Dynamic Systems Theories as a Metaframework for Psychoanalysis

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Nonlinear dynamic systems theories offer useful approaches for understanding psychoanalyses: One of the most distinctive and appealing features of psychoanalytic thinking is its focus on mental processes that defy categorization and linear explanation. Analytic therapists tolerate uncertainty, find meaning in apparently disordered communication, and embrace the unexpected twists and turns that emerge from intimate attention to the ordinary complexities of everyday life. These are hallmarks of a psychoanalytic sensibility that spans various theoretical persuasions. Non-linear dynamic systems theory embodies the same sensibilities: It emphasizes such descriptors as pattern, complexity, flux and flow, the interplay of ambiguity and order, stability and instability, and the natural value of uncertainty and generative chaos. Although systems theory may appear esoteric and overly intricate, it can be approached in an intuitive, experience-near way so as to offer a language and an imagery that underlie everyday clinical thinking. Its metaphors and aesthetics can help analysts become more precise, spacious, and immediate about basic assumptions that tend to be taken for granted. In addition to tracing this conceptual path, this paper provides a brief account of the history of nonlinear thinking in psychoanalytic theorizing and offers clinical examples.

I have now come to regard as the greatest of all sources of resistance—viz. the maintenance of the patient's internal world as a closed system. In terms of the theory of the mental constitution
which I have proposed, the maintenance of such a closed system involves the perpetuation of the relationships between the various ego structures and their respective internal objects, as well as between one another; and, since the nature of these relationships is the ultimate source of both symptoms and deviations in character, it becomes still another aim of psychoanalytic treatment to effect breaches of the closed system which constitutes the patient's inner world, and thus to make this world accessible to the influence of outer reality.

—W. R. D. Fairbairn

One of the most distinctive and appealing features of psychoanalysis is its focus on those mental processes that defy categorization and linear explanation. Analysts tolerate uncertainty, find meaning in apparently disordered and even unruly communication, and embrace the unexpected twists and turns that emerge from intimate attention to the ordinary complexities of everyday life. Chaos theory and complex systems theory share with psychoanalysis an interest in pattern, the waxing and waning of ambiguity and order, stability and instability over time, the natural value of uncertainty and generative chaos, and the like (Bak, 1996; Prigogine, 1996). Although nonlinear dynamic systems theory may appear esoteric and overly intricate, it can be approached in an intuitive, experience-near way so as to offer a language and an imagery that captures many of the basic assumptions that underlie our everyday clinical thinking, interacting, and experiencing. Metaphors employed by systems theory can help us become more precise, spacious, and immediate about basic assumptions that we tend to take for granted, but leave implicit. (See, for example, Gleick, 1987; Kelso, 1995; Prigogine, 1996; Sardar and Abrams, 1998; Gladwell, 2000.)

Dynamic systems theories offer fundamental insights for understanding what goes on in psychoanalysis. Most contemporary analysts now think of analyst and analysand immersed in ongoing, complex patterns of mutual influence; whatever other assumptions they make, they agree that a psychoanalysis is a dyadic and dynamic system. Each psychoanalysis is organized into many of the same basic processes that define other systems. The systems theories provide a window onto a new way to think about psychoanalytic metapsychology—a background theory that orients our basic working assumptions.1

One of the promising features of systems theory is that it offers a link to the natural sciences without reducing psychological phenomena to a simpler level of explanation. Dynamic systems theories are neither linear nor reductionistic. They do not supplant the psychological subjective level of analysis that is indispensable to our work and thus do not drag analysis away from its most imaginative virtues.

In this paper, I survey several core concepts in systems theory, further develop the idea that analyses are dynamic systems, and then apply the core concepts to psychopathology and the therapeutic action of psychoanalysis. I conclude with a historical account, arguing that many creative analytic innovations have contained the aesthetics of complexity characterized by dynamic systems, without making them explicit.

Dynamic Systems Theories: A Brief Overview

Over the last several decades, scientists in varied fields have embraced a new mindset: the nonlinear dynamic systems theories study the overall processes by which systems—both living and inanimate—are ordered. These processes organize everyday phenomena such as the weather, ocean waves, the shapes of coastlines, traffic patterns,
consumer choices, and the emergence of children’s motor abilities. They also shape such fundamental processes as cell respiration, cosmology, and particle physics.

Attention to the changing patterns of systems leads to a nonreductionistic, nonlinear approach. It focuses attention away from causes and effects and toward a complex and shifting terrain in which causes and effects cannot be easily parsed—in which effects and causes are, in fact always being transformed into each other. Systems—organized in multiple levels—reorganize one another rather than simply responding to new events in easily predictable, linear ways. Contexts decisively affect outcomes, and the whole is greater than the sum of its parts, because the relationships between the components of each system alter those components.

For example, a young infant who is constitutionally hypersensitive to arousal would likely do better with a mother who can read his or her cues and approach softly and slowly, to avoid disorganizing overstimulation. Such an infant would likely fare less well with an intrusive mother, whose exuberance might well be overwhelming. The vulnerability to hyperarousal would be altered differently by each caregiving context, so it could not be usefully understood as a variable in itself. With the responsive mother, the baby might develop an enhanced capacity to organize, whereas with the intrusive mother, sensory input might be even harder to contain. Analyst–patient dyads function in a similar way: a talkative analyst may evoke a transference of being intruded on, and a quieter analyst may evoke the neglectful aspect of the same patient’s childhood experience. Transactional thinking is a key aspect of systems thinking.

For a more elaborate illustration we can look to the weather, one of the most commonly cited examples of a nonlinear dynamic system. Weather, of course, reflects an array of physical conditions—temperature, humidity, air movement, the influence of land and oceans masses, and so on. In any given weather system, the various elements form a set of particular relationships, which then organize into larger systems. Moisture in the ocean rises to form clouds; clouds are moved by the wind; they interact with the land as they move over it. Each of these phenomena can be thought of as a subsystem of the overall weather system, and it is how such subsystems are ordered into the larger patterns that ultimately determines the weather in any particular place. You can’t predict rain unless you take many other factors into account such as air temperature, land temperature, and air pressure.

When there is little moisture in the clouds, none of it turns to rain, but at a certain point of humidity and cold, much of it does.

Analysts make decisions all the time on the basis of their implicit recognition that the effect of a single factor or intervention depends on the overall situation. The systems theories back up basic working sensibilities that are taken for granted but are often left implicit. The general principle for weather is that change in the overall pattern of the system is crucial. Here is another example: during rush hour, the diversion of a hundred extra cars onto a busy highway might shift the traffic pattern to a bumper-to-bumper jam, but the same increment on a quiet Sunday morning would probably affect the traffic flow very little.

This kind of system shift is sometimes discussed in terms of sensitive dependence on initial conditions, or more popularly, tipping points, and is widely applied to such phenomena as changes in cultural fashion, urban demographics, and illness, as well as weather or traffic (Gladwell, 2000). There is a point in a nonlinear dynamic system at which change in a particular input will change the basic dynamic of the system. The often cited example of the butterfly in Rio whose fluttering wings lead to a hurricane in Miami illustrates this concept. The butterfly’s wings may provide just the extra microdose of air velocity to tip the weather pattern into the new storm system.

