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Original Articles

THE CLASSIFICATION OF SCHIZOPHRENIA

THE VIEWS OF KLEIST AND HIS CO-WORKERS

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A. INTRODUCTION

THIS is a summary of the views and findings of Professor Karl Kleist and his co-workers. It is based on a series of papers published by members of the Frankfort-am-Main University Psychiatric Clinic from 1939 to 1951.

These papers are the result of follow-up studies carried out on patients who had been admitted to the Frankfort Clinic between 1920 and 1953. These patients had been diagnosed as suffering from one of Kleist's special forms of schizophrenia.

Kleist believes that schizophrenia is an illness which finally produces a defect of personality and he excludes all schizophrenic illnesses which recover without defect. These are regarded as Degeneration Psychoses and their nomenclature is determined by the presenting symptom, so that one has Motility Psychoses, Confused Psychoses, Perplexed Signification Psychoses and so on.

For Kleist the schizophrenias are psychic system illnesses and correspond to the neurological system illnesses such as progressive muscular atrophy and hepatolenticular degeneration. The individual system illnesses of the nervous system are characterized by one or a few simple symptoms which are present throughout the whole course of the illness. These system illnesses can be shown to be due to degeneration of certain functionally organized parts of the nervous system and are, therefore, anatomical system illnesses. Kleist believes that in the psychic system illnesses one must look for nuclear symptoms which are due to the degeneration of definite isolated systems of the brain.

These views of course are shared by Kleist's collaborators, who were Professor K. Leonhard, W. Driest, Cl. Faust, E. Faust, G. Meyer, E. Neele and H. Schwab. In the course of this article mention will be made repeatedly of the Frankfort series of cases, and this will be done when reference is being made either to a paper of which Kleist was a co-author or to a paper published by one of his collaborators. Apart from the series of cases followed up by Kleist attempts to classify schizophrenias along similar lines have been made

by Professor K. Leonhard, who has also collaborated with Kleist in follow-up studies on the Frankfort clinical material. Occasional reference is made in the papers under consideration to Leonhard's separate investigations, but no attempt is made here to summarize Leonhard's findings, which will be shortly appearing in book form. It should be pointed out that all the genetic investigations which will be referred to were carried out by Professor Leonhard.

Although Kleist makes a very detailed subdivision of the schizophrenias he takes pains to point out that his method of classification differs from that of Kraepelin in that Kleist's classification depends on signs of illness which are definite and easily understood. He criticizes Kraepelin because his classification depended on the severity and the extent of the morbid phenomena. Kleist insists that it is the type of the morbid phenomena which is important in classification.

Four main groups of schizophrenia are recognized by Kleist—catatonias, paranoid schizophrenias, confused schizophrenias and hebephrenias. It must be pointed out that the word confused applies to the speech and thought of the patient and does not mean that the patient is disorientated. There is no satisfactory word to convey the completely disordered speech and thought of these patients; perhaps the word muddled is the nearest English word for this.

In each main group of schizophrenia there are simple basic forms and atypical forms. The basic forms are for the most part distinguished by a few simple symptoms which are present throughout the whole course of the illness. These symptoms increase in severity and extent as the disease progresses.

The atypical forms were originally just those cases which could not be classified as simple forms. Later it was realized that there were two sorts of atypical cases. There were those atypical cases which could be regarded as combinations of two simple forms and those which could not. In the combined atypical forms one form may be dominant and merely coloured by the other form. On the other hand symptoms of both forms may be well expressed and may co-operate to produce symptoms not normally associated with either form. The atypical forms which could not be understood as combinations of two typical forms have been called atypical forms in the restricted sense. In these atypical forms the symptoms are due to disturbances in many psychic systems. Apart from this the symptoms often change or increase during the course of the illness, which indicates that fresh psychic systems are being involved. Because of this these atypical forms have been called extensive. Such extensive atypical forms were found by Kleist in catatonia, paranoid schizophrenia and confused schizophrenia, but not in hebephrenia.

B. Speech and Thought Disorder

It is necessary to understand Kleist's views on speech and thought disorder, before discussing the various subforms of schizophrenia. Thought disorder occurs to some degree in all schizophrenics, and in some forms of schizophrenia the type of speech and thought disorder may be characteristic.

Kleist distinguishes between thought disorder and speech disorder in schizophrenia. Other authors have denied the validity of such a distinction, but Kleist has pointed out that certain disorders of speech similar to aphasic disorders do occur in schizophrenia. Apart from this some patients with grossly disordered verbal productions behave in a reasonably ordered way which would not be expected if the speech was purely an expression of thought disorder.

1. Disorders of Thought

(a) *Incoherence*

In incoherence there is no relationship between one thought and the next. The patient is unable to maintain an aim of thought. Kleist believes that the organizing function of attention is disturbed.

Incoherence can occur at the height of flight of ideas because of rapid progress of thought and because of confusion. However, true or primary incoherence can occur which is independent of the tempo of thought and of diminution of awareness. Individual thoughts stand beside each other in an isolated manner, since no connection exists between them.

(b) *Paralogia*

This is a disorder in the finding of concepts which takes place in the preverbal stage of thinking. Kleist considers thought as having a sensory or receptor side and a motor or effector side. Paralogia is therefore a sensory thought disorder. The patient cannot present or define objects, persons, connections or events. He cannot give a correct account of the nature or significance of these things. Concepts emerge incompletely or allied concepts emerge instead of or in addition to the required concept. The concepts are thus mixed together. As the thinking by-passes the task of thought it can therefore be called paralogical.

Kleist believes that the neuropathological basis for the paralogical thought disorder is a lesion in the transitional area between the left occipital lobe and the third temporal convolution.

(c) *Alogia*

This is an inability to produce finished thought or a pure loss of thought. The patient is unable to form relations or to avail himself of acts of thought which have been accomplished. This disorder is not always easily distinguished from thought disorder due to defective motivation, akinesia, inattention or impairment of consciousness.

2. Disorders of Speech

(a) *Paraphasia*

This is a mishandling of words or sounds; there are two types of paraphasia, literal and verbal. In literal paraphasia there is a derangement of the sequence of individual sounds, whereas in verbal paraphasia the words themselves are correctly formed but there is a faulty choice of words. A special or higher type of verbal paraphasia is found in the "secondary word formations". Here incorrect word derivations or word combinations are formed. This is one variety of neologism or new word formation.

