

---

**THE PROCESS OF THERAPEUTIC CHANGE**

---

**INVOLVING IMPLICIT KNOWLEDGE:**

---

**SOME IMPLICATIONS OF DEVELOPMENTAL**

---

**OBSERVATIONS FOR ADULT PSYCHOTHERAPY**

---

**DANIEL N. STERN**

*Process of Change Study Group, Boston, Massachusetts*

**MEMBERS OF THE CHANGE PROCESS STUDY GROUP:**

**NADIA BRUSCHWEILER-STERN**

**ALEXANDRA M. HARRISON**

**KARLEN LYONS-RUTH**

**ALEXANDER C. MORGAN**

**JEREMY P. NAHUM**

**LOUIS SANDER**

**EDWARD Z. TRONICK**

*Process of Change Study Group, Boston, Massachusetts*

**ABSTRACT:** Several aspects of developmental change that are dependent on interactions between parent and infant are examined for their value in casting light on the processes of change in adult psychotherapies. First, the domain of implicit knowledge (where changes necessarily occur in nonverbal infants) is identified. The vast majority of therapeutic change is found to occur in this domain. We then examine the improvised, largely unpredictable, nonlinear movements toward mutual goals that characterize the processes of parent–infant and therapist–patient interactions. Finally, we provide a microdescription of these processes and provide a terminology for the “moments” that make up their flow. Of particular importance is the “moment of meeting,” in which the participants interact in a way that creates a new implicit, intersubjective understanding of their relationship and permits a new “way-of-being-with-the-other.” We view “moments of meeting” as the key element in bringing about change in implicit knowledge, just as interpretations are thought to be the key element in bringing about change in explicit knowledge.

**RESUMEN:** Debido al valor que tienen para dar luz sobre los procesos de cambio en las psicoterapias para adultos, se examinan aquí varios aspectos del cambio en el desarrollo, los cuales dependen de interacciones entre padre o madre y su infante. Primero, se identifica el dominio del conocimiento implícito (donde los cambios ocurren necesariamente en infantes que no hablan). Se encuentra que la vasta mayoría de cambios terapéuticos ocurren en este dominio. De allí pasamos a examinar los improvisados, no lineales y difícilmente predecibles movimientos hacia metas comunes que caracterizan tanto a los procesos de

---

Paper presented to the Sixth World Congress of the World Association for Infant Mental Health, July 25–28, 1996, Tampere, Finland, as part of the symposium entitled *Interventions that Effect Change in Psychotherapy: A Model Based on Infant Research*, organized by the Process of Change Study Group, Boston. Direct correspondence to: Daniel N. Stern, M.D., 14 ch de Clairejoie, 1225 Chene-Bougué, Geneva, Switzerland.

interacciones padre/madre-infante y terapeuta-paciente. Finalmente, presentamos una micro descripción de esos procesos y proveemos una terminología para los “momentos” que componen su corriente. De particular importancia es el llamado “encuentro momentáneo”, en el cual los participantes interactúan de tal manera que se crea una nueva, implícita e intersubjetiva comprensión de su relación y se permite una nueva “manera de estar con el otro.” Vemos estos “encuentros momentáneos” como el elemento clave para producir cambio en el conocimiento implícito, así como las interpretaciones son vistas como el elemento clave para producir cambio en el conocimiento explícito.

RÉSUMÉ: Plusieurs aspects du changement dans le développement qui dépendent d'interactions entre parent et bébé sont examinés pour la valeur qu'ils ont en éclairant les processus de changement dans les psychothérapies adultes. Tout d'abord, le domaine de connaissance implicites (où les changements ont nécessairement lieu chez des nourrissons ne pouvant s'exprimer) est identifié. Nous examinons ensuite les mouvements improvisés, largement imprédictibles, non-linéaires vers des buts communs qui caractérisent à la fois les processus d'interaction parent-bébé et thérapeute-patient. Finalement, nous offrons une micro-description de ces processus et une terminologie pour les “moments” qui constituent leur flot. Le “moment de rencontre” est d'une importance singulière, le “moment de rencontre” constituant le moment où les participants se comportent d'une manière qui crée une nouvelle connaissance implicite et intersubjective de leurs relations et permet un nouveau “comportement envers l'autre.” Nous considérons les “moments de rencontre” comme l'élément clé qui déclenche le changement dans la connaissance implicite, tout comme les interprétations sont considérées comme l'élément clé qui déclenche le changement dans la connaissance explicite.

