

HCI - Human *Centered* Interaction

A. Sciutti & G. Sandini



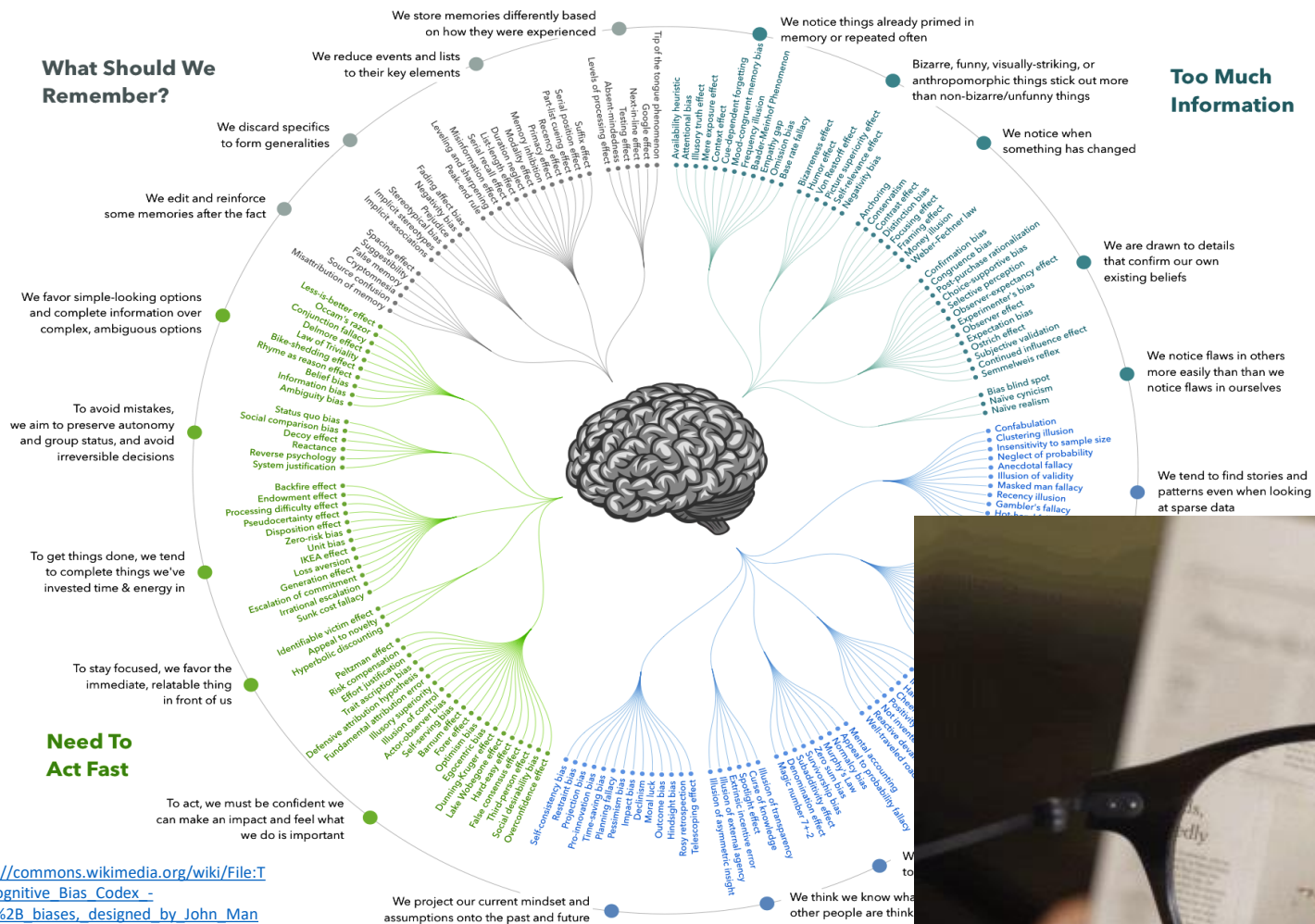
**Machines
without manuals**

@G. Sandini

Sciutti et al. 2018 IEEE Technology
and Society Magazine



COGNITIVE BIAS CODEX



Humans do not perceive the world as it is but rather perception is heavily shaped by **perceptual and cognitive biases**

