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Understanding requests¹

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Abstract

This paper reports an empirical test of the difference between two models of requests. One model is based on the notion that processing of requests starts from a literal interpretation of what is said, then checks with context, identifies speaker intention, and finally proceeds to choice of action. A contextually based model assumes hearers start from the situation, project normal activities for their role, process language enough to identify contextual referents and check incongruity with the projected action, but analyze immediate speaker intentions only under special conditions such as irrelevance or incongruity. Experimental tests of interpretation on native-speaking children and language-learning children confirmed the contextually based model.

Traditional approaches to the study of speech acts have relied upon the empirical methods of descriptive linguistics, including introspection, analysis of elicited texts, and grammaticality or interpretive judgments of sentences by native speakers. However, these methods, which were honed for the study of grammatical and morphological patterns, do not work well for the study of situational variation in speech and contextualized language. These dimensions of language and language use are less available to conscious inspection, and judgments based on memory are especially sensitive to the effects of norms.

Use of these methods has resulted in an emphasis on the surface form of the utterance itself rather than on the situational factors inherent in the context of its use. For example, past studies of speech acts have based their conclusions in part on the analysis used in reports about language. This is a lexical domain which is richly varied in European languages. In cases where we treat speech as an object — such as when we talk indirectly in narratives about speech, when we plan ahead, when we recall previous talk — we can use speech-act terminology. Interlocutors' classification of

turns or utterances as particular types of speech acts may be necessary for turning interaction into certain types of indirect speech, though it is not always required for quoting.

In ongoing conversation, however, it is relatively rare to employ a speech-act verb while performing the act itself. Thus it is unclear whether speech-act concepts are necessary to guide an interlocutor's interpretation of ongoing speech activity.

Furthermore, as Ervin-Tripp et al. (1984) have demonstrated, the relationship between the surface form of an utterance (its lexical content and grammatical form) and its function in context is far from straightforward. Within the study of speech acts, this indeterminacy is particularly salient.

The present paper is an attempt to bring to focus — with the aid of experimental techniques — the extent to which interlocutors actually rely on linguistic information versus contextual aid and situational knowledge to understand speech acts, in particular, requests.

Conventional requests

Models of speech-act interpretation implied in the speech-act analyses of philosophers and linguists have been relevant chiefly for the understanding of conventional polite requests such as *Would you give me the keys?* or *Can you help me?* These have been considered interesting because they have a literal meaning which is potentially ambiguous with respect to illocutionary force. Thus *Can you pass the salt* can be heard either as a question about the hearer's ability or as a request to perform a service for the speaker. For this reason, they are sometimes called indirect requests.

Typical interpretive models for hearers of conventional speech acts have the following features:

1a. The hearer first makes a literal, or if appropriate, idiomatic interpretation of the propositional content and illocutionary force of an utterance.

1b. Following this initial interpretation, the hearer checks the situation and if there is a mismatch between the literal or idiomatic interpretation and the features of the prevailing situation, the hearer restarts by moving to the next interpretation on a hierarchy of possibilities.

1c. If incongruence remains, the hearer tests hypotheses about the intention of the speaker, given what is said and what the situation is, using implicature or inference.

1d. Finally, the hearer derives the implications for action, if any, from a construal of the speaker's intentions.

As we will show below, these sorts of models are inadequate. The primary difficulties with them rest with the assumption that context and situation play a secondary role in the interpretive process, and that the hearer entertains nonliteral interpretations of a speaker's utterance only after literal interpretations have had to be discarded.

On the other hand, many conventional requests remain transparent to interpretation by conversational implicature (for example, they assert speaker desire or question hearer desire or ability [Gordon and Lakoff 1975]), despite the fact that in most everyday situations they can also be understood either through speech-act idioms or through the type of situational interpretation proposed below. Why have they not undergone the reduction typical of idioms and become as brief as *please*? Such a reduction would retain social marking and also identify requests as such.

Conventional requests are explicit in two domains. They are explicit in respect to the action requested of the hearer. This is contained in what Searle (1969) refers to as the propositional component. *Can you pass the salt* contains *you pass the salt*. Each is also explicit with respect to some aspect of the prerequisites to cooperation. In this example, the request is explicit about questioning one prerequisite — hearer's ability to comply: *can you?* It is precisely this second domain of explicitness which has made such requests conventional (for an ingenious account, see Levinson 1983: 356ff) and socially useful, since its elaboration permits social gradation and even subtlety through paraphrase, as numerous studies have shown.

Conventional requests are, because of their explicitness, completely 'on record' and are understood by very young children; they are not empirically interesting from the standpoint of interpretive ambiguity.

Interpretive processes

How do we understand what to do from what is said to us? When we hear *open the door* we know exactly what to do. This is a familiar action, which has been formulated explicitly by the speaker. If we decide to carry out the order, we have only to set in motion the act which the speaker has already identified for us. When an order is in the form of an imperative, it is the speaker who has to figure out exactly the act the hearer is to do. From the explicitness of an imperative, the addressee knows who is to act, (the person spoken to,) the act to do, and the object affected.

But in many cases speakers do not get this far. Speakers sometimes just mention what the problem is. Children, for example, typically just say what is on their minds — problems, wants. *This won't come off!* *George hit*

me! I want to be the mommy! On other occasions, interpersonal considerations are more apparent. The desire to stay on good terms with one's addressee can lead to wanting to avoid the appearance of giving orders. The concern not to imply that the hearer is an outsider can lead to avoiding the explicitness either of imperatives or of conventional requests. When speakers are in the midst of well-coordinated joint activity they don't always need to be explicit. Sometimes they speak elliptically. *More on the left.* Sometimes a gesture suffices, for example, they just point to the relevant object. Because speech is so often and so reliably coexistent with other interactional modalities — action and gesture — and refers to the environment of these actions and the objects they affect, a theory of speech-act interpretation which is based on context-free utterances risks being disabled in context.

A proposal for a contextually based model of interpretation would suppose some interpretive steps such as the following. This sort of model can be contrasted with the genre of model described above which relegates the context to a secondary position:

2a. The hearer identifies a *situation* and does what is normal in the situation. If an action trajectory can be foreseen which is appropriate to the hearer's role, a cooperative hearer starts with the expected action.

2b. If the partner talks about the setting, the hearer observes what is mentioned and reassesses the situation in that light, to start action.

2c. The hearer interprets an utterance idiomatically, by interpretive conventions, and residually, literally.²

2d. The hearer answers questions according to the cultural constraints of the role of a cooperative conversational partner.

2e. The hearer tests the fit of the interpretation (c) with the action foreseen (a) and, if there is a mismatch, restarts by moving to the next interpretation on a hierarchy of possibilities.

2f. If incongruence remains, the hearer tests hypotheses about the specific intention of the speaker in making the utterance, using implicature or inference.

These formulations assume that listeners develop knowledge of what to do in practical situations. Thus the analysis of the situations in which speech occurs becomes critical to understanding responses to speech, as well as to understanding the development of such understanding in children. A *situation* could be a class, cooking dinner, doll play, or grocery shopping. There is some similarity here to notions of schema.

Familiar *situations* can be recognized typically by the setting, personnel, and activities. Changes in any of these can lead an observer to notice a change in situation. *Settings* have spatial organization, objects, and 'standing behavior patterns' (Barker and Wright 1951). These patterns

can be instantiated in *activities*. A California home swimming pool is commonly used as a setting for such activities as swimming, sunbathing, chatting, picnicking, and drinking, but it can potentially be used for testing model boats, washing clothes, or playing cards. The *personnel* also have implications for activities. The presence of a mother and young child at a swimming pool usually implies teaching or surveillance by the mother directed to the child — but not by the child toward the mother. We assume that there will be an asymmetry of *role* in many activities between a small child and adult, which leads to expectations of specific, role-related activities for each participant.

