

## Enacting Stories, Seeing Worlds: Similarities and Differences in the Cross-Cultural Narrative Development of Linguistically Isolated Deaf Children

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### Key Words

Cross-cultural · Deaf children · Gesture · Home sign · Narrative development · Socialization

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### Abstract

The stories that children hear not only offer them a model for how to tell stories, but they also serve as a window into their cultural worlds. What would happen if a child were unable to hear what surrounds them? Would such children have any sense that events can be narrated and, if so, would they narrate those events in a culturally appropriate manner? To explore this question, we examined children who did not have access to conventional language – deaf children whose profound hearing deficits prevented them from acquiring the language spoken around them, and whose hearing parents had not yet exposed them to a conventional sign language. We observed 8 deaf children of hearing parents in two cultures, 4 European-American children from either Chicago or Philadelphia, and 4 Taiwanese children from Taipei, all of whom invented gesture systems to communicate. All 8 children used their gestures to recount stories, and those gestured stories were of the same types, and of the same structure, as those told by hearing children. Moreover, the deaf children seemed to produce culturally specific narrations despite their lack of a verbal language model, suggesting that these particular messages are so central to the culture as to be instantiated in nonverbal as well as verbal practices.

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Narrative is one of the most powerful tools that human beings possess for organizing and interpreting experience. Not only is narrative a probable cultural universal, but no other species is endowed with this capacity. Moreover, narrative emerges remark-

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ably early in human development. It is now well established that children from many sociocultural backgrounds, both within and beyond the United States, begin to recount their past experiences during the second and third years of life [e.g., Burger & Miller, 1999; Eisenberg, 1985; Engel, 1986; Fivush, Gray & Fromhoff, 1987; Heath, 1983; McCabe & Peterson, 1991; Miller, Mintz, Hoogstra, Fung & Potts, 1992; Miller & Sperry, 1988; Miller, Wiley, Fung & Liang, 1997; Nelson, 1993; Peterson & McCabe, 1983; Sperry & Sperry, 1996].

Children learn to tell stories by participating in the narrative practices that significant others make available to them. However, they also learn about the kinds of events that are reportable and about how to link evaluative events according to culture-specific interpretive frameworks [e.g., Göncü & Jain, 2000; White, 1999; Rutanen, 1999]. In other words, more is at stake than the ability to narrate per se. Cultural psychologists, echoing long-standing claims from anthropology [e.g., Basso, 1984; Malinowski, 1926/1984; Sapir, 1949], have drawn attention to the key role that narrative plays in the socialization and maintenance of cultural beliefs and values [Bruner, 1990; Shweder, Goodnow, Hatano, LeVine, Markus & Miller, 1998]. Engagement in narrative practices is thus one important route by which children enter local meaning systems and encounter local versions of personhood.

Consider the following two stories observed by Miller and her colleagues [Miller, Fung, & Mintz, 1996], each told to a researcher in the presence of the child featured in the story. The first was told by a Taiwanese woman about her niece, for whom she was the primary caregiver. This story is an excerpt from a much longer story; it is keyed seriously.

*Example 1. A story told by a Taiwanese aunt*

She was really bad. She cried – such a big deal. And this after I hadn't scolded her for writing on my wall! If she weren't my sister's child ... At midnight, just before going to bed, she scribbled on the wall with chalk. And we had [just had] our home painted ...

The second story was told by a European-American mother about her daughter, Molly, and is playful in tone.

*Example 2. A story told by a European-American mother*

I was napping and [as I was waking up] I saw Molly writing on the dining room wall, [so I woke up and] said 'Mol, you didn't write on Mommy's wall with a pencil, did you?' Oh! She was so relieved! She said, 'No! Me no use pencil, me use key!' [...] And I was like 'OH GOD! Not a key!' [...] But it was so funny! You look at her and she's like 'I didn't use a pencil.'

Although there is considerable overlap between European-American and Taiwanese families in the content and use of the narratives they tell, there are also some dramatic differences, as these two stories illustrate. When Taiwanese families narrate young children's past experiences, as well as when they co-narrate such experiences with young children, they are more likely than their European-American counterparts to use narrative didactically. They make explicit reference to moral rules, reinforce moral lessons, and point out the child's wrongdoing. European-American families, by contrast, foreground an entertainment function over a didactic function and go to considerable lengths to portray the child in a positive light [Miller, Wiley, Fung, & Liang, 1997]. Thus, children who hear stories of this sort not only learn how to build their own narratives, but also learn the social value of their behaviors.

But what would happen if a child were unable to hear the stories adults tell? What would happen if parents did not engage the child in co-narrations, i.e., in jointly constructed accounts of the child's past experiences? Would such children have any sense that events can be narrated and, if they did, would they narrate those events in a culturally appropriate manner? To explore these questions, we examined children who did not have access to conventional language, but in all other respects experienced the normal cultural world of their communities – deaf children whose profound hearing deficits prevented them from acquiring the language spoken around them, and whose hearing parents had not yet exposed them to a conventional sign language. We observed deaf children of hearing parents in two cultures, European-American children from either Chicago or Philadelphia, and Taiwanese children from Taipei. All of the deaf children were being educated according to an oral education program.

The goal of parents, teachers, and other professionals who adhere to oral training is to socialize deaf children into the surrounding hearing community by teaching them speech via lip-reading and withholding access to sign. Because acquisition of spoken language via lip-reading is extremely difficult and is mastered by very few congenitally deaf children [Conrad, 1979; Mayberry, 1992], this method often ends up isolating the deaf child from accessible input from a conventional language, spoken or signed. In response, children often develop their own gesture systems, called 'homesign', to communicate with members of the surrounding hearing community [Fant, 1972; Goldin-Meadow & Feldman, 1977; Moores, 1974; Tervoort, 1961]. All of the deaf children observed in this study have been shown in previous work not only to use gesture to communicate with the hearing individuals in their worlds, but also to structure those gestures in language-like ways [Goldin-Meadow & Mylander, 1998]. Here, we investigate whether these children, despite their linguistic isolation, use their gestural communicative ability to produce narratives and, if so, whether they narrate events in a culturally appropriate manner.

We expected that children who do not have access to useful linguistic input might make use of other, nonverbal models for narrative – models that are usually secondary sources of input for hearing children. This hypothesis is consistent with contemporary views stressing that narratives consist of more than words; that they are, in fact, multi-modal performances. For example, visual representation, gesture, facial expression, and physical activity can be combined with talk, song, or writing to convey a tale [Ochs & Capps, 1996, p. 20]. Moreover, actions that are not found in narration but are part of the general cultural milieu are accessible to children who do not hear, and might serve as input to whatever stories they create. For example, Hall [as reported in Farnell, 1999, p. 356] argues that the distinct upright posture of Irish dancing reflects, in a nonverbal medium, the culture's ideals about bodily comportment and moral standing. Farnell herself makes the point that social discourse does not occur without culturally embedded ways of moving and engaging the body in interaction. Furthermore, these ways of moving and embodying discourse are learned from childhood:

Human beings everywhere engage in complex structured systems of bodily action that are laden with social and cultural significance. They employ an embodied intentionality to act ... that is embedded in intersubjective practices ... [which] ... are acquired during childhood and ... remain out of the focal awareness of the actors. Examples include ... talking, signing, and the hand and facial gestures that accompany speech in social interaction [Farnell, 1999: 343].

