Intra- and Inter-personal Coordination of Speech, Gesture and Breathing Movements

Nobuhiro Furuyama, Koji Hayashi & Hiroyuki Mishima
National Institute of Informatics, The University of Tokyo, University of Fukui

Abstract
This paper reports a couple of experiments conducted to examine dynamics underlying intra- and inter-personal coordination of speech articulation, hand gesture movements and breathing movements. The results show both similarities and differences between intra- and inter-personal coordination and they will be discussed in terms of motor coordination and their implications to man-machine symbiotic systems.

1 Background: Speech-gesture coordination can be observed inter-personally as well as intra-personally. How is this all possible?

2 Hypothesis: We thought that there is a dynamical basis underlying speech-gesture coordination regardless of whether it is achieved intra-personally or inter-personally.

3 Method:

4 Results:

5 Conclusion:
- The results showed certain similarities when oscillatory frequency is in the range between F4 and F10 (0.6 Hz and 2.4 Hz) and certain differences when oscillatory frequency is in the range between F1 and F4 (0.6 Hz and 1.2 Hz).
- The similarities suggest similar underlying dynamics in both intra- and inter-personal coordination and the differences suggest different underlying dynamics in these two kinds of coordination.

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