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The 'Basic' Symptoms of Schizophrenia

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By concentrating on the apparently uncharacteristic stages in the course of schizophrenia, Huber has drawn attention to subjectively basic symptoms (Huber, 1980, 1983; Huber *et al*, 1979). He has shown in his long-term follow-up investigations of schizophrenic out-patients that uncharacteristic (basic) stages (see below) prevail in the long term when compared with periods of relapse. His new typology of psychopathological outcome underlined these uncharacteristic (purely asthemic) types of remission ("*reiner Defekt*" — Huber 1957*a*, 1961, 1966).

'Substrate-close' basic symptoms

The psychopathology of the basic stages is characterised by manifold dynamic and cognitive deficiencies which are experienced and communicated by the patients themselves as disorders and impairments. The subjectively experienced basic symptoms, elicited by the descriptive–phenomenological method of Jaspers & Schneider, offer a chance to analyse more closely what so-called schizophrenic symptoms may truly be. Huber described them in 1986 as 'substrate-close basic symptoms' because they constitute the primary symptoms of schizophrenia, that is, they are nearer to the hypothesised somatic substrate than the complex psychotic phenomena which are formed and modified by secondary processes. They are termed 'basic' symptoms because they form the basis of a fluctuating productive psychosis (Huber, 1988).

Limbic structures and basic symptoms

Hypothetically, basic symptoms are ascribed to impairments of selective information processing, of lack of hierarchies of habituation and to genetically determined biochemical disturbances in the limbic system ("limbo(thymo)pathy" — Huber, 1971, 1983; Gross & Huber, 1985*a*, *b*). The assumption of a limbopathy and a connection between limbic structures and basic symptoms is supported by the results of neurophysiological, EEG, and psychological investigations (Eroen, 1968; Poljakov, 1973; Huber *et al*, 1979; Hasse-Sander *et al*, 1982). Morhpological alterations in the temporal and diencephalic area of the brain and abnormal rhythms in the EEG point to mesolimbic structures (Huber & Penin, 1968; Penin *et al*, 1982).

Basic symptoms occur in both early and late stages of the disease, and especially in residual states, such residual states can simply be deficiency syndromes, and are often, as Huber stated 20 years ago, an indication of failure; however, they can be almost completely compensated for by favourable environmental conditions. This result was confirmed by the Bonn study (Huber *et al*, 1979).

Phenomenological aspects of the terminology

The phenomenological aspects of pre-psychotic syndromes and prodromes, of post-psychotic reversible basic stages and of irreversible pure defect syndromes reveal a far-reaching overlap. Therefore we have grouped these non-psychotic, untypical manifestations of classic schizophrenia under the term "basic stages in a broader sense" (Huber, 1976, 1983).

Uncharacteristic pre-psychotic syndromes precede the psychotic first manifestation on average by 10 years, last on average 5 months, and then remit completely. Uncharacteristic prodromes last on average 3.2 years, and pass over into the psychosis continuously (Gross, 1969). Post-psychotic reversible basic stages appear immediately after remission of the florid psychotic symptoms. They are differentiated from post-psychotic irreversible pure defect syndromes only when the associated cognitive and dynamic deficiencies persist continuously for less than 3 years (Hasse-Sander *et al*, 1982). Of theoretical and aetiological importance, and also of therapeutic relevance, is that the uncharacteristic basic deficiencies really form the basis of the complex first-rank symptoms. The question is whether the reversible psychotic manifestations are connected with the dynamic and cognitive deficiencies.

Transition states

By follow-up investigations it was possible to prove the existence of psychopathological transition states between basic symptoms and psychosis (i.e. between negative and positive symptoms) and to disprove the objection that such basic symptoms occur in a number of different psychic disturbances. This objection, that basic symptoms are not specific to schizophrenia, overlooks three points:

(a) There are no symptoms specific to schizophrenia: first-rank symptoms are not exclusive as they also appear in organic brain disorders.
(b) The descriptions and definitions of basic

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symptoms in the Bonn scale (Gross *et al*, 1987) are characteristic of schizophrenia, especially for the cognitive basic deficiencies — although such phenomena also occur in organic brain diseases; they do not in neurotic or psychopathic personality disorders.

