

Felix E. Rietmann

Of Still Faces and Micro-Plots: Audiovisual Narration in Infant Mental Health

1. Introduction

This paper explores factual narration in audiovisual recordings from medical research and clinical practice. It is meant to spark a discussion about the extent to which we can apply narratological categories to these sources and where we may encounter limitations to such an approach.¹ I will address these issues with a concrete example. Specifically, I will make an argument about the role of audiovisual narratives in the history of infant mental health. Infant mental health is a recent multidisciplinary field at the intersection of pediatrics, child psychiatry and developmental psychology. The field focuses on psychological problems in early childhood, primarily approaching these problems on the level of the parent-infant relationship. Historically, research in the field has heavily relied on a particular experimental setting, discernible in figure 1: face-to-face interaction between parent and infant, recorded and analyzed with the help of film and video technologies (Rietmann 2018; Guedeny and Tereno 2012; Osofsky 2016).

In this essay I will focus on historical and structural aspects of the face-to-face setting. In a nutshell, I will argue that we can observe a historical development that appears like an inversion of what Kindt and King (this issue) describe for discharge letters: If we see in discharge letters how a lived experience (i.e., a patient's narrative) is transformed into a temporally compressed and emotionally truncated account, we can observe in audiovisual research of infant-mother interaction how a decontextualized and truncated infant experience is translated into a temporally extended and emotionally enriched narrative. This process of translating or retelling infant experiences is complex and requires an engagement with structural, historical and epistemological aspects of research practices in infant mental health. Furthermore, our understanding of this retelling depends on our approach to audiovisual

¹ To my knowledge, there is no narratological study of research film and/or clinical recordings in medicine. However, there are three bodies of film scholarship that touch on relevant aspects: First, there is a considerable body of scholarship on narrative strategies in documentary film. The focus of these works differs from the present approach to the extent that documentary film heavily relies on narrative means that are almost absent in research recordings such as multiple changes in camera angle, close-ups, and extensive editing (Nichols 1991; Renov 1993; Rony 1996). Second, there is an emerging body of scholarship on research and scientific film. The focus has mostly been on questions of objectivity, ways of representing the body, and film epistemology; narratological considerations are almost absent. If present, they are more concerned with the question of how narrative blurs the border between fact and fiction than with how it works for epistemic purposes (e.g., Curtis 2015; Cartwright 1995; Wellmann 2011). Finally, narratological scholarship has so far been concerned with narration in fiction film. For a good review: Kuhn and Schmidt (2013).

sources. Can we consider an audiovisual recording that represents a change of state already as a narrative? Does such a recording contain a plot? How do we approach the referentiality of factual images? And, how do we understand the scientist qua narrator?

In the first section of this essay, I will address these questions with the analysis of a recording of one of the most paradigmatic experiments in the field: the still face condition. The recording provides an appropriate example of how infant researchers and mental health practitioners construct a clinically meaningful infant today. I will argue that this construction heavily draws on audiovisual techniques of storytelling. Through a combination of staging, editing, and telling the infant appears as an actor in a dramatic plot. In the next two sections, I will turn to the history of early childhood psychiatry and discuss the genesis of the still face experiment and the present vision of infancy. I will follow the work of several key figures of the field of infant mental health in the USA from the 1970s to the present. In this context, I will point to the analytical and historical work that underlies, what I will call, a narrative embedding of infant experiences. I will argue that this embedding relied on processes of temporally structuring and restructuring infant experiences with the help of audiovisual recordings. We could also describe these processes as operations of decontextualizing and recontextualizing, or of telling and retelling. What is now intriguing about infant mental health is the fact that this temporal embedding eventually engendered the view that the infant's experience itself is narratively organized. In other words, we see an interplay between an epistemological condition of using narrative strategies for understanding the infant's mind and ontological assumptions about how this mind is made up.² At the end of the essay, I will point to some clinical implications of the narrative embedding of infant experiences with the work of the US psychologist Beatrice Beebe.

2. The still face: narration and experiment

Figure 1 shows a series of snapshots from a documentary film that illustrates the still face experiment for a broad public. The movie was produced in the late 2000s and features as narrator the US psychologist Edward Tronick. As I will discuss in greater detail below, the still face was invented in the 1970s by Tronick and his colleagues at Harvard University and has since been used as a paradigm for exploring infant-caregiver interaction (Mesman 2009; Dicorcia 2016). My discussion of the presentation of the experiment in the movie will serve two interrelated purposes. First, it will introduce us to some aspects of the narrative embedding

² From this perspective, the narrative embedding follows a “tools-to-theory” heuristic that has many precedents in the history of psychology (Gigerenzer 1991; Cowles 2015).

of infant experiences that informs current psychological and psychiatric approaches to infancy. The video clip illustrates how infant experiences are understood by infant mental health practitioners and how they are communicated to a wider public, a point that I will discuss more fully in the last section.³ Second, I will argue that the present scientific view of infancy is constructed on the basis of audiovisual techniques of storytelling. From this perspective, I will suggest, it is situated somewhere in between a factual narrative (an account with the aspiration to refer to real facts) and a scientific fiction (a narrative construction of these very facts).⁴

The techniques of storytelling are anchored in the experiment itself.⁵ More precisely, the experimental design includes elements that lend themselves to narrativization:⁶ It takes place in a specific setting and follows a characteristic sequence. To put it into the language of the literary scholar Wolf Schmid, it contains *static* and *dynamic* elements (Schmid 2010, 5). The static elements can be attributed to *mise-en-scène*, cinematography, and display, which I will discuss presently; the dynamic elements to the temporal structure of the experiment, which I will discuss in the next paragraph. As discernible in figure 1, mother and infant are arranged in a face-to-face position with the baby being installed in an infant seat (*mise-en-scène*); the scene is recorded with two video cameras, one on each partner's face and upper torso (cinematography); the recording is finally transmitted to a split screen (display). *Mise-en-scène*, cinematography and display define the visual field of the observer and focus (scientific) attention: they foreground facial and behavioral exchanges between mother and infant and stage mother and infant as agents who perform acts in relation to one another. Consequently, the static elements already suggest the five key terms of what literary theorist Kenneth Burke has called "a grammar of motives:" Scene, agents, and, by extension, acts (Burke 2009). They also implicitly suggest a thinking in terms of agency (or instrumentality) and purpose (or goal), the two remaining elements of Burke's pentad: the staging of the mother and infant as an interactive dyad implies that their behavioral exchanges (agency) are guided by specific

³ The exact interpretation of the experiment remains a controversial issue in the scientific literature until today. However, the element central to this paper – that the experiment shows how the infant participates in social interaction – is commonly agreed on (Adamson and Prick 2003; Dicorcia 2016).

