Rhythms of Dialogue in Infant Research and Child Analysis: Implicit and Explicit Forms of Therapeutic Action

Alexandra M. Harrison, MD
Boston, Massachusetts

Beatrice Beebe, PhD
New York State Psychiatric Institute, New York, New York

Increasingly psychoanalysis is attempting to integrate the essential "backdrop" of the implicit, nonverbal moment-by-moment process into the narrative domain of language and symbols. We present vignettes from an analytic case of a 3- to 5-year-old child, treated by the first author, to illustrate the integration of the verbal narrative with the implicit moment-by-moment process of vocal rhythms and "action turns." We offer a method of explicating the integration of the two levels of meaning. Using second-by-second video microanalysis, we present selected sequences of analytic process, diagramming the details of the verbal narrative and its associated patterns of vocal rhythms and action turns. The article illustrates the vital role of the microprocess in therapeutic action in a child analytic case. Neither the verbal narrative nor the nonverbal process could be fully understood without reference to the other.

Keywords: rhythms of dialogue, infant research and child treatment, implicit and explicit forms of therapeutic action

In this case presentation of the analysis of a 3- to 5-year-old girl by Alexandra Harrison (AMH), we use video microanalysis to describe how interaction rhythms are coordinated in the therapeutic relationship. We integrate two levels of meaning. First, we address the explicit or declarative "narrative" level of the therapeutic exchange, and the analyst's subjective experience of the narrative. Second, we address the implicit procedural second-by-second coordination of the two partners at the "microlevel" of communication, which is generally out of awareness. We use second-by-second video microanalysis to illustrate both levels of meaning. Whereas declarative processing refers to symbolically organized information and events, procedural processing refers to action sequences that are encoded nonconsciously and nonsymbolically, become automatic with repeated practice, and influence the organizational processes that guide behavior (Emde, Birengen, Clyman, & Oppenheim, 1991; Grigsby & Hartlaub, 1994; Squire, 1982).

Psychoanalysts create meaning through the verbal content of the session and they communicate clinical material through reconstructing a verbal narrative. Increasingly, however, psychoanalysis is attempting to integrate the essential "backdrop" of the implicit, nonverbal, moment-by-moment process with the narrative domain of language and symbols (see e.g., Anderson, 2008; Beebe, 2004; Beebe & Lachmann, 2002, 2014; Harrison & Tronick, 2007, 2011; Knoblauch, 2000, 2017; Rustin, 2012; Lyons-Ruth, 1999; Seligman, 2018; Seligman & Harrison, 2011). This implicit procedural domain is the subject of infant research on face-to-face communication (Beebe et al., 2010, 2016; Tronick, 1989, 2007). It includes for example vocal rhythms, patterns of gazing at and away from one's partner, head orientation movements, vocal intonations, and shifts of body posture.

Although psychoanalysts increasingly recognize the importance of this nonverbal, moment-by-moment process, it remains difficult to conceptualize how this process works in a way that is useful to clinicians. Nevertheless, psychoanalysts tend to be particularly skilled at making a connection with their patients, and in using this "microlevel" which is generally out of awareness. Video microanalysis can offer new insight into this crucial aspect of psychoanalytic work.

Our method of examining the videotaped analyst-child interactions in this study was adapted from research examining vocal rhythm coordination, the way partners coordinate cycles of vocalizing and pausing, and of exchanging turns, in infancy, and in adulthood (Beebe et al., 2000; Jaffe, Beebe, Feldstein, Crown, & Jasnow, 2001; Jaffe & Feldstein, 1970; Markese, Beebe, Jaffe, & Feldstein, 2008). We chose the approach of vocal rhythm coordination because we could examine simultaneously the domain of the verbal narrative (symbolized meaning), and the ways that the rhythms of the sounds and silences of the verbal narrative were coordinated between the partners (implicit meaning). Later we added the implicit level of action turns, essential to symbolic play with children. We also chose the approach of vocal rhythm coordination because it has been shown that infants as young as four months, as well as children at four years, participate in the inter-

personal coordination of vocal rhythms (Feldstein & Welkowitz, 1978; Jaffe et al., 2001; Welkowitz, Cariffe, & Feldstein, 1976).

The case we present concerns a child adopted from China. Nonverbal communication is influenced by culture in many ways, although a review of this research is beyond the scope of this article. However, we note that a study of English-speaking adults, whose first language was Cantonese, documented interpersonal coordination of vocal rhythms, both when speaking Cantonese and English. Nevertheless, there were also some differences between these speakers and native English speakers (Feldstein & Crown, 1990).

In this case study we show from moment-to-moment how the durations of vocalizations and pauses, and of actions and action-pauses, are relatively matched or mismatched, and the ways in which their onsets and offsets may be temporally coordinated, between analyst and child. We are interested in the rhythm of these behaviors, and their interpersonal coordination, as well as the parallel symbolized verbal narrative dimension. We are especially interested in turn-taking patterns, both of vocal turns and action turns. The case study that we present will track the changing contexts of the treatment, particularly issues of aggression, as part of our effort to explicate the meaning of different patterns of coordination of interaction rhythms. Thus, we address two levels of meaning, the explicit verbal narrative and the implicit microlevel of communication, in our effort to understand the interactions.

The article is organized in two parts. The first part presents theoretical and research background for the current exploration. The second part presents the case and illustrates the microprocess and narrative level in selected sessions. We conclude with some thoughts about the contribution of this approach to therapeutic action.

Background

Interaction rhythms, such as looking and looking away, or vocalizing and pausing, organize communication at every point in development (Jaffe et al., 2001). Rhythms and their interpersonal coordination provide one central means of processing both social and cognitive information, and for constructing *expectancies* of social exchanges. These patterns of coordination generate a critical context for the verbal narrative. Loosely rhythmic repeating events permit prediction and anticipation, so that each can anticipate how the other will proceed (Jaffe et al., 2001; Warner, 1992). They facilitate attention regulation, information processing, memory, agency, and the representation of interpersonal events. This information can then guide, direct, and modify the dynamics of the dyadic system (Kelso, 2002; Newtson, 1990). Patterns of interpersonal coordination of behavioral rhythms are procedures for regulating the *pragmatics* of face-to-face communication, the *how* of communication (rather than the what). Patterns of coordination regulate, for example, when to vocalize, when to pause, and for how long; when to act and when to stop; and procedures for managing attention, activity level, turn taking, and degree of coordination (Jaffe et al., 2001).

In this article we consider two forms of interaction rhythms: speech and action. Speech rhythms can be parsed into vocal "turns" by using a "turn rule" (Jaffe et al., 2001), whereby either partner gains the turn the instant he or she vocalizes unilaterally.

These speech rhythms and their interpersonal coordination inform the symbolic, verbal narrative (and vice versa). In child treatment, accompanying the verbal dialogue there is an "action dialogue" of bodily shifts, gestures, gaze patterns, and manipulation of toys. These actions can also be parsed into "action turns" using the same turn rule. The interpersonal coordination of vocal rhythms and action turns involves each individual's ability to anticipate the partner's rhythm.

Coordination deals with how the partners come together to form predictable, coherent patterns of behavior, and how the partners may transform these patterns. This process involves continual fluctuations in coordinated patterns as they come apart and get back together (Kelso, 2002). For example, as the two partners take turns, they may vocalize with the same rhythm of sounds and silences, or with the same rhythm of actions, such as settling their bodies to the floor at the same moment. In another example, as the patient Polly reaches forward to take her turn, uncovering cards in a card game, AMH moves her body back, giving Polly the space; as Polly finishes her turn, AMH then moves forward and takes a turn. Repetition and predictability over time may generate patterns, or may destabilize previous patterns as partners create new forms of coordination. Sometimes the analyst can sense something important as it is happening, perhaps something new. At other times the analyst can sense a change only after it happens a few times, after a new pattern repeats and becomes recognizable.

The Application of Research on Rhythms of Dialogue to Our Therapeutic Play Session

Vocal rhythm coordination in adulthood is an index of features such as warmth, empathy, and interpersonal attraction (Feldstein, 1998; Feldstein & Welkowitz, 1978; Jaffe & Feldstein, 1970; Ritter et al., 2007; Warner, 1992). Vocal rhythm coordination in infancy predicts attachment (Ashley, Feldstein, Hoffhines, & White, 1997; Jaffe et al., 2001), cognition (Jaffe et al., 2001), maternal sensitivity (Hane, Feldstein, & Dernetz, 2003), maternal depression (Bettes, 1988; Zlochower & Cohn, 1996), toddler communicative competence (Hane & Feldstein, 2004), and childhood attachment representations at 4 years of age (Markese et al., 2008). Prominent in these predictions is the dyadic variable of switching pause, which regulates turn-taking.

Because individuals in conversation tend to speak one at a time, *turn-taking* is the fundamental temporal structure of verbal dialogue. Using the "turn rule," the speaker who last vocalized unilaterally retains the turn (even during subsequent joint silence and/or simultaneous speech) until the listener vocalizes unilaterally, thereby becoming the turn holder (Jaffe et al., 2001; Jaffe & Feldstein, 1970). Within each partner's turn, the vocalization-pause cycle defines the turn holder's tempo. The *switching pause* occurs at the moment of the turn exchange and regulates turn-taking. Partners tend to "match" (positively correlate) durations of switching pauses so that each waits a similar amount of time before taking a turn. The switching pause is initiated by one partner, who falls silent, and is terminated by the other partner, who begins speaking (Jaffe et al., 2001).

Turns are exchanged through three patterns: (a) via a *switching pause*, which occurs at the end of the speaker's turn, and lasts until the listener begins to speak; the most common pattern; (b) via *interruptive simultaneous speech:* the listener vocalizes simultaneously with the

speaker, and then persists, taking the turn as the speaker yields; (c) immediately without an intervening switching pause, a "simultaneous" switch. The latter two types of turn exchange, interruptive and simultaneous, mark a high arousal moment, positive or negative (Stern, Jaffe, Beebe, & Bennett, 1975). We term them "hot" emotional moments. An example of a positive form is choral speaking; an example of a negative form is quarreling.

Innovations of This Study

Research on vocal rhythm analyzes coordination *across a whole session*, such as a 10-min face-to-face conversation or play session (Jaffe et al., 2001; Markese et al., 2008; Ritter et al., 2007). One average index of degree of coordination across the whole session is obtained. In contrast, in the current analyst–child case study, we perform a *moment-to-moment microanalysis* across short segments of time, 20-s segments of 1 min of interaction. This latter approach illustrates how forms of coordination may emerge and transform in a single case. No statistical analyses are performed.