If the deaf children in our studies do *not* produce culturally appropriate narrations, we will have evidence that narrations and the cultural patterns they embody require a conventional language model for their transmission – that they can *only* be conveyed through verbal means. However, if the deaf children demonstrate the cultural patterns that hearing children routinely display in their narratives, we will have evidence that these patterns *can* be conveyed through nonverbal means – that the deaf children are incorporating external, nonlinguistic cues from the paralinguistic nonverbal behaviors of the hearing speakers around them into whatever internally determined narrative organization they bring to the situation.

Our cross-cultural findings will thus speak directly to the importance – or nonimportance – of spoken language in enculturating children. Some aspects of culture may be so deep that they are redundantly instantiated in words and in the rich sources of non-linguistic behaviors that members of the culture routinely exhibit – paralinguistic gesture, context, body stance, physical actions. Other aspects of a culture may be conveyed to the young exclusively through words. We have organized our findings in terms of three questions: Do homesigning deaf children produce narrative? Do they and their hearing caregivers engage in co-narrations? Do homesigning deaf children narrate in a culturally-appropriate manner?

### **The Children and Their Families**

All of the children we have studied were congenitally deaf (with at least a 70- to 90-decibel hearing loss in both ears) and had no other known physical or cognitive disabilities. In each case, the cause of deafness was unknown. Videotaped data on the American deaf children were collected in the 1970s [Goldin-Meadow, 1979; Goldin-Meadow & Mylander, 1984] when oral education was a very common approach to training deaf children in the United States. Similar data on the Chinese deaf children were collected more recently. However, attitudes towards deaf education have changed slowly in Taiwan; thus, at the time of videotaping, oral programs were still prevalent in Taipei. This continued practice may reflect a strong and pervasive belief, stemming from Confucian philosophy, that the nature of an individual can be changed through education and discipline – deaf children can be made to at least appear hearing in their behaviors through strict oral training, even if the state of their deafness cannot be actually overcome [see Wang, Goldin-Meadow & Mylander, 1996]. The parental decision to select oral education over training in sign language is a conscious attempt to adapt children to parental cultural practices [rather than adapting cultural practices to children, cf. Ochs & Schieffelin, 1984].

At the time of our observations, none of the children had successfully acquired spoken language, whether it be English, Mandarin or Taiwanese. The children did vocalize some words, but these seemed to punctuate their gestured utterances in a manner somewhat like gestures punctuate speech for hearing speakers. They did not combine two or more spoken words within a single string. Moreover, none of the children had been exposed to a conventional sign system such as American Sign Language, Mandarin or Taiwanese Sign Language, Signed English, or Signed Mandarin. Thus, at the time that these data were collected, the children had no knowledge of conventional language, either spoken or signed.

**Table 1.** Information about the children and their narratives

Child	Sex	Age range (sessions)	Hours of tape coded	Proto-narratives	Narratives	Gestured utterances/h <sup>1</sup>
<i>American children</i>						
David	M	2;10 to 5;2 (7)	15	11	42	11.8
Abe	M	2;3 to 4;11 (7)	10	4	1	4.2
Karen	F	3;1 to 5;11 (7)	11	21	4	3.4
Marvin	M	2;11 to 5;3 (9)	12	37	4	5.5
<i>Chinese children</i>						
Qing	F	4;2 to 5;3 (8)	16	17	51	13.3
Bao	M	3;10 to 4;11 (6)	12	57	7	9.1
Ling	F	3;8 to 4;8 (6)	12	22	18	7.5
Fen	F	4;0 to 4;9; 7;10 (4)	8	0	1	3.5

<sup>1</sup> Figures are calculated from the first 33 min of 2 randomly selected sessions for each child. An utterance contains at least one sign. Numbers taken from Goldin-Meadow & Mylander [1998: 280–281].

## The Observations

The observational data consist of videotapes of interactions between the deaf children and their hearing caregivers in their homes. The two samples include four American deaf children (three male, one female) – one from Philadelphia and three from Chicago – and four Taiwanese deaf children (three female, one male), all from Taipei (see table 1). All of the children lived in middle-class families. Fathers in both countries were firemen, policemen, electricians, or owned their own small businesses; mothers stayed at home to care for their children. The average length of the videotaped sessions was approximately two hours and the main activity was free-play, often with toys brought to children's homes by the researchers. The naturalistic procedures used to collect the data were comparable to those used by Miller and Sperry [1988] in their study of stories of personal experience in hearing children.

## Identifying Gestural Narratives

A priori there was no reason to predict that the deaf children would narrate. We expected to find a gestural communication system based on reference to things in the present – requests for food or attention, points at toys or people in the immediate vicinity, and the like. We found, however, that all of the children referred to objects and events beyond the limits of their present context [see Butcher, Mylander & Goldin-Meadow, 1991; Morford & Goldin-Meadow, 1997]. Moreover, as we describe here, the children's descriptions of non-present events assumed many of the characteristics traditionally found in basic narrative formats – they used their gestures to recount stories.

Narratives, by definition, describe events that are displaced from the here-and-now [Bruner, 1986; Labov & Waletzky, 1967]. The great majority of studies on narrative have focused on retelling events from the past, but stories can also be displaced in the

future and the hypothetical, and serve to link the past to present and future worlds [Ochs & Capps, 1996].

To begin, videotapes of the deaf children were reviewed for any instances in which children referred to displaced objects or events, where ‘displaced’ was taken to mean not present in the contemporary context of the recorded interaction. Gestured utterances referencing the non-present were coded and glossed for meaning assigned according to the system established by Goldin-Meadow and her colleagues [Feldman, Goldin-Meadow & Gleitman, 1978; Goldin-Meadow & Mylander, 1984]. The few spoken utterances that were produced along with gestures referencing the non-present were also transcribed and coded.

In an attempt to identify all efforts the children made toward retelling events, we created a category called ‘*protonarrative*’ – a special category of displaced reference which indexes instances in which a child makes a single, unsolicited statement about a non-present event, typically elicited by a picture or object in the room. The event described was not currently taking place in either the picture or the room and, indeed, was often a hypothetical event that could have lead to, or followed from, the present scene. We created this term to reflect our belief that these utterances, while not truly narrative, are related to more classically constructed narratives.

Three examples of protonarratives follow. The top panel in each example describes the gestures as they were produced; the bottom gives a gloss of those gestures.<sup>1</sup>

*Example 3: Protonarratives*

Karen (age 4;0)	Qing (4;2)	Marvin (3;9)
Left hand point on picture of a fox with a <b>fishing rod</b> → both hands closed in fists held together over shoulder <b>CAST</b> forward.	Right hand point on picture of <b>witch</b> → both hands lunge forward <b>ATTACK</b> (3 times) toward Mother.	Right hand point on picture of <b>pine tree</b> → point swings out to indicate <b>location</b> across the room.
Gloss: The fox casts a fishing rod.	Gloss: The witch attacks Mother.	Gloss: The Christmas tree went there.

The first protonarrative was produced by Karen, a little girl from Chicago, at age 4;0. She was looking at a picture of a fox in a boat with a fishing rod; the line was in the water. Here, Karen referred to an action that was not present either in her physical context or the situation depicted in the drawing. The second protonarrative, produced by Qing at 4;2, took off from a Halloween scenario depicted on the ‘Holidays’ page of Richard Scarry’s *The Best Word Book Ever*. The witch was a costumed child, depicted holding a trick-or-treat bag and standing with a cluster of other costumed children; the witch was not attacking anyone in the picture. The third protonarrative was produced by Marvin at age 3;9 and described a scene directly related to his own experience. Marvin was looking at a series of flashcards, one of which contained a picture of a pine tree. After Marvin pointed at the picture and at a location in the room, his mother mentioned

<sup>1</sup> The following coding conventions are used in the gesture examples. Bold lower case type is used to represent the referent of a deictic pointing gesture. Bold capitals are used to represent the gloss of an iconic gesture. The gloss includes all referents, those inferred from context as well as those explicitly gestured.

that their Christmas tree typically sat in just that spot. Each of these examples hints at these children's ability to talk about events that are not currently taking place. They do not, however, constitute narratives.

