CHAPTER 10

Functions of Speech in Mother–Infant Interaction*

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One of the aspects of language that children have to acquire is how to use speech to perform social acts (Austin, 1962; Grice, 1957; Searle, 1969). Children must learn how to use words, for example, to greet, to request, to regulate an activity with a playmate, or to draw another's attention to something. In trying to understand how children come to learn the social uses of language it is commonsensical to turn to an examination of what models are available for them. When mothers interact with their children the mothers perform such linguistic social acts. An examination of maternal speech to language-learning children, then, will provide basic information about what speech functions are modeled for children and how these functions are carried out by conventional linguistic means. A comparison, along these dimensions, of input language with children's subsequent productions will suggest how the two are related, if at all.

The assumption underlying all theories of language learning is that language acquisition is possible because children can grasp the sense of utterances they hear, independently of understanding the sentences themselves. Language learning, then, is based on the child's matching unknown verbal forms to known meanings (Anderson, 1976; Macnamara, 1972).

Although this idea has the flavor of a real insight into the processes of language acquisition, an attempt to develop it further immediately stumbles against the crucial problem of how to characterize the meanings the child might attribute to the

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communications directed at him. Semantically oriented theoreticians like Bloom (1970) and Schlesinger (1971) would claim that young children interpret their experience, and, therefore, the utterances they hear, in terms of broad semantic relations, such as the relation of agents to actions they perform. Language learning at its early stages would, then, consist of acquiring the realization rules by which semantic relations are expressed through linguistic devices such as word order.

This is obviously only one possible way to think of children's organization of their reality in meaningful terms. During the last few years, several investigators have put forward suggestive evidence to the effect that young children primarily organize their experience, and, therefore, interpret the utterances they hear in functional rather than semantic terms. Bates (1976), Bruner (1975), Dore (1975), Halliday (1975), and others put forward the claims that young children are very much adept at interpreting the social meanings of situations they are involved in and are primarily engaged in both interpreting others' intentions in interaction and in expressing their own intentions, whether in prelinguistic or linguistic forms. This approach assigns a prominent role in the child's "reading" of utterances to the pragmatic function of the utterances; furthermore, it sees language acquisition in its primary stages as the learning of verbal forms for the execution of social acts.

According to this school of thought, young children are able to establish mutually interpretable intent with their caregivers because much of their communication is embedded in routinized, repetitive, rule-governed transactions. (Bruner, 1975, 1980; Bruner & Sherwood, 1976; Garvey, 1974; Snow, Dübber, & deBlauw, unpub. ms.). Examples of such "formats," as Bruner calls them, are everyday caretaking routines such as feeding, bathing, diapering; simple games such as peek-a-boo, run-and-chase, build-and-knock-down; and formats for achieving and maintaining joint focus of attention, requesting help, inviting joint action, and the like. Since the range of possible meaning in formats is severely restricted, and since the events are simple and predictable, preverbal infants, it is claimed, are able to establish a shared experience with their adult partners. Within such contexts, communicative intentions can be conventionized and mutually interpreted.

There are indications that early language learning is indeed highly context-specific and that children acquire their earliest verbal forms for the execution of specific sociolinguistic functions. Halliday (1975) has shown that all of his child's first verbal devices were function-specific and unifunctional, and only gradually did the child come to use the same word or phrase for more than one pragmatic function. Bates (1976), Benedict (1979), Bruner (1975), Clark (1974), Snow (in press), and Svachkin (1973) also presented evidence of function specific and context bound acquisition.

It seems that much of this learning is established through simple copying of models presented by adults for the child. The very first verbal forms are probably copied from models experienced as having privileges of occurrence at specified points in formats. They seem to have no semantic content and might be said to be "pure performatives." Such forms are "bye-bye," "hi," "thank you," and utterances embedded in familiar games, as documented by Bruner (1975), Greenfield