Activity

In observing requests between adults in offices, between children at play, and among family members at mealtime, we have been struck with the importance of familiar types of activity trajectories in the coordination of talk and action. Mother brings a bag of groceries in the door and sets it on the kitchen table, takes out bottles, boxes, jars, then puts them in the cupboards and refrigerator. These trajectories are projected by an observer on the basis of what is understood about the situation — goals and normal activities, or both. The commitment of each member to goals in the activities of the situation — either a speech activity in toto or speech as a component of another activity — identifies likely interpretations of any speech or gestures which occur. The role of children in this grocery scene, of course, can vary in different families from passive observer to active collaborator, without changing the child's recognition of what is going on. On the other hand, *this goes in the refrigerator* is more likely to be heard as a request addressed to a young child if the child has in the past participated in putting groceries away.

When a phone rings, the first issue in a multiperson individualized American household is, 'Who is the call for?' The fact that *Is Sybil there?* can set off a search for Sybil by an adult who answers the phone is a result of this common knowledge of the goals of phone calls. Addressed to a child who doesn't yet view this issue as a normal component of a telephone interaction sequence, *Is Sybil there?* can fail as a request for action.

Situation

What can we mean by situation? Levinson (1979) used the notion of 'activity type', which he takes to be

...a fuzzy category whose focal members are goal-defined, socially constituted, bounded, events with *constraints* on participants, setting, and so on, but above all on the kinds of allowable contributions. Paradigm examples would be teaching, a job interview, a jural interrogation, a football game, a task in a workshop, a dinner party and so on.

In this article, Levinson pointed out that there are activity-specific rules of inference. He focused on the goal-directed character of activity, which implies that cooperative participants generally act in ways consistent with joint goals.

Levinson's article refers to a gradient between totally prepackaged activity and unscripted events. The situations he mentioned are socially shared, conventional, named events. In such events there is a structure surrounded by norms such that violations of constraints can be recognized and talked about. There may be recognizable internal structuring, episodes, phases. These are conventional, but they can vary in degree of formality. We will call these *conventional situations*.

At the less conventionalized end of the gradient, we have *familiar activities* and *speaker contexts*. Familiar activities are those in which participants come to recognize likely sequences and goals, but for which there is also variation and little concern with norms or naming of the event. Bringing groceries into the house might be such an example. It is likely that for young children there is no distinction between familiar activities and conventional situations, except that the second have names and therefore may be talked about and anticipated, such as birthday parties and Thanksgiving dinner.

Speaker contexts

During loosely defined activities, speakers indicate by contextual cues in their speech and in their behavior variations in activity or role of which they can be quite unaware (Gumperz 1977).

Gee and Savasir (1985) called attention to the distinctions which children make by clusters of language features within global activities such as block play or doll play. An example is the difference in three-year-olds' play between what Gee and Savasir call *planning* and *undertaking*.

They discovered these differences by exploring the contrastive use in English of *gonna* and *will* in interactional texts. *Gonna* was used in future planning about noninterpersonal intentions, in fantasies about the speaker's own activities, in adversarial contexts, in cases where the speaker was the only beneficiary, and in cases where the speaker didn't have control over the eventual outcome. In contrast, *will* was present in requests,

offers, and in the carrying out of collaborative activity in the immediate present. These differences do not bound conventional named and institutionalized activities. Rather, they are subtler, less clearly bounded, and recognizable primarily from speech features — as kidding can be.

Overlapping situations

Participants are often in overlapping situations. They have the option of which of these situations to bring into the foreground of interaction. As Gumperz (1977) and Gee and Savasir (1985) have pointed out, speech cues themselves may be the way the interactional partners indicate which possible situation they are foregrounding.

Gee and Savasir found children in doll play might shift between the roles of director, cooperative partner, and actor, with a corresponding shift in the use of person, and of *gonna* and *will* correlating with thematic content.

(1) Director planning a plot:

E: She's *gonna* have a bath (as E undresses her doll)...
Well, where's the bath?...

(2) Cooperative partner making an offer:

A: I'll show you. It's right here. (A gets up holding her doll and walks about 10 feet to the xylophone, which serves as bath for this scene of doll play.)

E: Oh! That's the bath!

(1) Director planning a plot:

A: ...Sh! Sh! The baby's *gonna* go to sleep in the bath (as A puts her baby down on the xylophone).

(3) Actor enacting role:

A: Hi baby! And *will* you carry me? (adult register). (A holds girl doll up to baby doll in E's hand. A moves girl doll back and forth as A talks for girl doll.) (Gee and Savasir 1985, 162ff).

Not only such oscillation but concurrent activities are common. We can drive a new route while listening to route directions and a passenger's stories; a driver-listener has to recognize when a passenger's talk refers to a narrative and when it refers to the route. In families, mealtimes are typical occasions for overlap, since allocating places and food may overlap with other conversational goals.

If there is primary structuring around topics of talk rather than physical activity, topic shifts alone can cue situation shifting, as in classroom discourse:

Teacher: What are you laughing at?

Children: Nothing.

The teacher intended to introduce a shift in instructional topic related to the cause of the laughter. The children heard the topic change as a direction to stop laughing, since it referred to a prohibited act. This situational oscillation between the foregrounding of instructional and behavior control contexts is typical of classrooms and comes to be expected by pupils (Sinclair and Coulthard 1975: 30ff).

Situation in interpretation

Speech is first heard as relevant to ongoing activity. The evidence for this priority is that misunderstandings are biased in the direction of the privileged, activity-relevant interpretation.³ It takes special effort by a caller to phrase the question if one wants merely to know, at the start of a phone conversation, if Sybil is at home, rather than to speak to her. Other examples of such bias appear in the data reported in Ervin-Tripp (1976).

It is incorrect to treat context as secondary to literal or idiomatic meanings in arriving at either action or interpretation. Contexts can be determinative. They prime the hearer for certain interpretations. The privileged interpretation is to the foregrounded activity in which the hearer is engaged. If there is a formatted activity frame, the speech will be heard as projecting relevant information for that activity. Speech can redefine the situational context itself, or it can specify, modify, or stop an activity by means of controlling the attention and knowledge of the hearer. But such outcomes do not necessarily require a high degree of explicitness about what the hearer has to do.

An interpretative analysis based on situation starts from the structure of the foreground and background activities. Salient issues for decision in the foregrounded activity for the participants identify the first privileged interpretations. In the case of driving, route directions might be primary for the driver, but only secondary for the passenger. Second, backgrounded situations, or common alternative activities in that setting, become candidates for situation shifting.

Interpretive experiments

We set out to study experimentally the difference between the two models of interpretation listed above as 1 and 2. Our purpose is to compare the utterance-based type of model in 1a-1d above and the context-based

approach in 2a-2e. A model based on context (2a-2e) generates the following hypotheses:

Hyp 1: Listeners can interpret contextual demands for action without explicit language (2a vs. 1a).

Hyp 2: Mention of a desired object can be enough to get it from cooperative hearers (2b).

Hyp 3: In cases of incongruity between a literal interpretation and the contextual demands, either (2c) idiomatic interpretations or (2f) implicature or inference can permit the contextual demands to survive. However, inferential interpretations of intent should occur only in older subjects.

Hyp 4: Interpretation of intent in making a request is neither necessary nor sufficient for compliance with requests except in cases of incongruity or irrelevance (2f vs. 1d).

In our pilot research, we focused primarily on three age groups: three-, five-, and seven-year-olds. We included three-year-olds since successful interpretations by children this young are unlikely to be due to the type of complex inference or implicature required by the conventional theories. Any competence they might demonstrate would thus serve as evidence of the importance of practical projections of action from situations. We have included several different age groups to locate when inference and implicature appear.

Pilot research

Subjects

We recruited 11 three-year-olds from the Harold E. Jones Nursery School, University of California, and 10 five-year-olds and 11 seven-year-olds from elementary schools in the Albany, California school district. All subjects were native speakers of English.

Methods

For each subject, an experimental session was set up in an office located in the subject's school. Typically, this office was arranged so that a table with three chairs around it was in the middle of the room and four items to be requested (a pen, a watch, story cards, and stickers) were either on or in close proximity to the table. There was also a magnetic card reader on the table. This is a machine which reads a strip of tape across a file

card, thus allowing strict control of the auditory features of stimulus materials.

In the course of an experimental session the subject sat facing one researcher, who served as an interviewer, and across from a second researcher, whose primary purpose was to record the subject's responses.

