

Language Acquisition as a Cultural Process

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Abstract

It is possible to identify three elements involved in the phylogenetic and ontogenetic development of the human language ability: (a) specific speech-related abilities, (b) cognitive abilities related to signification, symbol manipulation, and categorization, and (c) communicative or interactive abilities. This chapter suggests that although all three elements have a universal basis in evolution and development, they are affected at a rapid pace by the culture within which the infant develops. During the first year of life, infants become increasingly sensitive to the particularities of the ambient language(s). Their babbling shows both the restrictions on vocal production caused by the slow maturation of the speech apparatus and the influence of the language they are hearing. By 12 months of age, potentially primate-wide discriminations between types of events have given way to categorizations that reflect those of the language that the child is learning. Despite differences across cultures in both the ideologies and practices of child rearing, the onset of shared intentionality occurs at around nine months of age and does not seem to be affected by cultural differences in ways of interacting with babies. Once infants start to comprehend and produce language, there is a great deal of evidence, mainly from research in modern industrial cultures, that language development is influenced by quantitative and qualitative aspects of the ways in which children are spoken to. The chapter concludes with questions concerning the role of language in socialization and the relationship between concepts of socialization and culture.

Introduction

Children the world over learn to talk on a roughly equivalent timetable. This suggests the presence of biological and/or environmental constraints on language development. The claims for specifically linguistic, biological constraints have been made very strongly. These claims were based in part on the hypothesized “unlearnability” of language: that both word-to-world mappings and syntax cannot be learned without some innate, specifically linguistic, biases. Wide differences in the amount of talk to young children and the absence

of explicit corrections to syntactic errors were also claimed to support the idea that children could learn language from relatively minimal input. On the other hand, we know that children must learn language from what they hear. Cultures differ widely in their socialization ideologies and practices as well as in their languages; they “promote and sensitize attention and representation of quite different aspects of social reality” (Evans, pers. comm., see also Evans, this volume). This leads to two possible conclusions: learning syntax is completely separate from learning the semantic contents of a particular language or, alternatively, children learn language “as a whole” and the biological constraints for doing so lie elsewhere. I begin by reviewing the evidence for differences between cultures in the communicative socialization of their children, before discussing the linguistic and sociocognitive developmental underpinnings to language learning that are present, or developing, in the first year of life and the possible cultural influences on them. I conclude by addressing the evidence for effects on children’s language, thought, and socialization, respectively, of differences in their language environments.

Cultural Differences in Communicative Interaction with Infants

A number of studies maintain that there are cultures in which there are much lower levels of communicative interaction and child-directed speech with infants than has typically been reported for technologically complex societies (see Lieven 1994). These studies were usually conducted by linguistic anthropologists and tended to be qualitative rather than quantitative; for example, the study of the Kaluli of the New Guinea highlands by Schieffelin (1985) and the study of a Samoan community by Ochs (1982). In their studies of children’s linguistic development, the researchers reported that children were spoken to rather little by adults and that this was related to ideologies of child rearing in the communities. They suggested that the child-centered style typical of middle-class families in modern industrial societies was completely at odds with the cultural ideology of the people they were studying (Ochs and Schieffelin 1983). The Kaluli believed that, as they developed, babies had to be weaned away from the animal world by being taught to talk. According to Schieffelin, little interaction took place until a child started to use its first words (often “milk/breast”), and then adults employed a style in which they told the child directly what to say. Ochs argued that the child-directed style, in which middle-class English-speaking adults followed in on their children’s utterances, and which was regarded as important for good language development, was highly inappropriate in the Samoan context, in which interactions were governed by status: adults, who have higher status than babies, did not adapt their speech to the baby nor even talk to them very much, but tended to instruct older children to interact with them. Further examples come from Heath’s (1983) study of the “Trackton” community in the Piedmont Carolinas

of the United States and Ratner and Pye's (1984) study of language development in Quiche Mayan children, both of which reported low levels of speech to children. Interestingly, the ideologies behind these low levels of talk were very different. Heath describes how Trackton children were expected to "fight for the floor" in interaction. She describes the ways in which children started to talk by imitating parts of utterances that they heard exchanged between others and used this to try to break into the interaction. Ratner and Pye report that the Mayan group thought that young infants were very fragile and needed to be protected from too much stimulation and excitement, leading to little intense interaction and talk. The great advantage of these studies is that they were conducted by researchers who lived with the people they were studying for considerable lengths of time; this allowed them to gather in-depth knowledge of the culture, language, and ideology. Nonetheless, it is difficult to make comparisons between the cultures since these studies were largely qualitative rather than quantitative. It is therefore hard to know what constitutes "a lot" or "a little" talk to children.

