Chapter 2

The origins of communication, self, and culture

Laura, aged 12 years, informed her parents during the evening meal 'I never want to go back to school . . . ever!'. Despite a lengthy discussion that evening, Laura could admit to little more than a stubborn unhappiness. Although certain of little else besides her determination to avoid school, her parents decided to allow her to stay at home the next day, giving them the opportunity to talk more with Laura and to telephone her teacher.

At the next evening meal, Laura's mother told her of the teacher's suspicion of Laura's disagreement with her best friend. They had come back from lunch the day before last with an icy silence between their desks, an obvious contrast to their more usual exchanges of glances, smiles and secret notes. Laura nearly exploded with the tale she had held inside for the past day and amid tears explained to her parents what had happened: a broken confidence of a shared intimacy, a chain of unbearable moments of shame hearing other girls talking about her most personal thoughts, and most of all her disappointment in the trust she had placed in her friend. In the ensuing conversation, feelings were aired and soothed, strategies were offered, and Laura returned to school armed with things to say.

One of the developmental tasks of children in their early teens in the Western world is the establishment of bonds of intimacy with others.[1] It is a world in which personal secrets and revelations occupy long hours of talk, in which acceptance of one's own and others' inner feelings dissolve suddenly into piercing judgements and just as quickly coalesce back into acceptance. In this world one's personal experience pours into another's consciousness, a flow of images as water from a broken dam, in the form of a story narrative.

The teller usually doesn't just say 'I'm sad,' or 'I'm in love.' These messages are communicated as the narrative unfolds. A meeting is described or every word of a telephone conversation is reported. Comments are added. The story is embellished and made dramatic. The listener asks leading questions or conspires in the drama with well-timed sighs and exclamations.

The listener takes the floor and reveals a related personal story. There is more elaboration, more discussion, and more intimacy.

This example highlights the themes developed in this book, themes related to communication and the self. Laura's case is an example of breakdown and repair of communication between Laura and her parents, and between Laura and her friend. Laura at first refuses to impart the information that her parents might need to help her through the crisis. That information is obtained from the teacher and it proves to be a key to unlock the gate to the information that Laura later relates.

Guiding principles

The relationships between communication, self, and culture

Communication illuminates the self's relationship to others. When individuals communicate, the actions, ideas and feelings of the individual are made known to others. Individuals define themselves to others via communication.[2] In some cases the individual is quite clear about who they are and what they believe, but in other cases, the very process of acting and speaking helps the individual toward increased self understanding. Laura's narrative is related to personal feelings and social relationships: it is about the boundaries between self and other, what Laura knows and what others know, and what they can and may tell each other. As she tells her stories to others and observes the effect of her stories on them, she understands herself and her relationship to others in new ways.

Communication that leads to renewed self-understanding is a creative co-construction of the participants. Laura's telling of her encounter with her friend seems to explode into a fully formed story of anger and disappointment, of confidence and betrayal. That's not how it actually happened, however. Laura needed to be assured of her audience's interest and sympathy before she even began to talk. Her parents' patience, the efforts they made to find out more from the teacher, and no doubt their expressed concern at Laura's sadness was what their daughter needed in order to unburden herself. Thus, even before the telling, Laura's tale is partly shaped by the perceived receptivity of the audience.

Laura's story was not completely formed before it was told; few personal stories are complete, save the well-worn tales heard in political speeches. In the actual telling Laura rose to the occasion. Supported not only by her parents' empathy, and also by their leading questions, nods, laughs and comments, Laura created her story as she told it. Her creation was partly spurred by her own experience and ability as a storyteller, and also partly attributable to the inventiveness of the audience in detecting ambiguities and following up on particularly meaningful parts of the unfolding narrative. No

doubt Laura would have told it differently to another girl friend or to the teacher.

Laura comes to understand herself better as she composes the text of her story. She learns about her feelings and what sets them off, she is able to examine the meaning of friendship and how this particular friend relates to her values and needs. She could not have done this in the same way without the contribution of her parents. For one thing, they gave Laura the freedom to explore her feelings in an emotionally safe situation. More importantly however, they contributed concretely to the telling by giving Laura tools for self-examination: questions to probe with, narrative forms around which to bind experiences.

