EFFECTS OF MEANING NEGOTIATION ON CORRECTNESS, GESTURE COUNT AND TIMESPAN IN A GAME OF CHARADES

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Meaning negotiation, most commonly described in language learning and acquisition research (Long 1981; Pica, Young & Doughty 1987), facilitates mutual understanding of interlocutors and influences efficiency of communication (Rees 1998). Negotiation of meaning is based on repetition of words, usage of synonyms and restructuring phrases in a communicative situation in order to enable the parties to work out common means of expression (Rees 1998; Dobao & Martinez 2007, SL: Zeshan 2015). If speech fails, one can resort to the use of gesture and pantomime (Dobao & Martinez 2007, SL: Zeshan 2015) – which are often said to be a communicative universal, that can be produced „on the fly" (Arbib 2018; Zlatev et al. 2020, Silva et al. 2020). We analysed the process of meaning negotiation with respect to three factors: (i) communicative success, (ii) gesture count/pantomime, and (iii) timespan, in a mute game of charades. Following insights from gesture and sign language research, we assumed that meaning negotiation causes not only greater understanding over time, but – what we focus our analysis on – a reduction of (pantomimic) gestures or signs and their conventionalisation and the time of message presentation (Earley 1999; Dachkovsky et al. 2018, Mineiro et al. 2021; Namboodiripad et al. 2016). To test this assumption, we used a dataset of video recordings of pantomime, collected in a study based on the referential task paradigm known from Experimental Semiotics (see e.g. Fay et al. 2010).

The recordings include interactions in 26 pairs of participants, who played a mute game of charades consisting of 4 rounds and based on written input. We analysed the following factors in the interactions: (I) communicative success, operationalised as the number of correct responses in each round; (II) meaning unit count, operationalised as the number of lexical items from the input re-enacted by means of gesture and pantomime in each round; (III) timespan of

each round, given in seconds. We focused on the differences in the three factors in round 1, before the negotiation, and in round 4, after the negotiation.

In order to verify hypotheses, we performed three separate regression analyses for each outcome variable (Correctness – Fig. 1, Gesture Count – Fig. 2, Time – Fig. 2). Gesture count and Time were standardised before being entered into their respective models in R. In line with our assumptions, the participants negotiated the meaning throughout the game and were making significantly more mistakes in round 1 than they did in round 4; the time they spent on presenting their re-enactments in round 1 compared to round 4 was also significantly shorter; however, the number of gestures remained at the same level.

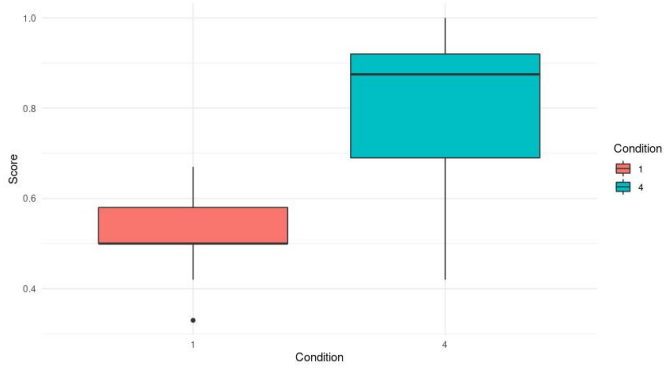

Figure 1. Box plots for correctness for rounds 1 v. 4.

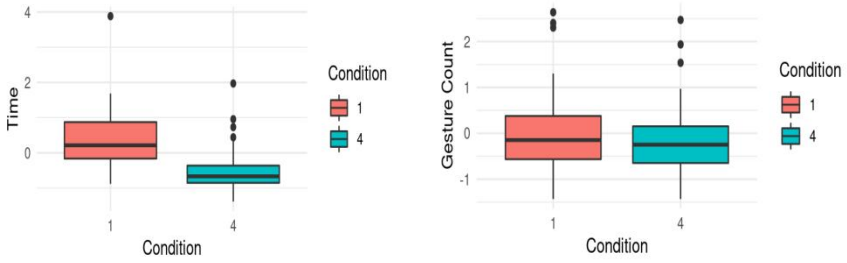

Figure 2. Box plots: time span for rounds 1 v. 4 and gesture count for rounds 1 v. 4.

In the discussion, we propose explanations for such a result - we refer to research in sign/language change over time, language evolution, communicative pressures, and meaning negotiation processes. We also discuss the results in light of a more detailed description of the participants' gestural choices and strategies between the rounds.

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