On Attractors - The Teleological Principle in Systems Theory, the Arts and Therapy

Jürgen Kriz

Prologue: The following combination of signs, ordered into words, sentences and paragraphs, is an attempt to use the letters "p-o-i-e-s-i-s" not so much as a term (lat.: terminus) but more as a guidance to act (lat.: topos). Accordingly, to play with the word "art", my text is both a state-of-the-"art" report and a piece of psychological "art"-work. Moreover, the poetic imagination, poiesis, has a central role in my writing. For me it is not important if the text be called a "scientific" paper, or "literature". For some readers it might seem to be too scientific - and, indeed, knowledge won't do any harm because many connections to modern natural science, the fundamentals of psychotherapy, etc. can be found explicitly (and much more so implicitly). For some readers it might seem to be too unscientific because there remains too much that is "unclear" and "open". For me it is like an unfinished house standing in a cognitive landscape, with many windows (without panes but lots of fresh air) opening to different directions. I would be happy if the reader could feel invited to visit that house, have a look out of the windows at the not clearly recognizable landscapes in the West, the East and the other directions (using heart's and soul's eyes as much as mind's eyes) and create his or her own response. In summary, the house is meant to be used as a play-space for the mind.

"Chaos is a science of process rather than state, of becoming rather than being", wrote Robert Gleick (1987) a decade ago in his book on chaos. Indeed, modern chaos research and systems theories of the last two or three decades have radically revised our view of "the world"; and, as a consequence, concepts of order have had to be revised too. Though it is not possible to elaborate on chaos research here, one of its key findings is that unspecific ambient conditions of a dynamic entity called "system" are enough in themselves to enable it to unfold its own internal order. This means that these structures of order are present as possibilities within the system. And although they are encouraged and, after a fashion, caused to unfold by external conditions, the resulting order as such is not introduced from without. This last aspect is dealt with more thoroughly within the framework of the so-called "selforganization" theories.

One of the most inspiring findings and concepts in that field is the notion of an attractor. Dealing with this concept can open our mind for a new and deep understanding of what is going on in the world. With regard to an attractor, the dynamic forces - what "causes" the process to have a special order - are not pushing from behind but pulling from ahead. This is a fascinating and new insight because over the last few centuries it was seldom done in science (and only far away from the mainstream) to think in terms of such a teleological principle, a principle that means accepting forces that pull from in front, from the future, instead of pushing from behind, from the past. Of course, the Aristotelian notion of "entelechy" focuses on such teleological principles; and Goethe, Spinoza and William James have provided the seedbed from which this thinking germinated in the 20th century. Here we find, for example, the Berlin-school of Gestalt psychology (Max Wertheimer, Wolfgang Köhler, Kurt Koffka and, later, Kurt Lewin and others), organismic theory in psychology (Jan Smuts, Kurt Goldstein, Andras Angyal, Carl Rogers), the ideas of the philosopher and theologian Teilhard de Chardin (with the "Omega Point" as the attractor of the whole process of world

evolution) or Alfred Adler's "Individual Psychology", which stresses explicitly the teleological principle for psychotherapy. However, until quite recently all these approaches, theories and ways of thinking were far away from being accepted as "scientific" in a strict sense - at least in the area of the natural sciences. The idea that a cause is pulling from ahead and, therefore, is effective from the future seemed to contradict the "normal" principles of causality and, as a consequence, to destroy the foundations of science.

