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Corpus annotation in Interlocutive Speech Analysis: some elements for Language Acquisition

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1. Interlocutive Speech Analysis (ISA) : methodological prospects

Linguistics-based approaches to Discourse organization provide a set of methodological resources for the analysis of children's speech (Ninio & Snow, 1999; Hickmann, 2001, 2003; Bernicot, 2005). In the field of Language Acquisition which concerns the ways young children diversify their utterance, the device of discourse analysis brings a large number of indicators. In this field as in others, interlocutive speech mainly corresponds to dialogues (more frequently between a young child and adults or other children) and contrasts with overt/covert individual oral productions (called verbalizations in a few approaches: Fuson, 1979; Schunk, 1986). However dialogue between several participants is not an absolute condition for Interlocution. Indeed, some analysts include a monologic dimension in it, that is to say moments when children either speak with an imaginary person or make imaginary persons speak together (see Roby & Kidd, 2008).

From a methodological viewpoint, it is almost impossible to draw up an inventory of all the paradigms referring to Interlocution. This fact can be explained in different ways: on the one hand, Interlocution presupposes the intervention of several types of participants, such as speakers and interlocutors, but it cannot be reduced to it altogether. On the other hand, as Araújo Carreira (1997, 311) sums it up, discursive materializations « are obviously infinite and linguistic analysis could never give an account of this profusion ». Moreover in the configurations where Interlocution is transcribed in writing (when young children co-construct a narrative draft for instance: Torterat, 2010b, 2012a), its diverse versions may allude to multiple Discourse entities (Nölke, 2001, 2009). This being so and on that subject, let's point out that some contemporary discursive approaches to textual productions, such as the Segmented Discourse Representation Theory (SDRT: Asher, 1993; Asher & Lascarides, 2003) and the Geneva Model of Discourse Analysis (Roulet et al., 1985; Roulet, 1997) integrate Interlocution among their main parameters. According to the latter approach for example, Filliettaz & Roulet (2002, 389) explain that « a discourse analytical approach based on interaction and modularity turns out to be one of the possible paths of exploration for bridging the gap between language use, social action and cognitive resources in contemporary linguistic research ».

Many studies in Language Acquisition show an indisputable interest for Interlocution. It is above all the case in functionalist studies of language focusing on communicative functions and/or « conversational » abilities (see Veneziano & Sinclair, 1995; Eisenberg et al., 1998; Hickmann, 2001, etc.). The first works refer to abstract units reflecting the speakers' communicative intents; the second works examine the speakers' capacities to participate in speech acts in interaction with other participants (see Bernicot, 1992; Banks-Leite, 1999). These works are concerned with social-pragmatic theories, exposing among other possibilities how  

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1 This paper is a short presentation of a conference given at the Complacq Workshop (Paris, René Descartes University, 2010). We thank Yves Bardière and Catherine Schnoor for their remarks.

2 In our analysis, verbalizations and self-oriented oral productions coincide with intralocutive speech (Bres, 2005, 53 sqq).

3 Our translation.
young children adapt their discursive productions towards their interlocutors (Veneziano & Sinclair, op. cit.), but also in which proportions Discourse context help them to determine their interlocutors' intended referents (Frank et al., 2009). Such questions are regularly raised in Psychology, Linguistics and Psycholinguistics. More specifically from a linguistic perspective, certain approaches have shown to what extent Interlocution favours children's appropriation of Discourse variation, in particular when young speakers begin producing varied verbal constructions (Kail, Boibieux & Coulaud, 2005) and when they comprehend the impact of macrosyntactic information (Bucciarelli, Colle & Bara, 2003; De Weck, 2005). It distinctly appears, at around 26-30 months of age and afterwards, when children take into account more spontaneously multiple linguistic, interpersonal and social parameters in production (Bernicot, 2005, 2006; Golinkoff & Hirsh-Pasek, 2008. See Ninio & Snow op. cit. for an historical).