Here is a more mundane example:

On the morning after the 2003 U.S. invasion of Iraq, protesters sat down in the intersections of downtown San Francisco (the city in which I live), clogging traffic throughout the city. The unexpected tie-ups made my margin for punctuality very small, although my route did not go through downtown. But I was still on time until a driver at a four-way stop sign moved into the intersection out of order and got ahead of me. He was the last one through the light at the next intersection. While I waited for the light, a truck blocked my path. Stalled in traffic, I was late for my next session, which upset my patient and set a tone for the whole hour. This had its own complex roots in both her history and the transference-countertransference dynamics. I was slightly more irritable throughout the morning. Here, the particular event of the driver at the four-way stop, in the broad context of the war, set a new process in motion. When system conditions are in a sensitive state, small changes may make a dramatic difference.

Systems routinely amplify tendencies that can shift them in one direction or another. In the example of the hypersensitive baby that I mentioned
above, the sensitive mother may amplify the infant's ability to manage stimulation. Adult analysts see similar synergies when a progressive development in an analysis leads to a patient's becoming more comfortable with intimacy, which may in turn lead to the beginning of a romance, which provides further support for the analytic progress, and so on.

In this as well as other ways, dynamic systems are self-organizing. Once new adaptive processes are set in motion, they can reinforce themselves as different parts of the system respond to each other and/or the changing environment. For example, when a child gets help with a previously unidentified learning disability, that child's overall self-esteem may improve along with school performance; this may in turn improve his peer relations, along with enhancing the way in which teachers see this student. Overall, the child's sense of self may change for the better. No homunculus or ghost in the machine is required to direct system change (Kelso, 1995), because the tendency to reorganize is a property of adaptive systems. All these properties of systems have implications for the way in which we think about what makes for change in analyses, to which I turn shortly.

A Note on Method: Psychoanalysis and the Sciences

Thus, this linkage with scientific research differs from many others, which have had limited success in documenting psychoanalytic propositions or confirming psychoanalytic techniques by empirical testing. I am interested in the dynamic systems theories because they suggest a different kind of scientific orientation that is more consistent with the way that analysts and patients actually behave and think. Complexity theory tells us that psychoanalysis is not unscientific just because it cannot be encompassed in a technical flowchart. In fact, many of the quantitative sciences, such as physics, biology, and closer to home, psychology, are drawing on the dynamic, complex models because their own linear approaches have been challenged by emerging data.

Many analysts have been properly wary of empirical research, both in psychoanalysis and related fields; analysis defies the linearity and reductionism of much empirical research. But nonlinear dynamic systems theories are neither linear nor reductionistic, and need not drag analysis away from its most imaginative and complex values. Complexity theories buttress analysis against those who call it unscientific, such as insurers and zealous advocates of the medical model, as well as those who damn analysis from the point of view of a correspondence theory of empiricist verification, such as Grunbaum (1984).

This is not to say that correspondence to natural science should be our goal or even our main criterion for confidence. I am suggesting a metaphorical, analogical, conceptual application, not an empiricist one: nonlinear models help us think and talk in a style that suits what we actually do. Rather than looking to "science" to tell us what is true (as if its knowledge were somehow more basic than ours), I take the more hermeneutic (and perhaps a bit Marxist) approach of looking to various discourses that may be related to our own, for ways to better articulate the everyday experience of our work. Although empirical correspondences may be welcomed as offering additional resonance and vividness, they should not be our primary goal, nor can they be a primary criterion for validity.

Dynamic systems theory offers imagery that captures many of the basic assumptions and ways of thinking that comprise the basic routines of our everyday clinical thinking, interacting, and experiencing. If we look to that language, we will find a precise, spacious, and immediate basis on which to establish, illuminate, and organize what we do and how we talk to one another. Innovative psychoanalysts can now bring analytic thinking closer to the natural sciences without succumbing to positivist reductionism. Nonlinear systems theories offer a perspective that is supported by the sciences but harmonizes with a contemporary constructivist-intersubjectivist perspective that values the shifting and dynamic nature of the experience of reality and truth, especially in the analytic situation. From this point of view, we can consider the possibility that nonlinear dynamic systems theories provide a window toward a new metapsychology for psychoanalysis.

Psychoanalysis as a Nonlinear Dynamic System

Overall, psychoanalysis is a form of one basic living system—two people communicating—and analyses are organized by many of the same specific properties as other dynamic systems. Every analysis is self-organizing and complex; that is, in the framework of the analytic setup,
each analytic pair develops in its own way without much explicit planning about how things should go. Indeed, one of the analyst's basic tasks, in the background though it may be, is to protect a sense of stability over the complex evolutions and shifts of the analytic process. Many of our crucial concepts, such as holding and containment, address this activity of the analyst, which is often taken for granted. Here again, systems theory calls our attention to important aspects of our everyday work, making them explicit and opening them to better definition.

In addition, there is a contemporary consensus that each analysis is a transactional system. There are so many versions of this core idea that it is impossible to come close to noting them all: intersubjectivist-relationalists, object relations theorists, and, increasingly, contemporary Freidians have approached the transference-countertransference field as a core dimension of the analytic process, supplanting the image of the analysand's isolated mind. Developmentalists see parallels between the patient-analyst relationship and child-parent dyads. Even those who have not explicitly associated themselves with the two-person perspective have been very attentive to mutual influence in the analytic dyad: contemporary Kleinians emphasize how the analyst's understanding of the patient comes from the patient's projective identifications.

In such contexts, we make crucial choices under uncertain conditions, unable to predict what will happen next and able only to ascertain the effects of our interventions as they play out in the emerging context that they have, in part, created. The following brief vignette illustrates a number of these dynamics.

Ms. A

Ms. A was a sophisticated and thoughtful, young, single professional who would abruptly end her intimate relationships with men whenever she became close to one of them. As her analysis proceeded, we were slowly able to understand how this was a reaction to her childhood experience of having been the target of ongoing erotic interest from her brother and uncles at the same time that her parents were remote and frequently left the children in the care of rather indifferent babysitters. Thus, she had little confidence in the transformative effects of any close relationship, finding herself overwhelmed by a sense of danger and stimulating, dangerous, troubling thoughts.

At one point in our work together, a number of helpful sessions took place shortly after I announced an upcoming summer vacation. Not long thereafter, Ms. A announced that she would have to stop analysis altogether, beginning with the next week's sessions. With a tone of dismissive irritation, she said that things were getting too hard and "it wasn't worth it."

When she did in fact miss the first meeting of the week, I found myself aware that calling to suggest that she come back in and talk things through might well be taken as a pressuring invitation to more suffering, whereas not calling would be neglectful and dismissive of our close and productive analytic relationship. I really wasn't sure what to do. I did call, and Ms. A agreed to meet, albeit ambivalently. I described the relational-conflict dilemma in which we found ourselves: if she continued, she would be succumbing to a confinement of sorts, but if she left, she would be depriving herself once again of something that could be very helpful, following the affective-interpersonal assumption that deep relationships couldn't really make any difference. I added that I thought her analysis was proving helpful, that I expected her progress could continue, and that I hoped she would reflect on her decision.