A more recent series of studies by Keller and colleagues (Keller 2007) provides extensive, quantitative, cross-cultural comparisons of behavioral interactions with babies and the accompanying ideologies. Studies were conducted in rural and urban contexts in Costa Rica, China, India, Cameroon, Greece, the United States, and Germany and focused primarily on parental attitudes (obtained through extensive parental interviews and questionnaires) and their behavioral interactions (from systematic observations) mainly with very young infants of about three months. Clearly, there is a biological framework to infant development and the resulting care that is required. Keller (2007:22) identifies four "parenting systems" that were found across all the cultures studied: body contact, body stimulation, object stimulation, and face-to-face contexts. These were accompanied, however, by very different ideologies, and the relative frequency with which they were used also differed considerably. From this research, Keller abstracts two prototype models of parenting: interdependent and autonomous. The first is more typical of small-scale, rural, and nonindustrial cultures in which the emphasis is on the child's membership of a community: babies never sleep alone, they are breast-fed on demand, with almost continuous bodily contact, but they are talked to less. On the other end of the continuum, parents' emphasis is on the child as an autonomous agent, treated as intentional in interaction from the outset, with much more talk to the infant but the child spends more time sleeping and playing alone. Keller's results do indeed show that differences in the amount of talk to very young babies are roughly correlated along the dimensions she outlines, but she also points out that this is indeed a continuum and that cultures which might be placed close together on the continuum can vary widely on other dimensions. Keller recognizes, however, that there are inevitable problems in placing cultures on these types of dimensional continua. As we shall see below, two traditional societies can vary wildly in the amount of talk to children and there can be

major differences in the amount of talk to children in the subcultures of modern industrial societies.

Developing Linguistic Sensitivity to the Ambient Language

All the evidence suggests that, not surprisingly, human infants start with universal sensitivities and cognitive skills and that these become tuned to their specific linguistic and social environment during the first year of life. For some language-related characteristics, this process begins very early. For example, sensitivity to the mother's voice can be shown in the last trimester of fetal development, and newborns can already discriminate between the rhythmic features of their ambient language and that of rhythmically dissimilar languages. Very young infants (between one and four months of age) can show categorical perception for consonants and the ability to discriminate vowel contrasts. Infants become increasingly sensitive to the prosody, phonemes, and vowels of their ambient language, and the capacity to discriminate the sounds of other languages attenuates in the six- to twelve-month period of life (for a summary, see Ambridge and Lieven 2011, chap. 2). Neuropsychological evidence largely confirms this picture. Functional magnetic resonance imaging (fMRI) of neonates and three-month-olds while they are asleep shows left lateralization for speech (Dehaene-Lambertz et al. 2002), though there is obviously considerable flexibility in the infant brain, as shown by the ability of children with severe left-hemisphere damage to learn language (Feldman et al. 2002). Studies using event-related potentials recorded from infant scalps show discrimination of phonetic features by one to four months and of phonemic features by six to seven months, irrespective of the child's ambient language, whereas older infants of eleven to twelve months only show discrimination of contrasts that are relevant in their own language (Friederici 2009). Infants are also capable of domain-general, statistical learning based on transitional probabilities from an early age (Aslin and Newport 2008). A number of experiments have shown that infants can induce underlying patterns in strings of artificial syllables (e.g., at seven months, Marcus et al. 1999; for evidence that nine-month-old infants can extract "rules" of different levels of abstractness depending on the precise structure of the stimuli, see Gerken 2006). In terms of what they actually hear, four- to six-month-olds show listening preferences to some highly frequent words (e.g., their own name, *baby*) and at six months can link the words *Mummy* and *Daddy* to pictures of their own parents in preference to unfamiliar adults. In the last three months of the first year, infants become sensitive to the specific cues that characterize the words of the language they are hearing. Infant babbling shows universal characteristics that result from the immaturity of the speech organs but also reflect certain aspects of the phonological structure of the language that the infant is hearing (Oller et al. 1975; Boysson-Bardies and Vihman 1991). An important question that arises from