ZUSAMMENFASSUNG: Einige Aspekte von entwicklungsbedingten Veränderungen, die von den Interaktionen zwischen Eltern und Kleinkindern abhängen werden auf ihre Wertigkeit überprüft: Inwieweit erhellen sie Veränderungsprozesse in Erwachsenenpsychotherapien. Zuerst wird die Region des “vorhandenen Wissens” (wo die Veränderungen notwendigerweise bei nicht-sprachfähigen Kleinkindern vorkommt) besprochen. Sodann untersuchen wir die improvisierten, unvorhersagbaren, nicht-linearen Bewegungen zu gemeinsamen Zielen, ein Prozeß, der sowohl die Kleinkind—Eltern, als auch die Therapeuten—Patient Interaktionen charakterisiert. Zuletzt geben wir eine Mikrobeschreibung dieser Prozesse an und schlagen eine Terminologie für die “Momente” vor, die diesen Fluß bestimmen. Von besonderer Wichtigkeit ist der “Moment der Begegnung” in dem die Teilnehmer in einer Art miteinander umgehen, die ein neues, implizites, intersubjektives Verständnis ihre Beziehung erzeugt und einen neue Art “des-miteinander-seins” erlaubt. Wir betrachten den “Moment der Begegnung” als das Schlüsselement, das eine Veränderung des “vorhandenen Wissens” eröffnet, genauso wie man meint, daß Interpretationen als das Schlüsselement zur Veränderung von bewußten Wissen angesehen werden.

抄録：大人の精神療法における変化を理解するため、親・乳児相互交流に依存した発達上の変化のいくつかの側面を検討した。まず、言わず語らずの知識implicit knowledgeの領域を同定した（この領域での変化はノンバーバルな乳児で必然的に起こってくる）。治療的变化のかなりの部分がこの領域で起こることが分かった。次いで、親・乳児と治療者・患者の相互交流プロセスを特徴付ける、即興で、ほとんど予測不可能で、非直線的な、共同目標への動きを検討した。最後に、そうしたプロセスに関するミクロのレベルでの記載をあげ、そうした流れを作る“モーメント”に関する用語を供給した。特に重要なのは“出会いのモーメント”である。そこでパーティシパントは、二人の関係に関する新しい、言わず語らずの、間主観的な理解を創造し、また、新しい“他者との在り方”を可能にするような形で交流する。解釈が、言わず語らずの知識の変化をもたらす重要な要素であると考えられているのと同じように、“出会いのモーメント”が、言わず語らずの知識の変化をもたらす重要な要素であるというのがわれわれの見方である。

\* \* \*

The mechanisms that bring about change in psychotherapy are incompletely understood, at best. In exploring processes of change, our working group has considered that the developing

infant is probably the fastest changing of all human beings. Of course, genes are kicking in all the time, creating new capacities available to effectuate change. Nonetheless, without an appropriate environment to shape, facilitate, and encourage these changes, they will either not occur or evolve maladaptively. With this in mind, our group, which is made up of developmentalists, as well as those who are primarily clinicians, has attempted to consider the clinical process of therapeutic change with an eye to change processes in early development. The idea was not to look for precursors of later development, as is usually done, but rather to explore, minutely, the change process itself, almost irrespective of what is changing.

