MARRIAGE AND MENTAL DISEASE: A STUDY IN SOCIAL PSYCHOPATHOLOGY.*

By ØRNULV ØDEGÅRD, M.D.,
Medical Superintendent of the Gaustad Mental Hospital, Oslo, Norway.

INTRODUCTION.

THE problem of mental disease has been approached in many different ways, and chemical, anatomical, biological and psychological methods have been employed. In certain cases it has been possible to obtain satisfactory results by the use of one isolated method: the serological and anatomical approach has given us a useful solution to the problem of general paresis; the genetic approach has been equally useful in the study of mental deficiency. Such great results may explain the prevailing tendency in psychiatric research to attack *all* the problems of mental disease by the systematic use of one single method, in the hope that the final result is only a matter of time and of technical refinement. One author believes in the anatomical approach, another in the chemical; and there is a tendency to exclude other methods, in the belief that they cannot give results of basic importance. Psychiatry also has its eclectics, but generally the most intensive research work is carried out by the various "schools," and with a definite exclusiveness of methods.

Up to a certain point the accumulation of facts obtained by the exclusive use of one method is satisfactory and useful. But when the time comes for interpretation of these facts, one will inevitably feel the need of a set of more general viewpoints, which can only be worked out through an intensive co-operation between various methods and approaches. In this co-operation one approach is above all necessary—the social approach. Other methods work to a large extent with symbols and abstractions. In social research, on the other hand, the problems are studied *as they appear*. Mental diseases are treated as difficulties of social adaptation, without any attempt to translate them at first into the language of some other level of integration, as for instance the chemical level with its specific language of formulas and other abstractions. The social approach, with its directness, is particularly useful when the time comes for scientific synthesis, for interpretations, and for the working out of general points of view. But if social psychiatry is to fill its place as a factor of co-ordination in psychiatric research, the development of exact methods is urgent.

The central and basic method is that of social observation, which is in fact an extension of the usual clinical observation—an observation not only of the patient himself and his various symptoms, but even of his social environment and his reactions to it. But as a foundation for such an exact social observation we need a complete set of social statistics. Without this our observations

* Working with support from the Rockefeller Foundation.

will never reach the level of scientific facts which lend themselves to quantitative analysis and to the working out of scientific laws.

1. *The Material.*

The present investigation is based upon statistical material from Norway, which in the author's opinion has many advantages. The population of the country is uniform in race, culture and social conditions, and it is relatively stable with regard to migrations. The system of public care for the insane is old and relatively highly developed, and uniform and complete statistical data are available from a long period of years. These statistics cover all, and not only the public, institutions for mental disease (including even the two psychiatric clinics and the only neurological clinic of the country, but in these cases only the cases suffering from psychoses). Finally the size of the population is convenient, so one is not forced to work with more or less satisfactory samples.

The basic material consists of all first admissions in the period of 1926–35, altogether 14,231 cases. With the kind assistance of colleagues from all the institutions, individual index cards were worked out for each patient, giving the main social and clinical facts: age, residence, sex, marital condition, diagnosis, age at onset of the first symptoms, duration of the present attack, condition on discharge, etc. This card index has been completed up to 1940, and makes it possible to follow each patient from his first admission to any Norwegian hospital to his final discharge. Changes of diagnosis can be taken into account, duplications are avoided, and the distinction between first admissions and readmissions becomes reliable. From these cards detailed statistical tables could be worked out, but personal examination of such a number of patients (or case-histories) was of course impossible.

To make possible a combination of this *extensive* statistical approach with a more *intensive* clinical examination, a supplementary material of 707 case-histories was examined more closely, all of them treated in the Psychiatric University Clinic of Oslo, and at that time personally examined by the author. Consecutive admissions of neuroses and functional psychoses were selected, with the exclusion of organic, epileptic, symptomatic and senile psychoses as well as imbeciles. In each case a fairly complete case-history was available, whereby the constitutional and environmental background for the pathological reaction was particularly taken into consideration. Even a material of 707 is sufficiently large to prevent closer analysis of each individual case, so the study of this *clinic material* must be regarded as a compromise between statistical and clinical methods. Nevertheless it completes the *national material* in important points, and is sufficiently large to give results of statistical significance.

2. *The Marital Condition of the Insane.*

The first problem to be selected for study was the remarkable predominance of mental diseases among the single, which is a fairly well-known statistical observation, and which has been treated by Neil A. Dayton and others. The

https://doi.org/10.1192/bjp.92.386.35 Published online by Cambridge University Press

rates of admission are from three to four times higher in the single than in the married. This predominance shows interesting and typical variations according to sex, age, diagnosis, occupation, etc., and an attempt is therefore made, through analysis of these variations to throw some light upon the social background for this remarkable difference.

Generally speaking three explanations are possible:

(1) *The hypothesis of hospitalization.*—A single person, when developing a mental disease, is more readily admitted to a mental hospital, whereas the married are more frequently treated outside of institutions, and so do not appear in our statistics.

(2) *The hyopthesis of selection.*—Those who develop mental disease show even before its outbreak certain constitutional traits which act as marriage handicaps, as, for instance, the frequent schizoid personality of later schizophrenics.

(3) *The hypothesis of protection.*—There are in married life certain factors which prevent the outbreak of mental diseases, even if there exists a certain degree of constitutional predisposition. In other words, factors in the life of unmarried persons favour to some extent the outbreak of such diseases.

In the following the incidence of mental disease is expressed by the number of admissions per 100,000 of the population per year. The statistical tables sometimes become rather involved, and the comparison between the admission rates of the single and the married troublesome. In such cases the "*predominance of the single*" (more accurately the predominance of the single among the insane, or the predominance of mental disease in the single) is expressed by means of the quotient of $\frac{\text{rate of admission, single}}{\text{rate of admission, married}}$. A quotient of 4·0 means that the incidence of mental disease (strictly speaking of admissions to mental hospitals) is four times as high in the single as in the married for this particular social group.

Where the factor of age comes in, correction is always introduced by the use of standardized admission-rates, based upon the following age-groups: 15–17, 18–20, 21–25, 26–30, 31–40, 41–50, 51–60, 61–70, and above 70.

3. *The Factor of Diagnosis.*

For practically all diagnoses the rate of admissions is higher in the single than in the married. For obvious reasons the difference is great for the psychoses connected with imbecility and epilepsy, and here the hypothesis of selection gives a satisfactory explanation; comparatively few of the persons who suffer from these handicaps will get married, and those who marry in spite of their condition will at least be of a comparatively stable type and not apt to develop psychotic complications.

The diagnostic groups with a definitely exogenic etiology all show a rather moderate predominance of the single; symptomatic psychoses are in the female sex even more frequent in the married, evidently on account of the puerperal cases.