these studies is the extent to which these findings are specific to humans and to language learning. Categorical perception has been shown for some species of monkeys (Kuhl 1991) and for nonspeech and visual stimuli (Aslin and Newport 2008). It is possible that some species also show statistical learning in the auditory as well as the visual domain (Newport et al. 2004; Heimbauer et al. 2010). In addition, studies suggest that, initially, cognition of the physical world is very similar in human infants and nonhuman primates, for example, Michottian experiments, object permanence, rapid discrimination of small numbers (Gómez 2004). In terms of word learning, we know from studies of human-trained and -encultured apes that some can learn upward of 50–100 words. This suggests that while human language development may well be based on primate-wide skills of distributional learning, categorical perception, and more general learning principles, something more is required. One obvious answer to the question of what this “something more” might be is the mechanisms that underpin the complex motor control required to produce speech. In ontogeny, this takes considerable developmental time, with early speech being very slow and showing major “distortions” from the adult system. However, language is more than speech: it involves meaning and structure and, at this level, can be manifested in different media (e.g., speech, signing, and writing). There have been three general approaches to the question of what underpins the development of meaning and structure:

1. specifically linguistic modularity,
2. cognitive capacities that involve higher-order operation with symbols, and
3. sociocognitive capacities.

In terms of the first the evidence strongly suggests to me that linguistic modularity is the outcome of language development rather than its cause. In terms of the second humans undoubtedly have a cognitive ability to manipulate symbols mentally. The issue, however, is when this ability emerges in development as being clearly distinct from nonhuman primates. From three to four months, infants can form prototypes of basic shapes, and at around six months they show evidence of organizing vowels into a prototypical category structure; rhesus monkeys, in contrast, are only sensitive to the distances represented by the absolute values of the stimuli (Kuhl 1991). There is a huge literature on infant categorization abilities that definitely develop over the first year of life (Mandler 2000), but it comes with a fierce debate about the extent to which these abilities are domain general or specific, and whether they are generated by perceptual phenomena or by higher-order representations (Rakison and Yermolayeva 2010). Most of the evidence for specifically human aspects to cognition stems from work on young children, rather than infants. For instance, analogical reasoning has been cited as an example par excellence of the human capacity to manipulate symbols, but the youngest children tested

in these types of experiments were between 2;6 (two years, six months) to 3;0 (Gentner et al. 2011).

Metacognitive abilities, such as response inhibition linked to the development of the neocortex, have also been used to explain changes in children's ability to perform on tasks, including theory of mind tasks, but here we are also talking about children between three to five years old. Thus, although human cognition is both qualitatively and quantitatively different from that of other species, it is an open question whether this can be demonstrated in human infants or whether it is evident only later in development.

The third category of what might underpin language acquisition concerns the development of sociocognitive skills from around nine months of age.

Sociocognitive Development across Cultures

A strong alternative to positing language development as being on a separate, encapsulated, developmental pathway is to suggest that the critical human-specific factor underpinning both the phylogenetic and ontogenetic development of language is the development of "shared intentionality" (Tomasello 2008). Shared intentionality is not just the understanding that others have intentions and goals, which nonhuman primates also show, but the ability to participate with others in shared goals; that is, to coordinate joint action with other minds. From about nine months of age, infants show the development of a series of abilities, which, it is argued, are not found in nonhuman primates and reflect this coordination with other minds (Herrmann et al. 2007). Thus when eight- to nine-month-old infants start taking part in episodes of "triadic joint attention," they become able to draw the attention of others to objects and to follow the other's attention, not just with gaze following, which has been in place for many months, but with gaze checking, indicating an understanding of the "sharedness" of the event. They behave as if they expect their partner to be a communicative partner, persisting in attempts to establish joint attention. Around this age infants also begin to point informatively for others: to attempt to coordinate joint interest and to help the other (e.g., to locate a missing object). A short time later they will imitate not just the physical actions of others but also the intentional structure of the other's action (Lyons et al. 2007).