The parents were also creating something with their daughter. On the first evening they were unable to induce Laura to speak. How could they help her? What should they do next? Laura's pain challenged them to think of new ways to open communication with her. Even as Laura began to tell her story, it is unlikely that either parent was following a prepared script for being a good parent. Although their actions were based in part on personal goals and cultural values, their questions and responses were creative compositions. Laura was not weaving her own story, nor were her parents acting out a parental role. The story that emerged they created together.[3]

Communication creates knowledge. If Laura knew in advance how her story would come out, would there be much need for telling it? Based on prior discussions with her parents, Laura could predict that they would be responsive to her and that usually such talks ended on a note of relief, if not complete resolution. But could she have predicted exactly how she would understand herself after the conversation? Would she have known in advance what her parents would say?

For some people the answer to such questions might be 'yes.' Often, when we can foresee the outcomes of a social interaction with someone, it is usually with someone we wish to avoid. We learn nothing new about ourselves or about them, we don't enjoy the encounter, we perceive it as boring, frustrating or painful. In some types of relationship pathologies, as in dysfunctional family systems, ritualized and rigid interaction patterns become the norm and require intervention to restore their creative innovation.[4]

Creativity in social exchanges leads to changes in self-understanding and to enhanced feelings of closeness to the partner.[5] One might call such interactions playful in the sense that there is shared agreement to indulge in the freedom to explore the topic at hand. The topic need not be a happy one, but it might be. Feelings of closeness to others enhances our willingness to do things together, our sense of belonging to a partner, a family or a community.

Communication depends on community, the existence of a culture. Part of what we call culture is the set of conventions that define the type of discourse possible between individuals.[6] The culture of communication includes tools

used for communication: the 'software' of language, gestures and symbols and the 'hardware' of books, radios, musical instruments, computers and telephones.[7] The culture of communication also regulates who can talk to whom and what can be discussed. Laura might tell her story differently to her teacher than to her parents in part because they are different individuals, and in part because such intimacies have a different cultural significance at home or in school.

The culture of communication influences the form of the narrative. In some cultures like Laura's, young people are permitted to engage in playful discourse with adults in which the boundaries of status are minimized. Laura can tell her story in her own manner, and is encouraged to be inventive and verbally skilled. In other cultures, status differences bar children from speaking freely to adults.[8] Culture regulates whether discourse is permitted between the genders or only within; whether topics such as spirituality, sexuality, fear, desire or uncertainty are allowed.

Laura's story of her friendship problems is also woven from a rich array of culturally accepted narratives related to childhood growing pains. These cultural narratives are available from adults or in books in the form of standard moral tales: Bible stories, fairy tales, popular children's literature, TV shows and movies. Children's self-understanding is enhanced by identification with the characters in the story, perhaps through creating an imaginary private narrative dialogue with the characters, or perhaps through discussion of the story with peers or adults.[9]

Culture reflects the history of the community. The tools of communication and the rules that regulate its occurrence have been maintained over time as a historical tradition. Cultural history can be very brief, as in a clothing fad by which participants communicate their membership in the group, or it can be relatively stable like language forms and national myths that can last for centuries.

Assumptions of this work

In this book I address the problem of how the micro-culture of the parent–infant relationship allows the infant to partake of the macro-culture of the larger community. Since parents are already members of the macro-culture and act with their infants in ways specified by the community for childcare, the micro-culture is not entirely independent of the macro-culture. Although all scholars of human development acknowledge the parents' role in the child's acquisition of actions that are acceptable in the macro-culture, this book offers a different view of how that happens.

First, I assume that children develop as part of their everyday interactions within the family. Culture does not impose itself on children via broad categories like 'right' and 'wrong.' Culturally accepted behavior arises spontaneously as part of children's interactions with others.

Second, I assume that culture does not exist as a codified set of rules, procedures and tools that children acquire and then apply to particular situations. Children acquire patterns of action and thought that work for them in particular real-life situations, when alone and in the company of others. Children discover those patterns of acting and thinking via their own activity with others; they are not explicitly learning, nor are they following, rules.

