

Intention and Intonation in Early Childhood Language

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Children talk to their mothers long before they acquire the words and grammar of language. Mothers talk to their children who cannot understand the correct meanings of their language. Children try to communicate their intentions or requests to their mothers, although there are no words or grammar in their utterances. Mothers try to understand the meaning of their children's utterances. Children can judge whether or not the intention of their utterances is understood through their mothers' response. Children memorize the successful experiences, and will try an alternative expression if they fail to get their intentions across to their mothers. This is an interpersonal communication process that takes place repeatedly between children and mothers. Children can acquire language through these processes (Stark, 1978; Osofsky & Connors, 1979; Mizuno, 1988).

The voice has some acoustic elements, namely, loudness, pitch, speed, tone and intonation. Mothers scold their children in a loud voice, and comfort them in a slow soft voice. 'Intonation has been considered by many to be one of the earliest linguistic features acquired by the child' (Lewis, 1951; Engel, 1973; Flax, Lahey, Harris & Boothroyd, 1991). 'The intonational envelope itself is one of the earliest and most basic units of interpersonal signalling in the auditory domain' (Stern, Spieker & McKain, 1982). From early on, children are sensitive to variations in intonation in speech, and they can faithfully reproduce others' intonation (Morse, 1972; Tonkova-Yampol'skaya, 1973; Flax et al., 1991).

'The variations in vocalizations produced by non-linguistic children are systematically related to context' (Delack, 1976; D'Odorico, 1984; Furrow, 1984; Flax et al., 1991). Mothers use intonation as a means of interaction with their children. 'Regularities between intonational patterns and communicative functions of children were observed' (Halliday, 1975; Stern, Spieker, Barnett & MacKain, 1983; Marcos, 1987). They included an association of high pitch range and rising intonations with requests, and low pitch range and falling intonations with narratives (Flax et al, 1991). Further longitudinal data are important to establish whether specific intonational patterns are associated with particular meanings.

In the present study, we examined how these associations between intonational contours and communicative functions could vary with chronological age in child utterances from seven months to two years of age. We also investigated the influence of the mother's language upon the utterances of a child. We investigated the following points:

- 1) The ratios of three types of intonation, fall, held and rise in the utterances of a child and a mother
- 2) The classification of the meanings of the utterances of a child and a mother
- 3) The relation between terminal contours and communicative functions in utterances
- 4) The change of these associations with a child's chronological age and comparison with the mother's language

[Method]

Subject

A boy was observed during interaction with his mother at five different ages : seven months, one year, one year and three months, one and a half years and two years. He was a first-born child.

Recordings

The child's spontaneous utterances and conversations with his mother were recorded. At each age, one hundred utterances of the child and the mother were classified in terms of communicative functions to know how the utterances functioned in context. The classification used was adopted from the categories described by Dore (1974), Halliday (1975), Flax et al. (1991) The terminal contours of the utterances were classified as rise, held or fall (Kent & Bauer, 1985).

[Results and discussion]

1) Terminal contour

The three types of terminal contours in the child's utterances are shown in Figure 1. The held type intonation was most prominent before one year of age. It suggests that he did not have intonation in his utterances and that he could not quickly control the pitch of his voice. The proportion of the rise type and fall type intonation increased with age. This shows the child became sensitive to the variety in intonation contours and able to use them.

