

Dynamic, Dyadic, Intersubjective Systems: An Evolving Paradigm for Psychoanalysis

Robert D. Stolorow, PhD

Institute of Contemporary Psychoanalysis, Los Angeles

Dynamic systems theory is a source of powerful new metaphors for psychoanalysis. Phenomena such as conflict, transference, resistance, and the unconscious itself are grasped from this perspective as dynamically emergent properties of self-organizing, nonlinear, dyadic, intersubjective systems. The conception of development as evolving and dissolving attractor states of intersubjective systems richly illuminates the processes of pattern formation and change in psychoanalysis. Effective interpretations are seen as perturbations of the therapeutic system that permit new organizing principles to come into being.

A new scientific paradigm has been evolving from the investigation of phenomena that have variously been called dynamic, nonlinear, self-organizing, or chaotic systems. With origins in physics, chemistry, and mathematics, this new perspective has been applied to the study of complex biological systems (von Bertalanffy, 1968; Waddington, 1977) and is being employed in the search for common principles underlying the behavior of such diverse phenomena as chemical reactions, clouds, forests, and developing embryos and children. Dynamic systems theory (Thelen & Smith, 1994) is centrally concerned with conceptualizing the *process* of developmental change—that is, the generation of “emergent order and complexity: how structure and patterns arise from the cooperation of many individual parts” (p. xiii). In accounting for the “messy, fluid, context-sensitive” (p. xvi) nature of the developmental process, this framework is exceptionally well suited to serve as a source of guiding metaphors for psychoanalysis.

In this article I present an overview of some basic tenets of dynamic systems theory, drawing heavily from the work of developmentalists Thelen and Smith (1994). Interspersed throughout the discussion are examples of how systems theory has already infiltrated my thinking about fundamental psychoanalytic issues. I conclude by applying the principles of dynamic systems to a conceptualization of the process of change and resistance to change in psychoanalysis.

Within a general systems philosophy (Laszlo, 1972; Sucharov, 1994), any living system is part of a hierarchy. Each system contains subsystems, or elements, that constitute the whole. Two or more systems interacting cooperatively form a suprasystem. Conceptualizations of psychological development that focus on the child's mental activity as the system under study (e.g., Thelen & Smith, 1994) highlight the exquisitely context-dependent nature of the child's *self-regulatory processes* as these influence and are influenced by exchanges with caregivers. Other formulations (e.g., Sander, 1985) enter the living hierarchy at the more encompassing level of the child-caregiver suprasystem and emphasize the ongoing processes of reciprocal *mutual regulation* within the dyad. Self-regulation and mutual regulation always occur simultaneously and are inextricably interrelated (Beebe & Lachmann, 1994). One or another will predominate as a function of the level of the living hierarchy targeted by the investigator. Because psychoanalytic investigation is concerned with comprehending the process of change within the patient-analyst relationship, the level of the hierarchy most relevant to psychoanalysis is the dyadic system. Furthermore, because the focus of psychoanalytic investigation is always psychic, or subjective, reality—the particular dyadic systems formed by the reciprocal interplay between worlds of experience (i.e., intersubjective systems) constitute the unique domain of inquiry of psychoanalysis. Therefore, I have chosen the phrase *dynamic, dyadic, intersubjective systems* to capture the nature of a new, evolving paradigm for psychoanalysis.

To summarize, I am concerned here with systems concepts existing at three levels of abstraction and generality. The most general and inclusive is the overarching concept of dynamic systems, and the application of principles of dynamic systems to psychoanalysis is the central aim of this article. A specific category of dynamic systems comprises systems formed by the interaction between two human beings (dyadic systems). More specific still are those formed by the interplay between two subjective worlds (intersubjective systems), the unique domain of psychoanalytic inquiry. The concept of a dynamic, dyadic, intersubjective system mends the long-standing false dichotomy in psychoanalysis between intrapsychic and interpersonal theorizing because it brings to focus both the individual's world of inner experience and the embeddedness of this world with other such worlds in a continual flow of reciprocal mutual influence (Stolorow & Atwood, 1992, p. 18). From a dynamic systems perspective, the very distinction between one- and two-person psychologies is obsolete because the individual and his or her intrapsychic world are included as a subsystem within the more encompassing intersub-

jective suprasystem. For this reason, I have sometimes quipped that perhaps my theoretical viewpoint is a “no-person psychology,” concerned as it is with how worlds of inner experience and intersubjective fields mutually constitute one another.