(c) We could prove by follow-up investigations how subjectively experienced basic deficiencies (negative symptoms) can develop into florid psychosis — i.e. into schizophrenic symptoms in the conventional sense.

Thus we can show that it is not tenable to separate so-called positive from so-called negative symptoms or acute from chronic schizophrenia, or a Type I from a Type II syndrome, because all these syndromes are stages of the same disease.

In the last few years our group has investigated systematically, with the Bonn scale, 121 patients. We found 216 transitions from the basic syndromes to florid psychosis (Huber, 19657*a*, 1966; Klosterkötter, 1988; Klosterkötter & Gross, 1988).

We could show that nearly all single cognitive and coenesthetic basic symptoms are primary experiences of psychotic symptoms. For example, disturbances of perception are the basis of delusional perception, and certain cognitive disorders are the basis of acoustic hallucinations. This would support our earlier hypothesis that altered perceptions are very important for the generation of delusional perceptions and misidentification of persons (Huber & Gross, 1977).

The three developmental levels

Basic symptoms can occur in three developmental levels: quite uncharacteristic, (level 1); more or less characteristic (level 2), and, after having undergone modifications by secondary processing, conversion and amalgamation with the so-called 'anthropological matrix', the typical schizophrenic phenomena (level 3). The symptoms can develop from uncharacteristic symptoms (level 1) to somewhat characteristic symptoms (level 2) into productive–psychotic symptoms (level 3) and vice versa. These three developmental levels ('*Entwicklungsstufen*') can then be conceptualised as existing on a psychopathological continuum. The third level, to which level 1 and level 2 basic symptoms may progress in the same patient, also includes Schneider's first-rank symptoms of schizophrenia (Schneider, 1987). As long as no fixation or automatisation takes place in level 3, the development remains reversible; for example, bodily hallucinations (level 3) can revert to coenesthesias (level 2) and to uncharacteristic bodily sensations (level 1).

For the concept of basic symptoms and disorders to be of clinical use, it is important that basic symptoms fluctuate in both their manifestation and degree, depending on given situations, without a discernible cause. Therefore it is only possible by continuous observation to recognise and document the level 2 symptoms, which often occur only in a short and transitory intermediate step before reaching level 3 and corresponding to a higher degree of 'process activity' (Huber & Penin, 1968; Penin *et al*, 1982).

Basic symptoms frequently occur in paroxysms and phases and are released by non-specific everyday situations. In order to acquire more knowledge about basic symptoms in their nascent state and about the relationship between basic deficiencies and florid psychotic symptoms it is necessary to extend the analysis to early and prodromal stages in which the phenomena can most likely be elicited in the original form, not having yet been modified by secondary processes.

Basic stages may show very different degrees of process activity. The so-called pure defect states, the irreversible basic stages, are usually lacking in process activity. The degree of process activity can be determined on the basis of clinically assessed psychopathology. Symptoms in process activity states are, among others, level 2 disorders of cognitive thought, perception, or coenesthetic symptoms, or more characteristic schizophrenic basic symptoms such as vague delusional mood and level 2 delusional perception (Conrad, 1958; Huber & Gross, 1977).

Process activity phases can be correlated, for example, with EEG and neurochemical findings. In phases with a higher degree of process activity the EEG shows abnormal rhythms in the form of alpha-, theta- or delta-parenrhythms, attributable presumably to disturbed functions of the limbic system (Huber & Penin, 1968).

It should be emphasised that basic symptoms are not specific in the sense of being exclusive to schizophrenia. They can also be observed in schizo-affective psychoses and partly in cyclothymic depressions, and even — rarely — in organic brain disease, but not in healthy individuals nor in neurotic and psychopathic personality disorders (Gross 1986; Huber, 1983).

For clinical utilisation of the concept of basic disorders and symptoms it is important that the latter are accessible to the patient's own perception, and also communicable. Most patients are able, in the long term, to view their basic symptoms with critical detachment, to recognise their deficiencies and to develop coping, shielding and avoidance strategies. The patients learn how much strain they are capable of absorbing (socially and professionally) more or less consciously avoiding situations that provoke or intensify their 'negative' symptoms, or even psychotic relapses.

