

Psyche's Veil
Psychotherapy, Fractals & Complexity
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Foreward

We can widen our receptivity to the world as it is by actively inviting a different mode of perception: the nonlinear, holistic, imagery-based, somatic, sensual and affective world of the right hemisphere of the brain.

We can learn to perceive patterns of functional inter-relations of energy, matter, and information that repeat like ripples on the surface of a pond. These 'self-similar' patterns are embedded within layers of a system, or fractals, which repeat and reveal the nature of the whole in the fractional dimensions that form the embedded structure of reality.

You can invite your right hemisphere to *feel* its way into seeing the world through these descriptions of the fractal nature of reality. You can *sense* in your own personal, direct, subjective experience the ways fractal patterns become revealed within your own nonlinear awareness.

When we learn to see the nature of our intersubjective lives unfolding in this nonlinear way, we can relax into an integrated right-left mode of embracing uncertainty.

Chapter One – The Nonlinear Paradigm

In life, the brain and the psyche develop out of a tangle of relationships with others.

In the midst of staggering complexity, system parts are inseparable from the whole. Holistically perceived, each moment contains an infinite amount of information for which words do little justice.

With interdependence and open boundaries between one complex system and another, distinct borders dissolve. Dancing in continual flux, each part is fully enfolded by dynamics of the whole. The nonlinear world is where the mystics have played for millenia.

How does so much complexity translate into something so simple? What is this paradox?

A nonlinear paradigm helps to conceptualize the early attachment dance between infant and caretaker that coordinates physiology, choreographs movements, tunes brains, and ultimately sculpts the minds of each.

- *Rather than viewing separate individuals as they come together to form relationships, these perspectives examine how the individual psyche emerges out of relationship as the basic building block.*

The Three Areas of Contemporary Science most relevant to us as clinicians:

- *Chaos Theory*
- *Complexity Theory*
- *Fractal Geometry*

Chaos Theory grounds us in the inevitable turmoil, discontinuities and limited predictability of ordinary life.

Complexity Theory reveals how development, new order and creative change self-organize, spontaneously emerging at the edge of chaos.

Fractal Geometry detects complex patterns of the whole as they extend through a system's parts, including paradoxical boundaries simultaneously open and closed, bounded and unbounded.

Taken together, these sciences model the deep and mysterious interpenetration between self, world, and other.

Much of the classical sciences is linear; nonlinearity is at the heart of all fields of modern science. New techniques allow us to get ever closer to quantifying the complex and normally invisible ways that people's brains and bodies lock in together and influence one another, often below the threshold of consciousness.

- *Nonlinear methods do not replace linear ones. Nonlinear results are not more true or descriptive than linear ones. This is not an either/or issue, partly because linear realms are included within the nonlinear.*

Human undertakings of emotional healing and psychological transformations are quintessentially nonlinear and dynamic affairs.

- *In nonlinear systems or states, small inputs often give rise to unexpectedly large consequences, while huge inputs sometimes have little or no impact at all.*

The three major themes of this book:

- *The certainty of uncertainty.*

- *The natural evolution in psychotherapy from chaos to complexity.*
- *Fractal conceptions of psychological patterns and boundaries.*

The Case of Sabina.

Uncertainty at the Core

Over and over again, we need to be as interested in what we *do not* know and in what we do know. In our therapy sessions, we are always harboring the disconcerting sense of information missing.

- *Many highly respected therapists have emphasized the importance of not-knowing.*

Freud encouraged the cultivation of ‘evenly hovering attention’.

We have to loosen our grip on the need for the clinician’s ‘certain’ knowledge, while recognizing the attendant danger of premature, excessively rigid or narrow formulations.

