

SENILE SCHIZOPHRENIA

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THE author has already briefly reported on his investigation of senile paranoid states to the First Meeting of the European Clinical Section of the International Association of Gerontology (Fish, 1959a). He would now like to present his findings in more detail and discuss the relevant psychiatric literature.

In the Anglo-American psychiatric literature it is unusual to find the term "schizophrenia" being used to designate psychiatric illnesses which have begun after 40 years of age. It seems to be a standard belief in Britain and the United States that schizophrenia is a disease of adolescence and only rarely, if ever, occurs in the involutional period or in the senium (Henderson and Batchelor, 1956). Thus Victor and Hope (1958) when discussing the differential diagnosis of a group of hallucinating patients write, "In the former group, the symptoms began at 46-50 years of age, a range considerably beyond that usually encountered in schizophrenia."

It is customary to call the chronic paranoid psychoses, which occur in middle life, paranoid states or paraphrenia. It would appear that some English-speaking psychiatrists consider that paraphrenia can be differentiated sharply from paranoid schizophrenia. Mayer's (1921) follow-up study on Kraepelin's group of paraphrenic patients seems to be unknown and is only briefly referred to in one of the many textbooks of psychiatry written in English. Mayer found that many of Kraepelin's paraphrenics showed unequivocal signs of dementia praecox later in the course of the illness and that it was not possible to distinguish between the initial clinical pictures of those patients who finally developed obvious dementia praecox and those who did not.

Another common belief is that paranoid states in middle life are often due to coarse brain disease. This view has mainly been handed on orally, but has recently been expressed by Hill (1956) when he wrote ". . . in the involutional period of life organic cerebral factors, themselves unrelated to schizophrenia, usually act as precipitants of the psychosis and inevitably determine an unfavourable prognosis".

The views of German-speaking psychiatrists are quite different from those discussed so far. Thus Kraepelin (1913) using a fairly narrow concept of dementia praecox, which excluded paraphrenia, found that 5.6 per cent. of his series of 1,054 cases had an age of onset of 40 years or more and in 0.2 per cent. the illness began after 60 years of age. Carl Schneider (Kolle, 1931) in a series of 889 patients found that 16.0 per cent. had an onset after 40 years of age and 0.6 per cent. after 60 years of age, whereas Kolle (1931) in a series of 182 patients found 18 per cent. had an illness which began after 40 years of age, and none in whom it began after 60 years of age. Recently Müller (1959) has studied 101 unselected senile patients with schizophrenia and found that in 30 the illness had begun after 40 years of age and in 4 after 60 years of age.

M. Bleuler (1943) has investigated "late schizophrenia" which he defines as schizophrenia occurring after the age of 40 years and which conforms to the following criteria:

1. It should have occurred for the first time after 40 years of age.
2. The symptomatology should not differ from that of schizophrenia earlier in life or if it does differ it should not do so in a clear and radical way.
3. It should not be possible to attribute the illness to an organic disorder because of the presence of an amnesic syndrome or associated signs of neurological disease.

Bleuler found an incidence of 15 per cent. of late schizophrenics in a series of chronic hospitalized schizophrenics. The age distribution of Bleuler's series of 126 late schizophrenics is shown in Table I. This author also investigated the cause of death of 17 female late schizophrenics, who died in the

TABLE I
The Age Distribution of 126 Late Schizophrenias
(After M. Bleuler)

Age of Onset	No. of Cases	Percentage
40-44 years	44	35
45-49 years	42	33
50-54 years	20	16
55-60 years	15	12
Over 60 years	5	4

University of Basle Psychiatric Clinic. In 3 cases the brain was normal and death was due to pneumonia, in 4 cases the diagnosis of schizophrenia was wrong or doubtful since neuropathological changes were present which had affected brain function, and in 10 cases the lesions of the brain were present, which had obviously occurred a long time after the onset of the schizophrenia.