Do major differences in child rearing outlined above have an important impact on when children in different cultures start to show these behaviors? Callaghan et al. (2011) investigated this in interviews and experiments with parents and their children (aged between eight months to three and a half years) from two rural communities (in India and Peru) and one modern, urban community (in Canada). For joint attention skills, imitation, pointing, and helping behavior, as well as language comprehension, similar ages of onset were found both from parental report and in the experiments, strongly suggesting a universal timetable. However, language production was reported to be on average

three months earlier in the Canadian children; these children also demonstrated an earlier beginning to pretend play, book reading, and drawing, presumably as a result of cultural differences.

Other studies also suggest that the onset of these early sociocognitive skills is more dependent on child-intrinsic factors, and therefore independent of culture, although the frequency with which they occur may depend on within-culture differences. Liszkowski et al. (2012) used a seminaturalistic procedure to elicit pointing by preverbal infants and their caregivers in seven cultures. By 10–14 months of age, infants across cultures were all pointing with similar frequencies. Liszkowski et al. found that infant pointing was best predicted by the child's age and caregiver pointing—not by culture. Thus, although the caregivers on Rossel Island (Papua New Guinea) pointed at significantly higher rates than those of the other cultures, infant frequencies on Rossel Island did not differ from the other cultural settings. On the other hand, frequencies of caregiver pointing within each culture did relate to the frequency of infant pointing, although not its onset. Liszkowski et al. (2012) identified strong relationships between the interactional timing of infant and caregiver pointing, which they argue indicates a universal prelinguistic structure of proto-conversation. Two naturalistic studies tend to support the conclusions of the Callaghan et al. (2011) study. Lieven and Stoll (2013) compared the onset and frequency of imitation and pointing in children from a community in eastern Nepal who speak Chintang (a Tibeto-Burman language) with children matched for age and gender in a German community. They found that there were no differences in ages of onset, and that differences between individuals were as wide within the two cultures as between them. Brown (2011) compared rates of interactional initiation on Rossel Island, Papua New Guinea, and in Tzeltal, a Mayan culture of Mexico. Concurrent with reports by both Ratner and Pye (1984) and Gaskins (2006) for other Mayan cultures, in Tzeltal there is a relatively low level of interaction and conversational initiation with young children whereas on Rossel Island, adults are constantly engaging small children with high rates of interaction. The interesting finding is that as young children began to initiate interactions themselves, there was no difference in the rates between the Rossel Island and Tzeltal children. This again suggests that entering into the communicative world is driven by child-internal factors which are then shaped by the culture rather than there being a direct influence of styles of interacting with babies on the initial development of communicative skills. A training study by Matthews et al. (2012a) also suggests separate contributions of infants' own sociocognitive developmental timetable and their caregivers' interactions. Mothers were asked to spend 15 minutes per day over four weeks engaging in enhanced pointing with their infants. As in the studies cited above, Matthews et al. found no influence from either the caregivers' pointing in free play or the training on the age at which infants started to point; however, the frequency with which mothers pointed in free play did influence the frequency of their children's pointing. Thus, although infant sociocognitive development is the prerequisite,

socialization processes start to affect how this unfolds. Callaghan et al. (2011) found that parents in all three societies reported language comprehension as starting at around nine to twelve months and this fits well with many other studies. Following Bruner (1975) and others, Tomasello (2008:155) argues that the best explanation for the fact that word learning starts at this age is that it depends on the development of the “cooperative infrastructure of shared intentionality.” As noted above, six-month-old infants are already able to identify some words and associate them with their referents. But word learning cannot be a simple matter of association between word and referent, as we all know from Quine. The best candidate for solving the Quinean problem is children’s ability to infer the intentions of their communication partners; this acts as the common ground through which they can map the sound (or gesture or sign) to some child-extracted meaning. There is plenty of evidence that children can do this: they can learn words for nonvisible referents, for the “intended” referent when there are multiple possible referents, as well as for actions which cannot be pointed to in the way that objects can (Tomasello 2003). The suggestion is that this is only possible because the interactional frame constrains the interpretation of the utterance. Once this fundamental development has taken place, cultural differences in children’s communicative environments can start to make themselves felt in language learning.