A cardinal feature of the dynamic systems approach to development is that it categorically rejects teleological conceptions of preordained end-states toward which developmental trajectories are presumed to aim. Accordingly,

development does not “know” where it is going from the start. . . . There is no end-state other than the end of life itself. . . . Development is the outcome of *the self-organizing processes of continuously active living systems* [italics added]. (Thelen & Smith, 1994, p. 44)

Also rejected is the idea, prominent in much psychoanalytic developmental theory, that development unfolds according to some predetermined schema or epigenetic master plan:

Although behavior and development appear structured, there are no structures. Although behavior and development appear rule-driven, there are no rules. There is complexity. There is a multiple, parallel, and continuously dynamic interplay of perception and action, and a system that, by its thermodynamic nature, seeks certain stable solutions. *These solutions emerge from relations, not from design.* When the elements of such complex systems *cooperate*, they give rise to behavior with a unitary character, and thus to the illusion of structure. But the order is always *executory*, rather than rule-driven, allowing for the enormous sensitivity and flexibility of behavior to organize and regroup around task and *context*. . . . [Such organization is] *emergent and not designed* [italics added]. (Thelen & Smith, 1994, p. xix)

Rejection of teleological thinking and of the notion of preestablished developmental programs has been a hallmark of what has come to be known as the intersubjective perspective in psychoanalysis (Stolorow, Atwood, & Brandchaft, 1994). Psychoanalytic intersubjectivity theory is a field theory or systems theory that seeks to comprehend psychological phenomena not as products of isolated intrapsychic mechanisms and fixed intrapsychic structures, but as forming at the interface of reciprocally interacting worlds of experience (Stolorow & Atwood, 1992). From this perspective, intrapsychic determinism gives way to an unremitting contextualism for which “a dynamic [systems] account provides a biological rationale” (Thelen & Smith, 1994, p. xxi). With regard to psychological development, my collaborators and I, along with Sander (1985) and Beebe and Lachmann (1988), proposed that the organization of the child’s experience must be seen as a property of the child–caregiver system of mutual regulation and, further, that it is the recurring patterns of intersubjective transaction within the developmental system that result in the establishment of invariant principles and themes that

unconsciously organize the child's subsequent experiences. The forging of such principles and themes within the child-caregiver system is an example of dynamically emergent form, of "pattern formation without a program" (Thelen & Smith, 1994, p. 71). In this view of psychological development, we, like Stern (1985), eschew traditional psychoanalytic assumptions about universally occurring developmental phases dominated by innately preprogrammed imagery and crises. Contrary to Kohut's (1984) idea that a self possesses an inherent design awaiting a responsive milieu that will enable it to unfold, it is our view that the trajectory of self-experience is shaped at every point in development by the intersubjective matrix in which it crystallizes (Stolorow & Atwood, 1992). In harmony with the dynamic tenet that "all mental activity is emergent, situated, [and] historical" (Thelen & Smith, 1994, p. xxiii), we hold that any psychological constellation can be grasped only in terms of its unique intersubjective history, the relational systems in which it originated and is continuing to be maintained.

All living systems are thermodynamically open systems in that order and pattern continue to emerge and evolve—that is, to "self-organize"—so long as there is a continual influx of energy. Dynamic systems theory is concerned with "how complex systems ... produce *patterns that evolve in time*" (p. 51). A key idea is that "in order for biological systems to survive, all the components must be *coordinated* to an exquisite degree" (p. 52). It is the cooperative interaction of elements that brings about "the soft and context-specific assembly of components [into] a self-organized pattern" (pp. 81–83).¹ Synergies of action, cooperativity of subsystems, and self-organization—these are the principles of emergent pattern formation in complex dynamic systems "that change over time, where novelty can be created, where the end-state is not coded anywhere" (p. 49). The process of change within dynamic systems is nonlinear and discontinuous, as changing contexts and changing conditions within the system assemble the elements into radically different patterns of coordination unanticipated by prior configurations.