Ms. A now went on to talk with full emotion about her intense separation anxiety and her sense that something quite bad was about to happen. When I made the amplifying comment that she must find me dangerous, she said that although she knew that I was not going to hurt her, she did indeed feel this way at times. (I found this very moving and was a bit relieved of my own countertransference anxiety about pressing her to continue in analysis.) This made things even more challenging, she explained, because she was finding herself in the grip of anxieties that she knew did not make sense. We could now talk about how no one in her family had responded to her sense that something was wrong, leaving her feeling abandoned but also that her feelings did not make sense. I now felt freer to suggest that it might turn out different here, and the prospect of things going forward with some security was increased.

Here, a complex transactional process in the two-person analytic system led to a progressive change in the analytic process: This included my interactive gesture of calling, my interpretive comments on the interaction and the dilemmas it presented, the affective interchanges in the whole interaction, Ms. A's reflections on the
situation, and the emotional changes that those generated in me. Indeed, these various processes cannot be precisely extracted from one another but are instead understood together as part of a dynamic matrix.

Complexity and the Analytic Sensibility

This illustrates how the language of dynamic systems captures “the feeling of what happens” (Damasio, 1999) in analyses. Like systems thinkers, analysts track patterns in flow, with their uneven phases and shifts, their stabilities and instabilities, their progressions and regressions, their repetition and novelty, and their often substantial uncertainty. Multiple ideas, fantasies, representations, relationship patterns, and feelings all merge, changing and transforming each other over time, and transforming their interrelations as well. Analysis is full of restless intricacies, ebbs and flows, novel moments amid repetition, with shifting spaces and forms, aligning and realigning in many psychological levels, shapes, and colorations.

Inevitably, then, psychoanalysts must contend with a recurrent sense of dislocation and relocation. Each analysis is like the weather in a particular location: there are many possible shifts, but not an infinite number. And although you can never quite say when it will change, you always know that it will. Our work, sedentary as it is, is frequently exhausting because we keep track, in our bodies as well as our minds, of many factors and their many relations to one another, and these are changing all the time.

The dynamic systems models offer an articulate, scientific basis for the familiar feeling of not knowing what’s going on that we must tolerate in order to be helpful. Although psychoanalysis may be intriguing to most who practice it and many who don’t, and we have many eloquent case reports, our theoretical language does not really encompass the immediacy of the essential, everyday experiences that constitute our professional skill and overall identity. The language of dynamic systems theory can help to close this gap.

In a landmark study applying nonlinear dynamic systems theory to infants’ motor development, Thelen and Smith (1994) characterized child development as “messy, fluid, and context sensitive” (p. xvi). Complex systems theories support this view (whether at the level of cell biochemistry, brain architecture, or international economics) and one of the important roles for analytic thinking in the mental health community, and in the culture at large, is to affirm that psychological life is like that too. We are committed to finding meaning in messiness (Tronick, 2005).

Flexibility as a Virtue: Complex Systems and Situation-Specificity in Technique

Systems theories do not prescribe analytic technique. In general, they illuminate how much questions of technique depend on the particular properties of the analytic system at any given moment; that is, they are situator-specific. Just as the specific patterns that regulate a weather system change with the particular conditions, so do clinical decisions. There are general patterns, and knowing them is very informative, but each analytic dyad is a unique system.

Analytic decision-making is inevitably an uncertain process, and its predictive potential is limited at best. Some of the hard-to-describe analytic skills such as tact, timing, and intuition rely on conscious and unconscious attention to the emerging patterns of the analytic system. Similarly the interest of so many contemporary disciplines in clarifying apparently complex, shifting, and messy dynamic processes encourages us to be more conscious of how we actually think, act, and feel.

Constructivism, Uncertainty, and Complex Systems

Complexity theory also has methodological implications. Its overall orientation includes the view that intervening in a system may change the nature of the system. This is perhaps most famously articulated in Heisenberg’s uncertainty principle, which posited that measurements of atomic particles change the properties of the particles themselves, heralding the revolutionary scientific attitude that was further articulated in complexity theory. Even as this approach emerges from atomic science, it also is apparent in everyday life. When my daughter was eight, while looking at the swirls on her frozen yogurt cone, she said, “Isn’t it cool how each time you take a bite, it’s a new pattern?” This all parallels the contemporary analytic assumption that our attitudes and interventions change the entire analysis.

The Nobel Prize-winning physicist Richard Feynman (1963) wrote that “the uncertainty principle ‘protects’ quantum physics” (p. 138).
It may similarly protect psychoanalysis by keeping us in touch with the extent to which the ambiguity in our models reflects basic qualities of what we do and think about in our everyday work. The complex systems theories make clear that is quite difficult to predict the future of complex systems, and that decisions are frequently, if not inevitably, made with inadequate information. They lead us to a fuller realization that, although knowing what to do may be very important, to be able to do this with certainty is not in itself a realistic ambition, and being able to not know what to do is a crucial skill.

Complexity and Nonlinear Causality: Clinical Implications

It may be reassuring in clinical work to think in terms of linear causality. But in spite of the impression of "scientific" rigor that it may leave, the linear approach can be quite constraining and does not correspond to the data of the analytic situation, either scientifically or metaphorically. Nevertheless, some analysts do proceed in a reductionistic manner. Too often in case conferences, for example, participants competitively invoke a single factor in history fantasy, or the like as if one superseded the other, rather than striving for language that captures the overall sense of what is going on in the patient’s mind and in the analytic setting. Similarly, other analysts almost automatically take a patient’s references to an extraanalytic relationship as a reflection of transference or developmental needs. To some extent, all this reflects an inevitable aspect of group dynamics, but the absence of a vivid, unifying language that allows for movement between different levels and captures the larger patterns that hold them together has an effect that should not be underestimated. Analytic practice, in fact, demands that we tolerate uncertainty; if we cannot, or if our language discourages such tolerance, a narrow and constraining focus may limit the expansive potentials of the analytic setup. The following case example illustrates some of these issues.

Mr. B

Mr. B sought analysis for help with anxious inhibitions that kept him from pursuing professional and romantic goals that he could otherwise have achieved. His apparently active and interested style was suffused with an underlying pattern of submissiveness, and with the fantasy that I would give him an explanation that would cure him. Supporting this was his passive defiance and a mistrust of authority that he could not directly express.

During his adolescence, Mr. B had seen an analyst who kept relating his oscillating rebellions and depressions to his reactions to his parents’ divorce when he was four. When Mr. B came into analysis with me, he was precociously identified with this reductionistic approach; he could engage in intellectual detective work aimed at finding the causes of his problems without actually letting himself become deeply involved with me or the analytic dynamic. This style both concealed and expressed the very apprehension and defiance that the interpretations were supposed to correct.

