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AUTHOR Keefer, Constance H.; And Others
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ABSTRACT

This paper describes a cross cultural study of face to face interactions between American and Gusii mothers and their infants. Observations of the Gusii people of Western Kenya suggest that the direct expression of intense affect is de-emphasized through an avoidance of direct face to face interactions. The present study investigated (1) how and to what extent cultural goals would affect face-to-face mother-child interaction and (2) whether there would be universal or species specific aspects of this interaction. During videotaped sessions with 10 Gusii infants and their mothers the infant was placed in an infant seat and the mother was instructed to talk with or play with the baby and to get the baby's attention. Data were analyzed according to a system developed previously for similar American research studies. In the American research, seven clusters of interactive behaviors (termed monadic phases) had been defined and scaled according to degree of attention and positive to negative affect. Results indicated that these monadic phases were structurally similar across these two cultures. At another level, however, typical Gusii patterns emerged. These patterns appear to encourage a steady positive state of infant arousal. American mothers appear to encourage more variability in infant behavior. Results suggest that while the structure of the interactions is similar, the sequencing and timing varies, reflecting cultural differences in the mothers' shaping of infant behavior. (BD)

THE STRUCTURE OF INFANT-ADULT SOCIAL RECIPROCITY

A CROSS CULTURAL STUDY OF FACE TO FACE INTERACTION: GUSII INFANTS AND MOTHERS

Constance H. Keefer, M.D., Suzanne D. Dixon, M.D.,
Edward Tronick, Ph.D. and T. Berry Brazelton, M.D.

Child Development Unit
Children's Hospital Medical Center
Boston, Massachusetts 02115

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INTRODUCTION.

Studies of the interactions between American infant-adult pairs in a face to face play situation indicate that as early as six weeks of age the infant is an active participant in the reciprocal affective communication which occurs.[1] The infants also demonstrate by that age an ability to adapt their interactional styles to different adults, e.g. mother, father and stranger.[2,3] The compelling nature of these findings of infant capacities and early affective communication led us to look at this situation in another culture. We had an opportunity to do so among the Gusii people of Western Kenya. Certain characteristics of the Gusii made them a particularly interesting culture with regard to the face to face situation.[4]

The Gusii are a Bantu-speaking agricultural community of the highlands of Western Kenya. An important goal for adult personality among the Gusii de-emphasizes the direct expression of intense affect. One of the ways in which this is enacted is through an avoidance of direct face to face communication. A typical adult-adult interaction occurs with averted gaze. Conversations frequently occur with the participants at a 90^{o} or greater angle to each other. Whenever we would enter a Gusii yard, chairs were set out for ourselves and any men and older women. They would invariably be placed in a seemingly haphazard pattern that had the effect of decreasing the possibility of speaking face to face to another adult. Indeed, between certain sex and generation gaps, fathers-in-law and daughters-in-law, for example, direct face to face exchanges were prohibited.

This is in marked contrast to our own culture's emphasis on face to face encounters and our sometimes belief in them as universally necessary for affective communication.

We assumed that the socialization processes for Gusii infants would be shaped by the goals for adults. By looking at the earliest of face to face interactions in a culture with such different goals from ours we hoped to begin to answer two questions: 1) how and to what extent

would these cultural goals influence or be reflected in the interaction; and 2) would there be universal or species specific aspects of the interaction, presumably reflecting a biologically based system for communication.

METHODS:

Videotaping of face to face interactions was done on a group of ten Gusii infants and their mothers. These mothers and infants were part of a larger longitudinal study of development and child rearing practices. This larger project, called the Child Research Project, was conceived of and headed by Robert LeVine, Ph.D., Roy E. Larson Professor of Education, Harvard University.

The infants and their families had been selected based on representative demographic characteristics, including religion, economic status and geographic location. In addition to the face to face data, we gathered obstetric and nutritional information on the mothers while pregnant, pediatric and Brazelton examinations in the newborn period, and naturalistic observations in the homes and cognitive testing over the next fifteen months.