- *The notion of ‘informed uncertainty’ can be a higher state of consciousness, enabling us to stay present, alert and ready.*

For therapists, a stance of ‘not-knowing’:

- *Keeps us flexible and creative.*
- *Ensures that we remain in a state of openness with our clients.*
- *Prevents us closing down with certainty or pre-established beliefs & formulations.*
- *Stimulates the senses.*
- *Prevents closure of thought.*
- *Eggs us towards new information.*
- *Forces us beyond our comfort zones.*
- *Invites us to regulate our own difficult emotions.*
- *Helps to avert the complacency premature certainty can bring.*

This type of openness keeps us emotionally responsive and healthy.

From Chaos to Complexity

- *Out of initial chaotic stews and dramas eventually comes a higher state of complexity that self-organizes.*
- *Self-organization is a key feature of nonlinear science, through which changes seem to direct themselves according to their own intrinsic dynamics and time scales.*

Despite all the unpredictable disorder that comes within a case, an underlying order gradually becomes apparent.

Clear cognitive understanding usually appears to be impossible from the outset of therapy.

Human development self-organizes from a fundamental substrate of generative chaos. Nature tends to spontaneously self-organize from the bottom up, in directions of greater complexity.

Mental health can be conceived as the delicate but resilient edge that provides enough order for stable, integrated foundations, plus sufficient disorder to keep things flexible, fluid and creative.

- *The self-organization of complex formulations emerge from the chaos of initially 'unformulated experience'. (Donnel Stern)*

Within the psyche, developmentally later capacities for complexity are intimately tied to metaphor and meaning-making in the form of a coherent, internal narrative, not so much articulating the *why*, but more of *what* of ongoing experience.

One rich source for psychological metaphors has come from ancient mythology.

Metaphor is inherently paradoxical through juxtaposing differences with similarities. All truly creative metaphor heightens psychological complexity (by integrating right-brain and left-brain functioning).

- *Within psychotherapy, wherever paradox appears complexity is likely to follow.*
- *Where paradox abounds, the capacity to hold ambiguities and contradictions is essential.*

Paradox resides at one's 'developmental edges'. The primary difference between conditions of pathology and those of well being lies in the rejection vs acceptance of this primary state of being.

Fractal Geometry: Self-Similarity in Psychological Boundaries

One hallmark of a fractal is *self-similarity* – where the pattern of the whole is reflected in the form of its recursively enfolded parts. (Russian nesting dolls.)

We understand fractals intuitively when we sense how an initial interchange between client and therapist reflects dynamics of the rest of the session, or the case as a whole.

A client's unconscious dynamics spill across interpersonal boundaries to trigger feelings, issues and concerns within others, each player becoming an instrument for a melody that clearly transcends the individual.

Most therapists now recognize how the minds and brains of individuals co-emerge and co-develop inside the fluid medium of other minds.

Because fractal boundaries are paradoxical with infinitely enfolded detail, they possess an outside that is readily discernable on the inside, and an inside replicated over and over on the outside.

- *Fractal patterns are not only self-similar but also self-referential.*

Self-reference is a broad quality of the universe that implicates *the observer in the observed*.

There is self-similarity in the resonances and expanding consciousness between us, as each of us moves from implicit to the explicit, from unconscious to conscious levels of awareness, from enactment to symbolization.

One advantage of a nonlinear scientific paradigm is its groundbreaking in 'objectively' discernible fractal patterns that transcend the particulars of space, time and even subjectivity.

An important example of self-similar interpenetration between self and world is *synchronicity*, the occurrence of meaningful coincidences.

When examining the matter of synchronicity, it is important to make a distinction between authentically uncanny coincidences of actual synchronicity from overinterpreted or misperceived faulty pattern recognition born of the expectation or desire to see patterns where there are none.

The authentic experience of synchronistic events can evoke spiritual resonances in the awe and thirst to know the genesis of such patterns and to understand seemingly inexplicable, uncanny events of everyday life. This includes the certainty of uncertainty as well as unexpected resonances between inner and outer realms.