Open systems where many components are free to relate to one another in nonlinear ways are capable of remarkable properties. When sufficient energy is pumped into these systems, new, ordered structures may spontaneously appear that were not formerly apparent. What started out as an aggregation of ... individual parts with no particular or privileged relations may suddenly produce patterns in space and regularities in time. The system may behave in highly complex, although ordered, ways, shifting from one pattern to another, clocking time, resisting perturbations, and generating elaborate structures. These emergent organizations are totally different from the elements that constitute the system, and the patterns cannot be predicted solely from the characteristics of the individual elements. (p. 54)

¹The idea that patterns are *soft assembled* through the cooperative interaction of elements stands in contrast with the notion that such patterns are *hardwired*. Some individual elements of a dynamic system may be hardwired, but the organization of elements into a pattern or structure is soft assembled.

The foregoing description of the self-organizing activity of living systems captures its fluid, nonlinear, multidimensional, and context-dependent character. The passage bears a remarkable resemblance to recent conceptualizations of analytic transferences as shifting, multiple dimensions of experience taking form within the patient–analyst interactive system (Lachmann & Beebe, 1992; Stolorow, Brandchaft, & Atwood, 1987; Stolorow & Lachmann, 1984/85). Developmental longings, repetitive/conflictual/resistive aspects, and other relational configurations continually move in and out of the foreground and background of the patient’s experience in concert with the patient’s specific perceptions of the analyst and the analyst’s activities, and a parallel statement can be made about the analyst’s transference experience with the patient. For me, the essence of transference analysis lies in the investigative and interpretive tracking of these oscillating figure-ground relationships among multiple dimensions of the transference as they “soft assemble” within the ongoing dynamic, dyadic, intersubjective system constituted by the patient’s and analyst’s interacting worlds of experience. In this conceptualization the patterning of transference is fluid, nonlinear, multidimensional, and dynamically emergent from the self-organizing activity of the patient–analyst system.

Other phenomena that have traditionally been central in psychoanalytic theorizing—such as conflict, trauma, and fantasy—can similarly be understood as emergent properties of intersubjective systems (see Stolorow & Atwood, 1992; Stolorow et al., 1987). The dynamic unconscious itself has been reconceptualized in terms of affect states that have been defensively aborted or walled off because they evoked traumatogenic malattunement from caregivers. From this perspective, the very boundary between conscious and unconscious is revealed to be a fluid and ever-shifting one, a product of the changing responsiveness of the surround to different regions of the child’s emotional experience. This idea of a fluid boundary assembling within a dynamic, dyadic, intersubjective system contrasts sharply with the traditional notion of the repression barrier as a fixed intrapsychic structure.

Another key idea in dynamic systems theory is the concept of an *attractor state*, a quasi-stable or preferred configuration for which the self-organizing activity of a system has an affinity:

Complex, dynamic systems seek preferred behavioral modes as a function of the interactions of their internal components and their sensitivity to external conditions. The attractor regime is only determined as the system is assembled. ... There are no codes, prescriptions, schemata, or programs orchestrating the nature of the attractor or its trajectory. ... Under different conditions, the components are free to assemble into other stable behavioral modes. (Thelen & Smith, 1994, p. 60)

Attractor states vary greatly as to the degree of their stability. Some are so unstable that they are only fleetingly observed, whereas others are so stable that they give

