Linguistic and cognitive ability of children before five years old on their effort to communicate action

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Abstract---We here described on the ability of children before their old five years old. They have a special power in learning their life to able to do something. Of course, they have a difficult thing regarding how to communicate each other. To make a communication, an action should be done, therefore, the cognition is a very important thing that must be sharpened. As it is discussed, linguistics is a study can be entered to all subcategory aspects. The linguistics has significant value on its contribution based on the effort of the children to obtain the communication action. Many phenomena can be described in the present study. The result showed all normal children can do communication with their mother in a unique way.

Keywords---action, children, cognition, communicate, special power.

Introduction

In order to provide a context in which we can evaluate the impairments in language and communication that characterize autism spectrum disorders, we begin with a brief overview of language acquisition in typically developing children.

Early communicative intent

Often parents recognize the absence of early communication in their young children with autism sometime during the second year when the majority of children the same age begin to have established vocabularies of numerous words (Tomasello *et al.*, 1993; Tomasello & Carpenter, 2007; Whitehurst *et al.*, 1988). However, nonhandicapped infants show communicative behaviors even from the first weeks and months of life, including recognizing their mothers' voice, synchronizing their patterns of eye gaze, movements, facial expressions of affect, as well as vocal turn-taking (Shatz *et al.*, 1983; Savage-Rumbaugh *et al.*, 1993).

Infants typically exhibit a variety of communicative behaviors by the end of their first year that, to a knowing observer, are not usually seen in autism. These nonverbal communication patterns have been found to express the same intentions for which words will be used in the coming months, such as requesting objects, rejecting offered actions, calling attention to objects or events, and commenting on their appearance (Andersen,

Dunlea & Kekelis, 1993; Trevarthen, 1988; Morisset, Barnard & Booth, 1995). These intents are expressed first with simple gestures, such as reaching to indicate a request or pushing away to indicate rejection, then by more complex gestures, such as pointing to request or shaking the head to mean "no," and then gradually accompanied by and, in some cases, replaced by vocalization and speech (Mercer, 2002; Tomasello, Carpenter, Call, Behne & Moll, 2005; Tomasello, 1995).

Another achievement that normally occurs toward the end of the first year is the beginning of the understanding of words. At first, a few words associated with games such as pat-a-cake or so big will be recognized. Infants gradually become more active responders to these routines (Snow, 1983; Tager-Flusberg, Paul & Lord, 2005; Tamis-LeMonda, Bornstein & Baumwell, 2001). By 12 months, merely saying the words ("Let's play pat-a-cake!" or "Show me your nose") in a familiar context will often elicit a spontaneous action, such as clapping or touching the nose, from the child.

Discussion

Although children have acquired most of the sentence structure of their language by age 5, syntactic development continues into the school years as children learn devices for elaborating their utterances, expressing coreference relations using pronouns (e.g., "When Mom wakes up, she'll help me dress"), and condensing more information into each sentence by increasing the proportion of dependent clauses (Fillmore, 1991; Brown, Donelan-McCall & Dunn, 1996; Cortazzi & Jin, 1996). Children also gradually learn to use and to comprehend the more complex, optional sentence types in their language, such as passives ("The boy was hit by the car"; Bedore & Pena, 2008; Tomasello, Carpenter & Liszkowski, 2007).

They learn to use syntactic cues not only to decode semantic relations within sentences but also to identify the connections between sentence elements and those given previously in the discourse (Tough, 2012; Bialystok, 2001; Astington & Jenkins, 1995). Semantic and conversational abilities continue to develop during the school years. Vocabulary size is still increasing, and new words are now being learned from reading as well as from the conversation. School-age children gradually acquire the ability to communicate with precision, to take the listener's viewpoint into account in formulating an utterance (Ochs & Schieffelin, 1984; Ochs, 1988; Dore, 1974) and to tell more complex well-structured narratives.

Social cognition and communication

Although the existence of an intimate connection between ToM ability and competent social interaction has always been an obvious issue, the nature and direction of this connection are still controversial.