Chapter Two – The Certainty of Uncertainty

"Be patient toward all that is unsolved in your heart and try to love the questions themselves, like locked rooms and like books that are now written in a very foreign tongue. Do not now seek the answers, which cannot be given you because you would not be able to live them. And the point is, to live everything. Live the questions now. Perhaps you will then gradually, without noticing it, live along some distant day into the answer." - Rilke

The pressure 'to know' on therapists are enormous. Questions clients often ask us at the beginning of therapy: *Do you think therapy can help? What will it be like? What should I expect? How long will it take?* How are we to respond to questions whose answers cannot be precisely known?

When feeling desperate, stuck, fragmented or emotionally lost, deep security rests in visions of an all-knowing, all-seeing Other.

Pressures towards certainty likewise compel therapists from the inside.

- *Does clinical competence surround certain knowledge or the maintenance of an open, flexible stance?*

Clinical knowledge comes out of accruing knowledge from books and experience in service of maintaining an open, flexible, relational stance. Both are necessary ingredients.

After decades of steady learning and an ongoing commitment to clinical learning, we will still have our professional doubts and struggles. However, feelings of uncertainty will no longer automatically signal that we are deficient in our skills.

‘Not knowing’ will always continue to permeate and penetrate, and sometimes even haunt our work. Being in the unknown together can be pivotal towards deeper transformation, representing both full engagement with another as well as the hero’s journey into and out of darkness.

Only by patiently and repeatedly allowing our consciousness to settle into a still, open point can each moment provide maximum grist for the mill. By lunging towards what cannot be known, or by grasping too tightly upon a single version of ‘the facts’, even the best of information carries danger either of grinding the mill or ignoring the whole.

Fertile Darkness

Psychologically, when dissociation is the driving force, fantasy can serve as a retreat from reality, where the internal movement of fantasy becomes a substitute for external action or real change.

On the other hand, dissociation is also linked to increased creativity. When fantasy is fully harnessed through outer expression and discipline, it is channeled through the body and brought out into the world, where it serves as a portal into reality, rather than a refuge from it.

The Importance of Attending to Transition Points

A sudden change can occur when a critical threshold point is reached, as underlying variables give rise to a new attractor pattern. However, as the threshold point is being reached, there is often a rapid going back and forth between the old way and the new way. *“One step forward, two steps backwards”* is typical during these types of transitions.

As therapists, we cannot make our clients safe, nor can we control what happens next in their lives. We must tolerate the chaos of their lives, and not try to predict nor control outcomes.

These are typical thoughts we have as practitioners, when we experience our clients in the messiness of chaos, as they approach thresholds for change: *Maybe I am not doing my job well. If I were really doing things right, we wouldn't be in this mess. Is there a simple solution that I can't see? Is there something I am not seeing? Is there some less risky path? Is the pain they are experiencing necessary or not?*

As depth practitioners, we have to view our own psyche as a necessary, but not sufficient, foundation for our client's inner sanctuary. Our feelings will partly also be our client's feelings.

A primary challenge we face as therapists is not the outer questions of what to do, or how to change course, but more of an inner challenge of holding down our own being, our own torrent of feelings with equanimity, grace and stillness.

- *Instability and disorder is inevitable at the threshold of change.*

The opaque, fertile state of 'not knowing' proves, time and again, to be the most critical bond that exists between therapist and client – even if at times, we must carry most of the hope.

The Heroine's Journey

The pivotal point in a person's therapy will often involve their willingness to descend into the deep black chasm of the unknown. At this point, the therapist must have the capacity to tolerate and contain the client's emotions, and well as their own.

- *At a key point in the therapy, regulation through relatedness gives way to a newly formed capacity for regulation by self.*

A person's descent into the dark unknown will feel both mythic and inevitable, and is represented by Joseph Campbell's three stages of the journey: *Separation, Initiation, and Return.*

There will be a paradoxical juxtaposition of the unknown with the known. The client's willingness to risk the dangers of the unknown, deeper self emerges out of feeling known by the other in the first place. (Safety in service of enlivenment.)

The unknown part of the process might at first feel purely emotional: both therapist and client feeling varying degrees of fear, doubt, helplessness and uncertainty about what the future may hold.