To identify narratives in our deaf children's gestures, we used the criterion that Sperry and Sperry [1996; see also Miller & Sperry, 1988] used to isolate the earliest narratives in hearing children's talk. Sperry and Sperry defined a narrative as containing two topic-centered utterances, one of which includes a verb of displaced action. The crucial difference between a narrative and a protonarrative is that, in a narrative, there are two related utterances which elaborate (however briefly) upon the nonpresent event. We determined the boundaries between gestured utterances using motoric criteria. If a child dropped her hands or paused between gestured strings, this signaled the end of a gesture 'utterance' [Goldin-Meadow & Mylander, 1984]. The child had to produce two such utterances, each centered on the same nonpresent event, in order for the gesture sequences to be counted as a narrative. Narratives were then further coded for featural complexity, as will be elaborated below. American data were reviewed by a native English speaker; Taiwanese data were reviewed by a native Mandarin speaker from Taipei. Reliability was established by having two coders individually review a portion of the videotapes. Agreement between the two coders was 81% (n = 32) for categorizing displaced references as narratives.

The following are examples of narratives produced by an American child, David, at age 3;5, and a Chinese child, Ling, at age 4;8. David gestured his narrative in response to a picture of a Christmas tree in a children's book. The session was taped during the summer – David was wearing shorts and playing with toys on the living room floor. Upon seeing a picture of a Christmas tree, David became quite animated, standing up to show one of the researchers where his family had placed the Christmas tree the previous December. Ling was looking at Richard Scarry's *The Best Word Book Ever* with the researcher in her family's living room. They were looking at a page called 'At the Zoo in which several animals are sitting docilely in cages, while other animals dressed as humans wander through the zoo looking at the caged animals.

*Example 4: Narratives that meet the Sperry and Sperry [1996] criterion*

David (age 3;5)	Ling (age 4;8)
(utterance 1) Arms extend out to sides <b>WIDE</b> → point at picture of <b>Christmas tree</b> → point at corner of living room <b>location of tree</b> → point toward corner raises vertically <b>HEIGHT</b>	(utterance 1) right hand point on picture of <b>gorilla</b> → right palm pats on chest <b>AFRAID</b> + (vocalize 'afraid')
(utterance 2) Point at corner of room <b>location</b>	(utterance 2) opens mouth wide + two C-shaped hands with fingers spread like claws <b>ATTACK</b> → right palm pats on chest <b>AFRAID</b> → seated, body sways side to side (gorilla's) <b>WALK</b>
(utterance 3) Point at picture of <b>Christmas tree</b>	(utterance 3) right palm pats on chest <b>AFRAID</b>
Gloss: The Christmas tree was wide. It went there. It was tall.	Gloss: The gorilla makes one afraid. It attacks and walks like this.

David used the present context to draw attention to the fact that he was referring to the non-present; as it was summer, there was no Christmas tree in the living room to be pointed at. David developed the tree scene by describing the tree's dimensions and its traditional location. Ling also made use of contrast to illustrate displacement in her narrative, doing so by describing a gorilla who is sitting quietly in its cage as though it were attacking. Her description of the gorilla as frightening further develops the tale.

### Coding Structural Elaboration

As hearing children engage in narrative activities over time, their stories gain in featural and structural complexity [see Labov & Waletzky, 1967; Miller & Sperry, 1988; McCabe & Peterson, 1991; Sperry & Sperry, 1996]. The following features add important information to the story. *Setting information* statements are implicit references to the details of the situation in which the story takes place – details which emerge as the story unfolds. Displaced action develops into a *voluntary action*, or the major goal-directed action of the protagonist that weaves the story together.

In addition to a voluntary action, a narrative often contains the following three features which we have adapted from Labov and Waletzky's [1967] work on narrative analysis. The first is *complication*, or actions by other people, animals, or things 'out there' in the world which interfere with the protagonist's action. Complicating actions answer the question 'and then what happened?' [Labov, 1982: 225]. *Temporal ordering* is a frequent feature of narratives; the order in which the events are laid out in the story mirror the order in which those events actually occurred. Finally, even more sophisticated stories include an *orientation*, which is an explicit, summarizing statement encapsulating information concerning setting and action at the beginning of a narrative before the details of the story are divulged. This differs from setting information in its explicit nature – it is placed at the beginning of the story and thus serves to frame it. It serves as a means of familiarizing the narrator's audience with a narrated event by establishing the framework for the story using an explicit statement of who, where, and when (note that the same setting information will emerge again and be elaborated on as the narrative unfolds).

Our categories are reminiscent of those used in previous studies of narrative development [for example, Stein & Glenn, 1982; Stein & Policastro, 1984]. Reliability for identifying each of these features was as follows: *setting information* 73% (n = 26) agreement between coders; *initiating event* 92% (n = 26); *complication* 91% (n = 26); *temporal order* 96% (n = 26), and *orientation* 100% (n = 26).

The following narratives produced by David at age 5;2 and Qing at age 5;3 illustrate the more sophisticated narrative features described by Labov and Waletzky [1967]. As David was playing with an assortment of toys on the floor in the living room, he saw a toy rabbit which triggered a memory of an event (confirmed by his mother) concerning the family's pet rabbit, Bugs. Qing's narrative was inspired by various unrelated elements of an illustration of 'The City' in Richard Scarry's *The Best Word Book Ever*. A bear is driving a car at the top of the page; below this on the same page is a construction site with another bear's hard-hatted head peeking out of an open man-hole.



Example 5: Narratives exhibiting features described by Labov and Waletzky [1967]

David (age 5;2)	Qing (age 5;3)
(utterance 1) point on toy <b>rabbit</b> (vocalizes ‘bob-bit’)	(utterance 1) left hand point at picture of a <b>man-hole</b> in Richard Scarry’s book
(utterance 2) point out of room toward the <b>location of pet rabbit</b>	(utterance 2) two fists held at chest level as if holding steering wheel move up & down opposite each other <b>DRIVE</b> + (vocalize ‘drive’) → both fists change to flat palms which move down quickly <b>FALL</b>
(utterance 3) short, repeated point over head and back toward <b>backyard</b> → right hand, palm down, flicked back toward body <b>OPEN</b> → both hands, palms down, move away from body in small arcs <b>HOP</b> → mouth open & close sharply <b>BITE</b> → point overhead and back toward <b>backyard</b> → point on toy <b>rabbit</b> → point toward <b>backyard</b>	(utterance 3) right hand taps Mom for attention → two fists move up & down at chest level <b>DRIVE</b> → left palm moves down <b>FALL</b> on picture in book
Gloss: We have a rabbit like this one out there. Someone opened the cage and the rabbit hopped out and ate something in the backyard.	Gloss: Mom, the bear drove the car and it fell in the manhole.
<b>Coding of elaborated narrative features:</b> <b>Setting information:</b> The rabbit cage in the backyard <b>Voluntary action:</b> Opening the cage <b>Complication:</b> The rabbit’s actions <b>Temporal Order:</b> (1) cage is opened; (2) rabbit hops out; (3) rabbit munches <b>Orientation:</b> Statement of who and where in gestured utterances 1 & 2	<b>Coding of elaborated narrative features:</b> <b>Setting information:</b> an open manhole with a bear’s head poking out <b>Voluntary action:</b> Bear driving somewhere in his car <b>Complication:</b> The car falls in the manhole

The narrative about David’s pet rabbit was more fully formed than was his story about the Christmas tree (in example 4). David established from the beginning where the story took place and that it was about his pet rabbit by providing a simple *orientation* (‘We have a rabbit like this out there’). David then moved through the tale describing how someone opened the cage, which constitutes the *voluntary action* of the protagonist. The rabbit provided a *complication* through its actions, which were independent of the protagonist’s wishes or goals. Finally, David recounted the events following the order in which they actually occurred, thus displaying *temporal ordering*. The order and content of this story were corroborated by David’s mother who retold the story after him, adding such details as who let the rabbit out of its cage and what the rabbit ate.