Four things impressed us most in listening to and studying in detail the process notes of psychodynamically oriented therapies:

1. Much of the mutative action involves that broad domain of intelligence called implicit (procedural) knowledge, in particular, implicit knowing about what to do, think, and feel in a specific relationship context. This knowing is not conscious (nor is it dynamically unconscious, that is, repressed). It simply operates out of awareness. We call this implicit relational knowing (see Lyons-Ruth, this issue).
2. The microprocess of proceeding in a therapy session seems to occur in an improvisational mode in which the small steps needed to get to a goal are unpredictable, and the goal, itself, is not always clear and can shift without notice, as it seems to do in the infant-mother interaction (see Tronick, this issue).
3. During a session, points of mutative potential arise at unpremeditated “moments.” A “moment” is conceived of as a short subject unit of time in which something of importance, bearing on the future, is happening. We call these “now moments.” Such moments are viewed as emergent properties of a complex, dynamic system. In this sense, they are nonlinear leaps in the process of the therapy session. This loose concept of “moments” was found to be intuitively appropriate for the clinicians and useful for the entire group, as well as for infant–mother interaction (see Lyons-Ruth and Tronick, this issue).
4. When “now moments” are handled by the patient and therapist so as to achieve a “specific moment of meeting,” the implicit knowledge of each partner gets altered by creating a new and different intersubjective context between them—the relationship has changed. This process requires no interpretation and need not be made verbally explicit.

The remainder of this article will try to describe this change process, give it a terminology, seek links to developmental change processes that have inspired much of our thinking, and briefly explore some explanatory/descriptive models (Stern, Sander, Nahum, Harrison, Lyons-Ruth, Morgan, Bruschiweiler-Stern, & Tronick, 1998).

#### CONCEPTS AND TERMS FOR DESCRIBING THE THERAPEUTIC PROCESS

Let us assume an illustrative, (prototypic) session that begins with the patient–therapist dyad in a particular intersubjective state. This is the initial state (state no. 1). By intersubjective state, we mean the shared implicit relational knowledge that each of them has concerning themselves and the other and how they habitually work, and are together. It is largely a nonverbal representation of an important aspect of their relationship.

### *1. "Moving Along"*

In this initial stage (no. 1), they start to work together. Most often there is a goal in sight that can last for variable periods of time. For example, a patient and therapist are working toward the goal of understanding how her current states of anxiety are related to the early relationship with her mother. They start to move toward this goal in a progression we call "moving along." This goal-oriented movement is largely linear. While they sense or know roughly where they are going, they do not know exactly how they will get there, that is, what each next step will be, nor can they know exactly when they will reach the goal or even how they will reach it. Furthermore, the goal can shift during the process of seeking it. They are in an improvisational mode. Each step in this moving along process is called a "present moment."

For instance, if the therapist says:

"Do you realize that you have been late to the last three sessions, which is unusual for you?" And the patient responds, "Yes, I do." Silence. This exchange constitutes a present moment. It has redefined the topic and redirected it.

The patient then says, "Last week you said something that really got me ticked off . . ." The third present moment gets launched. And so on.

These present moments are the steps of the moving along process. Between each there is a minor discontinuity of some kind, but strung together they progress coherently, though not evenly.

In brief, we are speaking of a bounded envelope of subjective time in which a motive is enacted to microregulate the content and goal of what is being talked about and to adjust the intersubjective environment. The duration of a present moment is usually short because as a subjective unit, it is the duration of time needed to grasp the sense of "what is happening now, here, between us." Accordingly, it lasts from microseconds to many seconds. It is constructed around intentions or wishes and their enactment which trace a dramatic line of tension as it moves toward its goal (see Stern, 1995).

This kind of improvisational, self-finding, and self-correcting process is what we have come to be familiar from Tronick's characterization of the parent–infant interactive process consisting of matches-mismatches, ruptures and repairs (Tronick & Weinberg, 1997; see Tronick, this issue). This is especially evident in situations such as free-play, in which there is not even a specified goal except to amuse one another. This leads to a theme and variation format in which ad-libbed variations succeed one another until the theme is exhausted, and then a new theme (usually related) is found and unfolds its variations, again with many inevitable missteps. This process is almost pure improvisation (Beebe & Stern, 1977; Gianino & Tronick, 1987; Stern, 1985; Stern et al., 1977).

