



# From Generic to Individual Greta

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## Extended - APML

- APML: representation language at the level of communicative function
  - Each meaning is associated to a signal
- Extend APML to be a language representation for Generic Agent
  - Each meaning associated to a set of possible signals
- Creation of an Individual Agent: instantiate particular correspondence between meaning and signal



## Individual Agent

- Individuality is composed of complex characteristics such as culture, age, personality, profession, sex...
- We do not aim at modeling these characteristics per se: this is just too complex

Rather

- We aim at modeling the influences a certain characteristic has over the creation of an individual agent



# Influences

- Influences may occur at various levels of the communication:
  - Instantiation of a given communicative act
  - Instantiation of this CA into signals
  - Expressivity of the signals



# Expressivity

- Expressivity modeling: modal and intermodal
- Modal:
  - Every modality has its own parameters
  - Facial expression:
    - Quantitative parameter: how many signal constitute the expression (e.g. eyebrows, eyebrow+mouth, eyebrow+mouth+eyelid,...)  
*slight happiness: slight smile*  
*strong happiness: large smile + crow feet wrinkle + upper eyelid raise*
    - Qualitative parameter:
      - Muscular contraction
      - Onset, offset
      - Duration of an expression



# Expressivity

- Gaze:
  - length of gaze
- Gesture:
  - Amplitude
  - Velocity
  - Repetitiveness
  - Tension



# Expressivity

- Intermodal
- Choice of a modality to express a given CA (face, gaze, gesture, body)
- Resolution of conflict (if a modality is occupied to communicate a given meaning, look for a free one; as a modality may not be able to express more than one meaning at a time)
- Functions among modalities
  - Redundant
  - Complementary
  - Addition
  - Substitution
  - Masking



## Future Work

- Enhance gesture specification to consider movement
- Represent and quantify expressivity of gesture
- Individualize the APML library of gestures:
  - Consider rules of influence to instantiate, for a particular agent or context, a given library of gestures made of lexicon pairs (meaning, signals).
- Create a representation language for hearer (primary and/or secondary)?