and Smith (1976), and Nelson (1973). At a more sophisticated level, utterances by adults are used as models for the verbal expression of shared interpersonal meanings. Clark (1974) and Snow (in press) have shown that children sometimes appropriate whole phrases and sentences said by adults in particular situations and use them as unanalyzed wholes to give verbal expression to their intentions. Thus, a child might learn to say "lift you up" as a demand for adults to lift him up, possibly because adults present him with the model "Do you want me to lift you up?" when such an intention is demonstrated by a child nonverbally. Such phrases are obviously learned in, and useful in, specific contexts, for the expression of highly specific intentions. Another form of functionally based learning is, possibly, of simple grammatic formulae used to express a more general pragmatic intention that pertains to several different contexts. Halliday (1975) described such a formula for demanding more of a desired stuff, in the form of "more X." Shatz (1977) has shown recently that mothers' speech exhibits a relatively high degree of form-function correspondence, in that for several functions such as requests and questions for information there exists a major prototypical formula which accounts for the majority of the utterances made with the relevant intent. Thus, the majority of directives had the form, "Can you do X?" Such consistent form-function relations probably enable the child to learn the formula as a relatively flexible device for the expression of similar intentions in differing contexts.

If indeed early language acquisition is largely based on the process of copying adult-provided models for the verbal performance of social acts, the systematic exploration of the process of language learning should include tracing the relationship between adult models and the children's subsequent productions. The success of such an endeavor depends on the correct identification of the social functions of language which are modeled for children in the context of shared social experience. In the rest of this chapter, we are presenting an account of our attempt to identify and classify the shared social uses of language in mother–infant dyads. The work is still in progress; and what we are describing is more how we think about these problems than any final solutions.

In order to obtain a description of the social meanings created in dyadic interaction, we have turned to the mothers and used them as informants on, and interpreters of, videotaped episodes of dyadic activity they had participated in with their infants. In this decision we were motivated by the currently prominent notion in philosophy and social psychology (Bateson, 1955; Cicourel, 1970; Davidson, 1980; Harre, 1979; and especially Erwin Goffman, 1974), that human beings continuously interpret the world and their experience to themselves through the use of schemas of interpretation, which render "what would otherwise be a meaningless aspect of the scene into something which is meaningful" (Goffman, 1974, p. 21). Moreover, we accepted the claim that people are able to give an account of their interpretation of social reality since these interpretative schemas exist within the cognitive field of the person behaving (cf. Wright, 1967). In this we followed one of the established methods of ethnography, the so-called "account analysis" (cf. Carini, 1975; Cicourel, 1970; Garfinkel, 1967; Harre, 1979).

The procedure of an elicitation session is as follows. The experimenter explains the aim of the session to the mother as an attempt to elicit a full description of the taped observation as if to a person who hasn't seen the tape or the actual interaction period. The experimenter asks the mothers to describe the ongoing activity seen on the tapes by the use of questions such as "What is it that's going on here?" (Goffman, 1974, p. 8), "What is happening?" "What are you doing?" The mothers are directed to provide a running commentary on whatever is happening. They are asked to watch the tape for a short while, then stop it and give a description of whatever happened in the section they had been watching. The interviewer lets the mothers pace themselves but he rewinds the tape and asks for further description of sections where some actions were skipped over and not described by the mothers, or if the descriptions were not detailed enough.

The goal of the elicitation procedure is to obtain an utterance-by-utterance description of the social acts performed by the speech of the two participants in the dyadic interaction. These descriptions are to serve as a basic data pool for the construction of a typology of sociolinguistic acts occurring in mother–infant interaction, acts whose meaning is shared by both participants.

Not all social meanings reported by mothers might be equally shared by the children who are their partners in the interactive situation. Adults interpret social situations on many levels, not all of which can be meaningful for a young child. Some meanings are not intended to be shared with the child and thus are a priorily not part of the interpersonally negotiated meaning. Mothers might intend to distract the child from some undesirable activity without his noticing that he was distracted. Mothers might purposefully under-react to a painful or frightening event involving the child in order not to alarm him further. In these cases, mothers actually want to hide their true intentions from their children, and even though they report on them to the experimenter, these are not part of the shared social context.

Mothers might also report intentions which are not shared by their children because they are beyond the children's comprehension. For example, mothers may say that they intended by their acts to shape the child's interests, to make him more intelligent, to keep him facing the camera, or to receive emotionally satisfying responses from him.

