The Soteria-concept. Theoretical bases and practical 13-year-experience with a milieu-therapeutic approach of acute schizophrenia

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First of all, I would like to thank the Japanese Society of Psychiatry and Neurology for the great honor of inviting me to deliver a Special Lecture at its 93th Annual Meeting, concerning our experiences with the pilot-project "Soteria-Berne". My thanks go also to all those who already years before have established contacts between us, among them the translaters and the editor of my book on "Affect logic" that lead the conceptual bases for the mentioned project. In spite of considerable differences between our respective ways of thinking and feeling - differences that have been so interestingly analysed by one of your leading psychiatrists and thinkers, Bin Kimura (1995) - , there are also many common problems that should make an exchange of ideas mutually fruitful.

I am particularly happy that in one of our central common preoccupations, namely the problem of schizophrenic psychosis and its treatment, some of my own approaches seem to appeal to a number of Japanese collegues. The reason for this is probably the fact that with my basic concept of "affect-logic" - or "kanjo ron ri" in Japanese, as I have learned - I am systematically trying to understand feeling and thinking (or emotional and cognitive components of mental functioning, affectivity and logic) in their inseparable interaction, instead of splitting them artificially, as our occidental rationality is constantly tending to do with some devastating consequences. Before approaching my theme, I should, however, mention that the initial concept of affect-logic has been considerably developed, since it was first presented in 1982 (cf. Ciompi 1982, 1986, 1989, 1991, 1994, 1997 c and e). This should also become evident in my subsequent presentation which will be subdivided in the following three parts:

- Firstly, I will outline the empirical and theoretical bases of "Soteria-Berne"
- Secondly, our practical experiences with this concept will be reported
- and thirdly, I will draw some practical and theoretical conclusions.

1. Empirical and theoretical bases

The Greek word "Soteria" means something like "salvation", or "protection". It was chosen by Loren Mosher and Alma Menn as the name for a new community-based milieu-therapeutic approach to acute schizophrenia that they inaugurated in the seventies in San Francisco. Despite the fact that our own theoretical background was (and is) quite different from Moshers and Menns, and that we also introduced certain modifications of their initial proceedings, we wanted to testify our indebtedness for their pioneering work by adopting this same name.

Moshers' and Menns' point of departure was Ronald Laings' Kingsley Hall therapeutic community in London, where Mosher had spent a year in 1966**.** Laing was a leading exponent of the so-called "antipsychiatric" movement of the sixties that criticised the traditional medical, hospital-centered and mainly drug-orientated treatment of psychotic phenomena. On the base of his observations at Kingsley Hall and his own clinical experience, Loren Mosher, a well known researcher in the field of schizophrenia, proposed an alternative approach that was essentially grounded on a psychodynamic-psychotherapeutic understanding of psychotic phenomena. His claim was that human closeness with the psychotic patient ("being with"), based on an adequate psychodynamic understanding in a small, supporting and protective non-hospital setting where neuroleptic drugs were not, or only very parcimoniously, used, could have similar, or even better, therapeutic effects than the traditional hospital-based methods. In several carefully controlled studies, Mosher and co-workers could, in fact, show that comparatively at least similar, and on the subjective level often better, results were obtained by the proposed approach, with much lower doses of neuroleptics and also lower costs (Mosher et al 1975, 1978, 1995). Despite this evidence, the research project "Soteria San Francisco" was eventually closed in the early nineties for lack of financial support. A number of Soteria-like experiences were, however, carried on in the US and elsewhere.