Qing's narrative, while not quite as elaborate as David's (there was neither *temporal order* nor an *orientation*) gave setting information by using unrelated objects, characters, and locations within the illustration in the book. Qing constructed a narrative out of these pieces, adding a *voluntary action* (the bear driving along the street) and a simple *complication* (the bear and car fell into the open manhole). Unlike David's mother, Qing's mother did not repeat her daughter's story. Her only comment was, 'he went into it to fix something', which she produced in the middle of the tale right after Qing's initial point at the open manhole.

By way of comparison, we include below a narrative produced by a hearing child of preschool age described in Hudson and Shapiro [1991]. We have applied our coding system to this narrative to illustrate its applicability beyond our deaf subjects.

*Example 6: Narrative produced by a hearing preschool-aged child from Hudson and Shapiro [1991: 100]*

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A duck went out on Halloween. When the duck dressed up like a bear, he scared people. Then went trick-or-treating.

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**Coding of elaborated narrative features:**

**Setting information:** the words 'duck', 'out' and 'Halloween'

**Voluntary action:** dressing up to go trick-or-treating

**Complication:** scaring people

**Temporal order:** 1) dressed up  
2) scared people  
3) then went trick-or-treating

**Orientation:** A duck went out on Halloween (produced at the beginning of the narrative, thus framing it)

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### Coding Narrative Content

To determine whether the content in homesigned narratives is similar to that of hearing children's narratives, we applied content codes developed by Miller and Sperry [1988; see also Burger & Miller, 1999] to the deaf children's narratives. First, we coded narratives according to valence: *positive* if the event the narrative described had a positive valence (e.g., an enjoyable or interesting activity, such as receiving a gift, e.g., when David recounts receiving a balloon and pretzel when he went to visit Santa Claus); *negative* if the event it described had a negative valence (e.g., a physical injury, a scary or upsetting experience, as when the zombies in a movie frightened Qing); *odd* if the event it described was unusual or strange (e.g., Marvin relates that when he went bowling with his dad, there was a moose head on the wall at the bowling alley); or *routine* if the event it described was ordinary or habitual (e.g., Qing's mother puts coins in the fare box when they ride the bus, or David's descriptions of breathing exercises at school). Narratives were considered *ambiguous* if they did not clearly fall into any of these categories; the number of ambiguous narratives was small and typically described events that had no obvious valence but were not routine.

At a second level, again following Miller and Sperry [1988] and Burger and Miller [1999], we subcategorized positive and negative events. Positive narratives involved events of material gain (e.g., receiving a special gift), or emotional gain (e.g., enjoying an

activity, being praised for completing a difficult task). Negative narratives involved events of physical harm (e.g., falling down, getting a shot), emotional harm (e.g., being frightened), or property damage (e.g., breaking a toy).

### **Do Homesigning Children Produce Narratives?**

*Frequency of Narratives:* We identified 169 protonarratives and 128 narratives in the videotapes of our deaf children. The Chinese deaf children produced more protonarratives and more narratives than their American counterparts, although they also ‘talked’ more, as evidenced by the number of gestured utterances they produced per hour (see table 1). All eight children produced at least one narrative, and seven of the eight produced protonarratives. However, the numbers of narratives that the children produced varied widely, as is the case in hearing children who differ in how frequently they produce narratives [cf., Burger & Miller, 1999]. Abe and Fen each produced only one narrative; these two children, one from each cultural group, thus displayed an ability to narrate nonpresent events, but rarely exercised this ability. Two other children, David and Qing, stood out in terms of their high rates of narrative production. David’s 42 narratives accounted for 82% of the American children’s narratives; Qing’s 51 narratives accounted for 66% of the Chinese children’s narratives.

*Complexity of Narratives:* In addition to differing in the number of narratives they produced, the children also varied in the complexity of those narratives. All eight children produced narratives that contained *setting information* and *voluntary actions*. All four of the European-American children and three of the four Chinese children (all but Fen) produced narratives containing *complications*. Three European-American children (David, Karen, and Abe) and one Chinese child (Qing) produced narratives containing *temporal order*. Only David produced narratives containing an explicit *orientation*.

*Content of Narratives:* The European-American deaf children showed a slight bias toward narrating positive events (47% of their 51 narratives were positive), as did the Chinese deaf children (41% of their 77 narratives). Negative events comprised the second most frequent category for the Chinese children (34%), but not for the European-American children – they described routine events (29%) more often than negative events (12%). The deaf children’s most frequent positive narratives involved emotional gain (83% of 24 for the European-American children; 100% of 32 for the Chinese children) and their most frequent negative narratives involved physical harm (33% of 6; 58% of 26).

*Developmental Patterns: David and Qing:* As mentioned above, each group of children we observed had a communicatively precocious child – David for the American group and Qing for the Taiwanese. We focus on these two in our analysis of developmental patterns simply because each of these two children had produced a sufficient number of narratives that we were able to look for a developmental pattern. Figure 1 displays all of the narratives that David and Qing produced, categorized according to the age at which a given narrative was produced (displayed along the top) and the features that the narrative contained (listed on the left). Each column of ‘x’s’ is a separate narrative, and each ‘x’ within a given column corresponds to a particular feature on the left; each column thus reflects the featural complexity of a single narrative. Note that in order to be considered a narrative, the gestures had to describe a displaced event and



we have been describing here produce disorganized lists of actions at age 4;0, but by age 5;0 are able to produce temporally ordered accounts of experienced events along the lines of Labov and Waletzky's [1967] analytical criteria [see also McCabe, Capron & Peterson, 1991]. Hudson and Shapiro [1991: 95–100] describe a similar developmental pattern for preschool hearing children's productions of personal narratives and more formally structured stories.

*Summary of Gestural Narratives:* The first point we stress is that, despite their lack of a verbal language model, the deaf children in our study did produce stories. They used the gestures that they had fashioned, not only to make their wants known and to comment on their present and non-present surroundings, but also to recount events that were not currently taking place. The children told stories, albeit simple ones, about events they or others had experienced in the past, events they hoped would occur in the future, and events that were flights of imagination (e.g., Qing's story about a bear driving along and falling into a manhole).

This urge to tell tales appears to be a uniquely human trait. Even chimpanzees who are being raised in human-like circumstances and, unlike our deaf children, *are* exposed to a conventional language model display no tendencies to narrate. Although such chimpanzees do make progress in learning the 'words' they are exposed to and in conjoining those words into strings, they use their words only to make requests. Comments are extremely infrequent, and stories of the sort we describe here have never been reported [Greenfield & Savage-Rumbaugh, 1991; Goldin-Meadow, 1996]. The urge to use language to share past experiences and conjecture on future ones is not only particularly human, but is so robust in humans that it flourishes even in circumstances in which it is not directly nurtured.