During a session, a subject was presented with a series of tasks in two types of situations: narrative and naturalistic. In the context of these two types of situations, each child was exposed to a total of 15 requests or prohibitions, as described below. The children were told they were coming to talk about pictures, so from their point of view, the narrative situations were the central task.

Narrative situation

The interviewer first introduced the characters in the pictures to the child-subject. The interviewer and the subject together examined a specially designed cartoon book depicting typical family scenes, with the interviewer providing a brief accompanying narration. At a key picture, the interviewer played a magnetic card with a tape-recorded utterance on it through the card reader. The child, who had been discussing the story with the interviewer, now had to listen carefully to the card to hear the first piece of dialogue in the story. In the silent condition, there was no such utterance, but in most conditions, the child heard an utterance which could be interpreted as an implicit request. These utterances referred to something in the scene needing change. After the stimulus, the interviewer asked questions about the end of the story and about the child's interpretation.

The purpose of these questions was (a) to establish whether the child's idea of the end of the story involved compliance and why, and (b) to establish whether the child considered the speaker to be making a request or just asking for information or evaluating the situation.

In one condition, for example, the interviewer said *Jack and Kate are playing ball* [outside near the door]. *Willy and his mother are coming home from the store with bags of groceries*. She then played a card on which the mother's voice said *Is the door open?* and she asked:

What do Jack and Kate say when the mother says that?

What do Jack and Kate do next? Why?

Do you remember what the mom said to Jack and Kate [if the children forget, the card is replayed.]

When the mom said '....' to Jack and Kate, what did she mean?

What did she want when she said that?

I'm going to play two cards and you tell me which one the mom meant.

(If the directive picture is picked but the characters didn't comply) *When she said ..., why didn't Jack and Kate ...?*

What could she say to get them to ...?

The test utterance was randomly varied across subjects for each story. In some cases, it was posed as a question (*Is the door open?*); in others, it was a statement (*The door is closed*), and in still others, it was entirely omitted. The latter was our silence condition.

We hypothesized that if the children were guided more by their situational knowledge than by the language used in the scene, their answers to the story questions would reveal a tendency to see the end of the story as involving the children's cooperative action, regardless of their interpretations of the speaker's intent as involving a request for action, and regardless of whether they took a spoken request literally (that is, *Is the door open?* as a request for information which should be answered).

The scenes used in the narrative situations were divided into two types: *helping* and *prohibiting*. In the helping scenarios, a problem was created in which the speaker in the story could potentially be heard as soliciting help. In the prohibition stories, something recognized even by a three-year-old as naughty was depicted (such as painting all over the living room walls), and the speaker could potentially be heard as scolding or wanting the naughty perpetrators to stop. The desired action (stopping) was more obvious in the prohibition narratives than in the helping scenes; hence the former turned out to require less spoken information than the latter to cue a desired action.

The helping scenes included the following:

a. Groceries. Jack and Kate are playing ball in the yard. A mother and child are coming up the front walk carrying large sacks of groceries. The front door to the house is closed. The mother says to Jack and Kate, *Is the door open?* or *The door's closed*.

b. Cake. The family have eaten. They have had cake and are almost finished. In the middle is a large bowl which conceals from the speaker a cake platter with a partially eaten cake, which is in front of Jack and Kate. *Is there more cake?* or *I finished my cake*.

c. Leash. The family has decided to take the dog for a walk. A leash is hanging from the coat-hook in the room where Jack and Kate are playing. The mother calls to the next room, *Is the leash there?* or *I don't have the puppy's leash*.

d. Window. Jack and Kate are playing in a room in which the window is open. Mother is trying to work in the other room and the papers start to

blow about onto the floor. She says, *Is the window open?* or *The window's open!*

e. Checker. Jack and Kate are playing on the floor near a table at which a mother and child are playing checkers. A checker falls to the floor near Jack and Kate. Mother says, *Is the checker there?* or *The checker fell on the floor.*

These might be called *problematic situations*, in that a problem is presented for the speaker. However, the scenes did, as it turned out, differ in the clarity of the problem. The easiest pictures were the lost checker and the grocery scene. The game could not continue without the lost checker, and the groceries couldn't be brought into the house if the door was closed. The cake scene was difficult for young children because it presented a situation where out-of-role behavior was demanded. It was not clear that it was appropriate for a child to cut and serve cake, or even to handle a knife. (Some children said they were not allowed to handle knives.)

In the prohibition scenes, we included a condition of silence, and a condition in which a voice could be heard but the mother was not in the same room but was speaking from another room. The prohibition scenes include the following:

a. Painting on the walls. Jack and Kate paint a large mural on the living room wall. Some of the paint drips on the furniture. The mother says, *Are you painting on the walls?*/*You're painting on the walls.*

b. Playing in the mud. Jack and Kate are dressed up for a party, but while waiting to be taken to the party they begin playing with mud, sitting in the pool of mud and making mud pies. The mother says, *Are you playing in the mud?*/*You're playing in the mud.*

c. Fighting. Jack and Kate are building with blocks. They reach for the same block and quickly get into a fight that the picture exaggerates by showing them whirling through the air around each other in a dramatic battle. The mother says, *Are you fighting?*/*You're fighting.*

d. Spilling food. Jack and Kate fix themselves an after-school snack and decide to have a picnic in the living room. In the course of the picnic, they spill food and milk on the rug and furniture and throw cake and bananas. The mother says, *Are you spilling food?*/*You're spilling food.*

e. Throwing flowers. Jack and Kate play catch in the garden. The ball falls into the flower bed. When the children retrieve it, they play ball on the flowers, pull them up, and begin throwing them. The mother says, *Are you throwing flowers?*/*You're throwing flowers.*

These pictures were not identical in their interpretation by children. In the mud, paint, and food scenes, for example, the children not only stopped, but cleaned up. Just stopping was counted as compliance in the analysis.

In general, the advantage of the narrative situation was that it made it possible to vary systematically the situational context and speaker for any given story.⁴

Natural situations

At the start of the experimental situation, and after the third, sixth, and tenth narratives, the interviewer herself made hints about objects in the experimental setting. These requests involved the following:

a. Closing the office door which was left open at the onset of the session.

b. Handing the interviewer a marking pen (left in front of the child before the session).

c. Picking up the deck of magnetic cards which the interviewer 'accidentally' knocked off the table during the session.

d. Finding the interviewer's watch, which had been left off the table but within arm's reach of the child.

e. Getting the stickers promised to the child for participation in the study (these had been located away from the table, but also within easy reach).

These objects varied in situational relevance from the most context-bound (the magnetic cards) to the least (the interviewer's misplaced watch). Since the narratives were presented in the instructions as the primary task, objects related to the stories would be most relevant to the child's foregrounded engagement. The cards were necessary to continue the stories, so when they fell, children sometimes even picked them up spontaneously. When the interviewer's pen dried out, another was also situationally necessary. The trajectory of the situation, coupled with the fact that a pen was in front of the child, made the child likely to hand over the pen as soon as their attention was drawn to it.

In contrast, the activity did not dictate that the door had to be closed upon entering. In schools it is not uncommon for doors to occupied rooms to be left open. The watch was also neutral, since it was not clear who it belonged to, and it was not relevant to the activity. We expected the door and the watch to be least often retrieved in minimally explicit requests.

Stimuli

In addition to varying the situational relevance of items, we varied the explicitness of request forms, from most to least explicit:

- a. Explicit agent-verb-object interrogative: conventional polite request of the form, *Can you give me my/Can you close the door?*
- b. Explicit verb-object declarative: problem statement of the form, *I can't get/find/reach my (This is explicit because both verb and object are the same as the desired act. Only the agent is different.)*
- c. Object-place/state declarative: statement focusing on the object's place or state which needs remedying, of the form, *The is missing/is on the floor/is open.*
- d. Object-place/state interrogative: question focusing on the object's place or state which needs remedying, of the form, *is on the floor/open/over there?*
- e. Mention of object: exclamation of the form, *Oh, the!*

In our procedure, each subject heard a different form for each of the five request situations (closing the door, handing over the pen, etc.), thereby guaranteeing that each subject would hear each of the five forms at least once. If upon hearing the request form, a child failed to respond, the interviewer produced a more explicit form from the above scale until three requests were given or the conventional request was reached.