Most important is the striking difference between schizophrenia and manic-

depressive psychoses, while the " constitutional " cases take an intermediate position, which is in good keeping with the mixed character of this diagnostic group. (" Psychosis ex constitutione " is the official term in Norwegian statistics for depressive, hysterical or paranoid reactions which cannot be classified as schizophrenic or manic-depressive.) Here the hypothesis of selection offers a natural explanation. The pre-psychotic personality of many schizophrenics is a most severe marriage handicap, whereas similar seclusive and asocial types are relatively rare among those who develop manic-depressive insanity. But even in the latter, as well as in the senile cases, schizoid and allied constitutional types are more frequent than in the general population, which will explain the small but definite predominance of the single even in these diagnostic groups.

The findings do not exclude altogether the hypothesis of protection, as it is generally supposed that schizophrenia is more readily influenced than manic-depressive insanity by chronic mental and social conflicts of the type which are likely to occur in the life of unmarried persons. But it is most unlikely that this can account for the tremendous difference between the quotients of these two groups, and furthermore it cannot explain why the quotient is higher in schizophrenia than in the largely reactive " constitutional " group.

The hypothesis of hospitalization seems unlikely in view of the facts, as it is hard to explain why this hypothetic factor should be more effective in schizophrenia than for instance in manic-depressive and senile psychoses.

4. *The Factor of Age.*

Our problems of selection or protection by marriage concern the time previous to the onset of the mental disease. The influence of the disease itself on the marriage chances is self-evident, and should, if possible, be eliminated. This could be done by using the age at onset of the first symptoms as a basis for our statistical calculations, instead of the age on admission. But the marital condition at onset is not known, and it cannot be assumed that it is the same as the marital condition on admission, because many patients marry during some remission of the disease. Among our 707 clinic cases, 81 (or 23 per cent. of the total number of married patients) had married during a remission—that is, a considerable time after the first onset, but previous to the first admission. The percentage of " remission marriages " is higher for men than for women (28 to 18 per cent.), and in particular it is remarkably high in schizophrenic men, with a percentage of 40 (a fact which is of considerable eugenic importance).

The best method is to use the *age at onset of the present attack*. The marital condition at this age may safely be assumed to be the same as that on admission, because very few patients marry after the onset of a chronic mental disease, or after the onset of the present attack of a remitting disease. In the clinic material only two such marriages were found. Tables I–III are therefore worked out on this basis.

It was shown that the predominance of the single varies from one diagnostic group to another. Now this might be a mere result of differences in age

TABLE I.—*Standardized Rates of Admission per* 100,000 *per year for Single and Married, by Diagnosis and by Sex. All Ages above* 20 *Years (Age at Onset of Present Attack).*

	Men.			Women.		
	Single.	Married.	S : M.	Single.	Married.	S : M.
Schizophrenia	71·7±1·9	15·4±0·8	4·7±0·06	57·5±1·5	19·0±0·6	3·0±0·04
Constitutional psychoses	10·8±0·9	4·3±0·4	2·5±0·12	12·2±0·7	6·5±0·4	1·9±0·07
Manic-depressive ,,	13·3±1·0	8·4±0·4	1·6±0·09	18·3±0·9	12·0±0·5	1·5±0·06
Senile and anteriosclerotic	9·9±1·1	5·9±0·3	1·7±0·12	11·6±0·8	6·3±0·4	1·8±0·08
Psychoses with imbecility	8·0±0·7	0·9±0·2	8·6±0·20	4·3±0·4	1·1±0·2	3·8±0·16
Syphilitic psychoses	8·9±0·8	7·5±0·4	1·2±0·10	2·3±0·3	2·6±0·2	0·9±0·16
Epileptic ,,	2·0±0·4	0·8±0·2	2·4±0·32	1·2±0·2	0·6±0·1	2·1±0·28
Organic ,,	2·2±0·4	1·6±0·2	1·4±0·23	1·4±0·3	1·2±0·1	1·2±0·22
Alcoholic ,,	3·8±0·5	2·4±0·2	1·6±0·17	0·4±0·2	0·3±0·1	1·5±0·49
Symptomatic ,,	1·8±0·4	0·8±0·2	2·1±0·27	2·2±0·3	2·6±0·2	0·9±0·17
Other and unclassified types	0·4±0·2	0·2±0·1	2·1±0·85	0·4±0·2	0·4±0·1	1·1±0·48
All diagnoses	132·8±2·9	48·3±1·2	2·7±0·03	111·8±2·1	52·5±1·0	2·1±0·03

TABLE II.—*Rates of Admission for Separate Age-groups in Single and Married, by Sex and Diagnosis.*

		21–25.	26–30.	31–40.	41–50.	51–60.	61–70.	71–.		χ^2.
Schizophrenia—Men	Single	81·2	106·6	113·5	65·7	44·5	10·2	..		
	Married	23·2	25·4	20·6	14·3	6·4	3·3	..		25·6***
	S : M	3·5	4·6	5·5	4·6	6·9	3·1	..		
Schizophrenia—Women	Single	53·8	83·1	86·6	71·5	30·1	12·5	..		
	Married	16·5	30·3	29·8	21·5	9·5	3·6	..		2·6
	S : M	3·3	2·7	2·9	3·3	3·2	3·5	..		
Constitutional—Men	Single	..	6·4	11·8	18·9	15·5	9·3	..		
	Married	..	4·6	4·8	5·3	5·0	2·7	..		16·3**
	S : M	..	1·4	2·5	3·6	3·1	3·4	..		
Constitutional—Women	Single	8·9	9·3	15·1	23·4	12·9	..	..		
	Married	5·0	7·6	7·8	10·3	6·7	..	..		6·6
	S : M	1·8	1·2	1·9	2·3	1·9	..	..		
Manic-depressive—Men	Single	..	8·4	13·1	19·0	19·9	19·1	..		
	Married	..	5·7	7·0	12·1	14·8	11·5	..		2·3
	S : M	..	1·5	1·9	1·6	1·3	1·7	..		
Manic-depressive—Women	Single	8·7	14·0	15·6	29·2	33·8	13·7	..		
	Married	8·5	9·6	13·9	15·3	19·3	9·5	..		18·4**
	S : M	1·0	1·8	1·1	1·9	1·7	1·4	..		
Senile—Men	Single	..	..	..	..	10·8	54·5	38·0		
	Married	..	..	..	..	6·7	23·4	35·8		14·8***
	S : M	..	..	..	..	1·6	2·3	1·1		
Senile—Women	Single	..	..	..	..	16·6	55·4	52·4		
	Married	..	..	..	..	10·9	26·8	29·1		2·3
	S : M	..	..	..	..	1·5	2·1	1·8		
Psychoses with imbecility and epilepsy—Men	Single	..	9·0	11·6	16·7	12·3	..	..		
	Married	..	2·6	1·7	1·6	1·7	..	..		13·2**
	S : M	..	3·5	6·8	10·4	7·2	..	..		
Psychoses with imbecility and epilepsy—Women	Single	5·8	6·0	8·1	7·0	4·3	..	..		
	Married	2·0	3·1	2·5	1·6	1·0	..	..		2·8
	S : M	2·9	1·9	3·2	4·3	4·3	..	..		
All diagnoses—Men	Single	100·6	138·4	174·4	154·5	125·1	107·9	46·8		
	Married	38·4	45·4	52·1	57·4	49·7	47·5	38·6		57·4***
	S : M	2·6	3·0	3·3	2·7	2·5	2·3	1·2		
All diagnoses—Women	Single	80·4	115·0	134·0	143·0	107·4	89·6	59·7		
	Married	38·3	54·5	63·2	60·0	52·8	46·8	32·6		7·6
	S : M	2·1	2·1	2·1	2·4	2·0	1·9	1·8		

χ^2 is a statistical measure of the difference (heterogeneity) between the age distribution of the single and that of the married. Where it is marked with two asterisks the difference is significant (with a probability of more than 99 to 100)—that is: the predominance of the single varies significantly with age.

distribution. The predominance of the single might be so high in schizophrenics because it tends in general to be high in the younger age-groups. Table II shows that is evidently not the case. Within each diagnostic group the predominance shows no tendency to decrease with age—it remains constant, or (in certain groups) *increases* with age. We may conclude that the variations with diagnosis are independent of the age factor.