In the last few decades, based on the development of modern systems theory and its parts (chaos-theory and the theory of self-organization), the teleological principle became "scientific" by means of the notion of an attractor. Without going into mathematical and technical details, we can say (to give a rough idea) that an attractor is the final structure of a process towards which the dynamic tends. So, when we start this process from different initial points (or "situations") it always tends toward the same end-structure (or end-"situation"). Of course, if we start the process with the attractor, then no change happens. We say, the attractor is left invariant or fixed. It is important that self-organized order be understood in terms of attractors. To give an example probably nearer to the reader's interest: You can often observe that the chaotic applause which follows a good performance may suddenly and in a self-organized manner become ordered so that hundreds of people are clapping their hands in the same rhythm (sometimes together with some counter-rhythms) which is (for a while) the attractor of the tapping-process. In contrast to the possibility that a leader or teacher in front of the auditorium gives external order by shouting "tap! - tap! tap!", it should be noticed that this process usually comes to its attractor by self-organization and, therefore, does not require an "organizer". A similar example of an self-organized attractor can be observed when each member of a large group is asked to "listen to" (or imagine) an "inner beat" and/or tone, musical motif, body-movement, etc. and then to express this image of a tap-beat, sound or dancing-movement, more and more (a performance which can, for example, often be experienced at the EGS Summer school under the facilitating baton of Paolo Knill). From the chaos of individual beats, tones, motifs and movements emerges a dynamical pattern which stabilizes to a beauty expressive of a common selforganized complex order uniting all the individual images into the manifestation of a group-imagination (at least for a while however, phase transitions of these patterns may also occur). This can be seen, understood and reconstructed in detail as an attractor of the complex group dynamics.

Let us look a little more carefully at the moment when the attractor establishes itelf. To use the much more simple example of an applause-rhythm, one can say that after a period of chaotic applause, the (mostly unconscious) question arises, "What next?" - with respect to the universe of possibilities: going on, stopping the applause, shouting "Bravo!", making some rhythm (due to the fact that many people have experienced this in the past), etc. At this moment the whole situation becomes rather insecure and unstable, and some persons may try to express their image of rhythmic tapping (while others may try to act in another way, doing other things). So, within the chaos of applause, suddenly the rhythmic tapping of some people appears, which again increases the probability that other people will join (again more or less unconsciously) in one or another of these rhythms (in contrast to "normal" individual clapping - which has, of course, a rhythm too - the "rhythmic tapping" usually is more expressive, with larger, more explicit movements, and slower frequency). For a short moment there will be a competition of

some of these rhythms. But soon that rhythm most people "prefer"(at this moment - i.e. it is perhaps the best expression of their tacit imagination), will find more and faster others who join that rhythm; this in turn increases the loudness and, with it, the attention of other people, which again increases the probability of joining, and so forth. From the perspective of the finally established attractor, one can say that most people (unconsciously) are "pulled from ahead" by the attracting forces. Accordingly, as long as there is only a part of the group tapping in the rhythm of the final attractor, there is an "appetition for completion," as Alfred North Whitehead called this phenomenon: forces which act to complete the whole pattern of the dynamic attractor.

It might be of interest that in my research on systems theory in the area of psychology, I explain and reconstruct attractors in cognitive and in interactive processes by using the term "completion dynamics". Moreover, without going into details, I want to stress the point that the verbal descriptions from above correspond to the rigorous mathematical form by which processes of self-organization and the underlying attractive processes are described in different sciences. For instance, the German physicist Hermann Haken, founder of the theory of "synergetics" (a mathematical theory which describes the processes of laser-light) and of the interdisciplinary research program which based on synergetics stimulated some thousand articles (mostly in physics, chemistry, physiology and biology) writes: "When part of the laser atoms are in an ordered state so that they produce a well-defined coherent laser wave, this laser wave acting as an order parameter may enslave the rest of the laser atoms to form a total state in a well-ordered fashion" (Haken 1992: 46). Again, we can see the idea of completion dynamics and the forces of the attractor which "pull from ahead" in a teleological manner.

In the area of psychology, when we look for processes in which we can assume forces that are pulling from in front, we come to terms like "motivation" and "imagination". Some weeks ago, I received a recently published German translation of a book published in the US in 1992 by Ralph Abraham, Terence McKenna and Rupert Sheldrake, entitled: "Trialogues at the Edge of >the West: Chaos, Creativity and the Resacralization of the world" and I was fascinated by the correspondence of my research and thinking with some of their essential theses. The authors, too, stress the point that attractors represent the teleological principle of forces pulling from in front, writing: ".. motivations in the ordinary psychological sense are not pushing from behind but pulling from ahead. ... somehow the system .. is subject in the present to the influence of a potential future state that hasn't yet come into being. That potential future state is what directs and guides and attracts the development of the system in the present" (p. 36).

