The Social Affects in Mandarin Chinese and Corpus Construction

INTRODUCTION

- Social affects (or attitudes) differ from emotions by the nature of the speaker’s control: social affects are voluntarily controlled and emotions are involuntarily controlled;
- Both Mandarin Chinese and Vietnamese are tonal languages, and they are culturally and geographically closer in comparison with French, which is a non-tonal language;
- The objective of the present work is to study the influences of tones on the perception of 19 prosodic social affects of Mandarin Chinese by French and Vietnamese listeners and the confusions between the social affects.

I. The Social Affects in Mandarin Chinese and Corpus Construction

Mandarin Chinese: tonal language

- Teaching of the prosody of French social affects to Chinese learners
  - doub(DOUB) admiration(ADMI) irony(IRON)
  - seduction(SEDU) resignation(RESI)
  - disappointment(DISA) contempt(CONT)
  - confidence(CONF) obviousness(OBVI)
  - imitation(IRR1) neutral surprise(NEU-S)
  - positive surprise(POS-S)
  - negative surprise(NEG-S)

Chinese social affects

- Attractivity of attitudes
- Politeness(POLI)
- Authority(AUTH)
- Intimacy(INTI)
- infant-directed-speech(IDS)

- Cultural differences

- French social affects

Corpus structure

- 152 utterances with the variation of:
  - global length: from 1 to 9 syllables;
  - syntactic structure: from mono-word to complex structures;
  - location of the syntactic boundaries (length of phrases);
  - identity and location of the tones.

Corpus recording

- 2888 Stimuli: 152 utterances * 19 social affects
- 150 minutes of audio-visual signal after post-proceeding
- speaker: Chinese female

II. Perceptual experiments

Perception test with French and Vietnamese listeners

Sub-corpus: 16 utterances
- 3- and 4-syllable length;
- non-syntactic variations;
- variation of the tones location: each ton is in the first and the last syllable of the 4-syllable utterances and other syllables are always in the first tone.

Listeners: 15 French and 15 Vietnamese

Protocol:
- audio only
- 304 stimuli and one presentation for each stimulus

Comparison with the perception test with native listeners [cf. SP 2012]

Sub-corpus: 21 utterances
- 1-, 2-, 4-, 9-syllable length
- syntactic structures of 4- and 9-syllable utterances:
  - NP(2)+VP(1)+NP(3)+VP(1); NP(1)+VP(3);
  - NP(7)+VP(3)+NP(1); NP(3)+VP(3)+NP(3).
- tone position: - all tones in each syllable of the 2-syllable utterances;
  - 4- and 9-syllable utterances end in either tone 2 or tone 4;
  - Other syllables are always the tone 1.

Listeners: 15 Chinese males and 15 Chinese females

Protocol: audio only
- 399 stimuli and one presentation for each stimulus

Mean recognition rate for 19 social affects:

- The majority of attitudes have been recognized over the chance level both by native listeners and by French and Vietnamese listeners; "declaration" attracted most answers.
- Another cross-language multimodal perceptual experiment will be carried out to investigate how the 19 audio-visual prosodic attitudes will be perceived by native and non-native subjects.
- The tones have some influences on the perception of several social affects and the tonal effect is more significant for French subjects than for Vietnamese ones.
- An acoustic analysis of the production of social affects with emphasis on F0 contour of tones will be involved in the future work.
- INTI and CONT were clustered differently by Chinese listeners vs. French and Vietnamese listeners.
- The understanding/cognitive distances between the used labels of Chinese and French social affects will be examined in order to propose a vernacular cognitive clustering.

CONCLUSION AND PERSPECTIVES