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Pragmatics in acquisition*

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ABSTRACT

Recent research has highlighted several areas where pragmatics plays a central role in the process of acquiring a first language. In talking with their children, adults display their uses of language in each context, and offer extensive feedback on form, meaning, and usage, within their conversational exchanges. These interactions depend critically on joint attention, physical co-presence, and conversational co-presence – essential factors that help children assign meanings, establish reference, and add to common ground. For young children, getting their meaning across also depends on realizing language is conventional, that words contrast in meaning, and that they need to observe Grice's cooperative principle in conversation. Adults make use of the same pragmatic principles as they solicit repairs to what children say, and thereby offer feedback on both what the language is and how to use it.

Pragmatic factors play a central role in the process of acquiring a first language. In this paper, I focus on five domains in which we can see how pragmatics contributes to, and is critical in, the process of acquisition. First, in talking with their children, adults display uses of language in a variety of contexts for different purposes. In doing this they offer extensive information on forms and meanings, and on usage within conversational exchanges. Second, these interactions depend on joint attention, physical co-presence, and conversational co-presence. Young children depend on these as (a) they try to understand what their parents are saying and (b) work to acquire the relevant linguistic forms and meanings. Third, adult talk helps children establish and make use of common ground. Fourth, for young children, getting their meaning across depends on their uptake of such general pragmatic principles as conventionality and contrast, as well as on observing Grice's cooperative principle in conversation. Fifth, the pragmatics of contrast plays a critical role during the course of acquisition as adults offer feedback and solicit repairs for child errors.

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DISPLAYING LANGUAGE AND LANGUAGE USE

When adults talk with their young children, their primary concern is to make themselves understood. To that end, they use gesture as well as talk (Iverson & Goldin-Meadow, 2005), repeat themselves frequently (Shatz, 1978), and check up on what their children appear to mean (Chouinard & Clark, 2003). As they interact with children, adults show them how to do things with words as well as gestures, using the language of the community to talk about objects and events in a variety of contexts.

Most early research on child-directed speech focused on how adults displayed the forms of language (see Snow & Ferguson, 1977; Gallaway & Richards, 1994) with relatively little attention paid to the CONTENT of child-directed speech. But it is the content that provides children with all kinds of information pertinent to establishing word-meanings and the relations among those meanings in the lexicon. And, in interaction, adults offer children pragmatic directions about meanings and how to use them (e.g. Clark, 1998; Clark & Wong, 2002).

These pragmatic directions inform children about inclusion and class membership, as in 'A tiger is an animal' (e.g. Clark & Grossman, 1998), part–whole relations, as in 'That's a rabbit and those are his ears' (e.g. Masur, 1997; Kobayashi, 1998), functions, as in 'That's a pan for making soup' (e.g. Kemler-Nelson, 1995; Landau, Smith & Jones, 1998), and a variety of other properties such as shape (round, square), size (big, small), colour (red, blue), texture (rough, smooth), ontogeny, and habitat (e.g. Gelman, Coley, Rosengren, Hartman & Pappas, 1998). Such information about newly labelled entities also helps children set up and organize semantic domains (e.g. Clark, 1995; Hills, Maouebe, Maouene, Sheya & Smith, 2009). This adult talk about category-instances also contributes information about how to organize particular categories (e.g. Carey, 1985), and how to relate them to each other, as in (1) and (2).

(1)	NAOMI (1;10·11):	*Birdie, birdie.*
	MOTHER:	Not a birdie, a seal.
	NAOMI:	***Seal.***
	MOTHER:	Seal. Uhhuh.
	NAOMI:	*Birdie.*
	MOTHER:	Seal is a kind of mammal.
(2)	NAOMI (2;7·16):	*mittens.*
	FATHER:	Gloves.
	NAOMI:	***gloves.***
	FATHER:	When they have fingers in them they are called gloves and when the fingers are all put together they are called mittens.