A little later the authors come to topics which are even more interesting for artists and therapists; in regard to imagination they say: "The longer we talk, the more creation, imagination, and chaos all seem to be the same thing..."(p. 41); and, "Chaos and imagination are paradoxically co-present in everyday life, in the dimension in which we find ourselves ... The first key is the power of chaos ... The second source is the Divine Imagination , the imagination that is our richest legacy, the birthright that connects us to the divine. It is our poetic capacity, our ability to resonate with a notion of ideal beauty and to create that which transcends our own understanding in the form of art." (p. 47).

Indeed, from my perspective, the teleological principle of imagination as an attractor pulling from ahead is a key-idea to connecting expressive art with psychotherapy, and, in a broader sense, human development and the unfolding of human potential.

Although imagination is by no means totally free from influences of the past, from ordering influences of personally and socially stereotyped ideas and from repetitive aspects, imagination opens a space of possibility which is not merely governed by rules and order as continuing from the past up through the present into the future. The latter activity would be "pushing from behind"; it is, according to Winnicott, merely "fantasy", not creative but obsessive in character. In contrast, imagination represents forces from the future that "guide and attract the development" of something "that hasn't yet come into being" (to quote the "Trialouge" once more). Both imagination and attractors in systems theory have a strong formative aspect. While chaos means unpredictability and pure change, an attractor creates form and structure with respect to the complex conditions of the "surroundings" of a system. It manifests one special structure out of the universe of latent and potential structures, of possibilities with respect to all conditions. (Incidentally, in systems theory we have the notion of a "chaotic attractor" - or "strange attractor" - which refers to a complex, multidimensional dynamics which is at least in one dimension -or "aspect", "variable" - totally chaotic, unpredictable, creative, in contrast to repetition, while at least in one other dimension it is attracting and breaking down unpredictable complexity to rules, order and repetition. However, a serious discussion of this point is not possible in this context).

In psychotherapy, too, it is very important to induce or provide a transition: this can be seen as a "transition of trust", a transition from trusting in the rules of the past, which push the process of life from behind, to faith in the possibilities of the future which pull from ahead and let new order emerge which allows us to overcome the painful boundaries of symptomatic behavior and/or our restricted experiences. According to organismic theory, I believe that the organism (i.e. man and his soul), if allowed to unfold in an orderly way by an appropriate environment, will produce a healthy, integrated personality (without denying our limits or covering up our necessarily humble admission of our limitations as human beings, companions, educators and therapists).

In order to understand why this transition in trust, as I phrased it, is so important and necessary we have to become aware that the everyday understanding of "order" implies an extensive use of control. This results from a fear of "chaos" - where "chaos" refers to the uniqueness of processes and, therefore, to the unpredictability of the world. Both ancient tales of wisdom and modern science stress the point that our world can only be encountered within a stream of unique situations which are in a constant state of change. One cannot wade into the same river twice, as Heraclitus long ago pointed out. As scientists we thus must recognize ever more clearly that our ordered systems are at best islands in a seething sea of chaos.

But if such an experience and way ofthinking, with all its consequences, were to form the structure of our personal universe, we could not live in it. In a world in which we experienced solely the uniqueness of every moment and every space-time configuration, in which therefore there were no recurring patterns and as a result nothing familiar, paralyzing fear would be our constant companions. Indeed, human beings rarely feels more threatened than when the firm fabric of their

existence begins to unravel - when all order collapses and they finds himself utterly exposed to the unexpected and unpredictable. Even relatively harmless signs of such an impending dissolution fill us with dread.

It is therefore quite understandable when under certain circumstances human beings attempt to rally their last reserves to combat an imminent loss of stability and when, in their need - as numerous psychotherapeutic clinical case studies demonstrate - they attempt to extract a last remnant of order from the chaos enveloping them. Different theories of psychopathology agree on one point - that many of the most clearly visible manifestations of human fear and mental illness have their origins in experienced chaos or in inappropriate attempts at banishing such chaos. It is therefore necessary to provide our world with a certain order, regularity and reliability. It should be noticed that, in the field of clinical and so-called abnormal psychology, we diagnose people as suffering from many categories of dis-"orders".