A second innovation of this study is that we examine "action" turns, as well as vocal turns. In the symbolic play of child analysis, actions of either partner are as important as the vocal exchange. A third innovation is that we integrate the verbal narrative and symbolic play with implicit vocal turn-taking and action turn-taking. Thus, the meaning that emerges is generated both through the explicit verbal narrative of the symbolic play, and through the implicit coordination of vocal rhythms and action turns. Finally, we integrate the analyst's own subjective experience and understanding of the case at the symbolic narrative level.

We selected two sessions to analyze, the first session, and a session 1 year into the treatment. The latter session was chosen because a salient transformational sequence occurred, organized around playing with cards, in which new integrations in the child's agency, and a new ability to integrate her aggression into the play, could be identified. In the work we present, we dissect the child–analyst interaction at the microlevel. In each of these two sessions we use samples of interaction of two minutes, and we break each minute down into 20-s chunks. For each chunk, we present a second-by-second microanalysis of durations of vocal turns and action turns.

Case of Polly: Age 3 to 5 Years

Background of the Case

"Polly" was 18-months-old when she was adopted from China by a Caucasian couple in the U.S. The family also included a 9-year-old biological daughter. Little was known of Polly's background, but she did experience multiple disruptions of attachment—from birth mother to orphanage, from orphanage to foster home, from foster home back to orphanage, and from orphanage to adoptive parents. In addition, it was known that her foster parents had grown children living with them who had a male infant the same age as Polly. Her adoptive parents reported that Polly had problems sleeping through the night from the beginning. She clung to her adoptive mother and screamed when her mother left her, and she had violent temper tantrums. Another symptom—the one that disturbed the parents the most—was what they called "freeze attacks." These attacks occurred at the frequency of approximately

once a week and seemed related to frustration or anger, for example when she was refused a request or when something was asked of her that she did not wish to do. In the freeze attacks Polly became immobile, silent, and unresponsive.

In her adoptive home, Polly did well in many ways and grew into a spirited, attractive child. Her English was adequate but accented, because she spent afternoons in a Chinese day care, where she got along well with the day care providers and with the several other children present. However, her troubling symptoms were not getting better, and when she was 3-years-old, Polly's adoptive parents consulted the first author (AMH).

AMH saw Polly first in one family meeting, consistent with her practice of child evaluation. In this meeting, the parents and sister sat in a circle and talked about the family problems, while Polly sat on the floor in the middle and banged on toys with wooden blocks. Periodically, her parents or her sister would tell her to be quiet so that they could hear. AMH explained to the parents that filming the sessions was part of her routine practice, and she obtained their written consent.

First Individual Session

In the first individual session, Polly allowed AMH to lead her from her father in the waiting room into the office. In the office, Polly knelt beside the toys but watched AMH vigilantly and did not speak. Polly picked up a helicopter, still without talking. In an effort to evaluate her capacity for pretend play, AMH took a small doll and made it approach the helicopter, speaking for it in the voice of a play character "May I have a ride in the helicopter?" Polly put the doll into the helicopter, and AMH twirled the propellers, but the doll was too tall, and the propeller bumped against the doll's hat. AMH made the doll say that his head was being bumped, and she tossed the doll back into the basket abruptly but not aggressively. AMH then reached for another doll without a hat, placed her in the helicopter instead, and twirled the propeller again. Polly picked up the helicopter and flew it around, without changing her kneeling position. AMH made the doll say "Oh, up in the air!" and then "Where are we going?" At this point, Polly—apparently inadvertently—dropped the helicopter, startling them both. She looked at AMH, who shrugged, and they both laughed. Then Polly threw the helicopter into a basket of animals with an abrupt, fast movement.

Intending to keep the theme of aggression "in the air," and also to communicate her tolerance of aggression, AMH picked up one animal and made the animal speak "Did you just bump into me, little girl?," indicating the girl doll that Polly threw. Then AMH picked up a second animal and made that animal speak, in another voice "Did you just bump into me, little girl?" AMH continued to do this with all the animals in the basket.

Polly then took one animal and made it approach AMH threateningly. AMH asked if the animal were trying to bite her, and Polly nodded. AMH made a scared sound. They repeated this scenario with all the animals, one by one. Then Polly took an animal and made it come toward AMH, putting it in her lap. AMH asked if the animal wanted to sit in her lap. Polly nodded yes. Polly then took another animal, and then another, and made each one approach AMH one at a time, and sit in her lap. AMH said that all the animals wanted to sit in her lap. Polly nodded. That was the end of the session. This was an important cocreated repair at the end of the first session.
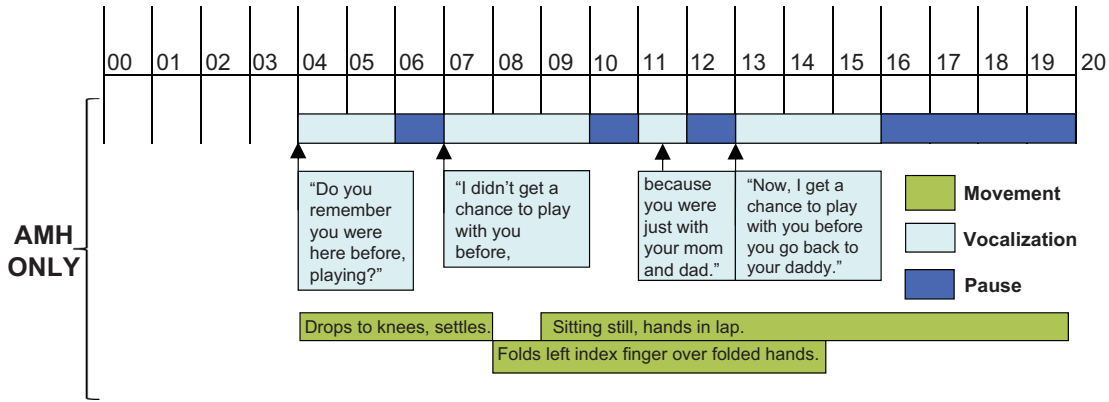
Figure 1. 0–20 s: AMH Alone Depicted. See the online article for the color version of this figure.

Summary

At the level of the narrative, a story emerges about the dangers of aggression. It can break somebody. Broken people are angry, or people are angry at them. If you are angry or broken, you will be thrown away. The story is at the level of the verbal narrative. What happens when we examine this same interaction at the level of the microprocess (see Downing, 2004)?

We will present a detailed examination of the first 2 min of the first session. We divide the 2 min into six consecutive episodes, each 20 s. Each episode is diagramed in Figures 1–8.

First Session: 0–20 s (Figures 1 and 2)

Polly (P) and AMH both walk into the office, Polly ahead of AMH. AMH closes the door, which makes a loud, crisp sound. The camera is placed in such a way that Polly is in full view and AMH is obliquely visible, so that her hands are in view, but not her head or gaze. However, it is possible to see her torso orient toward or away from Polly.

Consider first only AMH's vocal turns (see Figure 1). Because Polly does not speak during this first 20 s, the speech rhythm is carried entirely by AMH. Out of awareness, AMH immediately creates a predictable vocal rhythm by generating 1-s pauses in between her vocalizations (see Seconds 6, 10, and 12). This pause rhythm carries the predictability. The vocalizations vary in length.

Consider now AMH's vocal turns in relation to Polly's behavior during this same 20-s (see Figure 2). Both Polly's action turns and AMH's vocal and action turns are diagramed. Polly walks in, orients back to the door, then glances up at AMH (Second 0–2). In the first 3 s Polly has a long, sustained gaze, while she keeps her body stationary, conveying a frozen, wary quality. Such long gazes at the very beginning of the first session may indicate fear. At Second 3, Polly orients to the toys and looks them up and down. She lowers herself to her knees in front of the toys at Second 4, as she reaches for the helicopter. Remarkably, at the exact moment that Polly initiates this action, at the beginning of Second 4, AMH simultaneously begins to lower herself to her knees and begins her first verbalization "Do you remember you were here before, playing?" (Second 4–5). Her
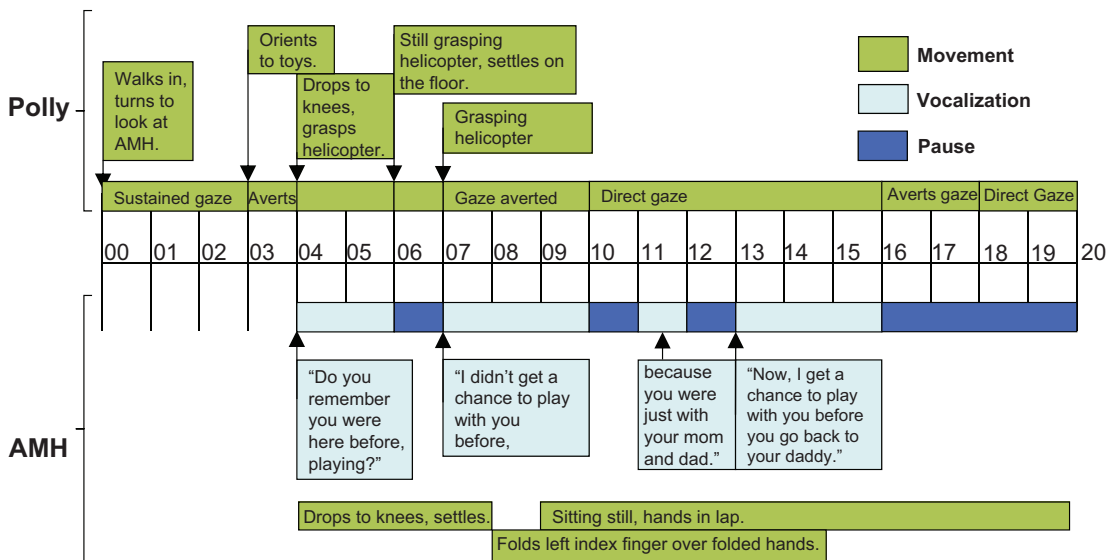