It would be tempting to reduce Mr. B’s style as a patient to his own character, especially his tendency to intellectualize and oversimplify his own experience. But I suspect that the earlier analyst had relied too heavily on a linear explanation. The reduction of Mr. B’s current experience into linear, hierarchical causes supported something defensive—and deadening—in his personality, while such an apparently strong formulation proved very seductive to his intellectualizing tendencies. In addition, as this approach fell short of a more complex and authentic recognition of his experience, it supported Mr. B’s fear that his complex and conflict-ridden experience would inevitably be overlooked as it had been after the divorce, when his parents dismissed his questions with unresponsive clichés. This all left him alienated from his therapy, an outsider to the very process that was supposed to help him. He had been compensated with an ambivalent idealizing pseudosubmission to his father which was now repeated in the analysis, hiding a competitive and often negative pseudosubmission now embodied in Mr. B’s idea that analysis would work by providing him with a single idea that would bring him relief. This complex set of transactions—between past and present, intrapsychic reality and external actuality, intraanalytic process and everyday life—is best captured by the systems theories.

Some might object that this vignette offers little that is new, but instead contrasts the previous analyst’s crude overreliance on genetic interpretation with what many good analysts would do. I agree with this. But reductionism raises its head even in the best analyses, and a rough example such as this one illustrates, in the breach, how a complex systems approach can protect us, as Feynman said, against narrow readings of both structural and relationalist models.

Systems theories explicate what good therapists already do. "Both-and" thinking is one of the best things about the psychoanalytic
method, is more consistent with systems thinking than an "either/or" approach, and is more congenial to most patients. Clinical formulation and interventions that embody this perspective are more likely to be useful than those that look for single causes or simple underlying explanations. With all its complexities and uncertainties, synthetic thinking is often more useful than reductionisms that push the patient to take what he or she is feeling, doing, or believing and to distill it into something else.

When translated into the clinical situation, the systems languages can often provide direct ways of speaking to patients. For many, it is useful to talk directly about how personality styles are inflexible or repetitive. For example, such talk can be especially useful in talking about transference projections, by emphasizing their inflexibility and information-restricting effects rather than their inaccuracy. At times, I have found myself talking with patients locked into transference about how they are "unavailable to new information." Such terms are actually more ordinary for many patients than some of our customary, but sometimes more esoteric, terms for developmental narratives, impulses, defenses, and the like.

Psychopathology, Therapeutic Action, and Systems Change

I want now to discuss how systems theories help us think about the therapeutic action of psychoanalysis. How do analyses have such powerful effects, changing lifelong patterns even when many of the patient's life situations reinforce those patterns? Systems theories offer a perspective that spans different analytic orientations and different kinds of interventions. I'll begin by talking about psychopathology.

Psychopathology: Rigidity and Equilibria in Psychological Systems

The problems that bring people to analytic therapy can be thought of as reflecting closed, rather than open, systems. Rather than taking in and responding to new information and novel opportunities, closed systems are repetitive and unable to adapt to changing environments.

Paradoxically, psychic fragility leads to rigid systems, even though such rigidity increases the possibility of breakdown.

In addition, maladaptive psychological styles amplify certain ways of feeling and relating while dampening others. Persons get trapped in life patterns in which their suffering is sustained and amplified by synergies between their internal worlds and external events—a professional trajectory, problematic relationships, and the like. Flexible systems are able to take new information from the environment into account, but inflexible systems cannot; Tronick (2005) has discussed the compelling rigidity of these patterns. This inflexibility means that new experiences can hardly be taken as anything other than repetitions of the past, or external representations of the inner world. Patterns are repeated, because few others are recognized as available. The repetition compulsion may not be exactly a compulsion, but it is a property of closed systems.

Ms. C

Many people take their maladaptive styles for granted even when those styles are quite costly to them, and the analyst who challenges these may be roundly rebuffed. It is well known that many patients take offers of help or intimacy as threats, because of their memories and fantasies of mistreatment, abandonment, and guilt. One of my patients, Ms. C, had been sexually abused as a child. She had tremendous difficulty settling into treatment and responded suspiciously to anything that could be taken to confirm the view that I was actually exploiting her—such as the fee. When she found herself at a dinner party with a man who appeared genuinely interested in her, she became anxious and dissociative and had to leave. Her experience of the past overrode her current situations, and she was unavailable to the new opportunities for adaptation that were available to her.

Systems theory offers a concept that captures this dilemma; attractor states are the overall patterns that organize a system under particular conditions. These patterns may shift as conditions shift, but they do not shift easily. Once an attractor pattern is in place, a fair amount of new energy is required to disrupt and reorganize the situation. For instance, as long as most computer owners use Windows software, Microsoft will dominate the PC market and will be able to resist even vigorous challenge. But once a critical mass of the computer literate population is using other operating systems, the entire situation will change.
For example, patients often respond with incredulity to the suggestion that talking about feelings can make a difference, because they have lived in a psychological and interpersonal world where emotional reflection is precluded. They "know" that communicating authentically will turn out badly, or really doesn't matter anyway. I have sometimes found it useful to let patients know that I understand that they can't imagine that things could possibly be different, as when I told one patient that "you couldn't believe that you could get angry with me and that I would still care about you."

Disequilibration as a Therapeutic Force: Tact, Timing, and Shaking Things Up

On the other hand, when people seek analytic therapy, their systems are usually already under some strain; that is, they are moving toward disequilibrium. A life event—such as a personal loss, a relationship failure, a professional setback—may have challenged an established but overly rigid system. The patient may be concerned about not having met a life goal that has become a developmental imperative as he or she gets older—marriage or professional advancement in their 30s or 40s. Such dissonances between actual situations and the developmental pressures exemplify an emerging disequilibrium. Alternatively, an interpersonal relationship such as marriage, parenting, or a business partnership may become strained; here the disequilibrium is between the individual and the social environment.

Thinking in terms of disequilibrations can help to formulate specific interventions. In early sessions, for example, we sometimes explicitly describe such dissonances, saying something like, "You have come to feel that your usual styles don't work anymore as you become more concerned about making a place for yourself in your field." Again, this is ordinary technique, but the systems theory model reflects it directly.

Psychoanalysis alters and amplifies disequilibrations. All the change processes that we have come to recognize—insight, recognition, new experience, development, developmental provision, and so on—can be understood as new inputs into previously closed systems. In general, such inputs can lead to, or amplify, the disruption of already established but maladaptive patterns and facilitate the emergence of more adaptive ones. If the disequilibration process is properly calibrated, and if there are other tendencies in the system that can be mobilized and amplified, new patterns can emerge and take hold. If the disequilibration is too extreme or too sudden, however, a system may disintegrate, or it may reorganize in an even more rigid and costly way. Working at such unstable points can be full of strain. Systems require a great deal of energy to overcome entrenched attractor patterns; even as things are shaking up, systems resist changes to their equilibrium. Skilled therapists know this intuitively and titrate their interventions accordingly when anxieties and other affects are intense, but they do it mostly implicitly. Systems theory helps makes the routine explicit.