I have argued elsewhere that we achieve this order by more or less chopping up the unique process of universal evolution this chaos - into pieces, assigning these pieces to categories and thus inventing recurring classes of phenomena or "patterns". This gives structure to chaos, makes predictions possible and reduces insecurity, thus creating reliability. And this reliable order is with us from the first days of our life. By means of this creative dismembering, the incomprehensible becomes, at least partially, comprehensible (for us). Chaos, the infinite complexity of the unique world process, is apparently so threatening to us that evolutionary programs take effect virtually from the first day of our lives to wrest order from chaos and to seek out any possible "regularities" among the processes of the experienced world. There is a lot of evidence from experimental and developmental psychology that the search for possible regularities in the environment is an inborn trait of human beings. Moreover, all forms of life on this planet are dependent on the regularity, the recurring patterns, that they create by means of reduction and abstraction. Specifically, chaos avoidance is of particular importance for the human race, which has given its world an enormously complex system of rules, which we refer to as "society" and "culture". And we should appreciate this positive aspect of order.

However, our ability to banish chaos, to overcome the fear of the unpredictable, and to establish order has a dangerous aspect: The more we categorize and detect or invent recurring aspects and regularities, the more predictable and therefore safer our experience of the world becomes, the more we will find the "things" treated in this manner all the more rigid, boring, reduced and uniform. Of all the reductive and categorizing mechanisms with which we wrest regularity from the uniqueness of the "occurring world", the most widespread in our society is that of "reification". By reification I mean dealing with processes and phenomena which we have created by means of cognition and language as actual "things" and treating them as entities with an ontological existence of their own. Our patients then "have" "schizophrenia" and our children "have" "personality dis-orders" - like set characteristics. In this way, it seems to me, we are much less involved, than if we said that "our children behave abnormally", for then we would have to ask ourselves when and under which conditions this was so. Objects, blows of fate, the personality traits of other people, possibly even inherited ones, all have one thing in common, that we consider them as belonging to our "environment". In this way we distance ourselves from them and are at most only

indirectly involved. And then, of course, changes cannot be made so easily. We accept things as they are, at best trying to find "coping strategies", to use a term that has of late become very fashionable. "Things" are the way they are. Or are they?

Of course, if we believe in the ontological existence of our reifications - mostly handed down and transported by our culture - "things" really are the way they are. However, this profit of reliability and predictability by well-known "things" makes us into victims of the past. "Things" and categories are pushing forces from behind: the past determines to a great extent our experience in the presence and in the future. Psychotherapists often describe how individuals, couples and families are victims of their all too inflexible ideas of what is right and wrong or what is sick and healthy. There are petrified categories of expectations as to how the partner should "actually" react, as to what he "really" means when he says or does a particular thing. In short: strong cognitive mechanisms for the reduction of the richness of one's life and experiences to a too small number of categories are at work here, and they are embedded in corresponding stories having to do with "causes" and "effects" and the impossibility of change.

However, speaking in terms of categories and creating "things" catapults us away from our planet earth and its living beings into the position of an external demon: In a story concerning an encounter with a stone I have argued elsewhere that even a stone could not be understood as being a "thing" if one takes his or her experience seriously. As living beings our experience by our senses (not by our categories) is in every moment unique. The light and color we see and that what we feel and touch depends not only on (changing) objective circumstances like daylight, rain, etc. but also on our moods, our feelings and our frame of mind. The more we use our senses instead of abstracting categories from our real experience, the more we can perceive the uniqueness of the world and the beauty of the moment, and the more we can overcome being a victim of the past and its categories as petrified processes. This is a strong phenomenological argument even with respect to "real" "stones". Moreover, this argument is even more important with respect to human beings. "Man can never be merely a case or a sample of the species "man", because what makes it possible for him to exist as man is not his species, but his understanding of himself in his being", as Magda King explains a crucial point of Martin Heideggers philosophy: "The world is not a thing, but man himself is worldish: he is, at the bottom of being, worlddisclosing, world-forming" (p. 66). Forming by "disclosing" is close to the notion of "unfolding" or "actualization" in humanistic psychology. Something is already existing - in a nutshell, as a potential future state, as an image - and this future manifestation pulls from ahead, directs and attracts the development in the present. All that we can do is to support this unfolding process. By the same logic, in systems theory even in the natural sciences - the terms "self-organization" and "emergence" refer to exactly the same crucial point: order is not introduced or controlled externally. All that is needed from the outside (of the system) are supporting conditions - often rather general ones without any order in them (like heat). This again is the central idea in humanistic psychotherapy - and, consequently, as I put it above: "to unfold in an orderly way by an appropriate environment".