Figure 2. 0–20 s: AMH and Polly. See the online article for the color version of this figure.
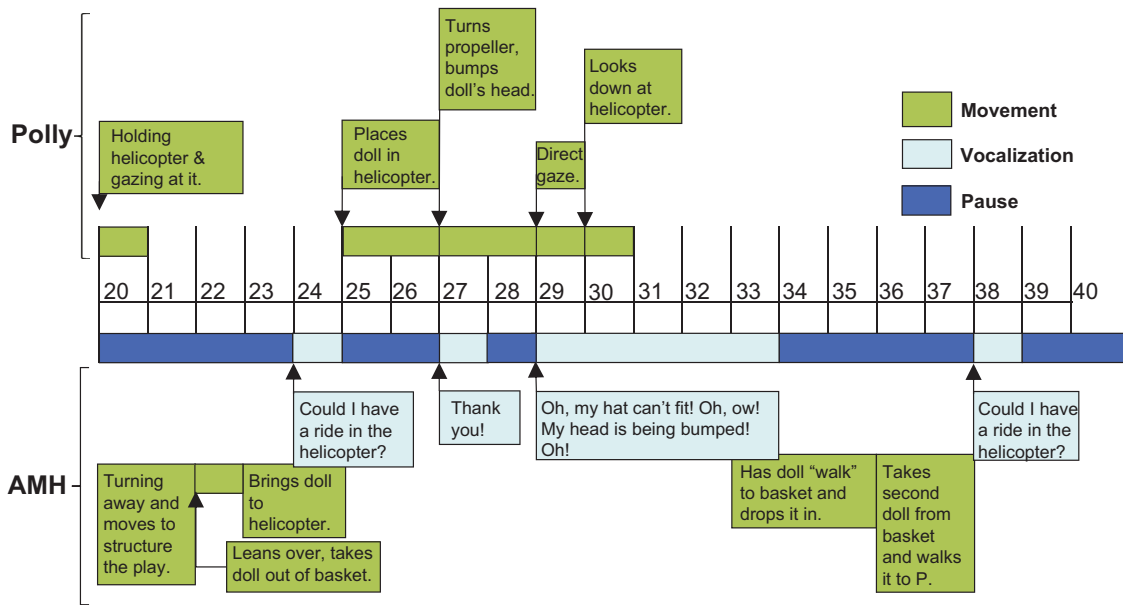
Figure 3. 20–40 s: AMH and Polly. See the online article for the color version of this figure.

reassuring explanation is likely a reaction to Polly's wary, fearful quality.

These movements which begin simultaneously in Second 4—the settling of their two bodies to the floor, Polly's action turn of grasping the helicopter, and the onset of AMH's first verbalization (Second 4–5)—give the impression of a highly practiced choreography. In spite of the fact that the two of them have never been alone with each other before, these moments occur with exquisite interpersonal coordination.

While Polly is in the middle of her action turn of grasping the helicopter, AMH begins her second vocalization "I didn't get a chance to play with you before" (Seconds 7–9). As AMH completes this second vocalization and speaks the word "before," Polly orients to AMH and looks at her (Second 10) as AMH pauses. It is as if Polly anticipates AMH's pause and realizes that it is her turn. She takes an action turn (rather than a vocal turn), giving AMH a direct gaze. In retrospect, AMH was intending to invite Polly to take a turn. This is AMH's characteristic pattern of talking to young children—that is, to generate sufficient pauses between vocalizations that the child has the space to take a turn.

One second into her 3-s vocalization (Second 8), AMH rests her hands in her lap, sitting still. A tiny movement of folding her left index finger over her folded hands at Second 9 expressively completes the gesture. AMH maintains this steady framing posture from the onset of Second 8 to the completion of Second 19. The quiet sitting-still behavior balances the challenge of the invitation to play. It is likely that AMH's steady sitting-still posture facilitated Polly's ability to become active in initiating engagement with AMH. Thus, it is both AMH's vocal pause (Second 10) and AMH's movement pause (Seconds 8–19) that likely contribute to Polly's ability to approach AMH. Note again that the first three of AMH's vocalizations are followed by a 1-s pause (Seconds 6, 10, and 12), generating a predictable rhythm for Polly to engage with.

First Session: 20–40 s (see Figure 3)

AMH moves to structure the play (Figure 3, Second 20), in a down-regulating move. Although the exact gaze pattern of AMH is not visible in the video, this move to structure the play involved leaning down and turning slightly away. If she had held Polly's gaze, it is likely that Polly's arousal would have increased.

AMH then initiates pretend play to explore Polly's competencies in this domain of development. She takes a doll (Second 22), brings the doll to the helicopter (Second 23) and, using the voice of the play character, asks if she can have a ride in the helicopter that Polly is holding (Second 24). Polly is immediately responsive, and with a simultaneous switch into an action turn, Polly places the doll in the helicopter (Second 25) and turns the propeller (Second 26). AMH makes the doll say "Thank you" (Second 27). However, the blade bumps the doll's head (Second 27), and she and AMH are both startled (Second 29). AMH says "Oh, my hat can't fit! Oh, ow! My head is being bumped! Oh!" (Seconds 29–33), Polly looks directly at AMH (Second 29), acknowledging her comment, and then looks down at the helicopter (Second 30). AMH realizes that the doll she offered did not fit in the helicopter, and—deciding not to explore the meaning of "bumping" at this early stage and with such a frightened child—she replaces it with another doll. She puts the first doll back in the basket (Seconds 33–35) and walks a second doll toward Polly (Seconds 36–38), making the second doll ask "Could I have a ride in the helicopter?" (Second 38).

First Session: 40–60 s (see Figure 4)

In this episode we see a salient turn-taking structure. AMH generates a slow and predictable rhythm of three vocalizations—2 s, 1 s, and 2 s in duration, respectively—followed by three pauses—each 4 s in duration. Another 4-s pause began at the end of the previous Figure 3 (Seconds 39–42). This slow, predictable rhythm
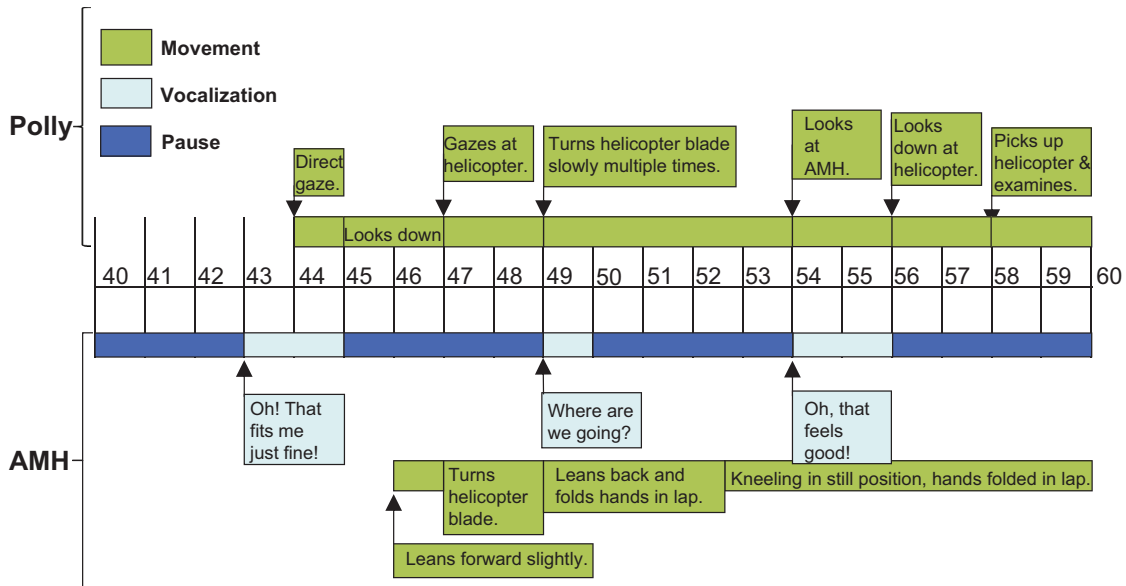
Figure 4. 40–60 s: AMH and Polly. See the online article for the color version of this figure.

may facilitate regaining a sense of safety following the bumping of the doll's head.

After the first 4-s pause, when Polly does not join her, AMH takes a vocal turn ("Oh, that fits me just fine!;" Seconds 43–44), referring to the doll that fits beneath the helicopter blade. Then she waits again 4 s. Here we see AMH keeping the beat (out of her awareness) of the slow turn-taking rhythm. One second into AMH's first vocal turn, Polly gives AMH a direct gaze (Second 44), and then looks down (Seconds 45–46). Simultaneously with Polly looking down, AMH leans forward slightly (Second 46) and turns the helicopter blade to test if the doll really fits (Second 47). Polly gazes at the helicopter here (Seconds 47–48). AMH then leans back and folds her hands in her lap (Second 49), as if communicating that her gesture of turning the helicopter blade was just a "test." She is not going to take a long turn with the helicopter.

Polly clearly understands this communication, because she leans forward and begins to turn the helicopter blade simultaneously with AMH leaning back and folding her hands (Second 49). As Polly turns the helicopter blade, AMH simultaneously asks "Where are we going?" (Second 49). Thus, three events are synchronized at Second 49: AMH leaning back, Polly beginning to turn the helicopter blade, and AMH asking "Where are we going?" This moment of synchronization is important: a "we are together" moment.

AMH asking "Where are we going?" likely facilitated Polly's beginning to participate in the pretend play. Polly continues to twirl the helicopter propeller multiple times (Seconds 49–53). Then Polly looks directly at AMH (Second 54), and simultaneously AMH comments, in the voice of the doll "Oh, that feels good!" (Seconds 54–55). Polly then looks down at the helicopter (Seconds 56–57) and continues the play by picking up the helicopter with the doll inside and examining it (Seconds 58–59).

First Session: 60–80 s (see Figure 5)

In this sequence, Polly drops the helicopter and AMH tries to bring the event into pretend mode. As Polly holds the helicopter and gives AMH a direct gaze (Seconds 60–61), AMH acknowledges her by saying "Oh! Up in the air!" (Seconds 60–61). Polly looks down (Second 62) and then gives AMH another direct gaze (Second 63), which AMH acknowledges again with "In the air!" (Second 64). In this second (Second 64) Polly looks down again. Meanwhile, AMH continues to sit quietly (Seconds 60–72), with her hands folded in her lap.