Kleist points out that neologisms are not all due to the same kind of speech or thought disorder. Thus distortions due to literal paraphasia and contractions due to agrammatism may produce neologisms as well as verbal paraphasia. Some neologisms are technical terms used to designate complex delusional ideas. Other psychological phenomena may form the basis of neologisms. Thus some neologisms are verbal stereotypies, others may be due to the patient's attitude. An infantile attitude may lead to the production of diminutives, while a grandiose attitude may lead to the use of rare foreign words and odd phraseology.

Despite the views of other authors, Kleist is convinced that true speech disorder occurs in schizophrenia. In paraphasia there is a mishandling of words that produces sentences which at first sight appear to be senseless. However, if the paraphasic distortion is recognized then one can often realize that the sentence has a precise meaning. One can thus translate the ill-formed expressions into understandable language.

(b) *Agrammatism and Paragrammatism*

These are both disorders of word sequence. Agrammatism consists of a simplification and coarsening of word sequence. All the words which are not absolutely necessary may be left out. In severe cases only adjectives and nouns in the nominative, verbs in the infinitive and participles remain. Kleist believes that this disorder is due to a lesion in the frontal lobe.

Paragrammatism consists of an incorrect selection of expressions and sentences which are often mixed up and contaminated with one another. Verbal expression is not reduced and simplified but on the contrary it is complicated and abundant.

C. Catatonias

1. Introduction

These illnesses are considered to be due to disorders of the higher motor centres. Thus two forms of catatonia are thought to be due to disorders of motor centres just above the basal ganglia and the signs of these illnesses are not unlike those of Parkinsonism and Huntington's Chorea. The next four forms of catatonia are disorders of striving or tendency; they are therefore due to lesions of the subcortical motor centres. The last two forms are disorders of drive and due to lesions in the frontal lobes.

Kleist and Leonhard classify catatonias into eight forms which can be seen as four opposed pairs. In each of the pairs the disorder in one member is due to overactivity of the centre or psychological activity; while in the other member of the pair there is underactivity or loss of function.

The eight forms of catatonia originally isolated by Kleist were:

1. Akinetic (Rigid) Catatonia.
2. Parakinetic (Buffoonlike) Catatonia.
3. Stereotyped (Manneristic) Catatonia.
4. Iterative (Excited) Catatonia.
5. Negativistic Catatonia.
6. Prosectic Catatonia. (Now called Proskinetic Catatonia by Leonhard.)
7. Speech-prompt Catatonia.
8. Speech-inactive Catatonia.

After further investigation iterative catatonia was seen to be an atypical form. Signs of other forms occurred in iterative catatonia and it appeared to be an extensive atypical form. This was confirmed by the study of the course of the illness; new symptoms emerged from time to time and the course was markedly remittent.

Apart from the atypical extensive form atypical combined forms occur, where a typical form of catatonia may be combined with another typical form of catatonia or with another typical form of one of the other main groups of schizophrenia.

2. The Clinical Features of the Original Forms of Catatonia

(a) *Akinetic (Rigid) Catatonia*

The outstanding feature is impoverishment of movement which progresses rapidly to a complete and lasting akinesia. If movements occur, they are tentative and clumsy. The muscles may yield to passive movements or there may be a resistance which often gives way and is followed by co-operation. There is an increase in muscle tension but absolute rigidity does not occur. Negativism in the sense of a general active resistance to all attempts to influence the patient is not present. The patient may at times be persuaded to make movements. Waxy flexibility with automatic obedience may occur. Immobility may be interrupted at times by sudden impulsive movements. Parakinetic movements, stereotypies and iterative movements may occur at times, but are never very marked. When attempts are made to get patient to walk the legs are crossed over. The patient lies in bed with the head uplifted from the pillow, the legs adducted and the whole body drawn together. The absence of movements also expresses itself as absolute mutism. The face shows an absence of mimicry, the movements of the eyes and eyelids are restricted. The patients do not bother to feed themselves and are incontinent of urine and faeces.

Kleist compares the symptoms of the illness with those of the myostatic syndrome which occurs in encephalitis lethargica and paralysis agitans. He believes that they are due to a lesion of the centre responsible for psychokinetic impulses (*Regungen*).

This form of catatonia is rare and usually has a fatal outcome.

(b) *Parakinetic (Buffoon-like) Catatonia*

Here the leading symptoms consist of fragmentary movements which resemble those of chorea, athetosis and the tics. Although they look like involuntary movements they can always be imitated and are partly reminiscent of expressive and intentional movements. Phonetic parakinesias occur as clicking, snorting and hissing noises or the uttering of syllables and words with no meaning. Voluntary movements (including speech movements) are affected by the parakinesia so that a parakinetic dyskinesia occurs. The parakinetic movements show a limited amount of variation and there is a tendency to stereotypy. Episodes of akinesia, of general motor excitement or of isolated pressure of speech may occur.

Kleist believes that this illness is due to a disorder (in the sense of over-activity) of the centre for psychokinetic impulses (*Regungen*). This illness is not dangerous to life.

(c) *Stereotyped (Manneristic) Catatonia*

This is characterized by stereotypies and mannerisms. The mannerisms may be constantly repeated. As the illness proceeds an impoverishment of movement slowly occurs. Thought and speech disorders with paralogia and neologisms are found. Affect gradually declines. The illness runs a mild course and is relatively rare. Kleist considers it to be a disorder of striving or tendency (*Strebung*).

(d) *Iterative (Excited) Catatonia*

The leading symptom is iteration. This is a rhythmic repetition of movements and verbal utterances with a uniformity and restriction of content. The

uniformity is not as marked as in stereotypy. Parakinesias occur as well as expressive movements and short circuit movements. These movements are not marked enough to colour the picture. Excited states occur and are followed by states in which very little movement is present. Because of these excited states the risk to life is greater than in stereotyped catatonia. The illness is, however, always frequently interrupted by complete or fairly good remissions. Signs of defect develop gradually and are not very marked. Kleist regards this illness as a disorder of striving or tendency.

