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CHAPTER 13

**PROTOCONVERSATION
AND PROTOSONG
AS INFANT'S SOCIALIZATION
ENVIRONMENT**

Carolin Demuth

Protoconversation in early infancy

It is widely known that at the age of around 2-3 months interaction between infants and caregivers become increasingly intense and dialogical and that at this age a communicative pattern with infants emerges that has been described as *protoconversation* (Bateson, 1979). Mothers typically take both the part of the speaker and of the hearer and thus initiate a dyadic turn-taking pattern and creates the impression of an adult-like conversation taking place between her and the infant. They often “interpret baby behavior as not only intended to be communicative, but as verbal and meaningful” (Trevarthen, 1979, p. 339) by mirroring assumed inner thoughts, taking the perspective of the child, or by “echoing” an infant’s gesture, e.g. by exclamations of pleasure and surprise. Moreover, situations and the language used in them are adapted to the child rather than the reverse. The child is the focus of attention, in that the child’s actions and vocalizations are often taken up by the caregiver as a starting point of a sequence in the interaction.

Protoconversation has long been assumed to be part of the intuitive parenting program (Papoušek & Papoušek, 1987) and therefore to have many of the same characteristics in many different cultures. Several authors have, however, pointed out that the large majority of studies on protoconversation was conducted in white, middle-class North American or northern European contexts, that is, within the same socio-cultural context of the researchers, and hence might have led to a methodological artifact

that largely ignored culture (Kulick & Schieffelin, 2004; Ochs & Schieffelin, 1984). While it is certainly true that mothers all over the world communicate in some way with their infants, a number of studies have found that these communicative patterns are not characteristic for many non-western cultures (e.g., De León, 2000; LeVine et al., 1994; Ochs & Schieffelin, 1984; Schieffelin & Ochs, 1986; Richman et al., 1988). Cowley and colleagues (2004) found that in KwaZulu communities in South Africa the mother-infant interactions are often highly rhythmic and characterized by frequent vocal overlap or chorusing rather than dyadically following a turn-taking pattern. They suggest to speak of “protosong” rather than of “protoconversation” to describe this cultural communicative pattern with infants. Gratier (2003) has also suggested to broaden the definition of protoconversation to include kinesthetic and tactile modes of interaction and conversational styles that are not centered on the turn-taking format. She states that a proto-conversation may also simply consist of conversation without words.

The empirical evidence across cultures suggests that mother-infant communication is inherently organized by cultural parental beliefs. Schieffelin & Ochs (1998) have argued, for instance, that the accommodations to the child reflect a discomfort of Western middle class mothers with the competence differential between adult and the child and that caregivers use self-lowering (e.g., simplified speech) as well as child-raising strategies (e.g., acting as if the child were more competent than his behavior more strictly would indicate) to reduce this competence gap. In some societies age and status differences can, for example, affect the rights to turns in a conversation (Keating & Egbert, 2004). Among the Gusii, verbal exchange is largely restricted to persons whose kin relationship defines them as social equals. Parents and children, however, are considered inherently *unequal* even in adulthood and ideally distant as communicative partners (LeVine, 1990, p. 109).

These different styles can be conceived of as different socialization strategies towards desirable behavior. In most European and Euro-American contexts, the development of verbal and abstract analytical competencies are highly valued and therefore child-directed communication will promote the infant’s alertness, curiosity, interest in surroundings, exploration, and dyadic turn-taking communication with the caregiver (Keller, 2003; LeVine et al., 1994). Learning takes place in an environment in which children are instructed verbally and treated as peers in conversation. In many Sub-Saharan African contexts, in contrast, social competencies such as obedience and running errands correctly are highly valued which requires

cognitive/analytical dimensions of social responsibility rather than proficiency in verbal expression and individuality (Nsamenang & Lamb, 1998, see also Smith, Chapter 7). Learning takes place through active observation and participation. While mothers in sub-Saharan Africa certainly do talk to their babies, it has been stated that the focus of talk is more about whom the baby resembles, what his or her name should be, what it signifies, and expectations about what he or she will turn out like as an adult (Nsamenang & Lamb, 1998). Some other sub-Saharan communities like the Gusii in Kenya have been found to talk little to their babies because they are more concerned with the survival, health and physical growth of infants than with cognitive stimulation (LeVine et al., 1994).