Polly then drops the helicopter (Second 67). AMH says "Bonk!" (Second 67½). As AMH gives a 1-s pause (Second 68), inviting Polly to comment, Polly looks directly at AMH and smiles (Second 68). AMH continues "Oh, I fell! Waa!" (Seconds 69–70) in the voice of the doll character. Polly looks down at the helicopter, rocking back and forth on her knees in what appears to be a self-regulatory action (Second 70). AMH then laughs quietly (Seconds 71–72), and Polly joins her with a simultaneous quiet laugh (Seconds 71–72), shaking her shoulders. Immediately following her laugh, Polly throws her head back, as she maintains her gaze at AMH (Second 73). Polly then looks down, picks up the doll, and throws it into the basket (Second 74). Then she looks back at AMH and laughs (Second 75), again silently, but with her mouth open and her shoulders shaking. AMH says "Hey!" (Second 76).

Polly's action of throwing the doll into the basket mirrors AMH's earlier action of tossing the doll into the same basket. In that case, AMH's gesture was hasty but not intentionally aggressive, whereas in this case, Polly's gesture is clearly aggressive. AMH then begins to address the aggressive theme by picking up a cow in the basket (Seconds 76½–80) and, speaking for the cow, says "Moo! Did you just bump into us, little girl (the doll)? (Seconds 79–82).
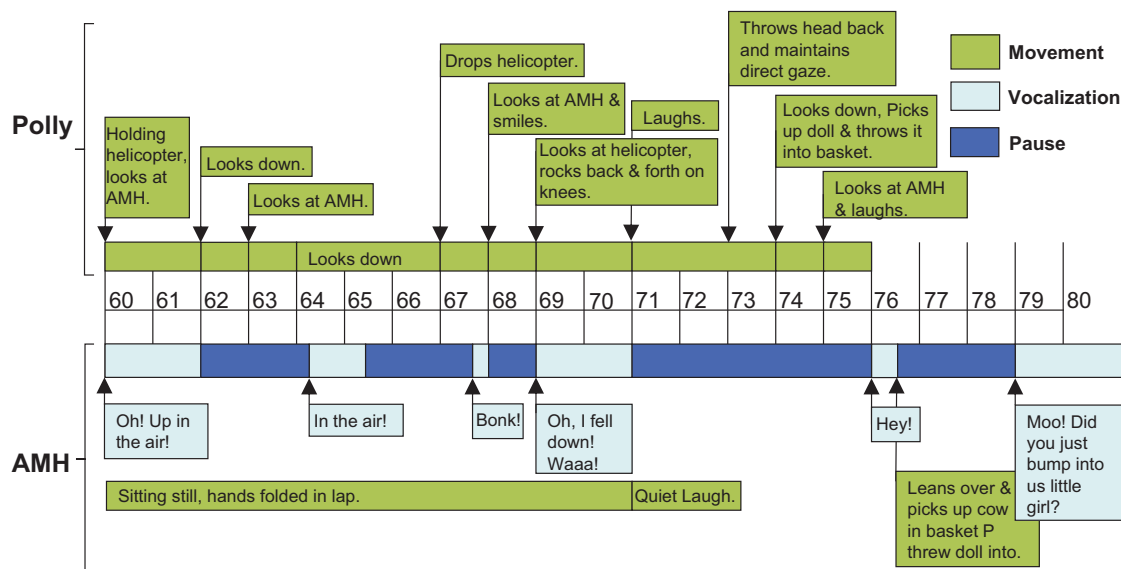
Figure 5. 60–80 s: AMH and Polly. See the online article for the color version of this figure.

In this episode (see Figure 5), there is a reciprocal turn-taking structure. AMH's intrapersonal pausing rhythm is 2½-s pauses, with variations of one 1-s pause and one 5-s pause. We divide the sequence into three segments: 60–68 s, 68–75 s, and 76–80 s. The first section has 2½-s pauses; in the middle section, when the helicopter drops, AMH's pauses become shorter (1 s) and longer (5 s); at the end, the original pattern resumes with a 2½-s pause. In the middle section, it seems again as if AMH is trying to repair a disruption in their relationship—this time caused by the helicopter dropping. The 1-s pause is an index of greater activity; the 5-s pause slows the rhythm down. These alterations in AMH's pausing rhythm interrupt the original pattern for a reason. They are associated with the use of pretend and humor which offer a less threatening meaning to the "accident."

Although Polly has shown two prior quasiaggressive actions (whether intentional or not)—dropping the helicopter and bumping the doll with the propeller—this is her first overtly intentional aggressive action. From the perspective of the narrative and the dynamic unconscious, AMH is thinking that Polly has been adopted, thrown away. AMH has hypothesized that Polly worries her temper tantrums will cause her to be thrown away again. AMH says "Hey!" resuming her 2½-s pause pattern. Then, after this 2½-s pause following the "Hey!" AMH begins to "bundle" her vocal and action turns, roughly synchronizing her vocalizations and her actions with the toy (e.g., Seconds 82–82½). This will create a very predictable vocal/motoric structure. Polly has not yet responded, not yet let AMH know if she is okay after her burst of aggression.

It is useful to remind the reader that AMH and Polly have been in the room together for less than 1½ minutes by this time, and it is the first 1½ min of the treatment. It is also useful to remember that while the choice of words is certainly within AMH's conscious intention, the nonverbal patterning of vocalizing and pausing, gazing at and gazing down, leaning forward and leaning back, and staying still, are largely out of her awareness. Even so, she is

drawing on decades of experience with young children, and experiences of coordinating her behavior with theirs. Thus, her implicit play procedures are highly practiced (although mostly out of awareness), but she is now starting the process of coordinating her procedures with this particular child. This process goes on with every therapist in the first minutes of every first session—whether with a child or an adult. This process of making a connection at the beginning of a relationship can also be seen in infancy. Four-month infants and novel partners ("strangers") coordinate their gaze and facial and vocal affect, moment-by-moment, over the first 2.5 min of interacting (Beebe et al., 2009).

The reader might wonder why AMH intervened in several reparative gestures rather than allowing the two of them to experience the disruptions and explore the consequences together. There are many reasons for this. The first is that it is still the first 1½ min of the first session. Another is that Polly's anxiety is communicated to AMH in the various ways described, and AMH is reacting to it, making regulatory moves to manage the stress that both partners are experiencing at this early time in their relationship. AMH does not yet know Polly's competence in self-regulation nor how much regulatory support she will require to engage in pretend play. The third is that AMH is also wondering about Polly's capacity for pretend play and wants to make it easier for Polly to show her strengths in this area. Another reason is that AMH is familiar with videotape microanalysis. She realizes that she will have multiple opportunities to respond to similar initiatives on Polly's part. As she comes to recognize repetitive patterns in their interactions, AMH will be in a better position to identify the meanings Polly is communicating and to respond in a way that moves them forward in their elaboration of the symbolic themes.

First Session: 80–100 s (see Figure 6)

In this section of the film, Polly is not in view and she does not speak. At this point, AMH begins a dramatic sequence of taking
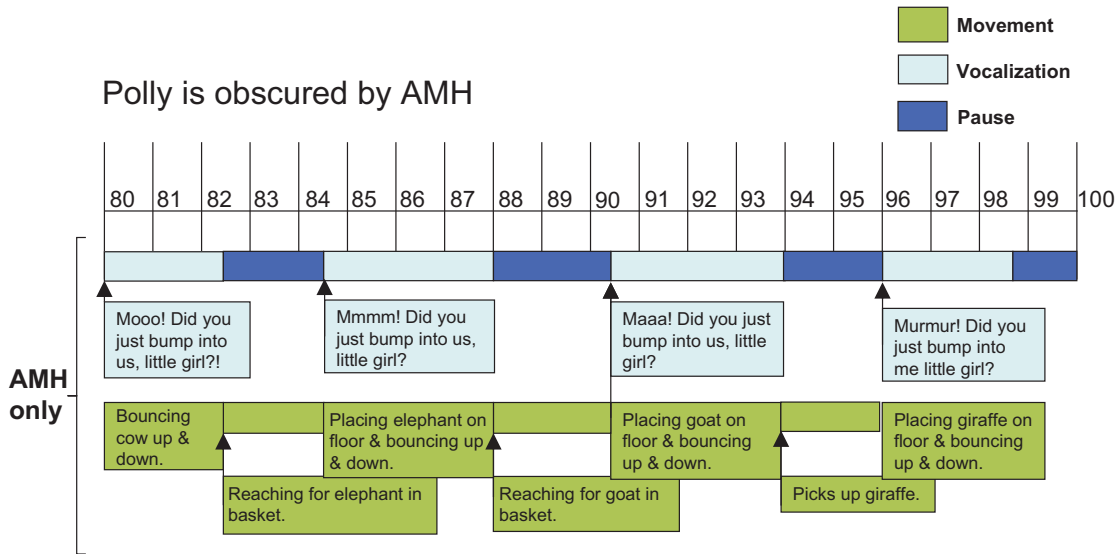
Figure 6. 80–100 s: AMH and Polly. See the online article for the color version of this figure.

out the animals, one at a time, from the basket into which Polly has thrown the doll, saying for each animal "Did you bump into me, little girl?" AMH repeats this four times (Seconds 80–82½, 84½–87, 90½–93, 96–98½). AMH has in mind the family's chief complaint of Polly's unmanageable aggressive outbursts, and her own wish to "keep the aggression in the air," while at the same time assuring Polly that aggression is tolerated and even a subject of interest. AMH is responding to the likelihood that Polly is afraid of aggression—either AMH's aggression, or her own.

In this section, a new pattern emerged in AMH's behavior. We observe a highly repetitive pattern in the durations of both vocalizations (2½ to 3½-s) and pauses (approximately 2 s), and of the words in each vocalization. Moreover, AMH bundles or roughly synchronizes the vocal and action turns. This vocalization and action synchronization, together with the ongoing repetition of timing patterns and verbal content, has the result of making the communication dramatically clear and predictable. AMH's repetitions of taking each animal out asking the same question "Did you just bump into us little girl," in the same rhythm of vocalization and pausing, slows the process down while keeping aggression in the forefront. It also gives the child many opportunities to respond or not.