Table II shows that in women the predominance of the single remains the same throughout the age-groups. In manic-depressives there is some heterogeneity, which is formally significant, but which does not show any definite trend, and which is therefore nevertheless probably incidental. In men, on the other hand, the predominance tends to increase with age to a maximum in middle age, followed by a slighter decrease in the highest age-groups. This can naturally be explained as a result of selection; the single represent a negative selection, and this tends to weigh heavier with increasing age, because more and more of the presumably best material leaves this group to join the married. In women (and in manic-depressive men) this influence of progressive selection is not in evidence—possibly because selection by marriage is on the whole less important in the female sex (see section 5).

The hypothesis of protection is less promising. The problems of single life may be felt more heavily in middle age, and this may explain why in the male sex the predominance of the single shows a maximum around this age. But it is not easy to see why the same maximum is not found in women as well, and not in manic-depressive men.

The hypothesis of hospitalization is decidedly contradicted by the statistical observations. Among the younger patients the single are frequently still living with their parents, or they have at least a home to which they can return in case of illness. They consequently have greater chances of avoiding hospitalization than the young married patients. With increasing age this will change, until in old age the married patients are more apt to be treated at home than the single. In view of this one would expect the predominance of the single to increase rapidly with age, which is contrary to the observations.

5. *The Factor of Sex.*

The predominance of the single is more marked in men than in women. This is true of all diagnostic groups except senile psychoses, and of all age-groups except those above 61 years.

If the married represent a selected group, then it is to be expected that this selection would be more intensive in the male sex, because marriage to a man means more of a positive effort than to a woman. The customs of courtship make it possible for a woman to become married even if personality handicaps prevent her from taking a very active part in the life of other young people. The clinic material shows that among married women there were 45 per cent. with such handicaps, in their pre-psychotic personality, against only 24 per cent. for the married men.

The explanation offered by the hypothesis of protection is more doubtful. Unmarried life is likely to represent the heaviest strain, not on men, but on

women, because they are allowed less sexual freedom, and because it constitutes a real social handicap (at least above the age of 30–35, when spinster-hood looms on the horizon). Also the desire for family life and for children is probably stronger in women—but then the sexual urge is definitely stronger (or rather more awake) in single men. The sexual protection in marriage is a factor of importance for most married men, but for many wives who never reach sexual adjustment it is of doubtful value, and in addition to this they have all the conflicts of pregnancy and childbirth. Economically, on the other hand, marriage would be more of a protection for women than for men, who generally feel the strain of responsibility increasing when they marry.

The hypothesis of hospitalization again fits in very poorly, as it must be quite evident that a married man has far less chances of avoiding commitment than a housewife, who in many cases can take care of her housework in spite of fairly advanced mental symptoms. According to the Norwegian census of 1930 more than 1,000 insane women were at that time classified as "housewives working in their own homes."

6. *The Factor of Occupation.*

Table IV shows that in all occupational groups the admission-rate is several times higher in the single than in the married, which proves conclusively that the predominance of the single is not due to a difference in occupational level. The predominance varies from one occupation to another, but these variations do not follow any definite trend: occupations with high and low incomes with secure and unstable employment are scattered irregularly over the table. Now it is a well-established fact that economic factors connected with occupation influence the marriage rate, or particularly the chances of an early marriage. The right part of Table III shows that in the late twenties the marriage rate is (for obvious reasons) high in farmers, public servants and trade owners, low in seamen, farm labourers, clerks and salesmen. But the mainly economic

TABLE III.—*Standardized Rates of Admission in Single and Married Men, 26 to 60 Years of Age (at Onset of the Present Attack) by Occupation. All Diagnoses except General Paresis and Alcoholic Psychoses.*

	Admissions per 100,000 per year.			Married per 100 in the general poulation.		
	Single.	Married.	Rate S : M.	26–30.	31–40.	41–50.
Seamen, officers and crew	243·6	39·8	6·1±0·16	39	76	91
Fishermen	122·7	23·9	5·1±0·16	38	70	84
Public service	199·4	47·2	4·2±0·22	60	86	93
Farmers	157·6	38·2	4·2±0·10	58	80	87
Farm labourers	173.8	42·8	4·1±0·11	33	57	69
Artisans	157·9	51·1	3·7±0·10	48	77	86
Clerks	98·5	29·7	3·3±0·24	38	83	89
Labourers	126·4	41·5	3·0±0·08	50	77	85
Professional service, teachers	128.9	44·0	2·9±0·18	41	77	90
Salesmen and waiters	119·7	40·6	2·9±0·27	38	73	85
Trade, owners and proprietors	89·7	33·9	2·6±0·18	54	80	88
Chauffeurs, technicians, railroadmen	100·5	40·0	2·5±0·27	55	83	92

Correlation between the quotient S/M and the percentage of married in the age-group of 26–30 (columns 3 and 5 of the table): $r = -0.24$.

https://doi.org/10.1192/bjp.92.386.35 Published online by Cambridge University Press

TABLE IV.—*Standardized Admission Rates in Single and Married, 20–59 Years of Age, by District of Residence. All Diagnoses except General Paresis and Alcoholic Psychosis. The Right Part of the Table shows the Percentage of Married in the General Population.*

		Admissions per 100,000 per year.						Married per 100 in the general population.			
		Men.			Women.			Men.		Women.	
		Single.	Married.	S : M.	Single.	Married.	S : M.	20–29.	30–49.	20–29.	30–49
South-Eastern	Rural	113·7	36·1	3·2±0·14	110·0	53·9	2·0±0·13	22	73	40	75
	Urban	140·8	31·4	4·5±0·12	114·5	60·5	1·9±0·10	29	84	37	74
Eastern	Rural	159·4	37·8	4·2±0·14	135·4	53·4	2·5±0·12	17	70	37	75
	Urban	171·7	33·0	5·2±0·12	126·6	51·9	2·4±0·10	24	81	37	77
Southern	Rural	170·9	37·9	4·5±0·17	149·1	49·7	3·0±0·13	15	68	34	74
	Urban	186·9	43·8	4·3±0·14	132·7	42·7	3·1±0·11	23	79	33	71
Western with Bergen	Rural	183·5	31·5	5·8±0·11	159·8	39·6	4·0±0·10	15	73	31	71
	Urban	176·1	28·4	6·2±0·14	124·4	60·9	2·0±0·10	22	80	28	69
Northern	Rural	116·7	21·6	5·4±0·12	88·9	29·2	3·0±0·10	17	74	36	77
	Urban	128·5	19·1	6·7±0·17	101·5	43·4	2·3±0·12	23	81	31	73
City of Oslo		209·2	49·8	4·2±0·07	162·2	75·1	2·2±0·07	18	73	23	62

factors which determine these differences evidently do not influence to any great extent the incidence of insanity in the single and the married; there is no correlation between the third and the fifth column of the table.