From an ecocultural perspective (Whiting, 1977; Keller, 2007), I argue that while there might be a biological component to infant-directed communication, the cultural manifestations vary systematically in line with the respective cultural parental beliefs and broader cultural models of child care. As such they can be considered to have socio-historically evolved in an adaptive manner to the given ecological and societal context. Protoconversation as described in the literature for Western white middle-class contexts therefore is *but one* manifestation of an underlying universal parenting system. In order to investigate this assumption this study compares mother-infant interactions in two contexts that have previously described as prototypically following the cultural model of psychological autonomy (urban middle class families in North Germany) and as prototypically following the cultural model of emotional relatedness (farming Nso in Kikaikelaki, North-West Cameroon) (Keller, 2007). For a more complete systematic comparison, further studies may include rural farming families in North Germany as well as highly educated urban middle class families in Nsoland (see also Keller, Demuth, & Yovsi, 2008). Following the principles of qualitative research (Mey 2010) the study follows an inductive-driven approach to analysis avoiding apriori formulated hypotheses.

The Study Sites: Kikaikelaki farmers and Muenster middle class families

Muenster is a university city with about 281,000 citizens, a well-developed educational infrastructure and a strong economy and a low unemployment rate compared to other parts of Germany. There is a high percentage of single households and only about 18 % of the households in Münster include children. Families live in their own condominium or house, often with a separate room for the child from early on.

German middle class families have been found to value self-realization, self-confidence, and the ability to judge and to assert oneself (Pross 1982), as well as children's psychological independence and the development of individual competencies (Keller, Abels et al. 2005). They encourage the child to sleep alone at an early age (LeVine and Norman 2001; Norman 1991), and to play by themselves (Grossmann et al. 1985) thus fostering autonomous self-regulation and self-reliance (*Selbständigkeit*). Children's uniqueness is emphasized for example in the choice of their first names (Keller, Kuensemueller et al. 2005) or in socialization goals like "learning to be different from others," "expressing own ideas," or "being assertive" over goals like "learning to share with others, obeying the parents," or "maintaining social harmony" (Keller, Lamm et al. 2006). Mother-infant interactions have been found to be dominated by face-to-face contact (Keller, Voelker et al. 2005) with exclusive attention, and unconditional child centeredness with responsiveness to a child's personal wishes and preferences. Infancy research suggests that such contingent responses toward infants' positive communicative signals support the perception of autonomy (Keller, 2007). These infant care practices correspond to the general Western conception of maternal sensitivity (Ainsworth et al. 1978): a good mother is expected to be aware of an infant's signals, accurately interpret them, and promptly respond by showing empathy and insight into the baby's wishes and moods.

Kikaikelaki village is part of a locally ruled chiefdom (fondom) of the Nso who live in the northeast corner of Cameroon's North West Region. The total Nso population has been estimated to comprise 217,000 people (Goheen 1996). Families earn their living primarily through subsistence agriculture (Nsamenang & Lamb 1993) and the average amount of formal schooling is very low (Keller, 2007). The village is composed of patrilineal compounds, consisting of houses that are usually unfenced exposing children to the wider village life from early on. On average 6.7 persons live in one household (Yovsi, 2003). Large families with many children are favored since children form the basis of symbolic and material wealth (Nsamenang 1992; Verhoef 2005), meant to be shared throughout a community. Children grow up in a dense social network including parents, siblings, relatives, grandparents, and neighbours (Yovsi, 2003). Older children are expected to help on the farm, do household chores, and take care of younger siblings (Mbaku 2005).

The Nso community has been characterized by norms of collective responsibility, sharing, and exchanging (Goheen 1996; Nsamenang and Lamb 1994) as well as harmonious and hierarchically organized

relationships between family members and the wider social reference group (Mbaku 2005; Nsamenang and Lamb 1993; Verhoef 2005). Previous studies found that Nso mothers' conceptions of good parenting center around obedience, respect for elders, conformity, and compliance to rules as well as social responsibility and subordinating individual interests to those of the group in favor of a strong community spirit (Nsamenang & Lamb 1994; Yovsi 2003). For instance, they value socialization goals like "obedience to parents," "learning to share with others," and "maintaining social harmony" above goals like "learning to be different from others," "expressing own ideas," or "being assertive" (Keller, Lamm et al. 2006). The goal is to socialize children towards acquiring a 'good character'. It is to this end control and regulation is often used in child care. It serves to prevent the child from developing a sense of pride about his own achievement which would be regarded as "showing off" and a 'bad character' (Nsamenang, 1992; Nsamenang & Lamb, 1994; Tchombe, 1997). Infant care primarily focuses on survival, physical growth, and motor development. This corresponds to the Nso conception of maternal sensitivity defined in terms of closeness, monitoring, instructing, training, directing, and controlling infant activities (Yovsi, et al. 2009).