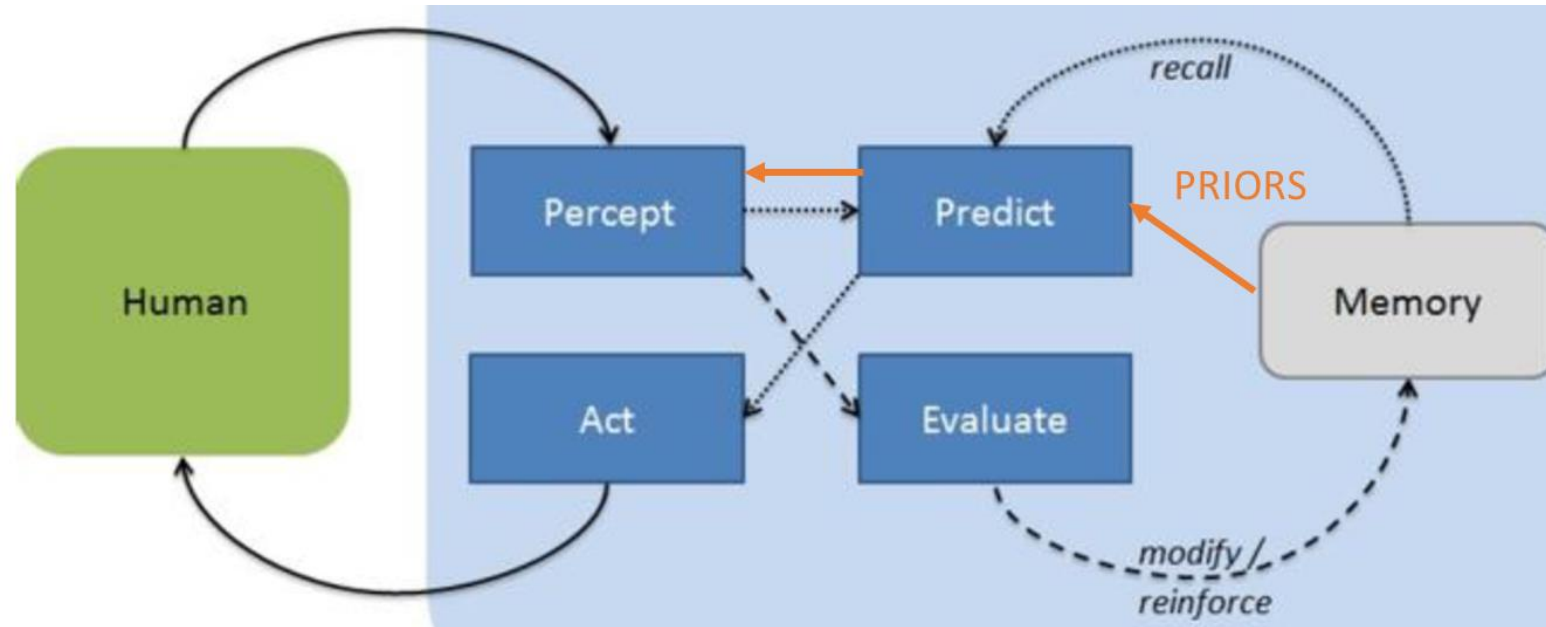
“Anthropomorphic eyes”