Learning the Meanings Encoded by a Language

How do children learn meanings that are encoded by a language? One possibility is that children, when they start learning language, initially map universal cognitive categories onto the words that they are learning. This would mean that young children would make similar distinctions between events, whatever the language, and then gradually develop language-specific categories. As far as semantic categories are concerned, this is a debate that has a long history in research on semantic development. As children are learning words, are they also learning the concepts that these words relate to with all their cultural connotations? Conceptual categories develop over the first year of life: the ability to discriminate between patterns of motion, to discriminate nonbiological from biological motion, to segment action events, and to understand the physical relationship between objects (e.g., containment and support) develops earlier, whereas the categorization of path and manner changes in objects develops somewhat later (10 and 13 months, respectively). There is evidence that prelinguistic children start with, or develop, similar concepts about the physical world. A recent review by Göksun et al. (2010) on infants’ nonlinguistic conceptualization of event constructs suggests that prelinguistic infants are sensitive to a number of the event categories coded by the languages of the world (e.g., containment by six months, path by ten months). There are clear developments in infants’ sensitivity to different event categories over the first

year of life, and Göksun et al. (2010:36) conclude that “infants possess a set of nonlinguistic constructs that form the basis of learning relational language” and that, insofar as this has been tested, these encompass the range of distinctions made by languages of the world.

However, it also seems to be the case that as soon as children start to learn language, they begin to develop language-specific categories, and this rapidly starts to influence their attentional behavior and their responses in both linguistic and nonlinguistic tasks. Bowerman and Choi (2001) show that even in preferential looking tasks with children aged 18 and 24 months, who are only just starting to produce language, Dutch and Korean children categorize spatial relations in ways related to the language they are learning (e.g., “tight” vs. “loose” fit in Korean) rather than in terms of any universal categories (e.g., relations of containment and support denoted by “in” and “on” in English). Brown’s (2001) data on children learning the absolute spatial system of Tzeltal confirms this: from their earliest productions, children are reflecting the spatial distinctions made by their language rather than any more universal categories. Studies on the expression of containment (Narasimhan and Brown 2009) and verbs of cutting, breaking, and tearing verbs (Narasimhan 2007) in Hindi and Tamil show that children largely observe the regularities of the languages they are learning. They do not start with the most general meaning and the means for expressing it, and only later use more specific forms, and they do not over-generalize from one type of event to another. Göksun et al. (2010) also conclude that, depending on the precise components of event structure being interpreted, these become increasingly language specific between two and three years of age. Although this evidence on the learning of semantic categories suggests early sensitivity to the categories encoded by the language, it is also clear that there is a long process of development toward the adult system. Thus Brown (2001) says that Tzeltal children’s development of the absolute spatial system shows limited productivity by 3;6 and mastery for small objects by 4;0. It takes, however, from between 5;0 to 8;0 for them to acquire the geographical knowledge that allows them to use the system fully abstractly. Lucy and Gaskins (2001) came to a similar conclusion in a series of studies that compared seven- and nine-year-old English and Yucatec Mayan children’s preferences for classifying objects by shape or material. In many ways, the finding of an influence of language on categorization does not come as a surprise, although it did initially, given the very universalist theoretical zeitgeist of the 1960s to the 1980s. From a position which argues that children learn form-meaning mappings as a unit and from the input, one would expect that first use of words and phrases would follow the meanings of the language, but without necessarily encompassing the full range of semantic constructs expressed in the language. Much of my own research and that of colleagues has shown the extremely close linkage between distributional aspects of the input and children’s own language (Lieven 2010). In addition, although there is little explicit correction of children’s linguistic errors, Chouniard and Clark (2003) showed

that a group of middle-class U.S. mothers tended to respond to errors in ways that provided corrective models, and that their children quite frequently picked up on these responses by producing corrected repetitions. Obviously, children go beyond what they hear throughout development. However, at any one time, this creativity and productivity is particular to specific aspects of the language and the level of schematicity and abstractness to which these have developed in the child's system (Karmiloff-Smith 1994).