The Study

Data Corpus

The study constitutes a re-analysis of a data corpus from two previous studies collected from October 2002 to November 2003 in Kikaikelaki and from July 1995 to June 1996 in Muenster. The families were recruited following local practices. In Kikaikelaki the hierarchical system required permission from the chief before getting in touch with families through a health center. The Muenster mothers were contacted individually in hospitals and preparation classes. Twenty native German mothers living in Muenster and 20 native Nso mothers from Kikaikelaki consented to participate. The Muenster mothers were between 26 and 40 years at the time of infant birth (average 30.7 years) and had an average school education of 14.4 years. All infants were first born. The Nso mothers were between 17 and 47 years at the time of infant birth (average 27.8 years) and had an average school education of 8.5 years. They all lived from subsistence farming. Four infants were first born, 16 were later born. They were video recorded for 10 minutes on a weekly basis over a total period of 16 weeks. The present account draws on the recordings from the 12th week session, when infants were 3 months of age.

Procedure

The families were visited at home and videotaped by local research assistants¹ for 10 minutes during free play interactions in a setting that reflects typical social encounters with infants: the Nso mothers were mostly sitting in front of their houses, in an open space with people passing byⁱⁱ. The Muenster mothers were inside the house, usually in the living room or the kitchen, alone with their child. The mothers were told that we would like to learn more about parenting and childcare in different cultures. For this purpose, we would like to videotape mother-infant free-play interactions.

Analysis

We transcribed interactions following the conventions common in conversation analysis (Jefferson 1984). Some notations were added to include specific features of infant communication (see appendix). The Nso interactions were directly translated into English since the written form of the local language, Lamnso, has only recently become available. The transcription was done by a trained native Lamnso speaker from Kumbo who was fluent in English and had some knowledge of socio-linguistics as well as an intimate knowledge of the Nso culture. Translation aimed at staying very close to a literal translation provided that ‘conceptual equivalence’ (Birbili 2000, Temple & Young 2004, Temple 1997) could still be insured. Instances where the semantic meaning of an utterance was ambiguous or unclear to the researcher, e.g. in case of idiomatic expressions, were discussed.² Transcripts are presented in a format suggested by Ochs (1979) allowing for parallel vertical lines arranging nonverbal behavior co-occurring with verbal/vocal utterances for mother and infant, respectively. Analysis was based on conversation analysis (Sacks 1992; Sacks, Schegloff, & Jefferson, 1974) and discourse analysis (Potter 2007) (for a more detailed description of the methodological procedure see Demuth, 2008, 2011).

¹ While we are aware that the filming situation may have provoked some “visitor behavior” that might not entirely correspond to naturally occurring every day behavior, we believe that it is not possible to lay aside one’s habits that has been acquired in the course of a life time – and that can – at least partly assumed to be sub_oconscious. Moreover, it can be assumed that to the extent that mothers were influenced by observation they will have tried to model what they consider to be a “good mother.” Hence, mothers will produce speech and behavior that they associate with good mothering within their cultural model.

² We are of course aware that translation of this kind is bound to have some limitations, some of which may not be completely overcome. Language structures and idioms are so culture-specific and dynamic that, even with highly competent and motivated translators, inaccuracies are difficult to avoid. Some subtle and hidden meanings might therefore have remained undetected in the analysis of the Nso transcripts.

By systematically comparing the two data sets, groups of sequences were derived that show similar and contrasting patterns of communicative strategies. The excerpts discussed in the following represent typical patterns found repeatedly within each group.

Results

Interactions in both groups comprised features like rhythmicity, imitation, and mirroring. However, there were salient differences in the extent and structure of these features of communication as I will lay out in the following.

1. The Muenster Dyads

Mothers typically initiated a dyadic turn taking pattern by applying a question-answer pattern, interpreting the infant's vocalizations as communicative act and providing the missing parts of the conversation on the child's behalf. A very prominent finding was the focus on a narrative structure of the interactions: Mothers explicitly prompted the child to narrate, referred to the child's experience in a narrative way, announced upcoming events, thus bringing the child's experience in a biographical form. In doing this, mothers were found to often gradually unfold a narrative as the interaction developed.

Turn-taking

Example 1: Muenster01_t12

The mother sits on the sofa with her legs bended and B lying on her legs facing the mother as the filming session starts:

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
2	moves hand and legs	@voc@		
3			adjusts B's head	Ye:s(.) ba:thing (1)
4	stops > mother	VOC	adjusts leg	Today it was good (.), wasn't it?
5		VOC	> B	(2)
6				((sniffs)) Today it was good the bath, wasn't it?
7			caresses B's face	(2)
8	> mother			Without any plunching (.) h@
9	moves fingers	°voc°		(1)
10			stops, smiles, > B	Mhh?
11	> mother	VOC		(4)
12	> mother		Nods	↓Yea:h

13		(6)
14		Today it was good, wasn't it?
15		(2)
16	moves hands	That was fun, wasn't it?
		(4)
17	Smiles	↑Yes?
18		(7)
19		Was that good?(.) yes?
20		(4)
21		Mmh?
22		(5)
23		Tell me!
24	puts finger in B's hand and moves it	(11)
25		°Honey°
26		(2)
27		Won't you tell' me something!
28		(2)
29	parallel movement with finger	Say: Lau::ra!
30	moves hands and legs	puts hand aside, smiles
		(1,5) h@
31		Lau::ra!

