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LEARNING CONVERSATIONAL SKILLS AND LEARNING FROM CONVERSATION

Edy Veneziano

Université Paris Descartes & CNRS, MoDyCo (UMR 7114) and LPPS (EA 4057)

Abstract

The relation between conversation and language development will be considered from two perspectives. The first concerns the acquisition of the *conversational skills* that are necessary to become a competent speaker of a language, such as mastering the implicit rules of turn taking in conversation, directing the interlocutor's attention, initiating and maintaining conversational topics, interacting in accordance with the implicit communicative rules of cooperative interaction (Grice, 1975:48). This implies behaving according to specific principles that require offering relevant contributions that take into account the knowledge interlocutors have of the verbal and nonverbal context, or of previous discourse, to select appropriate expressions. The second concerns the *contribution of conversational functioning* to children's acquisition of language knowledge from the early stages of development. The reasons for which conversational functioning can impact language acquisition will be specified and results relevant to the theoretical claims will be reviewed for typically developing and language impaired children. It will be emphasized that unlike general input and from child-directed speech, conversational exchanges are intricate interactional phenomena whose unfolding and effects result from the contributions of all participants and depend heavily on children's own level of competence.

1. Introduction

Fluent speakers master multiple skills and are able to draw on them simultaneously while talking or responding to their interlocutors. They have phonological, lexical, semantic and grammatical knowledge of their language, as well as pragmatic skills allowing them to keep track of context, of shared knowledge and of past discourse. Children acquire these skills progressively. Conversations with knowledgeable and cooperative partners provide privileged settings where these acquisitions can take place.

This chapter examines the relationship between conversation and language development from a double perspective. The first concerns the *conversational skills* that need to be acquired to become a competent speaker; the second perspective concerns the contribution of conversational functioning to children's acquisition of lexical and grammatical language knowledge. Although children also learn from speech they hear or overhear, child-adult conversational exchanges constitute privileged experiences for language learners in that they realize several facilitating conditions simultaneously (e.g., Veneziano, 2014).

2. Conversational skills

Competent speakers do not need only lexical and grammatical knowledge of their language. They also need the pragmatic knowledge that allows them to use language in socially and culturally adequate ways to communicate effectively and smoothly with others. Some of these skills concern the regulation of the exchange among the interlocutors, such as mastering the implicit rules of turn taking, attracting the interlocutor's

attention or responding to the latter's signals. Others relate to what and how things need to be said to best attain the intended communicative goals, or to the inferences that need to be made in order to understand the communicative intentions of the interlocutor: How to initiate or maintain a topic through the unfolding of the conversation, how to make requests likely to be satisfied or to negotiate disagreements, how to ask for or respond to clarifications, or repair breakdowns in mutual understanding, or how to best make contributions that take into account previous discourse and the knowledge participants share ("common ground", e.g., Clark, 1996).

These skills take time to acquire and children grasp them in the practice of everyday communication with expert speakers (e.g., Pan & Snow, 1999).

2.1. The Underpinnings of conversational skills

The implementation of conversational skills requires mastery of underlying cognitive, socio-cognitive and linguistic abilities.

Cognitively, conversational functioning requires high-level representational abilities. On the one hand, children need to relate to language, a representational object that requires attention to both the signifier and the signified components of the verbal sequence. On the other, in conversation, interlocutors need to navigate back and forth in time to keep track of what has been said in previous discourse and to project towards the possible future contributions of the interlocutor. This information, spread out over time and space, is retrieved and convened simultaneously in thought in order to make adaptive communicative choices at each turn in the conversational exchange. These retroactive and proactive movements can be assumed to underlie even a

simple adjacency pair such as the question-answer pair (which, according to Schegloff and Sacks, 1973, is a basic unit of conversation). The question is often asked on the basis of past experience with the interlocutor, and with an idea about what the interlocutor is able or likely to answer. The answer needs to relate retroactively to the question and is provided with an idea about what the questioner might reply in turn, or it may itself be a ‘turnabout’ (Kaye & Charney, 1980), that is a turn with the double function of answering the previous question and of soliciting the interlocutor’s next turn, as in the following example:

Example 1 - 22-month-old boy and his mother

Mother₁ : *Qu’est-ce qu’il mange le garçon?* ‘What is the boy eating?’

[pointing to the picture of a boy holding an apple and a pear in a picture book]

Child₁: *pomme?* ‘apple?’