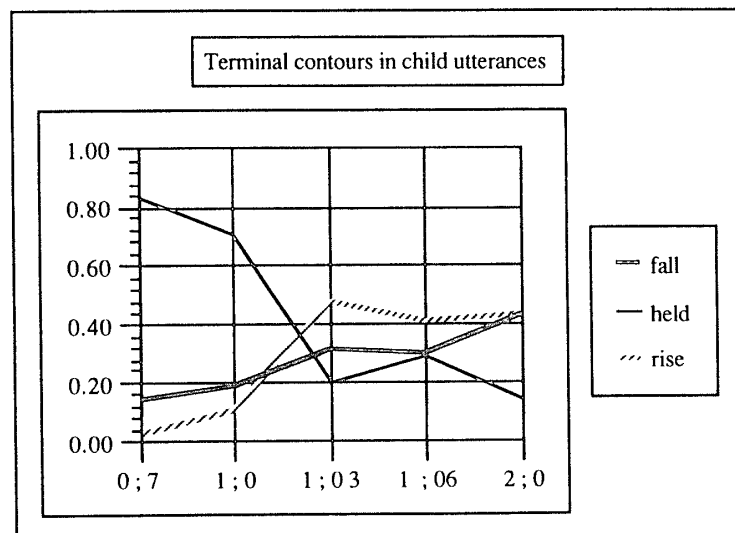


Fig. 1 Three types of terminal contours in the child's utterances

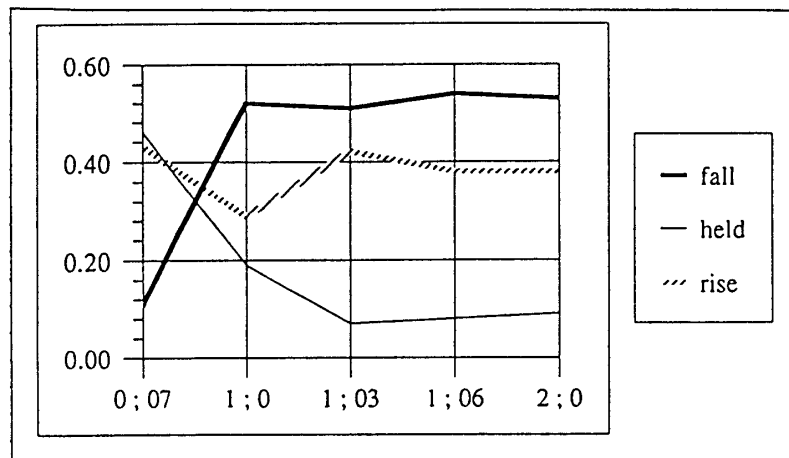


Fig. 2 Three types of terminal contours in the mother's utterances.

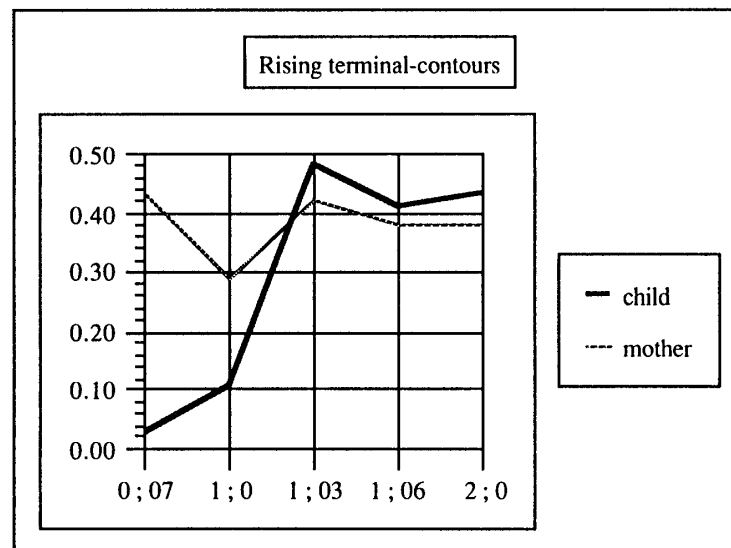


Fig. 3 Comparison of rise type terminal contours between child and mother

The three types of terminal contours were also examined in the mother's utterances as shown in Fig. 2. The ratios of each type of intonation of the mother's utterances do not vary with her child's age. The fall type intonation was most prominent in the mother's utterances. The mother usually uses the fall type intonation in daily conversation. It means that most of her utterances don't ask for her child to answer. The child doesn't have to respond to her immediately and it makes him feel easy. He has enough time to appreciate her utterances. As the child repeatedly listens to his mother's utterances, he perceives the variations in her voice.

The comparison of the rise type terminal contours between the child and the mother is shown in Fig. 3. The ratio of rise type intonation in the child's utterances increased with age and approached that of the mother's utterances. The mother requires more of her child than the child requires of his mother. This suggests that the mother has priority in the personal interaction between them. The mother appeared to use the rise type intonation to gain her child's attention and engage him in interaction in early childhood. However, the necessity of

gaining the child's attention decreased with his age, as the child began to participate actively in conversation.