The baby moves her arms and legs as she produces a vocalization that can be taken for an expression of happiness (line 2). M responds to B's vocalization with a ratification ("yes") in line 3, followed by a description of what they were doing earlier in the day. By that she constructs B's vocalization as an intentional act of wanting to communicate something to the mother. The mother provides an interpretation of what it might be that the child wants to communicate by referring to a shared biographical event (bathing earlier in the day). M continues by evaluating the shared past event as something positive, repeating this statement several times, each time followed by a tag-question and a longer pause (lines 4-10). Tag-questions expect an answer from the addressee in form of a ratification or contradiction and thus can also be seen as a prompt to communicate. Pauses index the next change of turns. By applying this pattern, the mother thus initiates turn-taking indicative of adult communication. Indeed, B's vocalizations are mostly produced during the pauses by the mother. In line 12, the mother, after leaving a relatively long pause of 4 seconds during which B vocalizes, again ratifies B's vocalization verbally as well as through gesture (nodding) and falling intonation.

The mother not only provides a narrative turn-taking structure but also step by step 'unpacks' the content of the narrative by adding another piece of

information with each turn (line 3-8). This structure moves the text along and provides a narrative frame.

In line 14-22 the mother repeatedly uses tag-questions which function as prompt and leaving relatively long pauses for B to take over the next turn. However, B does not vocalize which leads M to prompt B explicitly to narrate in line 23. After another long pause, she gives her prompt an even stronger emphasis in line 27 by repeating her prompt and adding the word “won’t you” (German: “doch”), and eventually provides a specific prompt of what the child should say and repeating it (lines 29-31).

It becomes clear that M actively tries to engage B in a protoconversational pattern of sequential dyadic turn-taking and provides a biographic-narrative script as ‘template’ for conversational interaction.

Mothers in the Muenster group used discursive practices that largely focused on the individual experience of the child. They would, for example, typically seek the exclusive attention of the child by following the child’s gaze and calling him, take up on what the child is doing and mirror not only the behavior but also the assumed inner states and emotions of the child and provide rich explanations of what was happening.

Imitation and mirroring

Example 2: Muenster15_t12

In this interaction, the researcher has kneeled down while continuing filming. The child turns to and looks to the researcher:

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
1	> camera		> B	(6)
2				°°Now she has kneeled down there. What is that now?°°
3				(1)
4				°°What is that?°°
5				(3)
6			> camera	°weird, is’n it? (.)
7			> B	weird, ‘is’n it?°

This example illustrates a typical pattern of the Muenster mothers: they try to gain B’s attention by following the child’s focus of attention and taking up on it by mirroring ‘the world from the child’s perspective’ and constructing a rich interpretation of B’s inner life.

Rhythmic patterned repetitions

Rhythmic vocal and verbal patterns in the Muenster data corpus were far less than in the Nso data corpus. They comprised playful body stimulation situations such as tickling-sequences, gymnastics and narrative play interactions as the following examples illustrate:

Example 3: Muenster 15_t12

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
45			dabs off B's mouth	Is there a little (greeting) sticking out on this Side? (.) Tut-tut-tut-tut
46		((GR))		(.)
47			dabs off B's mouth	Tut-tut-tut-tut-tut (2)
48		Voc		Tut-tut-tut-tut (.) Yes:s? (.)
49				↑Tut-tut-tut-tut

Repetition is used here as accompaniment of rhythmic body touch with vocal sounds that match the touching movement. In this example, the mother produces vocalization that matches her dabbing B's mouth. The mother's vocalization (and hence B's auditory experience) is thus synchronous with the child's corporal experience.

2. *The Nso Dyads*

A clearly prevailing feature of the Nso interactions was the highly rhythmic and repetitive character. Repetitive patterns in the Nso data corpus comprise musical chorusing as well as repeated addressing of the infant by name. The infants were greeted by a variety of names such as proper names, gender role (boy/girl), term of endearment (e.g., little child), often in combination with a term of respect (grandma/grandpa), or with a linguistic appendix (o:: as in "girl=o::"). In synchrony with these utterances, mothers would typically rhythmically bounce or shake the child. Other than in the Muenster group, all repetitions discussed in the following are self-repetitions that are highly rhythmically patterned. Therefore, these two types will not be discussed separately.