- *All the intellectual understanding there is to have can't really lessen the pain or do away with the ambiguity of an unknown future.*

Conceptual knowledge will never guarantee safe passage through one's lived experience, nor does it erase the risks and vulnerabilities that 'not knowing' entail.

Deep psychological change is inherently a non-linear affair. Phase transitions between one way of being and the next are often chaotic and unstable. The hallmark of this kind of transition is a chaotic mixing of elements from both ways.

Once enough trust in the therapeutic process is established, we often see this type of chaos rise to the surface.

There is an entry into a kind of 'no man's land' where one loses their previous defensive orientations, and yet a new psychological orientation is not yet formed, and nowhere near to being firmly in place. This typically leaves a person feeling extremely vulnerable and frightened.

The only choice to make is to wait out this unnerving transition period. Trusting the process is all there is to rely on.

The Role Of The Therapist

In psychotherapy, trouble often brews whenever a therapist believes or expresses definitive claims of knowing the contents of a client's unconscious better than the client does herself.

By emphasizing a collaborative stance of open dialogue and mutual exploration, the therapist surrenders the role of absolute authority and empowers the client.

Practicing the art of psychotherapy is like listening to a poem with multiple interpretations that cannot be immediately analyzed or understood to the 'right one'.

Limits to Logic and Certainty

We hold a more flexible and relational style of working, providing a structure for helping that is based on intersubjectivity, and an increasing recognition of the limitations of fixed assumptions.

The idea of therapist as *participant-observer* is a good model to follow, one who is actively involved as a witness and a subject, who invariably influences the course of affairs.

Technical Chaos

Chaos theory, which originated in the 1960s, clarifies limits to certainty in the understanding and prediction of complex systems.

Iterations involve an initial starting point that is determined by the end result of the last go round. The process is repeated over and over again, with each new starting point varying slightly from the original point. Over time, through positive feedback, change can become quite dramatic.

- *Within psychotherapy, much of what we are tempted to call repetition is actually the next iteration, with subtle differences. This is a key concept for helping clinicians tune in to nuance and the impact of feedback.*

A mark of true genius is the capacity to capitalize on the unexpected. Louis Pasteur said “chance favored the prepared mind”. The ability to seize the opportunity yielded through chance events is especially important for therapists.

In psychotherapy, movement is often triggered by tiny events that occur in wholly unpredictable ways.

- *Because therapeutic change is rarely triggered by well thought out interpretations designed for this purpose, therapists must be ready and honed to capitalize on tiny relational shifts apparent only in the unique appearance of each moment.*

Before understanding technical chaos, it was thought that complexity arose from highly complicated interactions between lots of variables. It is now understood that complexity arises from as few as three underlying variables.

All complex (nonlinear) systems operate according to a combination of positive and negative feedback. Unstable states occur when positive feedback outweighs the negative feedback, while stable states occur when negative feedback outweighs the positive.

- *It does not take complex underpinnings to produce complexity. Simplicity will do.*

What is more critical is the use of iteration in combination with feedback. Iteration plus feedback is the engine by which nature uses simple building blocks to build increasingly complex structures, continually churning the known into the unpredictable.

The quality of unpredictable behavior in chaotic systems by iterations and feedback is called sensitive dependence on initial conditions. This means that the tiniest change in initial conditions causes the system to careen off in completely unexpected directions. (*The Butterfly Effect*)

In psychotherapy, a tiny almost incidental remark can spark a cascade of change in clients, while at other times, what may seem like a brilliant and powerful insight may hardly make any impact.

Chapter Three – Complexity At The Edge Of Chaos

Complexity self-organizes at the edge of chaos, a dynamic zone with enough order to provide structure and transfer information, but enough disorder to keep things fluid, novel and creative.

The complexity of psychotherapy is intimately bound up with the wholeness of the endeavor. A view from the whole suggests intersubjective links between client and therapist, characterized by open boundaries plus full interpenetration between self and other.