[turnabout: answer to the previous question and at the same time confirmation request that solicits the next turn from the mother]

Mother₂: *oui une pomme* ‘yes an apple’

Functioning as an adequate conversational partner also requires socio-cognitive abilities. Conversational exchanges are based on a cooperative principle that is expressed by four maxims (Grice, 1975). One of them is the ‘maxim of quantity’ by which speakers are supposed to be just as informative as is required, and no more (Grice, 1975). This maxim implies that speakers need to be informative, that is, to talk about what interlocutors don’t already know and is likely to be of interest to them (e.g., Hausendorf and Quasthoff, 1992). To meet these requirements successfully entails identifying and taking into account the

intentional and epistemic states of others. It requires a theory of mind, at least at the implicit, *know-how*, level. Indeed, relating to and taking into account the mental states of the interlocutor is essential for choosing what to talk about and for inferring the interlocutor's communicative intentions from his/her speech.

In conversations, speakers also need to make the appropriate linguistic choices that often depend on a close interplay between socio-cognitive and linguistic abilities. Once the alternative possible forms and structures are acquired, their choice often depends on what has already been said in the preceding turns or what is in the common ground of the participants. For example, for referring expressions, the alternatives are omission, the use of definite or indefinite articles, demonstratives, clitic pronouns, or lexical terms. The choice depends on the accessibility of the referent for the interlocutor such as, for example, whether the referent is new or was already focused upon in the immediate context or in previous discourse (e.g., *Ariel* 1988; Gundel et al., 1993).

2.2. *Learning conversational skills*

2.2.1. *Turn taking*

In face-to-face conversations, speakers' contributions are regulated by the alternation of speakers' turns. Turn alternation is probably linked to the difficulty human beings have to process speech while talking. It is interesting to note that the pattern of alternation is realized early in mother-infant interaction and well before caretakers and infants can exchange contents through vocal/verbal interaction. Martin (1981: 58-60) provides an example of turn-taking between a mother and her two-day-old baby in natural interaction.

Mothers are cooperative conversational partners and greatly contribute to the apparent smoothness of turn alternation. However, around 3 months, infants also contribute actively to turn alternation, which becomes the dominant way of interacting (Bateson, 1975; Stern, Jaffe, Beebe & Bennett, 1975; K. Bloom, 1988; Ginsburg & Kilbourne, 1988). Moreover, contingency is an important variable for a good temporal regulation of the exchange and for the quality of infants' vocalizations and of mothers' speech. Infants' vocalizations are judged to be more speech-like when the response of the partner is contingent than when it is not (K. Bloom, Russell & Wassenberg, 1987), and mothers talk more about themselves under non contingent conditions (created by a technical artifact, see Murray & Trevarthen, 1986).

The timing of turn alternation is culturally determined (Keller et al., 2008). Children's participation in smooth turn taking is facilitated by early one-to-one interactions with caretakers who adjust to the children's timing of responding. Caretakers wait as much as six times longer than they would normally do in conversation with mature speakers before intervening again after a question addressed to their young children (e.g. Stivers et al., 2009). With age, children acquire more sophisticated skills that allow them to intervene appropriately in conversations with peers where getting and holding the floor is much more complicated. In fact, contrary to cooperative adult partners, peers compete to talk and children need to use more sophisticated devices to intervene and to keep their turn (Pan & Snow, 1999). They also become able to manage more complex multiparty conversations where children need to compete not with one but with several interlocutors. In this setting, children need to work harder to get the floor and keep it, to manage

interruptions, resolve overlaps, or continue the conversation to maintain the attention of the different partners (e.g. Casillas, 2014).

2.2.2. *Be relevant*

Conversational exchanges need more than alternation of turns. Speakers relate to the content of participants' turns. Thus children need to learn how to relate to the interlocutor's verbal or non verbal turns and to do so in a relevant way. This skill, which is essential for maintaining topics, responding to questions, or addressing requests, requires the ability to decenter from one's own point of view in order to take into account the partners' interventions. As is the case for turn alternation, here too mothers help infants very early to grasp this essential discourse principle by offering two kinds of support. First, they produce vocal productions that are in the children's repertoire, either in initiation or in response to the infants' vocalizations. In this way, children can relate to the content of their mother's utterances by just producing what they are capable of anyway, thus reducing the distance between the infant and the partner's capabilities to a minimum. These vocal exchanges occur in the first year of life (Snow, 1977) and provide the infants with a clear example of content relatedness between successive turns (e.g., Veneziano, 1988).