⁴ Infant mental health practitioners acknowledge the constructed nature of present approaches, but still consider them valid and correct approximations of how the infant experiences the world. From this perspective, their accounts qualify as factual narrations: they seek to relate real occurrences, even if they contain highly hypothetical and speculative aspects. For an example: Stern (1992). On factual versus fictional narration see: Klein and Martínez (2011, 1–12), Blume (2019, 12–16).

⁵ On the narrative structure of experiments: Brandt (2011), Dear (1991), Holmes (1987).

⁶ I follow Hyden White's definition of narrativization as "to impose upon [reality] the form of a story" (White 1981, 2).

purposes (goal-oriented behavior). The experimental set-up situates mother and infant in a semantic field of action.⁷



Fig. 1 a-c: *Still Face Experiment* (2009)

⁷ Following Ricœur, we may consider the experimental staging of the mother and infant as a mimetic activity: the static elements delimit a “conceptual network of actions” that always already refers to motives, goals, and instrumentality (Ricœur 1984, 1:54–57).

These semantic features obtain “integration” and “actualization” in the temporal structure, that is through the dynamic elements of the experiment (Ricoeur 1984, 1:56–57). The experiment follows a sequence of three phases of approximately two minutes each, shown in figure 1. During the first phase, mother and infant play together (fig. 1a). The phase is followed by a dramatic change of state that qualifies, we may say, as a narrative event: a disruption of play due to the so-called still face condition. The mother assumes a neutral face expression and looks at her baby without motions (fig. 1b). The eventfulness of this change lies, among other things, in its violent deviation from expectations and norms of the “story world” (e.g., the baby expecting her mother to continue playing) (Lotman 1977, 233–234; Schmid 2010, 8–11). Finally, during the last phase, the mother returns to normal play, which corresponds to a resolution of the tension introduced by the still face condition (fig. 1c). As already indicated with my choice of words (event, story-world, narrative event, resolution of tension), I suggest that the experimental procedure has the structure of a plot, or, to be more precise, it is designed in a way that makes mother-infant interaction readable as a plot: a temporal sequence of (inter)actions is complicated by a significant event (the adoption of the still face condition); the complication (potentially) resolved by a reconstitution of the play situation. The still face condition is enacted to *cause* a change of affairs. The experiment thus structures contingent behavioral exchanges between infant and mother in a way that allows a reading as a plot, that is, as a causal arrangement of a temporal sequence of events (as opposed to, e.g., a chronicle as a mere temporal sequence of events).⁸ The structure also meets some of Aristotle’s requirements for a tragic plot, such as a division into beginning, middle and end (corresponding to the three phases of the experiment), unity of the narrative world (among others through the continuous focus on the dyad), and a storyline that includes complication and resolution (Aristotle 1996, Chs. 6–14, 18).

The presentation of the experiment in the movie foregrounds the plot structure, adds motivation and intention to infant behaviors, and dramatizes dyadic interaction. The images are cut together to emphasize both moments of strong emotional engagement and violent disruption of engagement due to the still face condition. For example, the movie only shows thirty seconds of the first phase of the experiment. The sequence exclusively consists of two moments of intense dyadic interaction that are spliced together from the overall recording of

⁸ Authors vary in their uses of the terms chronicle, story and plot. For the purpose of this essay, I am using Forster’s definition of plot as a causal arrangement of a temporal sequence of events (Forster 1985, 86). For an overview see: Martínez and Scheffel (2016, 28).

the phase. We see, first, how the girl points to an object outside of the frame and rejoices when the mother reacts to her pointing, and, then, how the mother engages her in a play of tickling to which the baby reacts with coos and giggles. Consequently, the first sequence (the beginning) sets up the storyline, depicting the dyad in a harmonious state of positive emotion and attributing this state to motivated actions of baby and mother. The infant figures as an agent during the exchange, reciprocating and initiating interaction with emotions (giggling), intentions (pointing), and, by implication, beliefs (expecting the mother to respond to her pointing).

The cuts and emphases are partly due to the fact that the movie was produced for a broad public. Still, it does reproduce some of the elements that characterize laboratory settings. For example, the split screen of shot-reverse shot of the mother and infant has been introduced, as we will see below in greater detail, in the 1970s and was a condition for examining mother-infant interaction. We will also see that the plot structure of the experiment contains assumptions about what infant-mother interaction is, and how it unfolds over time and in the minds of the interactants. Another aspect that we will encounter in scientific publications concerns the interplay between image and voice. The narrative voice reinforces emphasis and structure, and adds interpretation. It conveys meaning to gestures and actions of the mother and infant, using different narrative modes. On the one hand, Tronick describes the set-up and the actions of the mother and infant: “In the still face experiment [...], the mother sits down and plays with the baby [...]”, or, later: “She smiles to the mother, she points [...]” On the other hand, Tronick’s extra- and hetero-diegetic voice interacts with intra-diegetic sounds, combining interpretation with a reduction of distance to the narrative world. For example, during the first phase, Tronick explains, “[the mother] gives a greeting to the baby, the baby gives a greeting back to her.” He then pauses and the viewer sees mother and infant looking at one another, while the baby is cooing and the mother saying, “oh, yes.” Tronick resumes, “They are working to coordinate their emotions and their intentions.” In this instance, the synchronization between narrative voice and intra-diegetic sounds creates an effect comparable to direct speech (reduction of distance), while Tronick’s interpretations mark the speech as part of a broader narrative structure (greeting being an element of the beginning of the story/experiment).⁹

Dramatizing and interpreting functions of the voice-over become especially pronounced during the second phase, the still face condition. Tronick introduces the phase as

⁹ On distance: Martínez and Scheffel (2016, 50–67), Genette (1990, 162–185).

a moment of severe disruption. In slowed down voice with emphatic timbres, Tronick tells us: “And then we ask mother to not respond to the baby. The baby very quickly picks up on this. And then she uses all of her abilities to try to get the mother back.” On the screen, we see how the baby girl smiles, how she points, “because she is used to the mother looking where she points” (Tronick), and how she puts both hands up in front of her, “saying, ‘what’s happening here’” (Tronick). The transition of the narrative voice to direct speech emphasizes the subsequent breakdown of the baby: she looks increasingly unhappy, makes “screechy sounds” (Tronick) and finally starts crying. At that moment, the third phase sets in: the tension resolves in a return to interactive play. The mother comforts the baby and the two reengage in playful exchanges. As narrator, Tronick reinforces both plot structure and dramatic texture. Tronick not only marks the still face condition as a critical turning point of the plot, but also adds *pathos* (suffering) and prepares *catharsis* (purgation): texture (pitch, speed) and content of his comment emphasize the baby’s distress and her effort to animate her mother, building up tension until its final resolution in the last phase of the experiment.¹⁰ In the last section, I will suggest that the mediation of suffering through narration also plays a role in the clinical encounter of baby, parent and therapist qua narrator.