Note, however, that although all of the deaf children we observed produced at least one narrative, they varied greatly in how often they displayed their narrative skill. Indeed, two children, one from each cultural group, produced the majority of the narratives. This variability, both within- and across-cultural group, is not uncommon even in hearing children. In their study of working- and middle-class groups of European-Americans, Burger and Miller [1999] found that working-class children on average produced more narratives than middle-class children. However, within each group, some children produced few narratives, while others produced many: the range was 9 to 34 narratives in the middle-class group, and even more dramatic in the working-class group, 11 to 71. Thus, the variability found across the deaf children is not unexpected.

Despite the variability in frequency of narration, the deaf children displayed very similar structural patterns in their narratives. All of the children elaborated upon the basic narrative, including *setting information* and *voluntary actions* in their stories. Most of the children in each cultural group went further and produced narratives containing a *complication* and *temporal order* as well. Moreover, the two children who produced enough narratives to discern a developmental pattern advanced their narrative skill by adding one feature at a time in a manner consistent with descriptions of the developmental patterns seen in hearing children [Peterson & McCabe, 1991; Hudson & Shapiro, 1991].

Finally, the children's narratives focused on the same types of events as those told by hearing children studied thus far [Burger & Miller, 1999; Miller & Sperry, 1988] – emotional gain in their positive narratives and physical harm in their negative narratives. Moreover, both groups of deaf children showed a bias toward narrating events with a positive valence, consistent with patterns found in studies of some European-

American children [middle-class children, Burger & Miller, 1999] but not others [working-class children, Miller & Sperry, 1988]. The differing biases found in the children studied by Miller and her colleagues are likely to reflect, at least in part, the kinds of stories that the children hear. The deaf children's biases cannot, of course, reflect the *verbal* information from stories that the adults in their lives tell (although they could reflect biases from whatever nonverbal behaviors accompany those stories, cf. Ochs & Capps [1996]). Their biases thus provide insight into the kinds of events children experience and witness, and how those events are keyed in their cultures through nonverbal means.

One important difference between the current study and earlier work is that the narratives told by the hearing children studied by Miller and her colleagues were co-narrated collaborations between caregiver and child, while those that we have focused on with the deaf children were entirely self-generated. From the earliest stages of language-learning, hearing children participate in narrations co-constructed with the adults in their worlds [Burger & Miller, 1999; Fivush, 1993; Miller & Sperry, 1988; Nelson, 1989; Reese, 1999; Sperry & Sperry, 1996]. The hearing parents of our deaf children were committed to teaching their children spoken language and to treating them like normally hearing children. It is therefore possible that these parents also engineered co-narrations with their children, despite the children's inability to hear. These co-narrations might then have served as models for the children's self-generated narrations. We explore this possibility in the next section.

### **Do Homesigning Children and Their Hearing Caregivers Engage in Co-Narrations?**

Narratives are verbal activities that can serve to help children organize complex relationships between cultural systems and social behavior. As Ochs [1988: 7] points out, 'Close examination of the sociolinguistic organization of the speech activities in which children (novices) engage is a means of ... linking communication to culture.' Thus, narrative (as a socially organized speech activity) provides a window onto cultural systems of meaning, as Schieffelin [1990: 15] notes:

... we know that vocal and verbal activities are socially organized and embedded in cultural systems of meaning. Everyday verbal activities between caregivers and children are created and constrained by these same cultural and symbolic systems and must be understood in this context.

The window narrative offers onto cultural worlds is of particular interest because it is accessible, not only to researchers, but also to children themselves.

As a means of discovering how personal storytelling might function as a socializing practice within the family context, Miller and her colleagues [Miller, 1996; Miller et al., 1997] focused on co-narrative events – events in which a caregiver and child work together to produce a coherently structured account of the child's experience. In a co-narration, a child contributes at least one substantive utterance related to the text of the story as it is structured by the caregiver. This substantive utterance need not be more than a single word, as long as that word contributes to the development of the account. For example, in a story about a recent visit to the zoo, a child could contribute by saying 'elephants' or 'giraffes' as the caregiver recounts the majority of the experience.

Co-narration provides a model by which children can come to take narrative frameworks for granted through daily engagement in them. ‘Each story that the child co-narrates, each story that someone tells about the child, provides her [the child] with yet another opportunity to interpret her past experiences and hear how other people interpret them ...’ [Miller, 1996: 195], as this example from Tara, a hearing girl studied by Miller and Sperry [1987: 300], illustrates:

*Example 7: A co-narration between a hearing child and her mother (Tara 2;6)*

Turn	Participant	Contribution
1	Mother	Tara, Tara
2	Child	What?
3	Mother	Did we go down to see the fishes?
4	Child	<i>(nods and tucks thumbs under armpits, elbows askew, gazes intently at Mother)</i>
5	Mother	What’d they look like?
6	Child	Fish <i>(slowly moves arms, fidgeting with blouse)</i>
7	Mother	What did them fishes ...?
8	Child	I see. Big fish <i>(gazes at Mother, excited tone) (extend index finger)</i>
9	Mother	<i>(laughs)</i>
10	Child	<i>(raises right arm above head)</i>
11	Mother	How big was it?
12	Child	<i>(turns in circle) I hold it (raises right arm, palms open toward Mother)</i>
13	Mother	Was you scared?
14	Child	No <i>(shakes head negatively) I holdn’ it (arms out at side, palms up)</i>
15	Mother	We seen lobsters. Remember the lobsters? They go <i>(imitates sounds while making biting, snapping motions with hands)</i> like that. And that little boy said ‘Ow’. <i>(pauses)</i> ‘Cause it bites his finger.
16	Child	<i>(nods, then shakes head negatively)</i>
17	Mother	Did it bite your finger?
18	Child	No look, it didn’t bite my finger <i>(shows finger to Mother)</i>
19	Mother	No, it didn’t.

In this exchange, we see that mother structures the narrative of her daughter’s experience of seeing ‘big fish’. She does so by asking questions designed to elicit information from Tara about her experience. The adult thus provides the child with a chance to participate in a structured account of a moment in her own past, an account which she could then internalize and apply to her own developing ability to tell stories.

With this model in mind, we reviewed our tapes to determine whether the deaf children in our study engaged in co-narrations with their hearing caregivers. We found only 6 co-narrations – 3 in the American sample (2 from David, 1 from Marvin) and 3 in

the Chinese sample (2 from Ling, 1 from Qing) – in 96 h of videotaped observations. In half of these co-narrations, the mothers produced no gestures along with their speech. It is thus unclear how much (if any) of the narrative the child actually understood. The three co-narrations that contained gesture were produced by David, Qing, and Ling, in collaboration with their mothers.