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Information about how to use language is critical for children: adults show them both the forms and meanings available, and they demonstrate how and when to use them. That is, once children can identify the forms of language and map meanings onto those forms, they need to work out how and when to use these linguistic elements, so they must identify their functions as well as their form–meaning relations. Children are helped in this by the extensive feedback adults offer when children make errors in producing words and phrases. In their feedback, adults offer the conventional forms of words and phrases, and how to pronounce them; they offer more appropriate words for things, and they present phrases and expressions apposite to the occasion. These adult reformulations typically follow immediately after children make an error, IN THE NEXT TURN. They thereby provide children with an opportunity to compare their own (erroneous) form with a conventional form for the same meaning, as displayed in adult speech, as in (3), where the father offers a conventional phrase in response to his son's request, and (4), where the mother both corrects her daughter's pronunciation and adds the relevant morphology and syntax (Chouinard & Clark, 2003; Clark & de Marneffe, 2012).

(3) ABE (2;5·10): *I want butter mine.*
FATHER: ok give it here and I'll put butter on it. [reformulation]
ABE: *I need* ***butter on it***. [takes up locative phrase]

(4) CAMILLE (1;7·4, after making baby doll sit down): [esi:]
(=assis–sit-PP 'seated')
MOTHER: il est assis c'lui là [reformulation]
he be-AUX–3PSG-PRES sit-PP DEMPRO there
='he's sitting down there, that one (is)'
CAMILLE: [**asi: asi:**] [takes up corrected pronunciation, *assis*]
assis, assis–sit-PP, sit-PP='seated, seated'

Young children pay attention to such reformulations, and make an immediate repair, as in (3) and (4), around 20% of the time. They also make spontaneous repairs to their own speech from early on, as in (5).

(5) JULIA (2;1·12): Mommy put away it. <repair> Mommy put it away.

And they sometimes try to make a repair, but fail, as in the sequence in (6).

(6) NOA (3;11, trying to find the word 'yesterday'): *I took a BATH tomorrow*. (pause 1–2 s) *I am going to take a bath tomorrow*. (pause) (speaking slowly) *I– took– a– ba::th* (pause 1 s) *tomorrow*.

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JOINT ATTENTION, PHYSICAL CO-PRESENCE, AND CONVERSATIONAL CO-PRESENCE

How do adults make it more likely that children will attend to and understand what the adults are trying to communicate? First, they consistently try to establish joint attention. One way to do this is to follow in on whatever the child is already attending to, as evidenced by direction of gaze and any gestures towards an object or event in the vicinity. Indeed, when young children point, adults typically label the object pointed at (e.g. Goldin-Meadow, Goodrich, Sauer & Iverson, 2007; Kelly, 2011; Olson & Masur, 2011). In other settings, adults work to get their children's attention before labelling something new (e.g. Childers, Vaughan. & Burquest, 2007; Estigarribia & Clark, 2007; Tomasello, 1995). They then make use of the child's name and deictic exclamations like 'Look!', 'See that?!', sometimes repeatedly, until the child looks at the current target of adult attention.

In getting and maintaining children's attention, adults rely on gesture, gaze, and talk. They draw attention to things with gestures: they point, touch, tap, and outline the edges of the object-of-interest, and they bring children's attention back to an object by touching it, lifting it, or displaying it, as the interaction continues (Clark & Estigarribia, 2011; Rader & Zukow-Goldring, 2010). One outcome of this is that adult words and utterances tend to be directly pertinent to the here-and-now, hence building on physical and conversational co-presence. But they soon extend their talk about the here-and-now to include non-present objects and events, often with appeals to the child's memory for past experiences, as well as for anticipated events (Clark, 2010), as in (7).

(7) MOTHER (having already talked about 'a steep hill'):
Do you rememb—
CHILD (2;8·11): *Mm-hm*.
MOTHER: Do you know we walked up some steep hills this morning on our walk? When we were looking for rocks?