The advantage of the natural situations was that they were seemingly spontaneous, naturally occurring events whose form we were nonetheless able to manipulate.

Results

Narrative situations

A story allows the child to project a helping (or resistant) activity onto a fictional character rather than engage in helping of an adult directly, as in the natural situations.

In the narratives, we were interested in whether the characters in the children's stories continue a naughty action or provide help after an implicit request, and we were interested in the relation between the subjects' interpretation of the speaker's intention and the action proposed. In particular, we wished to know the extent to which the interpretation of a hint as a request was necessary and sufficient to promote compliance.

In the silent condition, when there was a situation but no verbal request at all, there was only minimal help. However, in 41 out of 46 instances where some implicit request was heard, the older California children proposed help. The three-year-old sample, though — due possibly to their

inability to make the necessary practical inferences — offered only half as many helping responses. Taken alone, these preliminary findings suggested that at least for helping situations children are dependent on verbal information to guide attention.

This, however, was not the picture for the prohibition narratives. When we showed these scenes to seven three-year-olds in the silent-mother condition, six of the seven said the story children should stop their naughty behavior. They even went on to propose that the mother in the stories should have given emphatic orders to stop, and should have spanked the children. Overall, regardless of whether the mother talked and of what she said, if she was audible or visible 22 out of 23 times the three-year-olds proposed stopping the naughty acts. Similarly, the seven-year-olds in the study reported, for the most part, that the prohibition-story children would stop. In contrast to the helping stories, then, the prohibition pictures required virtually no verbal information to direct the children to the socially appropriate course of actions: the situations themselves made it quite clear what should or should not be done.

Occasionally the seven-year-olds proposed, on the other hand, that the story children lie in response to the mother's questions, if she could not see them, and continue their misbehavior. This finding brings to the fore how a situation in which an act occurs can affect how it is viewed. In the context of role play or storytelling, one need not fear serious repercussions from not obeying a prohibition. There is therefore no need for compliance. The seven-year-olds certainly recognized the misbehavior in the prohibition scenes, but because they liked the fantasy of misbehaving without punishment, they more often said what the naughty children were doing was fun and should continue. In short, the situation motivated them to choose the creation of a good story over reporting conventional compliance.

Intention

Is cooperation a response to cues in a situation, or is it compliance with the perceived intention of the partner? One way to test this was to ask what the speaker meant in uttering the key sentence.

When we asked what the speaker meant, some children stopped to think before answering, as though this was a new idea. Half of the California seven-year-olds said the speaker had just wanted to know. When we asked why they told stories in which the child characters helped, some subjects pointed to the normal activity trajectory. If you play checkers, you have to pick up the piece; in the leash scene the dog really

wants to go for a walk. A three-year-old told us that she would open the door because *I want them to get the groceries in the house so I can eat*. These responses suggested that the children were responding not to an analysis of the perceived intention of the partner at the moment of speaking, but to more general pragmatic goals in the situation.

Natural situations

For the natural situations, we addressed two questions: first, we were interested in whether a child would be more likely to comply with a request related to the foregrounded activity (the storytelling) than with one unrelated to it, and second, we wished to know just how much linguistic information a child needed to respond. Specifically, we expected that the mere mention of an object in need of attention, provided the object was relevant to foreground activity, would be sufficient to get the subject to act. As the requested object became less relevant to the task at hand, we proposed that more explicitness would be required.

With respect to situational relevance, we pooled all subjects together, so that even the three-year-olds were included, and we tested each linguistic form separately. While no differences were statistically significant, there was a trend. For object mention (*oh, the cards!*) 60% and 71% helped with the cards and pen requests, whereas only 44% and 25% helped with the door and the watch for the exclamation alone. Thus when there is little linguistic support, the situational trajectory may be more important.

Considering the lack of overall difference in the items, we pooled responses across requested objects and turned our attention to the effects of the explicitness of requests on helping responses.

Explicitness

What we found was that with respect to the most explicit and conventional request form (*Can you ...*), virtually all subjects (92%) helped right away. Among the five- and seven-year-olds, help dropped off only slightly as the hints became less explicit. For instance, 7 of the 10 five-year-olds and 8 of the 11 seven-year-olds responded even to the exclamations about the object (*Oh, my pen!*).

In contrast, as the requests became decreasingly explicit, the three-year-olds became less and less cooperative. Indeed, while 9 of the 11 three-year-olds responded to the conventional request, only five of them provided help even for the problem statement *I can't ...* which for older children was almost as effective as a conventional request. And only one acted in

response to the least informative object mentions (Table 1). Among these three-year-olds, in fact, McNemar tests for repeated measures revealed that a conventional request was significantly more effective than alternative forms.

Considering the high rate of response of older children to object mentions and their near-perfect response to conventional requests, late in our pilot work we decided to check whether any kind of remark about an object would be enough to get action, even one that was contextually odd. The subjects remaining to be tested were seven five-year-olds. Since the response to conventional requests was almost perfect, we decided to stop testing conventional requests and replace them with an anomalous response which violated Grice's quantity maxim. What we said had redundant details: *My pen is blue* and *The cards have writing on them*. In fact, the sentences were so contextually bizarre that the experimenters were uncomfortable with them.

As expected, the anomalous mentions were complied with less than the other request forms, and significantly less than the now most explicit *I can't ...* statements (Table 1). Still, three of the seven children in our California pilot group complied even with the anomalous item. Two of these complied with the anomalous mention referring to the cards, which was the most situationally relevant of the requests posed. This confirms the evidence that context can still direct behavior even when language gives no indication what is to be done or even that something is to be done. Indeed, some subjects picked up the cards or handed over the pen without a word being spoken.

Table 1. Frequency of cooperative response to experimenter hint by age and form (pilot sample)

Request type	3	5	7
Anomalous mention	—	.43 ^a	—
Object mention	.08 ^b	.70	.73
Place/state question	.20 ^b	.70	.73
Place/state statement	.30 ^b	.88	.78
Verb-object statement	.40 ^b	1.00 ^c	.82
Conventional request	.82 ^d	1.00	1.00
Sample size (N)	11	10	11

a. At five, only three subjects heard a conventional request; the remaining seven heard an anomalous mention.

b. Three-year-olds complied less often than older subjects: $p < .05$.

c. At five, verb-object statements more successful than anomalous mention: $p < .05$.

d. At three, conventional request most successful form: $p < .05$.

In sum, then, from this preliminary work, we were led to conclude (1) that explicitness is helpful, but decreasingly necessary with age in informative contexts, (b) that, at least for some older children, context alone can direct behavior without any aid from language.

European study

Goals

In the pilot work, we were able to demonstrate that contextual knowledge plays an important role in the understanding of requests. We had some indications that the pragmatic goals of the partners in the situation, rather than an analysis of the intention of a particular utterance, played a determining role. In the naturalistic situation, the interpretation was more ambiguous. When the older California children retrieved the fallen cards upon hearing *Are the cards on the floor?*, was it (a) because they found it odd that the interviewer, who saw the cards on the floor, should ask a question, and therefore used Gricean implicature to guess her motives, or was it (b) because the question served to focus attention on the cards, and since they were important to the task the cooperative children decided to pick them up?

We turned to second-language learners in order to separate the analysis of linguistic information from pragmatic reasoning. If a listener only complies with a request after correctly inferring a speaker's intent by starting from an analysis of the literal or conventional meaning of what the speaker says, then second-language learners should be handicapped. If, however, the listener works from pragmatic reasoning, then age and social experience, not language, should be determinative. The second-language learner is often faced with a struggle to grasp the meaning of an utterance in a new language. If model 1 is correct, the learner with minimal experience in a new language should be less likely to propose compliance for implicit requests than a native speaker.

If model 2 is correct, the detection of reference to a problem situation would be enough to guide the language learner to focus on it. Then the situational demands would lead to the solution, just as in the case of a native speaker. The learner could propose cooperation on situational grounds or minimal cues such as nouns, without being dependent on a detailed analysis of what is said. Indeed, the learner who judges from the context would be MORE likely to attribute request intentions to speakers than a child who is able to understand the information question easily and therefore reports that the speaker 'just wants to know'.