Because of the climate and living arrangements of the Gusii, most of the filming was done out of doors at the homes of the subjects. The climate being temperate and tropical; Kisii district, the home of the Gusii, being located 50 miles south of the equator and at an elevation of 6,000 feet. During the rainy season some filming was done in a building in the market place which was also used as a clinic for providing medical care. In a typical outdoor filming arrangement, the infant was seated in an American infant seat with the mother seated or kneeling in front of him. One assistant steadied the infant chair and another held a tarpalon to block the sunlight for better resolution on the videotape. One assistant also held up a mirror which reflected the mother's image. This allowed the use of one video camera to record a face to face view of both mother and infant. Figure 1 demonstrates what

the camera saw.

The mothers were instructed in this situation, as in the American laboratory situation, to "talk to your baby," "play with your baby," "get your baby's attention." The videotapes were analyzed by scoring behavioral phases for mother and infant. The American studies had led to the development of a system of analysis by which the flow of the interaction could be divided into segments of identifiable behavior clusters or phases displayed by each interaction. The evolution of this system is described in more detail in the paper by Tronick.[5] The behavioral clusters identified are termed monadic phases. Seven were defined for mother and infant: 1) Avoid/Protest, 2) Avert, 3) Monitor, 4) Elicit, 5) Set, 6) Play, 7) Talk. Each monadic phase has specific, mutually exclusive behavioral descriptors. Examples of the descriptors for Play and Aversion phases for mother and infant are shown in Figure 2. The phases, as shown in Figure 3, constitute the continua of degree of attention to the interaction (7 > 1), and positive to negative affect (7 to 1). This system was used to analyze the Gusii tapes by identifying the monadic phase for mother and infant for each second of interaction.

FINDINGS:

The first finding was striking to us in light of the avoidance and prohibition of face to face encounters among the Gusii. The Gusii mothers told us it was "silly to talk to a baby." However, when faced with their infants in this situation, the behavior of both infant and mother showed a form and content which was adequately captured by the monadic phases. Those phases having been derived from observations on a different culture. In other words, the structural units of behavioral displays were the same as those seen in the American pair interactions.

The mothers used the same kinds of modifications of adult behavior observed in many other cultures, modifications which seem particularly relevant to an interaction with a young infant. These modifications

have been described and categorized by Tronick, Als and Adamson.[6] They include 1) state setting activities such as adjusting and supporting the infant; 2) activities designed to provide a constant focus of attention, such as tapping, continuous rhythmic talking and head nodding; and 3) "infantalized" or "babyfied" changes in behavior. An example of babyfied speech is high-pitched, slowed and presented in a burst-pause rhythm, and babyfied movements are those where mother moves in close to the infant and moves her head horizontally and vertically. This conformity suggests that interactions of adults and infants have a universal base underlying cultural variations.

In the next two segments of film of two Gusii mother-infant pairs you can see some of these behavioral displays and modifications. Each segment is two minutes in length. The first infant is a 103 day old boy, the fifth child to his mother. The film begins thirty seconds into the interaction. The infant maintains a nigh positive state. Moving between the monadic phases of play and set, reaching periods of vocalization near the end. The mother uses babyfied vocalizations and an almost continuous three per second tapping rhythm.

The second film is of a 85 day old girl, the fourth child of her mother. The infant again demonstrates an even, positive state, doing more vocalizations than the first. The mother uses her voice almost continuously for state setting and focusing the child's attention. The infant has developed hiccups during the interaction. The mother uses her hand and voice to support and alert the infant through the hiccupping episodes, however she does not interrupt her continuous rhythmic voice, but rather uses it, by changing the inflection, to ease back into a higher level of interaction.

