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INTEROPERABILITY OF COMPUTER PROGRAMMES
ELAN, PRAAT, FOLKER
FOR MANUAL MULTIMODAL LINGUISTIC ANNOTATION
Culturological and suprasegmental analysis of communicative interactions marked by (im)politeness
Language of Boundaries and Boundaries of Language

The aims of the project are the documentation and interdisciplinary analysis of phenomena related to interpersonal communication in the borderland region of Ślubice (Poland) and Frankfurt Oder (Germany) – on the border of languages and cultures.

The main research focus is on paralinguistic phenomena (prosody, gestures) and accommodation within the communication process together with the relevant communication strategies. The cities of Frankfurt Oder and Ślubice constitute an investigation and testing ground for fieldwork analyses of an exceptionally close co-existence of cultures, languages, and social groups connected by their common history.

The project’s goals include: studies of linguistic and cultural awareness, the sense of identity, the awareness of language endangerment, the influences and changes affecting the language spoken by the local communities of Ślubice and Frankfurt Oder, the studies of the dynamics of the processes of mutual accommodation (communicative convergence) of paralinguistic features in task-oriented dialogues, especially the prosody and gestures, as well as empirical studies dedicated to the realisation of selected categories of gestures used by Polish and German speakers.
Multimodality and Multimodal Analysis

MULTIMODALITY:
receptive and productive modalities
(processing of information/communicative processes)

monomodality
bimodality (ear&eye)
multimodality

multimodality and multimediality
→ codes, channels, media
(Bonacchi & Karpiński 2014)
Multimodal analysis

- Analysis of communicative displays (Sager 2004)
  - verbal display (what is said)
  - vocal display (how is it said)
  - kinetic display (facial expressions, gestures, proximic behavior, movements in the space, allocation of communicative space)
- interplay of image and text
- interplay of text and sound

Multimodal communicate

Multimodal Message Coherence (Zwaan & Radvansky 1998, Karaśkiewicz & Czoska 2014)
Computer Programmes

- Annotation: ELAN ([http://www.lat-mpi.eu/tools/elan](http://www.lat-mpi.eu/tools/elan)) (as „umbrella tool”)

- Transcription: Folker, GAT2 ([www.agd.ids-mannheim.de/folker.shtml](http://www.agd.ids-mannheim.de/folker.shtml))

- Phonetic Analysis: Praat ([www.fon.hum.uva.nl/praat](http://www.fon.hum.uva.nl/praat))

Bonacchi & Mela 2014, Bonacchi & Mela 2014
Other tools

- ANVIL (http://www.anvil-software.org/download/index.html)
- Exmaralda (http://www.exmaralda.org/en)
- Annotation Pro (http://annotationpro.org/downloads/)
Reasons for preferring ELAN as umbrella tool:

- a high degree of interoperability with other programmes for speech analysis
- very high degree of flexibility when it comes to defining the tier-structures (annotation tracks or layers) and thus defining the levels of linguistic analysis
- it is an open system which could also be used both by students and for teaching purposes
- ELAN was already being used in other Polish research centres (for example by the Centre for Speech and Language Processing in Poznań for the DiaGest Corpus, [http://cslp.wa.amu.edu.pl](http://cslp.wa.amu.edu.pl))
Data we work with:

- video (e.g. *.mp4)
- audio (e.g. *.wav, *.mp3)
- text data (e.g. *.txt, *.doc)
- images (e.g. *.jpg)
Steps

- choice of relevant parts in our videos, labelling work (source: *.mp4 or sim.), extraction *.wav (channels)
- transcription – Folker
- Import in Elan of media and transcription files
- determination of annotation layers
- coding
- manual annotation
A crucial moment in the annotation work turned out to be the transcription of verbal displays for further connection with tiers related to the description of vocal displays, for example annotation levels related to the use of voice, turn-taking, paraverbal features like backchannel and hesitation signals etc.

Even though transcriptions in other Polish research groups are carried out directly in ELAN, we have found it necessary to do the transcription as a separate step, using Folker, a programme developed at the Institute for the German Language in Mannheim, Germany which is highly suitable to GTA2 conventions for German and (with few adjustments) for Polish language.
Folker – segment view
Folker – score view
Folker – contribution view
Output of Folker-files (*.html)

- segment list or score
- compact score with audio player file
- contribution list
- contribution list with audio player
- GAT basic transcript
- quantification.
Compact score with AudioPlayer
Export as ELAN-file (*.eaf)
Transcription mode in Elan (for further analysis)
Selection of selected fragments, annotation view
Praat-Analysis of selected segments

Polish: „a PAnią (.) wzywam to poprawy”
English: “and I call on YOU to change your behaviour!”
A problem:

Unfortunately, it is not possible to import Praat-images into ELAN. For the annotation of the vocal display (for later suprasegmental analysis) you can create description layers in ELAN, but they are only descriptive.

→ importance of developing the function of importing Praat-images into ELAN, allowing us to be able to see, for example, the stress on the word “paniç” in the Polish utterance “a PAniç (. ) wzywam to poprawy” (English: “and I call on YOU to change your behaviour!”)
ELAN allows a very rough automatic phonetic transcription for some languages thanks to tools like BAS-WEBMaus Basic (Archive for Speech Signals in Munich) and automatic recognition of movement, but these tools are still very unprecise.
Coding

- Coding is a crucial moment in the annotation work, (categorization which permits unitary annotation values for the later extraction of data).
- Here it would be useful to have a greater cooperation between the research groups with exchange of annotation coding and also some tools for automatic coding.
Coding: categorization of annotation values (head movements)
Annotation in ELAN

In all Poland football fans are the most patriotic

I don't wish any of my ( ) enemies to meet them

According to AZ football fans are the most patriotic Polish social group whereas in MO's opinion

AZ criticizes MO for not acting the patriotic way football fans do

AZ's criticism of MO for not being a good patriot

Realistic words about Polish football fans as being the most patriotic social group

A sentence which is AZ's enumeration of his experiences of past situations where MO should have been present but wasn't
Conclusions

- Good interoperability, but the operations require a certain degree of familiarity with the programmes
- Tools for coding are to be improved
- Tools for corrections and reassignment of annotation layers are to be improved
- Possibilities of „visualization” have to be improved
- Development of an international standard in transcription
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