Shared Perception

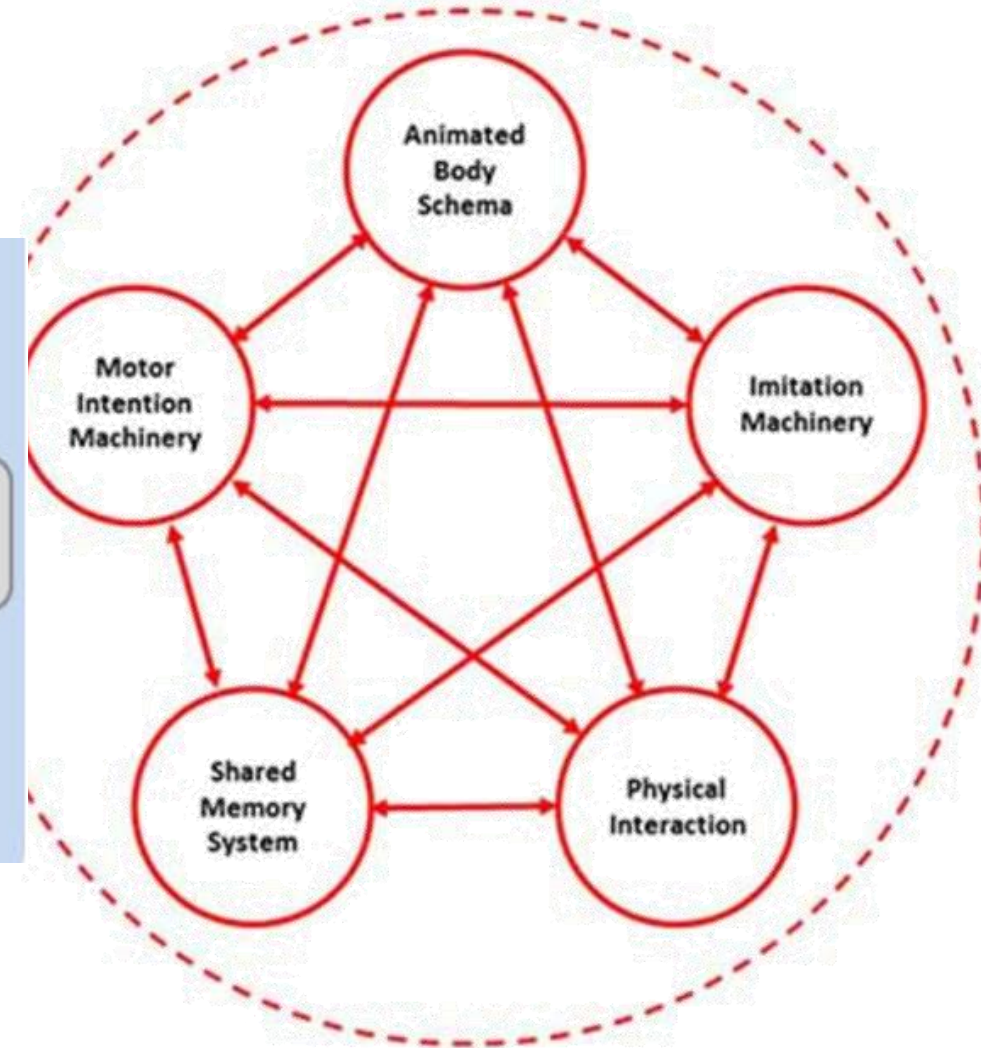
<https://www.whisperproject.eu/>

Architectures



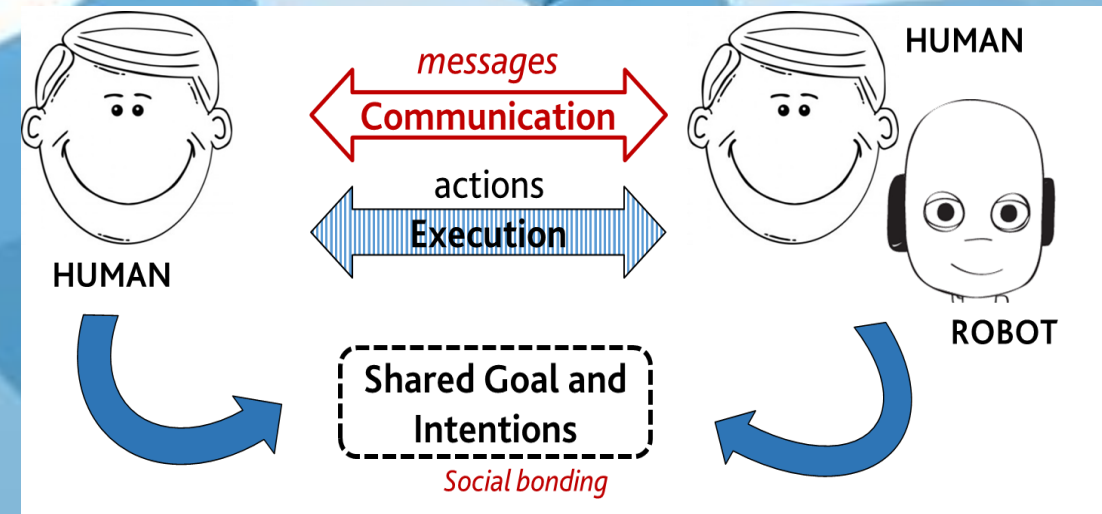
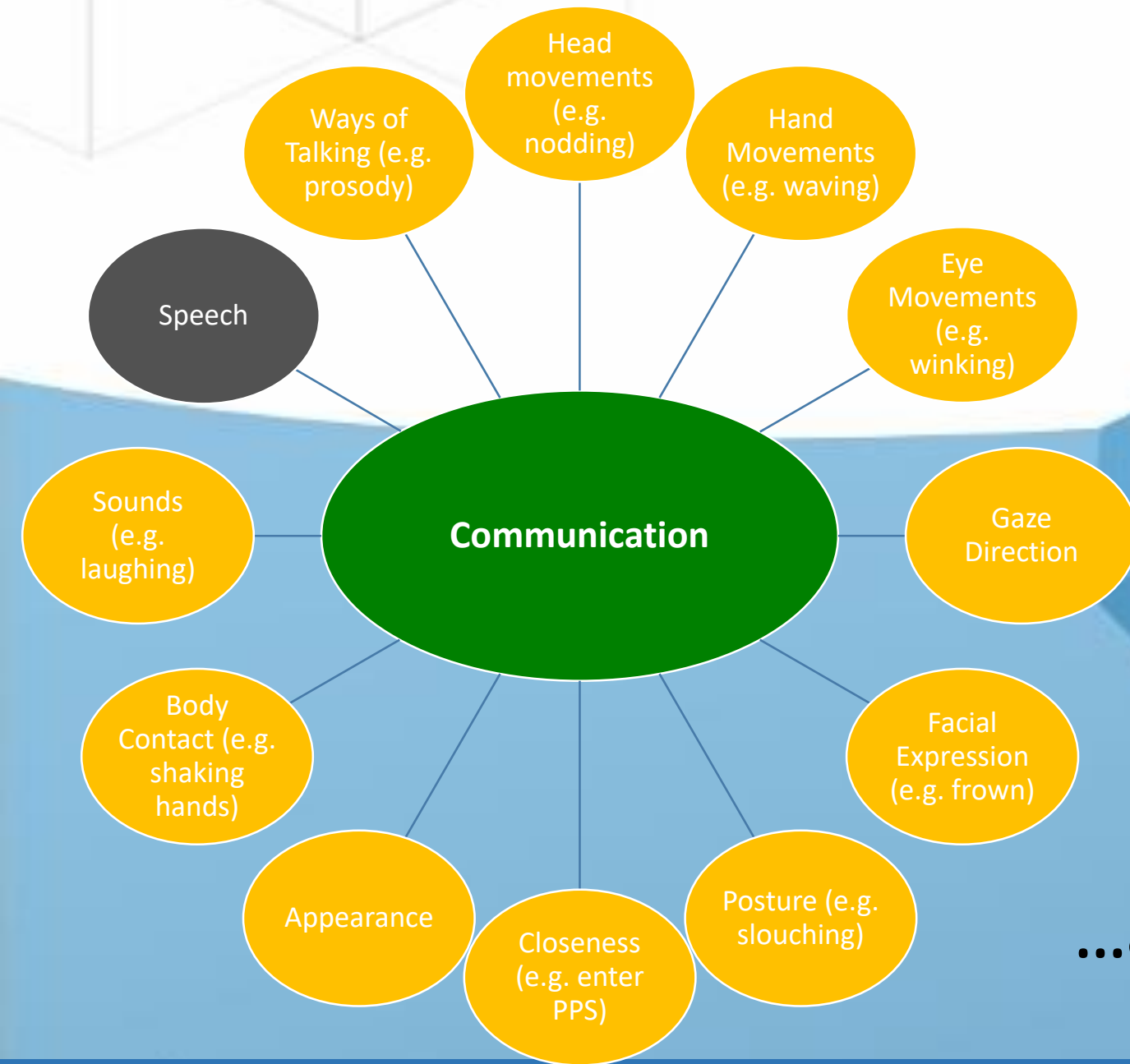
Modified from :

