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IS INSANITY ON THE INCREASE?*

THE subject of this paper is an important question to the ratepayer and the race; it can only be answered by a careful consideration and comparison of published statistics and facts regarding insanity, registered and unregistered, in the past and present. Moreover, if insanity be greatly on the increase, as a superficial glance at the rapid rate of increase of registered cases during the past twenty or thirty years would indicate, the causes for the increase should be apparent in the answers to two questions. (1) Have the conditions required for certification undergone any change and is the standard of sanity continually being raised, so that a larger number of individuals are admitted and detained in asylums? The corollary to this is the question of the rapid increase of provision for housing and maintaining persons of unsound mind. (2) If there be the rapid increase of insanity among the population that the growth of the certified insane with increased provision appears to show, what are the causes of this increase? On the one hand the eugenists would associate it with the tendency of modern civilisation to interfere with natural selection and survival of the fittest whereby poor types are weeded out; and to them the inborn factor is paramount; on the other hand the social reformer would associate the increase with drink, poverty, overcrowding and disease. It is the old question of the relative importance of Nature and Nurture in which is involved the great problem of heredity and the transmission of acquired characters. Are acquired characters transmissible? The eugenist should allow that good raw material may be found in all classes and there is abundance of it spoiled by a bad environment. The social reformer should exercise discrimination between good and bad raw material, and recognise the fundamental teaching of heredity that "like tends to beget like" and that the most he can do by his efforts is to prevent good material being spoilt and bad material being made worse. Education, sanitation, feeding, and the like, can through providing a healthy

* A paper read before the Sociological Society, October 29, 1912.

body develop and improve such potential mental energy as the individual possesses; but if there is an inborn failure of sagacity the improved environment cannot bring it out.

THE GREAT INCREASE OF REGISTERED INSANITY.

The charts I shall first show to indicate the increase of registered insanity are taken from the Lunacy Commissioners' Report for this year. The first chart shows the total number of insane persons in England and Wales reported to be under care on the 1st of January in each year specified; and of those in the pauper and private classes respectively. There has been a steady rise of all classes since 1864, viz., from 44,795 to 135,661; the paupers have more than trebled in numbers, the private cases have doubled their numbers. (Fig. 1.)

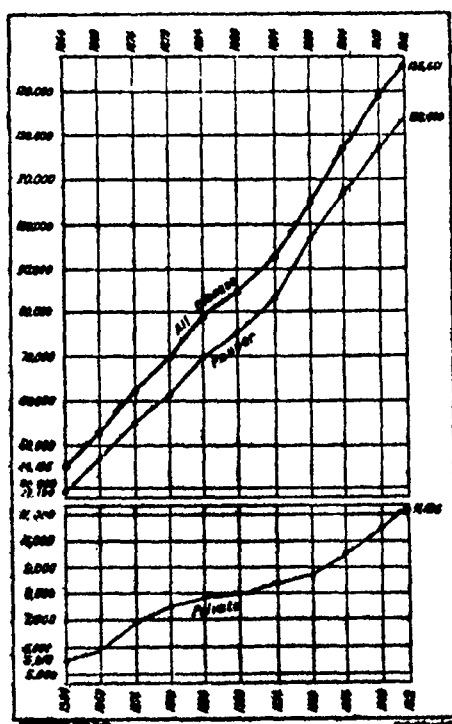


FIGURE 1.

CHART NO. 1. Showing Total number of Insane Persons in England and Wales reported to be under care on the 1st January in each year specified; and of those in the Pauper and Private classes respectively.

The next chart gives the comparative variations in the proportions of the insane in England and Wales (and of the

pauper and private classes respectively) to the total population, 1859 to 1912. It will be observed that the registered insane have increased from 18.7 per 10,000 of all classes in 1859 to 37.1 in 1912. Practically the registered insane per 10,000 of the population have doubled in numbers in fifty years. This does not however necessarily mean that lunacy has doubled in this period in the total population. (Fig. 2.) We notice in this chart that whereas

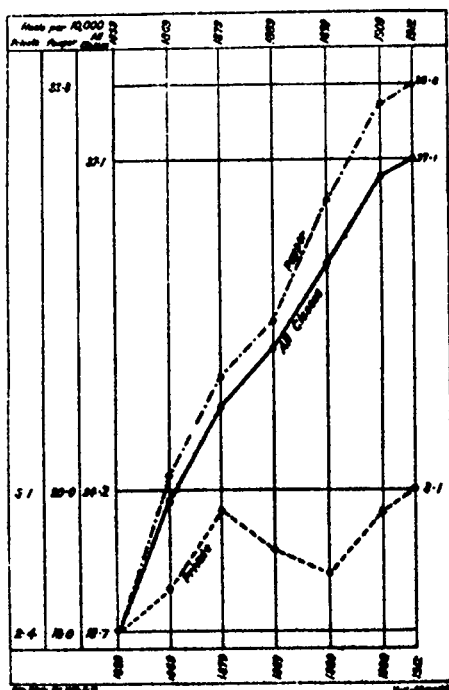


FIGURE 2.

CHART NO. 2. Showing comparative variations in the proportion of the insane in England and Wales (and of the Pauper and Private classes respectively), to Total Population, 1859 to 1912.

the pauper class has mounted from 16.0 per 10,000 to 33.8 rather more than double, the private class has only increased from 2.4 per 10,000 to 3.1.

