# LEONHARD'S CLASSIFICATION OF SCHIZOPHRENIA

By

**FRANK FISH, M.B., M.R.C.P., D.P.M.**

*Senior Lecturer,*
*Department of Psychological Medicine, University of Edinburgh*

## A. Introduction

Jaspers (1946) has pointed out that in the history of psychiatry one can distinguish two main types of psychiatrist. On the one hand there is the describer who depicts a lively clear clinical picture and communicates it to the reader in everyday speech. On the other hand there is the analyst who dissects the clinical picture and tries to obtain clear concepts about the abnormal phenomena. The describer is always popular because little effort is required to understand his views and appreciate his clinical descriptions. However it is much more difficult to understand the analyst as this requires time-consuming preparatory work and an attempt to apply the analyst's views in practice. Thus anyone who wishes to understand the views of Kleist and Leonhard, who are the modern representatives of the great clinical analyst Carl Wernicke, has a difficult task. If therefore this present communication appears to disagree with other work recently published by the author (Fish, 1957b, 1958) then all that can be said in extenuation is that the analysis of clinical pictures is difficult and one can only achieve accuracy in this field by learning from mistakes.

The author in a previous communication has outlined the views of Kleist and his co-workers on the classification of schizophrenia (Fish, 1957a). It may have appeared from that communication that Leonhard agreed entirely with Kleist. This in fact, is not so. Although Leonhard's views are similar in some respects, his classification of schizophrenia is less cumbersome and his clinical descriptions are more precise. He originally investigated schizophrenics who had been ill for longer than ten years, because he believed that the clinical picture would be more stable in such patients. He investigated 530 chronic schizophrenics in the Gabersee Mental Hospital and the Erlangen Nerve Clinic and Mental Hospital. He published his results in a monograph in 1936 (Leonhard, 1936). He divided chronic schizophrenia into systematic and nonsystematic groups. The systematic group he further subdivided into six catatonic, two hebephrenic and six paranoid subgroups. He then joined Professor Kleist in Frankfurt and took part in the follow-up studies on schizophrenia carried out by Professor Kleist and his pupils. Leonhard continued to develop and modify his ideas on the classification of schizophrenia and published a series of communications (Leonhard, 1942 a and b, 1943 a and b, 1944 a and b) which owing to World War II are not readily available in Britain. He has now published his views in book form (Leonhard, 1957).

Leonhard has retained the broad division of schizophrenias into systematic and nonsystematic groups. In the systematic group one system in the central nervous system is believed to be involved by the disease process in the case of the simple systematic forms. In the case of the combined syste-



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matic forms two such systems are involved. In nonsystematic schizophrenias the disease process is believed to involve several systems in the central nervous system and is also not primarily a disease of the nervous system. Leonhard is very precise about the symptomatology of the systematic schizophrenias. He describes in detail the groups of symptoms which are characteristic of each subgroup. He does not recognize a separate main group of speech and thought confused schizophrenias. His scheme is thus less cumbersome than that of Kleist but it is in some ways more precise. In practice because of the more precise description of symptoms it is also much easier to use.

Unfortunately the more recent views of Leonhard were not fully known to the author when he began to investigate a series of chronic schizophrenics in 1955. An attempt was made to classify these patients according to Leonhard's earlier views. This was not possible as a large number of cases were found to be unclassifiable. In view of the fact that Kleist's views were more readily accessible this series was classified according to Kleist's scheme (Fish, 1958). Since this was done the author has been able to study Leonhard's views more closely. He has also had the good fortune to discuss the matter with Dr. Christian Astrup of Oslo, Norway, who has classified 122 chronic schizophrenic patients according to Leonhard's scheme (Astrup, 1957). During his recent stay in England, Dr. Astrup and the author reviewed the author's original series of chronic schizophrenics. They were able to examine jointly all but eight of these cases and classify them according to Leonhard's scheme. Four additional cases were also seen which had been excluded from the previous series because of inadequate investigation. The author carefully considered the protocols of the eight cases which could not be seen jointly and he was able to classify them according to Leonhard's scheme. All these 111 female patients who had suffered from schizophrenia for more than ten years could be classified according to Leonhard's criteria without too much difficulty. The distribution of these cases among the various subgroups is shown in Table 1.

### B. The Non-Systematic Schizophrenias

Leonhard considers that earlier authors were wrong when they grouped together all psychological illnesses which ended in a defect state and called them schizophrenia. He believes that the systematic schizophrenias are quite different from the nonsystematic schizophrenias. Like Kleist he separates off from schizophrenia a group of psychoses which show symptoms which other authors consider to be schizophrenic (Schneider, 1955), but which have a favourable outcome. Kleist, following Schröder, originally called these psychoses degeneration psychoses but later he used the term cycloid marginal psychoses (Cycloide Randpsychosen); Leonhard calls these illnesses cycloid psychoses.

These cycloid psychoses, which are three in number, are the anxiety-happiness psychosis, the excited-inhibited confused psychosis and the hyperkinetic-akinetic motility psychosis. These psychoses are bipolar in that opposite groups of symptoms may appear at the same time or at different stages of the illness. Thus in anxiety-happiness psychosis there may be an anxious unpleasant mood with ideas of self reference, hypochondriasis, ideas of inferiority, sense deceptions and ideas of influence. On the other hand there may be an exalted mood with ideas of inspiration which are associated with

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hypochondriasis, ideas of reference and sense deceptions. In the excited inhibited confused psychosis there are phases of excitement and inhibition. In the excited phases there is pressure of speech with incoherence. Misidentification of persons, ideas of reference and auditory hallucinations may occur in such phases. Perplexity occurs in the inhibited phases often together with ideas of reference and significance and less often in association with auditory hallucinations. The hyperkinetic-akinetic motility psychosis has an excited and an inhibited phase. The excited phases consist of a purposeless hyperkinesia, while in the inhibited phase all forms of movement are restricted but reactive and expressive movements are affected before the purely voluntary movements.

These cycloid psychoses are similar to the "degeneration psychoses" of Kleist. Leonhard claims that they are clinical entities which can be isolated on clinical and genetic grounds. Other authors would, of course, regard these illnesses as abortive forms of schizophrenia (Mayer-Gross, Slater, Roth, 1955).

The main reason for discussing the cycloid psychoses here is that Leonhard believes that the nonsystematic schizophrenias are more closely related

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to cycloid psychoses than they are to the systematic schizophrenias. He relates each variety of cycloid psychosis to a variety of nonsystematic schizophrenia which he divides into affect-laden paraphrenia, schizophasia and periodic catatonia. Thus he considers that anxiety-happiness psychosis is related to affect-laden paraphrenia, motility psychosis to periodic catatonia and confused psychosis to schizophasia. The differential diagnosis of the cycloid psychosis from the nonsystematic schizophrenias may be difficult but Leonhard claims that there is no difficulty in distinguishing between a systematic and a nonsystematic schizophrenia. The systematic forms run a slowly progressive course whereas the nonsystematic forms may remit or show a clearly periodic course. Thus in some cases periodic catatonia may present like an affective disorder for several attacks before it declares itself to be catatonic. The symptomatology also distinguishes the two forms of schizophrenia in that bipolarity of symptomatology is found in the nonsystematic schizophrenias.

It will be seen that although both Kleist and Leonhard subdivide schizophrenia into systematic and nonsystematic groups their views on nonsystematic schizophrenias do not coincide. One could with some justification equate affect-laden paraphrenia with Kleist's progressive reference psychosis, schizophasia with his atypical confused schizophrenia and periodic catatonia with his iterative catatonia. However this would not do justice to Leonhard because his delineation of the nonsystematic forms is much more precise than that of Kleist.

### 1. Affect-laden Paraphrenia

This illness is distinguished by the affective loading of the paranoid delusions. These patients talk about their delusions with irritation or enthusiasm. In the systematic paranoid schizophrenias the delusions have no such affective loading. Often the patient does not become upset when one laughs at his delusions and if he does become emotionally disturbed it is only for a short time and the disturbance soon passes away. This does not occur in affect-laden paraphrenia where the more one denies the patient's delusions the more upset he will become. These patients may shout, scold and threaten when their beliefs are treated discourteously.

At the onset of the illness severe affective swings into anxiety or ecstasy often occur and may continue as the psychosis progresses. These affective changes are always associated with the formation of delusional ideas. In anxiety ideas of self reference occur together with auditory hallucinations, while in ecstasy ideas of happiness occur in association with visions and auditory hallucinations. In the beginning it may be difficult to distinguish this psychosis from anxiety-happiness psychosis but as the illness progresses the distinction becomes clear. In particular, it becomes more and more obvious that the delusions and sense deceptions cannot be entirely understood as arising from the abnormal affect. These paranoid phenomena take on illogical and incomprehensible forms. Thus the abnormal body sensations in affect-laden paraphrenia have a completely hallucinatory character because they are connected with outside influences. On the other hand in anxiety-happiness psychosis these sensations can be understood as arising from the abnormal affective state. The clinical picture at the onset of affect-laden paraphrenia is that of anxiety with ideas of reference but sometimes one finds a more hostile attitude to the environment when the patient is irritated and has ideas of reference. This corresponds to the "progressive reference psychosis" of Kleist.