The Bonn Scale

Because of the overlapping psychopathology of the pre-

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and post-psychotic reversible and irreversible basic stages, it was possible to construct the Bonn Scale for the Assessment of Basic Symptoms (BSABS) for a standardised documentation of basic symptoms of all pre- and post-psychotic basic stages (Gross *et al*, 1987).

This rating scale is based on the subjectively experienced and reported complaints of 450 patients who had stayed in hospital, at least once in their life, with the diagnosis of schizophrenia and who were re-examined by us by late catamnesis after an average of 22.4 years in irreversible basic stages ("pure residual states" — Huber *et al*, 1979).

In the Bonn Scale the basic symptoms are registered in five main categories and one additional category covering 98 single items. Each basic symptom is defined by means of distinct criteria, commented upon in a glossary, with examples.

The BSABS is a rating scale different from the Frankfurter questionnaire of Süllwold (1983) and the Iowa Scale of Andreasen (SANS). The basis of the Bonn Scale rests upon the complaints and disorders experienced and related by the patients as deficiencies whereas the scale for the Assessment of Negative Symptoms (SANS) is based predominantly on the observation of the patients by the investigator (Andreasen & Olsen, 1982; Gross & Huber, 1985*a*, *b*; Süllwold & Huber, 1986). The Bonn Scale is outlined below, but for greater detail the reader is referred to Gross *et al* (1987).

Two conditions constitute basic symptoms: (a) if the symptoms are not only described as level 1 but also as level 2, that is if they are of special or characteristic quality; and/or (b) if similar complaints disappear during the course of disease.

Direct dynamic deficiencies

The first main category of the BSABS (A), 'direct dynamic deficiencies' (negative symptoms), includes complaints about increased physical and mental exhaustion (A.1) and decreased energy, resilience and perseverance (A.3). Patients complain of physical or mental strain they could cope with quite easily before the onset of the illness; disorders take the form of general weakness, weariness and decreased efficiency. As a direct reaction to these deficiencies patients tend not to allow themselves to make an effort. In contrast to their pre-morbid behaviour they display an inclination to rest; they cease normal activities for hours or even days at a time and sit or lie down frequently.

Indirect dynamic deficiencies

Physical or mental strain can also provoke indirect negative symptoms, such as inner disquiet or tension, sleep disturbances, obsessional thought patterns, coenesthesias, central-vegetative disturbances and lack of concentration. Triggering factors can be physical work in and around the house or the job, sport or such commonplace tasks as dressing or eating. Most frequent causes of mental strain leading to provocation of symptoms include visitors, conversations, or activities that require close concentration, such as reading difficult texts. Patients try to avoid such situations and others like additional workload, problems, or emotional events as these can intensify symptoms.

In the second main category of dynamic deficiencies (B) with indirect negative symptoms, the most important item is increased impressionability (B.2). Everyday events; for example discussions and arguments with others immediately concerning the patients or persons close to them (B.2.2), are experienced more frequently and intensely as insulting, disparaging or offending than before the onset of the illness. The grief and misfortune of others, or fictitious negative information, e.g. crime novels or movies, or memories of the previous disease (B.2.3), provoke indirect negative symptoms, especially obsessive brooding. Such events leave a more intensive and longer-lasting impression than before the illness.

Cognitive thought disorders

The third main category (C.1) deals with cognitive thought disorders. They can be partly summarised under the heading of 'losing control of thought processes' (Huber, 1957*a*, 1961, 1966, 1983).

In interference of thought (C.1.1), patients have intrusive notions that block the current train of thought, leading to increased distraction and loss of attentiveness. Patients try to counter the frequently registered disturbances of concentration (C.1.5) and memory (C.1.8–C.1.11), and the subjectively experienced vacancy of mind or blocking of the current train of thought (C.1.4) by reorganising their work or reducing the speed of it, or by finishing tasks immediately. Patients with disorders of receptive speech (C.1.6) do not entirely grasp the meaning of written or spoken words. In the case of disturbances of expressive speech (C.1.7), the patient may use ingrained speech patterns, and with an increase of such stereotypes a patient's vocabulary can become destitute. This can lead to poverty of speech or poverty of content of speech as Andreasen described in the Iowa Scale (SANS).