Second, mothers interpret children's vocalizations as if they were meaningful words (e.g., Papousek & Papousek, 1989; Veneziano, 1988, 2005). Relatedness starts by being explicit and apparent. Mothers interpret what children say, often expanding or recasting it into grammatically well-formed utterances (Cazden, 1972; Nelson, 1987; Farrar, 1990) that incorporate the words used by the children. Children are then likely to continue to relate to

the caregiver's intervention, the latter being itself the continuation of the child's previous utterance.

Until about 18 months, children and their mothers are more likely to respond to partner's turns that are themselves related to their own interventions than to partner's turns that initiate a topic. This process results in extended discourse centered on a particular topic (sometimes just one lexical item), giving rise to exchanges of reciprocal imitation, as in the following example (from Veneziano, 2005):

Example 2 - -16-month-old boy and his mother

[the child is playing with the wheels of a toy truck]

Child₁ : /'ʃe a: 'u'lɛl/ *xx galgal* 'xx wheel'

Mother₁ : *maze? galgal?* 'what's that? 'wheel?'

Child₂ : /'a'lo/ *galgal* 'wheel' [holding the wheel]

Mother₂ : *galgal # galgal galgal* wheel # wheel wheel'

Child₃ : /'a'lal/ *galgal* 'wheel' [holding the wheel]

Mother₃ : *efo galgal? hine # hine # hine galgal*

'where is (the) wheel? here # here # here is (the) wheel'

During the second and third years, though imitative uptakes of each other's utterances remain an important strategy¹, both children and adults relate more often just to the meaning of the partner's utterance, for example by answering questions, commenting on propositions or justifying requests after a refusal or a request for clarification.

¹ Older children may use these vocal/verbal exchanges of reciprocal imitation as devices to maintain contact, particularly in a playful way with peers (e.g., McTear, 1985).

Relating to the partner's interventions develops with age both in terms of taking into account more utterances of the partner and of using appropriate linguistic devices to create more explicit cohesion among the interventions of the different speakers, such as conjunctive adverbs *so*, *but* and modal expressions like *not sure*, *absolutely* (Scott, 1984).

2.2.3. *Be informative*

Mothers and children start to talk about what is present in the situation and thus about what is known or readily accessible to both. Here-and-now talk, particularly when held during joint attention, favors early lexical acquisition (e.g., Tomasello & Farrar, 1986; Dunham, Dunham & Curwin, 1993). This is not, however, how competent speakers usually use language. Rather, they use it informatively, that is, they use language in a "displaced" way (e.g., Hockett, 1958), to talk about objects and events that are absent from the enunciative situation, to recall the past and to talk about the future, to create imaginary events, to make hypotheses, etc. If it is used to talk about present entities and events, language refers to non perceptible aspects such as providing explanations or making one's interlocutor "aware of something of which he was not previously aware" (Lyons, 1977: 33). This is another basic conversational skill, implied by Grice's principles of cooperative communication (maxim of quantity, Grice, 1975). be informative for your interlocutor, and provide just the information that is required, and no more. As mentioned earlier, respecting this principle requires an implicit theory of mind.

2.2.4. *Informativeness and Theory of Mind*

Typically-developing children provide early signs of their implicit knowledge about the mental states of others when, for example, they manage to draw the attention of their interactional partner to the object of their own interest, to follow the partner's center of attention (e.g., Tomasello, 1995), or when, in requesting a hidden object, they adapt their communicative behaviors to the state of knowledge of their interlocutor (depending on whether the latter has witnessed the hiding of the object or not) (O'Neill, 1996). At the same period, one-and-a-half to two-year-old children understand what the referent of a nonce word is on the basis of what children consider to be new for the speaker (e.g., Akhtar et al., 1996; Tomasello & Haberl, 2003).

In their second year of life typically developing children also start to use language in an informative way. They start talking about internal states, their own and others', referring at first to intentional ('want'), physical (such as being hungry or in pain) and emotional states (such as being scared or angry), and later to epistemic states such as 'know' or 'think' (e.g., Lamb, 1991; Dunn 1991; Shatz 1994; Bartsch & Wellman, 1995; Veneziano, 2009). In their second year children also start talking about past events, at first occurring within conversations scaffolded by familiar partners, where they uptake parts of the partner's talk or add original contributions to mostly adult-initiated exchanges. Somewhat later they also initiate references to the past or simple fictional narratives (e.g., Veneziano & Sinclair, 1995). At around the same time they also provide early justifications of speech acts such as requests and refusals (for example, the child refuses the help of the mother by saying 'no, *I want to do it by myself*') (e.e., Dunn & Munn, 1987; Shatz, 1994; Veneziano,