Third, I suggest that 'rule-like' behavior – such as language, social manners, learning to do arithmetic – emerges from a set of constraints available from the child's transactions with members of the community.[10] None of these constraints is an explicit rule. Rather, given the social constraints (I get into trouble if I do X. I will be understood if I say Y. I will feel better if I move like Z.) and the inherent structural constraints of the human body and brain, cultural activity will emerge via the child's own creative solutions to everyday problems.

The unique contribution of this book is my tracing the roots of communication, self and culture to their earliest origins. While most scholars begin such a search after the child acquires language (the most recognizable and historically significant cultural tool), I suggest that cultural communication originates much earlier, in the pre-verbal period.

Defining individuals

The relationships between communication, the self and the cultural community are fundamental to any understanding of our human nature. Certainly these three terms must be at the heart of any enlightened psychology of the human mind. People can only be comprehended in the context of their community, in the historical time in which they live, and in relation to the forms of communication by which they express themselves.[11] But are individual actions such as an athletic achievement or a musical skill done independently of communication, self and culture? Is a record-setting speed in a running race a purely personal achievement?

Self. In setting a racing speed record, talent and personal effort are important factors, but it is impossible to measure the scope of this achievement outside the historical and current community of runners. One's 'personal best' is always measured against some social comparison.

Culture. Running is a culturally constructed means of self-expression. People engage in forms of athletics as members of a community of athletes who define the rules of the sport, provide the tools for its execution (race tracks, running shoes, clothing, stop-watches). How far and fast one runs depends not only on the shape and strength of the body, but also on whether one runs barefoot, in leathers and cleats, or in computer-engineered ergonomic running shoes made of synthetic materials.

Communication. It is hard to imagine any kind of race without communication. One's pace and place on the track is determined by the speed and location of

the other runners. Even if one runs alone, communication is an inescapable part of running. The runner may talk about running with others, or may have learned to run better from a coach or teammate. Running as a form of self-expression is enhanced by communication, communication is enhanced by talking about running with others who care about it and both self and communication are enhanced by the historical continuity of a cultural community that promotes and elaborates the activity.

Communication and development

This book is about developmental change in the relationship between communication, self and culture. In particular, I try to answer the following questions: How do infants during their first years of life become participants in a culture? How do they acquire culturally acceptable communication skills? When and how does the self emerge? I believe that communication, self and culture are present and inseparable from the beginning of the life course. If this is so, it leads to further questions. What is the form of communication, self and culture in a 3-day-old infant, in a 3-month-old, in a 3-year-old? How does this trinity evolve developmentally? These topics form the core of this book.

Unfortunately, many scholars and clinicians who deal with developmental change think that just because communication, self and culture are inseparably related for Laura and for athletes it does not necessarily mean that such a unity exists from the beginning of the individual's life. These entities are believed to shape children's action and thinking only later, after a sufficient period of acculturation, after the biological needs and functions are met and relegated to the background of cultural existence, after the psychological self is freed from the tremors and longings of the infantile flesh.

This means that some of my narrative will be created in response to and in interaction with these opposing viewpoints. I believe that many of these scholars have forgotten that action and thought in adults are lived in a real physical body, not only in the mind. Early infancy is important to our understanding of development because it is a period in which the body is salient, its limits obvious, its desires nearly overwhelming. All later action, all manifestations of culture including the highest forms of art, are set within the context of the body as much as they are set within the context of the society. What we can learn from babies is a more balanced view of humankind in which spirit and matter commingle to achieve recognizable forms of civilization.

Communication, self, and culture in infancy

I will present research evidence suggesting that infants are active participants in a cultural system from the beginning, that newborns have a sense of

self, and that communication with the environment exists from conception. I also intend to show that the dynamic and creative aspects of interpersonal relationships and of self-understanding that were discussed in the Laura story can be seen in some form in early infancy. Indeed, it is the creativity of interpersonal transactions from which development springs.

The assumption of the unity of communication, self and culture in early life solves some of the persistent intellectual problems that have puzzled developmental psychologists for some time. If you assume that the infant has no sense of self and does not partake of culture, you are left with the problem of how to get culture into the baby, and how a self emerges from an infantile, autistic-like state.[12] If communication is a tool for revealing the self, and if it partakes of a cultural system, how can a pre-cultural infant have a self? Doesn't the self have to await the infant's acquisition of cultural forms of communication?