The realization that so much occurs in the improvisational mode between parent and infant has made clear the importance of the repair of ruptures and the midcourse corrections that such a process needs (Tronick, 1989; see Lyons-Ruth this issue). In fact, coming to implicitly know how to repair and redirect the improvisational process is one of the main hidden agendas of the parent–infant interaction (Tronick & Cohn, 1989). Moreover, in the parent–infant interaction, the repetition of many activities has a quality of moving along that creates a repertoire of present moments. These repetitions become extremely familiar canons of what moments-of-life with a specific other person are expected to be like while moving along. In this form, present moments become represented as "schemes of ways of being-with-another" (Stern, 1995). The schemes are in the domain of implicit relational knowing. They are also the building blocks of Bowlby's working models and of most internalization. It is not surprising that these implicit relational schemes have been given great attention by researchers in infancy who have been forced to think about the nonverbal infant's relational knowledge existing prior to explicit verbalization (see Lyons-Ruth, and Tronick, this issue).

The process of “moving along” in adult psychotherapy is quite similar. If we attend to the recurrent interactive sequences that are analogous to those that have concerned us in infancy, they tell us about the patient’s implicit relational knowing about his relationship with the therapist and vice versa. This essentially is what is meant by the “unthought known” (Bollas, 1987) or the “unreflected unconscious” (Stolorow, Atwood, & Brandchaft, 1994), or the “past unconscious” of Sandler (Sandler & Fonagy, 1997). These implicit representations are unconscious but not necessarily under any form of repression. (In psychodynamic terms, they are descriptively [topographically] unconscious, but not dynamically unconscious.)

In sum, present moments strung together make up the moving along process, what Tronick refers to as the process of mutual regulation—matching, mismatching, and reparation. Both present moments, and the style of this moving along occur within a framework that is familiar to and characteristic of each dyad.

## 2. “Now Moments”

In the course of the moving along process, all of a sudden a qualitatively different and unpredicted moment arises. This is a “hot” present moment, a sort of “moment of truth” which is affectively charged. It is also laden with potential importance for the immediate or long-term future. It is a moment called *kairos* in ancient Greek, the moment that must be seized if one is going to change their destiny, and if it is not seized, one’s destiny will be changed anyway for not having seized it. It is also a moment that pulls the two participants fully into the present. (We, especially therapists, spend most of the time with only one foot in the present.) For these various reasons, we have called this moment a “now moment.”

Two simple examples will suffice. They are obvious in that the habitual framework of the therapy is clearly questioned. Suppose that a patient in a psychoanalytic therapy, lying on the couch, suddenly says, “I want to see what is going on in your face, I’m going to sit up right now and look!” Or, imagine that a patient in a face-to-face therapy, says, “I’m sick of looking at your face. It distracts me. I’m going to turn my chair away from you and towards the wall, right now!” (see the clinical articles by Harrison, Brushwieler-Stern, and Nahum, this issue, for more elaborate examples).

The “now moment” is seen as an emergent property of the complex dynamic system made up of two people moving along in the therapeutic process. This emergent moment challenges or threatens the stability of the ongoing initial state. It announces a disturbance in the system (state no. 1) that constitutes a potential transition to a new state of organization (state no. 2). Such reordering of complex dynamic systems are becoming better and better understood. (Fivaz, 1996; Fivaz, Fivaz, & Kaufmann, 1979, 1983; Maturana & Varela, 1987; Thelen & Smith, 1994).

This kind of emergent property can only arise if the moving along occurs within a context (system) that is rule governed by an established technique that is (implicitly) well understood by the interactants. The “now moment,” as an emergent property, disequilibrates the normal, canonical way of doing business together. It offers a new intersubjective context. For this reason, it is difficult and challenging clinically. It requires a deviation from the usual technical moves used by that dyad (though not necessarily from technical “rules” of the therapy).

When a “now moment” emerges, the therapist and the patient are surprised, in the sense of taken off guard because the exact form and instant of appearance of the moment was not predictable, even if it was generally likely to happen or even expected at some future point. It represents a nonlinear jump. Because the moment jumps out of the habitual, and is at the instant of its encounter unprepared for, the therapist (and patient) experience anxiety because they cannot know exactly what to do unless of course, they quickly resort to habitual ways of

interacting, thus operating under the guise of established technique. They are on unfamiliar ground, with all the possibilities of promise and disaster that inhabit not knowing what to do. If the therapist “knows” what to do, he has probably missed the “now moment” or has quickly hidden behind the technique. In the adult patient–therapist dyad, the emergent properties arise from the inherent workings of that complex dynamic system. In infancy preprogrammed developmental shifts, as well as the intrinsic mutual regulatory working of the system, create emergent properties within the dyadic system (Tronick, 1989, and this issue).