The present author's experience in British mental hospitals is in agreement with these Continental workers. In a series of 111 chronic female schizophrenics previously reported (Fish, 1958b), the age of onset could be fairly accurately determined in 110 cases. In 23 cases the illness began after 40 years of age and in one of these the age of onset was over 60 years. Since this series was a representative sample of chronic schizophrenics from all the female wards of an English public mental hospital with the exception of the geriatric ward then the incidence of schizophrenia in middle-aged and elderly females is probably greater than is suggested by these figures. The clinical pictures in the author's 23 middle-aged and elderly schizophrenics did not differ from clinical pictures occurring before the age of 40 years. The distribution of these cases in the different Leonhard sub-groups is shown in Table II. It will be seen that no case of catatonia, hebephrenia or schizophasia was found in those patients with an age of onset between 50 and 59 years but in 7 out of 9 of them auditory hallucinations were a prominent feature. It would appear that with the increasing age of onset schizophrenia tends to take the paraphrenic form, so that one would expect that senile schizophrenias would belong to one or other of Leonhard's sub-groups of paraphrenia.

TABLE II

Classification of 23 Cases of Schizophrenia with Onset Over 40 Years of Age

Leonhard Subgroup	40-49 Years	50-59 Years	Over 60 Years	Total
Affect-laden paraphrenia	2	1	0	3
Schizophasia	1	0	0	1
Speech-prompt catatonia	1	0	0	1
Autistic hebephrenia	1	0	0	1
Hypochondriacal paraphrenia	1	3	0	4
Phonemic paraphrenia	5	1	0	6
Fantastic paraphrenia	1	2	0	3
Incoherent paraphrenia	0	2	0	2
Phonemic confabulatory paraphrenia	0	0	1	1
Phonemic fantastic paraphrenia	1	0	0	1
Total	13	9	1	23

Recently Roth (1956) has used the term "late paraphrenia" to designate a group of senile paranoid states, but it is not clear whether or not he believes that this illness is schizophrenic. Since Mayer (1921) has showed that paraphrenia cannot be distinguished from paranoid schizophrenia it is unwise to use the term paraphrenia to designate an illness which is not schizophrenic. Late paraphrenia can also be confused with Bleuler's late schizophrenia. Thus it would appear that Roth's choice of term is unfortunate.

In view of the unsatisfactory nature of our knowledge of the incidence and form of schizophrenia occurring in the senium it was considered advisable to investigate a representative group of senile psychiatric patients. In mid-1958 information was obtained about all persons over the age of 60 and resident in the City of Edinburgh, who were admitted to psychiatric institutions in the year 1957. The institutions involved were one neurosis unit, two public mental hospitals, two private mental hospitals and four nursing homes. In 22 cases only the diagnosis of the admitting doctor could be obtained but in the remaining 242 cases the case notes were carefully studied and in many cases the patient was examined. The classification of those patients into different clinical groups is shown in Table III. The accuracy of this classification is doubtful

TABLE III

Clinical Classification of 264 Senile Psychiatric In-Patients Admitted from the City of Edinburgh in the Year 1957

Affective disorders	111
Schizophrenia	16
Senile dementia	50
Arteriosclerotic dementia	37
Confusional states	15
Miscellaneous organic states	7
Pre-senile dementia	6
Psychopathic personalities	6
Alcoholic addicts	8
Neurotics	4
Sexual perversion	2
Mental defect	1
Atypical facial pain	1
Total	264

since the period of follow-up varied from six to eighteen months. The criteria for the differentiation of arteriosclerotic dementia from senile dementia were those used by Roth (1955). Many workers doubt that it is possible to differentiate between those two groups of illness on clinical grounds (Müller, 1959) and the present author is of the opinion that it is difficult to do so and may often be impossible.

All cases in which marked paranoid symptoms occurred were designated "paranoid states" and subjected to special scrutiny. There were 41 such patients and they could easily be classified into four groups as shown in Table IV. The

TABLE IV
Senile Paranoid States in Edinburgh, 1957

Schizophrenia: Onset before 60	..	..	..	..	..	..	..	9	} 16
Onset after 60	..	..	..	..	..	..	..	7	
Paranoid depressions	..	..	..	..	..	..	..	..	6
Organic psychoses	..	..	..	..	..	..	..	..	16
Psychogenic reactions	..	..	..	..	..	..	..	..	3
Total	..	..	..	..	..	..	..	..	41

terms "schizophrenia" and "paranoid depression" are used here in accordance with the definitions given by the author in previous papers (Fish, 1959a, 1959b).

In the 16 cases diagnosed as schizophrenia the illness had probably begun before the age of 60 in nine cases. Thus the incidence of schizophrenia in the whole series was 6.0 per cent. and in 56.2 per cent. of the schizophrenics the illness had begun before the age of 60. In five patients the illness had begun before 50 years of age. In the other four patients with a probable onset in the sixth decade three could be classified as affect-laden and one as phonemic paraphrenia (Leonhard, 1957).