Within-Culture Effects of Input on Language Learning and Developmental Outcomes

The Callaghan et al. (2011) study found that language production was reported to start three to four months earlier for the Canadian children than for the Peruvian and Indian children. This may well be due to differences in the amount of talk experienced by children of the middle-class Canadian parents in contrast with those from the other two cultures. However, it is obviously difficult to compare outcomes in terms of children's language development across cultures that vary on such a wide range of measures. In an effort to control this better, we can look at differences in the language development of children growing up in different circumstances within the same "overarching" culture. For instance, many studies have compared the language development of children from different socioeconomic, ethnic, and linguistic backgrounds growing up in technological societies such as the United States (including the Heath 1983 study mentioned above). Many of these show an effect of the quantity of talk to children and/or its lexical diversity on the growth of children's vocabularies¹ (Weizman and Snow 2001) and that this is related to social economic status (SES) and the educational level of the parents (e.g., Hart and Risley 1995; Hoff-Ginsberg 1991). There are also many studies that relate children's early language development to later reading and educational success (e.g., Snow et al. 1998). These studies suggest that language development is closely related to the communicative environment in which children are raised. This environment, in turn, may reflect a particular "culture" or "subculture." This raises the problem of how to define "culture," and whether culture can really be related to SES in any straightforward way. Importantly, these relationships between the language environment and children's own language development are found at the level of individual differences within a particular SES. For instance, in a

¹ It is important to note that there are methodological problems in using vocabulary size as a measure of children's language development. Parental check-sheets for children's vocabularies suffer from design problems, particularly when cross-linguistic comparisons are made (e.g., they contain far more nouns to be checked than verbs). Estimating lexicon size from naturalistic recording depends critically on how much talk there is (Malvern et al. 2009), which may differ between dyads in a recording situation without necessarily being related to the quality of interaction or richness of talk in other contexts (as noted by Labov 1969).

study of children's development of complex syntax, Huttenlocher et al. (2002) showed that parental use of complex syntax accounted for more of the variance in children's development of complex syntax than did SES, which was only marginally significant. In the same study, after controlling for the children's language skills at the beginning of the school year, the researchers also showed that the use of complex syntax by classroom teachers had an effect on the syntactic development of the children. Pan et al. (2005) found a relationship between the diversity of the maternal lexicon, language and literacy skills, and the growth in children's vocabulary between twelve months and three years in a group of 112 low income families. Marchman and Fernald (2008) found relationships between children's processing speed (in tasks in which they had to look toward a picture of an object when hearing the name of that object) and their vocabulary size, both at the same age and at later ages. When these same children were followed up at eight years of age, processing speed predicted differences in their linguistic and cognitive skills. These children all came from high SES families. In a subsequent study, however, Hurtado et al. (2008) found that the type of input that low SES, Spanish-speaking infants were hearing from their mothers was related (a) to their vocabulary size and (b) to their processing speed six months later.

One important direction for future research will be to look at the ways in which conversational turn taking with language-learning children may provide them with linguistic information geared to their own production and, in particular, errors (Chouniard and Clark 2003) and how this may differ between individual dyads and social groups. Although it is unlikely that this type of implicit correction in vertical turn-taking sequences can provide a full account of how children's language develops, it may well play a role in some, if not all, social groups.

Finally, studies by Street and Dąbrowska (2010) have shown that differences in linguistic competence in adulthood can be related to measures of the amount that people read, to their general cognitive skills, and to their educational attainment. Even among the fairly homogeneous group of college-aged students, there are significant differences in language processing ability that can be tied to their experience with language (Wells et al. 2009). This raises the issue of the influence of reading and writing on children's language development.