It follows that our hypothetical "selection by marriage" has very little to do with the economic selection which actually takes place with marriage in the general population. In fact other considerations have already led us to assume that the selection in question is one by personality type.

The introduction of this *personal* factor may explain the irregular aspect of Table IV, because a selection by personality traits will not necessarily follow the lines of economic selection. In the public services, for instance, the chances of an early marriage are apparently favourable, but nevertheless the married have a relatively low incidence of insanity, which would indicate a particularly strict personal selection. Schizoid and allied types will, in other words, in this occupational group have a comparatively small chance of breaking through the marriage barrier, in spite of economic conditions which favour marriage. The opposite seems to be the case with salesmen and waiters; here the social and economic conditions do not favour marriage, but nevertheless a comparatively large number of personally handicapped types pass the marriage barrier, so that the admission-rate for the married becomes relatively high. This differenee between groups which occupy about the same place on the social ladder can naturally be ascribed to a difference in social attitude; in the public services a serious outlook, a feeling of social responsibility and a certain caution of enterprise tends to predominate—as a result of selection as well as of habit. In such a social atmosphere any personal marriage handicap tends to become accentuated. In private business life, on the other hand, the atmosphere is more enterprising and easy-going, and the possibilities of personal contacts are also better, and so the handicaps are more easily overcome.

Similar considerations might be invoked in order to explain other irregularities on the table—for instance, why the predominance of the single is higher in farmers than in farm labourers, while the opposite would rather have been expected in view of the social conditions of these two occupational groups.

Altogether the statistical observations neither confirm nor contradict in any convincing way our "hypothesis of selection," but they show conclusively that such a selection must at any rate be of a personal and not of an economic nature.

The *hypothesis of protection by marriage* is, however, decidedly less likely in view of the statistical data. Protection of an economic nature is excluded by the lack of any corresponding trend in Table IV. As to sexual and personal protection, there is no reason why it should vary from one occupation to another. In particular one would not expect to find such a protection to be most effective in seamen and fishermen.

Even more decisively do the statistical data speak against the *hypothesis of hospitalization*. If variations exist in the tendency to hospitalize the insane, then these variations would undoubtedly depend mainly upon economic differences, but Table IV shows that the predominance of the single is largely independent of the economic level.

Altogether the findings are inconclusive, but the fact remains that, the predominance of the single is not mainly determined by economic factors, like level of income, level of training and education or security of employment. At any rate the influence of such factors must be to a large extent obscured by more important factors of a personal nature.

7. *The Factor of Residence.*

Table IV gives admission-rates for single and married in five main sections of Norway. Among the "urban" communities are included not only cities, but also suburban and industrial communities which are administratively classified as rural, but which are so densely populated that the social conditions are in the main urban. General paresis, alcoholic and senile psychoses are left out, as their disproportionately high incidence in cities (which was shown by the present author in a previous study) would represent a source of error: the relatively low predominance of the single in these diagnostic groups would unduly influence the urban admission-rates.

The table shows that in all parts of the country the rates of admission are much higher in the single than in the married, but there are certain regional variations, many of them statistically significant.

In the male sex the predominance of the single is everywhere higher in the urban districts, while for women the opposite is the case. (In both cases Southern Norway forms the only exception.) Now the general marriage-rates show exactly the same picture: for men the percentage of married is highest in the urban districts (probably because the social and economic conditions are more favourable); for women it is highest in the rural districts (probably because the considerable surplus of women in the cities reduces their marriage chances). This means that the predominance of the single is highest in places where it is in general most easy to get married, which suggests social selection as the underlying cause: individuals with personal marriage handicaps tend to remain single even where the social and economic conditions in general favour marriage, and consequently they will become relatively more and more numerous among the single the more this group is being reduced by marriage.

The hypothesis of protection is far less promising. Socially as well as economically the single are probably most heavily handicapped in rural districts, whereas marriage, on the other hand, will most readily lead to social problems under urban conditions. But this is so for both sexes, and so this hypothesis cannot explain why the findings are opposite in men and women.

When the various rural districts are compared, we find that the predominance of the single is highest in the West, North and South, that is, where the marriage rate is *lowest* (and this negative correlation is high for both sexes). This is rather bewildering, and can only be explained by assuming that the mechanism of selection by marriage is not the same in urban and rural districts. It seems that in the countryside favourable general marriage chances will help even the personally handicapped to break through the "marriage

barrier"—in other words, that here social and economic conditions mean more and the personal factors less than in cities.

The explanations offered above are far from satisfactory. Nevertheless, the fact remains that the statistical data indicate selection rather than protection as the decisive factor. The marriage handicap which underlies this selection seems to be of a personal rather than an economic or social nature, but its mechanism is far from clear.

8. *The Pre-psychotic Marriage Handicap.*

The hypothesis of selection is based upon the assumption that persons who develop mental diseases have even before the onset had reduced chances of marriage as compared with the general population. It is possible to test this assumption by demonstrating in the past histories of the single clinic patients social or personal factors likely to have constituted marriage handicaps. In Table V a number of such factors are listed. Most of them are seen to occur with the same incidence in the married patients (which in this case may be used as a control group), and consequently do not seem to have had the expected influence upon the marriage chances.

TABLE V.—*The Incidence of Pre-psychotic Marriage Handicaps (Factors Likely to have Reduced the Chances of Marriage) per* 100 *Patients Above* 25 *Years of Age, Single and Married.*

	Men.		Women.	
	Single.	Married.	Single.	Married.
Psychopathic heredity	39	48	40	42
Unhappy relations between parents	17	16	15	15
School record below the average	17	16	13	14
Neuropathic trends in childhood	22	18	27	18
Personality handicaps	55	24	42	25
Chronic alcoholism	17	18	..	..
Venereal diseases	5·4	7·2	1·9	4·3
Invalidism, poor health	13	17	24	26
Unemployment, irregular employment	38	19	..	..
Economic difficulties	28	26	9	19
Number of cases	92	166	106	162

Personality handicaps (mostly traits from the schizothymic-schizoid register), however, are twice as common in the single as in the married. This indicates that there is a certain selection connected with marriage, and that this selection is based above all upon personality factors. The difference is smaller in women than in men, which is in good keeping with the observation that the predominance of the single is less marked in the female sex. It is natural that personality handicaps should (in this particular connection) mean less to women, owing to their more passive rôle in courtship.