On one hand, a number of studies were aimed at discovering the role that children's first social experiences have on the development of ToM. These studies highlighted the importance that contexts of interpersonal negotiation have for the emergence of the understanding of mental processes (Dunn, Brown, Slomkowski, Tesla & Youngblade, 1991; Perner, Ruffman & Leekam, 1994). Furthermore, in recent years, a new body of research has highlighted the possible role of early linguistic development on children's subsequent performance in ToM tasks (Astington & Jenkins, 1999; Lohman & Tomasello, 2003).

In contrast, other studies have changed the direction of the relationships and have suggested that an understanding of mental processes could result in a higher sensitivity to the subjective point of view. In this case, the development of ToM would facilitate both interpersonal relationships and communicative interchanges.

One of the first studies showing some particular aspects of the connection between mind-reading abilities and communication was research carried out by Frith, 1989; Trevarthen, 1983; Tomasello & Rakoczy, 2003. The authors compared the conversational capacities of a group of autistic children to another group of Down's Syndrome children, matched in age and language ability. The autistic children, who have ToM impairment, had greater difficulties in keeping to and continuing the topic of conversation. In a later three-year longitudinal study with typically developing children, Dunn and her colleagues reached similar results. Early understanding of belief in three-year-olds was positively related to subsequent successful communication with friends in a natural play situation (Snow, 1983; Martlew, 1983; Fonagy & Target, 1998).

In addition to topic contingency and continuity, another communicative feature related to ToM development was communication informativeness. In research carried out with children between 3;6 and 4;6, Matthews, Butcher, Lieven & Tomasello, 2012; Blank, 1974; Wood, (2010) studied the relationships between the comments about past events in mother-child interactions and the abilities to reason out conflicting representations as they are typically seen in ToM tasks. The most important results indicated that the development of the ToM was positively related to the frequency with which the children gave or asked for new information when both children and mothers together summarized past events.

Therefore, these results seem to suggest that as children grow in their ability to establish relationships between their own representations and the representations of others, they are more able to understand conversational interchanges as a 'meeting of minds', a collaborative endeavor in which being aware of the interlocutor's intentions and informational needs is crucial. Furthermore, this way of understanding conversational interchanges is also related to children's comprehension that knowledge of events has its origins in previous experiences.

Results from other research also support those ideas, suggesting that, as a general rule, the children who solve ToM tasks compared with those who do not pass them are more likely to: (a) take part in pretend play, not only more frequently, but also in a more sophisticated way (Rodríguez & Lana, 1996; Tamis-LeMonda, Shannon, Cabrera & Lamb, 2004), (b) use a higher frequency of mental state terms in their everyday conversations (Tomasello, 1992; Arbib, 2005; Levinson, 2006), and (c) be considered by their teachers as having more developed social and interactive abilities (Csibra, 2010; Goldfield & Reznick, 1990).

Although causal links cannot be drawn from these data, it is true that ToM experimental tasks, as well as communicative situations, require similar sociocognitive abilities. It is likely that the complexity of the existing links between ToM and communicative abilities should lead us to use the concept of 'reciprocal facilitation', as a few authors have suggested when talking about the relationships between ToM and language development (Rescorla & Goossens, 1992; Wetherby & Prutting, 1984). In any case, the possibility of using the ToM experimental paradigm seems to be promising in order to predict capacities such as coordination and regulation of interactions with others.

ToM development and referential communication

The intention of the present work is to assess the impact that ToM development may have on the type of communicative means children apply in a referential communication situation. Research on ToM precursors in infancy points to the early intents of referential communication (e.g. pointing, joint attention, ostensive behaviors) as genuine antecedents of the child's capacity for mental attribution (Ervin-Tripp, 1974; Clark, 1987). Thus, there are reasons to think that later referential communication should be a promising way to explore how the developing conceptions of mind may affect communicative interactions during childhood.