Our own empirical background and approach was, as mentioned before, quite different. On the one hand, systematic follow-up research that we did in Lausanne/Switzerland during the sixties and early seventies had showed, in surprising accordance with previous and succeeding studies by Bleuler in

Zurich/Switzerland and Huber and coworkers in Bonn/Germany, that long-term evolution of schizophrenia was considerably more variable, more favorable and, especially, more depending on environmental and psychosocial influences than hitherto believed (Bleuler 1972; Ciompi et al 1976; Huber et al 1979, 1980; Ciompi1980; see also Harding 1987a and b; Ogawa et al 1987, McGlashan 1988). On the other hand, extensive psychoanalytical and family-centered investigations provided new insights into the individual and social dynamics of outbreak and further evolution of the psychosis (Bateson et al 1956; Singer et al 1978; Benedetti 1982, 1983; Leff et al 1982, 1985). In addition, the development of new techniques of social and vocational rehabilitation proved that innovative approaches based on community-centered half-way institutions could develop a remarkable therapeutic potential (Ciompi et al 1978,1979; Ciompi 1985, Ciompi 1988).

(insert here figure 1)

The concept of affect-logic, that grew out of a synthesis of these ingredients, lead to a comprehensive psycho-socio-biological model of the long-term evolution of the schizophrenic psychosis in three phases (figure 1), based on the notion of vulnerability (Zubin et al 1977; Ciompi 1982; Nuechterlein et al 1984). According to this model, in a *first phase* which lasts from conception until the outbreak of psychosis, a particular vulnerability - or information processing disorder, oversensibility, ego weakness, as it might also be called according to different methods of investigation - is gradually built up by circular interactions between unfavorable biological and psychosocial factors such as genetic or perinatal damages, inconsistent rearing conditions and other traumatisms, contradictory and confusing family communication patterns. Their common denominator is that they all lead to an unstable structuration of important affective-cognitive systems of reference generated through experience - or functionally integrated feeling-thinking-behaving programs, as I also call them - that form the basic "building blocks of the psyche" according to the concept of affect-logic.

In the *second phase,* characterised by the outbreak of manifest psychosis, this vulnerable coping system is critically overtaxed by additional biological or psychosocial stressors, amongst them, alone or in combination, hormonal changes and developmental problems related to adolescence and early adulthood, drug abuse, leaving home, professional difficulties, mating, childbirth, etc..

During the *third phase,* long-term evolution, the above-mentioned variability of evolution can be explained by the changing interplay of different personality structures and other genetically preestablished variables with current stressful or protective environmental influences, such as family attitudes (in particular the so called high expressed emotions), socioeconomic and cultural conditions, institutional factors, and therapeutic, preventive and rehabilitative measures (cf Leff et al 1982, 1985; Kavanagh 1992; Ciompi et al 1976, 1978, 1979; Ciompi 1982, 1988, 1995).

During each phase of the illness, affective factors play an essential role, according to the concept of affect-logic. One central characteristic of the above-mentioned further developments of this concept since 1982 concerns a more precise analysis of the organising and integrating effects that basic affective states continually exert on cognitive functions, and that I call "operator effects" (an operator is a force that acts on a variable and changes it). Overt or secretly underlying affective states of variable intensity, such as fear, rage, sadness, joy continually influence the focus of attention, the selection and hierarchy of cognitive contents, the way how we store and reactivate cognitive material from memory (according to the well established notion of state-dependent memorisation, cf. Overton 1964; Koukkou et al 1986), and how we eventually combine them into a context-related whole. In other words, affects constantly function as outstandingly important reducers of cognitive complexity, thus creating a specific "fear-logic", "anger-logic", "sadness-logic", "joy-logic", "love-logic", "erotic logic", and so on, according to context and dominating affective state. This is, however, only clearly apparent when emotions are particularly intense. In everyday routine, in contrast, where cognitive activity follows semi-automatised habitual patterns

characterised by flexible affects of relatively low intensity, these effects are less evident, but nevertheless constantly at work on an unconscious or only marginally conscious level. Moreover, increasing affective tension is also capable of provoking sudden nonlinear shifts from one global feeling-thinking-pattern to another, e.g. from love-logic to hate-logic, from fear-logic to rage-logic, or, in vulnerable individuals, from a common everyday logic to a psychotic type of mental functioning.