Patients with cognitive perception disorder (C.2) complain, for example, about blurred vision, hypersensitivity to light or visual stimuli in general (C.2.3), or about a change in intensity and quality of acoustic perception (C.2.7) resulting, e.g., as hypersensitivity to noises.

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Coenesthesias

Coenesthesias (D), the fourth main category, belongs to the most frequent basic symptoms (70%) in all types of reversible or irreversible hypergic basic stages. Coenesthesias predominantly occur as paroxysms setting in with or without external stimuli and lasting for seconds, minutes or hours. Coenesthesia, asthenia and dysthymia commonly occur together and are typical in all basic stages (Huber, 1966). First described as "schizophrenic bodily sensations" by Huber in 1957*a*, *b*, coenesthesias usually concur with decreased vitality ('asthenia'), and show a phenomenal similarity to spontaneous sensations of the thalamus (Huber, 1957*b*). Coenesthesias can, over short periods, fluctuate in intensity, sometimes becoming intolerable and even leading to suicide. The special experience suffered from these bodily sensations is connected with the difficulty of describing these sensations.

Diagnosis and treatment

Until the present time a comprehension of basic symptoms was neglected, although they are very important for early diagnosis and early and adequate treatment. The therapy (psychopharmacological as well as psychological training methods) has to be centred upon the various inter-individual basic deficiencies. It should thus be possible to impede any increase of cognitive basic symptoms and disorders in prodromes and pre-psychotic syndromes before the transition to schizophrenic psychotic symptoms. Here we have to consider that the capacity to experience and communicate the basic symptoms, the ability to maintain insight and still be able to cope with the basic deficiencies diminishes with increasing process activity of basic symptoms.

The susceptibility to breakdown under certain critical conditions, e.g., large workloads, emotional stimulation or a change in everyday situation, which strain the patient's information-processing capacity, causes a decrease in the patient's efficiency. On the other hand it allows the understanding of reactions and behaviour that at first seem incomprehensible to observers, and threatening to the patient himself (Huber, 1983; Süllwold & Huber, 1986).

Our results support the hypothesis that long-term prognosis is more favourable and complete remissions more frequent if an adequate therapy commences as early as possible, preferably in the prodromal stages (Gross *et al*, 1983; Huber *et al*, 1979).

The results of the Bonn study show that the patients are able to overcome psychosis but less so, or not at all, the basic symptoms which persist after remission of psychotic episodes and constitute the basic stages. Withdrawal (secondary autism) is very often a consequence of the patient's effort to cope with the basic symptoms, at least partially and/or to avoid situations which can precipitate or increase basic symptoms including provocation of and/or transition into productive psychotic symptoms. The risk of deterioration and intensification of basic symptoms and provocation of psychotic relapses by triggering factors can be mitigated through a combination of neuroleptic treatment and rehabilitation regimes adequately structured with respect to intensity and quality of the basic symptoms (Huber, 1983; Süllwold & Huber 1986; Gross *et al*, 1987).

If we want to find the fundamental disturbances in schizophrenia we have to abandon some of our conventional ideas, e.g. that the whole personality of schizophrenics is always affected in contrast to patients with organic brain diseases; that schizophrenic patients have no ability to perceive their deficiencies, cannot maintain a critical distance to them and are unable to cope with, adapt and compensate for them. Over the long term, the majority of schizophrenic patients do not present with typical psychotic phenomena; instead they show basic stages which are different from the 'conventional' schizophrenic syndromes. Basic stages manifest more as a failure of efficiency than as a change of personality. This implies that the ability to work and have social contacts is impaired, whereas, for example, legal responsibility is maintained. The concept of basic symptoms therefore is of considerable importance for the treatment and the proper social appreciation of the phenomenon of schizophrenia (Huber *et al*, 1979; Huber, 1983). The standardised documentation in the Bonn Scale of the basic symptoms is important therefore for therapeutic strategies and rehabilitation programmes and especially for prevention, early diagnosis and early treatment.

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