Example 4: Nso13_t12

The mother sits on a chair with B lying in her arms as the recording starts. Both mother and child are in a face-to-face position and M approaches B with each utterance in a rhythmic manner as she starts calling him repeatedly by name:

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
1	moves arms	voc	> B	
2				Yes! E@he@ He:h!
3				(1)

4		kisses B several times	((flicking lips))
5			Johny=Johny=Johny
6		kisses B several times	((flicking lips))
7			Johny=Johny=Johny
8			(1)
9			He::y
10			(1)
11			He:y Johny!
12		briefly turns around and back	he@he@he@
13	moves arms	voc	He:y Johny!
14	> camera		E::y Johny
15			Johny=Johny ((flicks lips))
16		kissing B	Grandpa Boy
17			(1)
18		kissing B	Grandpa Boy

The mother starts by ratifying B's vocalization (line 2). She then produces an attention-seeking device ("He:h!"), followed by flicking the lips and calling B by name repeatedly, which frames the sequence as attention-seeking by the mother. The repetitions are produced in a rhythmic prosodic pattern accompanied by M's movements towards B and back. In line 16-18, M addresses B as grandpa boy but stays in the same rhythm. After a brief sequence of rhythmic vocalization and singing, which for the sake of brevity is not quoted here, the interaction continues as follows:

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
1			kisses B	((flicks lips))
2				Johny=ou::
3				((talks to others))
4			kisses B	((flicks lips))
5			briefly turns around to other children, then back to B	
6				He::y (.)
7				He::y Johny(.)
8				He::y Johny
9				(1)
10				He::y Johny
11				(1)
12				He:y Johny
13				((talks to others, laughs))
14				((flicks lips))
15			((kisses B))	((flicks lips))
16				Fa:y=o::h!
17			((kisses B each time))	John=John=John=John (.) John=John=John=John

		(.)
		John=John=John=John (.)
		John=John=John=John
18		(1)
19		Johny=Johny=Johny
		Johny=Johny=Johny (.)
		Johny=Johny
20		(1)
21		He::y!
22	((smiles))	(1)
23		He::y!
24		(1)
25		He::y Johny
26		(1)
27		He::y Johny
28		(1)
29		He::y Johny
30	fondles	kisses B ((flicks lips))
31	with hands	kisses B ((flicks lips))
32		kisses B ((flicks lips))
33		lifts B and Heh! Heh! Heh! Heh! Heh!
		Heh! Heh!
34		heh! Heh! Heh! E:y! e:y! e:y!
	starts bouncing him rhythmically	
35		Grandpa,John!
36		Ee:y, grandpa,John!
37		Ee:y, grandpa,John!

The mother takes up the same rhythmic pattern as described in the first sequence with brief interruptions of talking with others. Line 16-19 show an alternation in the pattern of repetitions by first addressing B as faay and adding the ending o::, followed by series of repetitions of B's name. In line 20 M returns again to the previous pattern of repetition, and starting from line 33, she intensifies the rhythmic pattern by starting to bounce B in the same rhythm of her utterances. Again, she ends the sequence by addressing B as grandpa.

Repetition, here, clearly functions to maintain the rhythm of the interaction and to attract B's attention. The importance here thus seems to lie not primarily on the content of what is being said, but on establishing and maintaining a rhythmic pattern. Repetitions always convey more than what is denoted by the literal meaning of the words; the meta-message on the relational level conveyed here is attention and rapport as well as mutuality of experience.

This pattern of addressing the infant by rhythmically repeating his or her name was very common in the Nso interactions. Other typical forms of repeatedly addressing the child were “little child”, “little baby”, “girl”/”boy”, “grandma”/”grandpa”, “mum”/”dad”, often in combination with the prolonged vowel ‘o:’ as suffix at the end of a name such as in ‘Johnny=o:h’ or ‘mama=o:h’ which serves to maintain the rhythm (Yovsi, personal communication). While infants were also addressed as “faay”, “sheey” or “queen”, these forms of address were usually not rhythmically repeated.

Prompting to engage in rhythmic turn-taking

While synchronous rhythmicity was a prevailing pattern in the Nso group, there were also sequences of dyadic turn-taking. Other than in the Muenster interactions, however, this occurred less frequent and followed more a rhythmic pattern than a conversational one as I will outline in the following:

Example 5: Nso09_t12

This sequence followed after a sequence in which M tried to calm B down and starts when B eventually stopped whining. B is sitting on M’s lap and both look at each other:

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
1	> M		nodding to B with each utterance	babe:: (.) eh::
2		((VOC))		(.) eh::
3				(1)
4				Kerry:: (.)
5				My:: Kerry?
6		((voc))		(.)
				Eh:: Tata::
7		((voc))		(.)
				little Baby::
8		((GR))		(.)
				baby::
9		((voc))		(.)
				Thank you::
10		((voc))		(.)
				eh::
11		((voc))		Tata::
12		((voc))		(.)
				eh::
23		((voc))		((flicks lips))
24				((flicks lips))