It is not possible to go into more details concerning the empirical and theoretical bases of the concept of affect-logic. Let me just add that this theory is largely supported by current neurophysiologic findings on affect-generating cerebral structures and their close connections with cognitive (and also hormonal, sensorimotor, expressive and behavioural) regulations (Ploog 1989; Gainotti 1989; Derryberry et al 1992; LeDoux 1993; Panksepp 1993). Modern chaos-theoretical notions about the nonlinear dynamics of complex biological and neuronal systems, too, are fully integrated (see below). An elaborated presentation of the current state of the theory of affect-logic and its practical applications will soon be published, in German, under the title "The emotional bases of thinking; Outline of a fractal affect logic" (Ciompi 1997e), and a Japanese translation is, to my pleasure, already under way. One of the main conclusions of this most recent synthesis is that the already-mentioned ubiquitous operator effects of emotions on cognition are of high relevance for understanding the dynamics not only of many psychological and psychosocial everyday processes, but also of psychopathology in general, and of schizophrenia in particular. Apart from their already-mentioned overtaxing effects in phase 2 of the described evolutionary model of schizophrenia, they also contribute to premorbid vulnerability (phase 1) by generating the mentioned instability of crucially important feeling-thinking-behaving programs such as, in particular, the mental representations of self and others (self- and object-representations in the psychoanalytic sense) that guide all interpersonal behavior. And in phase 3, destabilising affective stressors (especially under form of the the above mentioned high expressed emotions) are among the best observed factors that are statistically related to psychotic relapses. The protective effects of an emotionally stable and supportive milieu, on the other hand, will be adressed in the next section.

2. Practical and therapeutic consequences

One important consequence of this new understanding is, in fact, the demand for a therapeutic environment which reduces tension and increases security as much possible, quite similar to the Mosher and Menn approach. Traditional hospital-centered procedures are, however, in many respects rather anxiety-provoking instead of anxiety-reducing (e.g. by violent and non-transparent admission practices, large, loud, promiscuous and often violent admission-wards, privation from personal atmosphere and belongings, lack of adequate information for patients and families, lack of security-inducing personal and conceptual continuity as a consequence of frequent changes from one ward and therapeutic team to another, and so on). All this often leads to a further exacerbation of psychotic fears and symptoms that can only be reduced by higher doses of neuroleptic drugs. The following *eight therapeutic principles* provided the basis for an alternative approach in our pilot-project "Soteria Berne":

1. Instead of treating acute psychotic patients in a traditional closed hospital setting, we admit them in a small, open, friendly, and quite normal family-like house with garden located in the midst of the community and offering a pleasant living space for 6-8 patients and, continuously, at least two nurses
2. During the most acute state, the patient is never let alone, but is accompanied round the clock by a specially selected and trained staff member whose only task is to calm him down, not so much by doing something but rather by silent or talking "being-with", sometimes also by simple common activities such as handcraft, drawing, playing, by soft foot-massages, by walking or running together, or by other activities according to personal intuition and responsibility. This first and most intensive phase of care takes place mainly in a calm and stimulus-protected so-called "soft room" where patient and nurse live constantly together for several days and nights, or even for

weeks. The "soft room" thus becomes a womblike protective environment where frightening and, sometimes, also angry or ecstatic psychotic experiences can be outlived and, gradually, overcome with the help of a solid parental figure and "mentor".