Tanevska A., Rea F., Sandini G. & Sciutti A. 2017, 'Towards an Affective Cognitive Architecture for Human-Robot Interaction for the iCub Robot', *1st Workshop on "Behavior, Emotion and Representation: Building Blocks of Interaction"*, Bielefeld, Germany, October 17, 2017



Sandini, G., Mohan, V., Sciutti, A. & Morasso, P. (2018). Social cognition for human-robot symbiosis - challenges and building blocks. *Frontiers in Neurobotics*, DOI: [10.3389/fnbot.2018.00034](https://doi.org/10.3389/fnbot.2018.00034)

Embodiment

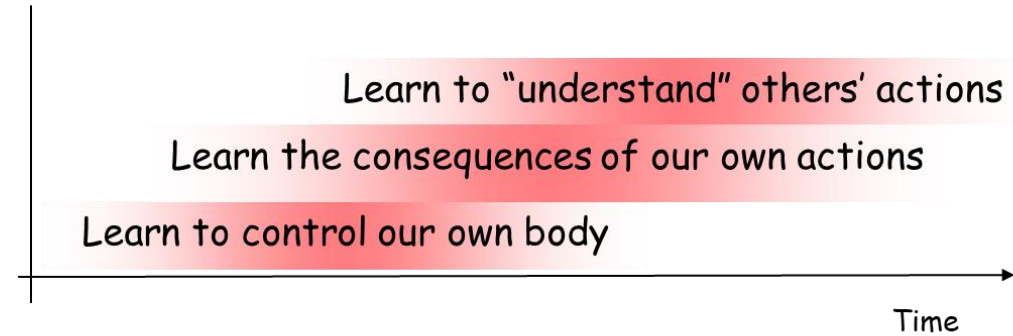


...and embodied communication

Development



The state at each instant during development depends of the previous history: the "planking".



Need to discover the magic sequence, since reverse engineering doesn't work...



Syllabus for HCI

- **Shared Perception**
- **Cognitive Architecture**
- **Embodiment**
- **Development**
- **Transdisciplinarity**

e.g.: humanrobotinteraction.org/2015/themes/index.html