In the pilot work we had included only situations which were either highly situationally obvious (the naughty children) or partially so (helping stories and natural situations). We did not have any conditions in which there was an incongruity between language and situation which would compel analysis of intention. There is a good example of such an incongruity available. In Switzerland, Italy, and other countries on the European mainland there is a type of prohibition which is quite culturally specific, a form called by Giulia Centineo (1982) the 'conversational dare'. Centineo has shown that such dares are quite general in Italian speech, but have social restrictions, such as use to intimates and family members. They are closely related to what would be considered sarcasm in English. For example, *Great, spill the milk on the carpet!*

We decided to include such forms because they provide a test of the conflict of literal meaning with situational inference. We hoped that children who were used to French (Swiss) scolding formats would recognize what was meant.

We expected that the incongruity provided by the literal meaning, which is in direct contradiction to the situational inference, would compel the anglophones to check the possible intentions of the speakers in making the utterances and might overthrow the prior situational inference. This would provide a case in which an exploration of speaker intention would be necessary. We predicted that French learners would be more likely than the English control group to report a reprimand intention for such expressions, on two grounds. One is that some have heard these expressions in French already from teachers or Swiss families, and the other is that if their French is primitive they will be more dependent on the situational context for guessing intention. A subset of the learners would be like the English controls, in that they might be unfamiliar with the conversational dare, but know enough French to understand the incongruity of the literal meaning — for this reason as a whole they would fall between the two groups in their interpretation. For the English control groups, there would be an incongruity between the action implications of the context and the literal meaning, which would compel an analysis of intentions.

Subjects

The second-language phase of the research included 24 Swiss (or French) and 50 anglophone children, all tested in or near Geneva. The children varied in age from four to nine. The anglophone children were tested in Geneva schools. The 27 learners tested in French had lived in Geneva

Table 2. *Distribution of Geneva subjects across test groups and ages*

Test group	Age 4/5	Age 6/7	Age 8/9	Group total
English controls	5	8	10	23
French learners	10	7	11	28
French controls	8	5	11	24
Age total	23	20	32	75

three months to a year, went to Genevan schools, and had not known French before their arrival in Geneva. The 23 English controls tested in English primarily attended a private English-speaking school in Geneva. French comprehension and length of stay in Geneva were not systematically controlled for this group. It is likely that the socioeconomic level of the anglophone children is more homogeneous than that of the Swiss children, given the fact that the anglophone subjects tend to be children of international functionaries or businessmen. Table 2 shows the distribution of these groups by age.

Methods

The procedures for the narrative and natural situations in Geneva were essentially the same as those used in California, with a few modifications. First, there was only one experimenter in the European study, who presented both the narrative stories and naturalistic requests. As in the pilot research, the experimenter examined a picture book and told a story during the picture series. However, at a key point in the story, the experimenter herself produced a preselected question by the mother in the story. As in the pilot study, the child's reaction to that question was the main focus of this aspect of the research. The experimenter used a single language throughout the session.

Narrative situation

In the European phase of our research, the same narrative situations were used, except for the omission of the mud scene, which we had found too attractive to the children, too hard to stop. We streamlined the analysis for the narrative situations by using speech only by the mother and by focusing on one implicit request form only. For the helping stories, we employed only the implicit questions from the California work. For

example, 'Mother is coming home from the store with a bag of groceries. Jack and Kate are playing near the door. The mother says, *Is the door open?*'

The interrogation afterward was similar to that in California. The French versions in Europe were as follows:

Qu'est-ce que les enfants vont dire?

Qu'est-ce que les enfants vont faire? Pourquoi?

Qu'est-ce que la mère a dit?

Qu'est-ce que la mère voulait dire?

(and/or) *Pourquoi a-t-elle dit cela?*

In the English control version, the experimenters used a literal translation of the fourth question. *What did the mother want to say?* instead of *What did the mother mean?*

In the prohibition narratives, we decided to use phrases which could be considered culturally equivalent to the phrases used in the American study but different in their relation to literal meaning. Some of the phrases could be characterized as 'conversational dares'. An example is (for the flowers scene): *C'est ça, continuez, jetez les fleurs./That's it, go right ahead, throw the flowers.* And for the fight: *Allez-y. Continuez!/Go on, go right ahead.*

Other phrases could be understood as sarcastic comments, such as *Eh ben, c'est bien./Oh, that's good* (food), *C'est du joli./That's beautiful* (painting). Both the conversational dares and the sarcastic comments were made without either a scolding or a sarcastic intonation.

We also checked our guess that these formats were familiar to Swiss but not to English and American children by asking *Would your mother say that?* of the control groups, and *Would a Swiss mother say that?* of the learners. We predicted that the French controls would be more likely than the English speakers to report that their own mothers would use sarcasm or conversational dares.

Natural situation

As in the pilot research, the actions suggested in the natural situation varied in situational relevance from the most context-bound (to give cassette for the tape) to the least (find the experimenter's purse across the table). Since the subjects viewed the stories as the major activity in the context, all of these 'requests' were topic shifts relative to the narrative task. The experimenters were instructed not to use hand gestures in conjunction with these forms, though they could shift gaze direction.

The five situations used in the European experiment were to close the door, retrieve a pen, a purse, or a notebook, and retrieve the cassette box for the tape used in the experiment.

The door was left open at the time the child entered. A pen, a purse, a notebook, and a cassette box were already placed on a table on the other side of the child's chair, away from the experimenter's chair, at the time the child entered. The purse was sometimes on another chair or on the floor, according to the size of bag used by the experimenter.

The door closing hint was first, the cassette box hint was last. In the procedure used, each of five situations (close the door, retrieve a purse, a red pencil, a notebook, a cassette box) was assigned one of the five explicitness ranks, so each degree of explicitness was tested for each child. If the child failed to comply, the experimenter produced the next item on the scale, becoming more explicit each time through a maximum of three tries for each item as in the pilot study. The additional information was kept to a minimum, with no gesture, except gaze direction toward the desired object. The presentation differed from the California study in providing no scenarios to build up to the hint or to make it situationally relevant. Of the five situations, the cassette hint was the best situated in a natural trajectory since it occurred after the experimenter took the tape out of the recorder.

The pilot study had indicated such high compliance rates with the conventional request that we reduced its frequency and replaced it with anomalous mention for all except six subjects in the English control group. We did give the conventional form to most of the French learners and French controls since we were not certain of how it would be responded to in French. Only two of the French controls and eight of the learners heard the anomalous mention.

The following experimental forms were used:

- a. Explicit agent-verb-object interrogative: conventional polite request of the form, *Can you give me my watch?* [*Est-ce que tu peux me donner mon sac?*]
- b. Explicit verb-object declarative: *I can't reach my watch.* [*Je ne peux pas prendre mon sac.*]
- c. Object-place/state declarative: *The is over there/is open.* [*My purse is there.*]/*Mon sac est là.*
- d. Object-place/state interrogative: *Is on the floor/open/over there?* [*Est-ce que mon sac est là?*]
- e. Mention of object: *Oh, the!* [*Ah, mon sac!*]
- f. Anomalous mention. *My purse is white.* [*Mon sac est blanc.*]

Results

Narrative situations

Help narratives. In the help narratives, we were interested in the children's predictions: whether the characters in the story continue to play or provide help to the mother. There was only minimal help in our silent condition (without language at all) in our pilot sample in the United States, so we can say these pictures, unlike the prohibition scenes discussed below, depend on at least a minimum of verbal information to guide attention.

We found that there was no significant difference with age or group in Geneva between stories. The compliance rate varied across stories from 62% (for the cake) to 94% (for the leash). What these findings, put together, suggest is that there is substantial success of the question form in calling attention to a problem needing remedy, despite its inexplicitness about what the hearer is to do.

Intention. Is cooperation a response to cues in a situation, or is it compliance with the perceived intention of the partner in speaking? One way to test this was to ask what the speaker meant in uttering the key sentence.

In Geneva, we found that there was an age change, that more of the older children identified the mother as wanting help. The change in age varied for different stories, depending on the familiarity of the scene. For example, the leash story was recognized as a request by the youngest children, but the cake scene and the door-grocery scene were more problematic for the little children. (In Europe, house and apartment doors open with keys rather than latch handles so children are unlikely to be able to open them alone.)