There is, however, a dearth of knowledge concerning the impact of ToM on referential communication abilities considered from a functional point of view, particularly during preschool years. As far as we know, only a few studies have been developed by Astington and her collaborators. In one of them (Nelson, 1998; Bruner & Haste, 2010; Greenspan & Wieder 1997), three to five-year-old children were given a traditional referential communication game (see the above paragraph). Children's communicative competence was assessed by taking account of how informative they were and how much prompting they needed to complete the task. At the same time, four standard ToM tasks and two measures of linguistic ability were given. Results pointed to positive significant relations between performance on the referential communication task and ToM scores, after controlling for age and linguistic ability (Göncü, 1993; Wellman & Gelman, 1992; Peterson & Siegal, 2000).

As previously stated, one of the problems with this traditional paradigm is its lack of ecological validity. Taking this point into consideration, Resnick, Pontecorvo & Säljö (1997) devised a new task that resembled a more natural communication situation, one of giving information to an ignorant participant who did not share the same location. Children aged 3 and 4 were asked to choose stickers from pairs differing in one critical attribute. Then, they had to describe them, in order to receive a set for themselves from another experimenter in an adjacent room (Mercer, 1996; Valdez-Menchaca & Whitehurst, 1992). In addition, children were administered three false belief-tasks, a receptive language test, and the traditional referential communication task.

Results showed that children's ToM abilities were related to their performance on the new task; children who passed the false relief tasks were more likely to communicate critical referent information to the experimenter in the room. In contrast, there was a correlation between ToM scores and performance on the traditional task, after controlling for age and language. Apart from the importance of cognitive competence these findings seem to highlight motivation as a key factor in assessing the links between ToM development and communicative competence.

Understanding communicative intentions

For current purposes, a communicative intention may be de®ned as one person expressing an intention that another person shares attention with her to some third entity (John, 1999; Cohen, 2001; Sigman & Capps 1997). This is not a trivial cognitive achievement, and indeed the expression and comprehension of communicative intentions is a species-unique characteristic of Homo sapiens (Ruffman, Slade & Crowe, 2002; Sfard, 2008; Tomasello, 2000). It is thus interesting to note that there are currently no observations indicating that nonhuman primates use any vocalization to direct the attention of groupmates to any external entity such as a predator or food. (Vervet monkeys make different alarm calls for di□erent predators, but a close inspection of the way they use these calls leads to the conclusion that ``monkeys cannot communicate with the intent to modify the mental states of others because‗they do not recognize that such mental states exist'' (Bullowa, 1979; Cortazzi & Jin, 1996; Cummins, 2000; Doherty-Sneddon & Kent, 1996).

Nor are there any observations indicating that nonhuman primates use any facial or manual gesture to direct the attention of groupmates to an external entity; they do not point, hold up objects to show them to others, or even over objects to others (chimpanzees raised by humans sometimes learn to point or use ``symbols'', but only for imperative, not declarative, purposes which suggests that they may be attempting to direct the behavior, not the attention, of others; Ochs & Schieffelin, 1984; Rodríguez & Lana, 1996). The simple fact is that nonhuman primates do not as a matter of course in their natural environment ``express an intention that another share attention with them to some third entity''

perhaps because they do not understand that others have attention (Dore, 1974; Goossens, 1989; Karmiloff-Smith & Inhelder, 1974).

Prelinguistic human infants are able to discriminate sounds and associate particular experiences with them (Martlew, 1983; Nelson, 1998; Ochs, 1988), but they do not comprehend and produce linguistic symbols until about their first birthdays. They do not do this quite simply because they do not yet understand communicative intentions. From about their first birthdays, however, infants begin to understand that when other persons are making funny noises at them they are trying to manipulate their attention with respect to some external entity (Dickinson & Smith, 1994; Lord & O'Neill, 1983).

