

A Cross-Linguistic Annotation Model for Children's Oral Language and Spontaneous Gestures

Ramona Kunene & Jean-Marc Colletta

Lidilem , Université Stendhal

BP25 – 38040 Grenoble Cedex 9, France

kuneneramona@yahoo.com, jean-marc.colletta@u-grenoble3.fr

This paper deals with a cross-linguistic and intercultural perspective of child's speech development in its multimodal and semiotic aspects. Research on gesture as well as cognitive science has presented data that show that the listener, or speaker, integrates auditory and visual information from linguistic, prosodic and gesture sources into a single message (McNeill, 1992, 2005; Beattie, 2003; Goldin-Meadow, 2006).

In recent studies, the study of semantic systems of languages has proven to be relevant in that differences exist in how languages conceptualise the world. Bernicot (2000) postulated that pragmatic features rely on the social and cultural context of a given language. The typology proposed by Leonard Talmy (Talmy, 1985), has been a cornerstone in the investigation of the role of grammatical and semantic structure of a language and its influence on its speakers. Talmy's typology is based on the linguistic encoding of events. He proposed a two-way split *tendency*² of all languages in terms of how a "motion" event and "path" and "manner" are packaged linguistically (Talmy 1985, 1991; Özcaliskan & Slobin, 2003). Languages who use motion verbs to incorporate information about path are called "verb framed" (V-Language, which include Romance languages) and languages that convey path of movement by verbs are called "satellite-framed" (S-Language, which include Germanic languages).

With respect to children, several researchers have revealed evidence that a gesture-speech system begins to operate from 16–18 months of age (Capirci, Iverson, Pizzuto, Volterra, 1996; Butcher & Goldin-Meadow, 2000; Volterra, Caselli, Capirci & Pizzuto, 2005; Ozcaliskan & Goldin-Meadow, 2006). Furthermore, there is additional evidence that coverbal gesture, manual or head gestures as well as facial expressions linked to speech, develops as well as varies as the child grows older (Colletta, 2004; Colletta & Pellenq, 2007).

However, how does this speech-gesture system develop in children older than 5 years? Does the relationship between gesture and speech get modified under the influence of new linguistic acquisitions and new communicative behaviour? Do new co-speech gestures appear through late speech development? When and how does culture influence this co-development of gesture and speech?

Our data collection is based on a protocol aimed to collect spoken narratives and explanations of children under controlled conditions. Narratives in French and isiZulu were elicited using an animated cartoon as the stimulus. The collected data are analyzed using the software ELAN (EUDICO Linguistic Annotator)³. We propose an annotation tool model for the transcription of speech and gesture across languages that have different semantic systems.

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² Not all languages are one or the other, some mix the two

³ Available from <http://www.mpi.nl/tools/>. Also see Brugman and Russel (2004).

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