But was this offer of help based on an analysis of the mother's intentions in making the utterance, or was it primarily based on situational inference? Most children assumed that the mother wanted help, and as we expected, the learners, who were most dependent on situational information, were especially likely to give such an interpretation (see Table 3). It is unlikely that the learners gave this interpretation because they understood what was said and went through a process of inference from that (as in model 1); rather, they assumed that a request had been made. In short, analyzing the hint did not tell them that help was called for in a story, rather the need for help created in the story suggested to them — without their knowing exactly what was said — that a request must have been made.

We proposed that if knowledge of a speaker's intention in making an

Table 3. Proportion of children in each test group proposing request intent for each of the five helping narratives (sample size in parentheses)

Test group	Window	Door	Leash	Checker	Cake
English controls (23)	.57	.61	.61	.61	.83*
French learners (28)	.67	.84*	.71*	.73*	.73*
French controls (24)	.79*	.65	.57	.58	.75*
All groups (75)	.68*	.71*	.64*	.64*	.77*

* Significantly more than half of the subjects suggesting a request interpretation: $p < .05$.

utterance were a prerequisite for action, as in model 1, then only subjects who heard a hint as intending a request would say that the children would provide help. This was clearly not the case. We found that typically there were more children who finished their story by offering help than children who reported, when asked, that the mother had meant she wanted help. Clearly, the belief the mother wants help is not a necessary condition for offering help. Typically, about a third of those who offered help did so despite reporting that the mother didn't ask for it (Tables 4a and 4b). The exception was the scene with the cake, where there were more children identifying a request they did not satisfy (presumably because of the impropriety of handling knives) than the other way around.

Table 4a. Proportion of children per test group proposing request intent who had offered help on each of the five helping narratives (number who proposed request intent in parentheses)

Test group	Window	Door	Leash	Checker	Cake
English controls	.92 (13)	.57 (14)	1.00 (14)	.86 (14)	.79 (19)
French learners	.77 (19)	.68 (22)	.95 (19)	.90 (20)	.63 (19)
French controls	.95 (19)	.93 (15)	1.00 (13)	.86 (14)	.75 (16)
All groups	.86 (51)	.73 (51)	.99 (46)	.88 (48)	.72 (54)

Table 4b. Proportion of children per test group NOT proposing request intent, who did offer help on each of the five helping narratives (number who did not propose request intent in parentheses)

Test group	Window	Door	Leash	Checker	Cake
English controls	.70 (10)	.89 (9)	1.00 (9)	.89 (9)	.25 (4)
French learners	.67 (9)	1.00 (4)	.75 (8)	.71 (7)	.29 (7)
French controls	1.00 (5)	.88 (8)	.90 (10)	.90 (10)	.60 (5)
All groups	.75 (24)	.90 (21)	.89 (27)	.85 (26)	.38 (16)

In the other scenes the help proposed was not correlated with analysis of the mother's intent in speaking. This suggests that cooperation does not require perceiving the speaker as intending a request, and further that cooperation is in fact at least as much a response to the situation as to perceived intentions.

Prohibition stories. The stories about prohibited acts used in the Swiss study involved acts known by very young children to be forbidden. In the Swiss study of irony and conversational dares, the speech of the mother, when taken literally, conflicts with this interpretation of what the children should do. In fact, the compliance rates are moderate in all groups, compared to those found in the pilot study (Table 5).

Intention. We had included the sarcasm and conversational dares because we expected that they would seem incongruous to the English control group and some of the French learners and compel an analysis of intentions. What evidence do we have that they perceived this incongruity? When they were asked about the mother's intention, the response categories included one we have called 'puzzled' when the children said they could not identify the mother's intentions because of the clash between context-based inference and the literal meaning of the mother's utterance. (Other options were commenting on the sarcasm, reprimand, literal interpretation, and nonresponse). There were 20 such comments in the English control group, seven in the learner group, and two among the Swiss.

The main interest of this type of item was to propose that the incongruity might compel an analysis of intention and thus to induce a higher relation between action and inferred speaker intention than was found for the helping stories. The Swiss children could understand the mother's phrase, given the situation and their familiarity with this type of prohibition. As we expected, the Swiss children's interpretation of the mother's intention as a reprimand was high, and the English control

Table 5. Proportion of children in each test group proposing stopping for each of the four prohibition narratives (sample size in parentheses)

Test group	Flower	Paint	Food	Fight
English controls (23)	.26	.34	.35	.48
French learners (27)	.48	.33	.33	.29
French controls (24)	.54	.58	.58	.54
All groups (75)	.43	.46	.42	.42

Table 6. Proportion of children in each test group proposing reprimand intent for each of the four prohibition narratives (sample size in parentheses)

Test group	Flower	Paint	Food	Fight
English controls (23)	.35	.26 ^a	.35	.35
French learners (28)	.67	.46	.64	.67
French controls (24)	.79 ^b	.75 ^b	.79 ^b	.89 ^b
All groups (75)	.61	.49	.60	.63 ^b

a. Significantly fewer than half of the subjects proposed request intent, $p < .05$.

b. Significantly more than half of the subjects proposed request intent, $p < .05$.

Table 7. Proportion of children in each test group who said that their own mother or a Swiss mother would make a remark similar to the one in each of the four prohibition narratives (sample size in parentheses)

Test group	Flower	Paint	Food	Fight
English controls (23)	.09*	.17*	.04*	.04*
French learners (28)	.37	.31	.36	.31
French controls (24)	.55	.57	.54	.65

French learners were asked whether a Swiss mother would make the story remark.

* Significantly fewer than half of the subjects said mother would make remark, $p < .05$.

group's was low (Tables 6 and 7). More than half of the English controls were puzzled or took the sarcastic/conversational dares literally.

As we expected, for most stories the majority of Swiss said their own mothers used conversational dares and sarcasm and the English said their mothers did not. Taken together, when, these findings support the position that conversational dares and sarcasm are more likely to be conventionally used to control behavior among French than among English speakers.

Had the French learners picked up on Swiss sarcasm in the few months of their contact? The learners resembled the French controls in frequently interpreting a sarcastic remark as a reprimand rather than taking it literally. Yet only a third of them reported expecting these remarks from Swiss mothers (though more than the English controls report regarding their own mothers). One might have thought that those who reported familiarity with sarcasm might less often give a literal interpretation. But there is no relation between their answers to the Swiss-mother question and their replies regarding intentions in the stories. Half or more of the learners who said sarcasm was typical of a Swiss mother took the fight story literally or found what she said puzzling, and none heard the paint story as involving a reprimand.

We are left, then, with an ambiguous finding. Either the learners have, without knowing it, come to recognize sarcasm and conversational dares as normal routines, or they have in these stories, as we have proposed for the results in the helping stories, relied more heavily on situational than on verbal cues in constructing an interpretation of intent.

In order to provide some resolution of this ambiguity, we tested their hearing of the verbal material by looking at their accurate repetition of it, as contrasted with guessing from the situation (such as reporting that the mother said *Stop it* rather than *That's beautiful*). This report, just after they had provided a story ending, gives us an indication of what they thought the mother had said at the time they made the action decision. While 75% to 96% of the English controls repeated the prohibitions accurately, the learners, questioned in their second language, were correct only 40% to 56% of the time. This difference was significant for all four stories.

But is this poor memory due to mis-hearing or to another process? If we look back at the actual sequence of questioning, we note that the children had to propose an action and a reply immediately on hearing the key phrase. That is, they finished the stories. After that, they were asked what the mother had said. Even the French controls, like the learners, were accurate only 43% to 60% of the time. Speculatively, what we may have here is a well-known memory process in which surface utterances in verbal contexts are indistinguishable from their synonyms. Once the children have processed an action interpretation, they may be likely to forget the surface utterance and reconstruct one, when asked, which is consistent with their interpretation of what is likely to have been said in the context (see Table 8). On the other hand, for the English control groups these utterances were strikingly incongruous, and therefore memorable.