3. Personal and conceptual continuity is assured by a small and closely collaborating team consisting of nine members that are backed by two part-time doctors and work in overlapping 48 hour-shifts, so that at least two staff-persons can continually be present. Staff members are carefully selected for their complementary personal qualities and life experiences: they have different ages and professions, are approximately half male and half female, and approximatively half have a specifically psychiatric background, and half a different professional education that may provide alternative (and perhaps more "normal") understandings of life problems including psychosis. To each patient, two staff-members (usually a man and a women) are specially assigned as personal coordinators and "persons of reference". For half a day per week, all staff members meet to exchange information and coordinate therapeutic proceedings. Fourthnightly, the team gets an external supervision by an experienced psychotherapist, and about monthly, it meets for an hour of "intervision", that is for a common review of managing problems and team dynamics. In addition, two daylong "retreats" that offer time and space for a more fundamental selfcritique are organised per year.
4. Close collaborative relations based on personal trust, frequent visits and extensive exchanges of information are from the first day systematically built up with family members and other important persons of reference. In addition, "educational"-style discussion evenings are monthly offered for familiy members and other close persons.
5. Great emphasis is given to providing, at every formal or informal occasion, information which is as clear, complete and convergent as possible on the illness itself, its evolutionary risks and chances, the methods of treatment and relapse prevention, the current state of scientific knowledge and ignorance etc to patients, family members, and also to professionals, including the staff-members themselves.
6. Concrete therapeutic aims and priorities concerning future housing and work are systematically formulated for each patient in an early phase of treatment. Negotiating (not just prescribing) realistic aims with the patient himself and his family has, implicitly, an important family-therapeutic dimension, because it often allows, for instance, intergenerational or interpersonal boundaries, mutual responsibilities, and areas of privacy to be clarified. Particular attention is also given in this concext to create for everybody who is involved (patients, relatives, important persons of reference, staff members, family doctors, etc) both realistic hopes *and* an adequate consciousness of possible risks (e.g. for relapses) for the future.
7. Neuroleptic medication is used selectively in states of otherwise not controllable tensions, of critical psychosocial events, or of openly threatening relapses. Dosages remain low in the sense of current low-medication and targeted-medication strategies (Herz et al 1982; Carpenter 1983, Herz 1996). Medication is only given in agreement with the patient himself and often also his family, and controlled self-medication is encouraged whenever possible.
8. Post-care and relapse-prevention techniques are, whenever possible, systematically implemented over at least two years, with the help of external therapists and community-based institutions, with a special weight on educating patient and family members on individual-specific prodromi of relapses, and possible preventive measures.

Despite continuous minor adaptations over the years, these eight therapeutic principles have basically remained the same since the implementation of Soteria Bern in spring 1984, that is 13 years ago. They are largely similar to Moshers initial practice; main differences concerning, however, the composition of staff in our project (not lays only, but also professionels), the adopted techniques of family work, rehabilitation, relapse prevention, and, to some extent, also the used low-medication and targeted-medication strategies. Therapeutic skills of staff members for managing psychosis in such a setting have, of course, considerably increased with growing experience. Whereas completely drug-free treatments were quite frequent at the beginning, early low and targeted medication strategies have eventually become more frequent, thus lowering the risk of a time-induced fixation of therapy-resistant psychotic

patterns of feeling, thinking and behaving. Activities such as house-keeping, cooking, gardening, shopping and so on that strengthen the contact with everyday realities and simultaneously also lower the overall costs, were systematically included in the therapeutic programs right from the beginning. Different day-structuring ergotherapeutic, art-therapeutic and music-therapeutic activities were eventually introduced in addition, when it became clear that the therapeutic program was, initially, not sufficiently structured especially for patients who were no longer severely psychotic. Formal social and vocational rehabilitation, as well as different types of individual, group or family treatments carried our by external agencies were, whenever possible for technical reasons, flexibly combined with part-time care in Soteria itself during a phase of transition before leaving the community. When psychotic relapses occur, former patient are readmitted whenever possible. About 200 psychotic patients have so far been admitted or readmitted at Soteria Berne; and a number of them have been included in different evaluative research programs - among them a systematic 2-year matched pair comparison with traditional methods - on which information will be given below. In addition, friendly informal contacts continue for years with many former patients and their relatives, providing non-systematic follow-up information on long-term evolutions that has, however, not yet been fully exploited in formal research.

<u>Practical experiences and research results</u>

Our experience with this approach has many different aspects, among them objective and subjective ones, short-term and long-term aspects, and also more patient-related, family-related, staff-related or society-related aspects. It is, of course, not possible to discuss them all here. Two points of particular interest however shall be selected for a more detailed presentation. The first one concerns phenomenological aspects and subjective experiences of staff, patients and family members that have been explored, mainly, by the method of participant observation (cf. Aebi et al 1993), and the second one will deal with some of the main results of our evaluative research. (Ciompi et al. 1991, 1992, 1993).