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The degree of systemization of the delusions varies from case to case, sometimes they may be well systematized and the clinical picture may be that which Kraepelin designated as paranoia. Because of the bipolar nature of the affect, delusions of persecution and happiness may occur together. Often the delusions become more and more illogical and finally a fantastic delusional system may occur. In this there are extravagant grandiose ideas, misidentifications of people, memory falsifications, absurd ideas and hallucinations in all the sensory fields. These symptoms are somewhat similar to those occurring in the systematic form known as fantastic paraphrenia, but they are rarely completely expressed in affect-laden paraphrenia where some of these fantastic symptoms can be absent while others dominate the clinical picture. Apart from this the affective loading of the delusions is very obvious in affect-laden paraphrenia and if it is not apparent at first sight, it will become so as the patient is stimulated.

Catatonic and schizophasic symptoms may be found in this illness. Catatonic illnesses are sometimes found in the relations of patients with affect-laden paraphrenia.

In the author's series five cases were considered to be affect-laden paraphrenia. One of these was W.M.D., who in a previous communication (Fish, 1958) was classified as a combination of Verbal Hallucinosis and Phantasiophrenia.

Leonhard finds the genetic loading to be higher in the nonsystematic schizophrenics than in the systematic schizophrenics. Thus he found the frequency of schizophrenia among the parents of affect-laden paraphrenia to be 6·7 per cent.

In the author's series one patient had an uncle who had died in a mental hospital but his records were untraceable and another had a grossly abnormal mother who believed in the patient's persecutory delusions.

### 2. Schizophasia

Kraepelin described schizophasia as a variety of schizophrenia in which there was gross confusion of speech so that the patient's speech was completely unintelligible. This gross confusion contrasted with the patient's fairly well ordered behaviour and ability to work and make social contact (Kraepelin, 1919). Leonhard has investigated the relatives of schizophasic patients and found that schizophrenic illnesses in these relatives are rarely pure schizophasias since catatonic and paraphrenic features are frequently found.

He stresses the relationship between schizophasia and the confused psychosis. However the morbid phenomena in schizophasia are much more pronounced. He suggests that this relationship with the confused psychosis accounts for the fact that schizophasia occurs in two forms. In schizophasia in Kraepelin's sense there is severe confusion of speech and pressure of speech with many grammatical mistakes but few neologisms. In the other kind of schizophasia the patient is lacking in drive, the speech confusion is more restricted and neologisms are more common. This type of schizophasia is more likely to occur if there are catatonic features. Leonhard points out that these different forms of schizophasia could be understood in relation to the excited and inhibited poles of the confused psychosis. The thought confused excited patient being the classical schizophasic and the thought confused inhibited patient being the other type. However he claims that the two different forms often occur in the same family and therefore cannot be considered to be genetically distinct disorders.

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Leonhard finds a high genetic loading in schizophasia. In his series the incidence of schizophrenia in the parents was 20·6 per cent.

In the author's series there were 8 cases of schizophasia. One of these, I.M., has been described in a previous communication (Fish, 1958). In all 8 cases there was evidence of psychiatric disorder in the family. In four cases there was a history of suicide of a close relative. In two cases a brother committed suicide, in one case a maternal uncle and in one case the father had murdered his wife and child and committed suicide. In four cases there was a history of mental hospital admission of a close relative. In one case a maternal uncle had died in a mental hospital but his clinical notes were untraceable. In one case the patient's father was in hospital and had schizophasia, in another the patient's brother had a schizophasic illness and in a third the clinical notes of a paternal uncle who died in St. George's Hospital, Morpeth, suggested gross speech confusion.

### 3. Periodic Catatonia

For Leonhard this is a catatonic illness in which remissions regularly occur and in which there is usually an admixture of hyperkinetic and akinetic symptoms. Hyperkinesia acquires a certain degree of rigidity because of the admixture of akinetic features. Thus movements tend to proceed in a stiff jerky manner and the natural grace of the movements is absent because the harmonious interplay of the individual motor acts does not occur. Because of this distortion of motor activity the meaning of movements is lost so that reactive and expressive movements lose their meaning. Thus gestures become vague indefinite movements and facial expressions become grimaces. Excitements which occur in periodic catatonia are parakinetic because of this modification of the natural course of motor acts. When these patients are akinetic an aimless movement of an extremity often occurs which generally becomes uniform and may be a stereotypy or an iteration. Thus stereotypy occurs despite the general postural rigidity and the rigidity of mimic expression. In spite of the impoverishment of movement the patients, when akinetic, often repeatedly take on definite postures and have postural stereotypies. Leonhard considers that the admixture of hyperkinetic and akinetic features can also be seen in impulsive actions and in negative behaviour in states where the patient has a poverty of movement. Uniformity of motor performance in catatonia is also considered to be in favour of a diagnosis of periodic catatonia.

Leonhard considers that the motility psychosis is related to this illness but in the motility psychosis hyperkinesia and akinesia do not occur together but alternate and on the whole the symptoms are less severe.

Although remissions occur after the acute shifts permanent defect finally occurs. This is likely to occur more rapidly after attacks of akinesia than after hyperkinesia. Leonhard divides these defects into mild, moderate and severe which he designates as states of psychic lameness, dullness and stupidity respectively. In the severe defect of stupidity there is a degree of deterioration which is reminiscent of organic disease. In these defect states there is an impoverishment of drive but impulsive excitements are frequent and excitements due to irritability also occur. These excitements can take on a negativistic character.

If the illness is mild it may mimic a motility psychosis both in the symptomatology and in the course of the illness. Symptoms of schizophasia or affect-laden paraphrenia may be present at some time in the illness.

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The genetic loading in periodic catatonia is much greater than in the systematic forms of schizophrenia. Leonhard found that the psychiatric illnesses among relatives of patients with periodic catatonia were usually clearly of the nature of periodic catatonia both as regards the symptoms and the course of the illness.

In the author's series three cases were classified as periodic catatonia but no patient had a family history of mental illness.

#### 4. The Value of Leonhard's Concept of Nonsystematic Schizophrenia

The author in his work of classification found that Leonhard's descriptions of these illnesses were easy to follow and it was much easier to classify according to Leonhard's descriptions than according to Kleist's. Some cases which the author previously considered to be combined systematic paranoid forms (Fish, 1957b, Fish, 1958) were easily classified as affect-laden paraphrenia whereas from Kleist's vaguer descriptions (Kleist, 1949) it was not possible to classify them as progressive reference psychoses. Similarly Leonhard's concept of schizophasia seemed to be much more useful clinically than Kleist's concept of confused schizophrenias with its large number of subgroups. However the diagnosis of periodic catatonia was mainly made by the author in a negative way, that is the cases did not fit into the typical catatonic subgroups or combinations of them.

### C. Systematic Schizophrenias

In the nonsystematic schizophrenias the symptoms tend to be polymorphous and because of the diversity of symptoms it is difficult to outline the clinical pictures very sharply. In the systematic schizophrenias the opposite is true because the symptomatology is clear cut and the clinical pictures unequivocal.

Leonhard believes that specific circumscribed functional fields are affected in the systematic schizophrenias so that in each subform a definite higher function of the nervous system is involved. If this is so, then investigations of the systematic schizophrenias will lead to an understanding of the higher functions of the nervous system.

These sharply delimited clinical pictures of systematic schizophrenia are found in the end states of schizophrenia. Earlier in the illness non-specific effects of the morbid process or environmental pathoplastic factors may be intermixed with the defect symptoms so that the illness is difficult to classify. As a general rule the onset of the illness in the systematic group is gradual, whereas an acute stormy onset is more likely in the nonsystematic group, but may also be present in the combined systematic forms. Despite the difficulty in classifying the illnesses in the early stages it is much easier to do so once the observer has learned to recognize the typical schizophrenic end states.

### D. Simple Systematic Schizophrenias

In the majority of systematic schizophrenias only one psychic system is affected and these are called simple systematic schizophrenias. Leonhard stresses that it is not a question of the presence of individual symptoms in these simple systematic forms but of characteristic combinations of symptoms. For example a given case is a phonemic paraphrenia not because auditory hallucinations are very prominent but because there is a special variety of

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auditory hallucination, a characteristic affectivity and thought disorder. Again phonemic and hypochondriacal paraphrenia differ because bodily hallucinations occur in one and not in the other but it is just as important that the basic mood is quite different. Thus one must always identify a very specific combination of symptoms before a diagnosis can be made.

### 1. The Catatonic Forms

Leonhard believes that the systematic nature of these schizophrenic illnesses is best seen in the catatonias. Systems which are at a slightly higher level in the nervous system than those involved in neurological system illnesses appear to be affected in these illnesses. In systematic catatonias three pairs of illnesses can be recognized. Leonhard suggests that higher functions of the nervous system are regulated by reciprocating system pairs which balance one another. Affections of one or the other member of a system pair will thus produce contrasting illnesses. Two forms of catatonia appear to be peripheral in that the symptomatology is very similar to that of neurological illnesses. Thus parakinetic catatonia resembles chorea and manneristic catatonia paralysis agitans. Leonhard postulates that these two catatonic forms are due to disorders of a system pair which is responsible for motor function and is only one stage higher than the function involved in chorea and paralysis agitans. For Leonhard paired opposed illnesses, due to disorder of system pairs guaranteeing functions, are to be found not only in the catatonias but also in the hebephrenias and paraphrenias.