To briefly summarize: in the still face experiment, we have a staged encounter between an infant and a mother. The encounter contains static and dynamic elements that convey a rudimentary plot structure to the behavioral exchanges of the dyad. Infant mental health practitioners use audiovisual techniques of storytelling to embed these behavioral exchanges in a dramatic narrative. Images are cut together to dramatize dyadic interaction. A voice-over attributes internal motivations and intentions to acts, gestures, and sounds. It conveys intentional agency to the infant. The baby is narratively constructed as an actor in a brief dramatic plot. In its very artificiality, its dependence on a combination of staging, editing, and telling, this construction approaches a scientific fiction: the view of the infant is produced through an elaborate manipulation and imaginative interpretation of film material.¹¹

The question I would now like to address is: How do we understand the construction of this fiction from a historical perspective? How did the infant become an actor in a drama of human relations? I will address this question in turning to the history of early childhood psychiatry and in reconstructing some of the historical and analytic work that underlies the

¹⁰ *Pathos* and *catharsis* are extensively discussed terms, and I am using them in a somewhat deflationary way to point to the resonances between the narrative structure of the still face experiment and clinical applications of the face-to-face position. On *pathos* and *catharsis*: Aristotle (1996, Chs. 6, 11, 14).

¹¹ Arguably, there is always a fictive aspect in the scientific interpretation of the pre-verbal mind. On this issue, e.g.: Rietmann et al. (2017).

presentation of the still face experiment. I will argue that the present reading grew out of a successive embedding of infant experience into a new temporal frame. It would go beyond the scope of this essay, if I tried to comprehensively trace this embedding. Rather, I will focus on some milestones in the history of the field.

3. Towards a new semantics of infant-mother interaction: infant research in the early 1970s

The new temporal embedding was based on a microanalysis of moving images that entered infant research in the USA in the late 1960s. Figure 2 shows an early example: a drawing from a 1971 paper by the psychiatrist Daniel Stern. The broader context is that Stern and his contemporaries argued that already very young infants, basically from birth on, actively participated in interaction with their caregivers. At that time, this was a bold claim that entailed major revisions of theories of infant development. Most of previous psychiatric research had concentrated on the influence of the environment and, in particular, the mother on early development. The infant was mostly considered to be passive and emotionally dependent. This predominant focus on pathologies of maternal care (such as “overprotective” or “rejecting” mothering) has found entrance in historical scholarship under the name of “mother-blaming” (e.g., Ladd-Taylor and Umansky 1998; Plant 2010; Zeanah and Larrieu 2000). Now, Stern and his peers argued that, if one changed the temporal scale of looking at an infant, one could see that the mother-infant relationship was not a one-way street but based on rhythmic interactive patterns (Rietmann 2018, Ch. 2).

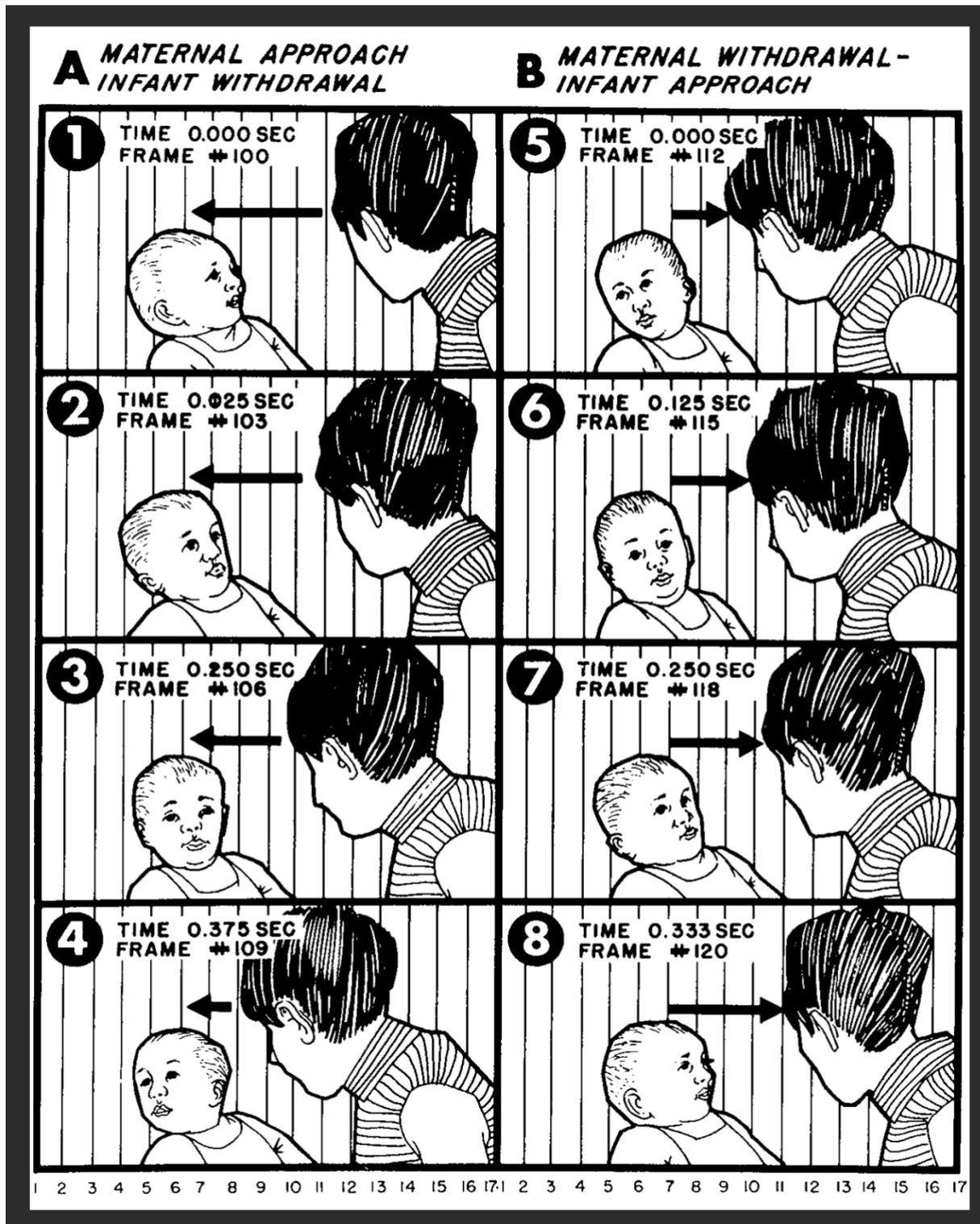


Fig. 2: Approach-Withdrawal-Pattern (Stern 1971, 509), with permission from Elsevier]