### **3. A “Moment of Meeting”**

A “now moment” that is therapeutically seized and mutually recognized can become a “moment of meeting.” This requires that each partner contributes something unique and authentic as an individual in response to a “now moment.” The response cannot be an application of technique nor an habitual therapeutic move. It must be created on the spot to fit the singularity of the unexpected situation, and it must carry the therapist’s signature as coming from his own sensibility and experience, beyond technique and theory. This is necessary because the “now moment” has disequibrated the initial intersubjective context; thus, it must be enacted mutually. Only when this enactment has been performed, mutually recognized and ratified, will a new intersubjective state come into being.

Similar shifts in the behavioral and intersubjective state are readily seen in the parent–infant interaction. For instance, when the social smile emerges along with sustained mutual gaze and vocalization, the parent and baby amuse one another with facial and vocal exchanges. They are moving along. Then, something unpredictable happens (e.g., A funny expression or an unexpected vocal and facial synchronization, and all of a sudden they are laughing together). The interaction has been kicked up to a new and higher level of activation and joy that the baby may never before have achieved and which has never before been shared between them as an intersubjective context.

This change in intersubjective environment is shown in schematic form in Figure 1. The participants are “moving along” in an initial intersubjective state (no. 1). A “now moment” emerges. It pushes the intersubjective state into a zone of transition that is unstable. If the “now moment” is accepted as a request for a reevaluation of their implicit knowledge about their relationship, and a new intersubjective context is enacted in a “moment of meeting,” it will act to catapult the implicit intersubjective context into a new state (no. 2.)—a dyadic state of consciousness (see Tronick, this issue), and restabilize the system. The patient and therapist can then take up again the process of “moving along,” but in a different intersubjective state. The end result is a change in both members implicit relational knowing.

The notion of a “moment of meeting” also comes from work with infants. Sander (1988, 1994), introduced the term to describe the situation when the parent provides a behavior that is specifically fitted to permit and catalyze a shift in the infant’s state. For instance, when the mother sings the exact song, or performs the needed ritual of touching, that sends the baby from the state of drowsiness into a state of sleep.

### **4. An “Open Space”**

Immediately after a “moment of meeting,” Sander (1988) observed that an “open space” occurs in the infant–parent interactive process in which the partners disengage from their specific meeting and can be alone, in the presence of the other. A similar pause is observed in adult psychotherapy. It is assumed that during this open space each participant can assimilate the

