Gestural cohesion in discourse

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PREMISE

Cognitive science today is concerned with non-verbal aspects of communication, both for its possible applications in different fields (rehabilitation, sign language, etc.) and for the study of existing relations among the different forms of symbolic expression represented in the mind. In interactive situations, especially the face-to-face ones, the role of verbal, gestural, paralinguistic indicators varies considerably according to the communicative context in which the exchange is performed: situation, quality of relation, mental frame, type of information, etc. In communicative process locutors join linguistic and non linguistic signs in context and in function of the discursive action in which they are implied. With the aim to «try to give a dynamic description of language (Eikmeyer, 1989), we suggest that words and gestures belong to the same internal system of cognitive planning «... gestures are an integral part of language as much as are words, phrases and sentence. Gesture and language are one system» (Mc Neill, 1992).

Gestuality produced by speakers represents a link between conceptual abilities and linguistic skills. It is possible, therefore, to make a distinction between classes of gesturals signs: those belonging to the ideational process (iconic, deictic, metaphorical signs) and those governing the discourse process (batonic, cohesive). There has been lately, therefore, an increasing interest in the study of relation between gestures and words in communication.

HYPOTHESIS

Since the locutor has an over-all view of the whole discourse, according to de Beaugrande and Dressler (1984), each shift in discourse is oriented towards the accomplishment of a plan and the achievement of its purposes. The speaker gives evidence and credibility to a statement by expressing other statements, t'hat perform justification acts. By means of subsequent negotiating acts, he accepts the interlocutor's «mental model», in order to gain his/her active participation. Data supplied by speakers in support of their standpoints and the conclusions they draw are, therefore, strictly related. According to the most recent theories on pragmatics (van Eemeren et al.,1997), the purpose of argumentative activity is the attempt to overcome opinion gaps.

Studies in discourse analysis reveal that the communicative performance of a locutor, which has the over-all representation of the whole discourse, is linguistically characterized by the use of cohesive markers. Sentence and clauses are intertwined in the speaker's mind. He organizes utterances according to his own communicative goals and to those belonging to his interlocutor. Different linguistic devices as repetition, coreference, «pragmatic particles» (Östman, 1992) act a link between surface cohesion and underlying coherence. We assume that, on the gestu-

ral side also, it is possible to identify signals, whose function is to cooperate in the building up of cohesion. A type of cohesion, conducting to a sort of dynamism (Levy, McNeill, 1992), that is to signal new information, if we consider what is said before, and that stresses pieces of information that are relevant to what is going to be said afterwords. From a psychological point of view, cohesive elements, whether they are verbal or non-verbal, are strictly dependent from general perceptive principles (Campbell, 1995), that control the interaction of co-textual and contextual relations. The need of continuity in discourse is thus mirrored by principles of textual cohesion.

METHOD

A short story has been selected, and its structure and thematic nuclei have been outlined. It is a naturalistic text of 345 words; a passage from a best-seller, composed of two paragraphs. The story is told by a woman explaining and argumentating, to an interlocutor, the reasons for the feeling of solitude, diversity and estrangement from others, that she has been feeling since her youth. This story has been included among the tasks of another experiment that had no psycholinguistic purpose.

The subjects (10 university students), immediately after reading the story, have narrated it freely in the presence of an interlocutor who was not supposed to reply. Each recording lasts about 1.30 minutes. The reports have been video-taped, and then digitalized. From a first survey of the ten transcriptions, we isolated collocations and linguistic strategies the subjects used to put topics in relation the ones to the others and to underline the way they shaped the utterances of the text. We identified the thematic nuclei, the information structure, the focussing of known and unknown data, referential elements and, specifically, the mechanisms of cohesion carried out by discourse markers (Contento, 1997) in the shift from one informative focus to another.

RESULTS

The micro-sequences containing the variations of theme and the introduction of new information in the discourse have been selected and analysed in frames (up to 4 frames per second). In order to give a dynamic description of language, we have identified classes of gestures that constitute the determining cognitive factor of the locutor's discourse processing (Erlich, Charolles, 1991). Most of the gestures performed by the locutors belong to the ideational function. Since the situation does not consists of a dialogue, the speakers do not perform any relational gesture that involves the interlocutor straight away, in this way behaving quite the opposite from other situations previously analyzed (Contento 1996a, 1996b, 1996c, Contento and Stame 1997)

Three main classes of gestures have been identifies and then classified according to the discourse content. There are iconic gestures, which accompany the linguistic production of verbs; there are referential gestures, which refer to the subject that are mentioned; there are cohesive gestures, which are performed to emphasize the shift from one part of the discourse to another. It is on this last category of gestures that our attention is to be focussed in the following analysis.