Figure 2 illustrates one of these patterns. Stern called it an approach-withdrawal pattern: in images one to four, the mother approaches, and the infant withdraws; in images five to eight, the infant approaches, and the mother withdraws. It is important to note that this “pattern” took place in less than half a second. Hence, Stern’s intervention was a major critique of clinical

perception: According to Stern, clinically, the mother showed an intrusive behavior towards her child, disrupting his development. Yet, if one recorded short sequences of mother-infant face-to-face interaction and analyzed these recordings frame-by-frame, on a scale of split seconds, one could see that something else was going on between infant and mother: “The interaction in which maternal behavior appears ‘controlling’ and ‘overstimulating’ is not solely directed by the mother. It is (at this point of its formation) a mutual interactive event – an event in which specific infant and maternal behaviors together produce repetitive sequences” (Stern 1971, 513). Stern’s paper aimed at shifting both observational level and clinical semantics of infant psychiatry from maternal influence to interactive dynamics.

On a structural level, we find in Stern’s paper in embryonic form some of the narrative elements that we have seen in the video of the still face situation. As in the still face, we have a staged encounter between mother and infant that is made comprehensible by two means: first, a temporal sequence of images and, second, an interpretative voice in form of a scientific text. I will discuss these two aspects in turn. From a commonsense perspective, the images are strange. They represent movements that are hardly visible in real life due to the low time scale (0.3 seconds). Their representation relies not only on a staging of dyadic interaction in a prearranged setting (*mise-en-scène* and cinematography), but also on cinematographic techniques of temporal and spatial editing. As I have detailed elsewhere, the (post-)production of the images included a strenuous process of extracting “patterns” from the audiovisual material (Rietmann, forthcoming): Stern recorded dyadic interaction on videotape, selected a “characteristic” sequence of seven minutes and transferred the sequence to 16 mm film. The transfer was necessary since microanalysis was difficult to realize on videotape at that time. After the transfer, Stern could examine the sequence frame-by-frame using a “hand-operated movie viewer” (Stern 1971, 504). The analysis required Stern to move back and forth between single frames and took several hours for a sequence of a few minutes. In other words, the analytic process included a slowing down of motion that would find a correspondence in the modification of the time scale of interaction in the scientific paper: the “interactive event” being situated on the level of split seconds. Now, the important point for our purposes is that this change of time-scale was not simply related to a temporal but to a causal argument, in which the “interactive event” qualified as a narrative event *in nuce* (meaningful for the ‘story world’ of dyadic interaction): the purpose of frame-by-frame analysis was to identify “smaller and larger units” and to explore “how they fit together, what the hierarchies [were], and the sequences” (Stern 1973, 120); that is, the purpose was to see how mother-infant interaction was *temporally* and *causally* structured, how it formed a pattern that could explain dyadic

dynamics. Accordingly, the strangeness of the images (a comic strip of 0.3 seconds real time) partly resulted from a process of de- and re-contextualization that isolated and thereby produced “events”: it embedded non-verbal behavior that was formerly considered ephemeral in a new different temporal order (of dyadic interaction) and attributed to it a broader meaning (for the mother-child relationship). From this perspective, Stern’s paper employed a scientific mode of cinematographic storytelling that “refigured” temporal experience and semanticized behavior.¹²

However, in contrast to the video clip of the still face experiment, we do not yet find any attribution of intentions and internal states on a textual level. Throughout the scientific paper, the interpretative voice is externally focalized, describing observations of infant and mother behavior in a distanced mode. Stern reports how long infant and mother “stay face to face,” how the “infant cue[s] the mother to terminate contact,” and how the mother “turns away.” He analyzes these interactions in terms of “temporal relatedness,” “interactive events,” “rhythms,” “patterns” and “repetitive sequences” (Stern 1971). Stern’s paper combines a cinematographic semantization of mother-infant interaction with a consciously assumed epistemic stance (a narrative instance) that refrains from textual representations of subjectivity and perspective (of the human agents).¹³

4. Narrativizing infant experiences

In the 1970s and 80s, the scientific interpretation of infant-mother interaction gradually gained subjectivity and perspective, going along with an increased complexity of its micro-analytic staging.¹⁴ The bulk of research that contributed to this piecemeal narrativization of infant experiences relied on recording dyadic interaction on videotape in naturalistic laboratory settings. To illustrate these changes, I will return to Edward Tronick and the still face experiment, but now to one of its first published version in a 1978 paper. The paper differs in

¹² On “refiguration”: Ricœur (1984, Ch. 3). Ricœur is primarily concerned with narrative fiction, attributing a pivotal function to emplotment. For him, “refiguration” largely (but not exclusively) hinges on the configuration of narrative texts. However, his concepts are helpful for thinking about audiovisual narration as they highlight the function of temporal order in the construction of meaning. In other words, a change of temporal characteristics and structure is central in the move from one figuration to another, which is exactly the point for my reading of Stern’s work.

¹³ Arguably, Stern’s account lacks narrativity because it does almost not include human experientiality. On narrativity and experimentality: Fludernik (2002, 26–30). Note, however, that Fludernik’s “natural narratology” attempts a cognitive grounding of narratology that moves away from the structural approach employed in this essay.

¹⁴ While infant-mother interaction remained the primary focus of research, researchers also increasingly paid attention to infant-father as well as triadic family interactions (e.g., Fivaz-Depeursinge and Corboz-Warnery 1999).

important aspects from the movie that I have discussed in the first section, and an examination of this first published version of the experiment will provide a window on how internal states and motivations were gradually attributed to the infant. It thus exemplifies the stepwise transition of narrative strategies from an epistemic condition for explaining infant behavior to an ontological assumption about the inner working of the infant's mind.