2) Contextual function categories

We combined some of the contextual function categories of Dore's classification: "Res" indicates Response—immediately following the utterance of another, and Comment Label categories—in apparent recognition of or to label a person or object; "CI" indicates Comment-Interactive—in context where posture and other behaviors indicated an interaction with another person, and Give—as the child gave an object to another; "Request" indicates three Request categories (Request-Attention—to get attention from another usually a call, Request-Object or Action—in accompaniment with reaching, Request-Response—looking, pointing, followed by the recognition of a request, and the vocalization followed by a verbal response), Request-Command—in a loud voice and repeated until the mother complied, and Protest—in context of unfulfilled desire. "CN" indicates Comment-Noninteractive category in context without gaze or other behavior that indicated it was directed to another (Flax et al, 1991) These four contextual categories, Res, CI, Request and CN, in the child's utterances are shown in Fig. 4. The

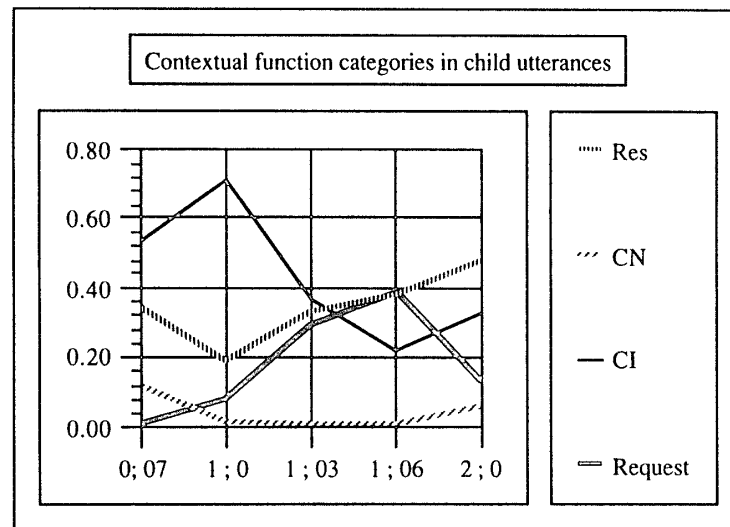


Fig 4 Four contextual categories in the child's utterances

ratios of Request and Response categories in utterances increased with age. The child began to question others actively with age, calling their names, asking them to get something for him and responding in some way when he was talked to. It means that the child came to understand his role in conversation and enjoy the interaction with others. The four contextual categories in the mother's utterances are shown in Fig. 5. The ratio of the Request category in the mother's utterances was most prominent over the whole range of the child's age from seven months to two years. She asked him to respond when she called his name and to come near her. She always asked him many questions whether he could understand them or not. She sometimes answered the questions herself, and the child observed her conversation.

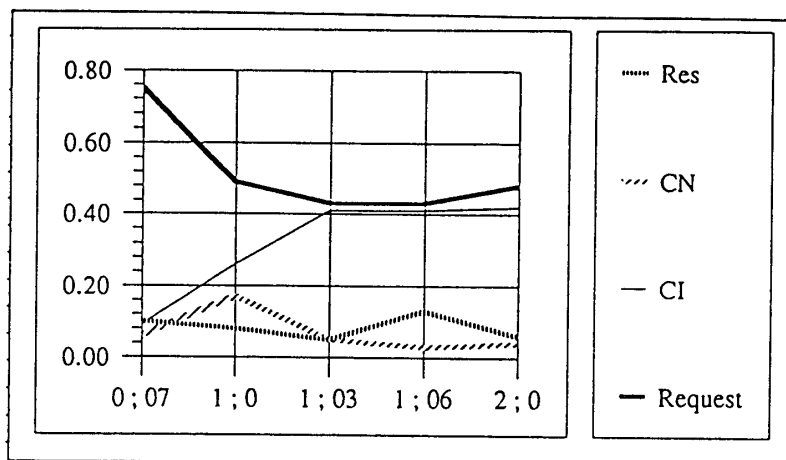


Fig 5. Four contextual categories in the mother's utterances.

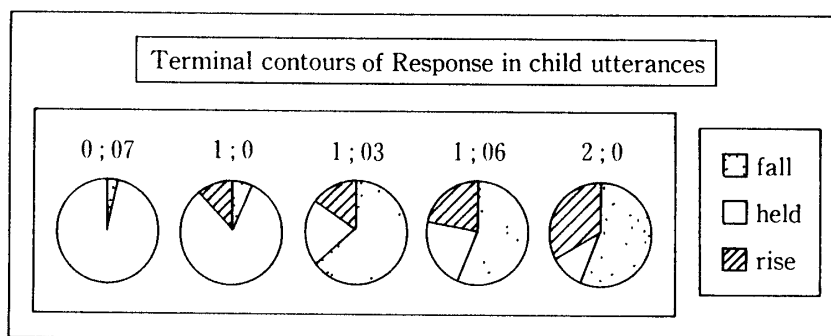


Fig 6. Relation between terminal contours and Response category in the child's utterances

3) Relation between the shape of terminal contours and contextual function categories