The influence of personality type as a marriage handicap is illustrated in some detail in Table VI. In the single balanced types are definitely less frequent, while schizoid and schizothymic types predominate. Hysterical and infantile personalities are found as frequently among the married as

TABLE VI.—*Pre-psychotic Personality of Single and Married Patients.*

	Men.		Women.	
	Single.	Married.	Single.	Married.
Personality well balanced	28	35	20	34
Schizothymic	25	12	17	12
Schizoid	24	6	15	6
Sensitive and depressive	15	31	32	24
Hysterical and infantile	3	3	10	14
Hyperthymic and other unbalanced types	5	13	6	10
Total	100	100	100	100

among the single, in good keeping with the general experience that such types have (particularly in the female sex) surprisingly good chances on the marriage market. Sensitive and depressive types are in the male sex even more common among the married; evidently their serious outlook on life, coupled with considerable depth of feeling and craving for human contact, are factors which are predisposing to marriage; in women on the other hand such traits seems to act rather as handicaps. That hyperthymic and allied types should predominate among the married is not surprising.

There is undoubtedly an *economic* selection connected with marriage. In occupational classes with a high income and stable employment the percentage of marriages (particularly of early marriages) is higher, and in each class an analogous selection is at work. This economic selection is difficult to distinguish from the selection by personality type, because personality is one of the factors which determines the degree of economic success. It does not seem to be a factor of primary importance, however. The clinic material shows that 50 per cent. of the patients with a definitely psychopathic personality had steady occupation up to the onset of the present attack, against 66 per cent. of the well-balanced types. Among the psychopathic types the schizoid with 48 per cent. steady employment and the unstable types with 44 per cent. seem to be most severely handicapped. These differences are fairly large, but not sufficiently decisive to show that personal and economic selection are identical—they merely prove a certain degree of overlapping.

Table V shows that unemployment or irregular employment previous to the onset of the present attack is twice as common in the single as in the married, which seems to verify the existence of an economic selection. But nevertheless positive complaints of economic difficulties are no more common in the single than in the married. Many single men are able to get through periods of unemployment without serious economic difficulties, because they live with parents or other relatives, or because their responsibility is limited. The married, on the other hand, may well have serious economic problems in spite of steady occupation. A more detailed study of the nature of the economic difficulties in question shows that the problem of the single has generally been unemployment and lack of the bare necessities of life, frequently with periods of vagrancy. In the married it has more often consisted in defending a somewhat higher but uncertain standard of life against adverse

conditions of work and income: a new and larger farm has been bought and the patient worries over the increased responsibility; a house has been built on borrowed money, etc.

We may conclude that the married start out as an economically privileged group—a result of "economic selection by marriage." They remain to a large extent protected against unemployment—partly because they are forced to the policy of sticking to the secure jobs instead of taking chances, and partly because employers tend to favour the married when work is scarce. But their initial protection against economic difficulties gets lost gradually because of the increasing responsibility of supporting a growing family. The economic factor seems, therefore, to be of a selective rather than a protective nature.

9. *Sexual Factors.*

What is known of the pre-morbid sex life of the single patients gives further support to the hypothesis that we here deal with a social group with a definite marriage handicap—see Tables VII and VIII. Overt sexual conflicts were found in only 15 per cent. of the single men and 18 per cent. of the single women. But this merely means that their maladjustment has mostly been of a more passive and indirect type: more than half of the single have had little or no contact with the other sex. In men this passive maladjustment is definitely linked with schizophrenic psychoses and schizoid personality type, while the manic-depressive patients seem to have led a more normal sex life. This is in good keeping with the observation that the predominance of the single is insignificant in the latter diagnostic group. In women, on the other hand, the attitude of sexual passivity seems to occur more independently of diagnosis and personality type, which may be a result of their more passive rôle in courtship: a passive attitude towards the other sex does not signify as much in a woman as in a man as a symptom of psychopathic personality. When it comes to the frequency of actual engagements, the difference between manic-depressives and schizophrenics is rather marked even in the female patients.

The attitude of sexual passivity manifests itself in different ways. Some are merely cold and uninterested: have never cared for such things; "doesn't understand those things at all." This type is most common, and is linked definitely with the schizoid make-up. Common is also the shy and bashful type, interested in the other sex, but awkward and unable to make contacts. Others are characterized as childish and undeveloped, immature, "like a child," and this immaturity is also present in other spheres than sex life. Still other types are more rare: those who are abnormally haughty towards the other sex, always fault-finding and hypercritical—nobody is good enough for them; or those with intersexual traits, the feminine men and the masculine women; or finally those who are unable to get through the process of emancipation from the parents, but prefer to stay at home instead of founding their own family.

It is quite evident that single life to many of these passive individuals is the most "normal" and adequate attitude, and that it is not necessarily connected with any inner conflicts or any feeling of want or of inferiority.

TABLE VII.—*Pre-morbid Sex Life of Single Patients by Diagnosis, per* 100.

	Men.				Women.			
	Schiz.	Man.-dep.	Neurosis.	Total.	Schiz.	Man.-dep.	Neurosis.	Total.
Little or no connection with the other sex	62	21	50	53	57	59	35	51
Normal connection	17	24	11	16	17	2	10	11
Is or has been engaged	13	48	25	21	23	37	45	33
Active sex life with loose relations	8	7	14	10	3	2	10	5
Total	100	100	100	100	100	100	100	100
Patients with overt sexual conflicts—per 100	15	7	20	15	8	20	31	18

TABLE VIII.—*Pre-morbid Sex Life of Single Patients by Pre-psychotic Personality Type, per* 100.

	Men.				Women.			
	Balanced.	Schizoid-schizothymic.	Sensitive, depressive.	Other types.	Balanced.	Schizoid-schizothymic.	Sensitive, depressive.	Other types.
Little or no connection with the other sex	40	64	39	45	53	53	53	38
Normal connection	31	11	11	11	7	12	10	17
Is or has been engaged	19*	19	32	33	37	30	37	31
Active sex life with loose relations	10	6	18	11	3	5	..	14
Total	100	100	100	100	100	100	100	100

Marriage to them would not mean a solution to the sexual problem, but a constant danger of conflicts and maladjustment. As a group they have a high incidence of psychoses, particularly of schizophrenia—but this is primarily a result of selection, and not of lack of " protection by marriage."

In others sexual passivity is an attitude which is forced upon them by their personality handicap, and which must lead to a series of mental conflicts. Not a few find a solution in masturbation, but even this may lead to new and bitter difficulties. In such types also the incidence of psychoses is high, and here there is actually clinical foundation for the hypothesis that lack of the " protection by marriage " has been a pathogenetic factor. It is, of course, difficult to decide (even after a careful clinical analysis) with which of these two types of sexual passivity one is dealing in each individual case, but it is the author's impression that they are about equally common. This would mean that the factor of " lack of protection " *may be* at work in about 25 per cent. of the single patients.