The paper grew out of a decade of research at one of the internationally leading centers of infant research, the Child Development Unit at Harvard University, directed by the pediatrician T. Berry Brazelton.¹⁵ The original paper was entitled: "The Infant's Response to Entrapment between Contradictory Messages in Face-to-Face Interaction" (Tronick et al. 1978). Already the title indicates a thinking about exchanges of messages in a communication system. As such, it goes a tiny step further than Stern and includes a notion of intentionality (and not of an almost automatic pattern). To understand how this intentionality was constructed it is important to briefly discuss the analytic procedure. The procedure relied – and this is valid until today – on a minute coding of behavior of each interacting partner. Tronick worked with a dynamic second: one second slowed down to seven seconds. The coded variables included, for example, arm, hand, and head movements, but also vocalizations, mimics, and body posture. The intermediary result was a table of coded movements. The table was then translated into (or retold as) an ethological description. I quote from what Tronick called "greeting" in normal mother-infant play:

As his mother comes in, saying, 'Hello' in a high-pitched but gentle voice, he follows her with his head and eyes as she approaches him. His body builds up with tension, his face and eyes open up with a real greeting which ends with a smile. His mouth opens wide and his whole body orients toward her. He subsides, mouths his tongue twice, his smile dies, and he looks down briefly, while she continues to talk in an increasingly eliciting voice [...] (Tronick et al. 1978, 5)

The ethological description narrativizes the coded behavior: it sets the movements of the dyadic partners in relation to one another and presents them a temporal sequence of interrelated actions. To be sure, the narration is externally focalized and almost entirely blends out interpretations in terms of internal states and feelings. Yet, it does provide us with scene, agents, acts and agency, and suggests a semantic field of communicative action. This suggestion is implicit in the way the episode is retold: the stretched time of the ethological description reduces the distance to acts and agents; representation of direct speech ("Hello"),

¹⁵ For a historical account of the Child Development Unit: Rietmann (2018, Ch. 3).

juxtaposition of relational movements (“he follows”) and indirect markers of internal states (“builds up with tension”) convey a sense of internal perspective. The scientific interpretation makes the semantics of action explicit: the authors characterize the infant-mother dyad as “a goal-oriented, reciprocal system in which the infant plays a major active role, constantly modifying his own communicative displays in response to the feedback provided by his partner” (Tronick et al. 1978, 10).

The plot structure of the still face adds motivation: “If the system is violated by a partner’s non-reciprocity [still face condition], the infant will respond in an appropriate manner which indicates how powerfully he is affected by the disturbance” (Tronick et al. 1978, 10). The infant is “affected,” he is internally motivated to act. Notions of internal states become more pronounced in the conclusion of the paper: “Language is not yet a part of the interaction, but there appears to be a lexicon of expression [the coded micro-behaviors] that conveys information to each about their partner’s inner emotional state and serves to regulate the interaction” (Tronick et al. 1978, 11). In comparison to Stern’s early work, we then see a more complex cinematographic semantization of (micro-)behavior (the still face experiment) combined with a less distanced description of that behavior: a (predominantly) externally focalized, but slowed-down account of behavioral exchanges now seen as evocative of internal motivations.

The attribution of internal states and motivations to the infant increased in the following years and it continued to thrive on the temporal and, we may say, narrative structure of the infant experiences in face-to-face settings. An important example is the later work of Daniel Stern. Throughout the 1970s and 80s, Stern collaborated in various research projects with Edward Tronick, both being key players in a large but closely knit network of infant mental health practitioners that emerged during that time. In 1995, Stern published a much-cited book (somewhat awfully) entitled *The Motherhood Constellation*, that provided a review and synthesis of the soaring interactive research on infancy of the preceding decades. In the book, Stern turned to sociolinguistics and structural narrative theory (the works of William Labov, Kenneth Burke, Paul Ricœur, and others) to explain how infants experienced the relationships with their mothers. Stern’s effort figured within a broader interest of cognitive psychologists in narratology in the 1980s and 90s. Much of that interest directly grew out of research with young children and was guided by larger questions about the role of narratives in human thinking and culture. For example, based on studies of language acquisition from the 1980s, the Harvard psychologist Jerome Bruner argued that a study of narrative as an “instrument of mind” could provide insights into how human beings negotiate conflict and attributed meaning

to human interactions and the social world (Bruner 1983, 1986, 1990).¹⁶ Stern's intervention was to turn the study of narrative into a means for understanding not only verbal expressions in children but also non-verbal behavior in infants. Stern argued that the infant lived in a "proto-narrative envelope" and attributed to this envelope a structural function for early experience. In *The Motherhood Constellation*, he illustrates this proto-narrative structure with the example of a hungry infant who is about to be breastfed by his or her mother:

When the motive or desire [hunger] is enacted in an interpersonal situation [crying], it creates, subjectively, a narrative-like structure. As the motivated event moves in time towards its goal [the mother moving to the infant], it generates a dramatic line of tension [...]. This line of tension is created by the temporal unfolding of events, from a phase of action that complicates the plot, through a phase of crisis (the dramatic high point) [nipple is put in the baby's mouth], to a phase of resolution [growing satiation] [...]. The result is the subjective formation of the other main elements of a narrative-like structure, namely a proto-plot with an agent, an action, an instrumentality, a goal, and a context. (Stern 1995, 90–91, square brackets added by me)

Stern proposed that infants as young as three months could exhibit a "narrative-like mode of thought that concern[ed] motivated, goal-oriented behavior" (Stern 1995, 90). They were able to "differentiate self from other," "recognize" their "own agency," appreciate "primitive forms of causality," perform instrumental (goal-oriented) behavior, and sense the context (when and where) of behavior (Stern 1995, 93). The affective tensions within mother-infant interaction corresponded to narrative-like structures not only from the point of view of the observer but also in the subjective experience of the infant. The infant was not simply part of a "goal-oriented, reciprocal system" but both appeared for the observer and perceived himself as a proto-agent in a proto-plot. Narrative became a means to create both epistemological access and ontological continuity to the pre-verbal mind.¹⁷

5. Beebe's microplots

¹⁶ The psychological interest in narrative and narrative theory echoed a contemporary engagement with narrative in a number of disciplines, including anthropology, linguistics, art history, philosophy, and literary critique (Bruner 1991; Mitchell 1981). In its most radical articulations, a broad understanding of narrative was used to put into question distinctions between fact and fiction, a position that was retrospectively called pan-narrativism (Blume 2019, 12–16). The concern of cognitive psychologists was a different one, even if it also entailed an extension of the concept and its partial dissociation from textual and oral transmissions. As I mentioned for Bruner, psychologists sought to explain how the human mind attributed meaning to individual experiences and the social world. In this context, narrative was seen as one instrument of mind among others, specifically linked to human happenings, as opposed to, e.g., the use of logic to make sense of the natural world (Bruner 1991, 1986).