Leonhard classifies the systematic catatonic illnesses into:

(*a*) Parakinetic Catatonia.
(*b*) Manneristic Catatonia.
(*c*) Proskinetic Catatonia.
(*d*) Negativistic Catatonia.
(*e*) Speech-prompt Catatonia.
(*f*) Speech-inactive Catatonia.

#### (a) *Parakinetic Catatonia*

This form has been described by Kleist (Kleist, 1943, Fish, 1957) but Leonhard points out that Kleist applied this term to acute cases as well as chronic. Leonhard's concept of this form is that it is slowly progressive and the parakinetic movements slowly set in, so that at the onset they are not striking but may easily be overlooked. For Leonhard patients with marked parakinesia on the background of a general motor excitement are usually examples of periodic catatonia.

The hyperkinesia may only become pronounced when the patient is stimulated. All voluntary actions are carried out in an unnatural awkward way and involuntary movements are jerky and reminiscent of choreiform movements. Motor activity seems to be broken down into its constituent movements and the smooth transition from one individual movement to the next is absent. The involuntary movements which occur seem to be distorted reactive and pseudo-expressive movements. Facial movements are especially affected and these patients often grimace a good deal. Speech is affected by the motor disorder so that these patients speak in short sharp utterances and the words appear to be cut up. The sentences are usually short and ungrammatical. Sometimes these patients make remarks which are to the point, but at other times their remarks seem to be fortuitous and irrelevant. Leonhard

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found a comparatively heavy genetic loading in these patients and where sufficient details of the psychiatric illness of the relatives were available the diagnosis was usually parakinetic catatonia.

In the author's series five patients were classified as parakinetic catatonia and in two there was a family history of mental hospital admissions. In one case the maternal grandmother had been in a mental hospital and in the other a maternal uncle. Unfortunately the case notes of these relatives were untraceable.

(b) *Manneristic Catatonia*

Leonhard originally called this form rigid catatonia because he first observed severe cases. This form of Leonhard's corresponds to Kleist's stereotyped or manneristic catatonia. At the onset of the illness, mannerisms occur but as the illness progresses all involuntary movement becomes less and less. As a result posture and movement become stiff. With the progress of the illness motor activity becomes increasingly stereotyped and this may result in the whole of a day's activity being carried out in a fixed manneristic way. As the impoverishment of movement becomes more pronounced mannerisms of commission become replaced by mannerisms of omission. Thus the patient tends to have stereotyped attitudes, a stiff facial expression, mannerisms of food refusal or refusal to go to the toilet.

These patients show the catatonic phenomenon of opposition (*Gegenhalten*). Here an attempt to move the body by the examiner evokes an almost equivalent amount of tension in the opposing muscles so that the movement is made difficult. In severe cases this sign is obvious but in milder cases the examiner has to carry out the passive movements rather gently and gradually increase their speed and range in order to recognize the sign. Opposition (*Gegenhalten*) can also be seen in the form of the uplifted head of the psychological pillow. In cases where the illness is very severe any given posture may be maintained for some time (*Haltungsverharren*) but generally this is not very marked and the limbs slowly return to the rest position after the examiner has placed them in an unusual position.

In the author's series two cases were classified as manneristic catatonia and in neither case was there a family history of psychiatric illness.

(c) *Proskinetic Catatonia*

This form was originally called prosectic by Leonhard because of the readiness with which these patients turn towards the examiner when spoken to. However, Leonhard designates this form proskinetic in order to stress the abnormal readiness of these patients to begin automatic movements as a result of external stimuli.

When spoken to these patients turn towards the speaker with an expressionless face which despite its general lack of expression shows a certain degree of interest. The patient may then begin to murmur or further stimulation may cause murmuring. The content of speech is difficult to understand and if it can be made out it is usually a verbigeration of isolated phrases. If the illness is not very marked then the patient may speak in an undertone but it is fairly easy to understand him. In this case sensible replies may be given to questions but many repetitions of the same reply often occur.

Apart from the characteristic speech behaviour these patients have other disorders of motor activity. They have continuous handling movements which

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appear when they are spoken to for a short time and when they are examined. They intertwine their fingers, wring their hands, grasp and handle objects, pick and fiddle with their clothes, rub their skin and so on. When the examiner presents his hand they always take it. If they are told that they do not have to take the examiner's hand they do not do so for a short time but after they have been spoken to about something else they will again take his hand when it is offered. They also show co-operation (*Mitmachen*), that is they co-operate fully in all passive movements and help in the movement by contracting the appropriate muscles. Leonhard stresses that the characteristic sign in this illness is *Mitgehen*. By this he means that very light pressure on a part of the body leads to movement in the direction of the pressure. It may thus be possible by very light pressure with one finger to put these patients into very uncomfortable positions. Thus light pressure on the occiput may lead to the patient bending right forwards until his hands touch the floor. Sometimes the patient may finally fall over because the light pressure by the examiner has resulted in an unstable position. When the patient is told not to follow the pressure or to resist it he often does so for a short while but then after some diversionary activity he will again show *Mitgehen*.

These patients can usually occupy themselves when directed but usually show affective flattening with an unconcerned sort of self satisfaction. Excitements are not common in the defect stage and usually then take the form of short attacks of scolding or aggression. In acute stages there are acute excitements when the patient is restless, handles everything, tries to force himself through any open door and attacks other patients.

In the author's series three patients were classified as proskinetic. In one of these the paternal grandmother had had a mental illness in her sixties with complete recovery. In the other there was no family history of mental illness.

(d) *Negativistic Catatonia*

Leonhard's conception of this form does not differ from that of Kleist's (Kleist, 1943, Fish, 1957). He points out however that if the patient is not irritated by the examiner the negativism may show itself mainly as a failure to carry out instructions or to answer questions. If one adopts a friendly approach the patient may show ambitendency. The patient may begin a movement on request then stop or he may begin to answer and then stop. If one examines these patients brusquely and attempts to overcome their negativism by force then severe excitement occurs. These patients show no indications of higher affectivity but their basic drives are preserved. This is seen in their greediness and erotic tendencies. They are liable to make apposite remarks when least expected.

No patient with this form of catatonia was found in the author's series.

(e) *Speech-prompt Catatonia*

This form is the same as that described by Kleist (Kleist, 1943, Fish, 1957). Leonhard stresses the abnormal readiness to speak in the absence of pressure of speech. What apparently is ready at hand in the patient's mind is spoken regardless of its suitability. These patients answer all questions and never tire. If left to themselves they do not speak and sometimes are described as mute in the case notes. In so far as these patients are not stimulated by being spoken to they never appear to bother about their environment.

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In the author's series 3 cases were classified as belonging to this group. Only one of these had a family history of mental illness in that an uncle had committed suicide.

(f) *Speech-inactive Catatonia*

Kleist has described this form, but Leonhard's description is more detailed. These patients answer slowly in the early stages of the illness, but later on they usually do not answer at all. When spoken to they look here and there and often make whispering movements with their lips. They become very excited from time to time when they scream and gesticulate in response to hallucinatory voices. In the early stages patients admit to auditory hallucinations of a troublesome kind and also produce fantastic confabulations. However as the illness progresses they become so inaccessible that no evidence can be obtained about these phenomena. All motor reactions as well as speech are slowed down and this is probably due to the patients being distracted by the auditory hallucinations and being unable to attend to stimuli from without. The only initiative, motor activity and affect shown by these patients is in relation to their hallucinations when they are excited.

In the author's series 9 cases were classified as speech-inactive catatonia. Of these only two patients had a family history of psychiatric illness. In one case there was a history of several members of the family having been admitted to mental hospital but details of their illnesses were not available. In another case a niece and the mother had been certified. The illness of the niece resembled that of the patient. The details of the mother's illness were insufficient.

(g) *The clinical pictures of relatives of systematic catatonics*

In cases where a sibling of a systematic catatonic had a schizophrenic psychosis Leonhard found that, where adequate information about the illness was available, it appeared to belong to the same subgroup as that of the proband.

2. HEBEPHRENIC FORMS

Leonhard like Kleist considers that affective deterioration is the essential feature of hebephrenia. Apart from this, the illness has an insidious onset with a slowly progressive course and there is no nonsystematic schizophrenia which corresponds with it. In hebephrenia where affective deterioration occurs without marked catatonic or paranoid clinical features there is no resemblance to any nonsystematic form. The hebephrenic forms are poor in symptoms which may lead to diagnostic difficulties especially in mild cases. In the earlier stages nonspecific symptoms may occur and obscure the clinical picture. Depressive and euphoric mood states are common at this stage but states of excitement or inhibition which have a catatonic stamp may also occur. Irritated moods occur early on and often continue into the defect stage.

Leonhard describes four subgroups of hebephrenia which in essentials are the same as Kleist's four subgroups. They are:

(*a*) Silly Hebephrenia.
(*b*) Eccentric Hebephrenia.
(*c*) Shallow Hebephrenia.
(*d*) Autistic Hebephrenia.