2001, 2010; Veneziano & Sinclair, 1995). It has been shown that justifications affect the course of the exchange. The partner that receives a refusal is more likely to concede to the speaker when s/he offers the information (in the example above, the statement of the child's intentional state) than when the speaker doesn't justify his/her refusal (e.g., Dunn & Munn, 1987; Veneziano, 2001; 2010; Plumet & Veneziano, 2014). At around the same period, children also seem to selectively verbalize aspects of a situation that are subjective and thus supposedly more difficult for their interlocutors to find out. For example, during pretend play, the subjectively-created symbolic transformations are verbalized more often than the 'literal' or the pretend meanings that are more easily accessible to the onlookers (e.g. Musatti, Veneziano & Mayer, 1998; Veneziano, 2002).

The occurrence of these different behaviors at around the same developmental period (Veneziano, 2002, 2009), show that children start grasping the conversational rule by which speakers provide interlocutors with information that is not readily available to them.

2.2.5. Informativeness and Discourse

An additional and more elaborate step in information management is taken when children adapt their linguistic resources to present referents as a function of what has been said in previous discourse or of what is in "common ground" with the interlocutor (e.g. Gundel, Hedberg & Zacharski, 1993; Matthews et al., 2006). From 3 years on, children tend to prefer lexical nouns to pronouns, and indefinite to definite articles (for languages such as English and French that make this distinction) when referents are new or not shared by the partners, but it takes several years to attain full proficiency in any context

and level of functioning. So, the ability to choose the appropriate forms to introduce, maintain and reintroduce referents in extended discourse such as narratives develops gradually over the school years. It has been shown that these choices depend on the interplay of different variables such as the discursive constraints of the language, the listener's perspective and the cognitive and linguistic proficiencies of the speaker, type of story or the kind of reference required (e.g., Gundel et al. 1993; Colozzo & Whitely, 2014). Young children overuse pronouns, making it difficult sometimes for a listener to understand what they are talking about. With age, children come to use definite articles and pronouns mostly when the listener has access to the referents, be it in the situation, in previous discourse or in common ground (e.g., Kail & Hickmann, 1992), with development continuing through the lifespan (Hendriks, Koster & Hoeks, 2014). It has been suggested that referent introduction may distinguish typically-developing from language impaired children (e.g., Schneider & Hayward, 2010).

2.2.6. 'Repairing' one's utterances in conversation

Another conversational skill -- also based on the understanding of others' mental states -- is the ability to 'repair' one's utterances, or to ask partners to 'repair' their own, usually after an explicit request by the partner, or when one's original utterance has not attained the intended goal.

In repair sequences the partner can ask a general (*hum?*, *what?*) or a specific question, questioning part of the utterance. An early strategy to repair a communication failure is to 'try again', sometimes simply repeating the

original verbalization, sometimes pronouncing it differently, or sometimes revising parts of the utterance.

From the third year on, children respond differently to general questions (*what did you say?*) and to specific queries (*you put what?*), usually providing only the questioned constituent after the latter, and repeating the entire utterance after the former (e.g., Gallagher, 1981; Anselmi et al., 1986; Laakso & Soininen, 2010). Self-repairs also occur. They are observed already in the second year in the case of requests (e.g., Marcos, 1991; Marcos & Bernicot, 1994). Children improve their skills in their third and fourth years when they can spontaneously self-repair requests that are ignored or refused by the interlocutor, by repeating them, reformulating them in a more polite or more direct way, or adding a justification.

3. Conversation and children's acquisition of core language knowledge

Children may learn from the words and language structures they hear or overhear (e.g., Akhtar, Jipson & Callanan, 2001; Gampe, Liebal & Tomasello, 2012). Language usages may be thought to provide positive evidence of the lexicon and the grammaticality of utterances, associated or not with ‘automatically reinforcing’ behaviors, such as positive caregiving (e.g., Novak & Pelaez, 2004; Smith, Michael & Sundberg, 1996). Moreover, from the absence of a given construction, children may infer its ungrammaticality (Scholz, 2004: 961). Indeed, Gold recognized that, unlike the learner modeled in his theorem, human learners may not only profit from explicit disapproval but also from forms of *indirect* negative evidence (Gold, 1967: 454; see further, Schoneberger, 2010).

Conversational exchanges, however, provide the language-learning child with a concentrate of optimal experiences that facilitate the acquisition of an early lexicon and of basic structures and uses of the language.

3.1. *Why can children learn in conversations?*

When children participate in conversational exchanges they are *highly motivated* to make themselves understood as well as to understand their partners, making them particularly attentive to the utterances of their interlocutors and to the effect that their own utterances have on them. This gives a first edge to conversational exchanges with respect to general input.