In my perspective, these problems are reframed. I ask, for example, how mature forms of cultural communication evolve from their rudimentary origins. In what sense is culture available to a newborn infant? How might a newborn's experience of itself differ from a 2-year-old's or from an adolescent's search for personal meaning and values? Do these early forms of communication, self and culture embody the seeds of later forms, or do later forms arise in discontinuous jumps as new factors are added developmentally?

Regardless of how one answers these questions, I begin with the assumption that these concepts – communication, self and culture – are not separate entities. Each one is a facet, a partial portrait of the developing individual. I make the claim that each of these facets develops in relationship to the other: each facet defines the other, each facet creates the other. Infants learn to communicate as they define themselves. They create culture for themselves as they communicate with more culturally skilled individuals. They define others in the process of defining themselves. Development arises from being a participant in a dynamic discourse with other people.

Example 1

In this example, Paul (a British baby who is 6 months and 19 days old) sits alone in the living room of his home. He begins to cry as his mother enters the room.

Mother: Oh, now what's up, hey? Oh dear, oh dear, what's the matter? [She picks Paul up.]

Mother: Are you thirsty, is that what it is? Do you want a drink? [She goes and picks up his bottle and offers it to him. He refuses it and continues crying.]

Mother: Hungry? Are you? Do you want something to eat? No? Sleepy then, do you want to go to sleep? [She puts him in his pram but he continues to cry. She picks him up again and walks about comforting him. She stops at the

window. Paul apparently looks out but continues crying. Mother tries to attract his attention and then to direct it.]

Mother: Look, there's a pussycat, can you see him? Do you know what pussycats say? Do you? They say 'miaow' don't they, yes, of course they do. [Paul stops crying during this speech.]

Mother: There, that's better, down you go then. [She places him back on the floor.]

This example[13] has some obvious similarities to the example of Laura. The child is upset about something and the parent can only guess the nature of his problem. Paul is sitting in the middle of the room with no visible cues about what he wants or needs. Perhaps Paul does not have a particular want or need. Perhaps like Laura there is a non-specific desire to communicate with another person, expressed as a general malaise. Perhaps Paul, like Laura, is not entirely certain about what the problem really is.

The parents play a similar role in these two examples. They operate from a state of relative uncertainty. The child is distressed, but with no visible cause. They must proceed with some guesswork, thinking about probable causes for the upset and perhaps doing some further investigation. Laura's parents called the teacher. Paul's mother might have checked the diaper or looked at the clock to see the time since the last meal.

Thus, both parties enter the discourse with incomplete information. Continuation of the discourse is based upon the subtle changes in the cues given by each partner. If Paul had increased the intensity of his cry, mother might have taken other steps. As it was, his gradual calming allowed her to settle Paul back down with his toys on the floor. For both Paul and Laura, the result was at least a partial resolution of the distress. In what sense can we consider this an example of communication, self and culture from the infant's point of view?

Communication occurs because the infant's cry serves as a source of information for the mother to enter the room and to begin asking questions about the source of the distress. The mother behaves *as if* the child were actually trying to communicate something to her, although it is highly probable that Paul's cry arises more from his own distress than from his intention to communicate about it.[14]

The mother's behavior is also a source of information for the infant, since after a while Paul calms down in her company. The question here is: if Paul doesn't obtain any information from his mother's words, what sort of information is he picking up? From the description of this example, it is not easy to answer this question. In later chapters will review research studies showing that Paul is likely to acquire information from the way his mother moves his body when she picks him up and moves him, from the way in which she touches Paul, and from the tone and cadence of her voice rather than from the meaning of her words. Some other examples may make this more clear.

Example 2

In this example, a mother reaches out to help pull her 4-month-old baby into a sitting position.

> The child is on his back on the floor and the mother takes hold of his hands, pulling gently. She pauses expectantly and the child strenuously pulls himself upward against the hands, using his arms and legs to effect this. The mother then completes the infant's actions and pulls him to a sitting position.[15]

The type of information echanged between mother and infant can be seen more easily in this example. Here mother and infant are communicating about how much force each has to exert to achieve a sitting position, and about when one or the other has to do the pulling. At first both mother and infant increase the contraction of their arm muscles and pull together. Then the infant's effort increases relative to the mother's, after which the mother pulls harder, and finally the pulling of both tapers off as the infant gets into a sitting position.