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(a) *Silly Hebephrenia*

These patients have an intense affective blunting which is associated with a contented or mildly cheerful mood. They smile or giggle in a characteristic way and this increases when stimulated by others. There is a marked ethical blunting but owing to their lack of drive they only become criminals in so far as the opportunity presents itself. In the early stages these patients tend to play silly childish tricks on other patients and these tricks are often spiteful and malicious. However, sometimes they become ill-humoured and irritable and then may act spitefully. In the acute stage of the illness mood states of all kinds may occur. As affective blunting progresses these patients lose their drive and hang about in a happy-go-lucky way. They may become so inactive that they give the impression of a catatonic illness but their posture and movements are not catatonic and the silly smiling indicates the diagnosis.

In the author's series two patients were classified as silly hebephrenics, and one of these had a sister who was in the same hospital and was classified as a shallow hebephrenic.

(b) *Eccentric Hebephrenia*

Leonhard stresses the mannerisms and general querulent nature of this illness. It often begins with obsessive compulsive symptoms which Leonhard considers to be precursors of the mannerisms of the defect stage. The mannerisms of these patients are most unlike those of manneristic catatonia as the patient often will not talk about them and tries to keep them secret, so that evidence of their existence comes from the reports of the nursing staff. However the manner of speaking, which is uniform and monotonous, together with repeated querulent complaints and demands, suggests the manneristic quality of the illness. Those patients produce the same grievance time and time again irrespective of the listener's attitude. Thus one has the impression that the patient is not speaking freely but is producing material which has been learned. A mannerism which is very common is that of collecting. These patients often collect rubbish of all kinds. Objects of value may be collected and then the mannerism appears in the guise of senseless stealing. Thus one of Leonhard's patients repeatedly stole bicycles which he could not use.

These patients appear rather cheerless and depressed but the main impression is one of severe affective flattening. In the defect stages no excitements occur despite the querulent attitude but in the earlier stages ill-humoured mood states occur which are associated with irritated excitements. Mood variations do occur in the later stages but are much milder. The affective blunting is associated with an ethical blunting which often leads to antisocial behaviour. These patients often become beggars, tramps and prostitutes. The thinking of these patients appears to be impoverished but performance on intellectual tasks is not too bad and paralogia does not occur.

Leonhard found that in two cases where adequate information about illnesses in the family could be obtained, one proband had a father with a periodic psychosis and the other had a sister with eccentric hebephrenia arrested in a compulsive neurotic state.

Seven cases in the author's series were classified as belonging to this subgroup. Four of these patients had a family history of mental illness. In one case the mother was reported to be insane but no details could be obtained, in another the mother had been an in-patient in a mental hospital

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for 25 years before her death and in a third the mother had a mental illness shortly before her death in which there were paranoid ideas and auditory hallucinations. The fourth patient had a mother who for many years had been an in-patient in St. Nicholas Hospital suffering from what at first sight appeared to be a depressive illness. The mother was usually cheerless and never gave any information about herself but she was a trustworthy ward worker and from time to time had agitated depressive moods which responded to a few treatments with E.C.T. It is possible to consider this patient as suffering from eccentric hebephrenia like her daughter.

(c) *Shallow Hebephrenia*

In this form the flattening of affect is very marked. The observer can detect no emotional response when topics which should affect the patient are touched upon. In contrast to this shallow affect these patients are readily accessible and will carry on a reasonable conversation in a factual way. The mood state is one of indifferent satisfaction but it is interrupted from time to time by states of ill-humour when the patient may be anxious, irritated or very rarely euphoric. These unpleasant mood states are associated with hallucinations and ideas of reference; the patient may become extremely excited and aggressive. The hallucinations may occur in all sensory fields but most often they take the form of hallucinatory voices. In spite of the fact that these patients shout at hallucinatory voices when they are excited they have a clear understanding of the morbid nature of these voices when the excitement dies away. Leonhard suggests that these hallucinatory voices are of the nature of pseudo-hallucinations. There is a general lack of initiative but these patients will take part in the day to day activity of the mental hospital and do not have to be closely supervised. Leonhard could obtain adequate information about a psychiatric illness of a relative in only one case; here the patient had a brother with shallow hebephrenia.

In the author's series two patients were classified as shallow hebephrenia and one of these had a sister with silly hebephrenia.

(d) *Autistic Hebephrenia*

In this form there is a combination of autism with marked affective blunting. The facial expression is stiff and impenetrable and as in speech-prompt catatonia the observer can guess nothing about the patient's inner life from his facial expression. States of ill humour occur in which the patient is very irritated and shouts threats or accusations at someone in the environment. These may be followed by attacks on the selected person. Thus these states differ from those in shallow hebephrenia in that the aggression is directed against a specific person. On the whole the mood is one of rejection mixed with discontent and is reminiscent of the mood of the eccentric hebephrenic. Thus it is in contrast with the indifferent satisfaction of the silly and shallow hebephrenics. Usually the patients give short off-putting answers to intelligence questions but where they do answer it seems that the defect in intelligence is not very great. Initiative is of course deficient but these patients can frequently be trained to do a job requiring some independence of action. They carry out such jobs efficiently but if they have to speak they only say the absolute minimum required. They tend to avoid others and walk past people whom they know without speaking.

Only one autistic hebephrenic patient of Leonhard's had a relative with

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a psychiatric illness where the clinical details were available. In this case an aunt of the proband had a combined form in which one of the components was autistic.

In the author's series five cases were classified as autistic hebephrenics and not one had a family history of mental illness.

(e) *Clinical pictures of relatives of systematic hebephrenia*

In most cases of systematic hebephrenia with a family history of mental illness Leonhard could not obtain adequate information. Where such information was available the same sort of illness as that of the patient was found.

3. Paranoid Forms

In common with many German authors Leonhard uses the term paraphrenia to designate all the paranoid schizophrenias. These illnesses are of course characterized by delusional ideas and sense deceptions but thought disorder is also present and plays a role in the production of paranoid symptoms. Leonhard believes that the disorder of the logical progress of thought is a prerequisite for the setting free of some of the contents of the patient's own thinking which are then able to appear independently as hallucinations. However, delusional ideas in paranoid schizophrenia are also connected with the thought disorder. Leonhard does not separate off from the other paranoid schizophrenias a group of confused schizophrenias, where thought disorder is the leading symptom. He points out that the more severe the thought disorder is the more severe are the paranoid symptoms. So that in incoherent paraphrenia one finds the most severe degree of thought disorder associated with the most severe variety of hallucinations.

As in the other systematic schizophrenias accessory symptoms in the acute stage of the systematic paraphrenias make accurate diagnosis difficult. Anxiety and other affective disorders may occur, perplexity is not uncommon and ideas of reference also appear. These symptoms may mask the specific symptoms which as a rule are already present. If one is familiar with the essential symptoms because of an acquaintance with advanced cases then it is often possible to find them in the acute syndrome. It is rather rare to find any other symptoms but paranoid ones. Catatonic symptoms are only very rarely present at some stage of the illness. Symptoms suggesting hebephrenia are also scarcely ever present. Severe affective disorders are unusual in systematic paraphrenias, and suggest affect-laden paraphrenia. Acute onset is more in favour of a nonsystematic schizophrenia; often systematic paraphrenias run an insidious course.

In his descriptions of systematic paraphrenias, Leonhard is more precise than Kleist. He insists that the subforms are precise syndromes and he describes the symptoms in detail. The present author found that it was particularly in the paranoid forms that Leonhard's views and descriptions were superior to those of Kleist.

Leonhard has described six subforms of systematic paranoid schizophrenia. These are:

(*a*) Hypochondriacal Paraphrenia.
(*b*) Phonemic Paraphrenia.
(*c*) Incoherent Paraphrenia.
(*d*) Fantastic Paraphrenia.
(*e*) Confabulatory Paraphrenia.
(*f*) Expansive Paraphrenia.

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(a) *Hypochondriacal Paraphrenia*

This corresponds to Kleist's progressive hallucinatory somatopsychosis (Kleist, 1949, Fish, 1957a), but unlike Kleist, Leonhard considers that specific bodily hallucinations, specific hallucinatory voices and a certain mood state must all occur for this subform to be diagnosed.

The bodily hallucinations are usually referred to internal organs and are usually described so grotesquely that it is impossible for a normal person to empathize with the patient. Often these sensations can only be described in a general way such as "tortures", "misuse" and so on. The patient may produce technical neologisms in order to designate these sensations. Hallucinations of smell and taste may occur but are not characteristic. Visual hallucinations occasionally are present in the early stages when the patients see frightening visions but later in the illness they are not prominent and an abundance of visual hallucinations would be against the diagnosis of hypochondriacal paraphrenia. Hallucinatory voices (phonemes) consist of short phrases which are only partly connected with what the patient is thinking and do not fit in with his thoughts like the phonemes in phonemic paraphrenia. In the early stages the phonemes often have a close connection with the patient's thought, and *Gedankenlautwerden* can even occur. In the later stages the phonemes are usually disconnected phrases, especially insulting words, without any real sense so that the patient usually is unable to remember and reproduce them. The patient is distressed by the occurrence of the voices as such and not so much by their content. The voices and sensations are usually attributed to apparatuses which affect the patient from a distance but more rarely they are attributed to people in the environment.

