

Acceptable approaches to data selection

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Data selection for what?

We distinguished long ago two extreme types:

- ◆ Supportive
 - To let people fill in or check details of processes/situations they broadly understand
- ◆ Provocative
 - To help people expand and restructure their thinking
 - By testing applicability, pointing challenges, etc.
- ◆ Criteria for a supportive database may be very straightforward – mimic application situation
- ◆ Criteria for a provocative database are less obvious
 - Biasing selection can bias development

Standards to be formulated

- ◆ Criteria for the systematic selection of recordings
- ◆ Criteria governing the boundaries of sections/clips within data for labelling
 - Not satisfactory either for data to consist either of clips that achieve very high recognition rates...
 - ...or of clips that someone feels intuitively are 'good' or 'interesting'
- ◆ Appropriate standards based on some kind of representativeness

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Standards: Criteria for systematic selection of data

- ◆ Broad identification of data in HUMAINE context
 - Material showing emotion in interaction and in action
 - In different contexts (static, dynamic, indoor, outdoor, conversation type, etc.)
 - Across a broad emotional space
 - Across key combination types (particularly relevant to emotion over time)
 - Showing gesture, face, voice, movement, action, words
 - Across a range of people (gender, culture)
- ◆ In future
 - May extend selection criteria

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Criteria for systematic selection of data: Associated issues

- ◆ 'Ground truth'
 - For some purposes, it matters to know what the person's emotion *really* was
- ◆ Purity
 - For some purposes, it matters to have pure examples of a particular category
- ◆ Acting
 - For some purposes, we want to capture what people think of as emotion
 - The value of acting for other purposes is unclear
- ◆ Analyser-friendliness
 - For some purposes, material is useless, unless current techniques can extract FAPs, etc.
- ◆ None of these is treated as an over-riding criterion

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Systematic selection of data for Pilot exemplar database

- ◆ Data types
 - Belfast Naturalistic Database
 - Sensitive Artificial Listener Induced Data
 - Castaway Reality TV Data
 - QUB Activity Data:
 - Outdoor Activity Data & Spaghetti Data
 - LIMSI Gesture Data

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Systematic selection of data for Pilot exemplar database

- ◆ Level 1: Core selection of 50 clips to cover
 - ➔ Material showing emotion in interaction and in action
 - ➔ In different contexts (static, dynamic, indoor, outdoor, conversation type, etc.)
 - ➔ Across a broad emotional space
 - ➔ Across a range of people (gender, culture)

Systematic selection of data for Pilot exemplar database

- ◆ Level 2: Subset of 16 for labelling to cover
 - ➔ Emotional space
(covering each of 4 quadrants of Russell circumplex of emotion & a range of intensities within the circumplex)
 - ➔ 3 Combination types: (cf. companion talk on labelling)
Consistent,
Co-existent emotion,
Emotional shift over time
 - ➔ Gesture, face, voice, movement, action, words

Standards: Criteria for extraction of specific sections or '*Clips*'

- ◆ 'The emotional ratings based on the clip alone should be as good as ratings based on the maximum recording available'
 - ◆ I.e. editing should not exclude information that is relevant to identifying a state or determining an emotional episode
- ◆ Example of relatively intense emotional episode
 - ◆ Extraction of a section should include build up to and movement away from emotional nucleus/explosion – lead in and coda are part of identification of the state
- ◆ Example of emotionally coloured but not very intense data
 - ◆ Clip selected should give us as much information as the maximum recording available

Extraction of specific sections or '*Clips*' for Pilot database

- ◆ Data with intense emotion relatively straightforward to select from
- ◆ Less intense data led to less rigorous selection

Conclusions

- ◆ Provocative databases
 - ◆ Need for stated criteria
 - For systematic selection of data
 - For clip/section extraction