Written symbol systems have existed for only about 5,000 years and thus are clear examples of cultural evolution. Children have to be taught to use them, and this can be a very protracted process. There is clear evidence for relationships between various processing skills and reading ability, although whether this is related to oral language ability is the subject of much research. In addition, there is a genetic contribution to dyslexia which probably operates through an influence on these same processing skills. However, there is also considerable evidence for a relation between complexity of language use (and, arguably, competence) and the extent to which, in literate cultures, people

engage in literacy skills, as measured, for instance, by level of education (Street and Dąbrowska 2010). This is almost certainly because complex syntactic structures and meanings are more likely to be encountered through reading than through everyday language use (Miller and Weinert 1998). Similar advanced competence in the ability to use and comprehend the more complex aspects of language may be found in experienced storytellers and/or public orators in nonliterate cultures (Goody 1987). These highly developed skills require an ability to reflect on language: it seems probable that both writing and the development of complex oral skills can provide the basis for individual differences in the domain of complex syntax. Thus, it would appear that the way in which children are spoken to affects the manner in which they themselves develop language, and that this may also be implicated in developing cognitive skills such as processing speed and working memory. In turn, these may continue to show effects into adulthood, particularly in the realm of the more sophisticated uses of language. The implicational leap, which may well not be justified, is that if this is true for differences between individuals and groups within a culture, it may also be true for children learning languages that differ much more extensively.

Language and Sociocognitive Socialization

Although there is much less discussion about the relationship between language learning and sociocognitive categories, what there is suggests a similar process to that outlined above. The universal development of intention reading during the last few months of the first year of life is followed by an immediate impact of language learning, which is initially reflected in set formulae and relatively ritualized contexts but gradually develops toward the adult system: the latter is affected by the complexities of the language itself as well as by what is being conveyed. There is also some evidence for more explicit teaching of these sociocognitive categories, presumably because they are extremely important in managing social relations. Clancy's (1985) paper on Japanese acquisition illustrates all three of these processes. First, she reports that children initially learn the use of the plain and polite registers of Japanese, which are used in relation to in- and out-groups as set formulae, and that they mostly hear the polite forms used by their mothers in pretend play, perhaps as an implicit or explicit teaching measure. Second, an example of early learning is the conveying of speaker attitude when providing information to a listener. There are three sentence-final particles: one neutral, one used when "encountering resistance or lack of mutuality," and one that expresses "rapport with the addressee." These are extremely difficult for non-Japanese learners to learn but they appear early on for Japanese-learning children, presumably because they are affective, in a salient position, and highly frequent. Third, the children's use of honorifics happens quite late, presumably because of their extreme

linguistic complexity which involves their use not only in addressing others but also in speaking about them.

One area in which there has been explicit discussion of the influence of language on social cognition is children's development of "theory of mind" understanding, as measured by their performance in false belief tasks. Brandt, Buttelman, Lieven, and Tomasello (in preparation) have shown that German-speaking children, age 3;0 and 4;0, are able to distinguish successfully between "believe (*glauben*)" and "know (*wissen*)" when used in first-person matrix clauses in sentential complements: *I think X* versus *I know X*. However, only children, age 4;0, are able to do this in third-person contexts: *A thinks X*, *B knows X*. Following Diessel and Tomasello (2001), and Brandt et al. (2011), they argued that this is because children first learn these mental state verbs from their frequent, formulaic occurrences in the input—*I think it's raining*; *Know what Daddy said?*—where they act as discourse markers rather than as indicators of the contents of other minds. The authors also found that success by the four-year-old children in the third-person task was correlated with their ability to pass the false belief task. This fits well with other studies which show that children's ability to pass theory of mind tasks, in which they understand that it is possible for others to hold a "false belief," is closely related to specific aspects of their language development. Thus de Villiers and de Villiers (2000) showed a correlation between passing the false belief test and the use of mental state verbs such as "think" and "know" in complement structures, and this finding was confirmed by Lohmann and Tomasello (2003). However, Lohmann and Tomasello found that other forms of training, involving perspective-shifting discourse but not sentential complements or mental state verbs, were also correlated with success, and they suggest that there might be both a direct effect of learning the meanings of the particular verbs but that discourse about deception could have an independent effect.