The seven cases where the illness began after the age of 60 will be referred to as senile schizophrenics from now on. The age of onset in this group ranged from 62 to 71 years with a mean age of 66.3 years. There were five females and two males. The duration of illness before admission ranged from one to eleven years with an average of 4.2 years. Two cases were re-admissions. The clinical pictures were variable but all cases could be classified according to the Leonhard scheme as is seen in Table V. Affect-laden paraphrenia was the commonest

TABLE V
Classification of Seven Senile Schizophrenics Found in a Series of 264 Senile Psychiatric Patients

Affect-laden paraphrenia	..	..	..	..	..	..	..	..	3
Phonemic paraphrenia	..	..	..	..	..	..	..	..	2
Hypochondriacal paraphrenia	..	..	..	..	..	..	..	..	1
Expansive paraphrenia	..	..	..	..	..	..	..	..	1

variety of schizophrenia but the clinical pictures within this subgroup may be very different (Leonhard, 1957) since the diagnostic feature is the presence of marked affect in association with the paranoid delusions. Thus in the three cases considered here, one had a circumscribed delusional psychosis which almost completely centred around her husband, one had many diverse non-systematized persecutory delusions which were associated with much affect and the third had an acute hallucinatory psychosis which settled down into an autistic state in which the patient actively avoided all personal contact and would not talk about herself or her symptoms.

At the time of the follow-up which was between six months and a year after admission, three senile schizophrenics had been discharged. One hypochondriacal paraphrenia who had been discharged was followed up by letter as her husband did not wish me to see her personally. He claimed she was very well and attributed this to the chlorpromazine which she was still taking. This is not very reliable information because the husband had minimized the severity of his wife's symptoms throughout the illness. One discharged phonemic paraphrenia could not be contacted because of his wife's depressive illness which might have been worsened by a home visit and enquiries about her husband's illness. However, there is now evidence from another relative that this patient has relapsed and it is likely that he will be re-admitted in the near future. The third discharged patient, an affect-laden paraphrenia, could not be contacted as the responsible relative did not answer the follow-up letter.

Roth (1956) has stressed the possible causal effect of physical and social isolation in "late paraphrenia". In the seven senile schizophrenias in the present series one was blind and lived alone, one had very poor vision and aortic incompetence and one lived alone but was physically fit. Four of the patients lived with their spouses and one lived with her son and daughter-in-law. Thus three of the seven senile schizophrenics had social and/or physical isolation.

In the affective group there were six patients with paranoid depressions. The ages of onset ranged from 61 to 80 years with a mean age of onset of 69.2 years. In four patients there appeared to have been an adequate provoking factor. In two cases this was worry about a close relative, in one it was the death of a close relative and in the fourth case a severe prolonged epistaxis which was severe enough to necessitate hospital admission. All six patients made a rapid recovery on receiving E.C.T., and were all discharged from hospital within six months of admission. The average length of stay in hospital was four months.

The sixteen organic paranoid states gave rise to no diagnostic difficulties. There was a clear disorientation for space and time in all cases. The distribution of the cases according to the causative illness is shown in Table VI. Six female

TABLE VI
Causes of Organic Senile Paranoid States

Toxic confusional state	..	..	..	..	..	..	..	..	4
Epilepsy	..	..	..	..	..	..	..	..	2
Arteriosclerotic and senile dementia	..	..	..	..	..	..	..	..	5
Uncertain origin	..	..	..	..	..	..	..	..	5

patients had a fairly well organized paranoid hallucinatory psychosis with obvious organic signs. The ages of these patients ranged from 79 to 85 years, with a mean of 81.3 years. In two of these cases death occurred three and eleven months after admission but unfortunately post-mortem examination was not carried out in either case. One patient deteriorated rapidly and within six months was utterly demented and bedridden. One patient was discharged from hospital within a few weeks of admission and her relatives did not answer the follow-up letter. Two patients developed a chronic confusional state with persecutory delusions and visual and auditory hallucinations. These patients were partially orientated during the day but became very confused at night. Thus it appears that some elderly patients about 80 years of age may develop an organic paranoid state which can become chronic. The exact nature of the

organic basis of this psychosis is not certain but the author hopes to investigate this problem further.

The three patients with psychogenic reactions could easily be differentiated from other paranoid states. They had all been awkward difficult people throughout their lives. One was a 61-year-old German-speaking Balt who came to Britain as a refugee. She became upset following the death of her mother and threatened to commit suicide. She was therefore certified and then became extremely paranoid about the certifying doctors and her sponsors. Her illness subsided when her discharge was arranged. The second patient was an 86-year-old woman, who had always been a rigid humourless person and given to complaining about her neighbours. For several months before admission she had accused her neighbours of making noises to annoy her but finally she became so abusive to the neighbours that she had to be certified. She settled down immediately following her admission and was discharged to an Edinburgh Corporation Old People's Home after six months. When I saw her after she had been in this home for five months, she was quite happy and contented, moderately well-orientated and the staff reported that she helped with the domestic work and helped other inmates to dress. The third patient was an 82-year-old woman who believed that her daughter-in-law had tried to poison her and had stolen money from her. When seen fifteen months after admission she was well orientated and quite content to stay in the old ladies' ward of a public mental hospital. According to her relations she had been drinking up to six quarter bottles of brandy in a day prior to her admission although the patient herself denied drinking much alcohol. This patient's illness was probably due to the combined effects of her previous abnormal personality, normal senile intellectual changes and excessive consumption of alcohol.

Although these last two patients have been called psychogenic reactions one cannot exclude the possibility that senile intellectual and emotional changes probably played a part in the development of the paranoid state. It is reasonable to suppose that normal senile changes might release a schizophrenic psychosis or might make a paranoid individual frankly psychotic. During my work at St. Nicholas' Hospital, Gosforth, I found one case history and one patient, which supported this view.

The patient, A.E.P., 82 years of age, was admitted as a certified patient to St. Nicholas Hospital on 10 January, 1956. She complained that strangers spied on her and looked through her bedroom windows when she was dressing. She said that her daughter and her son-in-law had conspired against her and tried to poison her. She also stated that her son-in-law had arranged for neighbours to smear paint on the walls and floor of her house. She was partly orientated for time and place, thus on 11 January, 1956 she said the date was 9 January, 1956 and the place was Newcastle Hospital. She had severe arthritis of the left hip and walked with great difficulty, her vision was very poor and she was slightly deaf. The patient was a widow who lived on her own because she refused to live with her only daughter. The daughter said that her mother had been a suspicious, cantankerous domineering woman all her life. Many years before when the patient's husband was alive, she had accused people of entering her bedroom and disturbing her possessions. In order to prevent this she had a Yale lock put on her bedroom door. She was her husband's second wife and for a long time she accused him, quite unjustly, of incestuous practices with the daughters of the first marriage.

During her stay in St. Nicholas Hospital she became more disorientated but persistently expressed persecutory delusions about her daughter. When I saw her again at St. Nicholas Hospital in May, 1958 she was utterly disorientated for time and place and refused to agree that she was in a mental hospital. She said she was about 90 years old. She claimed that her daughter had cut the sleeves off her blouse in order to bare her arms out of spite. She talked of her religious beliefs and became tearful. She resented her helpless physical state and was distressed by her failing sight saying, "What is going to happen to me when I go blind?" Within the limits of her physical disabilities she was able to look after herself, feed herself and make her wants known.

This patient was undoubtedly a paranoid personality. It would appear that under the influence of normal senile mental changes and a severe visual defect she had become psychotic.

The second patient, F.B., was a 79-year old woman, who was admitted to St. Nicholas Hospital as a certified patient on 5 May, 1938. Her daughter M.F.B., was admitted to St. Nicholas Hospital on 4 August, 1922 with schizophrenia and was one of a series of chronic schizophrenias investigated by me (Fish, 1958a), and has been classified as a phonemic paraphrenia. According to the relatives F.B. had only been ill a few months prior to admission. The certificate stated, "She has delusions of persecution imagining that attempts are made to poison her. She also talks about being annoyed by spirits." The admission note stated, "Very confused, disorientated, rambling in her talk and expressing delusions. She says her age is 81 this week or last week, that the year is 1889 and she was married in 1890. She says she is now in South Africa, her daughter is building a convent here; that they have cut out her tongue and every bit of food they bring her is poisoned and her stomach is burnt out." This patient finally died in St. Nicholas Hospital at the age of 94 on 15 December, 1952. In the course of the years she became blind and deaf but continued to have auditory hallucinations which from time to time led to outbursts of swearing. Despite the complete disorientation, she was not incontinent, could feed herself and could ask for a bed pan when necessary up until her final illness in 1952. She had a cerebral thrombosis on 6 November, 1952 and died on 15 December, 1952. No post-mortem examination was made.

Thus it would appear that this patient developed schizophrenia in which auditory hallucinations were the most prominent feature although hypochondriacal hallucinations were probably present at the onset. This psychosis was coloured by the normal senile mental changes and by her severe sensory defects. Although she was always disorientated she could make her wants known and feed herself 14 years after her admission. This makes it unlikely that she suffered from senile dementia.

DISCUSSION

The outstanding finding in this investigation is the difference between the incidence of schizophrenia in this series from that of other investigators. Thus Roth (1955) found an incidence of late paraphrenia of 9.9 per cent. and that in the majority of these patients the age of onset was over 60 years. Whereas in a series of 198 female senile patients Robertson and Mason Browne (1953) found an incidence 11.6 per cent. of cases of paraphrenia and schizophrenia, only three of whom (13 per cent.) had an age of onset at over 60 years. In the present series 6.0 per cent. of the senile patients were schizophrenic and in 43.8 per cent. of these patients the onset was after 60 years. If however the incidence of all functional paranoid states in the present series is estimated then this is 9.4 per cent. and in 72 per cent. of these cases the age of onset was over 60 years of age. Thus it could be argued that Roth's late paraphrenia corresponds to three of the author's subgroups of paranoid states. However the discrepancy between findings of Roth and the present author on the one hand and those of Robertson and Mason Browne on the other is not easy to account for except on the basis of the fact that private mental hospital facilities are more readily available in Edinburgh than elsewhere and the cases of senile schizophrenia would be more likely to be filtered off into the Craig House division of the Royal Edinburgh Hospital.

The only other large series of senile psychotic patients is that of Lechler (1950). Unfortunately this author did not discriminate between the patients with clinical pictures of functional psychoses who also had coarse brain disease from those who did not. In a series of 355 patients over the age of 65 years, who were admitted to the Heidelberg clinic between the years 1932-1948 he found thirty schizophrenias (8.4 per cent.). In eighteen of these patients there

was an age of onset over 65 years. If Lechler's criteria are applied to the present series then there were thirteen schizophrenics admitted when over the age of 65 and in nine the illness began after the age of 65. It is probable however that Lechler included patients in his schizophrenic group whom the present author would consider to be paranoid depressions. Thus Lechler found that a depressive mood was very characteristic of senile schizophrenia and that the illness was frequently provoked by severe psychic trauma.

Roth has suggested that there is a fairly characteristic clinical picture in late paraphrenia. This is not in keeping with the present author's findings. More recently Janzarik (1957) had studied a series of fifty senile schizophrenias and has classified them into five different groups, as seen in Table VII. Despite

TABLE VII
Classification of Fifty Senile Schizophrenias
(After Janzarik)

Acute delusional psychoses	6
Acute delusional psychoses with isolated auditory hallucinations	4
Chronic paranoid psychoses	3
Persecutory-hallucinatory psychoses	23
Hallucinatory psychoses	11
Catatonia	3
<hr/>	<hr/>
Total	50

differences in grouping both Janzarik and the present author appear to agree that there is no one typical clinical picture of senile schizophrenia. From the illustrative protocols of cases in Janzarik's first two groups it would appear that these two groups correspond to the present author's paranoid depressions.

SUMMARY

In a series of 264 senile psychiatric in-patients admitted from the City of Edinburgh in the year 1957, 41 patients with marked paranoid symptoms were found. Those paranoid states due to coarse brain disease could easily be differentiated from functional organic states which in their turn could be classified into schizophrenias, paranoid depressions and psychogenic reactions. A small group of very elderly patients with fairly well-organized organic paranoid states was found. The concept of late paraphrenia is considered to be doubtful. The term probably designates a heterogeneous group of non-organic paranoid states, only some of which are schizophrenic. Late paraphrenias which are obviously schizophrenic are considered to be best designated as senile paraphrenias. No distinctive clinical picture of schizophrenia was found in old age. The possibility that normal senile mental changes may produce a psychosis in a paranoid personality or may provoke schizophrenia is discussed.

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