The information in Example 2 is in the continuously varying level of force intensity as a function of time, as shown in Figure 2.1. In this case, information about how much force to apply can be obtained from the kinematics of the action, that is, the time course of intensity changes. In the example, as the mother feels the infant begin to exert himself, she reduces her effort in exact proportion to his increase and as the infant's effort wanes, mother compensates by pulling harder. The result is that the total amount of force exerted by both of the partners is a smoothly changing function of time (Figure 2.2).

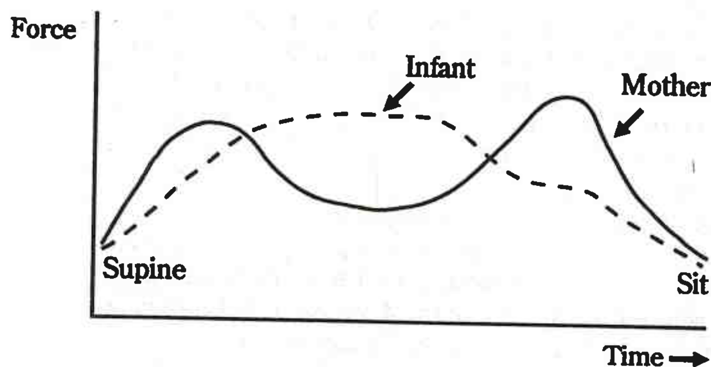

Figure 2.1 The force exerted by mother and infant in a pull-to-sit episode is shown as a continuously changing function of time. In this example, mother and infant are continuously exerting force, but the relative amount waxes and wanes in a co-regulated manner. Infants can perceive the self-generated contribution to the force when the curves diverge.

In this book, the concept of *co-regulation* will refer to the dynamic balancing act by which a smooth social performance is created out of the continuous mutual adjustments of action between partners. In co-regulated communication, information is created between people in such a way that the information changes as the interaction unfolds. Co-regulated communication is created as it happens, its process and outcome is partially unpredictable.

As in the other example, neither mother nor infant knows in advance the precise outcome of this pulling episode. Perhaps they know that the infant will end up sitting, but the way in which that is to be achieved is determined in the process of communication. Co-regulated communication is not ritualized, perfunctory or over-controlled by one or the other partner. Each time the infant is pulled up a different dynamic balance is struck. If on the other hand, the mother exerted a constant force without regard to the infant's input, the interaction would be imposed on the infant who would not be a participating communicative partner.

Self. The pull-to-sit example also suggests a way in which pre-verbal, pre-conceptual infants might experience the self. Certainly a 4-month-old infant cannot recognize herself in the mirror, nor be self-reflective, nor have even a rudimentary conceptual understanding of the self.[16] Her sense of self is rooted in the body and its relationship to the surround. Infants of this age can easily feel their own muscular exertion in relation to the mother's and they can detect their own movements in relation to their spatial location. The self is not unitary, but always perceived as related to something.[17]

I will propose in this book that the original sense of self arises from one's physical and social relationships.[18] In Figure 2.1, the infant becomes aware of self-exertion and self-movement at the times when the two curves diverge. In the first segment, when mother and infant are pulling together with the same

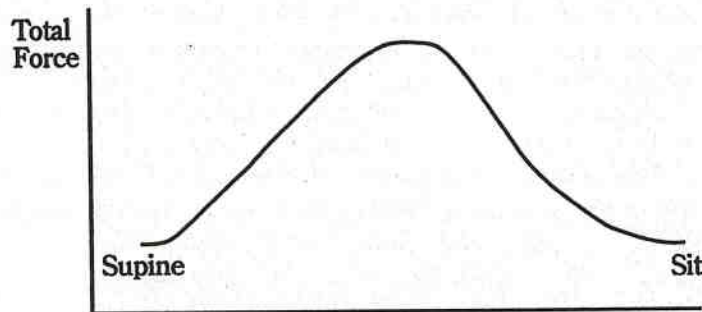

Figure 2.2 The summation of the curves in Figure 2.1. When the forces of the partners are added together, the result is a smooth function of time. Thus, even though the individuals are changing their own activity, the dyad appears to be seamlessly co-regulated.

force, the infant cannot distinguish self from other. As soon as his exertion exceeds that of the mother, or falls below that of the mother, there is a heightened awareness of precisely those aspects of the interaction that are in his control or not in his control. In other words, the infant becomes aware of self in relationship to another person, as a *dialogue* between self and other.