¹⁷ From this perspective, the recourse to narrative provided a new answer to a question that has haunted developmental psychology since its inception in the late nineteenth century (Shuttleworth 2010; Steedman 1990; Smuts 2006).

Until today, the epistemic condition for understanding the assumed proto-narrativity of the infant’s mind continues to rely on a strenuous work of temporally and narratively structuring and restructuring infant experiences. I will further illustrate this point with the work of the psychologist Beatrice Beebe, which will also bring us to some of the clinical applications of audiovisual narration in infant psychiatry.

Beebe was a student of Daniel Stern and is one of the leading scholars in the research field of mother-infant interaction. In numerous papers, she argues that the infant lives in a split-second world and experiences micro-plots. These micro-plots easily escape ordinary vision but are discernible in what she calls the “social microscope” of video registration (Beebe et al. 2016, xi; Beebe 2014). Figure 3 shows an example of how Beebe uses the “microscope” to tell the microplots of mother-infant interaction. The images stem from a public presentation that Beebe gave in 2018, but they are discussed in similar terms in *The Mother-Infant Interaction Picture Book* published in 2016. I will first give an example of Beebe’s reading of infant-parent interaction and then discuss the function and nature of narration in her work.



3a



3b



3c

Fig. 3: Beebe's Microplots (*Decoding the Nonverbal Language of Babies* 2018)

In the presentation, Beebe shows a video of face-to-face interaction between a three-and-a-half-month-old infant and her mother, and translates this interaction into a dialogue about feelings. Baby and mother interact in a face-to-face setting, both smiling, and Beebe describes how they perform together tiny movements of their faces, heads, and arms. Then, she describes a complication, shown in figure 3a: the mother moves her hand into the seat of the infant, “and,” Beebe comments, “they are both saying, ‘Oh what was that?’” Beebe then switches several times between figures 3a and 3b, while explaining:

And, then, 17 to 18 [seconds], the baby says, ‘Uh, I am so surprised!’ And, the mother says, 17 to 18, ‘Oh, I am so surprised!’ Right, their eyebrows both go up at once, 17 to 18, ‘Oh, I am so surprised!’

Beebe moves on to figs. 3b and 3c, continuing:

Then, the baby says, less than a second, right, 18:05 to 18:25, the baby says, ‘I am not happy!’ Right, see that expression, ‘I am not happy!’ And, the mother says, coming back here, 18 to 18:20, ‘Oh, I am sorry!’ Right, so watch that again, ‘I am not happy!’ ‘Oh, I am sorry!’

Beebe continues to show and comment the images as the story unfolds. The baby says: “Yeah, it’s bad.” The mother responds: “Oh, I am really sorry,” and continues: “Maybe, it’s not that bad.” Baby: “I don’t know.” Mother: “I think you are ok.” Baby: “Really?” And, then: “All right!” Mother: “Is everything all right?” Baby: “Oh, I like you!” Mother: “I like you, too!” Tiny non-verbal cues of infant and mother are read as a dialogue about feelings. This dialogue includes a plot: a complication – the irritation of the baby (“I am not happy!”), and a resolution – the repair of the irritation by a sympathetic apology of the mother (“I am really sorry!”), followed by a coordination of affect (“Oh, I like you!”). The “micro-plot” becomes “readable” through strategies of narration that include staging, temporal restructuring and retelling; in this case, with a radical reduction of distance through a mimetic mode of narration (direct speech). This narration of infant-mother interaction has direct clinical relevance: in video feedback therapy such tiny readings are taken to approach problems of the parent-infant relationship. In this context, *pathos* and *catharsis* play a pivotal function. In a sense, the basic rationale of using video feedback relies on an attempt at mediating suffering. According to Beebe, the goal is to “translate the parent’s presenting complaints into specific behaviors which can then be understood as an unfolding ‘story’ of the relationship” (Beebe 2010, 33). As in the example above, special attention is paid to the way the dyad “copes with disruptions” and “negotiates repairs” (Beebe 2010, 25). Beebe provides the example of a mother, Mrs. C, who feels like her baby boy, Cecil, does not like her and “seems more connected to the babysitter” than to her (Beebe 2010, 25). Beebe videotapes the dyad and later reviews a section of the video with the mother. She points out to the mother the “infant’s blinks and startles,” his “subtle face expressions” and “hints of shifts in cheek tonus,” and translates these movements into tiny “stories” (Beebe 2010, 27).

While the thrust of the therapeutic work lies in an emphasis on moments of good interaction (of which the parent is unaware), the reviewing is also meant to show the parent what goes wrong in the “stories” and what can be done to put it right. In Cecil’s case, Beebe and Mrs. C came to an agreement that the mother was overstimulating the baby, “trying to get

the infant's attention when he was turned away, and calling the infant in a 'greeting' contour at moments when the infant was clearly not receptive" (Beebe 2010, 27). The result was that she "could not get Cecil to engage" and felt increasingly "desperate" during the interaction. Beebe encouraged Mrs. C to lower the stimulation, to "try less hard" and be receptive to "the infant's remarkable non-verbal language" (Beebe 2010, 25–28). So, the mother's complaint of feeling distant from her baby (her suffering) was situated in the *pathos* (painful missteps) of a story of non-verbal affective communication. The mother was then assisted in making tiny changes in her behavior in order to achieve a state of smooth "action-dialogue," to bring the story to a successful resolution and thereby achieve both narrative and therapeutic *catharsis* (Beebe 2010, 25).

The link between narration and therapeutic *catharsis* has, of course, a long history, intimately linked to psychoanalysis (as talking cure).¹⁸ Beebe's use of audiovisual stories both builds on and modifies this tradition. The narratives of non-verbal interaction provide an interface for an exchange of stories: the "story that unfolds in the videotape," the story of the present complaint, but also the story of the parent. For Beebe, it is a conscious effort at integrating "procedural and declarative modes of processing," to make a connection between painful interactional dynamics and mental representations (including sub- and unconscious representations). In Cecil's case, the narratively assisted viewing of how he "dampened his face, lowered his arousal, averted his gaze, and turned away" evoked in Mrs. C the image of her own mother "who was controlling, distant, and quite depressed" (Beebe 2010, 27). According to Beebe, she came to realize that this aroused "anxious" feelings in her and made her "keep trying harder, as a way of reaching" her son (Beebe 2010, 27–28). Watching (and being told) her interaction with Cecil as an audiovisual narrative, she could connect this narrative to her own mental representations during the psychotherapeutic interview. Audiovisual storytelling has become a therapeutic tool.