These studies bring out the linguistic, social and cultural factors that influence the acquisition of pragmatic skills (François, 1981; Oller, 2000) and induce the diversification of children's speech (Hudelot & Salazar Orvig, 2005). They also demonstrate how this diversification comes with the emergence of « grammar » (Karmiloff & Karmiloff-Smith, 2001; Bassano, 2005, 2008), increasing lexical acquisition at the same time (Snow & Ferguson, 1977; Bassano, Maillochon & Eme, 1998; Tomasello, 2000). In this matter and as Tomasello notes (op. cit., 407), young children « learn new words not just when adults stop and name objects for them, but also in the ongoing flow of social interaction in which both they and the adult are trying to do things ».

Even if the « profusion » that Araújo Carreira denounces contributes to some dispersal of the analytic approaches to Interlocution in linguistics, the fact remains that recurring elements exist (despite sporadic contradictions). Concerning the short presentation we are giving here, we define Interlocution through two principles, as following:

• as a configurative organization, Interlocution corresponds to a frame of socialization and inter-comprehension implying (un)marked Thematic / Rhematic elements, Speech Participation and what we call its Effectiveness (in monologue or dialogue). Here we are following Douay (2001, 82), who states what Interlocution can build in action:

  A speech act involves both the achievement of « mutual understanding » (what we might call the construction of the interlocutive relationship) and the construction of interpersonal social relations.

• as a material fact, Interlocution involves productions which vary according to their Concreteness (in a continuous process ranging from Unformulated to Reformulated Speech, with intermediate possibilities, such as Presumed and Formulated Speech : Torterat, 2010a, 2012b), speech acts (requests, orders, assertions for instance), and a set of constructions and markers (both morphosyntactic and phono-prosodic). The multiple combinations that these characteristics invite us to consider make Interlocution particularly strong for all methodological standardization. One of the first difficulties for linguistic analysis consequently consists in determining the format and the corpus annotation selected to describe its features and properties. As for the deductions we may put forward on this subject, to assert that Interlocution inevitably contributes to understanding Discourse contents (Hymes, 1968) ends up in the omission of all the moments when it leads on the inverse. On the other hand, to consider Interlocution only through produced speech ends up in forgetting what can be tackled in the domains of Gesture Studies or Sign Language.

In these terms, we envisage Interlocution not strictly as a parameter, but above all as a configuration which assigns circumstances to participants' verbal interventions and influences the discursive steps achieved at the same time. In the field of Language Acquisition it means that Interlocution constitutes the context of verbal and extra-verbal events which require a fundamental discursive approach. The latter compels us more particularly to consider verbal productions not through an imperceptible unity but as a combination of significant discursive moments.

4 Material circumstances of Interlocution are detailed by Charaudeau (2002), who operates a distinction between « interlocutive (often oral) » and « monolocutive (often, but not always, written) exchanges ». 
2. Corpora processing

We annotate corpora either briefly or at different descriptive levels. In the methodological approach we implement, we endeavour to open working perspectives consisting particularly in suggesting a set of features, as informed by the research in contemporary Linguistics. In the corpus samples and following Valli & Véronis (1999), we move apart the repetitive disfluencies and the fragments of words in spite of their obvious interest for acquisition (Arnold & Tanenhaus, 2007). On the other hand, we submit the verbal productions so that they can be directly accessible in Didactics (Biagioli & Torterat, 2012), as follows (below, M is the educative participant, and Baptiste the child - names are modified or not recognizable):

M: ceux qui l'ont fait / qu'est-ce que je vous ai dit?
> those who have done it / what did I tell you?

Baptiste: on doit faire un cercle // et là / on utilise le crayon // après on coupe // après c'est fini la girouette
> you have to draw a circle // and then / you use the pencil // after(wards) you cut // then the weather vane is finished

To demonstrate how Interlocution works, we retain characteristics that we think interoperable for several types of analyses (such as multimodal approaches to childish communication). Regarding the oral productions reported above, the annotations may take the following shape for example:

\[
\begin{align*}
\text{ON doit faire} & \quad \text{YOU have to draw} \\
\text{UN CERCLE} & \quad \text{A CIRCLE} \\
\text{THEM coverb} & \quad \text{THEM coverb}
\end{align*}
\]

Through this basic list of features, we indicate that the pronoun you occurs as a thematic element and that the nuclear verb (N-Verb : the main verbal predicate in the clause) consists in a co-verbal construction containing a finite verb (have) and a non-finite verbal form (to draw). Simultaneously, we state that the finite verb expresses the present and also temporally attracts the infinitive locally (Torterat, 2012c). Besides, the representation indicates the NP complement, specifying that it occurs here as an object and a rhematic component.