These patients have a permanent morose dissatisfied mood which can often develop into irritation. They are often querulent and complain bitterly about their hallucinations. If one contradicts their assertions they easily become excited. They frequently insist on their discharge in a monotonous way. Thus their affectivity is well preserved and their interest in their home and family never flags.

These patients have thought disorder. They tend to wander from the point, talk about subjects loosely related to the task in hand and are inclined to verbal derailments. Leonhard calls this unconcentrated thinking.

Leonhard could only obtain sufficient information about mental illness in the family of one patient with hypochondriacal paraphrenia. In this case the brother had a combined illness and hypochondriacal paraphrenia was one component of this.

In the author's series seven cases were classified as hypochondriacal paraphrenia. In two of these there was a family history of mental illness. One had a maternal uncle who died in a mental hospital and the other had an aunt and a great aunt who died in mental hospitals. No information about these relatives was available.

(b) *Phonemic Paraphrenia*

Leonhard has also designated this subform as verbal hallucinatory paraphrenia and considers it to be the mildest subform of systematic schizophrenia. The outstanding symptoms are the hallucinatory voices which Leonhard calls phonemes; a use of the word which in English is not in keeping

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with accepted definitions.* Bodily hallucinations and hallucinations of smell and taste do not occur. The hallucinatory voices are quite different in quality from those of hypochondriacal paraphrenia. They are closely related to the patient's thinking and the patient treats them as real people with whom it is possible to hold a conversation. The voices often contradict or confirm what the patient is thinking. The hypochondriacal patients are never seen talking to their voices but merely complain about the voices as such, whereas the phonemic paraphrenics are upset by the content of the voices. *Gedankenlautwerden* occurs and not only are the thoughts spoken aloud as the patient thinks but they may also be spoken to the world at large so that the whole world knows what the patient thinks. The content of the voices is also affect-laden not in the sense of abusive words as in hypochondriacal hebephrenia but in the sense that the voices talk about those things which are unpleasant and disturbing to the patient. The voices are rarely attributed to apparatuses but often are thought to come from the wireless or to be due to people in the environment, who may be close to the patient or some way away. They may also be attributed to invisible beings such as spirits or witches. Sometimes the voices emerge from within the body. Thus one of the author's patients had three voices coming from her chest due to the Crown Prince of Germany and two staff nurses being inside her chest. Visual hallucinations occasionally occur but are never important. The mood state of these patients is usually well balanced, but when they talk about the unpleasant things the voices say they may become angry. In the later stages however they become resigned to the trouble and talk about the voices calmly whereas the hypochondriacal paraphrenics never become habituated to their hallucinations and continue to complain bitterly about them even in the late stages. The affective responsiveness of the phonemic paraphrenic is well preserved so that they are usually parole patients and carry out responsible jobs in institutions. Many of them never need hospital admission. One can of course talk of an affective blunting since these patients finally tolerate their unpleasant symptoms rather patiently.

In general conversation these patients show little disorder of thinking but in problem solving they are unable to orientate themselves towards an objective of thought and talk about the problem indecisively. In simple problems they are often successful. Leonhard calls this disorder woolly thinking.

Leonhard had four patients with family histories of mental illness, but could only obtain sufficient information in two cases. In one case a patient had an uncle with phonemic paraphrenia and in the other the patient had an aunt with combined fantastic phonemic paraphrenia.

In the author's series there were twelve cases classified as phonemic paraphrenia. In four cases there was a family history of mental illness. In one case the mother had committed suicide and in another the paternal great-grandmother was in a mental hospital for some years and died there, but no information about her illness was available. One patient had a brother who committed suicide and a mother who was in St. Nicholas Hospital from the age of 70 to 93 when she died with delusions of persecution and auditory hallucinations in the presence of complete disorientation for time and place. This illness was possibly a combined hypochondriacal and phonemic paraphrenia released by senile deterioration. The fourth patient had an aunt and

* The *Shorter Oxford English Dictionary*, 1955, defines phonemes as "A speech sound considered in respect of its functional relations in a linguistic system". In this article it will be used in Leonhard's sense of an hallucinatory voice.

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a maternal grandmother who were in mental hospitals for many years and died there. No details were available about the grandmother's illness but the aunt appeared to have had hypochondriacal hallucinations and phonemes but an adequate account of the phonemes was not available.

(c) *Incoherent Paraphrenia*

In this subform the auditory hallucinations are prominent even in the early stages but thought disorder only becomes marked when the hallucinations become very severe. In the early stages bodily hallucinations are commonly reported but later they are not present. Occasionally one can separate out confabulatory remarks from among the incoherent expressions in these patients and Leonhard supposes that these are probably derived from visual hallucinations. In the later stages the patients are entirely occupied by their auditory hallucinations. The facial expression shows that they are not turning towards the examiner but that their attention is directed entirely towards their inner experiences. The patient may look here and there and not look at the examiner very much or he may look at the examiner with a peculiar rigid gaze. The patient hallucinates in conversation and can often be seen whispering or talking quietly to the voices. Now and then they become excited and talk loudly and shout abuse at their voices often denying insults or accusations; shouting out for example, "You're a liar", "You rotten swine", etc. The hallucinatory aversion, and the continuous hallucinosis which cuts into all conversations, occur in no other form of paraphrenia. These patients show no initiative and have no interest in anything. When asked questions their replies are short and perfunctory and are often given in a very low voice. Their utterances show that they have a very severe thought disorder in which incoherence is associated with contaminations.

In one case with a family history where adequate information was available Leonhard was able to deduce that the great niece of the patient had incoherent paraphrenia.

In the author's series ten cases were classified as incoherent paraphrenia. Five of these patients had a positive family history. In two cases an uncle was reported as insane but no information was available. In one case an aunt had been in a mental hospital and in another the mother had committed suicide. In one case the brother had been in St. Nicholas Hospital from February 8th, 1934, to November 18th, 1935, when he had auditory hallucinations, believed he was unclean and at times was violent and put his head through windows. A note one year after admission reads, "Brain is nullified. Hears voices of other patients at night".

(d) *Fantastic Paraphrenia*

Leonhard regards this as a paraphrenic illness in which hallucinations and delusions play an equal part. Bodily hallucinations are always marked and are always described in a grotesque way which makes it impossible for the examiner to empathize with the patient. Leonhard says that the description of the bodily sensations resembles that of the hypochondriacal paraphrenia, but this is the only symptom which is apparently qualitatively the same in two different subforms of systematic schizophrenia. Hallucinatory voices are less obtrusive but visual sense deceptions play an important role in this subform. Isolated visions may be seen but the characteristic symptom is the scenic hallucination in which scenes are visualized and accompanied

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by auditory and somatopsychic experiences. Often these are scenes of horrible tortures and mass murders. This phenomenon partly accounts for the fantastic quality of the illness. However this fantastic element is strengthened by the manifestly absurd ideas which these patients have in which they treat everyday practical experiences with indifference. The same sort of manifest illogicality also occurs in the misidentification of people in the environment when the patient regards such people as being quite different personalities with a preference for the highly placed. The grandiose ideas which these patients have are also absurd. They elevate themselves to an extraordinary degree and often call themselves God, but they draw no conclusions from these grandiose delusions and do not object to being treated as patients.

Their affect is shallow and if their ideas are laughed at they may flare up somewhat but the affect quickly dies away. However they often maintain a definite interest in their environment and are usually interested in their family. Superficially their general attitude often appears to be quite natural. When they talk about their fantastic ideas they frequently become somewhat muddled but if one questions them carefully then the train of thought becomes fairly clear. Leonhard considers that with intelligence questions one can show that the main feature of thought disorder in this subform is derailment.

Only one case of Leonhard's was considered to have a positive family history of mental illness and insufficient information was available about the relative's illness.

In the author's series nine cases were considered to have fantastic paraphrenia and of these two had family histories of nervous illness. In one case the mother was described as neurotic and in the other the brother had a mental illness which caused him to be admitted to an observation ward under Section 20 of the English Lunacy Act. In both these relatives no further details were available.

(e) *Confabulatory Paraphrenia*

In this form the outstanding feature is the presence of falsifications of memory which are produced as well-organized descriptions of past experiences. In some cases in the early stages there may be dream-like experiences which appear to be the precursors of the later confabulations but in other cases confabulations may clearly be present at the onset. The characteristic confabulations generally have a fantastic quality and are concerned with other parts of the world, other worlds or even the moon and stars. The patient's confabulations are plastic and detailed descriptions of the alleged events are given. Leonhard suggests that in these patients, images which emerge spontaneously, acquire a sensory character which normally is only associated with memories. As the patients correctly evaluate their immediate environment, Leonhard presumes that critical sense will only allow the confabulations to be valid when they are concerned with other places and other times. Quite a number of these patients account for their fantastic experiences by saying that they happened in dream states or trance states and so on. Leonhard regards this as an indication of partial preservation of the patient's critical sense. These patients also have what Leonhard has called "perceptual falsifications" in which objects in their environment, especially people, continually appear to be different. Thus the size, shape and general appearance

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of things change from day to day. Leonhard explains this as an abnormally detailed concretization of presentations so that for example when a person is seen by the patient he is contrasted with the detailed memory image of his appearance the day before and the different features of his present appearance are emphasized, while the general similarity is overlooked. Grandiose ideas which are often very extravagant also occur and are always worked into the confabulations. The patients have an elevated mood which supports the grandiose delusions and partly contributes to the fantastic and sensational character of the confabulations.