For each story, an analysis has been conducted on cohesive consituents, stressed by repetitive gestures, that ensure continuity by maintaining their location in space (McNeill, Levy,

1993). Particular attention has been paid to the identification of the gestures produced by the speakers at the moment of introducing new discourse topics through the use of discourse markers. «Gestural cohesion depends on repeating the same gesture form, movement, or locus in the gesture space: the repetition is what signals the continuity. The repeated gesture shows, in the most direct way, the recurrence or continuation of a theme» (McNeill, 1992, 16). These gestures can be performed by only one hand (B) or by both hands (A) (Tab. 1). A distinctive characteristic of these gestures is repetitiveness (they are repeated many times in sequence) and their collocation (they are performed in the same place). While gestures performed by only one hand there is a repeated movement backward, towards the same starting point, gestures produ-

Tab 1. Direction and shape of some cohesive gestures

Types of gestures performed by locutor (X)
with both hands (A) or with only one hand (B)
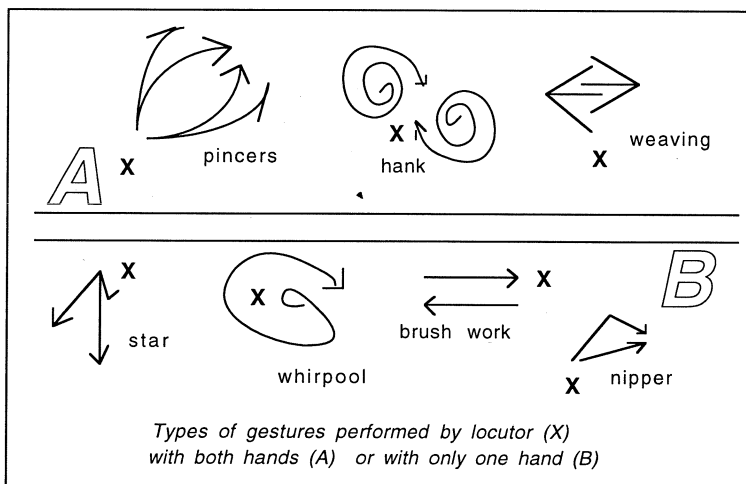
ced by both hands signal the joining of parts that was previously disjoined. In the following lines from the transcriptions, utterances are accompanied by gestures that participate in expressing the discourse content, supplying continuity to the speech: anche perché insomma quando conosceva degli uomini (also because well when she met some men); secondo me (in my opinion); cioè non era vista come dote l'intelligenza (you see it wasn't considered a gift the cleverness); e poi nella storia (then after in the story); era una donna cioè una ragazza (she was a woman well a girl); e poi arriva la conclusione (and then here is the end); era una donna cioè una ragazza insomma cioè era bella (she was a woman so a girl so in short she was beautiful). The gesture is always produced near the discourse marker: sometimes it comes before, sometimes afterwards, or it is produced on an empty pause.

This inventory is not exhaustive, but we might affirm that in all the occurencies listed above, as in many others, discourse continuity and gesture continuity are expressed at the same time, while the latter keeps alive the content of enunciation by connecting different parts of discourse. The locutor uses the space ahead to represent and discriminate in this way different discourse elements.

DISCUSSION

It is rather difficult to classify some of the gestures analysed as belonging quite definitely to specific classes because of their polysemy. Gestures that join together parts of discourse on a thematic base have been labelled as cohesive, although very often they could have been classified quite differently. It is reasonable, therefore, to affirm that the identification of cohesive gestures is quite a hard matter. «Cohesive gestures are quite eclectic about their form. They can consist of iconic, metaphoric, or pointing gestures; they can even consist of beats» (McNeill, 1992, 16).

As a matter of fact, discourse continuity is a result of different textual devices, which are very difficult to enucleate without considering the whole discourse context.

CONCLUDING REMARKS

This study leads us to maintain that word and gestures are expressions of the same generative process of enunciation. Indeed, speakers control simultaneously different levels of discourse, expressing ideas, knowledge, interpersonal relations.

Cooperation between word and gesture in the generation of the thematic structure is achieved by an underlying unit of word and gesture. In these terms, we can say that word and gesture are parts of a coherent whole and that further research would be hoped for as extremely relevant in the analysis of language activity.

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