These films show the mothers and infants using what we think may be universal characteristics of adult-infant reciprocal communication, in the form of the monadic phases or basic structural units. The films also demonstrate our second finding. At another level they show characteristics which were typical within the Gusii sample and different from the American. It is in the sequencing and timing of the display

units that these typical Gusii patterns emerge. It appears that this patterning may reflect cultural influences.

Figure 4 illustrates the monadic phase analysis of these two interactions. Some of these typical Gusii patterns may be seen graphically by this analysis.

The infants' curves demonstrate their steady, moderately high level state. That is, they move among the three highest states, relatively frequently, but seldom, if ever, below that. The mothers make more changes, and the changes they make are frequently rapid and large. For example, the first mother sometimes moves, within a period of two seconds, from talking - to aversion - and back to talking again. The mother's changes occur during periods of high steady state for the infant. While the infant sometimes responds by decreasing his level of intensity and involvement, it is seldom to a less than neutral state.

The next segment of film - thirty seconds taken from the first interaction we saw - shows this graphic representation in action. Mother and infant have built to a high level of exchange of vocalizations and play. The infant begins to laugh, mother follows with increased vocalizations and then laughs herself. Her giggles seem truly spontaneous and somewhat out of control. She then averts by looking in the mirror; on return to the interaction they build again and she breaks it again by looking away, into the mirror.

It looked to us as if the mother might be using this pattern of rapid, large changes to control the interaction, both maintaining a moderately high positive state, but not allowing much peak intensity involvement for either partner. The Gusii mothers of our sample gave us some confirmation of this interpretation. On viewing this film they stated that Teresia, the mother, giggled not just out of enjoyment but out of embarrassment at her son, Magoma, becoming too excited and carried away in public. We may assume they were also talking about Teresia.

It appears then that cultural standards for adult interaction are being reflected in this adult-infant interaction through the patterning

of behavioral units. In our culture, face to face interactions are valued as a method of communicating affect. In our American mother-infant pairs we see the monadic phases sequenced to produce frequent peak reciprocal, involvement. The Gusii, on the other hand, de-emphasize and prohibit face to face encounters for affective communication. In their mother-infant interactions we see the same behavioral units being used to produce even positive states in the infant, without so much of the peak and valley effect seen in the American interactions.

I have emphasized the influence of culture on the mother's role. We think we see the culture reflected in the infant's role, too. During the face to face interaction the maintenance of even, positive states in the face of large rapid changes by the mother is impressive and typical. In our observations of these infants in their homes we saw the same sort of state modulation - infants of this age seldom cried intensely; they maintained long periods of quiet positive alert states. I would like to highlight more clearly this effect on the infant as we saw it in a different situation. That situation is one we call "the still face;" that is, we instruct the mother to assume the face to face posture, but not to interact with the infant.[7]

The next minute of film will contrast an American and Gusii infant. The American infant, an 82 day old boy, is seen first.

Within fifteen seconds he has greeted his mother, recognized the violation and then gone on for the remainder of the interaction - which lasts two minutes - to interspearse a few eliciting attempts in a gradual process of withdrawal and decreasingly positive affect.

The Gusii infant is the Magoma you have seen in interaction. Magoma apparently recognized the change in his mother, too, within fifteen seconds; he spends that time monitoring his mother. Then he gradually turns his neutral to slightly positive attention to another task, examining the side of his chair. At no time does he overtly attempt to elicit his mother into an interaction.

The two babies by three months of age have found different methods of

coping with a non-interactive face to face situation. The differences seem to reflect their separate cultures' goals and attitudes.

It would appear then that a face to face situation for reciprocal affective expression occurs with some variability in frequency from one culture to another, reflecting variations in the significance attached to the situation. Despite these variations, and even extremes in frequency, when the situation does occur, the units of behavioral display are similar across cultures.