(e) *Negativistic Catatonia*

Here there is an active striving against the outside world. If passive movements are attempted resistance to the movement increases to the same degree as the force used by the examiner. There is a general restriction of movement and any attempt to approach the patient produces active movements of withdrawal. Thus when the examiner proffers his hand the patient withdraws his. If the patient is approached he turns away or may run away. If the examiner persists in getting into contact with the patient then the patient strikes out. Any attempt to force the patient to do something leads to violent opposition. Apart from this sudden impulsive actions may occur. The course of the illness is steadily progressive and leads to a severe defect state. The risk to life is considerable. The illness is fairly common. Kleist regards this form as due to a disorder of striving or tendency and considers that the opposite form to it is prosectic catatonia.

(f) *Prosectic* (*proskinetic*) *Catatonia*

These patients turn towards the examiner. When looked at, nodded to, or spoken to they begin to whisper incomprehensible rubbish. The speech disorder can be summed up as verbigeration with pressure of speech. The facies are completely expressionless. Short-circuit motor excitements occur. The patients make quick movements and seize on to things. However, they easily give way. They can be pushed into doing those things which the examiner wants them to do. The seizing on to things may develop into a magnet reaction. The tendency to turn towards the examiner is compared by Kleist to the affirmation tendency of some organic patients.

(g) *Speech-prompt Catatonia*

Here the tendency to talk is outstanding. These patients are always ready to answer questions but they answer hastily, with no consideration and in a more or less senseless way. Thus *Vorbeireden* is present in which one can also recognize incoherence. The extent of paralogia in the *Vorbeireden* is difficult to assess. Agrammatical disorders are present and alogical defects can be demonstrated in tests of thinking. There is a verbal over-excitability and pressure of speech. General restlessness occurs and this may develop into excited states at times. Iterative, stereotyped and parakinetic movements occur. A general defect of drive is present and can be traced back a fair way in the previous course of the illness. As the illness proceeds verbal and general motor excitement decreases. Poverty of movement increases and akinetic phenomena may occur at the same time, such as Co-operation, Flexibilitas, Opposition and Dyskinesia. These occur more often than in the speech inactive form. The facies are expressionless and are in marked contrast to the readiness to talk. This form is considered to be a disorder of drive and is due to a combined disorder of the frontal lobes and the brain stem.

(h) *Speech-inactive Catatonia*

In this form there is a restriction of spontaneous speech. Patients look at the questioner but either do not answer or say very little. What speech there is consists of stereotyped remains of speech and agrammatisms. Alogical thought disorder is present and the content of thought is muddled. Auditory hallucinations are present but the content cannot be determined. There is a general defect of drive. Kleist compares this illness to Pick's Disease of the frontal lobes.

3. Differences Between Typical and Atypical Catatonias

All these illnesses end in more or less marked defect states. A steadily progressive course occurs in about two-thirds of all cases and remissions occur in a little more than a third of all cases. Complete remissions are rare and only appear in the first or second remission. Shifts of the illness usually last three to six months. The simple subforms with a few exceptions run a steadily progressive course. Two-thirds of the combined forms are steadily progressive. The iterative catatonias run a shift-like remitting course. The iterative excitement may pass into an akinetic phase and there may be a cyclic course reminiscent of circular psychoses. In the end states and remissions iteration is not clearly present and signs of psychomotor deficiency are prominent. In this case impoverishment of movement, absence of affect, and inactivity of thought with alogical thought defects are common.

Thus iterative catatonia is atypical in its symptomatology which extends beyond one psychological system. In addition its symptomatology varies during the course of the illness unlike that of the simple and combined forms which are relatively stable. Thus it is atypical in yet another way. Finally, the frequent remissions contrast with the more or less progressive course of the typical forms and this is yet another reason for calling iterative catatonia atypical.

In an attempt to explain the difference between typical and atypical forms Kleist and Leonhard postulate two factors in the production of the atypical forms. One factor is an inferiorly endowed system in the brain and the other is a toxic cause outside the nervous system. This latter could be endocrinological and its variation in strength would account for remissions and variations in the symptoms. Its additive effect on the defect in the nervous system would produce symptoms which would not be entirely confined to one system.

4. Genetics

Kleist found genetic loading to be the least in the typical forms, more in the combined forms and most in the atypical forms.

In different typical forms there are different degrees of genetic loading. The parakinetic form is most heavily loaded. Kleist believes that iterative and parakinetic catatonias are inherited as Mendelian dominants and so probably are the other typical forms but penetrance is restricted.

5. General Features

The previous personality was schizoid in two-thirds of Kleist's cases. Poor scholastic performance was common. The age of onset ranged from 15 to 41 years but it clustered between 21 and 25 years with a mean age of 25·3 years.

Ten years after the onset of the illness two-thirds of the patients in the series were dead; the death rate of the females was twice that of the males. Tuberculosis was the cause of death in 38 per cent. of the fatal cases.

D. Paranoid Schizophrenias

1. Introduction

Kleist regards paranoid schizophrenias as disorders affecting the concepts concerned with various spheres of the psyche. There is the allopsychic sphere in which concepts are found which deal with the relation of the ego to the world around it. Then there is the somatopsychic sphere in which concepts are found which deal with the relation of the mind to the body. Finally there is the autopsychic sphere in which concepts dealing with the attitude of the mind to itself, are found.

Different paranoid schizophrenias may affect concepts which are to be found in one or more of these three psychic spheres. Thus grandiose delusions concern the autopsyche while hypochondriacal delusions concern the somatopsyche.

Kleist has isolated seven typical forms. These are:

1. Phantasiophrenia.
2. Progressive Confabulosis.
3. Progressive Verbal Hallucinosis.
4. Progressive Somatopsychosis.
5. Progressive Autopsychosis.
6. Progressive Inspiration Psychosis.
7. Progressive Influence Psychosis.

As in the Catatonias atypical forms are found which are either combinations of typical forms or extensive atypical forms. The extensive atypical form of paranoid schizophrenia has been called by Kleist the Progressive Reference Psychosis.

2. Individual Typical Forms

(a) *Phantasiophrenia*

Morbid experiences in this illness have a fantastic colouring. The environment is changed in an almost fairy-tale like way. Memory falsifications and misidentifications occur. Patients have utterly senseless delusions which contradict ordinary common sense. Mass hallucinations occur, that is hallucinations indicating that mass activities are going on. Thus the patient hears the screams of many people being murdered. Hallucinations of bodily sensations are usually present but hallucinatory voices are not prominent. These patients behave fairly well but their drive diminishes as the illness proceeds. Thought is fairly well ordered and paralogia is not marked. The misuse of words and the occurrence of neologisms are very restricted. Affect is cheerful and lively in the early stages but it becomes blunted in the further course of the illness. Isolated catatonic phenomena may occur. This illness is fairly common; the Frankfort investigators found 13 cases in the series—9 females and 4 males. The average age of onset was 39·5 years. The pre-psychotic personality was abnormal in about two-thirds of cases and the school record was good in about two-thirds. The illness runs a progressive course but is not associated with an excessive mortality and death is usually due to old age.