In conversations adults and children construct *common ground* (Clark, 1996). Moreover, caregivers get information on children's production and comprehension abilities, something that can help them to adapt their speech more closely to the children's specificities. And children can adapt their talk by monitoring the effect of their utterances on the caregivers.

In conversation children receive *well-timed interpretations* of their utterances in the form of recasts, expansions, reformulations and corrections². All these different types of caregivers' responses share the property that changes in form take place while meaning remains invariant.

Finally, because conversations "are more than the sum of their parts" (Clark, 1996:318), they have the potential for creating events from which new knowledge can arise. This aspect of conversation will be elaborated and illustrated later on.

² Definitions of recasts, expansions, reformulations and corrections vary. In their original use, expansions are utterances that express the adult's interpretation of the child's previous utterance by reproducing one or more of its elements (Cazden, 1972). For example, "*Eve is having lunch*" is an expansion of the child's utterance "*Eve lunch*". A recast adds to that the grammatical correction of one of the elements. For example, '*the doll is having lunch*' is a recast of the child's utterance '*doll lunch*' (Nelson, 1987; Farrar, 1990).

3.2. *Adults' contingent responses*

Adults' recasts, expansions and reformulations provide children with positive evidence -- the uptake of the words used by the children in their utterances -- as well as negative feedback -- the transformation of children's utterances into different, grammatically-well-formed utterances (Brown & Bellugi, 1964; Moerk, 1990; Chouinard & Clark, 2003; Novak & Pelaez, 2004; Veneziano, 2005; Clark & Bernicot, 2008). In this favorable context, children have the opportunity to compare their own utterances to those produced by the adult. If they are sufficiently interested and cognitively ready to make the comparison, if they can spot the specific items that don't match and consider the adult's production as a target to attain, children may change their original forms into the more appropriate ones (Hirsh-Pasek, Treiman, & Schneiderman, 1984; Moerk, 1990; Saxton, 2000; Chouinard & Clark, 2003; Veneziano, 2005). Corrections can be explicit but also implicit as when adults reformulate utterances that are not phonologically, lexically or grammatically correct but do not reformulate those that correspond to the conventions of the language (Saxton, 1997, 2000; Strapp, 1999; Chouinard & Clark, 2003; Veneziano, 2005). Corrective reformulations are produced by caregivers in western-style societies and occur in interactions with typically-developing children who are learning one or more than one language at the same time (e.g., Ervin-Tripp, 2014).

They also occur in the speech that caregivers address to their language-impaired (LI) children. Some studies report no major differences between caregivers of LI and TD children, matched on language measures (Fey *et al.*, 1999; Proctor-Williams *et al.*, 2001; Rezzonico *et al.*, 2014), and if differences

in the quantity of expansions or recasts seem to be present, the difference disappears when these behaviors are considered in relation to the opportunities to produce them (i.e., the amount of language produced by the children (Paul and Elwood, 1991)). Other studies find however that while parents of LI and language delayed children produce similar amounts of linguistic input, they address fewer responses, expansions and recasts (e.g., Conti-Ramsden, Hutcheson and Grove, 1995; Vigil, Hodges & Klee, 2005) and use them with somewhat different functions (e.g., Conti-Ramsden, 1990; de Weck, 2001). The frequency of their occurrence depends also on children's age and level of language development (less so when children are more competent speakers) (e.g., Demetras, Post, & Snow, 1986; Snow, 1995), as well as on the type of activity, with book-reading soliciting the highest number (Rezzonico et al., 2014).

Conversations do not only involve the caregiver's immediate responses to the child. They also involve *children's responses to the caregivers*, either as second turn responses -- such as comments on topics initiated by the caregiver, or answers to caregivers' questions -- or as third turn responses -- such as children's replies to caregivers' responses. They also involve caregivers' replies to children's responses. In both of these latter cases, conversational exchanges constitute *sequences of contingent replies* within which children have the opportunity to learn new aspects of language, and correct their errors.

3.3. Effects of contingent responses on language acquisition

Contingent responses in general were found to be early predictors of later school outcomes in larger longitudinal studies (e.g., Walker et al., 1994). Considered more specifically, an adult's corrective responses (such as recasts, expansions and reformulations) were found to have positive effects on the acquisition of different aspects of language. Variation in these responses correlate with children's mean length of utterances (MLU), the elaboration of noun and verb phrases, the use of auxiliaries (Barnes et al., 1983; Gleitman, Newport & Gletiman, 1984; Hoff-Ginsberg, 1985; Moerk, 1990), of copulas and articles (e.g., Farrar, 1990, 1992; Hoff-Ginsberg, 1985; Howe, 1980), and the use of grammatical morphemes such as the English plural and the form of the present progressive (-ing) (Farrar, 1990).