First Session: 100–120 s (see Figure 7)

In this section of the film, again Polly is not in view and does not speak. Figure 7 illustrates the continuation of the pattern seen in Figure 6. By this time, the vocal rhythm is even more regular. The
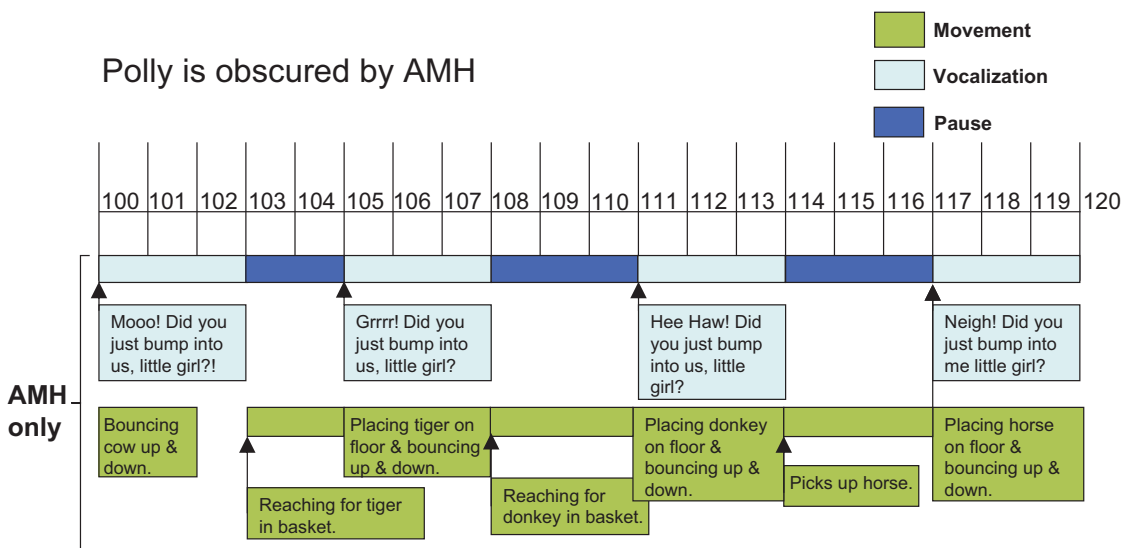

Figure 7. 100–120 s: AMH and Polly. See the online article for the color version of this figure.

vocalizations are 3 s in duration and the pauses are 2 s, 3 s, and 3 s. AMH's gestures and vocalizations take on the repetitive quality of a child's story or game. Polly looks on with fascination and a slight smile.

As noted in the initial summary of the beginning session, Polly responded to this sequence by taking out one animal after the other and making them pretend to bite AMH. She then repeated this sequence, but this time with the animals sitting on AMH's lap instead of pretending to bite AMH.

Summary of Beginning Session

From the first moments of the first individual session, this dyad demonstrates a high coordination of vocal and action rhythms. The synchrony of their bodies settling to the floor in the first few seconds of their time together in the office, and the timing of their turn taking, illustrates a pattern that will become characteristic of their relationship. In the first session, Polly does not speak, but AMH senses Polly's anxiety in her posture, facial expression, and gaze. She imagines that Polly experiences being left alone with this relative stranger as a threat. In her own mind, AMH reflects on Polly's temper tantrums—reactions to separations from her adoptive parents—which AMH relates to the multiple traumatic attachment disruptions in Polly's early life and to her adoptive mother's business trips. AMH's experiences with other children as well as her observations in the family meeting suggest that Polly fears that her "bad girl" anger and aggression will cause others to reject her. AMH's conscious intentions are to make a connection with Polly, to evaluate Polly's capacity for pretend play, and to communicate her interest in and tolerance of Polly's aggression by "keeping it in the air."

AMH's nonconscious behaviors form a context for this narrative about the threat of separation or abandonment, and the fear of aggression. It is clear that AMH's moment-to-moment communications to Polly are not "neutral." In response to her perception of Polly's wariness, out of her awareness AMH initiates predictable patterns of vocalizations and pauses. AMH is trying to create an atmosphere of trust and security for this frightened child. We propose that AMH's predictable vocal rhythms contribute to building an atmosphere of safety. Other nonverbal elements, such as AMH's steady framing posture and her slow movements, also contribute to an atmosphere of safety. We also observe AMH parsing her speech into manageable portions which hold open the chance for Polly to take a turn. This pattern conveys interest in Polly—again a pattern which occurs largely outside of AMH's awareness. These nonverbal procedural aspects of the microprocess occur in the context of the symbolic narrative of AMH's speech, and the nature of the symbolic play, which together generate an atmosphere of predictability, safety, and the invitation for Polly to participate.

As they began to play about a girl and a helicopter, three small events occurred that caused a disruption—the doll's head being bumped, the helicopter being dropped, and Polly's reaction to the helicopter's drop by throwing the doll. The disruption occurred in the narrative, in that the benign helicopter ride was abruptly interrupted. However, crucially, the disruption also occurred in the microprocess, in that the even, predictable vocal rhythms with 1-s pauses that AMH had begun to establish were broken. The effect of this disturbance was felt by both partners, as they reacted to the disruption of their initial efforts to feel safe together. Before they could get back to the business of establishing a safe relationship, this disruption had to be repaired. AMH's repetitive play of the animals in the pretend mode (symbolic narrative) acknowledged the aggression of the "little girl." AMH's repetitive play of the animals in the procedural mode (microprocess) communicated "no more surprises" through an exaggerated predictability of the rhythms. Thus, AMH generated a repair, both in the narrative and the microprocess simultaneously. Because this child was not yet speaking, this disruption and repair could not be grasped at the verbal level. Instead, the magnitude of the disruption of the small accidental events in the play, as well as the repair of that disruption, can only be understood in this vignette if the microprocess is taken into account. Moreover the microprocess opens our eyes to the domain of rapid split-second forms of communication that cannot be discerned through the words.

Note on the Following Session: 1-Month Later

After the beginning session, there was an interruption while AMH met with Polly's parents and discussed arrangements for the treatment. In the next session, a month after the beginning session, Polly began by picking up the helicopter and placing it on its stand in the airport. She then took an animal out of the basket and gave it to AMH, and took out an animal for herself. Taking her animal in hand, she aggressively bumped AMH's animal. In this moment, she replayed the powerful sequence of the session before, but this time she was the clear agent of the aggression.

Polly: 1 Year into Analytic Treatment

One year into the analysis, Polly's ability to use pretend play had grown considerably. Typically, Polly took the role of the superior, powerful, enviable character in the play, and gave to AMH the role of the inferior, weak, and defective character. The play narratives often involved painful rejections and abandonments, in which the ugly, "bad" character was thrown away. Despite the fact that their time together could be spirited and sometimes enjoyable, Polly was extremely controlling, and the play had a rigid, driven quality. At home, Polly's temper tantrums were improved, she slept better, her separation anxiety was less, and she said "My daddy is the only boy that I like." AMH had been proceeding as if the core problems were related to her aggression—her conflicts about it, her constraint of it, her fear of it. In a transformational session 14 months after the first session, something new was created.

The "Trick" Session: 1 Year into the Analysis

In this transformational session, as she was setting up the game "Memory," Polly began a repetitive chant. This game is one of matching and involves finding pairs of identical cards placed face down. Polly took out the box and set it on the floor, taking out the cards and beginning to set them out. Before the camera was turned on, Polly began to chant: "Here we go! Here we not go. Here we do go!"

"The Trick" Session: 0–20 s (Figure 8, Polly Alone)

Once the camera was on, we see in Figure 8 that Polly's chant continues. It has a rhythmic theme (two stresses, upward contour)
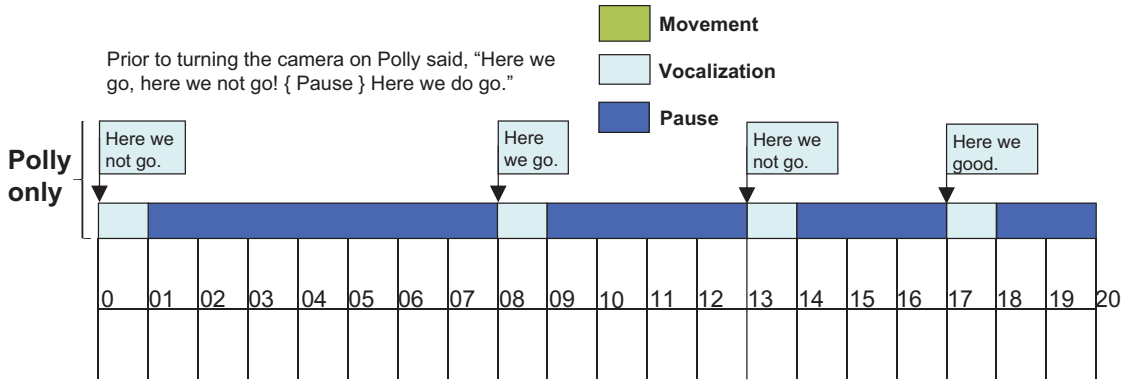
Figure 8. 0–20 s: Polly Alone Depicted, "The Trick" Session. See the online article for the color version of this figure.

and variation (three stresses, downward contour). All Polly's vocalizations have a 1-s duration. As shown in Figure 8, Polly's chant continues in "Here we not go. Here we go. Here we not go. Here we good." Figure 8 depicts only Polly's vocalizations.

"The Trick" Session: 0–20 s (Figure 9, Both Polly and AMH)

Figure 9 shows the same sequence as seen in Figure 8, but adds AMH's vocalizations. With Polly leading the way, she and AMH take turns. The chanted phrases are all 1-s long for Polly, and 1- to 2-s long for AMH. Examining the entire vocal stream of the two partners, each is matching the turn-taking rhythm of the other, at first with 2-s switching pauses, and then with 1-s switching pauses between the vocal turns. The coordination is clear.

As the camera opens on the session, in the first 4 s, AMH is settling to the floor to play the game. In the third of those 4 s,

AMH begins her echoing of Polly's just prior two phases ("Here we go," off camera, and "Here we not go," on camera; Second 0), with AMH saying "Here we go" (Second 3). It is interesting that Polly waits for AMH and does not interrupt during AMH's 4-s settling down process (Seconds 0–4). Moreover, exactly synchronized with the completion of AMH's settling down, Polly looks directly at AMH, and at that moment, AMH speaks her second phrase "Here we not go" (Seconds 4–5).