Concerning *phenomenology and subjective experience,* the unique field of observation provided by the fact that our staff lives 24 hours a day, and for 48 hours continually, in close personal contacts with minimally medicated psychotic patients and their families, has certainly considerably increased, and also changed, our understanding of the enigma of psychosis. First of all, we learnt that the boundaries between "normality" and "psychosis" are extremely flexible in such a situation. Psychotic states and symptoms change not only from day to day, but from hour to hour, and even from moment to moment according to the current situation. They are highly dependent on environmental influences, and especially on the immediate basic emotional state of staff members and other patients. Increasing emotional tension, irritation, or ambiguity of communication almost invariably intensifies psychotic disturbances, whereas lowering tension, genuine calm, clarity and respectful friendliness decreases them. Too much change, confusion, noise and stimulus overload (e.g. from visits, television, invasive music, newspapers, too complex or too heavy discussions, etc.) has the same unfavorable effect. Emotional contact with the healthy parts of the personality remains usually possible even across highly psychotic states; and maintaining this contact proves extremely helpful in the long run, even though seemingly ineffective at the time. Authenticity and reliability of communication are among the most powerful therapeutic tools, just as are maintaining hope and confidence that things will change again despite extreme current difficulties. The main attitude of staff members confronted with the terrifying fears and odd thoughts of the acutest psychotic phase should closely ressemble the calming, securing and "holding" attitude (Winnicott, 1965) of a good mother that supports her ill child caught in high fevers with heavy nightmares. This, of course, implies not only warmth and proximity, but also the ability to maintain an adequate distance and keep one's mind cool, when things become too hot. Similarily, the unavoidable limits of personal presence and closeness and, above all, the final necessity of separation from an "ideal parent" which may be identified with the therapeutic community must be kept in mind, and clearly signified, right from the beginning. - Exactly the same simultaneously open and firm, authentic and sympathetic, understanding and reality-oriented attitude has proved useful, mutatis mutandis, with family members and with other persons of

reference. In summary, anxiety and fear certainly appear as the emotional core-symptoms of psychosis on all relevant levels (patient and family, and even professionals and society in general), and these emotions also play a central role, as I believe and will further discuss below, in the genesis of psychotic thinking and behaving.

The *evaluative research* was mainly done in two studies, the first one concerning immediate outcomes without a control group, and the second one comparing the outcomes of Soteria patients after two years with carefully matched controls coming from four different hospital settings in Switzerland and Germany. From these studies, the following findings are of particular interest:

Firstly, by using a German version of the well known "Ward Atmosphere Scale" (WAS) by Moos (1974), it was verified that the therapeutic atmosphere in Soteria differed significantly from the atmosphere in four traditional control institutions (figure 2, Ciompi et al 1993). Main differences concern greater emotional closeness and more warmth and spontaneity of patient-staff relations in Soteria, and less hierarchy, order and control.

(insert here figure 2)

Secondly, immediate results on the four "axes" of psychopathology, housing situation, work situation, and global outcome were very good or good in about 2/3 of the first 56 treated cases. Statistically, women and less medicated patients had a significantly better outcome than men, respectively than patients receiving higher doses of neuroleptics (Ciompi et al 1991). This latter and, at first hand, quite surprising finding should not be overinterpreted, however, as an indicator for a superiority of a drug-free treatment, because only the most severely disturbed and milieutherapy-resistent patients received higher doses of neuroleptics, according to the above mentioned treatment rules. The main result of this first study is, therefore, the confirmation that acute psychotic patients with schizophrenic spectrum disorders (full schizophrenia in 39 out of 56 cases according to DSM III criteria, 14 schizophreniform psychoses, 3 unclear) can in fact be successfully treated in a Soteria-like setting, as claimed by Mosher et al (1978, 1995).