(b) *Progressive Confabulosis*

The feature of this form is the presence of falsifications of memory. These occur in the form of connected accounts which are brought forward as personal experiences. All the ideas connected with the self are enriched and for the most

part falsified in an expansive way. Fantastic changes of bodily sensation and of the external world are not prominent. These patients may present a more or less normal appearance for a long time. Thought is well ordered; paralogical and verbal disorders are even less than in Phantasiophrenia. Affectivity is fairly well preserved and the patient is energetic and industrious.

There were 5 cases in the Frankfort series; 2 male and 3 female. The average age of onset was 38·7 years but the onset was earlier in the males than in the females. The previous intelligence of these patients was good. The course was slowly progressive with no real remissions.

(c) *Progressive Verbal Hallucinosis*

There may be a prodromal stage which can be of three different kinds. An anxious depressive phase, a neurasthenic phase or a phase of self-reference. In most cases the hallucinatory voices begin suddenly and are accompanied by severe anxiety. This accounts for the frequency of suicidal attempts at the beginning of the illness. The voices are frequently recognized as morbid at the onset of the illness and they disturb the patient very much. Sometimes patients feel that they are being robbed, insulted or persecuted in some way. The content of the voices is closely connected with the patient's life. *Gedankenlautwerden* is very common. Elementary auditory hallucinations of noise such as buzzing and hissing occur. At times the voices are assumed to be coming from persons who are supposed to be present but at other times the voices are not related to the environment in this way. Sometimes the voices are attributed to the wireless or the telephone. Often the voices arise out of parts of the patient's own body. Sometimes the voices are derived from noises in the environment (so-called functional hallucinations). Other kinds of hallucination occur, most frequently visual hallucinations. Bodily sensations and hallucinations of smell and taste are found less often, and disappear in the further course of the illness. The patient's views of his environment change together with the sense deceptions. The illness is thus a progressive allopsychosis. The personality is well preserved and no deterioration of concepts concerned with the body or the self takes place. Drive and ability to work are preserved to a great extent. Isolated catatonic symptoms rarely occur and are transient. The Frankfort workers found 15 cases of this form; 11 women and 4 men. The average age of onset was 35·5 years. The pre-psychotic personalities were abnormal in two-thirds of cases, and the same proportion of cases were moderately well endowed intellectually. The course is nearly always progressive; only one patient had a remission. At follow up two-thirds of the patients were in an advanced defect state and one-third in a mild defect state. Only one patient died and death was due to tuberculosis.

(d) *Progressive (Hallucinatory) Somatopsychosis*

The chief symptoms in this form are hallucinations of bodily sensations and grotesque delusional formation concerning the body. In the milder form the bodily sensations dominate the picture while in the severe form the delusions are most prominent. Auditory hallucinations occur early in the illness but subside as it progresses. Visual hallucinations were only found in one case. Often the auditory hallucinations are prominent at the onset and the bodily sensations only come to dominate the picture as the illness progresses. Thus it may be difficult at the beginning of the illness to differentiate Somatopsychosis from Verbal Hallucinosis. Genital sensations are particularly prominent,

especially in women, who often complain of being raped every night. Doctors and nurses may be blamed for this at times but devils and other supernatural agencies may also be blamed. Often the patient does not postulate a cause for the sensations or may be indefinite saying that the sensations are due to "them" or "people". Electricity, burning, stabbing and apparatuses may be claimed as the cause of the sensations.

The illness may begin with anxiety, suicidal attempts or experiences of reference and significance. These patients are tormented by their sensations and therefore become sullen, discontented and reproachful. Affective changes are present to some degree at the onset but become more marked in the later course of the illness. Outbursts of scolding occur. Some patients deteriorate markedly and lose their drive, activity and desire to work. Mild cases may be employable and even sometimes in positions of trust in the institution.

Fifteen cases occurred in the Frankfort series; 12 women and 3 men. The age of onset ranged from 30 to 54 years with an average age of 39·6. Not quite half of the patients had abnormal pre-psychotic personalities. Over one-half of the patients had good or very good intellectual endowments while one-fifth had poor endowments.

The course was interrupted by partial remissions in one-third of all cases but complete remissions did not occur.

(e) *Progressive (Expansive) Autopsychosis*

In this form ideas connected with the patient's own personality are affected by delusions. In some cases the clinical picture is an expansive one but in others the deterioration of the personality is so severe that the patient is confused about his own personality.

In the mild form sense deceptions and experiences of significance are only demonstrable in the early stages. The number and extent of the grandiose ideas become rather limited. However, the elevated pose remains unchanged. Claims of quite a different kind and value are expressed at the same time thus showing that there is a deterioration of concepts connected with the personality.

In the more severe form there is a more destructive disorder of the personality. Voices, bodily sensations are not pronounced and do not last for long.

The age of onset ranges from 21 to 41 years with an average age of 32·1 years. Kleist found 8 cases of this form in his series; 4 men and 4 women. Three patients had abnormal pre-psychotic personalities. Intelligence was very good in 7 cases.

The course is more often continuous than interrupted.

(f) *Progressive Inspiration Psychosis*

This form is distinguished by the occurrence of inspirations and is closely connected with the next form to be described which is distinguished by experiences of influence.

The inspiration is experienced as a terrific elevation into a state of grace or ecstasy. The mood is cheerful and the patient is ready and anxious to help and love his neighbour. Thoughts are alienated and experienced as inserted by divine, supernatural or cosmic forces. Ideas of self-reference may occur to a limited extent. Ideas of significance may also occur. Thought and speech disorder may be found in some cases.

The Frankfort workers found 3 cases of this kind. Their pre-psychotic personalities were described as erotic, sensitive and enterprising. The intelligence

of these patients was good. The course was continuously progressive in one case and remissions occurred in the first year in the other two.