Reliance on the here-and-now early on plays an important role in children's acquisition of word meanings: with joint attention, they can be more certain about what the adult is picking out with an unfamiliar word, and they can use that information in assigning a preliminary meaning to the new term in context (Clark, in press). The general physical setting, specific rooms in the house, say, favour more frequent uses of certain words: the hallway provides a setting for outdoor clothes talk about coats, hats, gloves, scarves, boots, and shoes; the kitchen for all kinds of food-related talk about milk, bread, snacks, lunch, forks, spoons, apples, and bananas; and the bedroom talk about getting dressed upon getting up (words for clothing) as well as bedtime routines and talk about going to sleep (see Ferrier, 1978;

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Roy, Frank & Roy, 2012). In short, particular settings elicit specific kinds of talk and specific vocabulary words as children embark on the assignment of meanings to the word-forms they hear. Their getting started on this essential mapping task is underpinned by physical and conversational co-presence and enabled by joint attention with (expert) adult speakers.

COMMON GROUND

Common ground comprises the information shared among participants in a conversation. Much common ground is cultural, and may be shared with the entire community; other aspects of common ground pertain to one's education, training, and profession. Our everyday reliance on common ground is relevant whenever someone offers information that, once acknowledged, can then be added to common ground by another participant in the exchange. Making use of common ground involves assessing what the other person knows at the start, then tailoring one's own contributions to add to the relevant common ground for that occasion, and acknowledging contributions to common ground from the other as they are made. That is, the participants in an exchange accumulate common ground – what they know in common – throughout their exchange.

One element in managing common ground is making references clear, so the other knows what is being talked about. How do young children manage this? From early on, they assess what the parent knows in context, and then they design their utterances accordingly, to give information about location or contents, for instance (O'Neill, 1996). At three and older, they can also keep track of how someone referred to an object on previous occasions, and make their own references accordingly (Matthews, Lieven & Tomasello, 2010). But getting the addressee to identify the appropriate referent is only part of what is involved in establishing common ground. Speakers also make clear what they assume is 'given' information, and what is 'new' (Haviland & Clark, 1974; Fisher & Tokura, 1995).

Children early on offer new information when they initiate a topic for uptake by the other, and, by 2;6 or so, young children initiate up to two-thirds of the topics in adult–child exchanges (Bloom, Margulis, Tinker & Fujita, 1996). They also contribute new information when they answer adult questions, something they do as soon as they begin to communicate with gesture or gesture-and-word combinations. And, also from early on, they acknowledge adult contributions of new information by repeating the relevant word or phrase. In doing this, they add the pertinent information to common ground (Clark, 2014).

However, it takes children some time to organize their own utterances to both acknowledge any new information just offered, thus placing it in common ground, and add new information themselves, for the other speaker to

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acknowledge and add to common ground. To achieve this, young children need to be able to organize their utterances into 'given' and 'new' information (Clark & Bernicot, 2008). Initially, young children acknowledge new information from other information, but two-year-olds generally add new information only when they introduce a new topic or answer a question. By age three to four, they begin to add new information themselves on a more consistent basis, and so manage to contribute more equally to the accumulation of common ground, as in (8) and (9), where the new information being added is underlined.

(8) MOTHER: Après t'as le printemps. 'Next you have spring'
ZOË (3;2): *'temps et après l'été*. '(S)pring and then summer'

(9) ADULT: Oh. This hill is very– Remember when we were climbing those rocks? It was– steep.
CHILD (3;8·16): *No, no, it was– really– hard to get– up.*
ADULT: Mm-hm.
CHILD: *'Cause it was steep.*
ADULT: 'Cause it was steep, right. Very good.
CHILD: *We saw a lizard.*

Making references that others can understand, acknowledging and adding information from others to common ground, and offering new information to others in the course of conversation, requires considerable skill. This skill emerges slowly as children find out what their interlocutors can and cannot understand on each occasion.