When his co-narration occurred, David was playing on the floor in the living room with an experimenter, and his mother was sitting in a nearby easy chair. Mother noticed a Santa Claus doll in the pile of toys and began the following narrative.<sup>2</sup>

*Example 8: David's co-narrative (4;10)*

Turn	Participant	Contribution
1	Mom	'David ... Hey ... Dave ... David, does Santa Claus ... look at me' [+ tapping on David's head for attention] 'come down the chimney? Does he come down the chimney?'
2	David	(standing) [point moves down quickly <b>GO-DOWN</b> → jumps with body and lands cross-legged <b>JUMP-DOWN</b> = <i>go down, jump down</i> ]
3	Mom	'Oh! And he lands you-know-where!'
4	David	[holds up <b>Santa doll</b> → moves doll deliberately down to floor <b>GO-DOWN</b> → nod = <i>yes, Santa goes down</i> ]
5	Mom	'And he gets all dirty?'
6	David	[points on <b>rear end</b> ]
7	Experimenter	'That's Santa Claus. Does he bring presents?'
8	Mom	'And then he brushes himself off?' [+ left hand brushes on right arm <b>BRUSH-ARM</b> ] 'Hey! Because he gets all dirty from the chimney, from coming down the chimney?'
9	David	[side-to-side headshake → right hand palm arcs <b>AWAY</b> → side-to-side headshake + left hand brushes on right arm <b>BRUSH-ARM</b> → points <b>down</b> → points on <b>rear end</b> = <i>No (temporal marker), Santa doesn't brush arm, he brushes his seat when he comes down</i> ]
10	Mom	'Oh! He doesn't get dirty? Oh ...'
11	Experimenter	'Just on the seat!'
12	Mom	'Oh! Yeah, on his backside, back here ...'
13	David	[points at own <b>rear end</b> ]
14	David	[left hand holds up <b>Santa doll</b> → right hand moves up <b>GO-UP</b> → brings Santa down <b>GO-DOWN</b> = <i>Santa goes up, then goes down</i> ]
15	Mom	'And he brings you all of the toys ... he brings toys ... ? For David?' [+ flat hand with palm up indicates David <b>GIVE</b> ]

<sup>2</sup> The following coding conventions are used in the co-narrations. Speech is in quotes. Gesture is in brackets; the gloss for the deaf child's gestures is in italics within the brackets. The gloss includes all referents, those inferred from context as well as those explicitly gestured.



The topic of the story was introduced by Mother in speech during the first turn when she gave *setting information* of *who* and *where* (Santa and the chimney) through a simple *orientation* (encapsulated setting information at the opening of the story that focuses the listener on the events to come). David, however, understood the topic through the presence of a toy Santa Claus, which served as the focal referent for him. Mother worked very hard to structure a narrative around David's utterances and did so through speech in the first 7 turns.

Structurally, this interchange looks much like a narration constructed by two people who have access to a shared conventional language, but the lack of a shared system did create challenges to developing the story. In turns 2 through 4, Mother and David repeated the same information without any elaboration (they both noted that Santa lands on his seat when he comes down the chimney).

Narrative development did not really begin until turn 8 when Mother gestured along with her spoken contributions; she queried, 'And he brushes himself off?' while at the same time brushing her right arm. In the next turn, David corrected Mother by shaking his head while at the same time brushing his arm, followed by an emphatic point at his own rear end. In essence, David was saying, 'No, Mom! Santa doesn't brush off his arm, he brushes off his seat!' This comment builds on his initial statement in turn 2 that Santa lands on his seat when he comes down the chimney – and obviously dirties his backside, not his arm. It was not until turn 8 that David understood that Santa's getting dirty had been introduced into the story. Once David understood this contribution, he was able to build on it and, indeed, correct his mother.

David's turn 9 is interesting on another, more abstract, level. David recognized that he and Mother were not talking about play actions of a doll in the here-and-now. Rather, they were talking about the actions of the 'real Santa' in the 'real world'. David indicated this stance through his use of a gesture denoting that the story was taking place AWAY from the here-and-now. This same AWAY marker (a palm or point hand arced away from the body; see Morford & Goldin-Meadow, 1997) was used by four of the eight children, and was produced by all four exclusively in narratives. David produced this marker in 7 of his narratives (6 about past events, 1 about a future event), Marvin produced the marker in 5 narratives about the past, and Bao and Ling each produced the marker in 1 narrative about the past. The AWAY gesture thus served to mark a piece of gestural discourse as a narrative in the same way that 'once upon a time' is often used to signal a story in spoken discourse.

The next example is from Qing and occurred in response to a picture of a bus in the Richard Scarry book.

*Example 9: Qing's co-narration (5;3)*

Turn	Participant	Contribution
1	<i>Qing</i>	[point at <b>Mother</b> → loose fist moves down <b>PUT DOWN</b> = <i>Mom puts down (the money)</i> ]
2	<i>Mom</i>	'Yes, we pay the fare.'
3	<i>Qing</i>	[thumb and index form an O-shape held out to mom <b>COIN</b> ]
4	<i>Mom</i>	'Pay the fare' [+ right hand picks at Qing's fingers in the shape of a coin <b>PICK UP</b> ]



Example 9: (continued)

Turn	Participant	Contribution
5	<i>Qing</i>	[right hand <b>PUT DOWN</b> quickly]
6	<i>Mom</i>	'We need to pay 13 fen, put it into the box' [+ flat hand throws downward <b>PUTDOWN</b> → holds up <b>FIVE</b> fingers → holds up <b>THREE</b> fingers → <b>PUT DOWN</b> ]
7	<i>Qing</i>	[points at <b>Mother</b> several times]
8	<i>Mom</i>	'Mom tossed it, then I got the ticket, right' [+ two points trace the outline of a ticket in the air <b>TICKET</b> → point at <b>self</b> ]
9	<i>Qing</i>	(vocalized) 'Yes'.

This co-narration is interesting for several reasons. Once again, Mother worked to structure the narrative around the child's utterances, but she did so using far more gesture than we saw in the American example – a difference that is consistent with patterns of gesture use in Chinese and American mothers in general [Goldin-Meadow & Saltzman, 2000; Wang, Mylander, & Goldin-Meadow, 1996]. Qing's mother took a reported action by her daughter in turn 1 and structured a narrative around it, incorporating Qing's gestures into her own gestured utterances. For example, in turn 4, Mother 'picks up' the 'coins' Qing had gestured in the previous turn. Qing's mother thus gave her child the opportunity to engage in a co-narrated structure with greater access than David initially had in the story he and his mother constructed. Although Qing did not use an explicitly temporal referencing gesture as David did, it is clear from the context that she was not referring to the present, but rather to what her mother does when they ride the bus.

In sum, the hearing caregivers of these deaf children, like all hearing caregivers, created narratives around their children's communications. Encouraged by proponents of the oral method to treat their children as though they could hear, these parents did so, including constructing narratives around (if not genuinely with) their children.

However, the hearing mothers produced co-narrations with their deaf children far less frequently than hearing mothers do when interacting with their hearing children. We found 6 co-narrations in 96 hours of videotape, which comes to 0.06 co-narrations per hour. In contrast, Miller, Wiley, Fung, & Liang [1997] in their analyses of the co-narrations production by European-American and Taiwanese families found 92 co-narrations in 48 hours, or 1.9 per hour (2.4 in the European-American sample, 1.5 in the Taiwanese sample). Thus, although the mothers of the deaf children did, on occasion, co-construct stories with their children, they did not do so as often as families in their cultures with hearing children. Moreover, in half of the co-narrations we found, mothers' contributions were produced exclusively in speech. The mothers of the deaf children we observed had thus done nothing to ensure that their contributions were accessible to their deaf children. They did not accommodate to the particular needs of their deaf children as much as is possible [cf. Goldin-Meadow & Saltzman, 2000].