Fig. 6 shows the relation between terminal contours and the Response category in the child's utterances. The ratio of the fall type intonation in the Response category increased gradually with age and approached that of the mother, as shown in Fig. 9. The Response category of the child consists of three kinds of answers; 1) an answer to the mother's calling his name 2) answers to questions by using yes or no 3) an answer to a question beginning with an interrogative word, using mainly nouns or sentences. When the child was called by name at seven months, he responded with a variety of utterances. This variety of answers to the calling decreased with age and he showed certain typical responses at one year and five months. As for yes or no questions, he couldn't answer at all or it was almost impossible for the mother to guess her child's intention at seven months. The child's response to the yes-no questions began to vary at nine months of age. The child came to express affirmative answers with the fall type intonation and negative ones with the held or rise type intonation. Fig. 7 shows the relation between terminal contours and the Comment-Interactive category in the child's utterances. The ratio of the fall type intonation increased with age and approached that of the mother's as shown in Fig. 9. Fig. 8 shows the relation between terminal contours

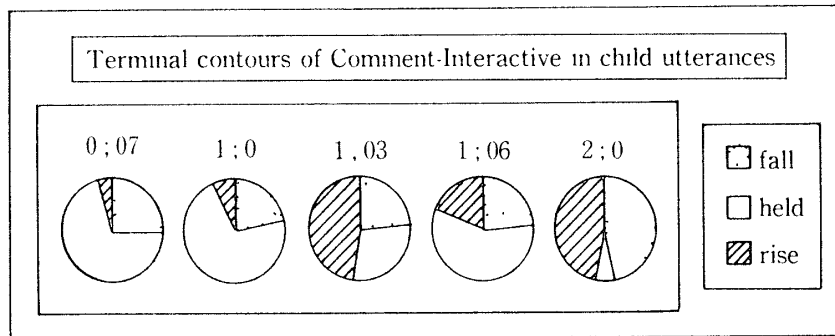


Fig 7 Relation between terminal contours and Comment-Interactive category in the child's utterances

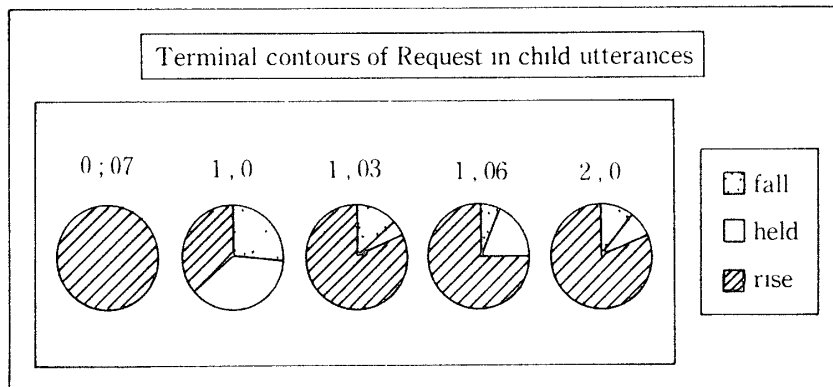


Fig 8 Relation between terminal contours and Request category in the child's utterances

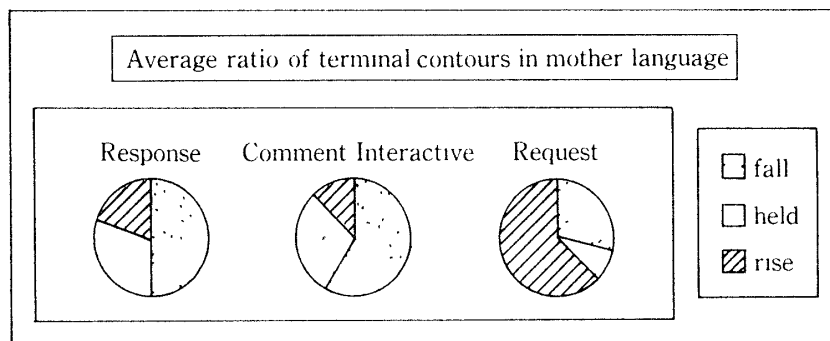


Fig 9 Relation between terminal contours and contextual function categories in the mother's language

and the Request category in the child's utterances. The ratio of the rise type intonation increased with age and approached that of the mother's, as shown in Fig. 9.

The relationship between communicative functions and prosodic variables, i.e., the fall, held and rise type of terminal contours, was studied. The relation became clear with varying chronological ages. It was suggested that children discriminate a variety of intonations in their mothers' speech and guess the relation between these intonations and contextual meanings. Intonation helps children understand the meaning of language and communicate their precise intention to others.

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