

Workparts

- Motor descriptors of space
- Predicting attention / hand movement from gaze
- Shared attention

WP 5.3

Motor description of fragment location

- investigate perceived space in the saccade adaptation paradigm in humans (M4 at month 12, D5.3a at month 15)
- same task will be used to train a monkey in order to test whether fragment location descriptors are motor or sensory (M8 at month 22, D.5.3b at month 30)
- results will be used in WP 4 for the generation of an action-minded representation of 3D workspace







Work in the reporting period

- Time course of shift during adaptation (Georg et al., Exp. Brain Res., 2008)
- Reactive vs. scanning saccades (manuscript ready)
- Re-evaluation of shift during fixation (data collection almost finished)
- Model of adapatation and induced shift (starting)





Magnitude of adaptation and mislocalization





Conclusions

- transfer between different saccade types is asymmetric
- transfer of reactive saccade adaptation to space perception is stimulus-specific
- the reactive system \rightarrow flashed targets
- the intentional system → flashed and stationary targets









D 5.3a at month 15 (May)

- report on the respective influence of motor and visual parameters on fragment location obtained from saccade adaptation data on humans
- includes results from reactive / scanning experiments
- includes results from fixation experiments
- conclusion: motor planning is involved in object (fragment) localization

WP 5.4

Predicting behaviour and cooperation in shared workspace

- study sequence of allocation of attention, gaze, and arm movement in human cooperation (M9.ante at month 18, D5.4 at month 27)
- perform similar studies with monkey subjects (M8 at month 22)
- important for the model in WP-3 and WP-4.
 When developed far enough, study cooperation behaviour between human and model in WP 4 with eye tracker in UJI lab.

Work in the reporting period

- Build and test setup
- Begin data collection (single actor)
- Design cooperative task with UJI and UNIBO

Predictive eye movements in gaze and action observation

Task: look as soon as possible the end-location of the pointing movement.



• The observer is able to use the gaze direction of the other person to anticipate the pointing movement with a saccade.

Predictive eye movements in gaze and action observation



• gaze information gives a 200-400 ms advantage in identifying the to be pointed location



Next things to do (try)

- continuous sequences
- fooling / concealing
- interation between two actors
- find task to cooperate with robot