CONVENTION, CONTRAST, AND COOPERATION

In choosing their words, speakers observe the conventions of the language for the community they live in, since this is what enables mutual comprehension. At the same time, just as different actions signal different intentions and goals, so do different word choices – *our neighbour's pet, the barker, the guard dog, the huskie, that animal*, etc., where each expression presents a particular perspective on the entity in question (Clark, 1997). The meanings of words are not only conventional, they also contrast with each other in meaning, so a speaker's choice of one word or expression rather than another signals a different meaning and often thereby conveys a different perspective too.

Young children observe convention and contrast from early on: they ask for the words for things, by pointing and asking frequent 'What's that?' questions; they make self-initiated repairs to word form and word choice; they attend to offers of new words; and they attend to, and take up, repairs to their word choices. Their attention to the conventional terms adults use in talking to them helps ensure that even young children succeed, much of the time, in making themselves understood.

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Children begin with very limited resources compared to the adult: they learn the forms and meanings in their first language and learn how to use them, simultaneously. As a result, they do not always appear to be the most cooperative of conversational participants. They do not always know or retrieve the right words; their word combinations are often hard to interpret, even in context; and their utterances may be too brief to always be comprehensible (Clark & Kurumada, 2013). As they add to their vocabulary and master more syntactic constructions, though, they become better able to contribute relevant, new information, in addition to acknowledging information from other participants in the exchange.

At the same time, young children continue to come in late for their turns: accessing the right words and planning an utterance takes time. They have to learn to start their planning BEFORE the other speaker's turn ends. But because they are constantly learning new words and constructions, any increase in speed early on, with specific words or constructions, tends to be offset, or effectively obscured, by the concurrent acquisition of multiple new forms that take more time to access and produce (Casillas, Bobb & Clark, 2014; Stivers *et al*., 2009).

FEEDBACK AND REPAIR

Adults offer young children extensive feedback on what they say. In large part, they do this by checking up on what their children mean. And they do this rather frequently since young children make frequent errors of pronunciation – their words are not always easily recognized; they omit inflections or use the wrong form of a noun or verb, again obscuring just what they mean; they select the wrong word(s) for the meaning they are trying to convey; and they make syntactic errors in word order, agreement, and construction choice. All of this leads adults both to make general requests for clarification like *Umh?* or *What?* (e.g. Corrin, 2010) and more specific requests, usually in the form of side sequences, to check up on the meaning apparently intended by the child (Chouinard & Clark, 2003; Clark & de Marneffe, 2012). In the latter case, adult reformulations not only 'request a repair' but also offer a conventional way of expressing the intended meaning by way of a model utterance that offers an immediate contrast to the utterance the child just produced (Chouinard & Clark, 2003; Saxton, 2000).

Both types of elicited repair signal to children that what they said did not quite work using the form they had produced. Children attend both to general requests for repair, and to adult reformulations. They often make some repair to their initial utterance in response to them in their next turn, as in (10) and (11), and they also make spontaneous self-repairs, as in (12).

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(10) Elicited repair (Corrin, 2010)
MOTHER: So what comes out of there? (0·6 sec)
What comes out of here? (0·5 sec)
ROBIN (1;8·16): [fafa] (=funnel)
MOTHER: (0·4 sec) Yes but what comes out of the funnel?
(0·6 sec)
ROBIN: *'moke.* (=smoke)
MOTHER: (0·5 sec) That's right. Good boy.

(11) Repair elicited with a reformulation (Chouinard & Clark, 2003)
PHILIPPE (2;1·26, looking at a small milk carton) *une petit de lait.*
a-FEM little-MASC of milk
MOTHER: une petite boîte de lait.
a-FEM little-FEM box-FEM of milk
PHILIPPE: ***petite boîte de lait.***
little-FEM box-FEM of milk

(12) Some spontaneous self-repairs (Clark, 1982)
a. S (2;3·21): *I mood a–* <repair> *I move it.*
b. S (2;4·25): *Because it waa –* <repair> *because it want the purse.*
c. K (2;9·21): *P'iceman, our car crashed into somebody's car and us–* <repair> *and–* <repair> *an' we had problems.*
d. K (2;8·7): *The kittycat is–* <repair> *de–* <repair> *de spider's kissing the kittycat's back.*
e. Z (3;2): *. . . but it–* <repair> *he climbs up–* <repair> *she climbs up in it.*