Those aspects of the interaction which reflect cultural influences are the sequence and timing of these behavioral units. Hence, in the Gusii society which de-emphasized face to face, the patterning of the interaction shows a mother making frequent changes in state including aversion from the infant, seemingly to allow his maintenance of a positive, but highly modulated state. The face to face setting may be one area in which the infant learns to become a member of his culture. For us this means that what goes on in the face to face situation can reflect both universal and culture-specific influences on development.

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Figure 1

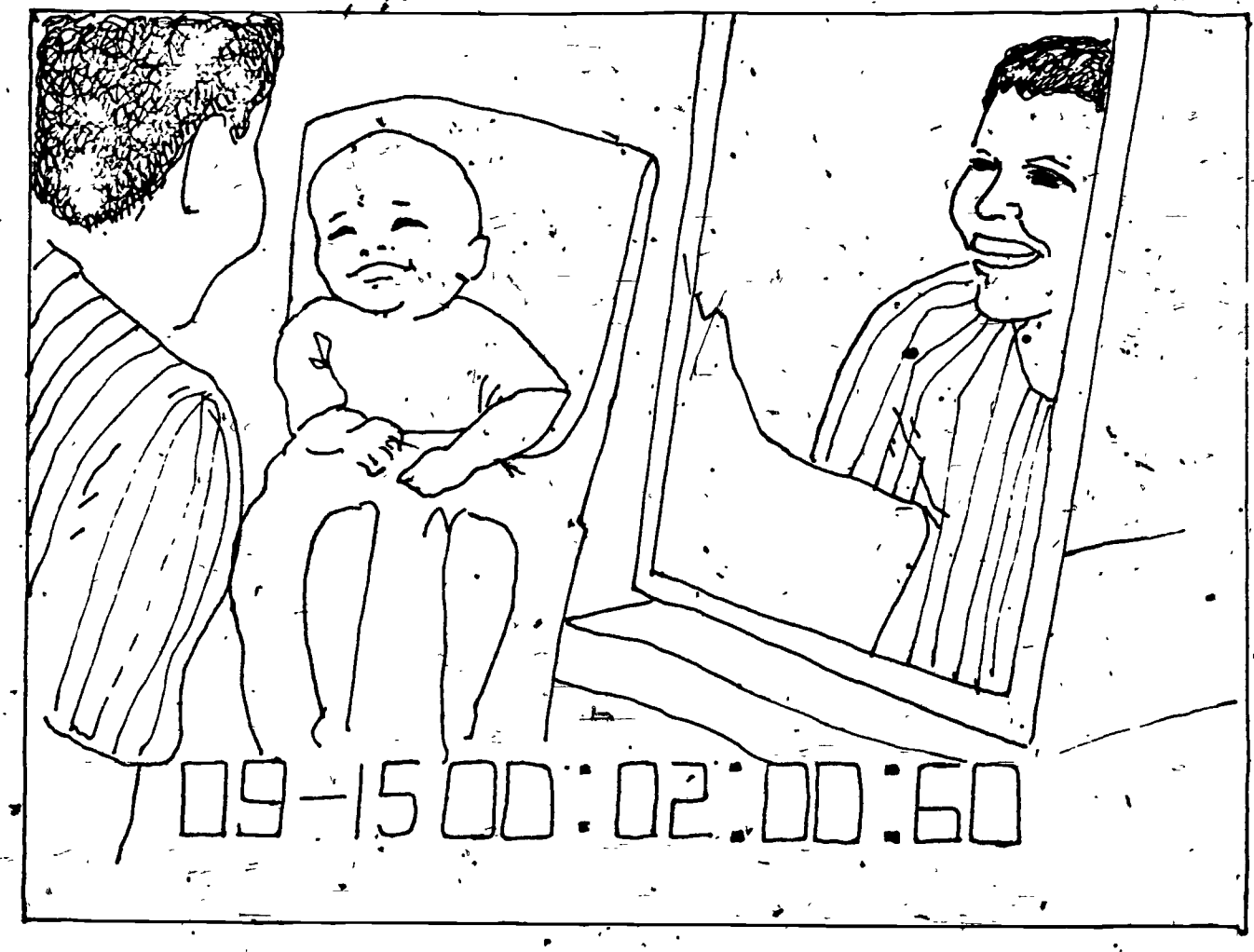

Figure 2

AVERSION (2)

Infant

Neutral to negative affect, but not crying or fussing;
Gaze away from mother;
Posture neutral to slumped;
Head position variable:
a) fully to part-side away with or without focused attention elsewhere;
b) any position, totally involved in object or hand play.