the appearance of being inevitable, hardwired, and preprogrammed. Accordingly, psychological configurations that look like they are expressions of predetermined programs or structures are comprehended, from a dynamic systems perspective, as very stable attractor states of a living system, “attractors of such strength and stability that only the most severe perturbations can disrupt them” (Thelen & Smith, 1994, p. 61). This formulation has enormous implications for our understanding of the persistence of psychopathology in general and of such clinical phenomena as intractable resistances and repetitive transferences. Pathology persists, in this view, not because of fixed intrapsychic mechanisms operating within the isolated mind of the individual, but in consequence of relentlessly recurring, pathogenic patterns of early interaction—stable attractor states of the child–caregiver system—whose structure is cooperatively reassembled in all subsequent intersubjective systems in which the individual participates. Intractable repetitive transferences and resistances in the analytic situation are recognized, from this perspective, as rigidly stable attractor states of the patient–analyst system in which the analyst’s stance has become tightly coordinated with the patient’s grim expectations and fears, thereby exposing the patient repeatedly to threats of retraumatization (see Stolorow & Atwood, 1992, chap. 7, for clinical examples). Such stable attractors can be altered only by severe perturbations, shifts in the analyst’s understanding and interpretive stance powerful enough to destabilize the invariant organizing process of the therapeutic system.

From a dynamic systems perspective, development is viewed as “the continual stabilization and destabilization, over time, of preferred attractor states” (Thelen & Smith, 1994, p. 61), as “evolving and dissolving attractors” (p. 85). From this vantage point, change is defined as “the transition from one stable state or attractor to another” (p. 63). Such a conception of change holds profound implications for conceptualizing the therapeutic process because it posits that *change requires disorganization* of the developing system. It is the loss of stability and coherence that “provides the bumps that allow the system to discover its new stable patterns. . . . Developing systems must be in this unstable or quasi-stable mode to explore new cooperative patterns” (p. 65), to “assemble new adaptive forms” (p. 68). From the dynamic principle that “systems shift into new forms only as the old forms get shaken up by internal perturbations” (p. 64), it follows that effective interpretations are perturbations that *disrupt* the repetitive attractor states dominating the patient–analyst system, freeing its components to reassemble in new ways, establishing the possibility of alternative principles for organizing experience (Stolorow & Atwood, 1992). It also follows that for the process of therapeutic change to be sustained, the patient–analyst system must be able to tolerate and contain the painful and frightening affect states that accompany periods of destabilization, what my collaborators and I (Stolorow et al., 1994) call “the fear of structureless chaos” (p. 203). I view such affect tolerance and containment as a crucial component of the holding function (Winnicott, 1965) or selfobject function (Kohut, 1984) of the

analytic bond, without which therapeutic change is felt to be too dangerous and must be resisted, as the system retreats into more stable, and thus safer, patterns.

How, more specifically, do interpretations contribute to therapeutic transformation? There has been a long-standing debate within psychoanalysis over the role of cognitive insight versus affective attachment in the process of therapeutic change (see Friedman, 1978). It is my view that once the psychoanalytic situation is recognized as an intersubjective system, the dichotomy between insight through interpretation and affective bonding with the analyst is revealed to be a false one. The therapeutic impact of the analyst's transference interpretations, for example, lies not only in the insights they convey but also in the extent to which they demonstrate the analyst's attunement to the patient's affective states, including his or her development longings and fears of retraumatization. The analyst's transference interpretations, in other words, are not disembodied transmissions of insight *about* the analytic relationship; they are an inherent, inseparable component *of* that very bond. As Atwood and I (1984) stated:

Every transference interpretation that successfully illuminates for the patient his or her unconscious past simultaneously crystallizes an elusive present—the novelty of the therapist as an understanding presence. Perceptions of self and other are perforce transformed ... to allow for the new experience. (p. 60)

In harmony with the views of Mitchell (1988) and Aron (1996), among others, my collaborators and I (Stolorow, Atwood, & Ross, 1978) have for nearly 2 decades contended that a mutative interpretation is a relational process or, in the current terminology, a perturbation in a dynamic intersubjective system, and further, that a central constituent of this perturbation is the patient's experience of being deeply understood. More recently, I (Stolorow, 1994) suggested that it is the specific transference meaning of the experience of being understood that supplies its mutative power, as the patient, from within the depths of his or her own subjective world, weaves that experience into the unique tapestry of mobilized developmental yearnings, enabling thwarted developmental processes to become reinstated and new organizing principles to take root. *Let me illustrate.*

Anyone who has used the concepts of self psychology in conducting an analytic therapy has witnessed the therapeutic benefits of analyzing disruptions in the transference bond. Throughout his writings, Kohut (1984) explained these therapeutic effects by invoking his theory of optimal frustration leading to transmuted internalization, an explanation that has been questioned by a number of authors, including myself (Socarides & Stolorow, 1984–1985; Stolorow & Atwood, 1992). How might the therapeutic action of analyzing disruptions be explained according to the thesis I have been developing here?