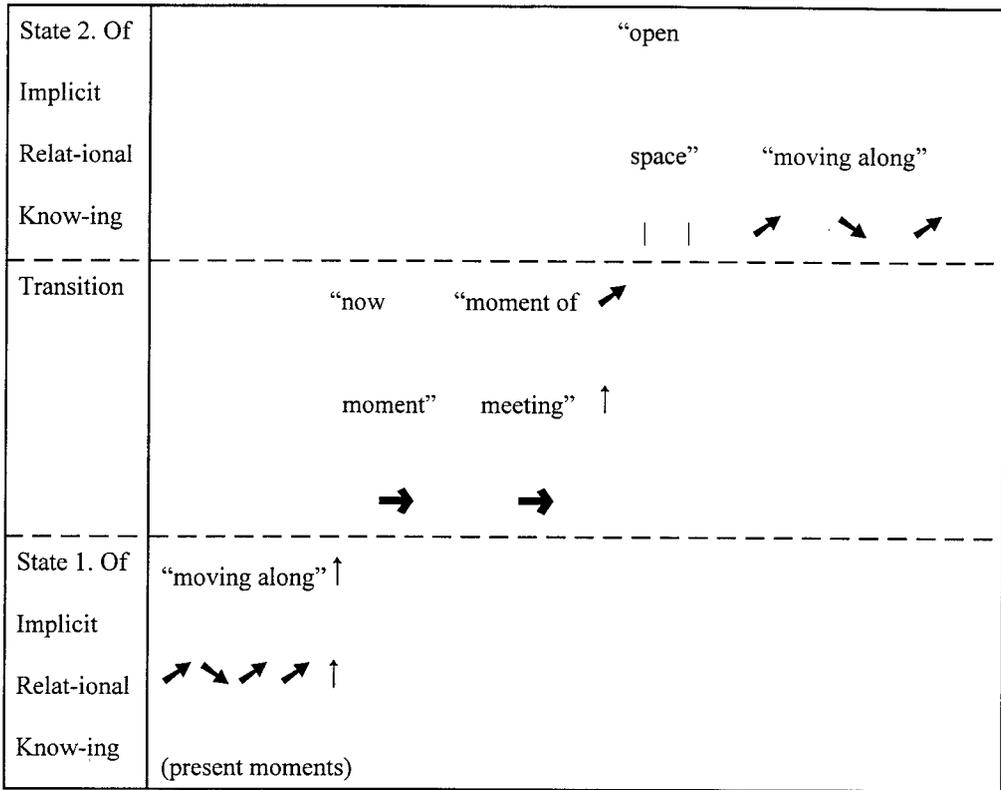


FIGURE 1.

effect of the moment of meeting in finding a new equilibrium in the altered intersubjective state that they now inhabit.

After the open space has finished, the two partners take up again the “moving along” process, but now they do so within a new intersubjective context (state no. 2). Their implicit relational knowing has been expanded—there has been a dyadic expansion of consciousness—and the relationship between them has changed.

**5. Other Fates of the “Now Moment”**

If the “now moment” is not seized to become a “moment of meeting,” it can lead to various other outcomes:

- (a) The “now moment” simply can be missed. This is a lost opportunity but usually reappears.
- (b) There can be a failed “now moment.” The moment does not go by unnoticed, rather there is a failure to establish a “moment of meeting.” If this failure is left unrepaired, the two gravest consequences are that either part of the intersubjective terrain gets closed off to the therapy, as if one had said, “we cannot go there,” or even worse, a basic sense of the fundamental nature of the therapeutic relationship is put into such serious question that a full therapy can no longer continue (whether or not they actually stop).

In the parent–infant relationship, “now moments” are frequently missed or failed. It is less grave in this situation because the developmental push will assure that such moments

will reappear. The only question is how this new property will be integrated into the relationship. In the patient–therapist situation, there will be fewer opportunities to seize these moments because the failure to do so is generally experienced as so painful to the patient so as to prevent risking offering it again. Still, several opportunities for repair usually present themselves.

- (c) When failed “now moments” are taken up again they can be repaired. This requires a new “moment of meeting,” a dyadic expansion that emerges from mutual regulation.
- (d) Some “now moments” endure and stay charged for many sessions. Their urgency can wax and wane. Similarly, some “now moments” can be flagged as important events that must be returned to, but not at that moment. The therapeutic process thus buys time.
- (e) Finally, an interpretation, acting in the domain of explicit knowledge can resolve some, but certainly not all, “now moments.” It is instructive in this regard to note that most good, well-timed interpretations also include, as a sort of coda, a specific “moment of meeting” that concerns the emotional effect of the interpretation. It acts in the domain of implicit relational knowing, but is necessary to render the interpretation not just a sterile application of technique, but mutative event in altering the explicit and implicit relationship.

In brief, an interpretation is the act that alters the intrapsychic landscape of the patient’s explicit knowledge. A “moment of meeting” is the act that alters the intersubjective landscape of the patient’s implicit relational knowing. These two mechanisms can act alone or together (see Lyons-Ruth, this issue).