Mother

Neutral to negative affect;
Gaze away from infant;
Distance medium to far back;
head position variable, toward to part-side away;
Vocalizations variable:
a) none to infant;
b) may or may not vocalize to another adult
Contact with infant variable, none to simple touch.

PLAY (6)

Infant

Affect greater than neutral;
Head and gaze totally oriented to mother;
Posture upright;
Face variables, from simple smile to coo face;
Vocalizations variable, from none to positive vocalizations to laugh;
Movement variable, from none to large limb movements.

Mother

Affect greater than neutral;
Body, head and gaze fully oriented to infant;
Vocalizations variable, from none to low burst pause narrative, playful-stern or non-verbal sounds and laugh;
Contact with infant variable, from none to simple touch or tapping.

Figure 3

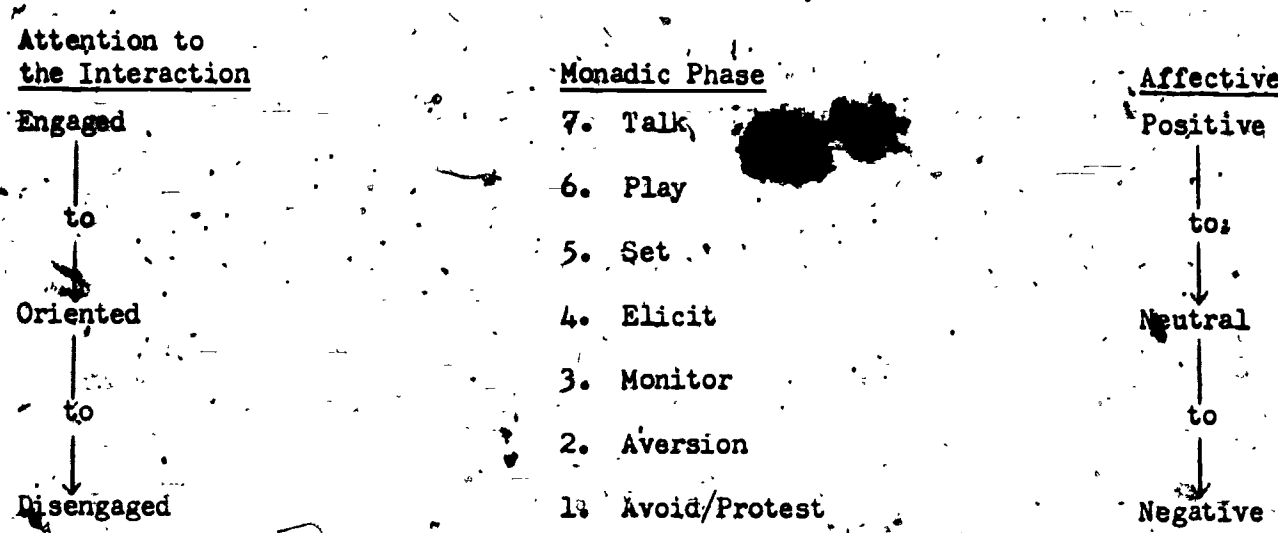
Attention to the Interaction
Engaged
to
Oriented
to
Disengaged
Monadic Phase
7. Talk
6. Play
5. Set
4. Elicit
3. Monitor
2. Aversion
1. Avoid/Protest
Affective
Positive
to
Neutral
to
Negative

Figure 4