In our functional approach to Discourse Diversification (2010, 2012a), we characterize the discursive elements to consider how the speakers organize their expression in interlocution (the thema/rhematic elements : Halliday, 1968) and simultaneously apply to produce in particular Verbal constructions (through verbs or verb clusters). While the N-Verbs (in verbal predications) underlie the clausal constructions in the productions (see Goldberg, 1995 ; Van Valin & LaPolla, 2007 ; Desclés, 2008), the thema-rhematic elements locally shape the informational structure. In addition to the N-Verbs, the thema-rhematic elements contribute to materializing predicate frames (which correspond to inputs for constructions involving a set of syntactic and semantic information : Hengeveld, 1992, 1997). Let's add that N-Verbs and thema-rhematic elements are directly concerned by the asymmetry of the local structures (cf. Nucleus/Satellite and Coordinating/Subordinating distinctions respectively in RST and SDRT).

5 We consider as verb clusters, following Gerdes & Kahane (2006), all combination of one or more verbs with necessary functional words (prepositions and complementizers) and very constraint lexical elements other than the verbs (as clitics and certain adverbs). Verb clusters don't consist in compounds or passive verbal constructions formed by compounds (as the group auxiliary-[past] participle in French), but they can include these cases anyway.

At the same time, we qualify the Clausal Operators generally used for coordination, subordination, co-subordination and assimilated constructions in the corpus (see among others Van Valin & LaPolla, *op. cit.*; Butler & Taverniers, 2008; Coletta, 2010). We also select the Framing Markers signalling the boundaries of Speech units and marking out discourse frames / events (Charolles et al., 2005, Asher et al., 2007, Luong et al., 2007). Framing markers occur in productions (less frequently than clausal operators) at the level of the (non local) « discourse purposes » that Grosz & Sidner (1986) mention. Thereby we establish a distinction between these variables to demonstrate to what extent they individually take part to the diversification of utterance.

More precisely about Speech organization, Thematic elements, in our analysis, coincide with local discourse purposes. Moreover, Thematic elements are overt (instantiated, marked) or covert (unmarked by words or other linguistic expressions). For instance, a child pointing an object and saying only « fragile ! » produce information about a thematic support unmarked in discourse, but actually effective in his cognitive representations (the « discourse memory » : see Degand & Simon, 2009 *inter al.*). In the field of Language Acquisition, thematic elements raise the questions of socialization and inter-comprehension (Salazar-Orvig & Hudelot, 1989; Veneziano & Hudelot, 2002; Morgenstern, 2006). They also appear in connection with the second variable, namely Rhematic components, which give information about (overt/covert) thematic elements and take part in this way to the discursive chain (Raible, 2001; Mel'cuk, 2001).

To sum up, while clausal operators contribute to building sentencial structures and while framing markers highlight the architecture of discursive moments in the produced speech, thematic elements specify the local discourse purposes about which rhematic components bring complementary information. We follow Mel'cuk (*op. cit.*) who establishes, as regards « thematicity », that the theme coincides with the part of the predication which presents what the information is given about (see Halliday, *op. cit.*; Morgenstern & Danon-Boileau, 2009, *inter al.*).

By convenience, we indicate in corpus the thematic elements in CAPITAL LETTERS, the rhematic components in SMALL CAPITAL LETTERS, in italics the N-Verbs, in bold characters the clausal operators, and we underline the framing markers. Slashes (/, //) correspond either to the pausal marks or the prosodic borders. The vertical bars (|) specify the syntactical separators which make previous and subsequent elements, at the time of their quantification (during the processing), separate information.

### 3. Indicators

Below, we enumerate in a chart the main abbreviations we use for the identifications and comments of the corpora requested by the analysis. Most of these indicators are already generalized in the linguistic approaches implemented on corpus, such as slashes for the pausal marks / prosodic borders or hashes for the common features. On the other side we list the origin of specific annotations we have only noted in contributions of certain authors or research groups.