man can never be merely a case or a sample of the species man, because what makes it possible for him to exist as man is not his species, but his understanding of himself in his being It is interesting to note that in the Holy Bible, too, we found this idea of world-forming and order-making as supporting self-organizing processes. God, the Creator, does not create living entities like our society creates machines and believes that order can be produced by making and controlling. In contrast, the Bible has the Creator saying: "Let the Earth bring forth fresh growth; let there be on Earth plants bearing seeds... "(Genesis 1;11) and, "Let the Earth bring forth living creatures according to their kind" (Genesis 1;24). This is an impressive example of a specific idea of creativity in an early human culture: The Creator creates by imagination and by letting it be (and we should be aware here that the verb "to be" in its root does not refer to static states but comes from the Sanskrit "bhu" which means "to grow" or "to make grow").

In summary, we can say that humans have to guard against chaos by establishing order. For this order wards off the unfathomable distress that we would otherwise fall prey to: the fear of the unpredictable and uncontrollable. The way we do this is, in brief, to abstract from unique experiences, to categorize, to construct reifications, and to invent recurring aspects and regularities. But in this way we are exposed to the danger of rigidity and petrification (we even say that we are, "petrified with horror" or "petrified of chaos"). This danger is particularly great when we try to achieve order solely by means of control, instead of also trusting in that order which is forever unfolding naturally. As many psychotherapists would state, the governing theme of "control rather than trust" is also all too often found in interpersonal relationships. Accordingly, systems-oriented psychotherapy involving individuals, couples and families is devoted in particular to this problem. Consequently, to find the balance between showing respect for the efforts which are necessary to wrest a comprehensible order from incomprehensible chaos on the one side and, on the other side, to escape the danger of this order easily taking on compulsive forms, we have to remember and redevelop trust in the creative power of chaos as a means of reviving rigid, encrusted, petrified relationships (including those to oneself) and as a power that is pulling from ahead. Accordingly, we have to go to the roots of our sensual experiences. We have to take them seriously (in contrast to merely abstract categories). We have to go to the roots of creativity - as a "let it be" - go to the roots of our expressive potential - the expression of our soul and our self without chaining this process to the order pushing from the past but rather trust in the pulling order, the attractors, of the future and the imagination.

Now we have entered the area where science, living, psychotherapy and art are acting and playing together. Of course, today many other psychotherapeutic approaches, beside expressive arts therapy, stress more or less the point that what is most necessary in many cases of psychotherapy is to provide a transformation process of the stories ("narratives") about the "causes" and contexts of problems. Already in 1939 Kurt Goldstein talked about the "reorganization" of old patterns into new and more effective patterns in order to develop the whole personality. Today systems theorists in physics, chemistry, etc. would use exactly the same notion of reorganization of old patterns into new patterns (calling this "phase transition"); by the same logic, psychotherapists try wherever possible to transform stories or narratives which tend to restrict the range of perceptions and experiences, which leave little room for alternative behavior and which always lead to the same result, into stories which offer new ideas, perspectives and ways of approaching and dealing with problems. However, language (especially the "normal" language of our everyday life) mainly represents, with its categories and metaphors of reification, the orderliness of our society which equates order with control and provides verbal tools in order (!) to repress and banish chaos.

Accordingly, therapies which use merely or mainly language are especially confronted with this problem.

Consequently, it seems to me to be important to bypass the constraints of our "normal" language and make use of processes which are directly addressed to creativity and imagination as forces from ahead: that is, the arts.