Among the single patients one-fifth of the men and one-third of the women were or had been *engaged* on admission. But a closer analysis of these cases shows that engagement is very far from being a sign of good sexual adjustment. Among 81 schizophrenic and manic-depressive patients who were or had been engaged, the engagement was broken or the relations were more or less unhappy in 70. In most of these 70 cases there is direct evidence that the patients themselves are at least partly responsible for the difficulties: they are unable to decide between several possible partners, and at last are left without chances; or the engagement is a silent and sentimental feeling for some colleague or childhood comrade, and ends in silent disappointment when the partner tires and marries another; or it lasts for years and years because the patient is unable to decide on marriage (economic reasons may be given, but personal inhibitions are mostly responsible). Quarrels and difficulties are frequent, with jealousy on the part of the patient as the most common background. Sometimes the patient breaks off relations for some trivial reason, which shows the typical self-centred and over-critical attitude; in other cases the partner withdraws, and this often results in life-long bitterness, because the ability to readjust is missing. Not infrequently their choice has been remarkably unwise (a really bad girl, a worthless fellow, a tuberculous invalid), which may be what Freud has described as flight-mechanism, but which is sometimes merely a result of helplessness and lack of common sense. In 3 cases only was the engagement broken for obvious economic reasons. Overt sexual fears and inhibitions were found in only 6 cases, but no doubt furnished the subconscious background in a far greater number.

In a majority of these 70 broken engagements the social and sexual maladjustment of the patient was clearly responsible for the failure, and so one may conclude that these patients remained single as a result of the " selection by marriage." But there can, on the other hand, be no doubt that most of them suffered from this failure on one of the most important fields of social adaptation, and the possibility therefore exists that they belong to the group in which lack of protection by marriage (or in other words the handicaps of single life) has been an aetiological factor.

10. *Environmental Factors.*

The hypothesis of protection is based upon the assumption that married life is in some way or other more favourable for mental health. Now nothing is more difficult than to establish that environmental factors have actually been of pathogenetic importance. The present material offers merely a tabulation of environmental difficulties which the patient is known to have undergone previous to the onset of the disease. The numbers given are, of course, definitely minimums.

TABLE IX.—*The Incidence of Environmental Handicaps per* 100 *Patients, all Ages.*

	Men.		Women.	
	Single.	Married.	Single.	Married.
Connected with parents and childhood	61	59	67	68
Lack of higher education and training	56	56	58	81
Unemployment, at first onset of disease	22	8	..	..
Unemployment, at onset of present attack	26	16	..	..
Other economic difficulties	20	19	9	19
Somatic diseases, invalidism	16	18	22	27
Alcoholism	15	18	4	6
Erotic and marital	15	22	18	38

While the importance of the factors listed on Table IX is therefore doubtful, it is nevertheless of some significance that only one of them (unemployment in men) shows a higher incidence in the single than in the married. The erotic difficulties of the single are more than outweighed by the marital problems of the married. And the privilege enjoyed by the married in the way of less unemployment is outweighed by their increased economic responsibilities. Altogether the material (taken for what is is worth) gives no evidence of any protection by marriage.

Table X gives further evidence in the same direction. It shows that

TABLE X.—*Environmental Factors of Possible Aetiological Significance per* 100 *Patients.*

	Men.		Women.	
	Single.	Married.	Single.	Married.
Conflicts in sex life	8	11	20	21
,, work	7	16	13	6
,, family life	8	6	7	12
Conflicts with colleagues, friends, neighbours	8	9	4	8
Grief (death or illness of relatives)	2	11	7	14
Economic difficulties	7	17	3	11
Emotional shock, anxiety	2	7	4	4
Somatic diseases, poor health	11	13	14	18
Abortion, childbirth, pregnancy	..	..	..	15
Total*	53	90	72	109
Of which factors connected with marriage	..	21	..	52

* The figures do not represent the number of cases, as several aetiological factors may be registered in each individual patient.

https://doi.org/10.1192/bjp.92.386.35 Published online by Cambridge University Press

environmental factors, which the clinic, after prolonged examination and treatment, has found to be of probable pathogenetic significance, are at least as frequent in the married as in the single. Of particular interest is the high number of aetiological factors directly connected with marriage, especially in women.

TABLE XI.—*Marital Conflicts per* 100 *Married Patients.*

(Conflicts connected with the patient's illness not included.)

	Men.	Women.
Husband (wife) or parents-in-law "difficult," psychopathic, etc.	13	18
Husband (wife) alcoholic	..	12
Husband (wife) physically ill or invalid	4	4
Husband (wife) deceased	5	10
Unhappy relations for which patient is responsible	13	7
Other conflicts	1	1
No such difficulties present	64	48
Total	100	100
Conflicts in sex relations (+)	8	22
No children after 5 years or more (+)	11	11
Six children or more (+)	16	11

(+) Alone or in combination with one of the conflicts listed above.

A study of the overt conflicts in the married lives of the patients (Table XI) makes the importance of protective factors even more doubtful; at any rate they will in many marriages tend to be outweighed by marital difficulties. Frequently it is possible to trace these difficulties back to the patient's own social, sexual and personal maladjustment; but this does not in the least alter the fact that married life will frequently lead to conflicts which may prove too much for those who are predisposed towards mental illness.

Among the strictly *sexual conflicts* in marriage, frigidity in the women and impotence or ejaculatio praecox in the men are most common. But it is likely that the "sexual protection by marriage" is deficient also in the numerous cases in which the spouse is psychopathic, alcoholic or physically disabled. In some cases patients of schizoid or sensitive personality type will break off sexual relations for ethical or religious reasons when it seems undesirable to have more children. In others the sexual urge is strong and poorly controlled, resulting in extramarital relations, and consequent feeling of guilt. Jealousy, justified or not, is among the most common causes of marital conflicts in our patients.

Among the *social conflicts* those connected with parents-in-law or with children of an earlier marriage take the first place, beside those caused by the illness or death of spouse or children. Less usual are the cases in which marriage was brought about by pregnancy, or in which it was poorly matched, as when a man married his housekeeper, or when a methodist married a man from outside the church.

In spite of all these conflicts, or rather conflict possibilities, there is only one single case in which a definite connection could be established between marriage and the outbreak of the psychosis: a schizoid man developed a depression because of the increased responsibility of married life.

Now the objection is unavoidable that our patients are just the cases in which the protective factors have failed, and the lack of a control material of normals is regretted. What we have actually observed is that the mental diseases of the single differ from those of the married in structure and background: the constitutional elements weigh heavier, while the environmental elements are relatively less important. This indicates, however, that the explanation for the predominance of mental disease in the single must be sought in the constitution—in our words, in our "hypothesis of selection," especially a selection by personality traits.