When a mother reports as the intention underlying a communication something which is obviously not meant to be shared by her child, she is asked to give an alternative description of the same act. For example, in a situation where a child was playing with the TV set, the mother said, "Why don't you come and play with your ball now?" When she reported on this moment, the mother said she had wanted to distract the child without his being aware of it, since otherwise he would go on playing with the TV set on purpose. She was then asked by the experimenters, "What did you do to achieve this aim?" Such a question usually succeeded in eliciting an answer in terms of overtly communicated intentions. In the present example, the mother said that she had showed another toy to the child and suggested to him that he play with that toy.

Mothers might also describe and explain the ongoing interchange in much too

general terms. The experimenter's task is to make sure the mothers come to describe the meaning of every utterance in terms of its relation to what was going on the moment it was uttered. We do not want mothers, for example, to describe ten minutes of interaction as "playing with a puzzle." While this description may be valid for another sort of analysis, it is much too broad a level of description for us, given our interests in language acquisition. "Playing with a puzzle" is not the level of social meaning at which we assume individual utterances are generated or interpreted. It does not seem reasonable to think that children learn verbal forms for a functional unit such as "puzzle play." Rather a meaning of much narrower scope seems reasonable, such as "asking where a piece goes."

The procedure of asking the mothers to describe in detail very short sections of the taped interaction has been found to be most helpful in directing the mothers to an act-by-act level of reporting. If, nevertheless, they provide a too general descriptive statement, it is easy enough to repair this by asking further questions (i.e., about the intended social meaning of individual utterances).

The attempt to classify the social uses of language reported by mothers started off from a theoretical base, since there already existed in the philosophy of language a theory of the social acts that utterances perform. This is the theory of Speech Acts introduced by Austin (1962), developed by Searle (1969), and extended by Holdcroft (1978), Vendler (1972), and others. The theory posits that speech performs social acts such as promising, requesting, cursing, warning, asserting, and so on. Speech acts are identified by their so-called "illocutionary force." Illocutionary force refers to how an utterance is to be taken, given the speaker's intentions and given that the necessary preconditions apply. For example, the utterance, "Please close the door," functions as a request, given that the speaker intends to let the hearer know that that is what the speaker wants, and given that the hearer is capable of carrying out the request.

We have decided to incorporate the idea of a speech act and the types of illocutionary forces listed by speech-act theorists into the formal classificatory system for the description of the social acts performed by the speech of mothers and their young children. We have two reasons for this decision. In the first place, the notion that in speaking, we perform acts of the character described by Speech Act theory is intuitively strongly convincing. In the second place, pilot work has shown that when mothers describe their utterances, they frequently indicate the utterances' illocutionary force. For example, they say that they *asked* the child *to do* so and so, and they *warned* the child *not to do* something, and so forth. Thus, mothers' reports about the function of their utterances is captured at least in part by Speech Act terminology.

Table 1 present the list of speech acts that we have tentatively identified as occurring in mother–infant discourse. The construction of this taxonomy started with the compilation of a comprehensive list of all speech acts we found mentioned in the writings of Speech Act theorists. Then, we deleted all those speech acts which cannot or would not occur in the mother–infant context because they are tied to very different social contexts, such as marrying or pleading a case in court. The remain-