In stating this, I feel myself to be in accordance with many people from EGS and the field of expressive arts therapy. For example, in Minstrels of Soul, by Paolo Knill, Helen Barba and Margo Fuchs (1995), the authors emphasize: "Human memory functions most effectively in the imaginative realm" (p. 22) and, "..memory is not exclusively verbal, nor is it restricted to the domain of the brain. Autobiography is an essential aspect of many psychotherapies, and in many cases ... it may be best achieved through channels other than verbal ones. Memories may in fact emerge in response to touch or carefully guided body movements. Or they may reveal themselves in visual images..." (p. 45); finally, "...imaginative exploration of material ... enables the deepening of images and the enrichment of meaning, versus limiting our understanding..." (p. 50). In addition, Stephen Levine (1994) states with regard to Winnicott and Hillman, "Another name for formlessness for Winnicott is 'play'. Play is the activity in which boundaries are transgressed. The child at play inhabits a transitional space in which he or she is neither one with nor separate from the other. "Transitional space', 'formlessness' and 'play', it seems to me, are all ways of comprehending what we have called 'chaos'. ... James Hillman's archetypal psychology similarly envisions a playful, creative psyche in which the imagination gives the key to pattern, meaning and order. ...For Hillman, 'soul-making' is the goal of psychology. We 'make' our souls by entering into their imaginal workings. ... I see both Hillman and Winnicott as providing the basis for a new psychology, one which can admit the element of chaos in the psyche. It is significant that both are 'artistic' psychologies. In both of them, the poetic imagination, poiesis, has a central role....Poiesis, as the act of meaning- and selfmaking, stems from the imagination." (p.4/5).

In order to shed more light upon some fundamental points, I want to add some remarks to an inspiring dialogue by Ellen and Stephen Levine (1994) "...about art, therapy and the search for wholeness." As they discuss the ideas of order and disorder at some length, I am going to focus instead on the pulling forces of an attractor.

Near the beginning of the dialogue, Ellen Levine states: "...what I have noticed in my own paintings is how naturally order comes to be there for me when I don't even try. When I try to have things be disordered, they keep finding a sense of order." To me, she is expressing here the impossibility for a human being to stay in or to establish chaos, for life as we know it has been wrested from chaos during the process of evolution. Life itself is a complex but ordered process; Gestalt Psychology has done a lot of work to show that perception even at its physiological basis creates some order (for example the figure-ground-distinction or some laws of perceptual organization). However, art does not mean to be pushed by these forces of order but to be pulled from ahead, from imagines, which seem to be disordered - because the order of the future state cannot be perceived in the present - but the emerging order pulls the creative process nevertheless. This becomes even more obvious when Ellen Levine writes a little later: "... But even though I always start from a fresh place, there's a theme that keeps emerging, a kind of ordering that comes about so that my style now seems to be easily

recognizable to people. It's not something that I plan beforehand. It seems that I have an innate sense of order or an innate thematic that keeps playing itself out." (I believe most artists would agree with this). If Ellen Levine would plan her paintings beforehand, it would not be art as an manifestation of imagination but just fantasy or merely craft. The personal "style" makes clear that "emerging from chaos" does not mean a "random process". In contrast, we find a nice combination of uniqueness (each painting is unique) and repetitive order ("style"). However, this "repetition" is on a very high level of complexity. The "innate sense" that lets that order emerge reminds me (besides some inborn Gestalt principles) of Plato,'s "ideas" or Kepler's and C.G. Jung's "archetypes" (which have a lot to do with attractors: Even in the dialogues on archetypes between C.G. Jung and Wolfgang Pauli, the Nobel-prize-winner in physics, Pauli stated that for a common scientific language, which binds psychology and physics together to one theory of the "unus mundus", the one world, the concept of attractors, more precisely "automorphism", could be the fundamental idea - this was at about 1950, two decades before attractors and automorphism were rediscovered as fundamental concepts in the framework of modern interdisciplinary systems theory). Plato's "ideas" are also potential forms, an eternal idea in God's mind, but in the realm of our living experience. they are not static but work as structural forces which let form be(come). I already mentioned the notion of the Holy Bible concerning the Creator who creates by imagination and "letting it be" (the process of becoming). Accordingly, we can understand formative processes to be pulled from ahead by attractors, archetypes, ideas and images (which are different words referring to one and the same incomprehensible mystery). It may sound pompous, but if we take the creation from the big bang until now into account, the unfolding of the universe and its manifestation of form, is it then wrong to say that to follow the "innate sense of order" (or better: to let oneself be pulled from that order) means to be pulled from the "ideas" or, what is the same, to let the creativity of the Creator keep on happening? Of course, this "letting be" is broken and manifested at the limit of human existence.