### SUMMARY

We have tried to explore the process of change in psychotherapy using the perspectives of developmental processes and concepts of change in dynamic systems. The basic data are the detailed reports of psychotherapists about their therapy sessions. The major findings are the realization that even in a “talking therapy,” a vast amount of therapeutic change occurs in the realm of procedural knowledge that is not conscious, especially implicit knowledge of how to act, feel, and think when in a particular relational context (implicit relational knowing). We suggest that the mutative act in this domain is a specific “moment of meeting,” which is an emergent property of the dyadic system that pushes it into a new state of intersubjectivity—Tronick’s dyadic state of consciousness—thus, changing the relationship.

### REFERENCES

- BEEBE, B., & STERN, D. N.** (1977). Engagement-disengagement and early object experiences. In M. Freedman & S. Grand (Eds.), *Communicative structures and psychic structures*. New York: Plenum Press.
- BOLLAS, C.** (1987). *The shadow of the object: Psychoanalysis of the unthought known*. London: Free Association Books.
- FIVAZ, R.** (1996). Ergodic theory of communication. *Systems Research* 13, 127–144.
- FIVAZ, E., FIVAZ, R., & KAUFMANN, L.** (1979). Therapy of psychotic transaction families: An evolutionary paradigm. In C. Muller (Ed.), *Psychotherapy of schizophrenia*. Amsterdam-Oxford: Excerpta Medica.
- FIVAZ, E., FIVAZ, R., & KAUFMANN, L.** (1983). Accord, conflict et symptômes, un paradigme évolutionniste. *Cashiers critique de thérapie familiale et de pratique de réseaux*. Bruxelles: Margada.
- GIANINO, A., & TRONICK, E.** (1988). The mutual regulation model: The infant’s self and interactive

- regulation. Coping and defense capacities. In T. Field, P. McCabe, & N. Schneiderman (Eds.), *Stress and coping* (pp. 47–68) Hillsdale, NJ: Erlbaum.
- MATURANA, H. R., & VARELA, F. J.** (1987). *The tree of knowledge*. Shambala, Boston: New Science Library.
- SANDER, L.** (1988). The event-Structure of regulation in the neonate-caregiver system as a biological background for early organization of psychic structure. In A. Goldberg (Ed.), *Frontiers in self psychology*. (pp. 64–77) Hillsdale, NJ: Analytic Press.
- SANDER, L.** (1994). Paradox and resolution: From the beginning. In J. Noshpitz, S. Greenspan, S. Weider, & J. Osofsky (Eds.), *Handbook of child and adolescent psychiatry, vol. 1*, (pp 153–159), N.Y.: Wiley.
- SANDLER, J., & FONAGY, P. (EDS.)**. (1997). *Recovered memories of abuse: True or false*. London: Karnac Books, and International Universities Press. (in press).
- STERN, D. N.** (1977). *The first relationship: Infant and mother*. Cambridge: Harvard University Press.
- STERN, D. N.** (1985). *The international world of the infant*. New York: Basic Books Inc.
- STERN, D. N.** (1995). *The motherhood constellation: a unified view of parent-infant psychotherapy*. New York: Basic Books Inc.
- STERN, D. N., SANDER, L. W., NAHUM, J. P., HARRISON, A. M., LYONS-RUTH, K., MORGAN, A. C., BRUSCHWEILER-STERN, N., & TRONICK, E. Z.** (1997). Mechanisms of change in psychoanalytic therapy: Implicit relational knowing, the “something more” than interpretation. Symposium presented March 6–9, 1997. Boston.
- STOLOROW, R. D., ATWOOD, G. E., & BRANDCHAFT, B. (EDS.)**. (1994). *The intersubjective perspective*. Northvale NJ: Jason Aronson Inc.
- THELEN, E., & SMITH, L. B.** (1994). *A dynamic systems approach to the development of cognition and action*. Cambridge: A Bradford Book, The M.I.T. Press.
- TRONICK, E. Z.** (1989). Emotions and emotional communication in infants. *American Psychologist*, *44*, 112–119.
- TRONICK, E. Z., & COHN, J.** (1989). Infant–mother face-to-face interaction: Age and gender differences in coordination and the occupance of miscoordination. *Child Development*, *60*, 85–92.

Copyright of Infant Mental Health Journal is the property of Michigan Association of Infant Mental Health and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.