(g) *Progressive Influence Psychosis*

These patients feel that they are influenced in some way. Thought is felt to be influenced by others or withdrawn. Very little attempt is made to systematize the delusions. Bodily sensations are experienced. Ideas of self-reference occur. In some cases thought and speech disorders occur. The affect is suspicious, ill-humoured and irritated. The social attitude is very cool. The general attitude is that of a persecuted person protecting himself.

Only two cases were found in the Frankfort series and their pre-psychotic personalities were unsociable and nervous. In one case there was a remission in the first year, whereas in the other the course was continuously progressive.

The age of onset for all the cases of Progressive Inspiration and Progressive Influence Psychoses ranged from 27 to 40 years with an average age of 32·6 years.

3. Genetic Loading in the Typical Forms

The incidence of psychiatric illnesses in the families of patients suffering from the typical forms has been estimated by Leonhard. The incidence in the siblings of the hypochondriacal form was 6·2 per cent.; the verbal hallucinatory form 3·6 per cent.; the fantastic form 3·9 per cent.; the confabulatory form 1·7 per cent.; and the autopsychic expansive form 2·0 per cent. In all Leonhard's typical paranoid forms—excluding his incoherent schizophrenia—the incidence of schizophrenia was 3·3 per cent. among the siblings and 2·7 per cent. among the parents. Kleist considers that the inheritance in these forms is dominant with a restricted penetrance as there is no increase in the frequency of cousin marriages in his series.

4. Combined Forms

Combinations of any two paranoid subforms can occur. The characteristics of one typical form may dominate and then the clinical picture may appear as a modification of this form. On the other hand combinations of two forms may lead to the strengthening of certain symptoms or the reciprocal modification of symptoms and thus new symptoms may appear.

In all Kleist found 24 cases with combined forms of paranoid schizophrenia. The following combinations occurred:

(*a*) Combinations of allied forms:

I Phantasiophrenia and Progressive Confabulosis.
II Progressive Verbal Hallucinosis and Progressive Hypochondriacal Hallucinosis.
III Progressive Influence Psychosis and Progressive Inspiration Psychosis.

(*b*) Combinations of forms which are not allied:

I Phantasiophrenia and Progressive Verbal Hallucinosis.
II Phantasiophrenia and Progressive Somatopsychosis.
III Progressive Confabulosis and Progressive Verbal Hallucinosis.
IV Progressive Confabulosis and Progressive Somatopsychosis.
V Progressive Verbal Hallucinosis and Progressive Autopsychosis.
VI Progressive Somatopsychosis and Progressive Autopsychosis.
VII Progressive Somatopsychosis and Progressive Inspiration Psychosis.

The average age of onset was 37·8 years in these cases as against 36·3 years for the simple forms. Not quite half of the patients were reasonably intelligent and rather more than a third were dull. The remainder were of average intelligence.

Just over two-thirds had a steadily progressive course whereas the rest had remissions at the beginning of the illness except in two cases where well-marked partial remissions occurred. In Leonhard's cases the course on the whole was progressive although in some cases it was acute with frequent variations.

Genetic loading was greater in the families of patients suffering from combined forms. Thus the frequency of schizophrenia in the siblings of combined forms was 7·1 per cent. as against 3·3 per cent. for the simple forms. The figures for schizophrenia among the parents were 3·6 per cent. and 2·7 per cent. respectively.

5. The Atypical Extensive Form—The Progressive Reference Psychosis

There is a mild and a severe form of progressive reference psychosis. The mild form consists of different admixtures of two sets of symptoms. One set of symptoms consists of marked ideas of self-reference associated with some experiences of significance. The other set consists of a circumscribed delusional formation and over-valued ideas. These sets of symptoms may occur separately or mixed together.

Sense deceptions are absent or insignificant. Experiences of influence are found sporadically. The delusions are persecutory in nature and grandiosity only develops occasionally.

Decay of conceptual thinking is only seen in isolated expressions in this illness. On the whole speech and thought disorders are slight. In two patients thought deterioration with a fantastic colouring was present. However, these cases were on the borderline of the more severe variety.

Drive and affectivity are not greatly changed. Where there is a circumscribed delusion the affective loading of the delusion is marked. Deterioration of the personality does not occur.

Kleist and his co-workers found 11 patients with this mild variety of the illness; 8 men and 3 women. The average age of onset was 35·5 years. The scholastic performances were good in all cases. Their occupational status was fairly good. The course of the illness was progressive in 7 cases but at times it was insidious so that one case was only admitted to hospital after 18 years. In three patients there were remissions in the early part of the illness. One patient improved enough in the late stages of the illness to be discharged from hospital.

The severe form of Progressive Reference Psychosis is characterized by a deterioration of the thought content which is coloured fantastically or influenced by hallucinations. However, these patients never show the complete development of Phantasiophrenia or an Hallucinosis. Severe thought and speech disorders also frequently occur. Mild catatonic signs may be present.

Many of these patients were originally diagnosed as atypical Phantasiophrenias or Progressive Hallucinoses. Kleist found 8 patients who began with ideas of self-reference, together with sense deceptions or a circumscribed delusional formation. Later on a deterioration of concepts with fantastic or hallucinatory colouring developed.

Kleist had 17 cases of the severe form of Progressive Reference Psychosis; 5 males and 12 females. In one-third of the cases the illness was variable and extensive remissions occurred. In a few cases affective variations occurred and a

cyclic or periodic course was present. On the whole intellectual endowments were good or very good and were average or poor only in isolated cases. Schizoid pre-psychotic personality traits were found only in a minority of cases and a cheerful lively temperament or an anxious one was just as common. The age of onset ranged from 23 to 57 years with an average age of 40·5 years.

These 28 atypical cases can be classified according to their specific clinical features. Thus there were 14 Self-reference Psychoses, 6 Signification Psychoses and 8 Circumscribed Delusional Psychoses. These three forms are not variations of the same basic illness but each variety is a real basic form and has a different degree of severity and a different course.

(a) *Self-reference Psychosis*

In more than half the cases the illness was mild and in about two-thirds of the cases it ran a chronic course. In the rest there was only one full remission.

(b) *Signification Psychosis*

Here the course of the illness was usually severe; only in one case was it mild and that was a borderline one. The course was remitting or periodic in one-third of the cases. Females predominate but as the numbers were small the finding is of doubtful significance.

(c) *Circumscribed Delusional Psychoses*

A severe course of illness occurred in three-quarters of the cases. Nearly one-half had a remitting course or had affective variations.