Looking back to the example of Paul we might presume that he and his mother had a co-regulated communication and that as a result Paul could experience the self. The ways in which Paul's mother picked him up and carried him probably led to interaction dynamics such as those in the pull-to-sit example. Most salient for Paul, however, is the mother's speech: not her words, but the changes over time in the intensity, pitch and timing of her speech.

Go back to Example 1 and try to read it imagining that you are talking to a real baby. The speech you are thinking about probably has a lot of changes from low to high pitch or from loud to soft intensity. It is lilting, somewhat musical in parts, and abrupt and staccato in other parts. Research evidence suggests that infants are acutely sensitive to this type of information contained in speech. In the company of infants adults from all over the world tailor their voice to make these characteristic speech patterns, called 'motherese.'[19]

In Example 1, changes in the mother's speech dynamics probably interfaced with changes in the infant's cry dynamics – intensity, pitch and timing – in such a way that the cry was modulated at the same time that the mother's voice changed. Imagine the difference between the staccato, 'Hungry? Are you? Want something to eat? No?,' spoken while Paul was crying, and the more sweetly flowing, soothing sound of 'Look, there's a pussycat, can you see him?,' spoken while Paul was calming down and stopping his cry.

If this episode was co-regulated, as I suppose it might have been, the mother's speech does not directly calm the infant. Rather, mother and infant mutually alter each other's vocal dynamics in a creative, exploratory manner. The infant, through such discourse dynamics, may begin to sense the boundaries of self-control over cry vocalizations as he perceives the sounds he feels himself make in relation to those he hears but does not make himself. In effect, he is able to use his perception of the similarity of the mother's changes in her vocalization with respect to his own as a tool for self-calming and self-monitoring.

Example 3

I suggest that even continuously changing forms of information in communication are inherently cultural, as suggested by this final example in which a 1-year-old infant hands an object to the mother. Infants begin taking objects

from their caregivers earlier in the first year, but have a harder time giving away the prizes that they have won. The series of photographs in Figure 2.3 shows Andrew, one of the American infants that my students and I videotaped playing with his mother at weekly intervals since the first month of life. In the photos, Andrew is seen at 1 year. Note that the images were made with two cameras superimposed using a split-screen generator. The mother, who is to the right of the infant in the right-hand portion of the frame, is pictured in the left-hand portion of the frame. In our collection of tapes, this is the first time this infant voluntarily released an object into his mother's hand.

Andrew's action has two separate motor components. First, his arm extends (frames 1–6) and then he releases the object (frames 7–10). In past weeks, Andrew has extended his arm many times toward his mother without releasing the object. Once Andrew's arm is extended his hand remains relatively stationary and gradually opens as mother's hand moves underneath his hand. The fork gently leaves Andrew's hand as it is pulled only by the slightest contact with the mother's moving palm.

This object release, therefore, is not entirely due to Andrew's initiative. Since the child does not actually drop the object into the mother's hand and the mother does not actually take hold of the object, the object transfer seems to be jointly constructed by both, a genuinely co-regulated activity. Thus, *communication* is present in this example in the form of shared information about the position of the object relative to each person's hand and body, and the intensity and timing of hand opening and closing.

Figure 2.3 First instance of a successful object transfer. (*Source*: Bloch, H. and Bertenthal, B. *Sensory-Motor Organizations and Development in Infancy and Early Childhood*, 1990, reprinted by permission of Kluwer Academic Publishers.)

The *self* also makes an appearance, as Andrew no doubt feels the differences between his own hand opening and his own movement of the fork in relation to those movements of the fork for which he is not responsible. Indeed, the relative slowness of this sequence, lasting almost seven seconds, may assist Andrew in perceiving the relationship between his own and others' actions. Andrew's continuing gaze at the object after he releases it, his hand poised in space as if still holding on to the object, suggests that although the physical contact is broken the infant may perceive the object's motion as still related to *his own* activity. This is similar to an adult's follow through upon the release of a bowling ball or after hitting a golf ball.