Nonetheless, it is likely that whatever efforts the parents made mattered, at least in terms of encouraging the children's narrative attempts. Indeed, the children who produced the most narratives, and the most complex narratives, were the ones whose mothers worked to produce co-narrations which incorporated gesture. Moreover, in addition

to providing support for the notion that non-occurring events can be recounted, the mothers' co-narrations may have been a source for culturally specific social information, as this third example of co-narration containing gesture illustrates. Ling and her mother were watching a series of videotapes and saw an ashtray move on its own across the screen.

*Example 10: Ling's evaluative co-narration (4;3)*

Turn	Participant	Contribution
1	<i>Mother</i>	[naming an object for Ling] 'Ashtray.'
2	<i>Ling</i>	[right hand, thumb and fingers forming an O-shape brought to lips <b>SMOKE</b> ]
3	<i>Mother</i>	'Papa smokes' [left hand, thumb and fingers forming an O-shape brought to lips <b>SMOKE</b> ]
4	<i>Researcher</i>	'Does Papa smoke?'
5	<i>Mother</i>	'Yes.'
6	<i>Ling</i>	[claps → right O-shaped hand brought to lips <b>SMOKE</b> ] + (vocalizes 'Papa')
7	<i>Mother</i>	'Papa smokes, right? Is smoking good?' [right V-shaped hand brought to mouth <b>SMOKE</b> → right index finger drawn along forehead <b>SHAMEFUL</b> ]
8	<i>Ling</i>	(vocalizes 'Bad!')

Ling's mother pointed out the ashtray, but it was Ling who first brought up the topic of smoking. Mother picked up on Ling's gesture for smoking, introduced 'Papa' into the story in speech, and produced a gestured emblem for shame. Note that Ling's mother has introduced into the narrative (via a specific gesture) an explicitly evaluative component. In this sense, the co-construction resembles the narratives Chinese mothers produce with their hearing children which frequently contain an evaluative component [see Miller et al., 1997]. By incorporating an evaluative emblem into her co-narration, Ling's mother may have provided her daughter with the opportunity to learn that recounted events can be evaluated – a point on which we focus in the next section.

**Do Homesigning Children Narrate in a Culturally Specific Manner?**

In their cross-cultural work, Miller, Wiley, Fung, & Liang [1997] examined narratives by European-American and Taiwanese caregivers and their children. Although they found considerable overlap between families in these two cultures in the content and use of early narratives, there was one notable difference – narratives describing the child's transgressions. Each of the Chinese families produced narratives centering on past breeches of conduct in which the child was portrayed as having violated a social or moral rule. The American families rarely used narratives in this way. In the few cases in which an American child's misdeed was framed in a story, the message was couched within a frame that was more specifically directed toward maintaining the positive value of the child as an individual with worth (recall Examples 1 and 2 in the introduction to this paper).

With the results from Miller and her colleagues in mind, we conducted a similar analysis of the deaf children's communications. We asked whether the children had absorbed the cultural values and norms for storytelling found by Miller and her colleagues despite the language barrier that exists between them and their parents. Would the socially evaluative content of the deaf children's self-generated gestural narratives resemble that of the co-constructed narratives found in the children studied by Miller, Wiley, Fung, & Liang [1997]?

*Evaluation.* In order to get a general feel for how the deaf children incorporated evaluative tone into their everyday communicative activities, we began by examining the tapes for instances of evaluative communication of any kind. As an example of an evaluative communication, when Qing's younger sister took cards away from her, she responded as follows: point on her own nose (Chinese gesture for '**mine**') → left hand traces an 'X' (**BAD**) in the air in front of sister while looking at mother, glossed as *Mine! Sister is bad!* We found 100 examples of evaluative comments of this sort in the Chinese sample, but only 5 in the American sample. We further coded these utterances to determine whether they were *serious* or *playful* in tone. Utterances were considered to be seriously toned if the child was in earnest in his or her comments as determined through context, facial expression, and tone of voice; playfully-toned utterances were accompanied by laughing or smiling and often represented social role reversals or juxtapositions. We found that 90% of the Chinese children's 100 evaluative comments were *serious*. For example, Qing's comments on her father's smoking habit were produced with a scowl on her face and an angry vocalization. In contrast, all 5 of the evaluative comments made by the American children were *playful*. For example, Abe's mother was pretending to write on him with a giant pencil; laughing, he gestured: point at **self** → index finger shakes (= **NAUGHTY**) at Mother → hand extended palm up in a request gesture toward Mother, glossed as *Gimme. You are naughty.*

All but a few of the evaluative comments that the deaf children produced contained conventional gestures called 'emblems' – gestures that can substitute for words and vary across cultures [Ekman & Friesen, 1969]. For example, the Chinese children used the 'good' (thumb held up in the air), 'bad' (pinkie shaken in air) and 'shame' (index finger drawn diagonally down the cheek or forehead) emblems in their evaluative comments. The American children used only the 'naughty' (index finger shaken) emblem in the few evaluative comments they produced. Because emblems are arbitrary ritualized gestures, they have specific meanings and are used in constrained circumstances in which talk is not necessary. As a result, children – deaf or hearing – can learn the meaning of an emblem without any talk at all.

It is likely that the deaf children in our study learned to use emblems to make evaluative comments from the hearing individuals around them. The fact that the Chinese deaf children made many more such comments than the American deaf children is likely to reflect the greater use of such emblems by their hearing parents [cf. Wang, Mylander, & Goldin-Meadow, 1996]. The interesting question from our point of view is whether the children ever used these emblems in their narratives to introduce an evaluative tone, thus creating narratives with a moral lesson comparable to those produced by Chinese hearing children [Miller, Wiley, Fung & Liang, 1997].

Not surprisingly given their low incidence of evaluative comments overall, the American deaf children never incorporated evaluative emblems into their narratives. However, the Chinese deaf children did produce three protonarratives and two narratives containing evaluative emblems. In the first of the protonarratives, Qing (5;3) was

looking at a picture of a boy in swimming trunks and gestured that the boy is shameful (presumably because he is partially naked). In the second protonarrative, Bao (4;0) was looking at one of his own baby pictures and gestured that the naked baby is shameful. In the last, Ling (3;8) was looking at a picture of a disheveled Cinderella and gestured that her dirty state is bad. In all three cases, the children conveyed a sense of shame associated with inappropriate states of appearance, whether it be lack of sufficient bodily covering, or clothes in ill-repair.

In addition to these protonarratives, the Chinese children produced two full-fledged narratives containing evaluative emblems focused on a transgression. The first is a story by Qing (age 4;2) commenting on what she considered to be inappropriate behavior on the part of her uncle, who threw a ball at her while she was assembling a puzzle with the researcher.

*Example 11: Qing's evaluative narrative (age 4;2)*

- 
- (utterance 1) left hand point at **Uncle** → right fist arches forward from shoulder and opens to a flat hand, palm down, **THROW** (vocalize 'throw') → left hand point at **Uncle** → right fist arcs to flat hand, palm down **THROW** (vocalize 'throw')
- (utterance 2) right fist arcs forward to flat hand **THROW** (vocalize 'throw')
- (utterance 3) left hand point at **Uncle**
- (utterance 4) right fist arcs to flat palm **THROW** (vocalize 'throw') → nod
- (utterance 5) right hand draws an 'X' in the air **NOT GOOD** (vocalize 'not good')
- (utterance 6) left hand point at **Uncle** → left hand draws an 'X' in the air **NOT GOOD**  
 (vocalize 'Not good') → right hand pinky-finger **BAD** shaken at Uncle (vocalize 'Not good')  
 → right hand drawn an 'X' in the air **NOT GOOD**
- 

Gloss:  
 Uncle threw a ball. That is not good. Uncle was not good – he was bad.