This leads us into complex territory with very differing theoretical emphases on the role of language in socialization. One approach could be called "psychologizing," in which aspects of language used to, and by, children are correlated with children's behavior; language is thus seen as either reflecting or having a direct influence on underlying psychological states. A good example of this is work by Dunn and Kendrick (1982), and Zahn-Waxler et al. (1979), who show correlations between mothers' tendency to talk about the feelings of others in conflict situations and children's own prosocial behavior. Capps and Ochs (1995:186) characterize this approach as a "tendency to look through language rather than at its forms." Reflecting a rather different theoretical framework is the position that in learning language, children become "cultural subjects." Kulick and Schieffelin (2004:350) state:

Language is not just one dimension of the socialization process; it is the most central and crucial dimension of that process....any study that does not document

the role of language in the acquisition of cultural practices is not only incomplete. It is fundamentally flawed.

Let me give a few examples that seem to exemplify the importance of paying attention to this approach. In a study that compared Italian and American families' ways of talking about food, Ochs et al. (1996) showed that likes and dislikes of food are socialized at the dinner table, with food conceived of as "oppositional" between children and adults in U.S. families and as "pleasure" in Italian families. The importance of what is made explicit and what not is referred to by Kulick and Schieffelin (2004:357) as "what must remain unspoken and unspeakable" and shown to be reflected in avoidance and topic change as well as in direct commands. They point out that "the ability to display culturally intelligible affective stances [e.g., desire and fear] is a crucial dimension of becoming a recognizable subject in any social group" (Kulick and Schieffelin 2004:352–353). Thus, in a comparison of U.S. and Japanese mother–child interactions, Clancy (1985) argues that Japanese children are socialized to command the strategies of indirection and intuitive understanding through early socialization routines. In an analysis of the different linguistic forms used to control children's behavior in Japanese, Korean, and English, Clancy et al. (1997) argue for a potentially direct link between linguistic form and the ways that power is channeled in the different cultures. They show that Japanese and Korean mothers use deontic conditionals (e.g., *If you do this, it's bad*) which have the effect of providing an advance evaluation of the behavior, whereas U.S. mothers, using modals like *can* or *should*, often used an explicit reason (*If you do this, you can get hurt*).

These two positions derive from different disciplinary backgrounds: psychology in one case, discourse theory and ethnomethodology in the other. The first framework aims at showing effects on children's behavior of parental attitudes to socialization as reflected through what parents say to children. Here the focus is on the underlying attitudes of the parents and behavior of the children: language is more of a "measurement tool." The second views language interaction as creating "culturally specific subjectivities" (Kulick and Schieffelin 2004:351) through what is said and what is not said. The first is more focused on individual differences; the second on cultural differences. It is not clear to me whether there is an irremediable theoretical conflict here. My own view is that, in principle, the socialization of individual differences and the creation of cultural subjectivities must involve the same psychological processes, and that children's language development and the ways that language is used in interaction with children are both central to the operation of these processes.

Conclusions

Despite major differences in child rearing and socialization practices, infants seem to adhere to the same developmental timetable for sociocognitive

development during the first year of life. As soon as they begin to learn language, however, children show language-specific effects on semantic and syntactic development. The extent to which human infants in the first year of life show clear differences in cognition (e.g., categorization and symbol manipulation) from nonhuman primates remains an open question. Within cultures, individual differences in caretaker language are related to children's own language development as well as to literacy and educational outcomes. Not only typological differences in syntax and semantics but also the different ways that languages are used in interaction with children reflect and, arguably, create differences in both language competence and cultural subjectivities. Much more research is needed on peer–peer communication and its influence, particularly in contexts where, as children move from infancy to toddlerhood, they increasingly spend most of their time with peers rather than adults. Finally, many open questions remain about how to theorize the relationship between language, socialization, subjectivity, and culture.

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