This understanding is one manifestation of a momentous shift in the way human infants understand another person which occurs at around nine to twelve months of age, as indicated by the near-simultaneous emergence of a wide array of joint attentional skills involving outside objects. This includes such things as following into the gaze direction and pointing gestures of others, imitating the actions of others on objects, and manipulating the attention of others by pointing or holding up objects to ``show'' them to others declaratively. The first language emerges on the heels of these nonlinguistic triadic behaviors (involving you, me, and it) and is highly correlated with them in the sense that children with earlier emerging skills of nonlinguistic joint attention begin to acquire linguistic skills at an earlier age as well (Marschark & Spencer, 2006; Bochner, Jones & Price, 2003).

Similarly, children with autism have problems with joint attention and language in a correlated fashion, that is, those who have the poorest nonlinguistic joint attentional skills are those who have the poorest language skills (Horowitz, 2000; Bialystok, 2001). When children begin to understand the actions of others as intentional in general, they also begin to understand the communicative actions of others as intentional in the sense that they are aimed at directing attention.

Even given the ability to understand communicative intentions in general, it is still far from straightforward to determine a specific communicative intention in a specific usage event. Blank, 1974; Bretherton, Fritz, Zahn-Waxler & Ridgeway, 1986, in particular, analyzed the many problems involved (e.g., he pointed out the fundamental indeterminacy of ostensive definitions; see also Bruner (1964) and concluded that communicative intentions can only be comprehended if they are experienced within the context of some already familiar ``form of life'' that serves as their functional grounding. In language acquisition, these are what Edwards & Mercer, (2013) called joint attentional ``formats'' mutually understood social interactions between child and adult that constitute the shared presuppositions and joint attentional framework of the usage event (see also Tomasello, in press).

It is easy to see that over ontogenetic time the forms of life that structure early language acquisition turn into the wider knowledge bases that a number of cognitive-functional linguists have pointed to as crucial in the proper characterization of linguistic meaning. The frames, scripts, and other larger entities within which specific linguistic forms gain their communicative significance as specified, for example, in De Villiers & Pyers, 2002; Silver, 1989), base on profile distinction have their ontogenetic roots in the non-linguistically learned and experienced joint attentional formats of child language acquisition. Within these larger intersubjectively shared wholes, children come to understand utterances as attempts to manipulate or ``window'' the attention of other persons with respect to particular aspects of these interaction-encompassing background frames (World Health Organization, 2004).

And so, if we take the understanding of communicative intentions as primary in the child's initiation into linguistic communication, our fundamental unit of analysis must be the most complete and coherent communicative act, the utterance which is most reliably

identi®ed by its simultaneous functional and prosodic coherence. Children come to understand utterances as they come to understand the intentional actions, including communicative actions, of others. They do this within the context of intersubjectively shared forms of life joint attentional format which constitute the medium within which skills of linguistic communication function and grow. Thus, in the current view, utterances are the primary units of linguistic communication since they are used to express complete and coherent communicative intentions, and other smaller units of language are communicatively significant only by virtue of the role they play in utterances (Dickinson, Griffith, Golinkoff & Hirsh-Pasek, 2012).

Conclusion

The preschool period (from 2 to 5 years) is the time during which the child's language evolves from simple telegraphic utterances to fully grammatical forms. In addition to rapidly acquiring new vocabulary, the child goes through a process of approximating more and more closely the grammar of the language spoken in the home. There is evidence of the child's active role as a hypothesis-generator in the frequent occurrence of overgeneralized forms, such as "goed," "comed," and "mouses". These errors are taken as evidence that the child is indeed acquiring a rule-governed system, rather than learning these inflections by imitation or on a word-by-word basis.

A variety of more advanced conversational and other discourse skills also emerge and become refined. Children increase their ability to maintain and add new information to the conversational topic, to clarify and request clarification of misunderstood utterances, to make their requests or comments using polite or indirect forms, and to choose the appropriate speech style on the basis of the speaker's role and the listener's status. Children also begin to engage in different types of discourse including storytelling, recounting events, and personal narratives, all of which follow cultural conventions for these diverse genres of linguistic reporting.

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