25	((voc))		((flicks lips))
26	((voc))		(.) eh::
27	((voc))		(1)
28			eh::
29			(.) Where are you here now?
30			(1)
31			>Where are you here now?<
32	((voc))		(.) eh::
33	((voc))		(.) Where are we?
34	((voc))		(.) Where are you here now?
35	((voc))		(1)
36		Shaking B	Where are you here now?
37	((voc))		(.) eh::
38	((voc))		Yes babe::
39		Bending to B	(.) What are you doing here?=what are you doing here?
40			(2)
41		Leans back	What are you doing here?

This sequence follows a surprisingly rhythmic give and take between mother and child that is mostly dyadically alternating and in part overlapping. The mother readily responds to B's vocalization in contrapunctual rhythm offering short utterances which in turn are responded by B vocalizing. The coordination of turns is almost in the manner of a call and response initiation and creates a rhythmic pattern in unison which is reinforced by the mother's rhythmic nodding towards B. They thus both enter a rhythmic interactional dance which spans multiple conversational turns. M addresses the child alternately in terms of endearment ("baby", "little baby", "tata" [= grandpa]) and his first name while ratifying his utterances ("e:h" may be interpreted in an onomatopoeic sense but also signifies 'yes' in Lamnso). In the second part of the sequence (line 29-41), the rhythmic pattern remains but the mother now addresses repeated questions to B. Unlike the Muenster mothers, she does, however, not provide the second part of the adjacency part by answering on behalf of the child. While the questions still can be seen as prompts for B to take the next turn, the child's vocalization are not further interpreted but responded to again in brief sentences of similar intonation. The point I want to stress here is that B is actively encouraged to engage vocally in a dyadic turn-taking pattern. In contrast to the Muenster interactions, however, the interaction is not structured in a narrative pattern

of rich explanations and interpretations of B's presumed thoughts and feelings but rather in a pattern of participatory rhythm with choral responses. Both interlocutors thus display mutual awareness and involvement in the interaction, show an enthusiastic agreement with each other and contribute to the development of a shared intensive emotional interaction. Through the repetitive structure they construct the sequence as sharing the same speech floor (Fujimura-Wilson, 2007) that creates an impression of harmony and rapport (Tannen, 1987, 1989).

Imitation and mirroring

Example 6: Nso02_t12

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
1	moves hands			Let us be dancing Kikum ³ boy!
2			shakes B rhythmically and moves him alternately to both sides	((rhythmically)) >Kikum Kikum Kikum! o:h juju Juju juju juju ⁴ < Shaka (.) shaka (.) shaka (.) shaka (.) shaka (.) shaka (.) Shaka (.) shaka (.) shaka (.) shaka
3	> M		Stops	(1) o:h (1) o:h
4	Yawns		leans back	
5				((clicks tongue))
7			leaning forward to B' face	haha hahhh! ((imitating B)) (1)
8			leans back and forward again	.ha.ha hahhh!
9		burps		
10				Wonderful! Wonderful! Wonderful! Wonderful! Wonderful!
11				gha:h! ((imitates B))
12				Who has belched like this?
13				Who has belched like this, boy?
14			lifts B up and	<i>Who has belched like this?</i>
15			Down	<i>Who has belched like this?</i>
16				<i>Who has belched like this?</i>
17				<i>Who has belched like this?</i>
18				<i>Who has belched like this?</i>
19				<i>Who has belched?</i>
20				<i>Who has belched Francis?</i>

³ Kikum is the name of a traditional dance

⁴ juju is a masque

21	<i>Who has belched?</i>
22	<i>Who has belched Francis?</i>
23	<i>Who has belched?</i>
24	<i>Who has belched Francis?</i>
25	<i>Who has belched?</i>

Several discursive strategies are of interest in this excerpt: In line 1, the mother invites B to dance with her. She formulates this invitation as a prompt and immediately starts with rhythmically shaking B. She actively structures the interaction rather than taking up assumed preferences by the child. It is the mother who takes the lead and decides what to do next. In line 4, the mother reacts to B's yawning with clicking the tongue at the back of the palate. This reaction was found throughout the Nso data corpus when a child was yawning, and only when a child was yawning, often accompanied by supporting B's chin with the hand to close the mouth. This practice is related to the belief that if the mother would not do this, the child's mouth would remain open and not close again (Yovsi, personal communication). The mother then imitates B (line 7-8), a feature that was also common in the Nso data corpus and which is similar to the Muenster data. In line 9, the mother takes up on B's burping by praising B repeatedly (line 10), imitating him (line 11) and then producing a series of rhythmic repetitions in form of rhetoric questions (line 12-25). She thus integrates what B was doing in the continuation of the rhythmic interaction from the beginning of the sequence. She does, however, not further elaborate what B is doing. Also, what is mirrored is an outward behavior, not an inner experience.