Children's self-repairs show that they monitor their own speech, and make repairs when they detect a mismatch to the form they had intended to produce. To detect mismatches, of course, they need to have already established representations of the adult targets they are attempting to produce. But they also attend to adult requests for repair, which requires that they be able to assess what might have been wrong with or missing from their own earlier utterance. When adults use a reformulation, though, children can and do make use of the conventional forms offered in the reformulation, taking up some or all of the repair offered in their next utterance. Repairs, whether they are elicited by general requests for clarification or by checking up on what the child meant with a reformulation, are a critical feature of interaction. They allow speaker and addressee to establish the meaning intended by the speaker on each occasion even when something has gone awry. Children's repairs can also reveal how much they know about different aspects of language as they try to produce the right pronunciation, the appropriate inflections, or the appropriate choice of word or construction.

Reformulations, along with general exposure to how speakers say what they want to say, provide children with extensive feedback on and

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information about how to express their intentions. (Refomulations can also indicate to children that they have been misunderstood: on occasion, children reject an adult reformulation, and then either try again or abandon that attempt altogether.) Feedback is particularly valuable when children make errors in what they are trying to say, and reformulations offer a contrasting conventional form for expressing the desired intent.

PRAGMATICS IN ACQUISITION

Language use in interaction is central to the process of acquisition. Adult and child work together to understand each other, and to convey their intentions. Their expression of intentions relies not only on language but also on gaze and gesture. For example, young one-year-olds track adult gaze to a referent-toy when the adult labels it, even if they started out looking at something else (Baldwin, 1991). That is, even very young children understand that adult gaze and gesture are relevant in identifying the intended referent of the adult's label, and so assume that that gaze, gesture, and language all contribute to the social coordination central to communication.

This suggests that children must early on become able to discern intentions in others. They appear to start out by attending to differences in the outcomes of different actions. Indeed, young one-year-olds can identify intentional actions (e.g. Gergely, Bekkering & Király, 2002; Baldwin & Baird, 2001). If a difference in action reflects a difference in intention, children could also derive an early notion of pragmatic contrast from observing contrasting actions in context. There, they see that one action has one outcome, and another a different one. And from this, they could infer that the one action reflects one intention, and the other action another, different, intention. One-year-olds are well aware that different actions lead to different, intended, outcomes (e.g. pushing a block off the table vs. placing one block on top of another; picking up a cup to drink from vs. pushing a cup away).

Discerning such differences in intention is central to establishing and making use of contrast in language. Young children could extend that realization about actions to speakers' choices of words: use of word *W* differs in the meaning intended by the speaker from use of word *Y*. In general, a difference in word-form choice marks a difference in meaning (Clark 1990, 1987). This reliance on contrast and convention is consistent with a Gricean perspective on language use, where speakers intend to communicate something and in so doing intend their addressees to recognize their intention. Addressees in their turn attend to what speakers say and what they do with gaze and gesture as they make inferences in context about speakers' intentions.

Last, speaker intentions assume interaction between speaker and addressee, whereas actions do not necessarily assume interaction. This, Csibra (2010)

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suggests, makes communicative intentions more complex than the intentions behind actions. At the same time, speakers rely everyday on actions as they communicate – on gaze and on gesture, along with their choice of words and constructions (e.g. Bavelas & Chovil, 2006). And children both learn a language and learn how to use it within such communicative interactions. Indeed, children depend as much as, or possibly even more than, adults do, on gaze and gesture as clues to intended meanings, as regulators of attention, and as aides to interpretation (Clark & Estigarribia, 2011; Rader & Zukow-Goldring, 2010). In order to track the process of acquisition more closely, we need to analyze the pragmatics of interaction using language.

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