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In the second, Ling sees an object that resembles an ashtray and comments on her father's smoking habit which she takes to be bad.

*Example 12: Ling's evaluative narrative (age 4;3)*

- 
- (utterance 1) clap → right O-shaped hand brought to mouth **SMOKE** → right O-shaped hand moves downward **PUT DOWN** (ashes in ashtray) → (vocalize 'Papa')
- (utterance 2) clap → right hand pinkie shake **BAD** + (vocalize 'Papa' and 'bad')
- 

Gloss:  
 Papa smokes. He puts the ashes in the ashtray. Papa, or smoking, is bad.

---

Ling has made an evaluative judgment of an event that is not currently taking place. Interestingly, this attitude, and perhaps the insight that evaluative emblems can be used in narratives, appears to have come from her mother (see example 10, the narrative which Ling and her mother constructed together and which preceded this self-generated narrative concerning Father's smoking by ten minutes).

Thus, the Chinese deaf children occasionally used evaluative statements in their narratives to condemn a transgression, while the American deaf children did not – a difference which mirrors, albeit at a reduced level, the patterns in Miller et al.'s [1997] sample of Chinese and American hearing children. As mentioned above, the prevalence of judgmental communication in the Chinese children is likely to stem from the frequent use of these evaluative emblems in Chinese hearing speakers [cf. Wang, Mylander & Goldin-Meadow, 1996]. Judgments of this sort appear to be so important to communication within Chinese culture that they are instantiated, not only in talk, but also in gesture. Once conveyed in gesture, they are easily accessible to children who cannot hear the talk of their culture. They thus become part of the deaf children's worlds (even their narrative worlds) without the benefit of spoken language.

*Narratives of Self and Other.* We next examine a subtle difference that we observed in the way the children described events about themselves (events they had experienced or planned to experience) or about others (involving mythical characters such as Santa Claus or animals in a picture book, or actual events). For this analysis, we once again focussed on the narratives of our two most prolific children, David and Qing. Qing produced many more narratives about others than about herself (35 vs. 16), while David produced approximately the same number of narratives about others vs. himself or, if anything, he showed the reverse trend (19 vs. 23). What was strikingly different, however, was the complexity of the children's stories about self vs. other.

David's stories about self and others were equally complex. Eight (35%) of his 23 stories about himself contained at least one of the three features found only in the most complex narratives (*complication, temporal order, or orientation*); 7 (37%) of his 19 stories about others contained at least one of these features. In contrast, Qing's stories about herself were less developed than her stories about others. Only 2 (13%) of her 16 stories about herself contained any of the complex narrative features, compared to 13 (37%) of her 35 stories about others. Note that Qing is perfectly capable of producing complex stories – her stories about others are as sophisticated as David's stories – but she does not display this complexity when describing personal events about herself.

Interestingly, Qing's stories about others also tend to have a negative valence (54% of the 35 were negative), while her stories about herself did not (only 13% of the 16 were negative). Again, David showed no such disparity (5% of his 19 other stories were negative, as were 13% of his 23 self stories).

Qing's preference for elaborating narratives about others rather than narratives about herself is reminiscent of descriptions of eastern cultures in which individuals are portrayed as having an other-centered (as opposed to a self-centered) world view [Dumont, 1986; Geertz, 1984; Markus & Kitayama, 1991; Shweder & Bourne, 1984]. Interestingly, David, who is not growing up in an eastern culture, displayed no such disparity in his narratives about others vs. himself.

These two deaf children seem thus to have incorporated very subtle cultural differences in self-presentation into their narratives without ever having heard a narrative that would include this kind of frame. The differences may, of course, reflect nothing more than idiosyncratic tendencies particular to these two children. The intriguing possibility, however, is that the deaf children are picking up on nonverbal cues to presentation of self within their cultures. Although this orientation can be (and is, in the case of hearing children) transmitted to a child through talk, our findings suggest that there are additional routes that a child can take to arrive at these cultural stances.

## Conclusion

Our findings suggest that telling stories is a robust activity in humans, an activity that not only cuts across diverse socio-cultural traditions but also flourishes even when an explicit model for narration is not provided. Although some of the mothers participated in co-narrations with their deaf children, they rarely produced their own contributions in gesture, and their speech was, of course, not accessible to their deaf children. Consequently, the children's caregivers did not provide explicit narrative models in the stories they directed to their children. However, their support as audience was likely to have been important in encouraging their deaf children to narrate at all.

Moreover, it is likely that the deaf children witnessed their mothers and other family members telling stories of personal experience to one another. Telling stories *around* the child occurs very frequently in some communities but has been largely overlooked in most developmental research on early storytelling [see Heath, 1983; Miller, 1994]. Such stories can be highly dramatic, eye-catching performances, complete with postural and facial enactments. Future research should address the possibility that such stories provide the richest source of gestural information to which linguistically deprived deaf children have access.

Thus, family members as audience of children's narrative overtures, and family members as producers of stories enacted multimodally, may be the only sources of narrative information that deaf children need in order to launch themselves into a limited narrative world. This idea is compatible with the view that children come pre-prepared to receive the stories that every human culture hands out [Bruner, 1990]. But it should not be overlooked that these deaf children of hearing parents were growing up amidst the complex socioemotional dramas of ordinary family life. Despite the fact that they did not share a conventional language with their families, their participation in family life – which is culturally patterned in countless ways – is likely to have sparked an interest in human motives and in how events are related and valued.

These several factors then may help to explain the striking similarity in types and structures of stories that these deaf children produced, compared to hearing children's stories. Some of the deaf children invented a particular gesture (AWAY) which served to mark their discourse as narrative, just as 'once upon a time' marks spoken discourse as narrative. Even the developmental pattern of building narratives feature-by-feature was evident in deaf children from both our European-American and Chinese samples.

The final point to stress about our findings is their relevance to socialization. The narratives that hearing children experience are saturated with cultural meanings; they provide cues about how to interpret experience, about what is valued, about what counts as a narratable event [Basso, 1992; Bruner, 1992; Gergen, 1994; Göncü & Jain, 2000; Malinowski, 1984; Miller, 1994; Ochs, Smith, & Taylor, 1996]. Unable to hear the verbal narratives that surround them, the deaf children in our study did not have full access to the socializing messages those narratives provide. Nonetheless, their narratives bore echoes of culture-specific meaning. The Chinese deaf children used evaluative comments in their here-and-now communications far more frequently than their European-American counterparts; they then extended this practice to their narrative activities, at times using evaluative emblems to comment on transgressions. In addition, one Chinese child produced structurally elaborate narratives about others, but only simple narratives about herself – a disparity not found in her American counterpart.

Thus, the deaf children appeared to produce culturally appropriate narrations despite their lack of a verbal language model, suggesting that these particular cultural messages are accessible through nonverbal channels. This finding challenges scholars of children's stories to seek a more balanced approach, one that recognizes the multimodality of narrative performances [Ochs & Capps, 1996]. But it also suggests that some aspects of culture are so important that they cannot be entrusted to a single medium. Perhaps the universality of narrative as a socializing medium rests on more than its capacity for ordering and valuing experience according to many different systems of values. Perhaps it also rests on the versatility of narrative as a form of enactment: Stories can be heard, watched, and felt, separately or all at once. Important values can thus be redundantly instantiated, heightening the chance that they will be accessible to all members of the group.

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