TABLE 1
Speech Acts Occurring in Mother/Infant Interaction

Speech Acts	*Examples*
Agree (to do)	"All right" "OK. Give it to me and I'll do it."
Agree (with proposition)	"Yes, that's a duck." "That's right."
Answer affirmatively	"Yes."
Answer negatively	"No."
Apologize[a]	"I am sorry." "Sorry, I didn't mean to break it."
Ask for permission	"I am going to read now, O.K.?" "I am going to the kitchen, all right?"
Call	"Sarah!" "Hey!"
Comfort[a]	"Oh, you poor baby!" "Never mind, you'll be all right."
Congratulate[a]	"Mazel Tov!"
Correct hearer's error (in language use)	"That's a *chair*" (and not a duck). "He's *your* father (not *my* father)."
Criticize (for error in motor performance)	"No, it's upside down." "You can't put it in there."
Dare/challenge	"I bet you can't find another wheel." "If you *can* dance, show me."
Declare state of affairs	"We are done playing with the dirty handkerchiefs." "I am a wolf."
Disagree (with proposition)	"No, that's not a duck." "There isn't a ball in that picture."
Disapprove/scold/protest	"What are you doing?" "You naughty little boy."
Elicit completion of word or sentence	"This little piggy went to the . . ." "Umb-rel- . . ."
Elicit imitation	"Say 'doll!'" "Can you say duck? Say 'duck.'"
Exclaim	"Oops." "Wow!"
Give in	"As you wish." "O.K."
Greet upon meeting[a]	"Hi!" "Hello!"
Greet upon parting[a]	"Good night." "Bye-bye!"
Imitate	
Mark transfer of object	"Here."
Perform move in game[a]	"Peek-a-boo!" "Round and round the garden, etc."
Permit (to do)	"All right, *you* do it." (You really insist on it?) OK, tear it up."
Polite response to "Thank you"[a]	"You're welcome"
Polite wish for good appetite[a]	"Bon appetit!"
Polite wish upon sneezing[a]	"Bless you!"
Praise (for motor performance)	"Good!" "That's right!"
Prohibit/forbid	"Don't touch it!" "You are to not crawl under the bed."
Promise	"I'll buy you a watch for your birthday." "I promise we'll go for a walk later."
Question (wh-question)	"What's that?" "Where do you want to sit?"
Refuse (to do)	"No, I can't pick you up right now." "I don't want to do it one more time."

Table 1. (*Continued*)

Speech Acts	*Examples*
Request/propose/suggest	"Let's build a tower." "Give it to me!"
State	"This is blue." "Here is a boat."
State as answer to wh- question	"A giraffe." "Because you lost them."
State intent	"I am going to the kitchen now." "I am going to change your diaper."
Thank[a]	"Thank you."
Threaten to do	"I'll take it away from you." "I'll spank you if you don't stop yelling."
Verbalize–nonfunctional	"Daddy." "This."
Warn of danger	"Be careful, it's hot." "You'll bump your head under the bed."
Yes–no question	"Do you have to go to the bathroom?" "Right?"

[a] This speech act has identical illocutionary force and activity function.

ing categories were tested against the maternal descriptions, and the present short list consists of those speech acts which were actually reported by mothers as occurring in interaction. It should be mentioned that mothers do not consistently use the precise illocutionary verbs identifying given illocutionary forces, but often paraphrase them in various ways. This fact made necessary the disregarding of some finer distinctions between similar speech acts and the construction of wider categories. Thus, "request," "suggest," "propose," and their relatives are grouped into a single category, since it is usually unclear from the parental description how strong was the force with which any particular directive had been uttered. Similarly, "disapprove," "scold," and "protest" are a single category, as are "prohibit" and "forbid." A general category of "state" covers most acts with a declarative intent.

We have also decided to explicitly differentiate between some acts which are not clearly differentiated in Speech Act theory, although their illocutionary force seem not quite the same. We separated praise and criticism for motor performance from positive and negative feedback on labeling, (the latter coded as Agree and Disagree with proposition) since the former have to do with the correctness of actions while the latter with the truthfulness of propositions. We also differentiated between spontaneous statements and answers to questions.

The category of "perform move in game" deserves further comment. There will be eventually several different acts of this type in the category system, each individually defined. An example is the utterance of the phrase "peek-a-boo" in the relevant game. Similar speech acts, occurring in adult discourse, have been recognized by the theorists, such as carried out by the utterance of "check" in chess or "pass" in bridge.

The list presented in Table 1 is still under revision. As more corpora of maternal descriptions are collected, additional speech acts will probably be found to have

occurred in mother–infant interaction. According to informal observations, strong candidates for inclusion are "pardon," "declare punishment," and "swear at." The final classificatory system will be the result of the first year's work on this project.

