EIGHT
OF BUDAPEST, FIELD, CHAOS, AND COMPLEXITY THEORY

By late mid-20th century the conceptual explosion of cybernetics, chaos, complexity, and self-organizing theory—driven by the lock-firm evidence of the active brain, the excitement of the fluid new power of the computer, all embraced within the vital field of systems science—was underway.

I came to the wonderland of this new exploration of the concepts and languages of evolution via a real life episode out of a spy novel. The phone rang. It was a call from a strange voice with a heavy Hungarian accent. Could I come to Budapest?

The year was 1984, at the height of the Cold War, with Eastern and Western Blocs armed with sufficient nuclear overkill for the possibly final holocaust, on hair trigger alert.

There was to be a secret meeting behind the Iron Curtain in Budapest of scientists from both sides. Brain child of one of the most remarkable scientists of the 20th century, the Hungarian-born, ex-concert pianist and pioneering general evolution theorist Ervin Laszlo, the idea was to see if global nuclear disaster could be averted by turning the power of chaos theory, then new and popular, to peaceful ends. The objective, it turned out, was to use chaos theory, and more generally systems science, to expand the theory of evolution beyond the old survival of the fittest thrust based on the deep past. Our goal was to bring together and integrate the new work of many fields embodying an emphasis on cooperation and common cause to serve nationally and globally as a scientific policy-shaping guide to a better future.

Soon, after the ups and downs I will write of in the third book for this trilogy, *Up Against the Paradigm,* with Laszlo as founder and myself and others as co-founders, we launched the General Evolution Research Group, with members across the board from physics and biology throughout practically all the social sciences, from many nations, with a new scientific journal, *World Futures: The Journal of General Evolution.*

As the Cold War years dissolved into the brief hope for a "Peace Dividend"—rather

than what soon became all-out Greed for both sides, and preparation for more war—four things became evident.

First was how quickly the implacable weight of the status quo could sap the early surge of our bold notion of going up against and transforming the old paradigm.

Yet there remained the subtle power of the perspective of what among ourselves we called the Chaos Revolution. It was the power of this new mind and language that freed and allowed one to, in effect, stand aside from the old struggle. Coupled with the advance of systems science, it was the power to at last clearly see the battle within politics, economics—and increasingly within religion, or more generally spirituality—that was in fact light years beyond the gene or atom in shaping evolution.

But here, too, was a problem to which I was especially sensitive. Having been a journalist and aspiring novelist, poet and playwright before shifting to science, I could see that all that had been thrown at the mind space of science and the world at large was way too much to absorb and put to use. Autopoesis, dissipative structures, flow, Gaia hypothesis, holographic brain and mind, partnership systems, domination systems, quantum, zero-sum, Akashic field—out of the glut for this rich mind food we needed a simple and manageable basic handful of nutrients. Out of the confusion of this new scientific smorgasbord, atop the glutted mountain of previous scientific concepts and languages, could one somehow identify a simple entry diet?

In my training as a psychologist I was fortunate to be a student of a research associate of the pioneering systems psychologist Kurt Lewin. A refugee from Nazi Germany, major influence on the fields of social, child, organizational, and leadership psychology, founder of group dynamics, T groups, sensitivity training, action research, in his time Lewin's impact on psychology was considered the most important after Freud.

All of this was loosely bound together in Lewin's writing, research, and teaching by his concept of *field theory*. Simply put, the idea is that just as everything within a baseball field in one way or another relates to baseball, or in a gold field relates to gold, in the same way our mind is segmented into fields within which we gather everything relating to what we want to accomplish and take care of.

For example, to know and play baseball you don't just focus on pitcher, or catcher, or bases, or fielders. Your mind reaches out to grab all of this and everything else bearing on the game. In other words, your mind reaches out to gain a sense of the system, of the field as a whole.

Here is the disarmingly simple way the Lewinian approach begins.

Figure 8.1
Lewinian Field and Mind Space

One draws a circle to represent the *person* (P). Then around it we draw a larger circle to indicate the spread out around a person for her or his consciousness, or more descriptively, *mind space*. Then we surround both person and personal mind space with a much larger space to enclose the consciousness or mind spaces and cumulative mind space of others.

The first time I saw Lewin's new visual language for psychology I thought it was the silliest thing I ever saw. It looked like nothing more than childish doodles on a page.

Yet from this kind of uncomplicated beginning Lewin developed what many became convinced was the most powerful and easily accessible language for understanding the dynamics of mind in action.

The great advantage of this new approach to science was, and still is, that by shifting from the heavily entrenched verbal-based analytic power of the left brain to the visual-based systems power of the right brain, one could easily see, and quickly track, vital components and interactions for mind space at all levels, from the smallest to the largest in evolution.

For example, on the next page, in Figure 8.2, can be seen how easily we can visualize the interaction of the mind space of the person; with the group; with the mind space of the World at Large.