Culture. There are several ways in which culture is relevant to the infant's actions as seen in Example 3. The transfer of objects in the form of an offering gesture (as opposed to just grabbing the object from the infant), the type of object transferred, and the smile in the final frame are the most obvious cultural aspects of this sequence.

In the entire sequence in Figure 2.3, the infant is for the first time showing a culturally accepted way of transferring objects, that is, by signalling the offer with an extended arm and then letting it go when mother accepts it.[20] An activity is cultural if the form of the action is *similar enough to an accepted community standard* that it can be *recognized and interpreted by other members of the community*. Earlier the infant would extend his arm but not release the object.

There are other aspects of this sequence that are also cultural by this definition. For example, sitting in a chair at a table, remaining there for the entire fifteen minutes during which the videotaping took place, using an object that has a cultural origin (a fork), and participating in cultural play with an adult. We could find communities in which none of these activities would be considered culturally acceptable for infants.

Another aspect of culture goes beyond the form of the action to include the timing of the performance of the action with respect to other actions. From the perspective of culture, it is important that Andrew smiled at a particular time in the sequence of activity that a member of the culture, the mother, can recognize as appropriate. There may be many reasons why Andrew smiled at that moment, perhaps as an expression of accomplishment or to return the mother's smile. Some evidence from studies of the development of infant gesture and expression of emotion suggest that Andrew's smile could be a spontaneous action that results from an inner feeling of completion and that Andrew at 1 year may not be aware of the communicative function and meaning of his smile to other people.[21] On the other hand, even at the age of 1 year, infants smile more frequently and with broader smiles in the company of other people, suggesting that some types of smiles are already cultural acts.[22]

Regardless of why Andrew smiled, the fact is that the smile occurred at just the point in this sequence when a Caucasian adult in North American society

might expect it to happen. *An activity is cultural when one does it at the 'right' time and place*, regardless of whether one means it or not, or whether one even understands why one is doing it. Children and adults frequently participate in culturally accepted activities without understanding them. For example, children learn to sing songs even when some of the words and refrains do not make sense to them.

People do not need a shared understanding or a common sense of purpose in order to be members of a community. However, they must at least share the means of communication in order to determine if their understanding is indeed shared. Community members can differ in their goals and ideas so long as they can communicate using commonly accepted means. Arguments and fights are typically conducted in culturally specified ways – wrestling, duels, debates, arguments – and a good deal of communication between parents and children involves negotiations of disagreements and miscommunications.

Like grammar in a language, there is a culturally acceptable sequence of actions, a cultural *frame*, that assists members of a community to recognize the possible meaning of another's behavior. If Andrew had smiled at the beginning of the sequence shown in Figure 2.3, this smile might have had a different meaning to his mother – a desire to play, a request for cooperation – than the smile that follows the sequence.

An activity is cultural if it is done according to a shared intensity-by-time contour. Culture defines how loudly or sharply a child or an adult may speak to each other, whether drawn-out affectionate tonal patterns are permitted or discouraged, and whether adults should enter into co-regulated 'dances' with infants around particular childrearing issues.

For example, the soothing sequence in Example 1 would not have occurred in this way in a different community. In tribal cultures living in warm climates, infants are rarely physically separated from adults and they enjoy nearly continuous skin-to-skin contact day and night.[23] For a mother in the Fore tribe in New Guinea[24] the thought of leaving her infant alone in a room (Example 1) would be as bizarre as an urban mother who remains topless and carries her baby around on her hip at all times, such as to work or to the grocery store.

It is important and culturally accepted for the Western infant to cry loudly and for several minutes or more in order to attract and hold adult attention. The Fore babies rarely cry because during their close physical contact with the adult, the slightest movements can be detected by the mother who acts quickly to relieve the infant. Among the Fore, and other groups with similar infant care patterns, loud and prolonged infant crying is not culturally acceptable. One does not expect to hear more than a rustle and a fussy noise before the infant is relieved.