However, it is apparent already that a classificatory system built only on speech act categories would not be sufficient to adequately capture major aspects of the use of speech in mother–infant interaction. In particular, speech act definitions do not always convey how speech fitted into the events of joint activity (e.g., whether a request was used to initiate, to regulate, or to wind up an activity [see also Streeck, 1980]). The indifference of speech act definitions to the specific context in which speech was uttered is a serious shortcoming from our point of view, since we believe, with Bruner (1975), Snow et al. (unpub. ms.), and others, that young children attribute meaning to utterances addressed to them in terms of the (to them) intelligible activity context in which speech is embedded. As we have shown, this view is supported by suggestive evidence on the context-specificity and the narrow functional character of children's early production. Moreover, examination of mothers' reports on the function of their speech clearly reveals that they perceive their own intentions as having to do with the creation of a shared context, either of joint attention or of joint activity. For example, they define an utterance of the type "Do you want to play with Lego?" as an attempt to initiate a new activity with the child, rather than the performance of a speech act such as suggesting or asking a question. Similarly, an utterance of the type "Where's the ball?" is defined as an attempt to direct the child's attention to the ball, rather than as a question or as a request to locate the ball.

The illocutionary force and the activity-related function of an utterance are to some extent independent of each other. The same speech acts might be used for different activity purposes. A request might call for the performance of a novel act from the child, as in "Bring me a book," or it might demand that he stop doing whatever he is currently engaged in (as in "Stop spitting your food out"). Declarations might be used to create roles in fantasy play (as in "I am a witch") or to wind up a game (as in "I am not playing anymore").

Moreover, utterances of different illocutionary force may perform the same function with respect to the ongoing activity. For example, a father in our pilot work used requests, a question, a threat, more requests, and a declaration (in that order) to stop his child from blowing bubbles in his drink, saying, "Stop! Stop! Stop! What are you doing? Father'll take it away. No! Give it to me. Don't do it. That's enough!" (Translated from Hebrew) If we classified these utterances solely by their illocutionary force, we would obscure the fact that they all had the same function in the activity.

These considerations have led us to the conclusion that an adequate classificatory system of speech functions will have to consist of two parts: the first will identify the illocutionary force of an utterance, and the second will identify the utterance's function in the ongoing activity. Table 2 presents a list of activity-related functions of speech abstracted from mothers' descriptions. The list is organized in three

TABLE 2
Activity-related Functions of Speech in Mother/Infant Interaction

Groups	*Categories of Speech Functions*	*Examples*
Management of single and joint activity	Regulate hearer's actions	"Put it here." "It's upside down."
	Stop/prevent hearer's action	"Stop it!" "We are not going to play with daddy now."
	Offer to help	"Shall I hold it for you?" "Do you want me to open it?"
	Ask for help	"Come and help me make tea." "Hold it for me."
	Comply to demands for help	"Here is it."
	Make hearer pause in his action	"Just a minute." "Wait a bit, I'll fix it."
	Negotiate new activity	"Do you want to hear a record?" "Call Grandmother on the phone."
	Negotiate renewal of activity	"More swinging?" "Another time?"
	Attempt to end activity	"That's enough." "I am too tired to go on."
	Mark completion of act/activity	"There." "All gone."
	Allocate roles in joint activity	"I will be the clown." "You do it to mommy."
	Allocate turns in turn-taking activity	"Your turn now." "Now Mommy."
	Evaluate hearer's performance	"That's right." "Naughty girl."
	Evaluate speaker's performance	"What a bad mummy you have."
	Perform verbal move in activity[a]	"Peek-a-boo!" "This little piggy went, etc."
	Model hearer's move in activity	"Bye-Bye!" "Hallo, Grandmother, how are you?"
Maintenance of shared attention	Direct hearer's attention to objects and persons	"Look, it's turning." "There's a wheel under the chair."
	Show attentiveness	"What?" "Hm."
	Discuss joint focus of attention	"It fell down." "This doll can talk." "What's that?"
Other	Demand clarification of hearer's intent/request for confirmation	"What do you want?" "You want to walk by yourself?"
	Describe hearer's inner state	"You are happy, aren't you?" "Oh, it hurt you, poor darling."
	Describe speaker's inner state	"Mommy is very tired." "I am still hungry."
	Discuss the nonpresent	"Where is Daddy? At work?" "Remember we went on a train trip?"
	Withdraw from interaction	"I am going to read the newspaper." "Mommy is going to have a nap now."
	Temporary leave-taking	"You wait here, I'll bring you a glass of water." "I am going to the kitchen for a minute."
	Greet upon meeting[a]	"Hi!" "Hello!"
	Greet upon parting[a]	"Good night!" "Bye-bye!"
	Apologize[a]	"I am sorry." "Sorry, I didn't mean to break it."
	Commiserate[a]	"Oh you poor baby!" "Never mind, you'll be all right."
	Congratulate[a]	"Mazal Tov!"
	Thank[a]	"Thank you."
	Polite response to "Thank you"[a]	"You're welcome."
	Polite wish for good appetite[a]	"Bon appetit!"
	Polite wish upon sneezing[a]	"Bless you!"
	Verbalize nonfunctional[a]	"Daddy." "This."