Training studies have shown positive effects of recasts on the acquisition of verbal morphology and verbal constructions (Nelson, Carskaddon & Bonvillian, 1973, Nelson, 1977; Farrar, 1992), as well as on the passive structure (Baker & Nelson, 1984). Saxton (1997) found that 5-year-olds were able to learn the irregular past tense of unfamiliar verbs with just 20 corrective reformulations, and Strapp, Bleakney, Helmick, & Tonkovich (2008) found that the effectiveness of recasts was dependent on age and on what there is to learn: 3-year-olds were able to learn only the irregular plural of nonsense nouns, while 5-year-olds also learned the irregular past tense of nonsense verbs.

Concerning the effect of expansions, recasts or corrective responses in general on LI children, positive effects were found on various morphosyntactic aspects (Camarata & Nelson, 1992; Camarata et al. 1994;

Nelson et al., 1996), when the experimenter, the clinician or the mother (instructed to behave in a certain manner with the child) produced a great number of responses in repeated intervention sessions (Connell & Stone, 1992; Leonard et al., 2006). In training studies, Leonard, Camarata, Pawlowska, Brown, and Camarata (2006) obtained a positive effect of recasts on verb morphology after a total of 96 30-minute sessions provided at a rate of four sessions per week. And Smith-Lock *et al.* (2013) found that an intensive grammatical training of 8 sessions within one week, dispensed in a school setting to 5-year-old children, was less effective than the same amount of training spread over a period of 8 weeks.

When, in natural interaction, LI children are exposed to a rate of recasts equivalent to that of TD children, this does not seem to be enough for LI children to learn new features. For example, Proctor-Williams et al. (2001), who reported no quantitative differences in the rate of recasts between parents of LI and of TD children, found positive effects of recasts on copulas and articles in TD children but not in LI children.

Adults' yes/no questions have also been reported to have positive effects on children's use of auxiliaries (Newport et al., 1977; Furrow et al., 1979; Barnes et al., 1983; Gleitman et al., 1984, Hoff-Ginsberg, 1985; Shatz, Hoff-Ginsberg & MacIver, 1989; Richards, 1990), an effect shown to be due to the perceptually salient initial position of auxiliaries in English yes/no questions (Richards & Robinson, 1993).

In conversations, children are not only recipients of adults' utterances, they are also active participants and their responses to caregivers are just as important. They manifest their abilities to pay attention to adults' utterances

and their level of understanding and processing of the latter. In the early stages of language acquisition, children's imitative uptakes of words produced by mothers in conversation are positively correlated with word acquisition (Nelson, Baker, Denninger, Bonvillian & Kaplan, 1985; Rodgon & Kurdek, 1977; Snow, 1987). Although children differ in the extent to which they imitate (Bloom, Hood & Lightbown, 1974; Ramer; 1976; Veneziano, 1988), the majority of their imitations involved words they didn't already use spontaneously (Bloom et al., 1974, Veneziano, 2005). In an analysis of the longitudinal data of six Hebrew-acquiring children, Veneziano (2005) showed that words imitated by the children, repeated or reformulated by their mother, or both, were produced in conventional forms at later sessions. Moreover, at later sessions, these productions were recognized as meaningful words by the mother, and solicited comments that advanced the theme of the conversation two to three times more often than words appearing in that session for the first time.

Not all studies, however, found a positive effect of adults' interpretative and corrective responses on children's language acquisition (e.g., Cazden, 1972 ; Ellis and Wells, 1980).

3.4. Conversation as a dyadic phenomenon

Many studies of the effect of interaction on language acquisition do not distinguish the conversational status of the interventions (e.g., initiations, initial or subsequent responses) and often take into account only the activity of one partner, mostly the caregiver or the experimenter, neglecting the dyadic nature of conversations. Nor do they consider that children do not learn only from what expert partners say or do in conversation (for example, providing