Complexity builds through a tangle of exchanges that occur simultaneously at multiple levels of observation. As with any highly nonlinear system, the entire history of the coupled system is enfolded in each moment, with each round capturing the whole by starting off where the last round ended.

Open Door



Uroboros is the mythological snake that swallows its own tale. This is a useful symbol for how through iterated feedback, chaos transforms into complexity. With each new turn of self-reflection, we swallow an old tail/tale to generate a new one.

In complex systems that exist far from equilibrium, high exchanges of energy, information and/or matter across open boundaries ensures some degree of novelty to emerge. We can never step into the same river twice.

- *Dynamic variability rather than static order indicates health. Therefore, some degree of unpredictability and irregularity indicate healthy states, not pathological ones.*

In therapy, it is essential to be able to gain enough perspective, in order to distinguish between ambiguity that opens up new possibilities and illusions that fly in the face of reality.

Also, from a fractal consciousness, the whole of a client's life may be understood within a single narrative or poignant therapeutic moment.

Two Way Doors

Fractal consciousness can work both ways. Not only can the whole of a client's life be embedded within a moment of transference, but also the possibility exists that the whole of a therapist's life can be compacted into a significant moment with a client.

Such moment in psychotherapy can feel quite sacred.

As therapists, our own passion and intuitive skills used to help others undergo deep transformation sometimes come from having had parents who never did.

The ability to be acutely sensitive to minute changes in self and others, no matter how rigid or fixed their characters or dynamics, can come from having parents who were unable to attune in any sensitive way to our own inner lives as children.

When complexity self-organizes at the edge of chaos, continual growth happens for us as therapists, from a place of vulnerability that keeps our work fresh and alive.

Healthy Development As Complexity

The edge of chaos exists as a dynamic state of tension between the extremes of rigid order and complete disorder. Here complexity can emerge as a balance between opposing pulls of stability and change, constraint and release, inhibition and expression, negative and positive feedback loops.

When we stay with the turbulence, going back and forth across the threshold point, eventually, one who has been flat begins to perceive depth where she perceived only emptiness before, or one who feels stuck begins to perceive movement.

(The case of Christian.)

When as therapists we hold a space for something new to happen, we eventually can attract new possibilities into that space, on behalf of the client.

- Daniel Siegel uses the FACES acronym to identify certain properties that support the clinical emergence of complexity – *flexible, adaptive, coherent, energized, stable*.

But no formula or prescription exists for bringing an individual closer to the edge of chaos; we feel into our way to get there.

- One hallmark of psychological complexity is *an enhanced capacity to differentiate as well as integrate ongoing experience emotionally, cognitively and behaviorally*.

This often results in the heightened sense of feeling more alive, present, and creative, long recognized as a beneficial outcome of therapy.

The edge of chaos is a transitional zone located between poles of stagnant order at one extreme and utter disorder at the other. There is variability and flexibility for adaptation and change, yet the capacity for great stability as well.

Complexity at the edge of chaos affords a system ready access to the entire repertoire of all possible states – both positive and negative, expansive and contractive, joining and disrupting. Within a complexity vantage point, the focus is on working with the fullness of the whole, rather than on the reduction or elimination of unwanted parts.

Within a proper context, there is a time and place for every mental state. Having ready access to any potential one, without undue constriction by fixed defenses, becomes the hallmark of variability so central to a formulation of well-being based on complexity.

Within psychotherapy, complexity at the edge of chaos is most evident intersubjectively:

- By how the therapist joins with the client.
- The emotional, cognitive and behavioral impact of this joining on both client and therapist.

How the therapist's feedback is incorporated and used by the client determines whether or not novelty will emerge as a nonlinear process at the edge of chaos.

If the therapist has difficulty entering into a more complex relationship with the client, the client is likely to become stuck or thwarted, instead of moved along.

At times, the longing for answers, for clarity, and for immediate solutions must be called into question, especially when such desires serve as a defense against the mire of uncertainty.