Mr. D

Here is an oversimplified but illustrative example. Mr. D was a 37-year-old gay man who had been chronically traumatized as a child. His mother had frequent, dramatic outbursts, sometimes of anger, sometimes of desperate sobbing. His parents' marriage was full of conflict, and his father would break down and turn to the boy for solace, moaning about how humiliated his wife had made him feel. Mr. D's father was also sexually stimulating toward him, walking around the house naked for hours on end and taking showers while the boy was in the bathroom, encouraging him to watch. Before coming to therapy, Mr. D had adapted to the painful inner residues of these experiences by maintaining a superficially charming exterior at work and in a series of similarly shallow social relationships, while organizing his sexual life in ritualized episodes where he played the role of a submissive son to a dominant father.

Mr. D sought treatment as he was establishing a stable, intimate relationship with a man who was also habitually sexually submissive. He was concerned that his established sex patterns would threaten that newly valued arrangement, because they could not both play the same role. Over the first years of treatment, Mr. D and I developed an enthusiastic rapport and he became quite interested in the analytic work. As the memories that I presented above were recalled, slowly and often with great anxiety, he could see how the past was both repeated and defended against in the present situation. He became more able to assert himself at work without losing his overall social skill, and his sexual life became less stereotypic and compelled.

We could say that Mr. D entered therapy with his established coping system in disequilibrum from the strain of the new relationship,
progressive though it was. The analytic work further disrupted this pattern on a number of fronts—through the collaborative therapeutic relationship, through the insights linking the past with the characterological defense, through the new experience of seeing that anxieties can be understood rather than just covered up and acted on, and so on. Meanwhile, the new potentials for less compelled, more flexible thinking and relating were freed and supported by the same factors that had caused the disequilibration in the first place—the new partner, the direct effects of the treatment, and the additional fact that Mr. D's emerging versatility at the office was rewarded by his supervisors and colleagues.

Amplification and Dampening as Change Processes: Synergies in Therapeutic Action

The case of Mr. D illustrates also how the opening of a closed system can alter the balance of personality trends, amplifying dormant potentials, or subsystems that may be more flexible or open while dampening or interrupting others that are more repetitive and closed off. Shifts in the internal world may be picked up in the external world, feedback into the internal world, and so on. Changes in one domain, such as work, can affect other areas, such as intimate relationships.

In a parallel account, infancy researchers have described the self-righting tendencies of early caregiving systems in which small adaptive inputs are amplified in positive feedback loops to make substantial differences (Sameroff and Emden, 1989; Seligman, 1994). For example, a mother recovering from a postpartum depression may find her baby eagerly responding to her emerging interest, bringing the mother rather quickly into a new, more delighted mode of interactive regulation. This may accelerate her recovery from the depression—with her mood improved, and with more positive internal representations reactivated and amplified, she may feel more effective. Things can change very quickly under such circumstances. In analysis, too, such tendencies exist: analyzing transference may disrupt established characterological patterns that lead to new extranalytic interpersonal relationships, which can in turn amplify the analysand's sense that there are alternatives to the established expectations. Sometimes the process may go in the opposite direction, with extranalytic events leading the way.

Mr. B
As Mr. B's analysis with me proceeded, he offered more details about how his anxious inhibitions were keeping him from pursuing desired professional and romantic goals. At work, for example, he was competent but cautious. In particular, his fear of being criticized by older men in authority kept him from doing his best in the public lectures that were essential for success.

In the course of his treatment, he became able to see how competitive he actually felt with these men, and that his imagined intimidation at the hands of these seniors preserved an idealized image of his own father, who was a very successful man, but emotionally shallow and difficult in ways that Mr. B knew far better than his father's many admirers. As he became more forthright about his father's limitations, he could display his competence more openly and, eventually, became freer with his own aggression. Mixed with this aggression, the working relationship with me was cooperative and reflective even in the negative transference, which tended to amplify the effects of the insights about the past. In addition to being more active at work, Mr. B ended an ambivalent relationship with a woman, eventually marrying someone else to whom he was strongly attracted. These developments, in turn, enhanced the effects of the analysis.

But it was harder for Mr. B to stay with the longings that his father's departure had left unfulfilled, and in parallel, to acknowledge how emotionally dependent he was on the analysis. The birth of his first child had a dramatic effect on this particular equilibrium, by introducing new possibilities for a loving, intimate relationship with his daughter and thus amplifying his awareness of how disappointed he was in his father. When he found himself so compelled by the new
baby, he realized with more intensity and immediacy how wide the
gap was between what he had longed for in childhood and what he
had experienced. Reviewing these issues in analysis prior to her birth
had potentiated his readiness to fall in love with his baby daughter,
and this new love enhanced the analytic process. Mr. B also became
more tolerant of the dependent transference.

Intertwined processes such as these are common in analytic
work. But again, their form is in many respects better articulated by
the nonlinear systems theories than by conventional psychoanalytic
theory itself.

Optimal Novelty: Balancing New Experience
and Repetition

Analysts of various persuasions have emphasized the value of working
at the right distance from the analysand's expectations, needs, and
desires. Kohut (1977) proposed that optimal frustration stimulated the
development of new psychic structure—as opposed to not enough
frustration, which would protect the current stasis, or too much
frustration, which could lead to disintegration. Bacal (1985) expanded
this idea into the concept of optimal responsiveness. Insight-oriented
analysts have generally advised that interpretations stay close enough
to the current defensive structure so as not to overwhelm it with
new, warded-off ideas, but not so close as to leave those structures
untouched.

These principles, across the various psychoanalytic theories,
correspond to the general psychological finding that the best learning
takes place under conditions of optimal novelty. Good analytic work
goes forward in the "zone of proximal development" (Vygotsky, 1962),
an area distant enough from the current competences to present a
challenge, but close enough to support the sense of emerging novelty.
We work to create conditions that are optimally novel. The changes
that can occur under such conditions may evolve over extended
periods of time, emerging at certain moments and then receding as
treatments settle into (and fall out of) new equilibria.

Analytic therapists, even more than other psychotherapists, work
to offer a relationship that is tailored to the patient. Many of our
technical decisions involve finding the right way to introduce
something new into a more or less closed system while respecting its
constraints—which, after all, define the range of meanings and points
of contact with the patient. Issues that we often refer to by such inexact
terms as tact and timing involve decisions about the proper amount of
disequilibration at any given moment, as do general questions about
how challenging or supportive to be, what affective tone to take, how
interpretive to be, and the like.

Mr. D

For example, Mr. D (who had been traumatized by his mother's
dramatic outbursts and his father's inappropriate sexual stimulation)
became more anxious as his stereotypic sex life changed, and he
recovered more memories and became angrier at his parents. He
managed his anxiety in the sessions by praising the analytic process
and me, enthusiastically letting me know how important the new
insights were. Underlying this was a repetition of the earlier style of
submissive and exhibitionistic management of his objects, as he
compliantly treated me as someone to be entertained with his stories
of new insights gained but avoided the deeper feelings and recognition
of how afraid he was that something would somehow go awry in
the therapeutic alliance. Although I became aware of this enacted
transference-countertransference pattern, I was initially restrained
about challenging it, feeling that he needed to rely on it. In other
words, this part of his system should not yet be disequilibrated. Instead,
I tried to unobtrusively emphasize the possibility that he could talk
more spontaneously about distressed feelings without having them
fully packaged, rather than always coming up with a new idea.

