

The emergence of gaze conventions in interpersonal coordination

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I. ABSTRACT

We present a new experimental task for investigating the communicative function of eye gaze in interpersonal coordination. The task is played by 3 participants, and is inspired by games such as guitar hero, rockband, beat saber and dance dance revolution. The three key differences are:

(1) Instead of performing sequences of musical notes or dance moves, participants need to perform sequences of gaze events. E.g. a typical target sequence might be:

“Person 2 must look at person 3. Then person 3 must look at person 1. Then person 1 and person 2 look at each other”

(2) On each trial, only one participant (the director) sees the target sequence. This means that in order for the group to complete the target sequence, the director has to instruct the others.

(3) Crucially, the participants are not allowed to use natural language – they may only communicate by looking at each other.

Solving the task, therefore, requires that participants bootstrap a communication system, solely using their gaze patterns. The results show that participants rapidly conventionalize idiosyncratic routines for coordinating the timing and sequencing of their gaze patterns. This suggests that the turn-taking function of eye-gaze can be flexibly negotiated by interlocutors during interaction.

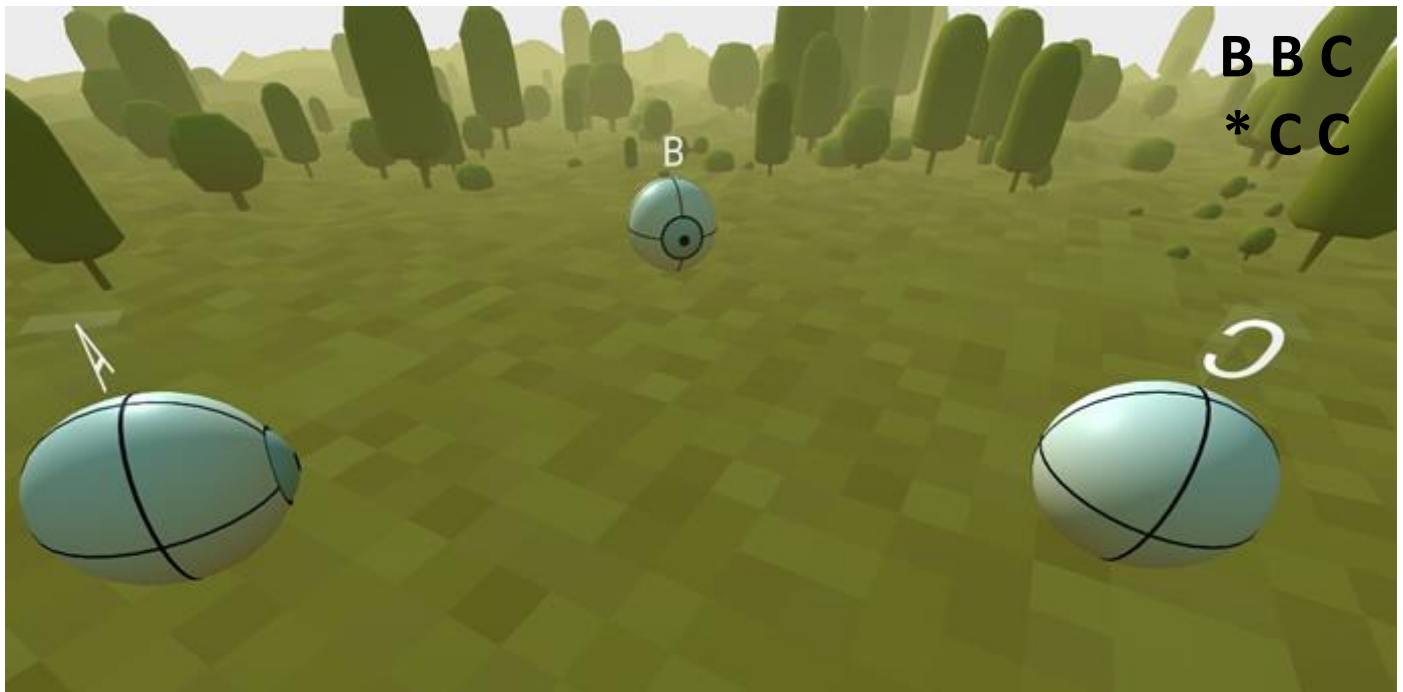


Figure 1 View of 3 participants interacting in the task. The target sequence is displayed in the top right