more or fewer expansions or corrective responses), or only from what children themselves do in conversation (e.g., uptaking the adult's previous utterance); they also learn from what both adults and children do jointly in conversation. Indeed, conversations are highly intricate dyadic phenomena resulting from the competences and motivations of both partners, who are mutually influenced by each other's contributions and mental representations. The highly intricate nature and the relevance of extended sequences of discourse for language acquisition were recognized already in the early period of the modern era of language acquisition studies (e.g., Slobin, 1968; Shugar Wales, 1981). Brown (1968) and Brown, Cazden & Bellugi (1969) stated that the transformations utterances undergo "as they shuttle between persons in conversation" may ultimately be one of the most crucial features of conversations, providing the "richest data available to the child" for acquiring language (1969:72). The intricate nature of conversations is also well recognized by researchers studying the interaction between parents and their language impaired children. LI children are seen to influence their caregivers and vice-versa, often falling into a sort of 'inadequate feedback loop': children provide inadequate feedback to their caregivers, leading the latter to use a pattern of interactive techniques that may 'be less than optimal for language acquisition.' (Tannock & Girolametto, 1992: 54).

When children's responses to adults' contingent interpretative and corrective responses were taken into account, it was found, for example, that caregivers' expansions, reformulations or recasts solicit children's continuation of the topic, sometimes in the form of an imitative uptake, significantly more than when caregivers initiate a topic (e.g., Folger &

Chapman, 1978; Shugar Wales, 1981; Tomasello & Todd, 1983; Scherer & Olswang, 1984; Veneziano, 1988, 2005). A similar result was observed for caregivers who are significantly more likely to continue the topic and reformulate children's utterances when the latter are themselves responses to the caregiver's utterances than when they are topic-initiating turns (e.g., Tomasello & Todd, 1983; Veneziano, 1988, 2005).

In such a context of mutual responding children are likely to modify their utterances within the conversational sequence itself (Farrar, 1992; Strapp & Federico, 2000; Otomo, 2001; Chouinard & Clark, 2003; Veneziano, 2005, 2014). For example, in a longitudinal study of 12- to 19-month-old children acquiring Hebrew, Veneziano (2005) found that children very rarely modified their productions before 14 months. However, between 14 and 17 months, they improved their productions in 21% to 50% of the conversational exchanges containing at least two child's turns. The study also showed that caregivers' responses to the children played an important role in children's improved matches to the target: children were significantly more likely to produce a better match when their second utterance occurred after a mother's reformulation than directly after a child's own production (without an intervening response from the mother). Farrar (1992) and Strapp and Federico (2000) showed moreover that children's corrections of errors were more likely to occur after recasts than after non-corrective responses, namely, contingent, topic-related replies that did not, however, contain a correction of the child's previous utterance.

Modifications also occur after confirmation or clarification requests (see the repair sequences described above), after caregivers' neglect or

misinterpretation of children's expressed intentions. In their subsequent turn, children are likely to revise their initial utterance or provide additional information (Anselmi et al., 1986; Marcos, 1991; Golinkoff, 1986, 1993; Chouinard & Clark, 2003). In some cases, children may interpret clarification requests as specific prompts to revise the grammatical form of their previous utterance, and indeed they may do so provided they already have some knowledge of the correct grammatical form (Saxton, 2000; Saxton, House-Price & Dawson, 2005).

The specific relevance of *sequences of contingent replies* can be seen particularly well in the early stages of acquisition. A good example is given by the occurrence of Successive Single-Word Utterances (SSWU) -- a transitional phenomenon between single-word and two-word utterances (Bloom, 1973; Scollon, 1979; Veneziano, Sinclair & Berthoud 1990), as in the example below:

Example 3 - 20-month-old French-acquiring girl with her mother
(Mother and child are looking at a picture book where children slide down a waterslide)

Child₁ : /ãfã/ *enfant(s)* 'child(ren)'

[pointing to one child at the bottom of the slide]

Mother₁: *les enfants sont tombés dans l'eau # hein?*

'the children fall into the water # han?'

Child₂ : /'o'be/ *tombé(s)* 'fall(en)'

The sequence of two one-word utterances bearing on the same event is brought about by the unfolding of the conversational exchange. The child responds to the mother's recast of her own initiating utterance by uptaking a word contained in the mother's recast. In taking that simple conversational action she produces a sequence of two one-word utterances that relate to the

same event -- to the event that she was expressing in her initiating turn and continues to express in her subsequent contribution. She produces an instance of SSWUs that are pivotal in promoting multiword speech in natural (e.g., Bloom, 1973; Greenfield et al., 1976; Scollon, 1979; Veneziano *et al.*, 1990; Veneziano, 1999, 2013; Herr-Israel & McCune, 2011) and in training contexts (e.g., Schwartz, Chapman, Prelock, Terrell, & Rowan, 1985). The SSWUs emerge from the partners' joint interactional functioning. It is a new event that was neither planned nor clearly predictable by the participants at the time they started the exchange. And while SSWUs foreshadow the advent of a new behavior - multiword speech - they result from behaviors that are typical of the lower level of knowledge - single-word speech. It requires good timing as well as the willingness and the competencies of both participants to take place. Indeed, it is because the mother expands and recasts the child's initial utterance that the child has the opportunity to produce her second utterance; and it is because the child can turn herself away from the word produced earlier that she can now focus on a new word contained in the mother's recast. In other words, Successive single-word utterances foreshadow the advent of a new behavior - multiword speech - while practicing well-mastered behaviors typical of the present level of knowledge - single-word speech.