Then Polly says "Here we go" (Second 8) looking at AMH and then looking down (Second 9). Synchronized with the looking down, AMH echoes exactly "Here we go" (Seconds 10–11). After a 1-s switching pause, Polly says "Here we not go" (Second 13). Echoing the rhythm and the words, after another 1-s switching pause, AMH says "Here we not go" (Second 15). Continuing the rhythm of the 1-s pause, Polly then does the *trick*, saying, "Here we good" (Second 17). Continuing
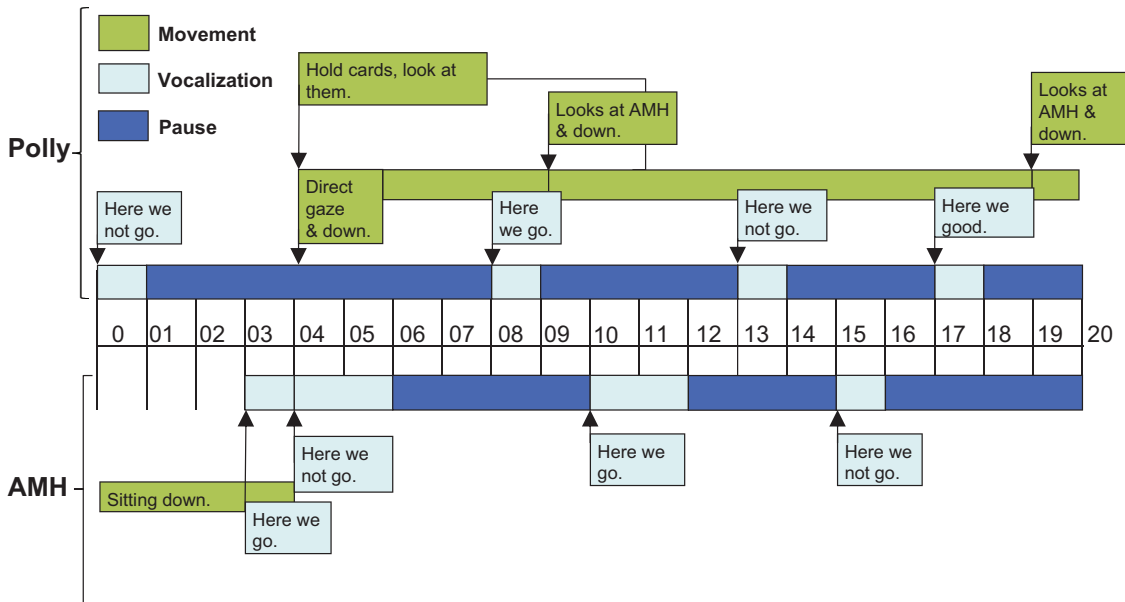

Figure 9. 0–20 s: AMH and Polly, "The Trick" Session. See the online article for the color version of this figure.

the rhythm of the 1-s pause, Polly then looks up at AMH (Second 19).

In the dialogue, AMH has repeated the phrases as exactly as she can, while she tries to pay attention as she settles down on the floor to play the game. Then Polly introduced a verbal elaboration on "Here we go" with the variation "Here we not go" (Second 0), while keeping the rhythm identical. Polly was introducing contrast, negation, opposites. AMH followed her, repeating the negative. At this point, both partners had set the stage for elaboration being part of the "game." Polly now did the "trick" of elaboration: "Here we good" (Second 17).

"The Trick" Session: 20–40 s (see Figure 10)

AMH did not hear Polly say "good" rather than "go," and instead AMH gave the elaboration of "Here we not go" (Second 20). Polly assertively corrected AMH and smiled (Second 22). She enjoyed AMH's mistake. The dialogue of the episode is as follows: AMH: "Here we not go" (Second 20). Polly: "No! Here we good, I said!" (Second 22). AMH: "You did?" (Second 23½) Polly: Nod (Second 24). AMH: "Laugh. Here we bad" (Seconds 24–25); laugh again (Second 27). Polly: With direct gaze "Here we not go" (Second 30). AMH: "Here we go" (Second 32½). Polly: "No!" (Second 34). AMH: "No what?" (Second 34½). Polly: "Here we go" (Second 36). AMH: "Here we go" (Second 38).

The microprocess rhythm is markedly different in this 20-s sequence; the initial predictable rhythm falls apart with the trick. A new rhythm is seen in this 20-s sequence—one that includes some staccato moments with ½ second vocalizations and ½ second pauses. This more rapid rhythm is interspersed with some slower moments of the more familiar 1-s vocalizations, and 1- and 2-s pauses. The staccato rhythm specifically occurs at the moments of conflict. The first occurs when Polly protests that AMH did not recognize "Here we good" and instead responded "Here we go." Polly says forcefully says "No! Here we good, I said." AMH

speeds up with a ½ second switching pause and a ½ second vocalization. Polly matches this more rapid rhythm with her own ½ second switching pause and ½ second nod. AMH immediately laughs and adds "Here we bad!," and then she relaxes into the slower, more familiar rhythm, a 1-s pause (Second 26) followed by a 1-s laugh (Second 27). But immediately Polly looks away (Second 28), a simultaneous switch, a moment of high arousal. The next second (29) she looks directly back at AMH and then says "Here we not go." Picking back up the more familiar rhythm, after a 1-s switching pause, AMH says "Here we go," in a ½ second vocalization (Second 32). Polly then gazes directly at AMH (Second 33) and a second later (Second 34) says "No!," a ½ second vocalzation. Polly now has speeded the rhythm up. AMH, with a simultaneous switch, asks "No, what?" (Second 34½), again a ½-s vocalization, continuing the speeded up rhythm. Polly then returns to the previous rhythm, leaving a 1-s pause before saying "Here we go" (Second 36). AMH joins her in backing off, slows the rhythm further by allowing a 1½-s pause, and echoes Polly more exactly (Second 38), leaving the playful and challenging mode.

Commentary

In the first 20 s of The Trick session (Figures 8 and 9), it was almost as if Polly had invited AMH to sing a familiar song with her, although in truth neither of them had sung this song before. In an interesting contradiction, the content of the words seemed to represent ambivalence, or a conflict about togetherness ("Here we go," "Here we not go"). AMH was almost exactly matching Polly in the rhythm and verbal narrative of her turns, and the cocreated chanting song was pleasurable, a holding kind of experience, a reciprocal joining. Whereas the content of the narrative was about ambivalence, the microprocess seemed to signify trust in their relationship. It was as if the microprocess created a safe context in which they could deal with conflict about intimacy and the negotiation of power in the relationship.
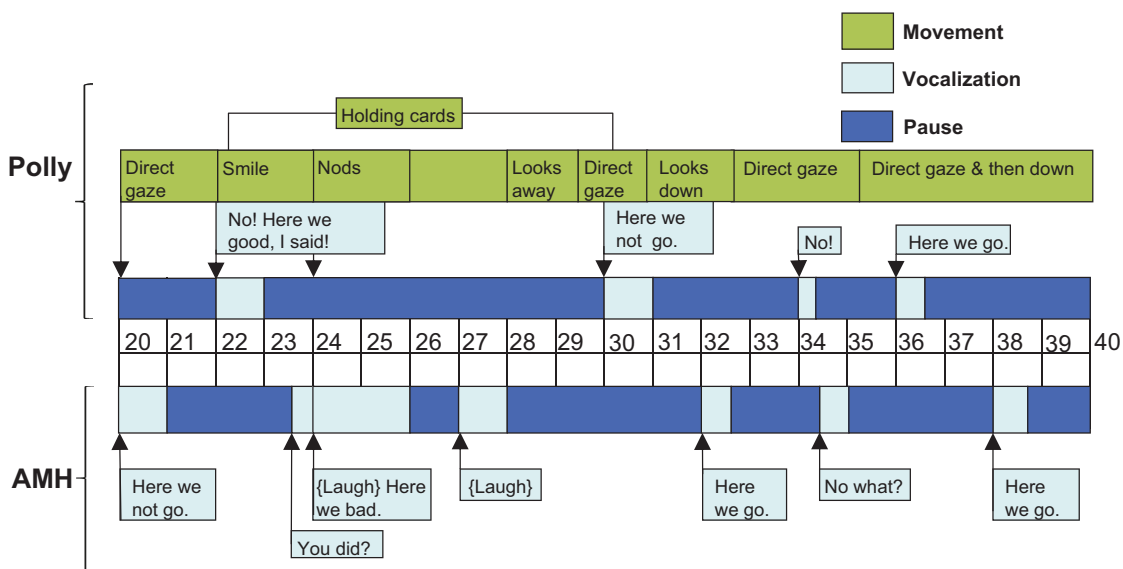

Figure 10. 20–40 s: AMH and Polly, "The Trick" Session. See the online article for the color version of this figure.

It was in the context of this rhythmic cocreated chanting song that Polly took a risk with her aggression and tricked AMH. Instead of saying "Here we go," she said "Here we good." AMH was expecting the predictable chant, and she responded as if Polly had repeated the chant unchanged. AMH was tricked. In truth, it was not clear that Polly had intentionally planned to say "good" instead of "go," but whatever her intention, she quickly identified AMH's response as a mistake. The trick constituted a disruption of the previous play—both the narrative and the microprocess. Suddenly the easy rhythm was disrupted and the narrative became incomprehensible.

"The Trick" Session: 40–60 s (see Figure 11)

In this sequence AMH echoes Polly more exactly. Polly says "Here we not go" (Second 40), and AMH echoes this (Second 42). After a rather slow 2½-s switching pause, Polly says "Ta da!" (Second 45), and AMH echoes this (Second 46), but adds a second "Ta da" (Second 47). Here Polly protests: "Stop it!" (Second 48), with a grimace (Second 49). Polly's vocalization is another ½-s turn, picking up the staccato rhythm we saw in the previous figure. She then again slows down, waiting 2½-s, but then pronounces five "ta da's" darting a ½-s direct gaze at AMH 4 seconds into her 5-s vocal turn (Seconds 51–55).

Polly is doing two things here. She is besting AMH in a way that she thinks AMH will accept, and she is looking at AMH to make sure that AMH is okay with it. AMH is doing several things—repairing a minor disruption by doing more precise echoing, adding a playfully provocative elaboration of Polly's "ta da," and finally making an interpretation about the competition over who is the more powerful.