6. Conclusion

What does the storytelling of infant-mother interaction tell us about doctors' stories and factual narration in audiovisual documents? In this paper, I have traced the evolution of narratives in infant mental health on two levels: the level of the audiovisual recording and the level of the

¹⁸ The scholarship on psychoanalysis and narrative is extensive, ranging from philosophical inquiry to therapeutic application. Examples include Forrester (1999), Ricœur (1970), Schafer (1981), Boothe (2011). For a nuanced account of the concept of *catharsis* in the history of psychoanalysis including parent-infant psychotherapy: Gödde (2018).

scientific commentary. I have argued that the recordings exhibit a complicated form of referentiality. Their production relies on sophisticated forms of staging, and their analysis and presentation depend on temporal and spatial techniques of editing. In the history of infant mental health, they allowed decontextualizing, temporally restructuring and retelling infant experiences. They have had the epistemological function of creating understanding through a change in the temporal and spatial order of events and behaviors. As such, their function is similar to the general function of narratives in both science and everyday life. However, the images heavily depend on scientific commentary and narrative voice. I have shown that this voice went through a complex historical evolution that culminated in a view of the infant in which narrativity is seen as both an ontological condition of infancy and an epistemological condition for approaching its psychopathology. In turn, audiovisual story-telling has become a means to both explain and modify infant experiences; it has become both a scientific instrument and a therapeutic tool.

References

- Adamson, Lauren B., and Janet E. Prick. 2003. "The Still Face: A History of a Shared Experimental Paradigm." *Infancy* 4 (4): 451–73.
- Aristotle. 1996. *Poetics*. Translated by Malcolm Heath. New York: Penguin.
- Beebe, Beatrice. 2010. "Mother–Infant Research Informs Mother–Infant Treatment." *Clinical Social Work Journal* 38 (1): 17–36. <https://doi.org/10.1007/s10615-009-0256-7>.
- Beebe, Beatrice. 2014. "My Journey in Infant Research and Psychoanalysis: Microanalysis, a Social Microscope." *Psychoanalytic Psychology* 31 (1): 4–25. <https://doi.org/10.1037/a0035575>.
- Beebe, Beatrice, Phyllis Cohen, and Frank Lachmann. 2016. *The Mother-Infant Interaction Picture Book: Origins of Attachment*. New York: W. W. Norton & Company.
- Blume, Peter. 2019. *Fiktion und Weltwissen: Der Beitrag nichtfiktionaler Konzepte zur Sinnkonstitution fiktionaler Erzählliteratur*. Erich Schmidt Verlag. <https://www.esv.info/lp/esv-open/download?q=9783503187218>.
- Boothe, Brigitte. 2011. "Erzählen im medizinischen und psychotherapeutischen Diskurs." In *Wirklichkeitserzählungen: Felder, Formen und Funktionen nicht-literarischen Erzählens*, edited by Christian Klein and Matías Martínez, 51–80. Stuttgart: J.B. Metzler.
- Brandt, Christina. 2011. "Wissenschaftserzählungen. Narrative Strukturen im naturwissenschaftlichen Diskurs." In *Wirklichkeitserzählungen: Felder, Formen und Funktionen nicht-literarischen Erzählens*, edited by Christian Klein and Matías Martínez, 81–109. Stuttgart: J.B. Metzler.
- Bruner, Jerome. 1983. *Child's Talk: Learning to Use Language*. Oxford: Oxford University Press.
- Bruner, Jerome. 1986. *Actual Minds, Possible Worlds*. Cambridge: Harvard University Press.
- Bruner, Jerome. 1990. *Acts of Meaning*. Cambridge: Harvard University Press.

- Bruner, Jerome. 1991. "The Narrative Construction of Reality." *Critical Inquiry* 18 (1): 1–21. <https://doi.org/10.1086/448619>.
- Burke, Kenneth. 2009. *A Grammar of Motives*. Berkeley: University of California Press.
- Cartwright, Lisa. 1995. *Screening the Body: Tracing Medicine's Visual Culture*. Minneapolis: University of Minnesota Press.
- Cowles, Henry M. 2015. "Hypothesis Bound: Trial and Error in the Nineteenth Century." *Isis* 106 (3): 635–45. <https://doi.org/10.1086/683528>.
- Curtis, Scott. 2015. *The Shape of Spectatorship: Art, Science, and Early Cinema in Germany*. New York: Columbia University Press.
- Dear, Peter. 1991. *The Literary Structure of Scientific Argument: Historical Studies*. Philadelphia: University of Pennsylvania Press.
- Decoding the Nonverbal Language of Babies*. Produced by the American Enterprise Institute. 2018. Accessed March 26, 2021. <https://www.youtube.com/watch?v=0yVU2lmlMdk>.
- Dicorcia, Jennifer A. 2016. "Evaluating the Nature of the Still-Face Effect in the Double Face-to-Face Still-Face Paradigm Using Different Comparison Groups." *Infancy* 21 (3): 332–52. <https://doi.org/10.1111/infa.12123>.
- Fivaz-Depeursinge, Elisabeth, and Antoinette Corboz-Warnery. 1999. *The Primary Triangle: A Developmental View of Mothers, Fathers and Children*. New York: Basic Books.
- Fludernik, Monika. 2002. *Towards a "natural" Narratology*. London: Routledge.
- Forrester, John. 1999. *The Seductions of Psychoanalysis: Freud, Lacan and Derrida*. Cambridge: Cambridge University Press.
- Forster, E. M. 1985. *Aspects of the Novel*. San Diego: Harcourt Brace Jovanovich.
- Genette, Gérard. 1990. *Narrative Discourse: An Essay in Method*. Ithaca: Cornell University Press.
- Gigerenzer, Gerd. 1991. "From Tools to Theories." *Psychological Review* 98 (2): 254–67. <https://doi.org/10.1037/0033-295X.98.2.254>.
- Gödde, Günter. 2018. "Katharsis." In *Kritische Lebenskunst: Human-, sozial- und kulturwissenschaftliche Analysen und Strategien*, edited by Günter Gödde and Jörg Zirfas, 260–68. Stuttgart: J.B. Metzler. https://doi.org/10.1007/978-3-476-04644-4_34.
- Guedeney, Antoine, and Susana Tereno. 2012. "La vidéo dans l'observation d'évaluation et d'intervention en santé mentale du jeune enfant : un outil pour la transmission." *Neuropsychiatrie de l'Enfance et de l'Adolescence* 60: 261–66. <https://doi.org/10.1016/j.neurenf.2011.12.001>.
- Holmes, Frederic L. 1987. "Scientific Writing and Scientific Discovery." *Isis* 78 (2): 220–35.
- Klein, Christian, and Matías Martínez, eds. 2011. *Wirklichkeitserzählungen: Felder, Formen und Funktionen nicht-literarischen Erzählens*. Stuttgart: J.B. Metzler.
- Kuhn, Markus, and Johann N. Schmidt. 2013. "Narration in Film (Revised Version; Uploaded 22 April 2014)." In *The Living Handbook of Narratology*, edited by Peter Hühn et al., Paragraphs 1-39. Hamburg: Hamburg University Press. <https://www.lhn.uni-hamburg.de/node/56.html>.
- Ladd-Taylor, Molly, and Lauri Umansky, eds. 1998. *"Bad" Mothers: The Politics of Blame in Twentieth-Century America*. New York: New York University Press.
- Lotman, Yuri M. 1977. *The Structure of the Artistic Text*. Ann Arbor: University of Michigan.
- Martínez, Matías, and Michael Scheffel. 2016. *Einführung in die Erzähltheorie*. München: C.H.Beck.