Leonhard considers that the thought disorder in this subform enhances the fantastic and sensational nature of the confabulations because in the thinking of these patients transition from concrete to abstract thought is disturbed so that while these patients can maintain a critical judgment in concrete thinking they cannot carry out abstract tasks. Thus in everyday life they are well ordered but in intelligence tests they show a peculiar pictorial form of thinking.

In two cases with a family history of psychosis Leonhard could not obtain sufficient information about the illnesses of the relatives to classify them.

In the author's series three cases were classified as confabulatory paraphrenia. One of these patients had a mother who had died in a mental hospital but no information about her illness was available.

(f) *Expansive Paraphrenia*

This is a form of paraphrenia which in the later stages is purely delusional. In the early stages sense deceptions occur but later they are absent and thus this subform is quite unlike any other systematic paraphrenia. The delusions are always expansive and are not associated with persecutory delusions. However the grandiose ideas are within reasonable limits and the patient acts according to his grandiose ideas. In the fantastic and confabulatory paraphrenias the grandiose delusions do not lead to any expansive behaviour, but in expansive paraphrenia the patients behave as if they were highly placed so that the whole personality is much more affected by the grandiose delusion. They adopt a kind of haughty pose and take on a superior attitude when dealing with others; thus they are familiar in a friendly way with the doctors and tend to look down on their fellow patients. They tend to try to impress by their style of dress, the use of high-sounding phrases and the production of secret documents which are written in code. Usually the expansive behaviour and productions of these patients have a very monotonous character as the same ideas and attitudes are repeated without much variation. This is in contrast to the richness of ideas of the confabulatory and fantastic paraphrenics. The expansive paraphrenics tend to become garrulous when they speak about their grandiose delusions and they bring forward their requests and complaints with a great deal of verbosity. They carry out their expansive behaviour and activities with a certain amount of eagerness but otherwise there is a general deficiency of initiative. The affect of these patients gradually becomes blunted and in the final stage they do not become irritated even if laughed at.

These patients have a very marked thought disorder which mainly affects the verbal side of thinking so that they frequently make mistakes in grammar and word formation. Leonhard is of the opinion that concepts are not absent in these patients but they are very inexact and the finer details of the concepts

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are missing. In view of this he designates the thought disorder as a coarsening of thinking.

Leonhard had three patients with a family history of mental illness but in only one of these cases was there adequate information about the relative's illness. In this case the father of the patient appeared also to have suffered from an expansive paraphrenia.

In the author's series no case was classified as expansive paraphrenia.

(g) *The clinical pictures of relatives of patients suffering from systematic paraphrenia*

In Leonhard's cases it was only possible to obtain adequate information about the illnesses of relatives in a few cases. In all these cases except one, the relative appeared to have had the same subform of paraphrenia either on its own or combined with another subform. Leonhard concludes that these facts support his view of these subforms as independent genetic entities.

## E. Combined Systematic Schizophrenias

Leonhard considers that combinations of different systematic schizophrenias may occur. The clinical pictures are then as definite as in the simple subforms but they do not necessarily consist of a simple addition of the symptoms of the two clinical pictures because the two different syndromes may influence each other in a reciprocal way. Up until now Leonhard has only definitely found such combinations within the major groups of systematic schizophrenia, *i.e.*, catatonia, hebephrenia and paraphrenia and he has not had to postulate such combinations as catatonic-hebephrenic, catatonic-paraphrenic or hebephrenic-paraphrenic.

In the combined forms the diagnosis can only be made in the defect states since in the early stages the accessory symptoms are much more marked than in the simple forms.

In the descriptions of combined forms which follow only a rough idea of Leonhard's views can be given. In some cases the combined form has been found fairly frequently while in others only one possible case has been found. In the latter case the characteristics of the combined form can only be provisionally accepted and it is hoped that in further investigations the clinical details of such a combined form will be more clearly established. The combined forms will be presented in the following way. The five combinations of one form with the other forms, then the four combinations of another form with the remaining four other forms and so on. This method of presentation has been carried out in order to present the matter in an orderly way. It must not be concluded that the designation of a combined form, for example, as speech-prompt negativistic catatonia means that the speech-prompt component is any more important than the negativistic.

### 1. Combined Systematic Catatonia

(a) *Combinations of Speech-prompt Catatonia*

Leonhard has found combinations of speech-prompt catatonia with all other varieties of catatonia. The clinical pictures of these combinations will now be briefly outlined.

(i) *Parakinetic speech-prompt catatonia*

*Vorbeireden* is present but the frequent repetition of words suggests perseveration. The senselessness of the answers and the tendency to neo-

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logisms are no more pronounced than in simple speech-prompt catatonia. There is however a tendency to answer briefly and to develop pressure of speech as the questioning proceeds. This is a modification of the speech-prompt element by the parakinetic.

In the motor sphere there is marked parakinetic overactivity but it tends to be more uniform than the parakinesia of the simple parakinetic and frank iteration may occur at times.

Thus one may say that the parakinetic over-activity is modified in the direction of uniformity and the readiness to speak develops into a pressure of speech. So that each constituent illness modifies the other.

(ii) *Manneristic speech-prompt catatonia*

There is a definite rigidity of the mimicry and posture which is characteristic of manneristic catatonia. There is a characteristic modification of the *Vorbeireden* in that the mild uniformity which occurs in speech-prompt *Vorbeireden* is increased to such an extent that marked verbal stereotypy and perseveration occur. Some factual answers are produced now and then.

These patients also show a marked auditory hallucinosis which scarcely ever occurs in manneristic catatonia.

(iii) *Proskinetic speech-prompt catatonia*

These patients show the typical proskinetic attitude of coming towards the examiner. Forced grasping and *Mitgehen* occur in association with intertwining movements of the hands and murmuring. When spoken to, these patients reply readily with senseless answers containing neologisms and agrammatical repetitions, which are characteristic of the speech-prompt. The proskinetic patient gives a simple sensible reply when he does answer a question and the speech-prompt patient's answers are not entirely senseless. The utter senselessness of the answers of the combined patients can be understood as an increase in the speech impulse due to the proskinetic element.

(iv) *Negativistic speech-prompt catatonia*

The *Vorbeireden* is clearer than in combination with manneristic catatonia but is more uniform than in the typical speech-prompt. The patients frequently show their negativism by saying "I don't know" in reply to questions. The patients sit in a cramped bent forward position, twisted away from the examiner but look in the examiner's direction from time to time. Leonhard had two cases of this combination and in one case the patient drew back and became hostile when the examiner tried to grasp the patient's hand, but in the other the negativism was milder and there was a tendency to ambitendency.

Both patients had typical negativistic excitements in which they threatened people in their environment. They also had marked auditory hallucinosis which seldom occurs in simple negativistic catatonia whereas, of course, excited states occur in speech-prompt catatonia which are partly or wholly conditioned by auditory hallucinations.

(v) *Speech-inactive speech-prompt catatonia*

Since Leonhard postulated that as these two forms of catatonia were due to affections of antagonistic members of a paired system, then the combination would not be expected to be a simple addition of the symptoms of the two forms. In four cases he considered that a combination of speech-inactive and speech-prompt catatonia was present. In one case *Vorbeireden* was no longer detectable but there was slight indications of it at times. The tendency to reply was present and this was marked in the other three cases

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It appeared as if the speech-inactive component diminished the motor impulse and made the *Vorbeireden* more uniform. In one case verbal stereotypies and perseveration were very prominent. At times a verbigeratory repetition of the same expression occurred in these patients so that individual words or phrases were repeated two or three times. A tendency to reply with meaningless incomplete answers replaced the *Vorbeireden*. This can be considered as related to the tendency to talk at random which occurs in speech-prompt catatonia.

Inactivity of speech did not occur but the continuous auditory hallucinosis of the speech inactivity was always present. Whilst being spoken to these patients turned away now and then towards one side or the other and spoke to their voices. The other feature due to speech-inactive catatonia was the presence of fantastic confabulatory ideas. These are present at the onset of speech-inactive catatonia and are not produced in the defect stages owing to poverty of verbal expression. Any combination with a form of catatonia which increases the speech impulse will bring about the expression of the fantastic confabulatory ideas.

(b) *Combinations of Speech-inactive Catatonia*

(i) *Parakinetic speech-inactive catatonia*

The parakinetic overactivity is the same as in the simple form. Speech is parakinetically distorted, it appears in jerks, is chopped up and contains stereotyped expressions. Fantastic confabulations occur. The characteristic hallucinatory aversion of the speech-inactive is present. In conversation it is often difficult to decide whether a remark is meant for the examiner or the hallucinatory voices. Severe hallucinatory excitements occur as in speech-inactive catatonics and are accompanied by marked parakinesia. The abruptly changing thought of the parakinetic is combined with the incoherence of the speech-inactive so that a marked changeability of thought occurs and the theme is never maintained. The parakinesia is more uniform and contains more clear parakinetic mannerisms than in the simple form.