In early infancy, neither the British baby in Example 1 nor the Fore baby have any idea that their actions are communicative. Yet, from the early weeks

of life, the intensity-by-time contours of their crying have a culturally specific sound: one cries long and loud, the other does not. Not only are their actions contoured in culturally recognizable ways, their budding senses of self are different. With a heightened level of crying, the experiences of self-movement and self-action are different since the Western infant must get more aroused in relation to the adult than the Fore infant.

From this general perspective, infants are participants in a cultural community right from birth, and perhaps earlier. The tools and devices of infant care (cradles, cribs, diapers and the like), what they eat or what their mothers eat (prenatally or postnatally if breast feeding), how and when they eat, the sights and sounds to which they are exposed, and the ways in which infants can be talked to, touched, held and smiled at: these form the culture of early childcare. They are part of the history of the community, and by virtue of co-regulated communication, become incorporated into the communication process and the actions of the infant.

Proposals for a relational perspective on infant development

By way of summarizing the points of this chapter, I list below a number of proposals that guide my own thinking about early human development. These proposals will be elaborated in the remainder of this book.

Proposal 1. Culture and self can arise from spontaneous co-regulated communicative activity well before the individual is self-consciously cognizant of culture or self. Communication, self and culture arise in the infant's experiences of the body, via feeling and movement. Communication, self, and culture are just different ways of talking about relationships, different points of view on the same phenomenon.

Proposal 2. No human action is acultural. Cultural frames permeate infant activity from before birth and hold people in their grip for the entire life course. The forms of human cultural action change developmentally. The cultural experience of infants is different from later childhood in part because of the differences in the patterning of infant care and childcare in the same community.

Proposal 3. Communication has the possibility of enhancing the perception of the self. Variability across individuals in their experience of the self depends on the form of their communication with others, its cultural basis and the extent to which it is co-regulated. Developmental changes in the sense of self emerge from changes in the infant's body and brain, changes that themselves arise from communication with others.

Proposal 4. Human developmental changes – in the self, in action and skill, in communication and cognition, in motivation and emotion – originate in the

dynamically changing relationship between communication, self and culture. Human developmental change springs from social relationships and their cultural frames. Culture is not static any more than action or the self. Culture changes for us as we develop and it changes historically over generations.

Notes

1. Damon (1989).
2. Mead (1934).
3. Fogel (1992); Fogel, Nwokah & Karns (in press); Lock (1980).
4. Rigidity and spontaneity will be discussed in Chapters 6 and 7 as characteristics of relationships.
5. Fogel, Nwokah & Karns (in press).
6. Mead (1934); Tooby & Cosmides (1990); Valsiner (1989).
7. Vygotsky (1978).
8. Befu (1985); Kojima (1985); Morsebach (1980); Valsiner (1989).
9. Bettleheim (1976); Dyk (1938); Sindell (1974); Sommerville (1983).
10. A more complete definition of constraints and rules is given in Chapter 2.
11. Gilligan (1978); Kegan (1982); Mead (1934); Rogoff (1990); Valsiner (1989); Vygotsky (1978).
12. The idea of infantile autism, a lack of consciousness at birth, originates with Freud (1926). Later psychoanalytically oriented thinkers who were able to rely on their own observations and on the results of infancy research dispelled this notion and connected the infant to the environment via perception and action. These thinkers include Spitz (1965), Stern (1985) and Winnicott (1971), although other recent psychoanalysts retain the autism notion (cf. Mahler, 1968).
13. Lock (1980, pp. 50–1).
14. Kaye (1982); Lock (1980); Newson (1977)
15. Clarke (1978, p. 246).
16. Harter (1983); Lewis & Brooks-Gunn (1979)
17. This will be explained in detail in Chapter 6.
18. The perceptual and motoric aspects of solitary activity also contribute to a sense of self (Butterworth, 1992; Stern, 1985). I argue in Chapters 6, 7 and 10, however, that even solitary activity for infants is embedded in a social and cultural context. Most infants are surrounded by cultural tools and by caregivers who regulate their access to the physical environment.
19. Fernald *et al.* (1989); Papousek, Papousek & Bornstein (1985).
20. At least this is the first time a successful object transfer occurs in our weekly video recordings of this mother and child.
21. Sroufe (1979).
22. Dedo (1991); Jones & Raag (1989).
23. Sorensen (1979); Super (1981); Valsiner (1989).
24. Sorensen (1979).