Small Events Can Have Significant Effects:
Turning Points, Tipping Points, and Sensitivity
to Initial Conditions

Change in psychoanalysis is incremental and uneven, and it often
becomes apparent only over extended periods of time. Colleagues in
case consultation groups who hear one another's cases every few
months may be more likely to see shifts than the therapists themselves.
In systems terms, we might say that much routine analytic work
involves building more complex, inclusive structures over time.
At the same time, there is a distinctive recognition of breakthroughs,
those crucial, transformative moments where something leaps forward
and the analysis shifts. Such moments are regarded by analysts of all theoretical perspectives as remarkable, but there is little explicit agreement about how they occur. They are often regarded by analysts with suspicion and as among the least scientific of analytic phenomena.

Nonlinear complexity theories suggest that these analytic accounts may be more supported by science than has heretofore been thought. Looking at the analytic therapies in terms of such dynamic processes as disequilibration, synergies, amplification and dampening, and optimal novelty provides an overall perspective supporting our conviction that analytic interventions can indeed make a significant difference. More specifically, the dynamic systems idea of sensitive dependence on initial conditions—the theory of tipping points—provides an account of how apparently circumscribed events in analyses can potentiate change processes that are fundamental to living systems. With this theory in mind, we need not think of ourselves as engaged in some esoteric and private process that cannot be communicated to those who have not been immersed in it.

The wide range of potential applications of the idea of tipping points (Gladwell, 2000) is illustrated in an example from European history: the assassination of Archduke Ferdinand that sparked World War I. At a moment when the European geopolitical system was in flux, the shooting of the archduke set in motion a process that radically transformed the politics of the 20th century. Although something else might have started a war, that war might have turned out differently. Certainly if there had been no inflammatory event, it is possible to imagine that history would have taken a somewhat different course.

Analysts of various persuasions all describe tipping points, albeit in different ways. Freud's (Breuer and Freud, 1895) earliest cases set the tone for this trend. His one-time interpretations of the sexual origins of his patients' hysterical paralysis immediately relieved their symptoms. Since then, many drive-defense analysts have described crucial interpretations that change a patient's awareness and lead to dramatic symptom relief (e.g., Erikson, 1950; Fraiberg, Adelson, and Shapiro, 1975). From a quite different conceptual perspective, Betty Joseph (2000), the leading contemporary Kleinian, describes an analysis in which she and the analyst went along in a rather pleasant and apparently productive state, but with something somehow missing. Joseph describes the fundamental turning point in the treatment that came with her recognition that the patient's agreeableness was keeping real analytic work from going forward. In yet a different voice, Symington (1983), the Middle Group analyst, describes how particular "acts of freedom" by the analyst—spontaneous and unpremeditated gestures—can change the course of an analysis.

In a dramatic relationalist paper, Barbara Pizer (2003) tells the story of a transformative moment: Following Pizer's own breast cancer, her patient accuses her of having lost the ability to be nurturant. When Pizer becomes angry—which she and the patient then sort out—the analysis goes forward at a new level. Ehrenburg's (1992) clinical theorizing about "the intimate edge" points to the ubiquity of such effects. The Boston Change Process Psychotherapy Study Group has stressed the importance of those "moments of meeting" (Stern et al., 1998) that transform the patient's self-organization and promote the "dyadic expansion of consciousness" (Tronick et al., 1998, p. 290).

Ms. E

The following pivotal moment in one of my cases provides a more elaborate example. Ms. E was a successful and sophisticated art dealer in her 30s, and a concerned and thoughtful mother. However, her intimate relationships (including the one with her husband) were erratic, as was the emerging analytic relationship. In her sessions she was often suspicious and provocative; at other times, she spent long periods sullenly and fearfully silent. She could occasionally articulate her feeling of being both terrified and disorganized by the analyst's interest, which she also badly wanted, but she did not want or feel able to think about what was going on. As this situation continued, I felt quite tortured, which I understood to be a repetition of some sort. Eventually I came to understand that the possibility of an attentive relationship evoked the childhood traumata of the witnessing of two terrible crimes of violence, and early difficulties with a sexually intrusive neighbor.

Even when this had been brought to her awareness, Ms. E had great difficulty settling into analysis. She was exceptionally sensitive to variations in our arrangements. During the third year, she quit the analysis abruptly: After taking several weeks to decide whether or not she wanted an additional hour that I had offered her, she felt betrayed when I could not make the hour available for another two weeks. She insisted that I had not been honest, and she was unresponsive to any efforts to link this reaction to her own sensitivities.
Eventually Ms. E returned to treatment. One day after my week-long vacation ended, she arrived at ten minutes to two for her regular two o'clock session. Before the ten minutes had elapsed, she exited the waiting room and left an enraged message on my machine, again ending the treatment. After I found the waiting room empty and checked my messages, I left her one of my own explaining my understanding of the schedule. Minutes later, having gotten the message, she came into my office. Tearfully, she apologized, in a poignant and self-reflective tone, and began a fruitful and sad session.

The analysis was never quite the same after this episode. It seemed that Ms. E saw now, with a new clarity, how much her inner pressures colored her approach to everyday realities. She became more introspective and attentive to her inner world, and less prone to rely, and act, on her projections. Noticing how adamantly she insisted on being disappointed in the face of contradictory facts was a tipping point in her analysis. At the same time, the shift depended on incremental processes of understanding, caring, and enduring suffering that had been contained in the ongoing work of an extended analysis. Ms. E's new insight in the face of his experience of becoming a father reflected a similar transaction between a key moment and the ongoing, incremental processes of treatment.

Ms. Victoria F and Her Infant
Sometimes a system tips in a less progressive direction. This is well illustrated by the case of Ms. F, a 20-year-old, single Salvadorean immigrant. Beaten as a child, she had a history of drug abuse and explosive outbursts. She had become HIV-positive and eventually homeless. But when she became pregnant, she organized herself to make use of a number of interpersonal and bureaucratic supports, including a concerned aunt and a zealous community worker. Housing was found, and the infant–parent therapist felt that she might indeed become a competent and nurturant mother. Pregnancy amplified Ms. F's potentials for finding and sustaining protection and support; there was some hope that the various types of assistance could continue to support those potentials, and that the arrival of the infant would amplify them even further.

Because her HIV status was so complicated, the baby's birth took place at an elite university birth center, a hotel-like place set up to compete for high-end business. Ms. F felt quite out of place there; cultural and class differences led to tensions and even suspicions between her and the nursing staff, tensions that might have been less pronounced at a community hospital. In this situation, she lost some of her emerging but fragile self-confidence and ability to regulate her self-protective, confrontational rough-edged reactivity, which in turn led her to be more likely to fulfill the staff's negative expectations.

In this emerging context, a particular event set a decisive process into motion, one that was to lead to the termination of Ms. F's parental rights; this was a tipping point. On one occasion, Ms. F reacted quite angrily to a nurse who seemed, at least to the therapist hearing the report, to be insensitive and provocative. Although Ms. F was very tender with her baby after birth, child protective services followed a hospital social worker's recommendation that the baby be removed. Traumatized, Ms. F became hopeless and angry. During the limited visitations with her son that took place over the following weeks, Ms. F was quite rough and unempathic. Eventually, parental rights were terminated. The events of the hospital stay amplified the destructive and isolative patterns in Ms. F's personality, which reflected both her history and the current situation.