(ii) *Manneristic speech-inactive catatonia*

Leonhard has found no clear case of this combination.

(iii) *Proskinetic speech-inactive catatonia*

The typical proskinetic signs occur together with fantastic confabulations of a disordered kind. Severe thought disorder occurs. Words and sentences are frequently repeated so that verbigeration often occurs. The effects of the proskinetic component can be seen in all these phenomena. The speech-inactive component also shows itself in hallucinatory aversion. The patients turn away and whisper with the voices.

(iv) *Negativistic speech-inactive catatonia*

Not a word is said by these patients when they are spoken to. The negativistic behaviour is less obvious than in the simple form. They are not as cramped and twisted sideways as the simple negativistics, but appear more to be sunk into themselves. They tend to look away from the examiner. Continuous hallucinosis is not obvious probably because of the negativistic component. Nevertheless clear hallucinatory excitements, like those in speech inactive catatonia, do occur as well as negativistic excitements.

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(c) *Combinations of Negativistic Catatonia*

(i) *Parakinetic-negativistic catatonia*

These patients show a general negativistic attitude together with typical parakinetic overactivity. *Vorbeireden* of a negativistic kind occurs. Whereas in speech-prompt catatonia that which lies to hand is immediately spoken, here the talking past the point appears to be a deliberate refusal to give the right answer. Sudden changes in thought also occur in this combination.

(ii) *Manneristic-negativistic catatonia*

Leonhard postulated this combination in one case where the patient gave no answers to questions, resisted all interference but carried out a mannerism of kissing the ground very quickly. She also showed an embarrassed giggling. Leonhard had some doubt about this case owing to the speed with which the mannerism was carried out, but he points out that negativistic catatonics can act very quickly when they steal food or run away from the nursing staff.

(iii) *Proskinetic-negativistic catatonia*

Leonhard has postulated this combination in one case. In this patient murmuring was absent but interlacing movements of the hands were present. Sometime the patient showed the attitude of coming towards the examiner but at other times there was negativism. The posture and mimicry was mainly that which is found in negativistic catatonia.

(d) *Combinations of Proskinetic Catatonia*

(i) *Parakinetic-proskinetic catatonia*

Parakinetic activity is present but tends to become manneristic. Leonhard suggests that this uniformity of the parakinesia is due to the automatic nature of the proskinetic activity. Clear verbigeration occurs and this can be seen as an accentuation of the murmured verbigeration of the proskinetic.

(ii) *Manneristic-proskinetic catatonia*

Here the stiff rigid mimicry of the manneristic is combined with the proskinetic activity. The intertwining of the fingers and the fingering of clothes tends to become stereotyped.

(e) *Parakinetic-manneristic catatonia*

The parakinetic activity is carried out slowly and is made very uniform by the manneristic component. The facies and the attitude of the body are rigid. The course of the parakinetic movements is slow. The parakinesia occurs on stimulation but without stimulation the patient remains fixed for a long time in a rigid posture.

(f) *Combined Forms in the Author's Series*

In the author's series six cases were classified as combined catatonias.

In one case a combination of manneristic and proskinetic catatonia was present. This patient had an uncle who had been in a mental hospital and two sisters who were mental defectives.

Two patients were classified as manneristic-speech prompt catatonics. One of these had a father who died in a mental observation ward and a paternal aunt who died in a mental hospital. Unfortunately, no further information was available about these relatives.

Three patients were considered to have proskinetic-speech inactive catatonia. No family history was obtained in these cases.



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2. COMBINED SYSTEMATIC HEBEPHRENIAS

Leonhard has found all possible combinations of systematic hebephrenias.

(a) *Combinations of Silly Hebephrenia*

(i) *Eccentric-silly hebephrenia*

These patients show the querulent monotonous complaining of the eccentric hebephrenic but the smiling or giggling of the silly hebephrenic is also present.

(ii) *Shallow-silly hebephrenia*

One patient observed by Leonhard showed the typical smiling and behaviour of the silly hebephrenic but also had a complete absence of emotional response when normal affect-laden themes were discussed. Violent ill-humoured states similar to those of shallow hebephrenia also occurred.

(iii) *Autistic-silly hebephrenia*

Leonhard had one case in which he postulated the presence of this combination. This patient cut himself off from all contact and was irritable and tense at times. When an effort was made to get into contact with him he often smiled and laughed for no reason.

(b) *Combinations of Eccentric Hebephrenia*

(i) *Shallow eccentric hebephrenia*

The emptiness of affective expression is much greater than in the eccentric form. There is a marked poverty of drive so that the monotonous querulent complaints are less prominent than in the eccentric. They have to be encouraged to talk, otherwise they sit about doing nothing and do not participate in any activities. The querulent complaining and the repeated use of a few phrases and expressions with slight modifications indicates the eccentric element. Periodic ill-humoured states like those in shallow hebephrenia also occur.

(ii) *Autistic eccentric hebephrenia*

The autistic attitude is well marked but when spoken to the patient becomes querulent and brings forward his complaints in a rather fixed way. Excitements like those in autistic hebephrenia also occur.

(c) *Combinations of Shallow and Autistic Hebephrenia*

Apart from the combinations mentioned above, combinations of shallow and autistic hebephrenias are found. The autistic attitude is present but it is associated with a severe devastation of affect. Affect-laden themes produce no more response than indifferent ones. Speech is freer than in autistic hebephrenia and the response to questions is better. Ill-humoured states occur in which there may be marked violence.

(d) *Combined forms in the Author's series*

Two patients in the author's series were classified as silly eccentric hebephrenia and one as silly shallow hebephrenia. There was no family history of mental illness in the silly shallow hebephrenic but one silly eccentric hebephrenic had an aunt who died in a mental hospital and the other had a paternal aunt and uncle who were reported to have been "queer". Further details of the illnesses of these relatives were not available.

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3. COMBINED SYSTEMATIC PARAPHRENIAS

Leonhard points out that the combined paraphrenias produce more complicated clinical pictures than the combined catatonias and hebephrenias. Sometimes a simple summation of symptoms occurs but often the symptoms influence one another or new unexpected symptoms emerge.

(a) *Combinations of Hypochondriacal Paraphrenia*

(i) *Phonemic hypochondriacal paraphrenia*

Typical bodily hallucinations occur, but hallucinatory voices are more prominent than in either simple form and the patient hallucinates during conversation. Thought disorder is severe and there is a peculiar inability to fix on the topic under discussion. Patients tend to pass into general expressions so that it may be impossible to get a factual answer.

(ii) *Incoherent hypochondriacal paraphrenia*

The patient speaks in fragmented phrases made up of a few words, the meaning of which is far from clear. The patient answers questions and speaks to his voices at the same time. Bodily hallucinations of a fantastic kind occur and hallucinatory excitements when the patient shouts at his voices.

(iii) *Fantastic hypochondriacal paraphrenia*

The bodily sensations which occur in both forms are much more pronounced in the combined form, and they acquire a fantastic colouring. Thus one patient no longer had a brain and another had no diaphragm. Misidentifications, hallucinations, in all spheres, massive visual hallucinations and absurd fantastic ideas occur. Apart from the increased severity of the bodily hallucinations the combined form differs from its components in the severity of the thought disorder. These patients are severely muddled even when discussing indifferent topics and pressure of speech is common. The muddledness is so severe that it is reminiscent of Kraepelinian schizophasia.

(iv) *Confabulatory hypochondriacal paraphrenia*

The somatopsychic and confabulatory phenomena occur side by side in this combined form. Bodily sensations are partly elaborated in a confabulatory way. Voices typical of the hypochondriacal component occur. Visual experiences occur and this indicates the confabulatory component. There is poverty of drive and these patients do not say much on their own accord. When spoken to they respond but soon revert to their inactive attitude. This appears to be a new system produced by the combination.

(v) *Expansive hypochondriacal paraphrenia*

Grandiose ideas and the external pose of superiority occur together with an eccentric manner of speaking and the use of peculiar words. Pressure of speech occurs and this is probably due to the hypochondriacal component as is the increase in the expansive talkativeness which may also occur. If questioned cautiously these patients will talk about their auditory and bodily hallucinations.

(b) *Combinations of Phonemic Paraphrenia*

(i) *Incoherent phonemic paraphrenia*

The incoherent component dominates the picture and the patient talks to his hallucinatory voices in the presence of the examiner. Answers to questions are usually incoherent but the patient manages to fix on to the topic better

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than the simple incoherent. The thought disorder is less marked than in simple incoherent paraphrenia. This fact together with the continuous auditory hallucinosis leads Leonhard to postulate a phonemic component.

(ii) *Fantastic phonemic paraphrenia*

The muddledness is much greater than in simple fantastic paraphrenia but the usual fantastic features such as absurd ideas, misidentifications and expansiveness occurs. Hallucinatory voices are very marked but bodily hallucinations are less prominent than in simple fantastic paraphrenia.

(iii) *Confabulatory phonemic paraphrenia*

Hallucinatory voices occur and fit into the content of the patient's thought. Confabulations occur as such or as visual hallucinations. The train of thought is not disturbed very much.