[a] This category has identical illocutionary force and activity function.

groups dealing, respectively, with the management of joint and single action, the maintenance of shared attention, and a category of "others." As mentioned earlier, the illocutionary force of an utterance and its activity-related function are to some extent independent. Both are needed for the full description of the social uses of most utterances. Thus, an utterance of the type, "I don't want to play anymore," might be cross-classified as a declaration uttered in order to end a joint activity. Similarly, an utterance of the type, "The round piece goes over there," might be classified as a statement uttered in order to regulate the hearer's future actions.

However, not all types of speech acts require further specification in order to convey how the utterances of that act fits into the structure of dyadic activity. Some speech acts are defined in such a way that completely specifies their function in the activity. For instance, the definition of "commiserate" includes reference to the listener's distress; the definition of "thank" includes reference to the hearer's having performed a service to the speaker; the definition of "greet upon meeting" includes reference to the fact of its marking the onset of a new episode of interaction between the speaker and the listener. These speech acts are marked in Tables 1 and 2.

So far we have presented the thinking behind the construction of typology of social functions carried out by speech in mother–infant interaction. The final category system and its coding rules will be the result of analyzing all utterances in 24 tapes of 10-, 18-, and 26-month-old infants and their mothers. After completing the category system, it will be utilized in a longitudinal study of language acquisition. The model of language learning underlying this work is that children are learning to carry out by verbal means the functions captured by this category scheme. For example, they learn how to propose a new activity to a playmate, how to announce their intent to leave the scene temporarily, how to demand a turn, how to draw someone's attention to an object of interest, or how to warn someone of danger. Further, we assume that early productions are in some sense copied from the forms by which parents express these functions.

In the tapes we have collected so far, we have observed three different ways in which parental speech might provide a model for the expression of social functions. First, there are overt attempts to model in appropriate circumstances, such as saying "Say 'Thank you'" when someone has just given the child something. Second, many of the parents' utterances might be directly taken over by the children as appropriate forms for the same functions for which the parents used them. Thus, "No" might be learned as a form of refusal, "Good morning" as a form of greeting, "Let's play with a doll now" as a form of initiation of a new activity. Sometimes, however, it might be sufficient for learning to take place if the parents' utterance gives an indirect expression to what the child wants to say. In particular, utterances whose function is to ask for clarification of the child's intent seem to provide an opportunity for learning of this kind. In such utterances, which occurred frequently in our sample, parents try to guess what the child wished to communicate through his gestures or cries. In one example, a child reached for a bottle and the mothers asked, "Do you want to take your medicine now?" In another example, a child stopped in the middle of being walked and the mother asked, "By your-

self?''—meaning, do you want to walk by yourself? From these utterances the child might learn how to ask for his medicine or how to demand to be walking by himself, rather than how to ask someone else what they wanted. Clark's (1974) evidence on the copying of incompletely analyzed units supports this possibility. For example, a child she quotes said, "Sit my knee" when she wanted to sit on an adult's knee, probably copied from an utterance in which the parent offered to seat the child on his knee. On further thought, it is almost impossible for the child to hear a direct model for many intentions that he might want to express. It is not reasonable that a mother would ever ask a child to seat the mother on his knee or to carry her. However, there are many opportunities for the child to hear the same meanings expressed indirectly, as in questions about his wishes.

Our goal is to find relationships between the ways parents perform social acts in words and the ways their children come to perform the same acts. We shall look for regularities in the parental utterances carrying out particular functions in order to find constant, prototypical or formulalike structures, if these exist. A comparison with children's subsequent forms will, we hope, provide some insights into the nature of early language acquisition.

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