Many patients who come to us for treatment have, as children, suffered repeated, complex experiences of developmental trauma, which I have conceptualized sche-

matically as occurring in two phases (Stolorow & Atwood, 1992). In the first phase the child experiences an injury, violation, rebuff, or disappointment by a caregiver, which produces a painful emotional reaction. In the second phase the child longs for an attuned response that would modulate, contain, and ameliorate his or her painful reactive affect state. When, instead, the child's emotional pain encounters consistent malattunement, he or she perceives that painful reactive feelings are unwelcome or damaging to the caregiver and must be defensively sequestered to sustain the needed bond. Such aborted affect becomes a source of lifelong inner conflict and vulnerability to traumatic states. In addition, the child often acquires an unconscious conviction that painful and frightening feeling states are manifestations of a loathsome defect or of an inherent inner badness. In treatment, aspects of the analyst's stance that lend themselves to being assimilated according to such unconscious meanings of affect confirm the patient's expectations in the transference that emerging painful feelings will be met with disgust, disdain, disinterest, alarm, hostility, withdrawal, exploitation, and the like, or will damage the analyst and destroy the therapeutic bond. Such attractor states of the patient-analyst system become a source of powerful resistance to the experience and expression of affect.

In light of this formulation, how might we conceptualize the therapeutic impact of analyzing a disruption? In conducting such an analysis, the analyst investigates and interprets the qualities or activities of the analyst that produced the disruption; its specific meanings; its impact on the patient's state and experience of the analytic bond; the early developmental traumas it replicates; and, especially important, the patient's expectations and fears of how the analyst will respond to the articulation of the painful feelings that follow in its wake (Stolorow et al., 1987). In my view, it is the transference meaning of this investigative and interpretive activity that is its principal source of therapeutic action in that it perturbs the resistive attractor state by establishing the analyst in the transference as the longed-for, receptive, and understanding parent who, through attuned responsiveness, will "hold" (Winnicott, 1965) and thereby eventually alleviate the patient's painful emotional reactions. The therapeutic bond becomes thereby strengthened and expanded, and other developmental yearnings are permitted to emerge more freely as the patient feels increasing confidence that emotional reactions to experiences of injury and disappointment will be received and contained by the analyst. In concert with the establishment of these new organizing principles, a developmental process is set in motion wherein formerly sequestered painful reactive affect states, the legacy of the patient's history of developmental trauma, gradually become integrated and transformed, and the patient's capacities for affect tolerance and articulation become increasingly strengthened. I regard such expansion and enrichment of the patient's affective life, emergent in ongoing cycles of disorganization and reorganization of the patient-analyst system, as central aims of an analytic process.

There is an additional transference meaning of the analyst's attuned interpretive activity that probably contributes a therapeutic element in all analyses but is

especially important in the treatment of patients who have suffered severe developmental interferences with the articulation of perceptual and affective experience. These are patients often prone to fragmented, disorganized, or psychosomatic states, for whom broad areas of early experience evoked massive malattunement from caregivers and, consequently, whose perceptions remain ill-defined and precariously held, easily usurped by the judgments of others, and whose affects tend to be felt as diffuse bodily states rather than symbolically elaborated feelings. In such cases the analyst's investigation and illumination of the patient's inner experiences serve to articulate and consolidate the patient's subjective reality, crystallizing the patient's experience, lifting it to higher levels of organization, and strengthening the patient's confidence in its validity. The analyst thereby becomes established in the transference as the missing and longed-for validator of the patient's psychic reality, a self-delineating function (Stolorow & Atwood, 1992) or, to use Sander's (1995) systems-oriented phrase, a "recognition process" that is vital not only for the integration of painful affect, but also for the development of a sense of the real and of one's own individualized selfhood.