(iv) *Expansive phonemic paraphrenia*

The typical expansive behaviour occurs in association with verbal hallucinosis. General activity is somewhat increased. These patients are more active and more interested in their surroundings than the simple expansives.

(c) *Combinations of Incoherent Paraphrenia*

(i) *Fantastic incoherent paraphrenia*

In these patients fantastic material is produced but it is disconnected and fragmented. The patient talks continually with his voices in the presence of the examiner.

(ii) *Confabulatory incoherent paraphrenia*

In these patients clear confabulations are present but speech consists of the fragmented utterances typical of incoherent paraphrenia. The thought disorder is not so severe as in simple incoherent paraphrenia and in intelligence questions the patients do not wander too far from the topic under discussion.

(iii) *Expansive incoherent paraphrenia*

In these patients there is a haughty pose and grandiose ideas occur, but the train of thought is fragmented. Individual phrases are expressed one after another without any connection and separated by short pauses. Hallucinatory voices occur as in incoherent paraphrenia and their presence can be deduced from the hallucinatory excitements, and from the disjointed speech.

(d) *Combinations of Fantastic paraphrenia*

(i) *Confabulatory fantastic paraphrenia*

The typical fantastic clinical picture is seen, but well-organized confabulations are also present. There is a marked muddled state and pressure of speech. The presence of confabulations despite the severe muddledness indicates the confabulatory component.

(ii) *Expressive fantastic paraphrenia*

In these patients the expansive component shows itself in the haughty attitude, the affected manner of speaking and the use of peculiar words. In addition the typical fantasia is present. Thought disorder is more severe than in either simple form.

(e) *Combinations of confabulatory and expansive paraphrenia*

Apart from the confabulatory expansive combination all other possible combinations of these forms have been described above. In the confabulatory

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expansive form, confabulations occur but they may occur in transitional forms like visual hallucinations. The confabulations tend to be more uniform and less plastic than in the simple form and this may be due to the expansive component since uniformity is usually present in the thinking of the expansive. The typical expansive symptoms also occur.

(f) *Combined paraphrenias in the author's series*

Three cases in the author's series were classified as combined fantastic phonemic paraphrenia. One of these patients had a family history of mental illness; her uncle was reported as having suffered from "religious mania".

One case was classified as phonemic confabulatory paraphrenia and had no family history of mental illness.

Three cases were classified as fantastic incoherent paraphrenias and in none of these was there a family history of mental illness.

## F. Differences in Reclassification

If Table 1 is compared with the results previously published by the author (Fish, 1958) certain discrepancies will be noted. It is now necessary to discuss the extent and significance of the differences in classification of the original series when classified according to Kleist and according to Leonhard.

Forty-one cases were originally classified as atypical, simple or combined systematic paranoid schizophrenia and 5 cases as combined paranoid and confused schizophrenia. Of 7 cases classified as progressive reference psychosis 4 have been reclassified as non-systematic schizophrenias; 22 as affect-laden paraphrenia and 2 as schizophasia. As Kleist's progressive reference psychosis probably includes some schizophasics in Leonhard's sense (Kleist, 1949) then these last two cases were not substantially misclassified. The other three cases were classified as phonemic paraphrenia, incoherent fantastic paraphrenia and eccentric hebephrenia. Nineteen systematic paraphrenias were reclassified in groups consistent with Kleist's groups but 15 were classified into different groups. Of these 4 were originally classified as combined forms but were reclassified as a simple form which corresponded to one of the components of the combined form. Three cases were reclassified as combined forms and one component was similar to a component of the original combination. Thus 7 cases were only partly reclassified. Of the 8 other cases 1 was reclassified as catatonia, 2 as affect-laden paraphrenia and 5 as simple systematic forms. Of the 5 cases classified as combined paranoid and confused schizophrenias 1 was reclassified as a catatonic. Two cases which were originally classified as fantastic incoherent schizophrenias were reclassified as incoherent paraphrenia and fantastic incoherent paraphrenia. One case classified as incoherent schizophrenia combined with progressive autopsychosis was reclassified as incoherent schizophrenia and one case of fantastic paralogical schizophrenia as fantastic paraphrenia. To sum up, of the 46 cases, 34 were reclassified in a Leonhard subgroup substantially the same as the original Kleistian subgroup. 9 cases were reclassified into different paranoid subgroups and 3 into non-paranoid subgroups.

Among the 18 catatonias of the original series the two unclassified catatonias have been reclassified as nonsystematic schizophrenics, one as a periodic catatonia, the other as a schizophasia. Two cases classified as atypical (iterative) catatonia have been reclassified as manneristic speech-prompt

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catatonia. Six cases were reclassified into a group similar to the original Kleistian group and 6 into different subgroups of systematic catatonia; 5 as different simple systematic catatonias and 1 as a combined systematic catatonia. 2 cases were reclassified as non-catatonic illness. Thus only 6 out of the original 16 classified catatonics were reclassified in a group substantially the same as the original Kleistian group.

As Leonhard does not recognize a confused group of schizophrenias, then all those cases classified as schizophasia (including atypical, shifting, confused schizophasia), or incoherent schizophrenia must be considered to be classified in substantially the same groups as they originally were if they are reclassified as schizophasia or incoherent paraphrenia respectively. Two cases classified as schizophasia were reclassified as schizophasia in Leonhard's sense and 3 cases classified as atypical shifting confused schizophrenia were reclassified as schizophasia. One case classified as atypical shifting confused schizophrenia was reclassified as periodic catatonia. In view of the differences between Leonhard's and Kleist's schemes of classification, these 6 cases can be considered as being reclassified in substantially the same group as before. Two cases of schizophasia were reclassified as hebephrenia and catatonia respectively, and one atypical confused shifting schizophrenia was reclassified as a systematic catatonia. Four incoherent schizophrenias were reclassified as incoherent paraphrenias and 1 as combined incoherent fantastic. One incoherent schizophrenia was reclassified a phonemic paraphrenia and 3 as speech-inactive catatonias. One incoherent schizophrenia was reclassified as a hebephrenia. Of the 2 paralogical schizophrenias one was reclassified as a manneristic catatonia and the other as eccentric hebephrenia.

Thus 11 of these 21 cases were reclassified in substantially the same way. The misclassification of three speech-inactive catatonias as incoherent schizophrenics can be understood when it is remembered that these catatonics whisper to voices and have an hallucinatory aversion.

Of the 22 cases originally classified as hebephrenias 8 were reclassified as before and 3 were reclassified as combined forms with one component the same as the original classification. Two cases were classified as different hebephrenic subforms and 9 as non-hebephrenic. Thus 11 of the original cases were reclassified in substantially the same group as before.

There are several obvious reasons for these differences in classification. In the first place the two schemes do not coincide to the degree which names of the individual subgroups would suggest. Thus Kleist in his description of progressive hallucinatory somatopsychosis (Kleist, 1947) says that auditory hallucinations recede into the background as the illness progresses, but Leonhard regards a special variety of auditory hallucinations as essential for the diagnosis of hypochondriacal paraphrenia. Quite a number of the author's cases which were originally classified by him as combined systematic paranoid schizophrenias were considered as combined Kleistian subforms because of the vagueness of Kleist's descriptions. These cases when considered in the light of Leonhard's views fitted neatly into one of his groups. Thus 18 cases out of 39 systematic paranoid schizophrenias were considered as combined forms whereas on reclassification only 7 cases out of 48 paraphrenias were considered to be combined forms. This contradicts the author's previous criticism of the Kleist Leonhard scheme of classification (Fish, 1957b). In fact, if one uses Leonhard's criteria then combined forms are not very common.

Another reason for the apparently extensive reclassification is the author's inexperience and methods of investigation. Although the original

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107 cases had been briefly surveyed by the time that the author resigned from the staff of St. Nicholas Hospital it was necessary for him to return to the hospital on several occasions to re-examine the patients and carry out tests of thought disorder. Where possible the patient was classified during an interview but frequently it was necessary to consider the protocols very carefully after the patient had been seen and when the author had returned to Edinburgh. When the diagnosis had been narrowed down to two or three possibilities it would have been preferable to make the final decision by seeing the patient again and interviewing the nursing staff once more. However owing to the relative inaccessibility of the patients this was not always possible. It is all too easy to fasten on one facet of the case and not see it as a relatively unimportant part of the clinical picture. Thus in the two cases classified as paralogical schizophrenia, eccentricities and mannerisms of speech were noted and the diagnosis of a severe thought disorder was made. Later it was apparent that these abnormalities of speech were due to catatonia and hebephrenia.

When the cases were reviewed with Dr. Christian Astrup, it was remarkable how often Dr. Astrup and the author independently reached the same diagnosis even if it was different from the author's original diagnosis. In no case was there any gross disagreement between Dr. Astrup and the author on the group to which a given case belonged.

SUMMARY

The scheme of classification of schizophrenia described by Professor Karl Leonhard is briefly outlined. The 107 cases originally classified according to Kleist's scheme are reclassified according to Leonhard's scheme. An additional 4 cases excluded from the original series are also classified. In the reclassification the author was helped by Dr. Christian Astrup who saw 103 of the cases jointly with the author. It is concluded that Leonhard's scheme is more precise and easier to use than that of Kleist.

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