After "the trick," it seemed as if Polly felt her position of power in the relationship was enhanced, and she was motivated to speak her triumphant "ta da!" Then when AMH matched her but added another "ta da," it challenged Polly's new position, and she said "Stop it!" and let loose her string of "ta da's." AMH's interpretation about Polly wanting AMH to match her ("Sometimes when you say 'stop it' I think you mean, do not do something different from me!") brought into the foreground the issue of who would lead, who would control, an issue that had been powerfully but implicitly present since the beginning. AMH's use of the word "sometimes" softened the interpretation. They seemed to be exploring how much freedom each partner in an intimate relationship could have—to be herself, to be in the lead, and to stay connected. In the next moment, not recorded on the diagram, Polly responds to the interpretation "Yep."

Tricking was a sign that something had been added to their way of being together, something was changing. Polly was taking a risk with her aggression, initiating, and innovating. She seemed to be experiencing herself in a different way, because in this tricking situation she and AMH were not joined or coordinated in the way she was used to and felt secure in. As the session progressed, the symbolic meanings suggested that it might be possible to take a risk with aggression in an intimate and dependent relationship. A trusting relationship in which someone could get tricked—that was a step in opening up a new dimension, including the potential to be yourself, aggression and all, within an intimate relationship.

The trick may also indicate a shift in Polly's use of mentalizing with AMH in a state of heightened arousal, that is, in the context of her aggression (Fonagy, Gergely, Jurist, & Target, 2002). She could imagine that AMH had a different view of what she said than her own view. In prior sessions, Polly might have shut down in the context of an aggressive moment, or thrown the game away. Instead, in "The Trick" session, she uses humor.

Forty Seconds Later: 20 s From the End of "The Trick" Session (see Figure 12)

We skip now to 40 s later. The game of Memory following the Trick sequence began in the usual way. In prior sessions, Polly had always avoided claiming two kinds of matches in the memory game—the "brown boys" and the "black ants." Because the player with the most matches wins, her reluctance to claim the "brown boys" and the "black ants" was significant. It meant that her
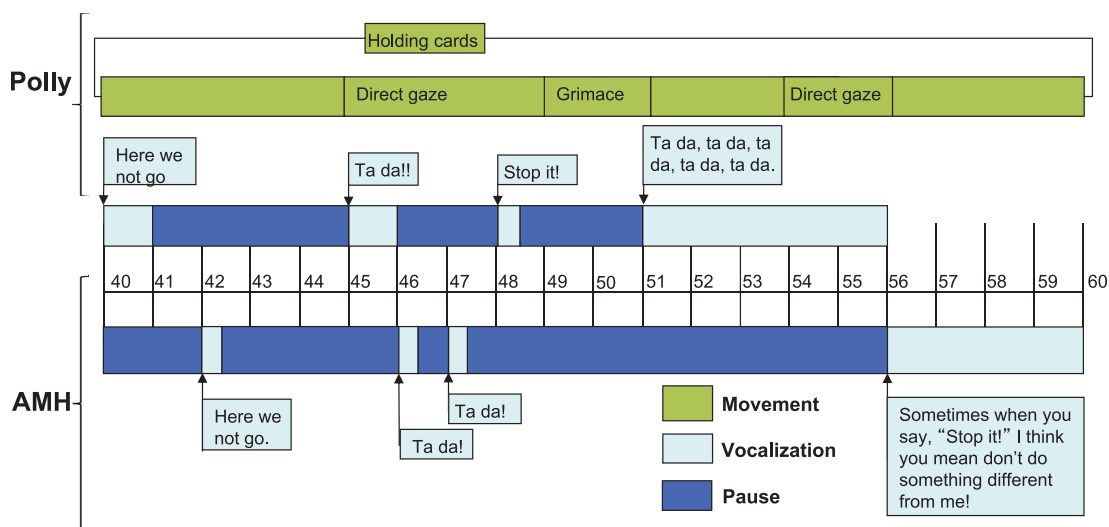

Figure 11.   40–60 s: AMH and Polly, "The Trick" Session. See the online article for the color version of this figure.
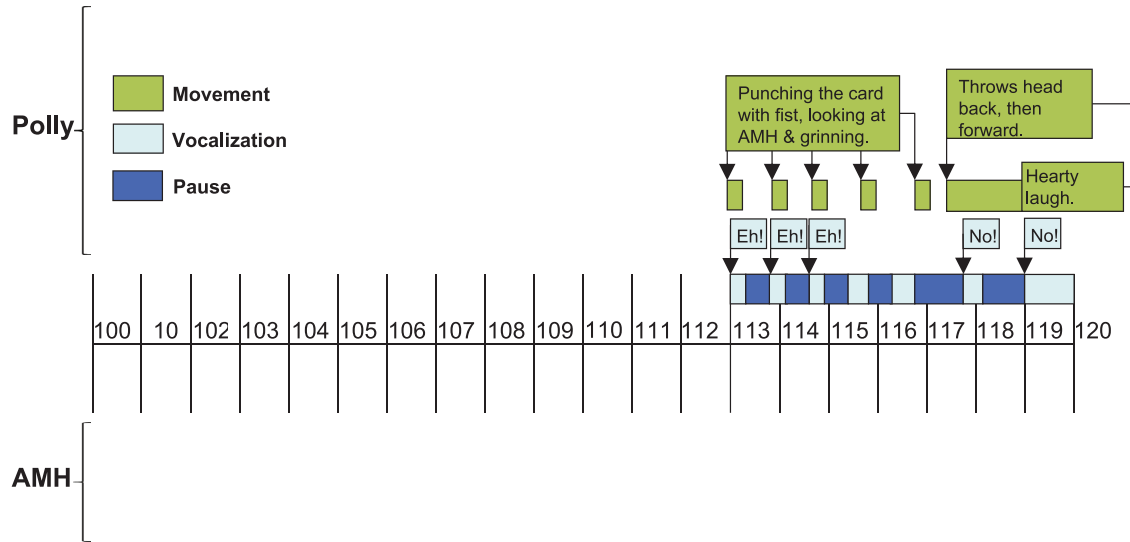
Figure 12. 100–120 s: AMH and Polly, "The Trick" Session, Forty Seconds Later. See the online article for the color version of this figure.

antipathy to whatever these cards meant to her—her ugly black aggression and its destructive consequences, her negative self representation—was greater than the prospect of losing the game! This time, however, a surprise was in store.

In this section of the film, Polly and AMH played the Memory game. They were clearly enjoying the game together. There was a lot of laughter. The videotape reveals a remarkable synchrony of their bodies as they bend forward to uncover cards and then lean back to give the other a turn. There is also a good deal of matching in their remarks, such as when Polly asks "Where is that butter-fly?" When she completes her turn, AMH asks with the same tone and contour "Where is that butterfly?"

Polly then uncovers a brown boy card, but the second card she uncovers is not the match. AMH says, laughing "You don't like the brown boy!" (this comment by AMH is not represented in Figure 12). Polly then uncovers the black ant card. There is a moment of suspense, and then Polly uncovers the second black ant card and picks it up. This was a first in their many Memory games together; in all the previous games Polly had refused to uncover the second black ant card, rejecting the match. This time, depicted in Figure 12, she clasps the previously rejected cards and holds them up triumphantly in one hand, and then punches them rhyth-mically with her other hand (Seconds 113–117), while she vocal-izes "Eh! Eh! Eh!" (Seconds 113–115) This series of punches is a deliberate rhythm of one punch per second, while she looks at AMH and grins. Then she cries "No!" twice (Seconds 117 and 119) with a laugh, pauses and then throws her head back with a hearty laugh. AMH joins her laugh.

Summary of "The Trick" Session

Throughout the treatment, Polly and AMH cocreated symbolic play themes about rejection, separation, and reunion in relationships. Out of their awareness, they also elaborated microprocesses that created a rich context for the symbolic narrative. At the same time, the narrative created a context for the microprocesses. The predictable pattern of repetitive 1- or 2-s pauses between vocalizations was initiated by AMH in the first individual session. Although AMH consciously intended to try to establish a safe relationship, she was unaware that she was also creating predictible rhythms, through the durations of her vocalizations and pauses, that might contribute to that sense of safety. In that session, the sense of safety was disrupted and then repaired in both the narrative and the microprocesses.

In the analytic work that followed, the meaning of safety in their relationship remained a central issue. Polly represented relationships in the play in which she was the controlling boss and AMH the victim of disparagement and rejection, for example, the ugly girl who was not invited to the party. AMH accepted this disparaged, rejected role in the play. In this way AMH facilitated Polly's symbolic represen-tation of the experience of a hurt, angry, abandoned child, and the experience of the bossy person. At the same time, AMH introduced some small variations such as a complaint about the way she was being treated, or her dreams of something better. In this way, Polly's repertoire of symbolic meanings about herself and her important relationships began to be expanded and elaborated.

As she played with Polly, AMH was aware of the need to maintain adequate security in the relationship. For example, AMH always paid careful attention to any "no," so that Polly could feel her initiative was respected. Also, AMH was sensitive to moments when Polly could, or could not, tolerate elaboration or variation. At the same time, and out of her awareness, AMH actively participated in sensitively synchro-nized turn taking rhythms of vocalizations and pauses, and actions and action-pauses. Polly and AMH together cocreated these rhythms. The pattern of 1-s vocalizations or pauses was one of them. The result of this working in the microprocess was to establish a repertoire of implicit patterns—in addition to the explicit patterns in the narra-tive—in which they could feel safe together, could repair ruptures, and could refind each other after a separation.

In the session of "The Trick," Polly's implicit intention seemed to be to disrupt the safety in the relationship in a playful way. Together they recreated a safe way of being together that integrated moments of

competition and aggression. Just as the humor in a good joke, the "trick" in the game was in the timing, and the timing was in the second-by-second microprocess. In contrast to Polly's earlier scripted play, in this session she used flexibility in the microprocess to create flexibility in the verbal narrative, to express her aggression in a safe and funny way.

The success of the trick then led to her second innovation of claiming the black ants. In taking up the pair of black ants, she changed the narrative. In essence, symbolically she was accepting the aggressive part of herself—the black, bad, crawling self. Yet the remarkable success in this innovation was that, while she symbolically expressed her acceptance, her punching action was simultaneously expressing her disapproval. She maintained the conflict, but the conflict was now acknowledged, accessible, and funny, more available for integration.

Conclusion

From the first session, the narrative and the microprocess together initiated the creation of a context in which to play. Whenever minor disruptions occurred in the story of the play, they could also be identified in the microprocess. Throughout the analytic work, the relationship was repeatedly repaired through the reestablishment of predictable rhythms, and narratives expressing acknowledgment and tolerance of aggression and competition. Polly and AMH cocreated "ways of being together" that made it possible to take risks, to innovate, and to improvise. In the analytic treatment, both in and out of awareness, analyst and patient found an expanded repertoire of ways of being together.