Certainly not all new acquisitions start out in a contingent conversational setting. For example, Bloom, Rocissano & Hood (1976) found that only about 20% of children's early cohesive clause combinations originated in adult-child conversation and Veneziano (2001, 2010) found that children's early justifications of requests and oppositions were mostly provided spontaneously in the child's first request or oppositional turn.

4. Concluding remarks

The relation between conversation and language development was considered first from the point of view of the *conversational skills* that are necessary to become a competent speaker of a language, such as managing turn alternation, topic continuation, contingent responsiveness, using language informatively for one's interlocutor or choosing the appropriate linguistic forms that take into account prior discourse and common ground between the partners. These skills develop with age and are closely linked to progress in language acquisition. We then looked at the relation from the point of view of the contributions that conversational functioning makes to children's acquisition of language knowledge. We have emphasized that although children may learn from the language they hear or overhear around them, conversations have specific properties that provide children with very privileged opportunities for learning. In conversations, children are active participants, motivated to understand what is said to them as well as to make themselves understood, and thus likely to attend to what is being said and to the reactions to their own speech. Caregivers, in western societies at least, and with middle-to-higher socioeconomic status, are cooperative partners who often provide contingent responses that interpret and recast children's utterances, or solicit further on-topic contributions from them. On-topic conversations where utterances undergo transformations 'as they shuttle between persons' (Brown *et al.*, 1969) provide great opportunities for children to compare their production to that of the adult, observe transformations of form with very similar meaning, and possibly make appropriate changes and/or include new aspects of a situation that can be talked about.

Nowadays it is widely recognized that conversational partners mutually influence each other and that what children can learn depends on their level of language development and processing capacities. However, these basic tenets seem to be somewhat sidelined in studies where the focus is on the characteristics of the input or on what caregivers say in conversation, in initiations or in contingent responses to the children. These are sometimes considered as independent variables that affect children's rate and nature of acquisition. Input frequencies of words and constructions, rate and types of responses, and similar measures, are certainly important. But explanatory interpretations cannot ignore nor underestimate the heavy role that children play in their own learning (e.g., Elbers, 1995). The difficulties encountered by language impaired and language delayed children support this position. These children require more participation in conversations, more experience with expansions and recasts, repeated training sessions over long stretches of time, before some improvements can be obtained. One variable that needs to be taken into account is the way children themselves participate in conversational exchanges: whether they are willing and motivated to contribute and what kinds of contributions they make to the exchange. Do they focus on caregivers' utterances, are they attentive to the specific features supposed to help children's improvements and self-corrections? Do they provide evidence that they can see the differences between their own and the adult's productions? Are they motivated to change? And there are also individual internal variables, such as the children's level of language development, their capacity to process and structure language material and their motivation for emulating the adult's speech, all sources of individual variation.

Explanatory models should not underestimate either that conversational exchanges are co-constructed by the turns contributed by each participant and result from what caregivers and children do *together*, each turn opening up new possibilities to the speakers. So, what speakers do depends on the partner's turns as well as on their own choices constrained by the other partner's previous choices and those expected to come next. Thus, another aspect that needs to be taken into account is the reciprocal responsiveness caregivers and children give to each other's interventions. We have seen that there are asymmetries in children's responsiveness to caregivers' utterances, and vice versa, with partners' responses being better attractors than their initiations. At least in the early period of language acquisition, this result seems to predict a lesser role for the input that is not linked to children's talk and should encourage researchers to focus on sequences of contingent responses rather than on what individual participants do in the interaction independently of what the other does.

Child-directed speech, and the language that children overhear, certainly contain relevant information for language learning children. However, conversational exchanges, and in particular sequences of reciprocal contingent responses, may be the best facilitating resource available in the early stages of language acquisition, and at all those critical points where new knowledge is being acquired. Because a great number of facilitating features are co-present in conversational exchanges, children may draw from them what is most suitable and accessible to their individual way for dealing with the appropriation of the language.

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