If a subject reconstructs memory to suit a situational reprimand interpretation, we would expect a higher rate of compliance with the perceived intention of the partner. On the other hand, the children who

Table 8. Proportion of children both correctly repeating the test utterance and then proposing reprimand intent for each of the four prohibition narratives

Test group	Flower	Paint	Food	Fight
English controls (23)	.30	.26	.26	.35
French learners (28)	.44	.38	.39	.33
French controls (24)	.70	.50	.58	.52
All groups (75)	.45	.38	.38	.40

heard accurately and recall the incongruous utterance of the mother — such as many of the English control group — really have no guide to appropriate story endings. They may decide this is a good chance to have a story about a naughty child. Some told us the mother was lying. Or they may take the mother literally and take it as a go-ahead to continue a forbidden act. In that case we would find the high relation between continuing the naughty behavior and the literal interpretation of intent shown in Table 9b. In any event, what we have developed through the use of the incongruous sarcastic stimulus is a situation of option much larger than in the case of the helping stories, or in the case of the prohibitions with implicit requests.

The question about the mother's intention was asked AFTER the children had been reminded of what she actually said. Table 8 shows the children who both successfully remembered the utterances and also interpreted them as reprimands. These should be the children who clearly understand conversational dares as conventional reprimands. These figures are relatively close to those who had proposed stopping (Table 5). In each analysis, the highest ratio proposing stopping, or proposing a reprimand intent after having heard correctly what was said, is among the Swiss, the next highest the learners, and the lowest the English control group.

Table 9a. Proportion of children proposing reprimand or sarcasm intent who had stopped the naughty behavior in each of the four prohibition narratives (number who heard reprimand intent in parentheses)

Test group	Flower	Paint	Food	Fight
English controls	.44 (9)	.67 (6)	.44 (9)	.70 (10)
French learners	.58 (19)	.46 (13)	.33 (15)	.28 (18)
French controls	.55 (20)	.78 (18)	.72 (18)	.60 (20)
All groups	.54 (48)	.65 (37)	.52 (42)	.50 (48)

Table 9b. Proportion of children puzzled or proposing literal intent, who had continued the naughty behavior in each of the four prohibition narratives (number who did not propose reprimand intent in parentheses)

Test group	Flower	Paint	Food	Fight
English controls	.85 (13)	.77 (17)	.71 (14)	.69 (13)
French learners	.75 (8)	.75 (12)	.67 (12)	.75 (8)
French controls	.33 (3)	.50 (6)	.80 (5)	.67 (3)
All groups	.75 (24)	.71 (35)	.71 (31)	.71 (24)

Table 9a reveals that the majority of English and French controls who reported a reprimand interpretation after being reminded of what the mother said had offered a compliance response (from 44% to 78%). The French learners who gave a reprimand interpretation proposed compliance less often, 28% to 58% of the time. If these children were only paying attention to the situation, and not to interpreting what was said, we would expect that there would be equally high rates of 'good' behavior for those who gave a reprimand or sarcasm interpretation, and those who interpreted the mother literally. This was the case for the helping stories (Tables 4a and 4b) on the whole, where interpretation of intent was not related to cooperation.

When we compare Tables 9a and 9b we see that there is a relatively high relation between proposing stopping and then giving a reprimand or sarcasm interpretation (Table 9a), or proposing continuing the naughty behavior and then giving a literal or puzzled response to the question about the mother's intention (Table 9b). When asked why the story children continued the naughty behavior the subjects reported 72%–88% of the time that the activity was fun. It is as though attending to the mother's literal meaning provides a rationale for a story about continuing usually forbidden pleasures.

Age. We have said that we expect age to play a role in responses because of the growth with age in ability to make inferences, both situational and based on implicature. In the case of the prohibition scenes, more Swiss proposed at all ages, though especially the older subjects, that the children stop. Age changes also showed up in the other groups (see Table 10).

We can expect that the older Swiss children would not take the mother literally when she said *Go right ahead!*; there must be an increase in familiarity with sarcastic forms with age. At the three ages, the Swiss children interpreted the mother as meaning *Stop* 71%, 75%, and 93%. Clearly this is a well-learned interpretation early, but it increases. In the English control group, on the other hand, the prohibition interpretation was virtually absent until after age eight, when it rose sharply to 72%. In

Table 10. Percent who propose stopping naughty actions by age and group (for all four scenes)

	4–5	6–7	8–9
English controls	.05	.38	.50
French learners	.14	.32	.34
French controls	.47	.70	.64

English, then, the younger children's interpretation was affected by the incongruity, since they noticed, remembered, and took what the mother said literally.⁵ We had predicted that implicature would play a larger role in older children, permitting them to find a solution for the incongruity.

When we tested the learners, we believed that we might tap culturally acquired interpretations of intention. The four- to seven-year-old learners gave interpretations of the French speech closer to those of their Swiss school peers than to those of other English speakers, even after having the utterance repeated (Tables 11a and 11b). Over age eight, they gave a reprimand interpretation about as often as the anglophones did in English. Most of the English control group storytellers under age eight settled for a literal interpretation of the mother, which allowed the children of the story to continue being naughty. A third were baffled and said the mother was lying, kidding, and so on. In French, however, the learners gave few literal interpretations of the sentence the experimenters repeated to them. Though they had no conscious memory of such utterances, they may have heard them from teachers or friends' parents.

So we see that there are two ways to go beyond the literal incongruity. One way is through experience with French phrases in context to be able to recognize, even without prosody, an idiomatic interpretation that fits the scene. The other way is to be old enough — eight or nine — to be able to recognize sarcasm and calculate a different intent than the literal one, even without prosodic cues.

Table 11a. *Mother's intention is reprimand or sarcasm (four pictures pooled)*

	4-5	6-7	8-9
English controls	.15	.09	.72
French learners	.53	.63	.70
French controls	.71	.75	.93

Table 11b. *Mother's intention is literal (four pictures pooled)*

	4-5	6-7	8-9
English controls	.50	.59	.21
French learners	.16	.22	.19
French controls	.22	.15	.02

Natural situations

In the natural situations, we had predicted that if model 2 was correct, the learners, because of their linguistic handicap, would rely on contextual cues. We would expect higher compliance with more explicit request forms for the French and English control groups, but not the learners. The latter, whose French was more limited, would be likely to assume, from the sudden refocus on the request item, that a request had been made despite not knowing what exactly had been said. If model 1 was correct, the limited knowledge of the learners would not give them enough linguistic information to make the necessary inferences. We also expected that explicitness would play a larger role for the younger control-group children than for the older.

The level of helpfulness was lower than in the pilot study, which we expected because of the reduction in the contextual information offered before the hints by the experimenter. We first examined the differences due to the item requested and found that the most situationally relevant, the cassette box, was also the most frequently offered, in the case of the question and statement hints. Of the five objects, the cassette box was the most relevant, since it was always requested at the end of the taping and could be seen as related to putting the tape away. The fact that the French learners showed greater response to the request for the cassette box is congruent with the hypothesis of their greater sensitivity to the context. But the differences between items were not statistically significant, so we pooled the results across items to look at group, age, and question type.

Overall the learners were the most helpful. Only 50% of the English-session European control groups and 62% of the Swiss control groups cooperated with the most explicit requests, but nearly all the learners did (Table 12). In 11/13 comparisons split by age and request type, the learners were more cooperative than the English control group. What this difference suggests is that the situation of being tested in a second language itself creates more cooperativeness, more sensitivity to speaker cues, more willingness to act on minimal information. The experimental subjects may also have reacted empathically to being tested in French by another anglophone.

Explicitness. We had predicted that mere mention of a desired object might be sufficient to get cooperative subjects to give it to us. This is certainly the case. We tried the anomalous mention on all but six of the English control children, and seven helped even in this case (one of the French learners who heard an anomalous mention also complied). The exclamation (*Oh, my purse!*) was also moderately successful.

Table 12. Frequency of cooperative responses to hint by language group

Request type	English controls	French learners	French controls
Oh, my!	.27	.58 ^b	.20
Is my there?	.59	.60	.40
My is there.	.45	.52	.53
I can't reach my47	.61	.44
Can you give me my67 ^a	.95 ^c	.85 ^c
Sample size (N)	23	32	20

a. Only six English controls got a conventional request; the rest heard an anomalous mention instead.

b. Learners complied with the object mention more than other groups, $p < .05$.

c. Group complied with the conventional request significantly more often than any other form, $p < .05$.