(d) *General Points About the Three Atypical Forms*

These three basic atypical forms are related to each other and often combine with each other. However, they do not combine with the simple typical forms. The fantastic, confabulatory and hallucinatory symptoms which occur in the severe varieties of the atypical forms are phenomena associated with the general deterioration as are the very marked thought and speech disorders and the catatonic signs. They are not parts of the hallucinatory or fantastic syndromes which occur in the first four typical forms.

Since the illness extends into other psychic fields as it progresses, it can be called extensive. Thus there are three groups of forms of paranoid schizophrenia, typical, combined and extensive.

(e) *Genetics of the Extensive Forms*

Leonhard's figures for the incidence of schizophrenia in the parents and siblings of patients with the extensive forms is 34·6 per cent. and the figure of the incidence of schizophrenia anywhere in the family is 53·3 per cent.

6. Relation of Paranoid Forms to Catatonia

In simple and combined forms of paranoid schizophrenia catatonic signs were sporadic and transitory. In the extensive forms catatonic signs were more frequent and more prominent. Mixed paranoid-catatonic combined forms were found.

E. Confused Schizophrenias

As pointed out before the word confused here is used to designate the muddled speech and thought which is a presenting symptom in this group. Two main groups can be delimited depending on whether the confusion affects mainly speech or mainly thinking. The following classification emerged on follow up of the confused schizophrenias.

(1) Speech Confused Schizophrenias:
  (*a*) Typical Schizophasia.
  (*b*) Atypical Schizophasia.
    I. Combined Forms.
    II. Extensive Forms.

(2) Thought Confused Schizophrenia:
  (*a*) Incoherent Schizophrenia.
    I. Simple (typical) Forms.
    II. Combined Forms.
  (*b*) Paralogical Schizophrenia.
    I. Simple (typical) Forms.
    II. Combined Forms.
  (*c*) Atypical confused schizophrenia with a remitting course.

1. Schizophasia

(*a*) *Typical Form*

Three groups of symptoms are present at the onset of this illness. They are experiences of reference, grandiose ideas and sense deceptions.

Experiences of reference are partly those of self-reference, but experiences of significance and influence are more common. Occasionally experiences of inspiration occur. Ideas of persecution may therefore occur as a result of these various experiences and ideas. These ideas and experiences can be found in the later course of the illness but they become less prominent. At times they are only expressed fortuitously, may have to be asked for or even can only be deduced from the patient's talk.

Grandiose ideas of all kinds occurred in all patients in the Frankfort series except one: he was however haughty in his general attitude. Grandiose ideas were found in the later stages of the illness to the same extent as they were present at the onset.

The sense deceptions which occur are usually auditory hallucinations. They are phonemes and noises. Visions are also reported. The sense deceptions become less marked as the illness proceeds but in some cases they may cause excitements. Bodily complaints are made at times and appear to be based on bodily hallucinations. The severe speech confusion masks the hallucinations.

External behaviour depends on the type and intensity of the delusional and hallucinatory experiences. Hallucinatory voices tend to make the patients suspicious, irritable and inaccessible. As they diminish the behaviour becomes quieter and more orderly. Grandiose ideas are associated with an arrogant haughty attitude. No disorder of drive or impulse is found.

Thought disorder is present and consists of alogical defects and paralogical derailments. Nevertheless the behaviour is unobtrusive and regular useful work can be carried out. This indicates that the role of the thought disorder in the speech confusion is relatively restricted. The thought disorder does not affect the patient's performance but affects abstract logical thinking concerned with speech.

Speech disorder can usually be recognized at the onset and can always be brought to light with tests. Literal and verbal paraphasias occur and secondary word formation is common. Agrammatism and paragrammatism are present.

There is usually pressure of speech which increases when the patient is spoken to. Excited periods occur when the speech is more readily confused and these may be associated with an increase in the strength of the phonemes.

Seven typical Schizophasias occurred in the Frankfort series. The age of onset ranged from 24 to 44 years with an average of 32. Six patients had fair pre-psychotic personalities and one was a tramp. Two patients had blood relatives with psychiatric illnesses. The course was steadily progressive.

(b) *Atypical Forms of Schizophasia*

Here speech confusion of the schizophasic type is the chief symptom but other symptoms unlike those of the typical form are present. Thus sense deceptions may be prominent, psychomotor disorders may be present, somatopsychic changes may be severe and fantastic delusional formation may occur.

Seven combinations of schizophasia with other typical forms of schizophrenia were found. These were:

(I) Schizophasia and Schizophrenia in the restricted sense (incoherent paralogical schizophrenia) 3 cases.
(II) Schizophasia and Phantasiophrenia, 1 case.
(III) Schizophasia and Progressive Somatopsychosis, 1 case.
(IV) Schizophasia and Akinetic (rigid) Catatonia.

One case was an atypical extensive form and in another case no decision could be made.

The age of onset for the atypical forms ranged from 29 to 54 years. The scholastic performance ranged from very good to very bad. The course of the illness was progressive in 6 cases. Two exogenous psychoses, 4 undetermined psychoses and 4 definite schizophrenic psychoses were found among the relatives of the atypical forms.

2. INCOHERENT SCHIZOPHRENIA

(a) *Simple (Typical) Form of Incoherent Schizophrenia*

Self-references of a general kind occur at the onset. Ideas of persecution and injury occur. Grandiose ideas are rare. As the illness progresses these delusional formations become less marked and in the later stages are only expressed rarely. Probably the increasing confusion of thought does not allow the delusional experiences to be elaborated. Misidentifications are characteristic.

Hallucinatory voices occur at the onset and are very lively and disturbing. They mainly abuse and threaten the patient but they also say unimportant things. Elementary auditory hallucinations also occur. Hallucinatory voices continue throughout the further course of the illness and fluctuate in intensity. When they become intense excitements occur and recurrent attacks of excitement due to hallucinations are common. During excitements the patients shout abuse, threaten, are destructive and attack their environment. In quiet periods the voices cause the patient to talk to himself and also produce a state of aversion from the environment. Apart from hallucinatory voices other types of sense deceptions are rare and are not characteristic. Bodily hallucinations may occur.

Affectivity is changed. Some patients from the outset have an irritable declining attitude whereas others are anxious and perplexed. There is a rapid

progressive blunting of affect. Violent affective outbursts of marked irritation occur. The mood state is usually a morose peevishness but may turn into a silly cheerfulness. A few patients were described as friendly, accessible and amenable for short periods.