For instance, we took up from TCOF group (André & Canut, 2010; Benzitoun, Fort & Sagot, 2012) the indication of the transcriber's comments even if other formalizations, such as those of GARS (Blanche-Benveniste *et alii* 1990) are also relevant. On the other hand, we consider the presentation that the Valibel group gives for overlaps, that is \[-...<UNTEL>...-\], particularly judicious. We convey on this point the precisions that Dister & Simon (1998, 64) provide:

In GARS transcriptions, the overlap of S2 [speaker 2] visually appears in a distinct talk unit, while in the VALIBEL conventions it is inserted in the line of an other speaker. Therefore, the overlap is less visible and may not to be interpreted as a entire talk unit. The more apparent difference certainly concerns the place granted for the talk unit of S1: the segmentation carried out by the GARS makes two talk units, while VALIBEL retains one unit.

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3 J.M. Coletta integrates, in his studies of childish explanations, the thematic and rhematic components in what he calls the « interlocutive context » (405). His multifactorial analysis quantifies the clausal operators (« connectors »), the clauses, the syllables actually produced and the length of oral productions (407 sqq).
Thus, the visual representation of similar phenomena has implications on Discourse Units segmentation, although these had been defined without this variation. Such a different device has direct implications for the counting of talk units.

Consequently:

<table>
<thead>
<tr>
<th>transcriptions</th>
<th>identification</th>
<th>examples (for transcriptions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNTEL/09</td>
<td>corpus id. (abbrev. experimenter/year)</td>
<td>MAR ANN : [Ann and Emma, my friends] / [the others too]</td>
</tr>
<tr>
<td>UNTEL : [...]</td>
<td>clausal or phrasal unit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>interlocutive event</td>
<td>ASSERTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>part 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>part 2</td>
</tr>
<tr>
<td>/</td>
<td>small (brief) pause</td>
<td>he said it / he used coarse language</td>
</tr>
<tr>
<td>//</td>
<td>long pause, prosodic border</td>
<td>we took it // afterwards we put it there</td>
</tr>
<tr>
<td>?</td>
<td>intonation INTER</td>
<td>who left it there ?</td>
</tr>
<tr>
<td>↑</td>
<td>oral emphasis (intonation)</td>
<td>he ↑ told it</td>
</tr>
<tr>
<td>[…]</td>
<td>transcribers' comment (TCOF)</td>
<td>he told it [ANN moves a toy]</td>
</tr>
<tr>
<td>[…]&lt;UNTEL&gt;…[…]</td>
<td>overlap (VALIBEL)</td>
<td>ANN : we took</td>
</tr>
<tr>
<td>TEMP</td>
<td>tense, temporality</td>
<td></td>
</tr>
<tr>
<td>ASS</td>
<td>assertion</td>
<td></td>
</tr>
<tr>
<td>QU</td>
<td>question</td>
<td></td>
</tr>
<tr>
<td>INJ</td>
<td>order / defence</td>
<td></td>
</tr>
<tr>
<td>RES</td>
<td>response (answer as a speech act)</td>
<td></td>
</tr>
<tr>
<td>QUANT</td>
<td>quantity, quantification</td>
<td></td>
</tr>
<tr>
<td>PHOR</td>
<td>(ana/cata)phoric element</td>
<td>he &lt;ARG&gt; speaks &lt;PRED&gt; quickly &lt;ARG&gt;</td>
</tr>
<tr>
<td>PRED</td>
<td>predicate</td>
<td>speaks</td>
</tr>
<tr>
<td>verb</td>
<td>verb</td>
<td>let (me) talk / saw (him) jumping</td>
</tr>
<tr>
<td>coverb</td>
<td>co-verbal construction</td>
<td></td>
</tr>
<tr>
<td>subj</td>
<td>subject</td>
<td></td>
</tr>
<tr>
<td>obj</td>
<td>object</td>
<td></td>
</tr>
<tr>
<td>circ</td>
<td>circumstant</td>
<td></td>
</tr>
<tr>
<td>NP</td>
<td>noun phrase</td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td>verb phrase</td>
<td></td>
</tr>
<tr>
<td>FOC</td>
<td>focus / focal (element)</td>
<td>As for it &lt;FOC&gt;, we removed the lid</td>
</tr>
<tr>
<td>NON FOC</td>
<td>non focal (element)</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>operating relationship</td>
<td>(TR : tense relationship ; AR : actance relationship)</td>
</tr>
<tr>
<td>LOC</td>
<td>local</td>
<td></td>
</tr>
<tr>
<td>NON LOC</td>
<td>non local</td>
<td></td>
</tr>
<tr>
<td>&lt; ..., ... &gt;</td>
<td>annotation of feature</td>
<td>&lt;PRED, +&gt;</td>
</tr>
<tr>
<td>&lt; ... ; ... &gt;</td>
<td>annotation of multiple features</td>
<td>&lt;THEM ; SUBJ&gt;</td>
</tr>
<tr>
<td>#</td>
<td>common feature</td>
<td>[&lt;NP ; plural # &gt; &lt;verb ; plural # &gt;]</td>
</tr>
</tbody>
</table>