The most linguistically important question is whether the explicitness of the form made any difference. Type 1 (anomalous mention) was significantly more difficult than all but the *Oh, my X* form, which was harder than all the others. The three types of hints (*My ... is there*, *Is my there?* and *I can't get my*) were not differentiated, and the conventional request was the easiest (Table 12). For the French control and learner groups, in fact, McNemar tests for repeated measures showed that compliance for the conventional request was significantly greater than for any of the other five request forms ($p < .05$). Nearly all the anglophone children under seven complied with a conventional request, and at every age level, compliance for a conventional request was higher than for a hint.

As Table 12 shows, with even the least explicit form, the *Oh, my* object mention, the French learners established a relatively high rate of compliance (58%), a compliance rate which they more or less maintained with the other more explicit forms, except the *Can you* one, where compliance was higher. On the other hand, for the *Oh my ...*, the English and French controls were relatively uncooperative, complying only 27% and 20% of the time, respectively. In fact, tests of homogeneity showed that for this request the control groups complied significantly less often than the French learners. Only as the requests became more explicit did the control children become like the learners. Thus, as we expected from model 2, the effect of explicitness was greater for the control groups than for the learners, who relied more heavily on their pragmatic knowledge.

These findings suggest that the French learners do not rely on complete understanding of the spoken word to comply with a request; they rely on situational cues. In fact, the higher rate of compliance for these children leads us to suspect that their reduced knowledge of French led them to

depend more heavily on their situational knowledge than did either the French or English control groups in face-to-face cooperation.

Age. In the natural situations, the oldest children were generally more cooperative than the youngest. We could say that explicitness is always helpful but decreasingly necessary with age. Age and group differences were maximal for the ambiguous *Oh my X!*, which is shown in Table 13. Here we see that the French learners were more cooperative at each age, and especially so at eight to nine, and that the least cooperative on this item are the youngest children tested in their mother tongues.

Age differences appeared in all the samples, with the youngest children requiring most explicitness to cooperate. This finding corresponds with other studies (Ervin-Tripp and Gordon 1985). What is most striking, however, is how little it takes to get cooperation.

Discussion

We have argued that the situation creates an a priori probability of certain activity trajectories. In the case of the natural situations, the children sometimes picked up pens out of place without any verbal cue at all. Aiding an adult was apparently appropriate for these children, and they were sensitive to cues that something needed to be done to facilitate continuing the narrative experiment.

The fact that these situations create a strong presupposition to be helpful and cooperative in certain children — not in all — is suggested from our findings in the United States that even an anomalous form such as 'My purse is white' resulted in the handing over of the purse by 44% of the four- to five-year-olds and 61% of the children six to eight. While one might find situational components of this result — for instance, learning from the narratives or from earlier experimenter requests which were more explicit — the most important feature of this finding is that the only

Table 13. Cooperative responses to object mention by language group and age

Test group	Age 4-5	Age 6-7	Age 8-9
English controls	.15	.22	.50
French learners	.31	.63	.90*
French controls	.13	.17	.27

* At 8-9, learners complied with the object mention significantly more often than the controls, $p < .05$.

linguistic requirement is a noun that calls attention to the relevant object. The rest appears to be accomplished by practical inference, on the basis of the cooperative intentions of the actor.

The literalist theory such as model 1 would predict that questions like 'Is my purse there?' would get a literal reply, but not necessarily a helpful action. Instead, we found verbal replies accompany action, rather than replacing it. Indeed, the verbal replies were sometimes inconsistent with the action, as if two different response systems were involved.

Children's capacity to interpret the intentions of speakers from hints or sarcasm increases with age and with cultural experience, but their action response seemed to come from their interpretation of the demands of the situation rather than from the demands of the speaker.

We need here to distinguish two senses of intention. There are the intentions of the partner in the larger sense, which are those imputed to the partner as a part of the goals in the ongoing activity. Then there are the local and specific intentions expressed through the speech act. What we have argued is that the larger activity goals take priority in projecting notions of appropriate response, and that the analysis of specific intentions in speaking is only necessary in cases of ambiguity, incongruity, or lack of an adequate context.

The support for these claims came from two sources, from both the natural situations and the helping narratives. The cooperation both of the younger children and of the novice second-language learners to unconventional or implicit requests (hints) is unlikely to be based on implicature from a literal interpretation. The very high rates of the learner's cooperation suggests that they become extremely sensitive to contextual information because of their lack of linguistic skill. The success of even anomalous and very inexplicit forms in getting some cooperation shows that context plays a large role.

The analysis of speaker intention in speaking has been central to theories of speech-act interpretation. Indeed, it has been argued that unless we understand the speaker's intention we cannot properly identify an utterance as a request at all. Imputing intentions to others is at least a relatively subtle process which is related in a complex way to development in children. What we have proposed is that there is a kind of momentum in situations which does not require a constant assessment of intention in others unless there is some clash between what the actor construes to be the larger activity goals and what is said at a particular moment.

The prohibition narratives were intended to provide such a clash. In the helping stories we found no relation between whether help was proposed and whether the children, examining later what had been said, thought the speaker had expressed a desire for help. In the prohibition stories

there was a conflict between the expected activity goals of the mother and what she said. This conflict led the children to various outcomes: dominance of an idiomatic/situational interpretation by French speakers and learners which led to compliance, seeing the mother's intention as a reprimand, and even assimilating it in memory to more conventional reprimands; dominance of a literal interpretation and noncompliance; use of implicature by the older children to calculate and identify a sarcastic reprimand.

What this approach requires in language processing by a hearer is enough interpretation of what is said to identify references to context, and to recognize incongruity. In less recognizable contexts a stronger reliance on a linguistic interpretative system may be required.

Conclusions

We set out to study experimentally the difference between the two models of interpretation which could be called language-centered and situation-centered. We found that listeners can interpret contextual demands for action without explicit language. Three-year-old children required more explicitness than older children. Mention of a desired object was enough to get that object from many cooperative hearers. The rate of cooperation was greater in some groups than others, increased with age, and was greater in novice second-language learners, presumably because of greater context sensitivity. Degree of explicitness did relate to the likelihood of cooperation. It is not a negligible effect, but what we found is that contextual information is enough to do the work alone in many cases.

Interpretation of intent in making a request is neither necessary nor sufficient for cooperative behavior except in cases of incongruity between contextual demands and words, where the resolution of the intention issue might weigh into the decision about behavior in real life. There was no relation between the intentions reported for the mothers in the stories and whether the characters offered help, and indeed it was our impression that decisions were made on a practical basis without regard to the intention of partners, as they often are in real life. Only in the case of incongruity did the analysis of the speaker's utterance intention play an important role.

There were two ways to resolve incongruity. One was through situated rules or idioms. In our experiment, these were the conversational dares known to the Swiss, but unfamiliar in English. Language learners and French speakers less often took conversational dares literally. A second source for interpretation is inference, the route taken by the children over

age eight who even in English could interpret sarcasm and conversational dares.

Our results call into question the primacy of isolated utterance interpretation before attention to context, and the necessity of the analysis by hearers of each speaker's immediate intentions in explaining cooperation. Since requests, unlike assertions, are typically situated in ongoing contexts of social relations and of activity, their form and interpretation are dependent on both. It is essential that interpretive models of speech acts start from the situation and not presume maximal linguistic analysis by listeners.

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Notes

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2. The exact role of literal interpretation is too complex to consider here. Our only claim is that literal interpretation is not necessary or, if present, need not precede other action decisions or idiomatic interpretations.
3. Participants in joint talk do not necessarily have identical roles in the activity or motives in the engagement. A second level of interpretation becomes available to listeners who are sophisticated enough to recognize motives unlike their own. In our data, child interlocutors are able to adapt to the motives of others after seven or eight years of age, by several criteria (Ervin-Tripp and Gordon 1985).
4. The speakers on the tapes, and represented in the pictures, were half the time mothers and half the time a child of the same sex as the subject. We will not report here the effects of speaker type on responses.
5. This was especially true of the British in our study, though our samples are too small for a reliable British/American comparison.

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