The Nso mothers, while being attentive to the child and taking up on what B does, the focus is not on the inner and individual experience of the child and thus towards the child but on compliant behavior and outward attention away from the child. Other instances in which mothers take up on where B is looking at, show a similar pattern of repeatedly asking where B is looking at without further elaborating on it or integrating it in a rhythmic interaction, as illustrated in the following excerpts:

Example 7: Nso22_t12

	BABY NONVERBAL	BABY VOCAL	MOTHER NONVERBAL	MOTHER VERBAL
1	> camera		> B shakes B	A:ba:iy! ((expression of surprise))
2			Stops	Widely opened eyes
3			shakes B	↑Widely open-eyed Emily
4			Stops	(3)
5			bounces B	°Little grandma?°

6	looks around	pants		(2)
7	> camera		Shakes B	<i>Little grandma o:h</i>
8				(2)
9	> side	pants	Stops	<i>Little grandma o:h</i>
10				(1)
				What are you looking at:?
				(2)
				What are you looking at?
11				((flicks lips))

In this excerpt, the mother mirrors the outward appearance of the child while shaking her which indicates that she is trying to get B's attention. She continues by summons (line 5-8) which serve as attention-seeking strategies along with nonverbal strategies to gain B's attention. The child, however, still seems rather lethargic and tired which leads M to use rhetoric questions (line 10) and vocal attentions-seeking strategies (line 11).

Conclusion

From the evidence presented I suggest that the pattern of 'protoconversation' described in the literature may in fact be one of several possible cultural manifestation of an underlying innate parenting system. The two different manifestations of 'protovonversation' can be understood accordingly as having evolved out of an adaptive process to the respective socio-cultural environment (e.g., Keller, 2007). This claim is supported by the fact that there are a number of discursive features that have been found in both groups, however, to various degrees and serving different functions.

First, *imitation* may be considered as a means to establish intersubjectivity at the most basic level and as the predominant way to indicate sharing of meaning with infants. It hence contributes to the organization of subjective experience of the developing self (Stern, 1985, Trevarthen, 2005). Mothers in both groups imitate their infants, for instance the infant's vocalizations, yawning, or sneezing.

Likewise, mothers in both groups *mirror* and *take up on what the child is doing*. However, there are major differences in the way they do this: the Nso mothers mirror what the child is doing by referring to the child's outward appearance without further elaborating on it. They take up on the child's behavior by prompting him or her to do something. In contrast, the Muenster mothers mirror the child's behavior most prominently by referring to and richly interpreting the assumed intentions and inner experience of the child and giving the child the lead. The Muenster mother's discursive practices point to a cultural model that stresses agency

and individuality while the Nso mothers' discursive practices point to a cultural model that stresses obedience.

Rhythmicity and *musicality* were present in both groups. However, the interactions in the two groups varied greatly in intensity and structure of rhythm: the Muenster pattern of protoconversation comprises a 'narrative', conversational, diachronic rhythm, the Nso pattern largely follows a synchronous, highly repetitive rhythm. Similar findings have been found for the KwaZulu in South Africa described as *protosong* (Cowley et al., 2004). Those mothers of the Nso group who did address no or only little verbal communication to their infants, nevertheless showed rhythmic patterning by lifting the child up and down for example. It is well documented that infants can discriminate features of rhythmicity and musicality, like timing patterns, pitch, loudness, harmonic interval and voice quality (e.g., Trehub, Trainor, & Unyk, 1993). The rhythmic and musical features of early mother-infant interactions play a crucial role in primary intersubjectivity and for the meaning that is transmitted to the infant (Stern, Hofer, Haft, & Dore, 1985; Trehub & Nakata, 2001-2002; Trevarthen, 2005). While 3 months old infants obviously cannot understand the meaning of the words the mother is using, there is evidence that they are able to 'understand' communicative messages on an affective level (Reddy, 2003; Trehub & Trainor, 1993) based on universal associations of specific acoustic patterns with particular emotions (Frick, 1985; Scherer, 1986 cf. Trehub & Nakata, 2001-2002), or through a process of emotional contagion (Hatfield, Cacioppo & Rapson, 1994 cf. Trehub & Nakata, 2001-2002).