In the initial stages short-lived stuporous states occurred associated with anxious excitements.

The nuclear symptoms are due to thought disorders. There is incoherence of the stream of thought and a disorder of perceptual thought with paralogical thought defects. Speech disorder of some degree is also present. These symptoms are all present at the onset but increase as the illness progresses until the patient's utterances can scarcely be understood at all.

Paralogical derailments and the mixing of concepts are the chief disorders of perceptual thought but alogical thought defects also occur. The deterioration of concepts affects the allopsychic sphere most frequently and severely. The verbal lapses are restricted; they are partly paraphasic and partly paragrammatical and agrammatical. Severe deterioration of verbal expression such as is present in Schizophasia does not occur.

Associated with the incoherence is an excitement and a disorder of attention. Thought is excited, words are abundant, pressure of speech and motor restlessness also occur. These patients swing rapidly from peaceful to excited behaviour. It is very difficult to persuade them into any form of regular activity. Their general incompetence is the chief point of distinction from Schizophasia.

Ten cases were found; 8 females and 2 males. The age of onset ranged from 18 to 52 years with an average age of 31·9 years. The scholastic performance where it was known was good or average except for two cases where it was bad. No particular pre-morbid personality was common. The family history was not known in two cases. In the rest there were psychoses and abnormal personalities among the blood relatives. In 4 cases a relative probably had a schizophrenic illness.

(b) *Combined Incoherent Schizophrenia*

Nine cases were found. These were:

(I) Incoherent Schizophrenia and Catatonia, 1 case.
(II) Incoherent Schizophrenia and Phantasiophrenia, 4 cases.
(III) Incoherent Schizophrenia and Progressive Confabulosis, 1 case.
(IV) Incoherent Schizophrenia and Progressive Somatopsychosis, 1 case.
(V) Incoherent Schizophrenia and Progressive Verbal Hallucinosis, 2 cases.

The incoherent-phantasiophrenia combined form was seen in some phantasiophrenias which were fantastic and paranoid at the onset but as they progressed deterioration of speech and conceptual thought appeared. These patients have pressure of speech and occasionally pass into excited states. They are idle and cannot be employed, unlike typical Phantasiophrenia where the patients are employable.

The age of onset in these combined forms ranged from 21 to 53 years with an average age of 34·4 years. Six patients were females and three males. Scholastic performance was good or average in 7 cases. In 5 cases the prepsychotic personality was abnormal. The course was progressive in all cases.

3. PARALOGICAL SCHIZOPHRENIA

(a) *Typical Paralogical Schizophrenia*

The main feature is a paralogical thought disorder. Rare alogical defects occur but incoherence is absent. The paralogical disorder is seen in spon-

taneous utterances as well as in tests. There is a decay of concepts and the formation of new senseless concepts concerning the personality, the body and the external world. Absurd actions are carried out and these correspond with the paralogia. Thus one patient destroyed his ear drums with acid because deafness made Beethoven a genius.

The general validity of concepts is completely lost. The word no longer evokes the concept which belongs to it but evokes a completely different concept which may or may not be allied to it in some way. Neologisms emerge in order to denote new concepts but they are rapidly changed and disappear. Verbal paraphasias, faulty derivations and constructions of words are prominent. Agrammatical and paragrammatical mutilation of speech occurs. The patients speak deliberately without pressure of speech and are not usually averted by hallucinations.

Diffuse ideas of self-reference and damage occur early on and even at times clear fears of persecution or poisoning. Hallucinatory voices are a regular symptom whereas other sense deceptions are rare and transitory. As the illness progresses the delusional ideas are scarcely heard of any more, but the voices remain. The voices however do not dominate the picture nor do they cause aversion.

These patients do not participate in the activity which goes on around them and show marked poverty of drive. Their autism slowly increases but it is occasionally interrupted by an excitement due to hallucinations.

Six cases were found; 4 females and 2 males. The age of onset ranged from 18 to 52 years and the average age of onset was 30·5 years. Scholastic performance ranged from very good to moderate. Schizophrenia was found in blood relatives of one patient and a transient atypical paranoid psychosis occurred in another. The course of the illness was progressive in 4 cases and doubtful remissions occurred in 2 cases.

(b) *Combined Paralogical Schizophrenias*

Four cases of combined forms of paralogical schizophrenia were found. In 3 cases it was combined with a catatonic form and in one case with phantasiophrenia.

There were three females and one male. The age of onset ranged from 21 to 47 with an average age of 31·5 years. One patient had a mother with confused schizophrenia and another had an aunt with an involutional psychosis. The course of the illness was steadily progressive in all cases.

4. Atypical Confused Schizophrenia With a Remitting Course

These were originally called "incoherent excited" schizophrenias and are distinguished by the recurrence of fairly severe confused excitements. At the onset and during the early part of the course the diagnosis may vary considerably.

There are a great variety of clinical pictures which have characteristics of incoherent and paralogical schizophrenias. A hallucinatory delusional variety, an affective variety and a psychomotor variety can be differentiated. The hallucinatory delusional variety is characterized by paralogia whereas the other two are characterized by incoherence. Thought disorder is not as severe as in the typical incoherent and paralogical forms.

Five cases of this kind were found; 3 men and 2 women. Age of onset ranged from 23 to 44 years with an average of 30 years. Scholastic performance

was average to bad. Pre-psychotic personalities were abnormal. Two patients had relatives in mental hospitals and 2 had parents who had committed suicide.

5. General Features of All Forms of Thought-Confused Schizophrenia

The course of the illness is commonly progressive in the simple and combined forms but always remitting in the extensive forms.

Females were three times as common as males in the typical and combined forms whereas 3 males and 2 females suffered from the extensive form.

The average age of onset in the extensive, simple and combined forms was 30 years, 31·9 years and 32·9 years respectively. The average age of onset for all thought-confused forms is 31·6 years which is lower than schizophasia (35·3 years) and paranoid schizophrenia (37·3 years) but is much higher than catatonia (25·3 years) and hebephrenia (22·9 years).

The pre-psychotic personality was autistic or sensitive in about one-half of the cases.

The genetic loading is more frequent in the extensive form but it is less in the combined forms than in the typical forms.