This article offers a method of explicating the two levels of meaning, the narrative level of the therapeutic exchange, and the procedural second-by-second coordination of the partners at the microlevel of communication, generally out of awareness. It illustrates the vital role of the microprocess in therapeutic action in a child analytic case. Moreover, it specifically illustrates the integration of the explicit verbal narrative with the implicit moment-by-moment microprocess of vocal rhythms and "action turns." Neither the verbal exchange nor the nonverbal exchange could be fully understood without reference to the other. We acknowledge the complexity of both levels of meaning, and the possibility that other forms of meaning may be seen by other authors.

Although psychoanalysis is changing, and the nonverbal domain is increasingly considered, the developmental research that guides the analysis of the nonverbal domain in this article offers a detailed and complex dyadic view into the nonverbal process that has not yet been integrated with psychoanalytic understanding. The intricacy of the verbal layer is so complex that we struggle to understand its subtleties. Spoken language typically dominates our awareness—our attention, our ways of thinking, our ways of communicating. Yet, when we examine the microprocess we become aware of another domain of meaning. Each dyad creates its unique pattern of coordinated vocal and action rhythms. While out of the awareness of the interacting partners, these nonverbal patterns of coordination form an essential context for the meaning of the words the partners exchange. That this coordination of rhythms is a creative process becomes clear once we become aware of the multitude of options that exist at every moment. Analyst and patient actively respond to an infinite number of tiny choice points that emerge in their ongoing engagement, in and out of awareness.

All these choices have meaning. Whereas psychoanalytic meaning is largely formed and communicated in words, this article illustrates that, beneath the level of words, but integrated with the words, another universal, omnipresent, powerful mode of therapeutic action is at work.

References

Anderson, F. (2008). *Bodies in treatment: The unspoken dimension*. New York, NY: The Analytic Press.

Ashley, A., Feldstein, S., Hoffhines, V., & White, K. (1997, April). *Mother–toddler attachment and coordinated interpersonal timing during play interactions: A preliminary analysis*. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Washington, DC.

Beebe, B. (2004). Symposium on intersubjectivity in infant research and its implications for adult treatment. IV. Faces-in-relation: A case study. *Psychoanalytic Dialogues, 14,* 1–51. http://dx.doi.org/10.1080/10481881409348771

Beebe, B., Jaffe, J., Lachmann, F., Feldstein, S., Crown, C., & Jasnow, J. (2000). Systems models in development and psychoanalysis: The case of vocal rhythm coordination and attachment. *Infant Mental Health Journal, 21*(1–2), 99–122.

Beebe, B., Jaffe, J., Markese, S., Buck, K., Chen, H., Cohen, P., . . . Feldstein, S. (2010). The origins of 12-month attachment: A microanalysis of 4-month mother-infant interaction. *Attachment & Human Development, 12,* 3–141. http://dx.doi.org/10.1080/14616730903338985

Beebe, B., & Lachmann, F. (2002). *Infant research and adult treatment: Co-constructing interactions*. Hillsdale, NJ: Analytic Press.

Beebe, B., & Lachmann, F. M. (2014). *The origins of attachment: Infant research and adult treatment*. New York, NY: Routledge/Taylor & Francis Group.

Beebe, B., Margolis, A., Markese, S., Jaffe, J., Buck, K., . . . Reuben, J. (August 6, 2009). Mother–infant vs. stranger–infant: Depression and attachment. *Report to the International Psychoanalytic Association*. New York State Psychiatric Institute, New York, NY.

Beebe, B., Messinger, D., Bahrick, L. E., Margolis, A., Buck, K. A., & Chen, H. (2016). A systems view of mother -infant face-to-face communication. *Developmental Psychology, 52,* 556–571. http://dx.doi.org/10.1037/a0040085

Bettes, B. A. (1988). Maternal depression and motherese: Temporal and intonational features. *Child Development, 59,* 1089–1096. http://dx.doi.org/10.2307/1130275

Downing, G. (2004). Emotion, body, and parent-infant interaction. In J. Nadel & D. Muir (Eds.), *Emotional development: Recent research advances* (pp. 429–449). Oxford, UK: Oxford University Press.

Emde, R., Birengen, Z., Clyman, R., & Oppenheim, D. (1991). The moral self of infancy: Affective core and procedural knowledge. *Developmental Review, 11,* 251–270. http://dx.doi.org/10.1016/0273-2297(91)90013-E

Feldstein, S. (1998). Some nonobvious consequences of monitoring time in conversations. In M. Palmer & G. Barnett (Eds.), *Mutual influence in interpersonal communication. Theory and research in cognition, affect, and behavior: Progress in communication sciences* (pp. 163–190). Norwood, NJ: Ablex.

Feldstein, S., & Crown, C. (1990). Oriental and Canadian conversational interactions: Chronographic structure and interpersonal perception. *Journal of Asian Pacific Communication, 1,* 247–265.

Feldstein, S., & Welkowitz, T. (1978). A chronography of conversation: In defense of an objective approach. In A. W. Siegman & S. Feldstein (Eds.), *Nonverbal behavior and communication* (pp. 329–372). Hillsdale, NJ: Erlbaum.

Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization and the development of the self*. New York, NY: Other Press.

Grigsby, J., & Hartlaub, G. H. (1994). Procedural learning and the development and stability of character. *Perceptual and Motor Skills, 79,* 355–370. http://dx.doi.org/10.2466/pms.1994.79.1.355

Hane, A., & Feldstein, S. (2004, May). *Rhythms of relatedness: The role of early mother-infant vocal coregulation in early social-emotional development.* Paper presented at the invited symposium entitled Development in the Active Voice: The Relation between Vocal and Social Development at the Biennial Meeting of the International Society for Infant Studies, Chicago, IL.

Hane, A. A., Feldstein, S., & Dernetz, V. H. (2003). The relation between coordinated interpersonal timing and maternal sensitivity in four-month-old infants. *Journal of Psycholinguistic Research, 32,* 525–539. http://dx.doi.org/10.1023/A:1025494200272

Harrison, A. M., & Tronick, E. (2007). Now we have a playground: Emerging new ideas of therapeutic action. *Journal of the American Psychoanalytic Association, 55,* 853–872.

Harrison, A. M., & Tronick, E. (2011). "The noise monitor": A developmental perspective on verbal and nonverbal meaning-making in psychoanalysis. *Journal of the American Psychoanalytic Association, 59,* 961–982. http://dx.doi.org/10.1177/0003065111422539

Jaffe, J., Beebe, B., Feldstein, S., Crown, C. L., & Jasnow, M. (2001). Rhythms of dialogue in infancy. *Monographs of the Society for Research in Child Development, 66,* 1–132.

Jaffe, J., & Feldstein, S. (1970). *Rhythms of dialogue* (Vol. 8). New York, NY: Academic Press.

Kelso, J. (2002). The complementary nature of coordination dynamics: Self-organization and agency. *Nonlinear Phenomena in Complex Systems, 5,* 364–371.

Knoblauch, S. (2000). *The musical edge of dialogue.* Hillsdale, NJ: The Analytic Press.

Knoblauch, S. (2017). The fluidity of emotions and clinical vulnerability: A field of rhythmic tensions. *Psychological Perspectives, 14,* 283–308.

Lyons-Ruth, K. (1999). The two-person unconscious: Intersubjective dialogue, enactive relational representation, and the emergence of new forms of relational organization. *Psychoanalytic Inquiry, 19,* 576–617. http://dx.doi.org/10.1080/07351699909534267

Markese, S., Beebe, B., Jaffe, J., & Feldstein, S. (2008, March). *Rhythms of dialogue in infancy and attachment narratives in childhood.* Paper presented at the XVI Biennial International Conference on Infant Studies, Vancouver, Canada.

Newtson, D. (1990). Alternatives to representation or alternative representations: Comments on the ecological approach. *Contemporary School Psychology, 14,* 163–174.

Ritter, M., Bucci, W., Beebe, B., Jaffe, J., Maskit, B., & Ritter, M. (2007). Do mothers of secure infants speak differently than mothers of avoidant infants in natural conversations? An interpersonal exploration of language differences. *Journal of the American Psychoanalytic Association, 55,* 269–275. http://dx.doi.org/10.1177/00030651070550010105

Rustin, J. (2012). *Infant research and neuroscience at work in psychotherapy: Expanding the clinical repertoire.* New York, NY: Norton Press.

Seligman, S. (2018). *Relationships in development: Infancy, intersubjectivity, and attachment.* New York, NY: Routledge.

Seligman, S., & Harrison, A. (2011). Infant research and adult psychotherapy. In G. Gabbard, B. Litowitz, & P. Williams (Eds.), *American psychiatric association textbook of psychoanalysis* (2nd ed., pp. 239–252). Washington, DC: American Psychiatric Publishing.

Squire, L. (1982). The neuropsychology of human memory. *Annual Review of Neuroscience, 5,* 241–273.

Stern, D. N., Jaffe, J., Beebe, B., & Bennett, S. L. (1975). Vocalizing in unison and in alternation: Two modes of communication within the mother-infant dyad. *Annals of the New York Academy of Sciences, 263,* 89–100. http://dx.doi.org/10.1111/j.1749-6632.1975.tb41574.x

Tronick, E. (1989). Emotions and emotional communication in infants. *American Psychologist, 4,* 112–119.

Tronick, E. (2007). *The neurobehavioral and social-emotional development of infants and children.* New York, NY: Norton.

Warner, R. (1992). Cyclicity of vocal activity increases during conversation: Support for a nonlinear systems model of dyadic social interaction. *Behavioral Science, 37,* 128–138. http://dx.doi.org/10.1002/bs.3830370204

Welkowitz, J., Cariffe, G., & Feldstein, S. (1976). Conversational congruence as a criterion of socialization in children. *Child Development, 47,* 269–272. http://dx.doi.org/10.2307/1128311

Zlochower, A. J., & Cohn, J. F. (1996). Vocal timing in face-to-face interaction of clinically depressed and nondepressed mothers and their 4-month-old infants. *Infant Behavior and Development, 19,* 371–373. http://dx.doi.org/10.1016/S0163-6383(96)90035-1