When Stephen Levine answers "...the form is always what emerges from a somewhat chaotic process of making," and Ellen Levine then states, "... I feel that the forms are already embodied in nature ... but, of course, it's translated by me...",they seem to stress similar points. However, Ellen uses the term "translated" in this context, saying that she translates a landscape she perceives into an "essential shape". But what else could an "essential" shape be than the attraction to the imagination triggered by the vivid perception of a what we call a "landscape" And, again, I feel that Stephen Levine agrees with that point when he says, "You have talked about the landscapes being inner landscapes as well as outer landscapes. ... But there is an inner world that the forms of nature seem to have to pass through as they are being transformed into art." Of course, the human body and mind are as much part of "nature", of creation, as those parts of the universe we call the "landscape". Accordingly, Shaun McNiff (1992) emphasizes: "I try to allow the archetypal process of art therapy to reveal itself" (p. 27).

Based on this remark, it is easy to me to be brief when I consider the ssuggestion in Stephen Levine's text: "Let's shift the discussion to your work as an art therapist" with Ellen Levine's response: "... health comes from finding the form of a person's work or life". According to Carl Rogers, I would phrase it this way: To become the person you really are. Or, according to Andras Angyal, besides Goldstein one of the

leading figures of organismic theory (who in1941 coined the term "biosphere"): To shape one's existence into a meaningful, fully expanded whole which will give coherence and unity to one's life. (It should be noted that both Goldstein and Angyal, as medical specialists and psychotherapists, have come into contact with defective" and "disorganized" people, too).

To overcome the constraints of the past, the structure and order that petrifies our vivid living and prevents us from the necessary phase transition and from being in tune with a transitional and changing world, we need our imagination. Due to our fear of chaos - intensified by our society - we tend to repress the creative power of chaos, we tend to guard against chaos and its self-organizing, attracting forces to our detriment. However, as Ralph Abraham states in the third of the above-mentioned "Trialogues", the trialogue on "Chaos and the Imagination": "Repression of chaos results in an inhibition of creativity and thus a resistance to imagination" (p. 42). Therefore we and our patients or clients need a secure room for rediscovering more and more the forces of imagination which pull from ahead, a room to establish a "trust-transition" from trust in controlled order to trust in emerging order, in short: a play-space. Art is a play-space and expressive arts therapy provides such a play space in order to let the healing be.

References

Angyal, Andras (1941): Foundations for a science of personality. New York: Commonwelth Fund Abraham, Ralph, McKenna, Terence & Sheldrake, Rupert (1992): Trialogues at the edge of the West. Chaos, creativity and the resacralization of the world. Santa Fe: Bear & Co. Gleick, James (1987): Chaos. Making of new science. New York: Viking Pinguin

King, Magda (1964): Heideggers Philosophy. New York: Macmillan Co.

Knill, Paolo J., Barba, Helen N. & Fuchs, Margo N. (1995): Minstrels of Soul. Intermodal Expressive Therapy. Toronto: Palmerstron Press.

Kriz, Jürgen (1997): On chaos and order. Gestalt Theory. An international Multidisciplinary Journal. 19, 3, 197-212 Levine, Stephen K. (1994): The second coming. Chaos and Order in Psychotherapy and the Arts. CREATE (J. of the Creative and Expressive Arts Therapies Exchange), 4, 1994, 1-8

Levine, Ellen G. & Levine, Stephen K. (1994) "Is Order enough? Is Chaos too much? A Dialogue about Art, Therapy and the Search for Wholeness. The Arts in Psychotherapy, 21, 4, 279-285

McNiff, Shaun (1992): Art as medicine. Creating a Therapy of the Imagination. Boston: Shambhala