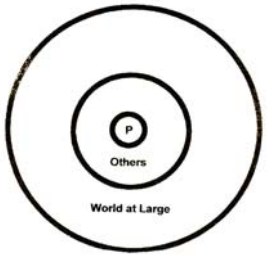

Figure 8.2
Relation of Person, to Group, to World Mind Space

What I think; intersects with what you think; intersects with what happens everywhere else on this cognitively shrinking planet to either drive us forward, check us in place, or drive us backward in evolution.

In the past this was the tenuous and tedious process that slowly shaped the wobble for our species forward and backward over centuries. But in our electronically interlinked world of email, instant news, globally supersensitive to events, all this has exponentially changed. The speed up for this process has become a force impacting the dynamics of evolution either favorably or unfavorably exceeding our power not only of social but also scientific coping.

In the 20th century the development of a new mind space and coping language for science initiated by Lewin in the 1940s was advanced by the mathematician Edward Lorenz in the 1960s. As the Cold War and nuclear overkill pitting the U.S. against Russia escalated toward global chaos, out of Lorenz' attempt to track the intricate movement of winds and clouds for weather patterns emerged what became modern chaos theory.

Here, for the first time with reasonable ease, chaos theory made it possible to track the action of the tiniest of organisms and processes across the barriers of biology and physics into the largest of movements and patterns for the social sciences, the humanities, religion, and all else bearing on cultural evolution.

Here, further, was an immense advance in the power to perceive the pattern for movement from past, to present, to future, which constitutes everything we experience either as advance, progression—as, per se, *evolution*—or as being checked in place, or the regression we experience as lack of evolution.

But most important—as Lorenz had demonstrated with the mathematics of weather patterns—chaos theory could provide a quick link to the crucial endgame challenge of real world impact.

Here, for a quick sense of the advance in understanding evolution that Lorenz offered,

are illustrative patterns for chaos theory from the work of the mathematician and pioneering chaos theorist Ralph Abraham and his brother, the pioneering chaos psychologist Fred Abraham. Here we may glimpse how processes involved in the simplest to the most complex movements take specific shape moving from past, into present, into the future.

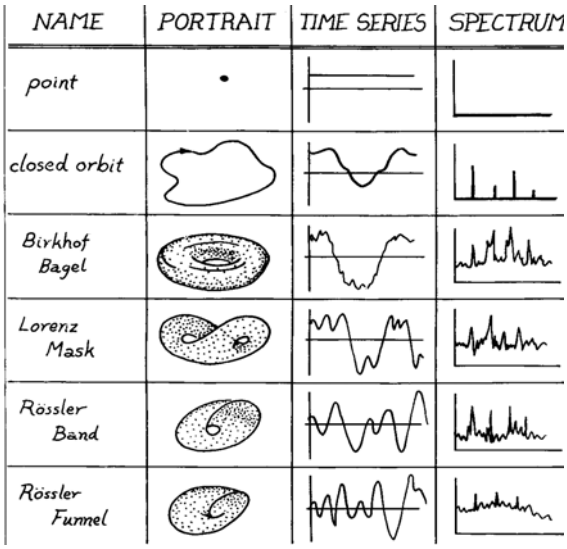

Figure 8.2
Chaos theory configurations

One more concept—the Lorenz *attractor*. Again, the idea is basically simple. Just as the entry of an attractive woman or an attractive man into, say the waiting room for a doctor's office, creates a subtle force field pulling group attention toward them, so does the attractor operate in chaos theory.

A *static attractor* keeps everything fixed in place for a time, for example, the attractive one sits down. A *periodic attractor* alternates between two points of interest, e.g., two equally attractive men or women enter the room, with attention wandering back and forth from one to the other. Then there is the *strange or chaotic attractor*, which can arise suddenly out of nowhere to take over and pull everything within a field into whatever direction the strange attractor happens to move—as for example, what happens when one suddenly comes upon a movie star in a supermarket.

What first drew me to chaos theory was the recognition that here was a new science for both tracking and *predicting* evolution, or how we can advance the best and avoid the worst as we move into the future.

The static attractor checks evolution in place. The periodic attractor is what century after century can be tracked in the alternation of liberal with conservative periods of history. It is the strange or chaotic attractor, however, which provides the most crucial of thrusts. For here was a new language that could not only open the way to a new power for tracking whether we are being driven forward or backward in evolution. Here was new hope for prediction *and action*.

In other words, if through Lorenz and chaos theory we had gained a measurable and undeniable new power to better predict and better cope with the ravages of weather globally, why not also everything socially, politically, economically, morally and spiritually that drives us either forward, checks us in place, or drives us backward in evolution?

Here, then, is a useful A, B, C for resuming our story of the ups and downs for 20th century theory and consequences.

The *field*.

The content within the field of the *mind space*.

And the vector or arrow point for forces driving mind and action backward, forward, or in other patterned directions: the *attractor*.