This is in line with an increasing body of research that stresses the pre-reflexive nature of *bodily* self-consciousness (Legrand, 2006). Cowley (e.g., Cowley et al., 2004) stresses that an infant's emerging understanding of the world is inseparable from the embodied experience of the infant. Bodily feeling as a source of vital information has been described as typical in some societies in West Africa. Geurts (2002) for instance reports of subjective experience described as 'seselelame' (literally "feel-feel-at-flesh-inside") which does not make a distinction between sensation and emotion, and between intuition and cognition.

While in many Western cultures, repetitions are perceived as redundant and pointless and therefore have a negative association, in several non-Western cultures, repetition is a way of establishing a rapport between people also in every day conversation and to carry on conversation with relatively little effort (Johnstone, 1994; Tannen, 1987), and to maintain an ongoing rhythm in the discourse. Music and dance also play a prominent role in the every day life of the Nso society. Interestingly the Lamnso words

for ‘dance’ (*dzə̀n*), ‘life’ (*dzə̀̀əm*), and ‘to be’ (*dzə̀*) have the same root (Banboye, 1980). Echoing repetitions and choral responses have also been found to be salient patterns of interaction in other communities in sub-Saharan Africa (Merritt, 1994) in a variety of every day situations such as class room situations (Pontefract & Hardman, 2005; Tannen, 1989; Williams, Makoch, Thompson, & Varela, 2001). By socializing children into the habit of rhythmic repetition, Nso mothers thus also prepare their infants for a more general communicative strategy of the society. Frequent repetition of the child’s name may be related to the child’s integration in the community since for the Nso, a *name* is what gives the child the social integrity and recognition as a community member.

The Muenster mothers, in contrast, use an alternating turn-taking rhythm in which they explicitly encourage their children to express their inner feelings and thoughts and make explicit attributions of the infant’s mental states by explaining actions in intentional terms. This also corresponds with a more general pattern of many Western societies, where it is common to explicitly guess at what another person might think. Many pedagogical procedures in Western societies include mind-reading games and riddles. This cultural pattern also becomes evident in that the legal assessments of wrongdoings consider the mental fitness of the actor at the time of the action (Ochs, 1990).

Not referring to the internal experience of the child has also been found in other non-western cultural groups (e.g., Ochs & Schieffelin, 1984) based on a belief that infants have no understanding yet and hence are not able to initiate appropriate interactional sequences. Western Samoans have been found to not directly address infants *except* in the form of songs or rhythmic vocalization (ibid). These findings suggest that similar ‘protoconversational’ patterns like the one prevalent among the Nso also exist in other non-Western societies that live in ecocultural environments characterized by rural non-industrialized living conditions, high birth rates and infant mortality.

From a developmental pathways approach, the different discourses the child grows up in should also have wide ranging developmental consequences. There is empirical evidence suggesting that synchrony in early caregiver-infant interactions is critical for the child’s development of empathy, emotional resonance, and self-regulation and lays the foundation for the child’s later capacity for intimacy throughout life (Feldman, 2007). Rhythmic aspects in the regulation of infant’s behavior have for instance been related to the development of cognitive competence (Feldman, 2007;

Stern et al., 1982). Keller and colleagues (Keller, Otto, Lamm, Yovsi & Kaertner, 2008), suggest that an alternating turn-taking rhythm could be associated with the development of analytic thinking while a synchronous rhythm could be associated with the development of holistic thinking. Similarly, being socialized towards a cultural practice of reading what is going on in other people's mind, has been related to later performance in theory-of-mind tasks (Bonaiuto & Fasulo, 1997; Kiessling, 2007). The experience of synchronous and highly rhythmic chorusing and bodily stimulation, like in the Nso group, conveys a meta-message of involvement and participation (Johnstone, 1994), relational symbiosis and harmony (Gratier, 2001; Rabain-Jamin & Sabeau-Jouannet, 1997; Tannen, 1987, 1989), and of achieving group involvement in the family and cultural community (Cowley, 1994; Merritt, 1994). It may hence foster the conception of a *socially related and embedded self*. The experience of a diachronic rhythm with relatively long pauses, like in the Muenster group, conveys a meta-message of emotional bond that recognizes the child in its individuality. It may hence foster the conception of a *separated individual self*.

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Appendix

Explanation of transcription conventions used in the above excerpts (Jefferson 1984; Ochs 1979):

↑↓	pitch movement
Underlining	vocal emphasis
CAPITALS	speech that is obviously louder than surrounding speech
°I know it,°	obviously quieter speech
(4)	pauses in seconds
(.)	micropause, hearable but too short to measure.
:	elongation of the prior sound
> <	speeded-up talk
=	immediate “latching” of successive talk
hhh	Aspiration (out-breaths); proportionally as for colons
.hhh	Inspiration (in-breaths); proportionally as for colons
(text)	Additional comments
Voc	vocalization
(WN)	whining
(GR)	grunt
(CR)	cry
>	indicating direction of gaze
