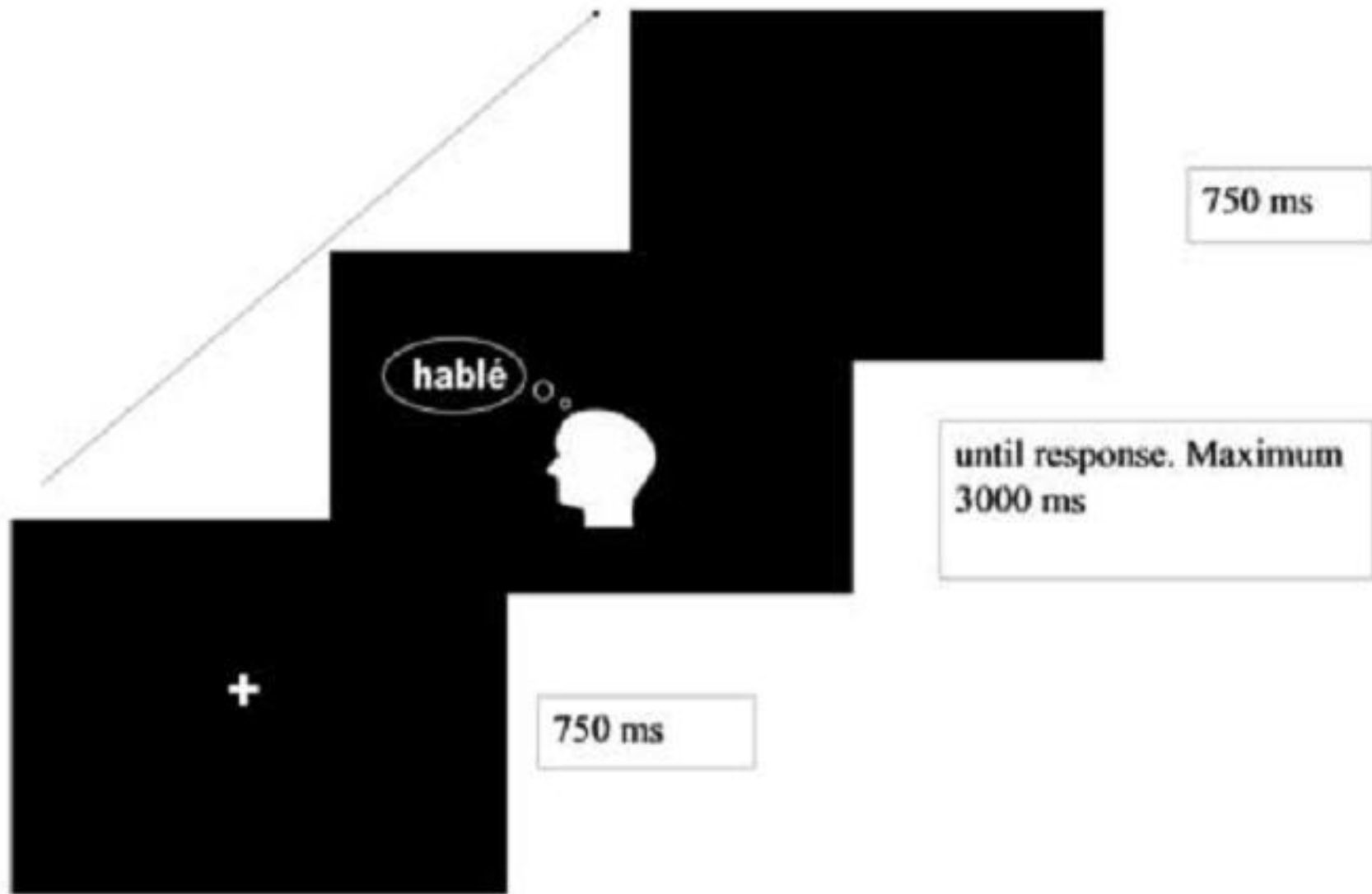
- Spatial experience
 - the Lunch line
- Spatial thinking
 - the Airport
- Spatial experience not sufficient
 - the Train

Time - Space

- Past-left Future-right
 - no linguistic traces in any language
- Which – When ?
 - Attention

Experiment

- Alternative mappings of time using only one when situation allows both
- Chosen mapping would be the one leading to a more globally coherent working memory representation



[Torralbo, Santiago 2006]

Experiment

1. Vocal responses

- Intrinsic salience is low for left – right

2. Left – right key

- Need to guide manual responding would automatically attract attention and increase the level of activation of a left–right

References

- A. Torralbo, J. Santiago, J. L. Lupiáñez
*Flexible Conceptual Projection of Time
Onto Spatial Frames of Reference*
Cognitive Science 30 (2006) 745–757
- Boroditsky, L., & Ramscar, M. (2002).
*The roles of body and mind in abstract
thought*
Psychological Science, 13, 185–189.



Thank you