F. The Hebephrenias

Kleist regards hebephrenia as the variety of schizophrenia in which the affective deterioration is most marked. He classifies the hebephrenias as:

(1) *Typical Forms:*
- (*a*) Silly Hebephrenia.
- (*b*) Depressive (Eccentric) Hebephrenia.
- (*c*) Apathetic (Shallow) Hebephrenia.
- (*d*) Autistic Hebephrenia.

(2) *Combined Forms:*
Kleist did not find any extensive atypical forms of hebephrenia.

1. Typical Forms

(a) *Silly Hebephrenia*

Here there is a marked affective and ethical flattening. The facial expression is affectless from the onset. These patients do not bother about their surroundings and do not make contact with others. They stand about or sit in corners and do not show any inclination to occupy themselves. They only work when supervised. This poverty of drive is associated with increasing poverty of words. Questions are answered mainly with "Yes" or "No" or "I don't know". Alogical thought disorder is present but paralogical derailments are very rare.

Silly behaviour is characteristic. At the onset there is unmotivated smiling or laughing. In men it is usually a silly smile, but in women it can be a noisy laughter, giggling or smirking. Later in the course of the illness the laughter does not occur spontaneously but only when the patient is spoken to or excited in some way. As well as this childish laughing there is a tendency to childish silly jokes and pranks.

There were 5 cases in the Frankfort series; 3 females and 2 males. The average age of onset was 20·6 years.

(b) *Depressive (Eccentric) Hebephrenia*

The illness begins with a more or less well-expressed depressive state. Suicidal attempts and suicidal ideas are common at the onset. As time goes on the depressive ideas and attitudes lose their affective depth and are less well held. The depressive mood becomes one of discontent. These patients are then querulous, complaining and full of grievances. They pass into irritated excitements for little or no reason.

Hypochondriacal complaints occur at the onset of the illness, are held on to throughout the illness and are brought forward monotonously in the same manner every time. This uniformity of expression produces an eccentric impression. Other eccentricities such as affected modes of speech occur. Peculiar stresses may be placed on words and a peculiar accent may be used.

These patients lose any real interest in their environment but they are always ready to criticize or to be maliciously insulting. They take reasonable care of themselves. Often they make pretentious requests and are haughty or presumptuous in manner.

Although there is some deficiency of drive they are loquacious, talkative and verbose. They are able to work hard and efficiently unless their hypochondriacal or irritated mood makes them discontented.

Hallucinations may occur at the onset but they do not affect the patients very much. Paranoid trends of thought play a more important role and may emerge in different ways.

Six cases occurred in the Frankfort series; 4 females and 2 males. The average age of onset was 22 years.

(c) *Apathetic (Shallow) Hebephrenia*

No characteristic symptoms occur at the onset and 5 of the Frankfort cases of this form were initially diagnosed as catatonia or paranoid schizophrenia. The leading symptom is a severe affective devastation which only becomes obvious after the illness has been present for some time.

Apart from this affective change, states of marked ill humour or excitement also occur. They are mainly irritated excitements but may be depressive or anxious excitements. They may be responsible for the patient's admission and for the initial diagnosis of catatonia. They continue throughout the course of the illness and alternate with quiet periods.

Delusional ideas and hallucinations are almost always associated with these excited states. Voices and bodily sensations are the chief varieties of hallucination. Sometimes these patients talk to themselves or scold softly.

On the whole they show little affect and are indifferent and uninterested. They often work well until interrupted by an excitement. In quiet periods they will often talk about ideas or hallucinations but these are discussed with little affect.

In three cases the excitements were extremely violent and two of the patients died from head injury sustained during an excitement.

There were 7 cases in Kleist's series; 4 females and 3 males. The average age of onset was 20·7 years.

The incidence of psychoses and psychopathic personalities in the families of patients with this form of illness was higher than in any other form.

(d) *Autistic Hebephrenia*

The clinical picture is not easy to recognize at the onset. Delusional formation occurs in all cases. Fear of poisoning is common and may lead to a refusal

to eat. Hallucinations occur in all sensory fields and may cause anxious, irritated excited states. These patients may become violent, at times very violent, without any recognizable cause but usually the violence is related to the paranoid attitude of the patient.

As the illness progresses the patients become increasingly reticent about their hallucinations and delusions. Evidence of these then only emerges in the states of excitement and in the quiet periods they deny everything. They refuse to give any sort of information about their inner life and when questioned they show clearly their refusal to give adequate answers. This is in contrast to the apathetic hebephrenias who admit their hallucinations and accept the diagnosis of psychiatric illness with complete indifference.

Autism dominates the illness and these patients actively strive to shut themselves off completely from their surroundings. They do not bother about their environment at all. Their replies are not adequate and are usually monosyllabic or at times half-formed sentences. They object to being asked too many questions.

Affective blunting becomes more marked as the illness continues. The patients are inactive, they will not wash, they neglect themselves and prefer to lie in bed or sit dreaming to themselves in a corner. If admitted when the illness is well advanced they are often filthy and verminous.

Kleist found 6 cases of this form; 4 males and 2 females. The average age of onset was 28·3 years. The genetic loading with psychopathic and psychotics is lower than in the other three forms of hebephrenia.

2. Atypical Forms

Kleist found two cases of the apathetic-silly combined form. Leonhard found all possible combinations of the four forms.

Kleist's apathetic-silly combined forms showed affective devastation and ill-humoured or excited moods. However, silly behaviour occurred as well.

3. General Features

The average age of onset for the whole group was 22·9 years which is lower than that of the other three main groups of schizophrenia. The average age of onset of the autistic form (28·3 years) was much higher than that of the others and is in keeping with the marked paranoid element in this form.

12·5 per cent. of hebephrenias had a remitting course and 87·5 per cent. were steadily progressive. Some of the remissions were somewhat doubtful. In the 24 cases there were 11 males and 13 females. In the catatonias, confused schizophrenias and paranoid schizophrenias there was an excess of females who made up 59 per cent., 60 per cent. and 63·7 per cent. of the cases respectively.

No evidence about the pre-psychotic personality could be obtained in 8 cases. Thirteen patients had previous abnormal personalities. The level of intelligence was lower than in the other groups.

The genetic loading of 12·5 per cent. was found in the families but this included 2 doubtful cases. Schizoid psychopathy was very common and the incidence in the families was 83·3 per cent. The loading of the two combined apathetic-silly hebephrenias was greater than in the other forms.

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