11. *The Factor of Duration of the Illness.*

The duration of the illness previous to admission is to a large extent a function of the clinical picture: acute cases with a severe disturbance of behaviour are more readily admitted. But admission depends also to some extent upon the social conditions of the patient. Now the social conditions which are responsible for an early admission (poor and crowded homes, no relatives who can take care, etc.) are generally the same which determine the extent of hospitalization of the insane as a whole. In other words, if in a certain social group the average duration of the illness previous to admission is long, then it is to be expected that a comparatively large number of the insane are never admitted at all. The extent of hospitalization cannot be determined directly, as our statistics deal with the insane in institutions only. The duration previous to admission therefore becomes a valuable test for the hypothesis of hospitalization. If the predominance of mental disease in the single is due to a more complete hospitalization, then one would expect a shorter duration of the illness previous to admission in the single than in the married.

In Table XII the duration is given in broad age-groups by diagnosis as well as by sex and by marital condition. In cases with remission only the present attack is counted, in order to avoid the source of error which lies in the frequent marriages during a remission of the disease.

There is no need to discuss the findings in detail. A glance at the table is sufficient to show that there is no difference in duration between the single and the married, which is a strong point against the hypothesis of hospitalization. The assumption is justifiable that the predominance of the single is wholly dependent upon other causes.

12. *The Rate of Admissions in the Widowed.*

A study of the incidence of mental diseases in the widowed is of great importance for the solution of our problem: is the predominance of insanity in the single due to protection or to selection by marriage? After the death of the spouse the protective factor decreases in importance or disappears altogether, while the factor of selection remains, and so theoretically can be studied in pure culture. In practice, however, this experiment is far from perfect. The social and personal life conditions of the widowed are not only characterized by loss of the protection by marriage. They have to face

TABLE XII.—*Duration of Illness Previous to Admission in Single and Married. All Ages.*

(In remittent cases the duration is of the present attack).

	Duration in whole years.		0–1.	2–4.	5–9.	10–.	Total.	Average duration.
Men	Schizophrenia	Single	49	32	13	6	100	3·1
		Married	51	28	13	8	100	3·2
	Constitutional	Single	60	26	8	6	100	2·6
		Married	54	27	9	10	100	3·5
	Manic-depressive	Single	90	8	1	1	100	0·8
		Married	84	12	1	3	100	1·2
	Senile	Single	45	32	19	4	100	3·0
		Married	45	37	14	4	100	2·9
Women	Schizophrenia	Single	49	29	13	9	100	3·4
		Married	51	31	11	7	100	3·1
	Constitutional	Single	56	28	8	8	100	3·1
		Married	54	30	8	8	100	3·2
	Manic-depressive	Single	85	9	3	3	100	1·2
		Married	83	12	3	2	100	1·1
	Senile	Single	45	34	12	9	100	3·6
		Married	46	37	12	5	100	2·9

TABLE XIII.—*Admission Rates for Single, Married and Widowed Above 30 Years of Age on Admission.*

		Men.				Women.			
		Single.	Married.	Wid.	Difference Wid.-marr.	Single.	Married.	Wid.	Difference wid.-marr.
Absolute rates.	31–40	218	48	92	44±18·2	158	60	66	6±11·2
	41–50	207	58	74	16±12·4	173	60	80	20±8·7
	51–60	159	52	60	8±8·8	133	57	76	19±6·8
	61–70	143	42	47	5±6·9	107	45	52	7±5·3
	71–	71	60	35	−25±5·9	85	37	45	8±5·4
Standardized rates, relative (married = 100).	Schizophrenia	707	100	144	44±30·2	373	100	92	8
	Manic-depressive	166	100	107	7	164	100	126	26±17·4
	Senile	144	100	78	−22±10·8	227	100	147	47±12·6
	General paresis	135	100	143	43±35·2	91	100	152	52±40·7
	All diagnoses	336	100	131	31±12·8	256	100	122	22±8·2

environmental problems which in many respects may make their social adjustment more difficult than if they had never been married at all. But this is not always the case, and many widows and widowers will, when the first shock is over, still be able to enjoy at least part of the privileges of family life (home life and children, etc.). It is therefore difficult to determine to which degree the protection by marriage is lost by the death of wife or husband.

What complicates the problem further is that the factor of selection does not remain the same in the widowed. It is well known from other branches of vital statistics that those who remain widowed represent a negative selection, because the socially, mentally and physically privileged will tend to re-marry.

These sources of error are so important and so difficult to correct that the value of a statistical investigation becomes doubtful: individual analysis of the influence of widowhood in each separate case seems indispensable. Another difficulty lies in the fact that even a material of 14,000 admissions does not contain a sufficient number of widowed to give results of statistical significance.

With these reservations we present in Table XIII rates of admission for the single, the married and the widowed. We find that in both sexes the total admission-rate is significantly higher in the widowed than in the married (the difference being more than twice its standard error). But this moderate increase does not bring the admission-rate of the widowed anywhere near that of the single, which is more than twice as high.

The age distribution of married and widowed differs so markedly that standardized rates will tend to cover up valuable information. A study of separate age-groups shows that in men the difference in disfavour of the widowed is very marked (and statistically significant) in the thirties. It decreases with age, and above the age of 70 the admission-rate of the widowers is significantly *lower* than that of the married. In women, on the other hand, the difference is most marked in the forties and fifties, and it is particularly small in the thirties. These observations are best explained as resulting from a selection by re-marriage: widowers frequently re-marry, and consequently those who remain widowers represent a negative selection with regard to predisposition towards mental disease. The influence of re-marriage tends to diminish rapidly with age, and furthermore it is less important in women, whose chances of re-marriage are not nearly as good.

The number of cases is somewhat small for a subdivision by diagnoses, and the standard errors are consequently very large for some diagnostic groups. Nevertheless it is of interest to notice the high incidence of *general paresis* in the widowed of both sexes, higher even than in the single. Conjugal infection is probably the explanation. Furthermore we notice that in the male sex *schizophrenia* is considerably more frequent in the widowed than in the married (the difference is 44 ± 30, and so rather suggestive, if not quite significant). In women, on the other hand, there is a slight difference in disfavour of the married. This is evidently a result of selection by re-marriage—a factor which will naturally influence the rates of schizophrenia in particular. For manic-depressive psychosis the admission-rates in the widowed are for both sexes only insignificantly increased—evidently because the mechanism of selection is less important for this diagnostic group. The hypothesis of protection does

not explain the findings nearly as convincingly: the loss of the hypothetic "protection by marriage" would have made itself felt in widows as well as in widowers (or even particularly in them), and it would probably influence the incidence of melancholia even more than that of schizophrenia.

Senile psychoses are in the male sex significantly less frequent in the widowed than in the married, while in the female sex the opposite is the case. It is possible that senile widows may be more readily hospitalized than the widowers, owing to their social and economic status, but it is unlikely that this can alone explain the findings. Here we must in fact resort to the hypothesis of protection: In advanced age the "loss of protection by marriage" must be particularly hard on women, because to them widowhood means economic and social hardships in addition to personal grief. The absence at this age of any selection by re-marriage contributes to the lower rates in the male sex. Why senile psychoses (particularly above the age of 70) should actually be *less frequent* in widowers than in married men is difficult to explain in light of the hypothesis of protection. Is it possible that the economic, personal and even sexual responsibilities of married life represent a burden rather than a protection to men of advanced age?