Ms. F's efforts to become a competent parent involved a delicate dynamic, which was very sensitive to the relatively small inputs of the hospital environment and the specific interaction with the abrasive nurse. In this case, the dynamic processes that may seem so abstract when presented as theoretical generalities were manifested in the almost unbearably poignant pathways by which an everyday tragedy unfolded.

Parts and Wholes: Fractals and Self-Similarity
Many of my clinical examples involve two linked analytic assumptions that are standard but are usually not articulated: that we can make inferences about a patient's psychology based on recurring features of an analysis and that intervening in an analysis can have important effects outside it. For example, we generalize from, and intervene confidently about, transferences of dyadic object relations or impulse-defense patterns in order to describe and change character style and core conflicts. For instance, when a patient expressed her worries about having gotten angry at a colleague, I was disposed to comment on her conflicts with me.
Although this procedure is absolutely basic and taken for granted, it is rarely explicitly tested. In fractal theory, complexity theorists have elaborated an analogous order in apparently disorderly systems. Fractal systems are characterized by the principle of self-similarity: that "any subsystem . . . is equivalent to the whole system" (Sardar and Abrams, 1998, p. 35). The contours of the edges of a snowflake—say a protrusion with the three points at its tip—are reproduced in varying recursions so that the tip of each of those points itself has three points, and so on.

Other examples include how the fanning out of a tree, or the airways in the lungs, reproduce the general form of the system. In other words, the basic form reiterates at the various levels of the system. Here, systems theories support one of our basic inferential procedures as following established scientific paradigms. We routinely treat the analytic situation as a fractal system. The analytic relationship is a fractal of the patient's overall dynamics; transference is a fractal of these; and so on. And we rely on the assumption that what happens in the analysis can lead to changes in the patient's overall way of living.

Streamlining Complexity: Psychoanalysis as a Not-So-Complex System

Although I have so far concentrated on the elaborate complexity of the analytic dyad, there is another side to the story. Compared to most other relationships of similar intensity, the analytic relationship is a relatively controlled and contained system. Many of the usual irregularities and uncertainties of everyday life are screened out of the process, built as it is on a few well-defined dimensions. Timing and duration of the contact is reliable and predictable, the contact is relatively circumscribed, the basic exchange is defined in terms of a payment for time, and so on. Simplifying the system focuses attention on those features that are most salient for the analysis, such as feelings, fantasies, relationship patterns, and defenses.

What makes analysis work may be that each particular analysis is just complex enough to bring key issues into play, but simple enough to avoid the myriad ways that those issues are obscured in ordinary social interactions. In those immensely complex arenas, psychological patterns can be easily kept away from awareness; instead, they are acted on and repeated as other persons and institutions actualize and confirm internal realities, blurring their roots in the analysand's particular personality. In comparison with the analytic relationship, those situations are so complex that it is more difficult to keep track of the various factors involved in them than to keep track of the same factors during the analytic process.

Nonlinear Dynamic Systems Theories and Traditional Metapsychologies: Historical and Conceptual Perspectives

The traditional psychoanalytic metapsychologies have generally been organized as linear models. Driven by his ambition to create a science consistent with the mechanistic theories of his day, Freud developed linear cause-and-effect explanatory models. Despite the density and generative ambiguity of his writing, these core models ended up working against further elaboration of the very complexity that Freud was striving to encompass within them.

For example, many of Freud's great interpretations, brilliant as they are, follow a reductionist transformational logic in which a relatively superficial mental phenomenon is uncovered as concealing a deeper one, which then replaces the first phenomenon. Little Hans's phobia of horses stood for his fear of castration (Freud, 1909), and Dora's aversion to Freud stood for her repressed Oedipal impulses (Freud, 1905). (Erikson's trenchant review of the intricacies of Freud's Irma dream is a stunning critique of this view.) Freud did not, of course, always work in this way. For example, his dazzling and inventive syntheses in the "Papers on Technique" (1915, 1917) are multilevel, dynamic, and full of the most generative ambiguities. And, of course, even when Freud did work in a linear way, he could be extraordinarily effective and insightful.

But this strategy was often confining, leading him to overlook crucial meanings. Many have argued that the reifications of the structural model divert attention from the nuances of subjectivity; this argument is beautifully illustrated in discussions of the deadening effects of Strachey's decision to translate Das Ich as "the ego." Psychic organization is often configured in structural terms—levels, layers,
conflicts, stages—and then understood to be organized vertically and hierarchically (Bettelheim, 1982). Psychic processes are thus depicted in unidirectional, linear terms—conscious above unconscious, oedipal above preoedipal, secondary process above primary, ego over id—as when the instincts proceed in a one-way movement from the body into the object for discharge.

What I am stressing here is not the content of the particular Freudian assumptions about the irrational mind, but that an established analytic "way of looking at things" (Erikson, 1987) emphasizes a particular form that still, at its core, reflects the linear strategies of 19th-century science. Elements of this theoretical style include a preference for order over chaos, for linear causality over processes in flux, and the like. Thus psychic phenomena tend to be reduced into simpler models rather than elaborated into more complex ones. In the genetic perspective, for example, there is a marked tendency to distill current phenomena into their antecedents in childhood events.

Historical Perspective: Analytic Innovators and Systems Thinking

As psychoanalysis has evolved, it has added an array of new concepts to Freud's original ones. Developmental, object relational, and adaptive perspectives (among others) have been added to the already existing topographic, genetic, and structural views, adding complexity and dynamism to the already dazzling intricacy of Freud's models. But no explicit overall orientation linking the various perspectives has ever emerged. Instead, analysts have struggled for a hundred years with controversies about whether they all share common assumptions, and if so, what these might be (e.g., Wallerstein, 1991).

A model that emphasizes shifting patterns of complexity, patterns that organize and reorganize over time and at different levels of psychic process, may bring some clarity and some flexibility to this discussion. In addition, the move toward a complexity-based orientation would reflect the state of the theory. That is, the organized chaos in analytic theory could be seen as a reflection of the multifaceted nature of the analytic field of study, rather than as a symptom or an impediment—the view that our theories are not unified because our subject matter is complex (Harris, 2004).

Dynamic Systems Theories

Relationship-Oriented Innovators in Britain and the United States

Many of the greatest analytic innovators strained against the constraints of the original Freudian models without explicitly challenging their fundamental linear structure. Klein (1946), Winnicott (1950), and Bion (1962, 1965) were prominent among the bold British inventors of new concepts for development and the analytic process, but none of them proposed to modify the structure of analytic metapsychology. Instead, they presented their contributions as additive. In the United States, even while Sullivan (1953) was proposing his radically social and interpersonal psychoanalysis, he maintained a linear model of motivation that reflected the scientific orientations of his day. Kohut (1977) was similarly radical in retheorizing the content of motivation (in terms of recognition and other varieties of selfobject contact), but the implications of his approach for the form of psychoanalytic theory were left to the intersubjectivist–self psychologists and the relationalists, whom I will discuss shortly.

