The Multi-Modal Corpus: Coding and representing data - the issues

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Communication:

- Beyond language: Communication as a ‘complex network’ of ‘semiotic channels’ (Brown, 1986: 409)

- These channels are multimodal

- There are many possible, ‘different, independent, pragmatic and semantic functions’ of signs making them specific to their (Argyle, 1975)

  - Type
  - Function
  - Context of use

- Effective communication relies upon the receiver successfully detecting, processing and understanding these interactive ‘signs’ in its given context of use.
Research foundations:

• Non-verbal, multi-modal behaviour plays an integral part in determining the meaning & function of linguistic components & units.

• The challenge of understanding the nature and role of gesture-in-talk (or in context as it were) is a substantial and very long term one that is of central concern to language studies (Kendon, 1994).

• Current methodologies in language data analysis need to be extended to include an integrated exploration of both verbal & non-verbal patterns of social interaction.

• To this end video corpora recorded in specific contexts have to be developed to illustrate the relationship between verbal and non-verbal behaviour, as well as the technological requirements for an integrated way of annotating different aspects of communicative events.
Possible sites for a multi-modal approach:

Analysing listenership

• A backchannel item is a short response token that does not take over a speaker turn and is not a response to a question.

• Backchannels are realised through a finite set of linguistic forms which can be extracted from corpora.

• Backchannelling also includes non-verbal response tokens, non-vocalised kinesic signals, and proxemic movement as a means for hearers to register and evaluate what is being said.
Backchannel forms in 40,000 words of conversation
**Backchannel functions in discourse:**

1) **The Continuer** (maintain the flow of the conversation)
   
   S1: The way this was done was a Scottish lady who lived across the road from us.
   
   S2: Yeah.
   
   S1: And she would soak some grey wool. A length of grey wool in a saucer with olive oil.
   
   S2: Yeah.

2) **Engaged Response Token** (conveys an emotive response)

   S1: And do you wax under your eye?
   
   S2: Yeah under both eyes I get waxed.
   
   S1: Holy mother of the Lord.
   
   S2: I get waxed under both eyes and my chin.
Outstanding issues:

• How does body movement relate to language forms used to signal active listenership?

• How does body movement relate to functions of backchannels?

• How does intonation relate to body movement, forms and functions of backchannel behaviour?

• How does body movement relate to different social contexts and groups of speakers/listeners?
Aims:

* To record *multiple modes* of communication in a natural context.

* To record *both the individual & synchronised* patterns of speech / head movements simultaneously, within the same frame of reference.

* Recordings to be *accurate* and able to be replayed & annotated in the future.
Approach to research & Corpus development:

To develop our understanding of head-nods and other gestures we need to consider:

- Data sources and collection methods
- Detect, define, encode head nods
- Re(presenting) data
Data sources:

Data sets include:

• supervision sessions
• TV interviews, PM Question Time
• Research meetings
• Lectures and conferences

Other gestures will include:

• laughter; handtalk; proxemics
Detecting head nods:
Detecting head nods continued:

![Head Angles over Time](chart)

- Frame
- Angle (Radians)
- Pitch
- Yaw

Nod | Shake | Nod
Encoding head nods:
Coding schemes and methods:

- Coding schemes supporting the identification, representation and analysis of different elements, components and units that exist in spoken discourse proliferate.

- There is a lack of such schemes for marking-up non-verbal elements or for integrating it with verbal elements, those that exist focus on computational tools.

- Current schemes are generally developed to match a specific research need or are aimed at a particular user group.
(Re)presenting Data- the issues:

- Current tools tend to focus either on the management of data or upon the processes of coding and annotating previously collected data.

- There does not appear to be a tool available to support the integration of these individual processes, supporting the research process from recording, through organisation of records, coding and analysis.
(Re)presenting Data:
Some future challenges

- Re-classification of categories in the light of new visual and audio evidence?

- Sharing of tools, coding schemes and recording mechanisms with other research communities

- Ethics and data