We conclude that the statistical findings seem to support the hypothesis of selection rather than that of protection. The widowed have lost the (hypothetic) protective influence of married life—and nevertheless their incidence of mental disease is only moderately higher than that of married people, and less than half of what is found in the single. Only for the psychoses of advanced age does a loss of protection by marriage seem to be in evidence, and in the female sex only. For the younger age-groups, and particularly for schizophrenia, selection is the only possible explanation, and in the widowed we have been able to show that it exists even in the form of a "selection by re-marriage."

Neil A. Dayton finds that the admission-rate is much higher in the widowed than in the single, and concludes that "apparently marriage is a protective factor of considerable importance." His figures are misleading, however, as he has not taken into consideration the difference in age distribution.*

The divorced are not included in any of the groups discussed above, and their number is in Norway too small for a separate examination. Besides, a divorce is too frequently a mere *result* of the disease,† and therefore its possible effect as an aetiological factor can hardly be studied by statistical methods.

Summary.

The observation that the incidence of mental diseases is higher in the single than in the married is confirmed in a representative material of 14,231 first admissions to Norwegian mental hospitals. There are three possible explanations to this:

* In a later and more comprehensive publication Dayton has shown that when the age distribution is taken into consideration, the admission rate of the widowed lies, even in his material, well below that of the single. This book was not available in Norway until January, 1946, and so it was not possible to discuss Dayton's findings in relation to the present material.

† In Norway it is possible to obtain divorce on the grounds of incurable insanity of more than three years' standing.

(1) A single person, when developing a mental disease, is more readily admitted to a mental hospital (*hypothesis of hospitalization*). This hypothesis is contradicted by most of the statistical and clinical observations, and need not be discussed further.

(2) Those who develop mental disease present even before its outbreak certain personality traits which act as marriage handicaps, and the married consequently represent a positively selected group (*hypothesis of selection*).

(3) There are in married life certain factors which prevent the outbreak of mental diseases (*hypothesis of protection*).

The statistical analysis shows that the predominance of mental disease in the single presents certain characteristic variations:

1. It is much higher in schizophrenia than in manic-depressive psychoses. It is high in psychoses with imbecility and epilepsy, low in general paresis and in organic and symptomatic psychoses. This indicates selection by personality type rather than protection as the underlying factor.

2. In women the predominance of mental disease in the single is independent of age. In men it increases with age to a maximum about the age of 40–50. This again indicates selection rather than protection. In men the single group is reduced by marriage up to this age, which leads to a progressive selection and an increasing rate of mental diseases. In women this progressive selection stops at an earlier age, and is also less intensive.

3. The predominance is more marked in men than in women, which points in the same direction: a positive selection by marriage according to personality traits will weigh less heavily in the female sex, because of its more passive rôle in courtship.

4. The predominance varies from one occupation to another, but irregularly, and without any connection with the level or security of the standard of living. It follows that our hypothetical selection by marriage has little or nothing to do with the *economic* selection, which is a statistically well-established fact.

The hypothesis of protection is decidedly contradicted by these occupational variations. Protection of an economic nature is excluded by the lack of any corresponding trend in the statistical data; and as to sexual and personal protection, there is no reason why it should vary from one occupation to another, and why it should for instance be particularly marked in sailors (who present a very high predominance of the single).

5. When different parts of the country are compared, the predominance of the single is highest where the general marriage rate is highest, which is for men in the urban districts and for women in the rural ones. This seems to indicate that personal marriage handicaps are felt most severely in places where the social conditions in general are favourable for marriage.

6. A clinical study of a smaller but representative material shows that personality traits (particularly from the schizoid register) which are likely to act as marriage handicaps are actually twice as common in single as in married patients. This is particularly true of the schizoid traits (shut-in personality), while hysterical and infantile as well as hyperthymic types are found at least as frequently among the married.

Economic difficulties are fairly equally divided between the single and the married; but while in the single they have mostly consisted of unemployment and lack of the bare necessities of life, they have in the married generally taken the form of a struggle to defend a somewhat higher but uncertain standard of living against adverse conditions and the increasing expenses and responsibilities of family life. The married start out as an economically privileged ("selected") group, but their advantage over the single in this respect tends to get lost gradually, because of increasing economic burdens. The economic factor, therefore, seems to be of a selective rather than a protective nature.

7. A study of the pre-morbid sex life of single patients gives further support to the hypothesis that we are here dealing with a social group with a definite marriage handicap. Generally their sexual maladjustment is of a passive type, and linked with schizoid personality traits.

8. The hypothesis of protection is based upon the assumption that married life is in some way or other more favourable for mental health. A detailed clinical study of the environmental conflicts, which may have contributed to the outbreak of the disease, does not reveal any predominance of such conflicts in the lives of the single, and so gives no support to the hypothesis. On the contrary conflicts which are directly connected with married life are fairly common.

9. The incidence of mental diseases in the widowed is only slightly higher than in the married, and much lower than in the single. The loss of the hypothetical protection by marriage (in addition to many serious problems of personal and social readjustment) is evidently of no great influence upon the incidence of mental diseases in the widowed, which indicates that this protection cannot possibly be sufficiently important to explain the marked predominance of mental diseases in the single. The slight difference in disfavour of the widowed may easily be explained in accordance with our other hypothesis as a result of selection by re-marriage. This would also explain why it is more marked in men than in women: widowers re-marry more frequently than widows.

General Conclusions.

It is shown beyond doubt that the incidence of mental diseases is much higher in the single than in the married, and that this "predominance of the single" among our insane is no statistical figment caused by such factors as a difference in age distribution or in the tendency to hospitalize the insane.

It has not been possible to show positively the existence in married life of any factors (sexual, personal or economic) which protect against the outbreak of mental disease. This may be due to inadequacy of method and material, but there seems to be statistical and clinical evidence against the existence of such factors, and in any case it is most unlikely that they should be of primary importance.

It has been positively established, on the other hand, that the predominance of mental disease in the single is at least to a large extent a consequence of a

selection by marriage, and that this selection is based upon personality rather than upon economic factors.

In the author's opinion the problem of " protection or selection " is a basic one in social psychiatry, the further study of which is of importance even for our conceptions in general of the pathogenesis of mental disease and of the balance of " nature and nurture " in psychopathology.

Bibliography.

1. Dayton, Neil A. (1936), " Marriage and Mental Disease," *New England Journ. of Med.*, **215.**
2. *Idem* (1939), *New Facts on Mental Disorder*. Baltimore.
3. Essen-Möller, E. (1935), *Untersuchungen über die Fruchtbarkeit gewisser Gruppen von Geisteskranken*. Lund.
4. Fisher, R. A. (1944), *Statistical Methods for Research Workers*. Ninth edition. London.
5. Landis, Carney, and Page, James D. (1938), *Modern Society and Mental Disease*. New York.
6. Ødegård, Ørnulv (1945), " The Distribution of Mental Disease in Norway. A Contribution to the Ecology of Mental Disorder," *Acta Psychiatrica*.