Erikson's (1950) reformulated drive-ego psychology was a major retheorizing of Freud's psychosocial-structural model. Building new theory around systems-organizing principles such as integration, regulation, and mutuality, Erikson opened analysis to an array of new ideas from developmental psychology and other social sciences, including history, anthropology, and political science. In the context of recent developments, Erikson could be read as a radical intersubjectivist systems theorist (see Seligman and Shanok, 1996), even though he typically kept his metapsychological innovations only implicit. But in spite of the synthetic tone that characterized so much of his writing, his proposals generated great dissonance from his psychoanalytic colleagues, and he has been largely overlooked in the contemporary analytic scene (Wallerstein, 1995).

Did Ego Psychology Metatheory Prefigure Systems Theory Without Declaring Itself?

Although these innovators made an extraordinary impact on those who took on their ideas, they were marginalized by the psychoanalytic establishment in the United States, whose theoretical
cutting edge emerged from the structural ego psychology of Hartmann (1956) and his colleagues. Striving to systematize the structural model and link to other fields, they emphasized integration and organization at the fundamental level of personality functioning and put forward a model of multiple, interacting processes. They granted a fuller role to external reality and adaptive motives and abilities, seeing them as parallel and equipotent with instinctual motivations, so they challenged the tendency to linear explanation and reductionism. They depicted structures and functions in dynamic, relationships, and they emphasized complex concepts such as "overdetermination" and the "principle of multiple function" (Waelder, 1930) that acknowledged complexity and multiplicity. In a similar vein, David Rapaport (see, e.g., Rapaport and Gill, 1959) distinguished himself by his efforts to systematize the psychoanalytic metatheory. Much in his work suggests the current effort to encompass complexity. He puzzled over the fundamental nature of psychological structures and functions, rather than taking the given terms for granted, and characterized psychic structures as processes with a very slow rate of change (Rapaport, 1967).

These grand thinkers struggled mightily to encompass the intrinsic complexity of the psychoanalytic field, but they proceeded by agglomerating cumbersome new structures and concepts to the prevailing metapsychologies, rather than by revisioning psychic process itself. These varied acknowledgments of complexity and multiplicity remained implicit; instead of engendering a breakthrough to the new aesthetic of a fully dynamic model, they were enacted in the awkward establishment of a top-heavy new superstructure. These ideas did little to alter the rigid linearities that set the tone for the clinical writing and thinking of their time. The ego psychologists in particular, aspiring to be as scientific as possible, were constrained by the fact that the natural sciences of their day were only beginning to incorporate the insights about ambiguity and complexity that have since emerged from such "ideal" sciences as physics and theoretical biology. Their view of science could not provide a strong enough framework to support their ambitious mission; their scheme collapsed of its own weight and has receded from the theoretical forefront today. A disenchantment with theory followed, and the void thus created set the stage for the radical revision that was about to emerge.

Dynamic Systems Theories

The Relational-Intersubjectivist Innovation and Systems Theories

As is well known, several currents emerging directly from ego psychology strained its limits and ultimately led to new paradigms. Mahler's developmental observations supported a new emphasis on dyadic psychic structures and early caregiving. Kernberg (1975, 1976) integrated Kleinian object relations theory in a series of masterful syntheses of dazzling complexity. Kohut (1977) developed Freud's invention of the psychology of narcissism to create a new psychology of the self and its objects. The infant observers declared that babies are oriented to reality from the beginning, in a complex engagement with it that defies the reduction of experience to the intrapsychic (Bowlby, 1969; Stern, 1985; Emde, 1988). Feminist critics of analysis called attention to the ubiquity of social realities in shaping what too many analysts took as constitutional givens (see, for example, Millett, 1970; Juliet Mitchell, 1975). Ego developmentalists viewed child development as an interaction between the child and his or her environment rather than as an inscription of the history of the emergence of the endopsychic instincts encountering their objects in the family (Erikson, 1950).

These moves dislocated analytic certainties and reductionisms. The drives and the universalizing genetic-developmental schemas could no longer be considered psychic bedrock, and instead came to be seen as evolving in complex social-individual interactions. Drawing on the interpersonalist and British object relations traditions along with new voices among the ego analysts, the relationalists consolidated the proposal that the need for social relations is primary. In light of this paradigm shift, a number of philosophically oriented analysts applied phenomenological, dialectically oriented theory to analysis, relying on a vision of the analytic situation as a dynamic and evolving relationship in which meanings are created rather than discovered. Developmentalists brought systems theory insights from developmental psychology and neuroscience to the analytic arena; Sander's (2002) work was especially innovative in this regard (see also Seligman, 2002). Overall, with these influences in the background, new clinical observations led to a further extension of currents that had largely been only implicit in earlier work, and finally to an explicit view of the clinical psychoanalytic relationship as a bidirectional two-
person system, overdetermined by characteristics of both analysand and analyst. With the intersubjectivist-relational turn, then, a different set of dimensions of the analytic field were highlighted, among them ambiguity, complexity, epistemological uncertainty, multiperspectivism, and an interest in coconstruction and evolving process. Although these qualities had not been ignored in the previous analytic literature, here they were treated as virtues rather than as regrettable impediments or (worse) the outcome of flawed thinking, poor technique, or the analyst's personal problems. Instead of being marginalized, these matters were now elevated to the center of clinical theorizing.

The relational paradigm shift has distinguished itself by aligning with earlier analytic approaches that envision human relationships as the primary basis of motivation (Mitchell, 1988; and many others; Mitchell and Aron, 1999). More fully synthesizing it with the dynamic systems theories would now take it even further, toward a more broadly relational psychoanalysis, to a psychology of complex interplays at many levels of organization—organismic, dyadic-relational, personality, cultural, and so on. In the passage quoted at the beginning of this paper, Ghent (1992) captured this vision in a call for a relational psychoanalysis that is relational in its form; that is, one that focuses on the array of relationships between the various elements and factors that comprise any person's psychology and life course—internal and external, biological and social, and so on. Nonlinear dynamic systems theories provide basic support for this project.

Conclusion

Nonlinear dynamic systems theories capture the essence of much analytic work: its shifts, its uncertainties, its dislocations and relocations, its organizations and reorganizations, its repetition and novelty. As we locate ourselves squarely in the midst of such processes, complexity theory supports us, and it orients us once we are there, so that we can tolerate and even affirm some of their core experiential correlates: variation, uncertainty, flux, and even doubt. These are basic elements of psychoanalysis, and complexity theory gives us a way to organize our growing awareness that such experiences are fundamental to our analytic goals. Flux in systems leads to new patterns and to overall system change, which is, after all, our goal.

Psychoanalysis seeks to change the patterns that order and coordinate life processes, primarily at the level of psychological and interpersonal systems, often in very complex ways. Therefore, we must expect to find ourselves regularly at the boundary of order and chaos. This is the nature of systems, whether animate or inanimate, and in that context, our analytic experiences make a basic kind of sense.

REFERENCES