ACKNOWLEDGMENT

This article crystallized from a series of discussions of dynamic systems theory with Drs. Beatrice Beebe and Frank Lachmann. Their input contributed importantly to the development of the ideas presented herein. An earlier version of the article was presented at the Spring Meeting of the Division of Psychoanalysis of the American Psychological Association, Santa Monica, California, April 29, 1995.

REFERENCES

- Aron, L. (1996). *A meeting of minds*. Hillsdale, NJ: The Analytic Press.
- Atwood, G., & Stolorow, R. (1984). *Structures of subjectivity: Explorations in psychoanalytic phenomenology*. Hillsdale, NJ: The Analytic Press.
- Beebe, B., & Lachmann, F. (1988). The contribution of mother-infant mutual influence to the origins of self- and object representations. *Psychoanalytic Psychology*, 5, 305-337.
- Beebe, B., & Lachmann, F. (1994). Representation and internalization in infancy: Three principles of salience. *Psychoanalytic Psychology*, 11, 127-165.
- Bertalanffy, L. von (1968). *General systems theory*. New York: Braziller.
- Friedman, L. (1978). Trends in the psychoanalytic theory of treatment. *Psychoanalytic Quarterly*, 47, 524-567.
- Kohut, H. (1984). *How does analysis cure?* Chicago: University of Chicago Press.
- Lachmann, F., & Beebe, B. (1992). Representational and selfobject transferences: A developmental perspective. In A. Goldberg (Ed.), *New therapeutic visions* (pp. 3-15). Hillsdale, NJ: The Analytic Press.
- Laszlo, E. (1972). *Introduction to systems philosophy*. New York: Gordon and Breach.

- Mitchell, S. (1988). *Relational concepts in psychoanalysis*. Cambridge, MA: Harvard University Press.
- Sander, L. (1985). Toward a logic of organization in psychobiological development. In H. Klar & L. Siever (Eds.), *Biologic response styles* (pp. 20–36). Washington, DC: American Psychiatric Association.
- Sander, L. (1995). Identity and the experience of specificity in a process of recognition. *Psychoanalytic Dialogues*, 5, 579–593.
- Socarides, D. D., & Stolorow, R. (1984–1985). Affects and selfobjects. *The Annual of Psychoanalysis*, 12/13, 105–119.
- Stern, D. (1985). *The interpersonal world of the infant*. New York: Basic Books.
- Stolorow, R. (1994). The nature and therapeutic action of psychoanalytic interpretation. In R. Stolorow, G. Atwood, & B. Brandchaft (Eds.), *The intersubjective perspective* (pp. 43–55). Northvale, NJ: Aronson.
- Stolorow, R., & Atwood, G. (1992). *Contexts of being: The intersubjective foundations of psychological life*. Hillsdale, NJ: The Analytic Press.
- Stolorow, R., Atwood, G., & Brandchaft, B. (Eds.). (1994). *The intersubjective perspective*. Northvale, NJ: Aronson.
- Stolorow, R., Atwood, G., & Ross, J. (1978). The representational world in psychoanalytic therapy. *International Review of Psycho-Analysis*, 5, 247–256.
- Stolorow, R., Brandchaft, B., & Atwood, G. (1987). *Psychoanalytic treatment: An intersubjective approach*. Hillsdale, NJ: The Analytic Press.
- Stolorow, R., & Lachmann, F. (1984/1985). Transference: The future of an illusion. *The Annual of Psychoanalysis*, 12/13, 19–37.
- Sucharov, M. (1994, October). *Self psychology and intersubjectivity: A converging alliance* Paper presented at the 17th annual conference on the Psychology of the Self, Chicago.
- Thelen, E., & Smith, L. (1994). *A dynamic systems approach to the development of cognition and action*. Cambridge, MA: MIT Press.
- Waddington, C. (1977). *Tools for thought*. New York: Basic Books.
- Winnicott, D. W. (1965). *The maturational processes and the facilitating environment*. Madison, CT: International Universities Press.