(insert here figure 3)

Thirdly, our comparative study revealed no significant differences between Soteria patients and controls, two years after first admission, concerning the same four axes, and, in addition, the relapse rates. Significant differences existed, on the contrary, concerning daily and total doses of neuroleptic medication that were about 3-5 times lower in Soteria (figure 4 and 5), and also concerning the average duration of institutional care which was 6 months in Soteria, versus 3 months in the control settings (Ciompi et al 1993). This longer duration was mainly related to the fact that initially, we systematically tried to include full social and vocational rehabilitation into the Soteria treatment, for reasons of personal and conceptual continuity. But longer duration means also higher costs, as average daily costs were exactly the same in Soteria and in the control settings - an economically not acceptable difference which could, however, be fully corrected by eventually displacing the main period of rehabilitation towards less expensive part-time institutions and thus limiting the duration of stay in Soteria to three months only, on average.

(insert here figure 4 and 5)

Globally, our evaluation confirms that with much lower doses of neuroleptic medication and without higher costs, similar 2-year results can be obtained with the Soteria approach, as with traditional drug-centered hospital treatments. In addition, casuistic observations and follow-up informations over up to now 13 years suggest that many former Soteria patients have had a considerably better long term evolution than usual. Advantages seem to be mainly located on the subjective and innerpsychic level, in particular concerning

a less traumatic subjective impact of the psychotic experience and the subsequent institutional measures. Feelings of personal value and identity, too, seem better preserved, allowing for a better eventual integration of the psychotic experience into the whole personal life history. Even clearly maturating effects related to the psychotic crisis and its psychodynamic elaboration in Soteria could sometimes be observed, especially when post-care was adequately prolonged, after discharge, by rehabilitative measures and a sufficiently long individual-centered or family-centered psychotherapy.

Conclusions and further implications

In summary, we were able to fully confirm Mosher's observations that in an open Soteria-like environment, acute schizophrenics can be as successfully treated as in a traditional hospital setting, but with much lower doses of neuroleptics and without higher costs. Some findings even suggest better results in the long run, especially on the subjective and psychodynamical level. How can this be explained?

In my opinion, an explanation is mainly possible on the basis of an affect-centered understanding of the dynamics of the human psyche in general, and of the dynamics of psychotic states in particular, along the lines conceptualised above. The theory of affect-logic leads, in fact, to the hypothesis - which is extensively discussed in my already mentioned book on "The emotional bases of thinking" (Ciompi 1997e) - that neuroleptics do not directly influence cognitive functions, but act primarily on emotions by their impact on the affect-regulating limbic and paralimbic structures which, secondarily, then influence cognitive functions and behavior. Similar but more differentiated, because more closely context-related, problem-centered and personality-adapted effects of emotions on thinking and behaving can, however, also be obtained in a natural way, as showed by the Soteria experience. Somewhat provocatively, it might therefore be concluded that lasting human support in an emotionally relaxing, protecting and empathic milieu has the same effects on psychosis as neuroleptic medication, but without the corresponding short-term and long-term side-effects.

An additional unconventional conclusion on the same lines is the hypothesis that schizophrenia, too, and not only mania or depression, may basically be an "affective psychosis" of, however, a quite particular kind (cf. Ciompi 1997d and e). This at first sight probably surprising idea, too, is based on the mentioned organising - or, at critical levels, pathologically disorganising - operator effects of emotions on cognitive functions: whereas under normal conditions, affective-cognitive interactions and their effects on thinking show an optimal average flexibility and adaptability to changing contexts, these interactions become pathologically onesided, in opposite directions, in mania and melancholia, where euphoric or melancolic emotional connotations are rigidly attributed to perceptions and thoughts of all kind. In acute schizophrenia, on the contrary, the functional links between affects and cognitions become too loose and unstable. This, in turn, leads to a highly disfunctional discontinuity of cognitive and behavioral activities with, sometimes, extreme degrees of ambivalence. Already Eugen Bleuler, the father of the concept of schizophrenia, considered a pathological "loosening of associations" as a pathogenetic core phenomenon of this enigmatic illness (Bleuler 1911). He also already postulated a central importance of affective dynamics for all kind of psychopatholgy in general (Bleuler 1926). Another outstanding German speaking psychopathologist, Werner Janzarik (1959, 1988), developed since the fifties quite similar ideas in the framework of his concept of "structural dynamics". Recent clinical as well as neurophysiological and neuropathological findings, among them the already mentioned circular relations between limbic-paralimbic and prefrontal areas as well as the growing evidence for abnormalities just in these areas in schizophrenics point in the same direction (Bogerts 1985, 1995; Buchsbaum 1990). Recent spectroelectroencephalographic findings, too, that show a predominant role of anxiety (and sometimes also aggressivity) in all kind of schizophrenic states, including chronic states characterized by so called "flattened emotions" (Machleidt et al 1989; Machleidt 1992), speak for an affect-centered schizophrenia hypothesis (that will, besides, be extensively discussed at a three-day symposium in Hannover/Germany in September of this year).

