Optimal integration of actions and their visual consequences: exploring the time window for multisensory causal inference
Bielefeld, August 26, 2018
NB Debats

Content data-files

Fourteen participants were included in this study, referred to as PP1 to PP14.

For each participant there are two folders, one for each of the visibility conditions: *Out* ('CursorVisib1'), and *Back* ('CursorVisib2).

Each folder contains the data for 6 experimental blocks ('Block1' to 'Block6') and one for familiarization with the task ('Block0').

[1] Perceptual Data
For each experimental block there is a file that contains all data necessary for computing the perceptual effects. These files are indicated with '_SummaryPerceptualData' and their content is as follows:
Rows: consecutive trials.
Column 1: Participant number
Column 2: Trial number
Column 3: Parameter that was not used in this study
Column 4: Type of outward movement: cursor only (1), hand only (2), both hand & cursor (3)
Column 5: To-be-judged end position: cursor (1) or hand (2)

The four trial types are defined by Column 4 and 5 as: *UniCursor* ([1 1]), *BiCursor* ([3 1]), *UniHand* ([2 2]), and *BiHand* ([3 2]).

Column 6: VisuoMotorRotation angle
Column 7: Instructed approximate movement direction angle
Column 8: Start side of the responses: far left (1.1) or far right (1.2) on stopper ring
Column 9: Parameter that was not used in this study
Column 10: The visibility condition: *Out* (1) or *Back* (2)
Column 11-12: X and Y coordinates hand at the center position
Column 13-14: X and Y coordinates HAND end position (i.e., where the hand hit the stopper ring)
Column 15-16: X and Y coordinates CURSOR end position (i.e., where the hand hit the stopper ring)
Column 17-18: X and Y coordinates hand after returning to the (unseen) center position
Column 19-20: X and Y coordinates of the hand or cursor (see Column 5) position judgment

[2] Kinematic Data
The kinematic trajectories were saved in a single mat-file per trial (e.g., PP1_Block1_trial1.mat, etc…). The content of these files is as follows:
Rows: Consecutive time-samples.
Column 1: Participant number
Column 2: Trial number

Column 3: Repetition number (there were 10 repetitions for each type of trial).
Column 4: Timestamp
Column 5: Protocol phase: outward movement and endpoint (3), backward movement (4)
Column 6: Cursor visibility: invisible (0), visible in veridical position (1), visible but position altered by visuomotor rotation (2)
Column 7-8: X and Y hand position in metric coordinate system
Column 9-10: X and Y hand position in tablet coordinate system
Column 11-12: X and Y cursor position in screen coordinate system
This is the cursor position that corresponds to the hand position on the tablet. Note that this 'true' cursor position was never shown to the participant.
Column 13-14: X and Y cursor position in screen coordinates
This is the cursor position as shown to the participants.
In order transform these positions in cursor coordinates to the metric coordinate system, use:

```
[XmYm] = ( XsYs - [40.5172 1080] )./ [3.7708 -3.7708];
```