- Mesman, J. 2009. "The Many Faces of the Still-Face Paradigm: A Review and Meta-Analysis." *Developmental Review* 29 (2): 120–62. <https://doi.org/10.1016/j.dr.2009.02.001>.
- Mitchell, W. J. T., ed. 1981. *On Narrative*. Chicago: University of Chicago Press.
- Nichols, Bill. 1991. *Representing Reality: Issues and Concepts in Documentary*. Bloomington: Indiana University Press.
- Osofsky, Joy D. 2016. "Infant Mental Health." In *APA Handbook of Clinical Psychology: Roots and Branches*, edited by John C. Norcross, Gary R. VandenBos, Donald K. Freedheim, and Melanie M. Domenech Rodríguez, 43–58. Washington: American Psychological Association.
- Plant, Rebecca Jo. 2010. *Mom: The Transformation of Motherhood in Modern America*. Chicago: University of Chicago Press.
- Renov, Michael. 1993. *Theorizing Documentary*. New York: Routledge.
- Ricœur, Paul. 1970. *Freud and Philosophy: An Essay on Interpretation*. New Haven: Yale University Press.
- Ricœur, Paul. 1984. *Time and Narrative*. Chicago: University of Chicago Press.
- Rietmann, Felix E. 2018. "Seeing the Infant: Audiovisual Technologies and the Mind Sciences of the Child." PhD diss., Princeton University. <https://search.proquest.com/docview/2158088791/5799417884E8455EPQ/1>.
- Rietmann, Felix E. Forthcoming. "Between Film and Tape: Media Transfers and Epistemic Shifts in Infant Research." In *Epistemic Screens: Science and the Moving Image*, edited by Scott Curtis, Oliver Gaycken and Vinzenz Hediger. Amsterdam: Amsterdam University Press.
- Rietmann, Felix, Mareike Schildmann, Caroline Arni, Daniel Thomas Cook, Davide Giuriato, Novina Göhlsdorf, and Wangui Muigai. 2017. "Knowledge of Childhood: Materiality, Text, and the History of Science – an Interdisciplinary Round Table Discussion." *The British Journal for the History of Science* 50 (1): 111–41. <https://doi.org/10.1017/S000708741700005X>.
- Rony, Fatimah Tobing. 1996. *The Third Eye: Race, Cinema, and Ethnographic Spectacle*. Durham: Duke University Press.
- Schafer, Roy. 1981. "Narration in the Psychoanalytic Dialogue." In *On Narrative*, edited by W. J. T. Mitchell, 1–24. Chicago: University of Chicago Press.
- Schmid, Wolf. 2010. *Narratology: An Introduction*. New York: Walter de Gruyter.
- Shuttleworth, Sally. 2010. *The Mind of the Child: Child Development in Literature, Science, and Medicine, 1840-1900*. Oxford: Oxford University Press.
- Smuts, Alice Boardman. 2006. *Science in the Service of Children, 1893-1935*. New Haven: Yale University Press.
- Steedman, Carolyn. 1990. *Childhood, Culture, and Class in Britain: Margaret McMillan, 1860-1931*. London: Virago.
- Stern, Daniel N. 1971. "A Micro-Analysis of Mother-Infant Interaction: Behavior Regulating Social Contact between a Mother and Her 3 1/2-Month-Old Twins." *Journal of the American Academy of Child Psychiatry* 10 (3): 501–17.
- Stern, Daniel N. 1973. "'On Kinesic Analysis': A Discussion with Daniel N. Stern." *The Drama Review* 17 (3): 114. <https://doi.org/10.2307/1144848>.
- Stern, Daniel N. 1992. *Diary of a Baby: What Your Child Sees, Feels, and Experiences*. New York: Basic Books.

Stern, Daniel N. 1995. *The Motherhood Constellation: A Unified View of Parent-Infant Psychotherapy*. New York: Basic Books.

Still Face Experiment: Dr. Edward Tronick. Produced by Zero-to-Three and U Mass Boston. 2009. Accessed March 26, 2021. <https://www.youtube.com/watch?v=apzXGEbZht0>.

Tronick, Edward, Heidelise Als, Lauren Adamson, Susan Wise, and T. Berry Brazelton. 1978. "The Infant's Response to Entrapment between Contradictory Messages in Face-to-Face Interaction." *Journal of the American Academy of Child Psychiatry* 17 (1): 1–13. [https://doi.org/10.1016/S0002-7138\(09\)62273-1](https://doi.org/10.1016/S0002-7138(09)62273-1).

Wellmann, Janina. 2011. "Science and Cinema." *Science in Context* 24 (3): 311–28. <https://doi.org/10.1017/S0269889711000135>.

White, Hayden. 1981. "The Value of Narrativity in the Representation of Reality." In *On Narrative*, edited by W. J. T. Mitchell, 1–24. Chicago: University of Chicago Press.

Zeanah, Charles H., and Julie A. Larrieu. 2000. "Mother-Blaming, Relationship Psychopathology, and Infant Mental Health: A Commentary on Ward, Lee, & Lipper (2000)." *Infant Mental Health Journal* 21 (6): 443–47. [https://doi.org/10.1002/1097-0355\(200011/12\)21:6<443::AID-IMHJ3>3.0.CO;2-7](https://doi.org/10.1002/1097-0355(200011/12)21:6<443::AID-IMHJ3>3.0.CO;2-7).