Further support for an affect-centered understanding both of normal and pathological psychodynamics is provided by the chaostheoretical approach of mental functioning that we have systematically developed on a theoretical level, and partly also confirmed by empirical research, during the last years (Ambühl et al 1992; Tschacher et al 1997; Ciompi 1989, 1997a, b, e). In this view, basic emotions such as fear, rage, sadness, joy etc. have attractor-like effects on cognitive functioning, and normal as well as psychotic states can be understood as so-called dissipative structures in the sense of Prigogine et al (1983) which are organised and integrated by the dominant emotional "tuning". They correspond, in fact, to global patterns of affective-cognitive functioning that are characterised by a specific distribution of affective connotations among the relevant cognitions. Under certain conditions, sudden non-linear changes, or so-called bifurcations, toward globally different, namely psychotic (paranoid, hebephrenic, catatonic, etc) patterns of affective-cognitive functioning can occur after a more or less long period of intense fluctuations. Of particular importance is the fact that critically increasing affective tensions, that are related to the affective-cognitive stressors mentioned above in the framework of our 3-phase schizophrenia model, may be understood, from the chaos-theoretical point of view, as so-called control parameters in the sense of Haken (1982, 1993) which furnish the energy needed for the observed overall shifts toward a globally different (that is, psychotic) dynamic pattern of functioning. Formerly peripheral delirious ideas, on the other hand, can be understood as newly emerging so-called order parameters that eventually reorganise (or "enslave", as Haken calls this phenomenon) the whole mental and behavioral field in a new way, after a critical period of instability.

Both for clinical practice and for research, it follows from all this that much more attention than has so far been the case should in future be paid to affective factors, and especially to the emotional atmosphere of therapeutic settings and proceedings of all kind. Results of drug trials, too, remain biased, as long as this important variable is not adequately controlled. Just like patients with acute heart injury or decompensated diabetes, acute schizophrenics, too, need specialised intensive care in small therapeutic settings which are properly adapted to their particular needs. Only in such an environment does it become possible to combine adequately the complementary effects of modern psychotherapeutic, sociotherapeutic and pharmacotherapeutic approaches into a differentiated instrument that corresponds to the complexities of a severe psychosis.

I therefore hope that Soteria-like institutions will multiply in the future. This is also necessary to deepen our experience and further explore the many research questions that still remain open, among them especially the long-term evolutions and the exact nature of the self-repairing forces that are at work in favorable cases. Just in German-speaking countries, about 20 Soteria-like projects are currently in preparation, and at least one other "Soteria" is already functioning (in Frankfurt an der Oder/Germany). In addition, certain components of the Soteria approach, for instance the so-called "soft room", have been introduced quite successfully into several conventional hospital settings. At another symposium in Berne in October of this year, we will try to obtain an overview of the rapidly expanding Soteria scene in Germany and elsewhere. Hopefully, the information that I have had the privilege to provide at this 93th Annual Meeting of the Japanese Society of Psychiatry and Neurology will help to promote similar developments in Japan, too.

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