8 Our translation. In French : Dans les transcriptions du GARS, le chevauchement de L2 [locuteur 2] apparait visuellement dans un tour de parole séparé, alors que dans les conventions VALIBEL il est inséré dans la ligne d’un autre locuteur : il est de ce fait moins visible et risque de ne pas être interprété comme un tour de parole à part entière. La différence la plus flagrante concerne sans doute le sort réservé au tour de parole de L1 : le découpage opéré par le GARS en fait deux tours de parole, là où VALIBEL en conserve un seul. Ainsi, la représentation visuelle d’un même phénomène a des implications sur les unités de segmentation du discours, alors même que celles-ci avaient reçu une définition ne semblant pas devoir prendre en compte ce type de variation. Cette disposition différente a des implications directes sur le comptage des tours de parole.
ital
THEM
RHEM
element
element

(co-)verbal nuclear element
thematic element
rhetorical component
clausal operator
framing marker
separator
local ellipsis / phonol. elision
intercalation / continuation

we left it there
JULIET put all above
we have got the pencils
she saw him when he took the pencil
and she said it to the teacher
then what are we doing now?
we put the chalks | inside
that's all
what did she say to him?

See below: summary transcription of an interlocutive (teaching) moment {the participants are elaborating a narrative from a small diegetic pattern}:

INTERLOCUTION [PEDAGOGICAL DIALOGUE]
PART: M (adult), Chloé, Vincent, E3, 4 (children)

   > M : then CHLOÉ / why do YOU want | [TO GIVE [HIM] CANDIES] ?
[2] Chloé : parce qu'IL s'est fait MAL
   > Chloé : because HE got HURT
   > M : WE are going to try [TO MAKE SENTENCES] < NON FOC : ALL ↑ TOGETHER
   > Chloé : WE are going to give HIM | CANDIES
[5] M : est-ce qu'IL vous a appelés ?
   > M : did HE call YOU ?
   > Chloé-E3 : YES <E4> NO
[7] M : qu'est-ce qu'IL vous a dit ?
   > M : what did HE say TO YOU ?
   > Vincent : help ME / help ME | [TO GET UP] | [the child stands up]
   > M : WHO _ FOC : them > is shouting (THAT) ?
[10] Vincent : L'OURS
   > Vincent : THE BEAR

For instance, this short extract shows that the framing marker then [in talk unit 1] sets the purpose on a question (QU) extending the Discourse background, pursuing a previous talk and triggering off the response (RES) of one child (Chloé). Here the main interlocutive event consists in a dialogic QU-RES implying the Speech Participation of one or more children around a collective Diegesis construction. The extract also illustrates the fact that most of the thematic elements mention either the narrative's characters or the interlocutors involved in the pedagogical dialogue (cf. François, op. cit.; Hickmann, 1998). Some of these thematic elements, such as in talk units [9] and [10], focus on a narrative's character, here indicated by a clausal operator in the question and a NP in the childish response (thereby showing partly the structuring of the intercomprehension frame).
An Interlocutive Speech Analysis highlights, among other possibilities, how children appropriate both Diegesis and Sentencial constructions, but also to what extent the adult leads the interaction, combining questions, pauses, emphasizing, imitative expressions, focalizations: so many actions which exemplify the role of scaffolding (props) for narratives (Hudelot et al., 2010). If we include the properties of the produced discursive elements as accurately as possible, such a methodological approach may represent an economical way to describe the Interlocution process in a unified methodology.

References:


