

SOME PROBLEMS ARISING FROM A STUDY OF MENTAL PATIENTS OVER THE AGE OF SIXTY YEARS.

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STATISTICAL SURVEY.

It is generally known that in recent years there has been a considerable increase of the elderly population. In addition, we assume that unless the birth-rate rises again, an increasing proportion of the population will be found in the involuntal and senile periods of life. This development has already begun; whereas in 1901 7.6 per cent. of the population of Scotland were over 60 years of age, the percentage in 1941 has been estimated at 13.0. Men are less long lived than women, the figures being 6.6 and 8.6 in 1901, and 12.1 and 13.8 in 1941.

The rise of the population over 60 in absolute figures, as well as relative to the total population, has been reflected in the age distribution of admissions to the Royal Edinburgh Hospital for Mental and Nervous Disorders (Table I and Graph 1). An analysis of the admission figures from 1903 to 1942 has been undertaken, and whereas at the beginning of the century round about 15 per cent. of admissions were over 60 years old, during the years preceding the present war this figure had risen to about 27 per cent., i.e. whereas in 1900 roughly every seventh patient admitted to the hospital was over 60 years old, by 1938 every fourth patient was above that age.

American figures show a similar trend. At the State Hospital for Mental Diseases, Howard, R.I., in 1939-40 about 25 per cent. of new admissions were in the senile group (Wadsworth, Quesnel *et al.*, 1943), and whereas in 1829-32 only 4.5 per cent. of admissions to the Pennsylvania Hospital were over 60 years old, that figure had risen to 14.5 per cent. in the years 1929-32 (Palmer, Braceland and Hastings, 1943).

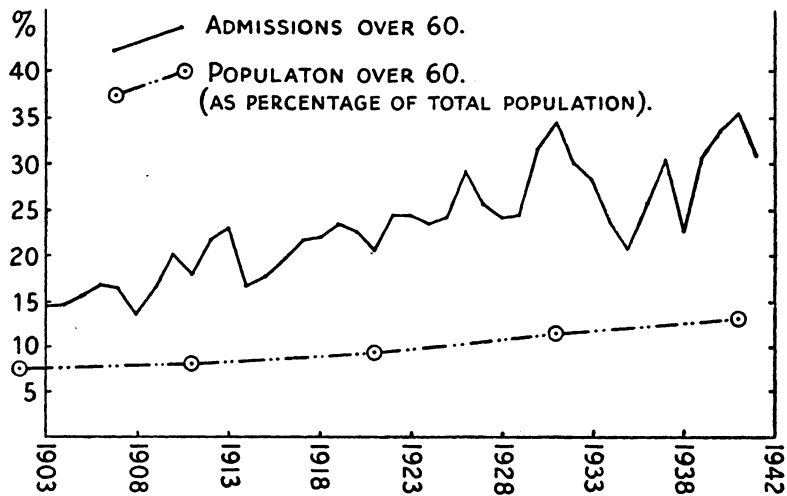
As regards sex distribution, the number of female admissions over 60 to the Royal Edinburgh Hospital was greater than that of male admissions for every year excepting six occasions. On the other hand, the percentage admission-rate over 60 showed no striking or consistent differences between males and females, and there was thus no evidence that mental illness as a whole tends to occur more often over the age of 60 in males than in females (Table I, Graph 2).

While the first World War did not produce any increase in the proportion of senile admissions, the rise of admissions over 60 in the present war has been striking—from 25.1 per cent. in the years 1935-8 to 32.6 per cent. in 1939-42 (Table II, Graph 3).

Graph 4 shows the trend of admissions over the age of 60 expressed as percentages of the total admission figures for 5-year periods since 1904. There has thus been a steady rise of admissions in this age-group, with the exception of the period 1933-38. This trend has been compared with the rising percentage of people over 60 in Scotland, and it can be seen that on the whole there is a tendency of the two curves to diverge. In other words, the admissions of patients over 60 to hospital have increased at a higher rate than would have been expected from the increasing proportion of people over 60 in the general population. However, admission-rates to a mental hospital are not necessarily parallel to the incidence of mental disease in the same district, and comparing figures for one hospital with population statistics of the whole country should not lead one to more than tentative conclusions.

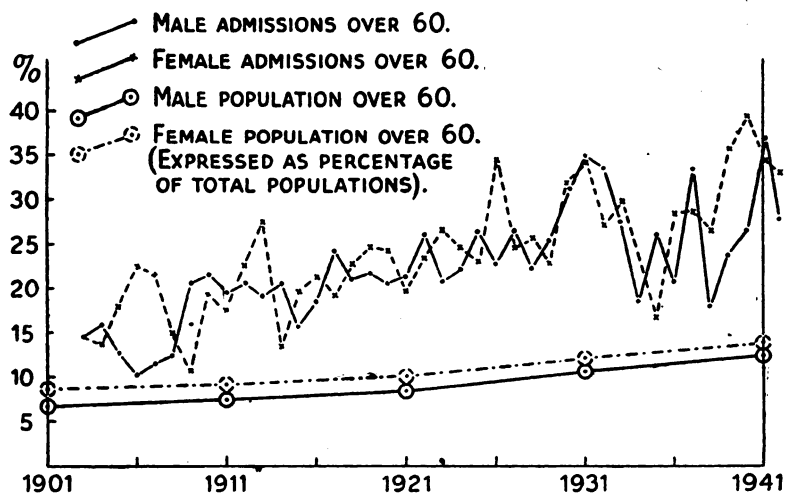
I am indebted for these figures to the Registrar-General for Scotland.

ADMISSIONS TO ROYAL EDINBURGH HOSPITAL OF PATIENTS OVER 60 YEARS OF AGE 1903-42 (EXPRESSED AS PERCENTAGE OF TOTAL ADMISSIONS)



GRAPH 1.

MALE AND FEMALE ADMISSIONS OVER 60 YEARS OF AGE 1903-42 (EXPRESSED AS PERCENTAGE OF TOTAL MALE AND FEMALE ADMISSIONS)



GRAPH 2.

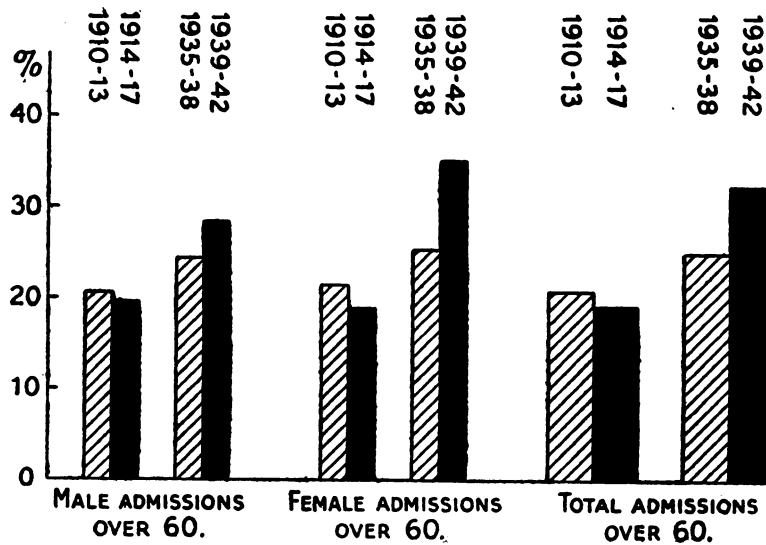
TABLE I.—Admissions to the Royal Edinburgh Hospital for Mental and Nervous Disorders, 1903-42.

	Male admissions.	Patients over 60.	Per-centage.	Female admissions.	Patients over 60.	Per-centage.	Total admissions.	Patients over 60.	Per-centage.
1903	196	28	14.3	215	31	14.4	411	59	14.4
1904	195	31	15.9	262	36	13.7	457	67	14.7
1905	200	25	12.5	228	41	17.9	428	66	15.4
1906	169	17	10.1	216	48	22.2	385	65	16.9
1907	154	18	11.7	163	35	21.5	317	53	16.7
1908	106	13	12.3	133	20	15.0	239	33	13.8
1909	97	22	20.6	112	12	10.7	209	34	16.3
1910	79	17	21.5	116	22	19.1	195	39	20.0
1911	76	15	19.7	103	17	16.5	179	32	17.9
1912	107	22	20.6	115	26	22.6	222	48	21.6
1913	125	24	19.2	113	31	27.4	238	55	23.1
1914	112	23	20.5	128	17	13.3	240	40	16.7
1915	228	36	15.8	234	46	19.7	462	82	17.7
1916	230	43	18.7	194	41	21.1	424	84	19.8
1917	186	45	24.2	207	40	19.3	393	85	21.6
1918	218	46	21.1	242	55	22.7	460	101	22.0
1919	221	48	21.7	250	62	24.8	471	110	23.4
1920	232	48	20.7	291	70	24.1	523	118	22.6
1921	243	52	21.4	263	52	19.8	506	104	20.6
1922	239	62	26.0	267	62	23.2	506	124	24.5
1923	77	16	20.8	133	35	26.3	210	51	24.3
1924	86	19	22.1	126	31	24.6	212	50	23.6
1925	94	25	26.6	113	26	23.0	207	51	24.2
1926	110	25	22.7	139	48	34.5	249	73	29.3
1927	109	29	26.6	130	32	24.6	239	61	25.5
1928	99	22	22.2	113	29	25.7	212	51	24.1
1929	106	27	25.5	87	20	22.9	193	47	24.4
1930	96	30	31.2	97	31	31.9	193	61	31.6
1931	106	37	34.9	117	40	34.1	223	77	34.5
1932	89	30	33.7	111	30	27.0	200	60	30.0
1933	102	28	27.5	111	33	29.7	213	61	28.6
1934	87	16	18.4	124	33	26.6	211	49	23.4
1935	91	24	26.4	126	21	16.6	217	45	20.7
1936	96	20	20.8	175	49	28.0	271	69	25.5
1937	117	39	33.3	177	51	28.8	294	90	30.6
1938	139	25	18.0	167	44	26.3	306	69	22.5
1939	176	42	23.9	229	82	35.8	405	124	30.6
1940	229	61	26.6	278	109	39.2	507	170	33.6
1941	187	69	36.9	274	94	34.3	461	163	35.4
1942	226	63	27.9	312	103	33.0	538	166	30.9

TABLE II.—Admissions Over the Age of 60 in Pre-war and War Periods of First and Second World War.

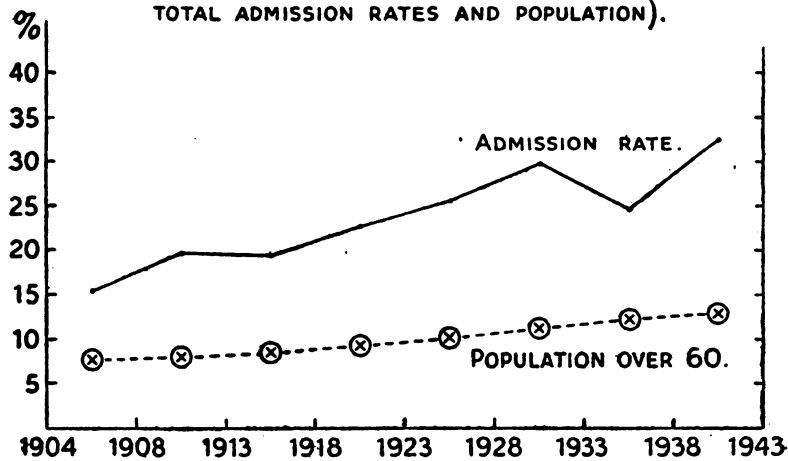
	Male admissions.	Patients over 60.	Per-centage.	Female admissions.	Patients over 60.	Per-centage.	Total admissions.	Patients over 60.	Per-centage.
1910	387	78	20.7	447	96	21.4	834	174	20.9
1911									
1912									
1913									
1914	756	147	19.5	763	144	18.9	1,519	291	19.2
1915									
1916									
1917									
1935	443	108	24.4	645	165	25.3	1,088	273	25.1
1936									
1937									
1938									
1939	818	235	28.7	1,093	388	35.5	1,911	623	32.6
1940									
1941									
1942									

ADMISSIONS OVER THE AGE OF 60 IN PRE-WAR AND WAR PERIODS OF FIRST AND SECOND WORLD WARS. (EXPRESSED AS PERCENTAGES OF TOTAL ADMISSIONS)



GRAPH 3.

COMPARISON OF ADMISSION RATES OVER 60 WITH POPULATION OVER 60. (EXPRESSED AS PERCENTAGE OF TOTAL ADMISSION RATES AND POPULATION).



GRAPH 4.

DIAGNOSTIC GROUPING OF CASES.

The situation as regards patients over 60 years old has been more closely examined in the wards of the private unit of the Royal Edinburgh Hospital. Here, in Craig House, on July 1, 1943, out of a total of 280 beds, 118 were occupied by patients over 60 years of age, 84 females and 34 males. (For duration of residence see Table III.) Of the 118 cases, 51 were schizophrenics and 20 were manic-depressive psychotics; 25 cases were involuntional or senile melancholics, and 22 were cases with dementia, i.e. presenile, senile and arteriosclerotic psychotics (Table IV).

A review of the records of cases over 60 years old admitted between January 1, 1937, and July 1, 1943, shows that of a total admission figure of 240, 125 came into the demented group and 58 were late involuntional or senile melancholic cases (Table V). While the demented group of senile cases is the largest, happily for the bed situation in the hospital, it is also the most short lived. Though 79 patients of this group were admitted between January 1, 1937, and July 31, 1941, yet by July 1, 1943, only 9 of their number were still in the wards. In contrast, of the 41 involuntional melancholics admitted during the same period, 10, i.e. a quarter, were still occupying beds. It looks, therefore, as if the late involuntional or senile melancholic is going to be a more serious problem in the future, as far as hospital beds are concerned, than the presenile, senile and arteriosclerotic dement (Table VI).

A study of the problem of late involuntional melancholia cannot be confined to patients over 60 years old; it has complex connections with the whole problem of affective psychiatric conditions occurring late in life. For this reason the present study has been confined to the demented group. In addition, it is not intended to review the entire clinical and pathological aspects of this group of cases. The clinical pictures have been fully described in standard text-books.

Only certain aspects have been singled out in this study of case-records of 111 cases admitted to Craig House since 1937, and these include 37 patients personally attended during part or the whole of their stay in hospital. From a diagnostic point of view, 54 cases fall into the senile and 44 into the cerebral-arteriosclerotic group; 6 cases were regarded as suffering from a presenile dementia of the Alzheimer-Pick type, and 7 cases, all of whom only survived for a few days in hospital, have been placed under the heading of terminal confusional psychosis, as there was not sufficient evidence for further classification (Table VII).

ADMISSION OF SENILE PATIENTS TO THE MENTAL HOSPITAL AND PROGNOSIS.

The admission of senile patients to a mental hospital is apt to be regarded with misgiving by their friends and relatives, and it is therefore important to examine the reasons for which such admissions became necessary in our series of cases. What, in fact, were the symptoms and disorders of behaviour which finally made it clear that the patients could no longer be looked after outside the mental hospital?

By far the largest proportion of patients had become intractable through what may briefly be called a confusional syndrome; they had become noisy and very restless, getting in and out of bed, often destructive, and in the majority of cases were suffering from visual, and a little less often, auditory hallucinations. In a few instances there was actual aggressiveness and violence. Aimless wandering, without other behaviour disorder, was responsible for admission in a small group of cases, and similar small numbers had become too difficult to look after because they suffered from paranoid delusions or suicidal tendencies. Another larger group of patients had become so degraded in their habits that they were no longer supportable at home or under general hospital conditions. Here, and in a small group of patients who had no friends, social reasons for admission were prominent. In a series of 106 cases, 28 had initially been looked after by skilled nursing at home, in a hospital or nursing home, but had proved unsuitable (Table VIII).

To a larger extent than with other psychiatric conditions social factors are responsible for admission of the senile case to the mental wards. In this respect war appears to affect the well-to-do classes more than the poor, who even in peace time are only rarely in a position to look after difficult invalids in their own homes. Comparing the admission-rate of patients into the Royal Edinburgh Hospital for the pre-war and war periods, it can be seen that the percentage of patients over 60 years old only rose from 27.8 to 30.2 in the contributory wards, but from 29.3

TABLE III.—*Length of Residence in Craig House of Patients Over 60 Years Old.*

	Males.	Females.	Total.
Under 1 year	9	18	27
2-3 years	2	16	18
4-5 „	3	3	6
5-10 years	5	13	18
10-20 „	5	7	12
Over 20 years	10	27	37
Total	34	84	118

TABLE IV.—*Classification of Patients in Craig House Over 60 Years Old.*

	Male.	Female.	Total.
Senile, arteriosclerotic and presenile cases	7	15	22
Manic depressive cases	7	13	20
Involuntional and senile melancholic cases	6	19	25
Schizophrenic and paraphrenic cases	14	37	51
Total	34	84	118

TABLE V.—*Diagnostic Grouping in Cases Admitted since January 1, 1937.*

Demented cases (senile, arteriosclerotic, and presenile)	125
Involuntional and senile melancholic cases	58
Manic-depressive cases	29
Schizophrenic cases	11
Various conditions (toxic, syphilitic, etc.)	17
Total number of cases	240

TABLE VI.—*Number of Cases over 60 in Diagnostic Groups who were admitted in the years 1937 to 1941, and who remain in Hospital on July 1, 1943.*

	Admitted 1.1.37- 31.xii.41.	Surviving in hospital on 1.vii.43.
Demented cases (senile, arteriosclerotic and presenile)	79	9
Involuntional and senile melancholic cases	41	10
Manic-depressive cases	17	4
Schizophrenic cases	9	2
Various conditions (toxic, syphilitic, etc.)	10	1
Total number of cases	156	26

TABLE VII.—*Classification and Result of Demented Patients Over 60 Admitted to Craig House since January 1, 1937.*

	Discharged.			Surviving in hos- pital.	Deaths.			Total number of cases.
	Re- lieved.	Un- changed.	Total.		Within 1st week.	Within 1st month.	Later. Total.	
Arteriosclerotic cases	14	1	15	9	4	9	7	20
Senile cases	4	1	5	10	3	7	29	39
Cases of presenile dementia (Alzheimer, Pick, etc.)	0	1	1	4	0	0	1	1
Cases of terminal confusional psychosis (insufficient evi- dence for further classifi- cation)	0	0	0	0	5	2	0	7
			21	23	12	18	37	67

XC.

36

to 43.2 in the private wards; there are no significant differences as regards the sexes. Probably difficulty in obtaining domestic help is the most important factor for this social difference.

In contrast to what used to be thought, the admission of senile patients to the mental hospital in no way precludes the return of some of them to their families in a more manageable state of mind, and all recent observers are agreed on this fact. The results as apparent on July 1, 1943, in 111 cases admitted since January 1, 1937, are shown in Table VII. Of 111 patients, 21 could be discharged back into the care of their families, 23 remained in hospital and 67 had died. These results are similar to those of Palmer, Braceland and Hastings, who report a social recovery in 30 out of 123 cases.

In our material it is again strikingly demonstrated how much more favourable the immediate prognosis is in cerebral-arteriosclerotic as compared with senile cases. Out of 44 arteriosclerotics, 15 could be discharged and 9 remained in hospital, whereas only 5 out of 54 senile demented could be returned to their homes. The criteria used in grouping our cases under the diagnostic headings of "Arteriosclerotic" and "Senile" are the ones which were re-tested, checked by post-mortem findings, and summarized by D. Rothschild (1941). There is a certain amount of intermingling of types, but most cases can be easily grouped, and this is important when the difference in prognosis of the two illnesses is kept in mind.

MANAGEMENT OF SENILE AND ARTERIOSCLEROTIC CASES.

The management of senile and arteriosclerotic patients can be reviewed from several aspects. In deciding the treatment of individual cases the patient's physical condition is of primary importance. Of 111 admissions, 30 patients died within a month from admission and 12 of these within the first week. The great majority of these patients had signs of physical illness on admission, as was also the case with many patients who survived for longer periods. Very often these conditions had not received previous treatment, and there is no doubt that improvement of any physical illness, heart failure being the most frequent one, is accompanied in many instances by striking mental improvement.

Most patients were undernourished on admission, but could be made to take sufficient food under supervision, as actual refusal of food was uncommon. Frank avitaminosis was rare; scurvy was observed in a senile demented who lived alone, and though he would cook his own food, used to leave most of it untouched for the benefit of his father and his wife, both of whom had been dead for many years. Treatment of senile dementia with heavy doses of vitamins has recently come to the fore. Wadsworth, Quesnel *et al.* (1943) discussed the results of treating 10 senile cases with the vitamin B complex, and compared the result with 10 control cases. Intensive treatment continued for two months, and while only one case in the control group could be discharged, four patients who had been treated ultimately returned home. There was no lessening of dementia as assessed by various psychometric tests, but the behaviour pattern appeared to be improved in the treated cases. The cost, however, of treating 10 patients for two months was 300 dollars. In this hospital vitamins were given along general principles of nutrition.

TABLE VIII.—*Aspect of Cases Immediately Responsible for Admission to Mental Hospital.*

(106 demented cases over 60 admitted to Craig House since January 1, 1937.)

Suicidal	7
Paranoid delusions	9
Confusional syndrome	47
Wandering	9
Violent and dangerous to others	9
No friends or relatives	5
Dirty habits	20
	<hr/>
	106
Number of cases admitted after skilled nursing at home, hospital or nursing home had failed	28

In the provision of adequate sleep the quick-acting and rapidly eliminated drugs, like paraldehyde and nembital, were preferred to others; luminal seemed the day sedative of choice in a few cases. Sooner or later these sedatives could be discontinued, and of the 22 demented patients in the hospital on July 1, 1943, only 3 required a regular night sedative, and 4 had occasional night or day drugs. Encouragement with reassurance, and even a little explanation, is of great value in the recovering arteriosclerotic psychotic, whose personality is so often quite well preserved, and who frequently becomes painfully aware of his position and shortcomings. The occupational therapy department is being attended by 5 patients at the moment, and a further 3 are able to read a little and to go out for walks. Of the 19 senile and arteriosclerotic patients, 10 are in better mental and physical condition than they were on admission; only 4 are bedridden, but 9 are always or occasionally incontinent.

It can be said that with the exception of occupational therapy in the narrow sense of the word, all the other measures in the patient's management could have been applied in their own homes, and in any case ought to become routine measures of prophylaxis in the care of the aged. In avoiding breakdowns necessitating admission to a mental hospital, early recognition and treatment of physical illness and provision of adequate nutrition as well as sleep are the main prophylactic measures stressed by D. K. Henderson, who also points out, however, that the patients, especially when deluded, are better nursed by strangers, preferably in special nursing homes. It is of interest to mention in this connection that in London there is a special hospital under the authority of the L.C.C. (Tooting Bec Hospital for Senile Dementia), to which senile mental patients can be transferred from general or observation wards without certification, and where they are looked after under favourable general hospital conditions. Interesting suggestions have been made recently for the social prophylaxis of senile mental illnesses; they range from the creation of social clubs for the aged to the building of special blocks of flats where old people can lead a community life.

ÆTIOLOGY.

The ætiology of "somatic-psychic disorders of old age" has recently been extensively discussed by Palmer, Braceland and Hastings (1943). According to the authors, in these disorders as in other psychiatric conditions multiple factors must be assumed. Immediate causes are physical illness, malnutrition, and avitaminosis. Psychological traumata, such as bereavement and the peculiar social position of persons during old age, should not be overstressed, and the authors point out that such afflictions have to be borne by almost all old people. For a psychosis to arise, the somatic defect in the brain must be present, but this again does not necessarily produce a mental picture. When mental illness results, some other factors must be assumed to be at work; Palmer, Braceland and Hastings suggest inherited tendency, chance location of the lesion in the brain, or some unknown pathogenic tendencies.

According to Rothschild (1936), the search for physical factors that might modify the normal ageing process and be responsible for the development of a senile psychosis has proved unproductive. In his clinical pathological investigation of 24 cases of senile psychosis there was a lack of correlation between the histological changes and the degree of intellectual impairment, and equally severe alterations had been found in the brains of old persons with normal mentality. These inconsistencies were attributed by Rothschild to differences in the capacity of different persons to compensate for cerebral damage. Cycloid and paranoid symptoms were regarded by him as being compensatory, and patients who simply demented were assumed to lack compensatory powers. It was found that strong compensatory mental reactions, analogous to Jackson's positive symptoms, were usually associated with compensatory somatic processes, such as cardiac hypertrophy.

An attempt has been made to consider, with the help of the material obtained during the present study, whether there is any evidence for constitutional predisposition in patients suffering from senile or arteriosclerotic psychosis. Some suggestive observations have emerged regarding heredity and pre-psychotic personality.

HEREDITARY FACTORS.

It seems fairly well established that senile dementia shows definite familial incidence. In 60 senile demented Meggendorfer (1926) found 18 cases of senile dementia occurring among blood relations, and he also reported a high incidence of various forms of other mental disorders in the families of these patients. Weinberger (1926) found a positive family history of arteriosclerotic and senile psychosis in 11 out of 51 cases of senile dementia. There were in all 35 cases where mental disorders had occurred in direct or collateral members of the family. These studies were based on very thorough researches into numerous families, whereas our material was collected by the method of ordinary case-taking only.

In 78 cases of senile and arteriosclerotic psychosis available for analysis positive family history for these disorders could be established in 12 cases (15.4 per cent.), and there was a family history of strokes without psychosis in 7 cases. In 25 out of 78 cases (32.1 per cent.) there was a record of mental or neurotic disorder occurring in parents, siblings, or near collateral blood relations. It was felt that our material was not sufficiently large nor the data reliable enough to allow any further analysis, especially investigations of the role of heredity in contrasting senile and arteriosclerotic cases. But, along with previous findings in this field, there seems no reason to doubt the importance of hereditary predisposition in the aetiology of psychosomatic disorders of old age (Table IX).

PERSONALITY FACTORS.

The observation that the patient's previous personality should be reflected in the symptoms of an organic psychosis has frequently been made. Henderson and Gillespie find that the symptoms often represent a caricature of the intact personality; to Scheid (1933) it seemed that in senility, character and personality appeared to become rigid along one of the many aspects which a normal personality can assume, possessing, as it were, numerous facets.

In our material the high incidence of abnormal traits in the previous personality of the patients is very striking (Table X). A record of the personality was obtainable in 79 cases, and of these only 30 had been satisfactorily adjusted individuals. Severe abnormalities of the personality, which included several cases with neurotic disorders before the involutional period, were found in 27 cases. Moreover, there appeared to be a definite positive correlation between previous psychopathic tendencies and the severity of psychotic symptoms as contrasted with dementia alone.

Reviewing the symptomatology of our case material, it becomes evident that the senile as well as the arteriosclerotic cases can both be subdivided into two groups: one in which the dementia is associated with numerous secondary psychotic symptoms, especially delusions of a paranoid nature and affective disorders, mostly in a depressive direction; and a second group in which the dementia is in

TABLE IX.—*Heredity.*

Incidence of positive family history of mental and nervous diseases in 78 cases of senile or arteriosclerotic mental disease:

Disease in parents	8 cases.
Disease in siblings, aunts, uncles, etc.	17 "
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Total incidence of positive family history	25 cases (32.1%).
Negative family history in parents, siblings, etc.	53 " (67.9%).

Incidence of positive family history for senile and arteriosclerotic diseases in siblings of the same 78 cases, as well as of occurrence of "strokes", without psychosis:

Senile and arteriosclerotic disease (parents, siblings, etc.)	12 cases (15.4%).
"Strokes" without psychosis in family history	7 "
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Total	19 cases (24.4%).

the foreground, any delusions are poorly developed, and the mood is labile. In the senile and arteriosclerotic cases who were mainly demented there was a much higher incidence of a normal previous personality than in those cases where positive psychotic symptoms were in the foreground and the dementia less evident. This subdivision into the above-mentioned clinical types and their correlation with abnormal personality is more obvious in the senile than in the arteriosclerotic group; 13 among 24 cases of "simple senile dementia" had a normal previous personality, whereas this was the case in 5 only of 20 cases of senile dementia with psychotic symptoms.

TABLE X.—*Incidence of Abnormalities in Previous Personality of 79 Cases of Senile and Arteriosclerotic Disease.*

	Well-balanced personality.	Some psychopathic traits present.	Severe abnormalities of personality.	Number of cases available for study.
Senile dementia with prominent psychotic symptoms	5	7	8	20
Arteriosclerotic dementia with prominent psychotic symptoms	3	5	8	16
Simple senile dementia	13	6	5	24
Simple arteriosclerotic dementia	9	4	6	19
Total	30	22	27	79

It is in no way intended to add to psychiatric nomenclature by mentioning four clinical sub-types; they merely represent four focal points in the numerous intermingling clinical pictures of senile and arteriosclerotic mental illness. The significance of these types and their relation to personality is best shown by quoting four typical examples:

1. *Simple Senile Dementia.*

Mr. C—, aged 85. The patient had a negative family history, and from helping his mother in business he gradually worked himself up first to music teacher, then elementary school teacher, and by passing additional examinations at the age of 50 he finally became a secondary school teacher. He had had a very wide range of interests and hobbies, was an excellent mixer, even tempered, and easy to get on with at home. His marriage had been a very harmonious one. He recovered well from a prostatectomy when aged 75, and there were no mental symptoms when his wife died a little later. For two years before admission memory defect and other symptoms of mental deterioration had been gradually increasing; for the last two months he had tended to wandering aimlessly, and for one week before admission he had become weaker but at the same time very restless, so that restraint was required to keep him in bed at night. On admission he was severely confused and visually hallucinated. Physically he suffered from congestive failure due to senile myocardial degeneration, and he died of hypostatic pneumonia six days after admission.

2. *Senile Dementia with Prominent Psychotic Symptoms.*

Mr. S—, aged 71. His father had died following a stroke, though mentally clear, but a sister had been in a mental hospital for six months when aged 50. The patient's previous personality had been unsatisfactory, in so far as he had been content to live as his brother's employee all his life, failing to make contacts or friends outside his family and remaining single. Speculation on the Stock Exchange was his only hobby, and he was very mean. All his life he had been markedly hypochondriacal, and during the years before his admission he had acquired a collection of over 100 homoeopathic medicines. Gradual physical and mental deterioration started six months before admission, and he became increasingly quarrelsome as well as frequently worrying about numerous real and imaginary peccadilloes. Finally he developed attacks of rage and confusion, and also unsystematized paranoid delusions; he thought that his loss of memory was brought about by violet rays and the heat of electric wires (patient was an electrician by trade). Physically he showed well-marked senile changes with slight arteriosclerosis, and since admission his moderate degree of dementia has progressed; his various delusions can no longer be elicited as his talk has become too incoherent. While at first he had been depressed in an irritable fashion, he is now consistently euphoric.

3. *Simple Arteriosclerotic Dementia.*

Mrs. W—, aged 74. There was a negative family history of mental illness and arteriosclerotic disorders in this case. The patient was a well-adapted happy woman, who, having

lost her husband six years after marriage, ran a bakery business and brought up two sons. She retired from business at the age of 68, and soon after this was noticed to become easily nervous and excitable, in striking contrast to her previous bearing. About four years later she had a stroke which resulted in left-sided weakness in face and hand, as well as in a certain amount of mental confusion; especially at night she seemed to imagine herself back in her childhood. For the two months preceding admission this confusion had become almost constant; she lived completely in the past, demanding to see her parents, and often mistaking her son for her brother. She became physically weaker, lost some weight and also became incontinent of urine. Her blood pressure was 180/110, and there was well-marked peripheral arteriosclerosis, as well as slight paresis affecting the left face and arm. She was euphoric, disorientated in every respect, and moderately demented. Apart from improvement in her physical condition she has remained at the same level during two years' residence in hospital. There has never been any evidence of delusions or hallucinations.

4. *Arteriosclerotic Dementia with Prominent Psychotic Symptoms.*

Mrs. J. W—, aged 72. Her father died of Bright's disease and her mother following a stroke; one of her siblings is suffering from "blood pressure," but there have been no mental symptoms in any member of the family. The patient brought up a large family and was fairly happily married. She was, however, very strict, obstinate and rigid in her outlook and with her children. She was supposed to have had feelings of inferiority about an operation scar (T.B. glands) in her neck, and failed to make friends because she was not sufficiently trusting. She was very house-proud and too careful about her money. Six years before admission she became depressed with suicidal ideas, after her husband's death, and three years later there was transient loss of power in a hand and later in a foot; she also had headaches and came under medical care for raised blood pressure. Deterioration of memory and other intellectual functions was noticed at that time, but showed a good deal of fluctuation. She was often moody, and during the last four months had had several attacks of confusion with visual hallucinations. Violence towards her daughter and general obstinacy led to her admission. In hospital she was very resistive; her blood pressure was not raised, but she showed marked peripheral arteriosclerosis and left facial weakness; she had several epileptiform convulsions. She died of broncho-pneumonia seven days after admission.

Material comprising 79 cases in whom the previous personality had been assessed in the course of routine case-taking, often from one informant only, is clearly not adequate for a further searching analysis. A variety of psychopathic traits were in evidence, but there was a strikingly high incidence of the so-called "obsessional" trends; rigid outlook, obstinacy, narrowness of interests, overconscientiousness, and bigotry; many of the patients had also shown poor adaptability to their social surroundings, and together with the socially disagreeable components of the "obsessional" personality may represent what Meggendorfer meant by "schizoid psychopaths," who formed about 40 per cent. of his cases of senile dementia. Similar traits were found in the pre-psychotic personalities of involuntional melancholics by workers in that field (Titley, 1938; Palmer and Sherman, 1938), and this seems significant when keeping in mind how difficult the differential diagnosis can be between an involuntional melancholia and a senile psychosis in which the degree of organic dementia is only slight in comparison with the positive psychotic symptoms. Also, involuntional melancholics often deteriorate to a level at which it can be very difficult to be sure that they are not demented intellectually. Perhaps both disorders would become more understandable if regarded as the response of a similar type of personality to the changes that take place in the soma during ageing. The predisposed personality breaks up during this process, and "dementia of the personality" (Bumke) results. Dementia of the intellect could be considered to be merely a special form of the generalized deterioration, and might possibly depend upon certain types of pathological changes and certain locations in a predisposed organism.

CONCLUSIONS.

The present study, in conjunction with the findings of other workers, indicates that factors other than physiological and anatomical ones are responsible for the origin of senile and arteriosclerotic mental disorders. Old age alone does not produce mental illness; for this to occur predisposing constitutional factors must have been present in the patients, who frequently had shown their tendency towards nervous and mental abnormalities previously. For those who believe that mental hygiene and the treatment of early neurotic symptoms can prevent the occurrence

of more serious disorders later in life, there seems to offer itself a new field in the prevention of mental illness in old age. Again, if one believes that better social conditions and a happier world will decrease the incidence of neurotic and psychotic disorders and that the social improvement of the last 100 years or so will continue, then we can expect that in spite of the increasing proportion of elderly people in the population, the number of cases of mental infirmity during the involuntional and senile periods of life will not rise at the same alarming rate. Even if we are more modest in our assumptions as to how much can be done by social planners and doctors in the prevention of mental diseases, it is hoped that by applying in a routine fashion the prophylactic measures outlined in the care of the aged, we can in many instances prevent the normal ageing process from changing into a psychosis with its social consequences.

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