Chart 3 illustrates the rate of insane per cent. of (a) population of England and Wales; (b) of insane community; (c) of the yearly admission to care; (d) of the ratio of insane to the population; and (e) of the ratio of admissions to population 1869—1911-12. Comparing first the annual admissions with the total insane we observe that during the last eight years although the number per 10,000 of the population has risen from 110 to 155.1, the annual admissions have varied between 108 and 110 (the opening of one

or two new large asylums would be sufficient to account for this small variation). When we look at the lower three curves we find that there is a parallelism between the increase of the mean population and the increase of the total insane; but the lowest curve shows that there has been a steady fall in the admissions ratio since 1902 when it attained its maximum. It was at this period that a great increase of housing provision for the insane occurred in London and other parts of the country. (Fig. 3.)

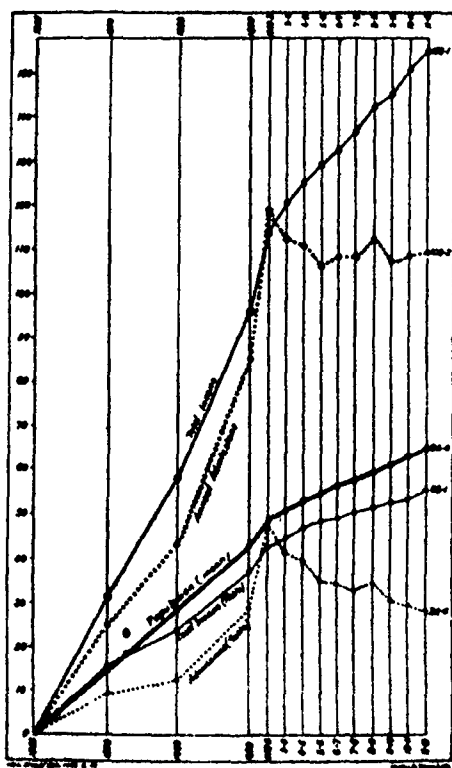


FIGURE 3.

CHART NO. 3. To illustrate Rate of Insane per cent. of (a) Population of England and Wales; (b) of Insane Community; (c) of the yearly Admissions to Care; (d) of the Ratio of Insane to Population; and (e) of the Ratio of Admissions to Population 1869 to 1911-12.

In the report the Commissioners allude to the fall in the admission rate; they say it is somewhat encouraging to find that whereas the advance in population between the estimated average of 1902-06 and that of the next quinquennial period 1907-11 is 5.3 per cent., and on the same basis of comparison, the number of insane under care shows an increase of 9.6 per cent.; *there has as regards the numbers admitted to care been no increase at all, but*

an actual decline. In their last report they dwelt on the factor of "accumulation" as mainly contributing to the increase, believing that the extent to which it operates in the latter is often not fully appreciated, whilst the facts just cited tend to show that of late years at least, there has been no growth of the numbers of insane persons *admitted* to care, the proportion of which to the total under care has fallen from 26·5 to 20·5 per cent. within the past ten years.

REGISTERED INSANITY IN THE COUNTY OF LONDON.

The great increase in the registered insanity in the County of London is the subject which I am especially interested in, as Pathologist to the London County Asylums, for the great increase which is shown in this chart naturally requires explanation from one whose duty it is to investigate the causes of insanity. We observe that in spite of an almost stationary population the increase of registered insanity has gone up by leaps and bounds. In the last twenty years it has risen as this chart shows, from 16,000 to 27,500. (Fig. 4.) In the last twelve years the population of the

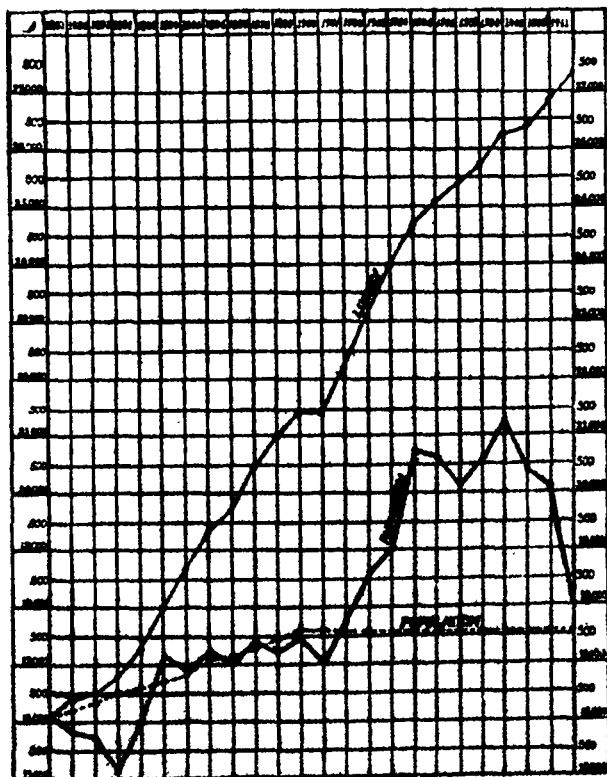


FIGURE 4.

county has been stationary, but the registered insanity has increased from 23,500 to 27,500; that is to say, in a stationary population registered lunacy has increased 15 per cent. in twelve years. Although for some years the pauper curve rose with the lunacy curve, yet during the last three years there has been a steady fall; this is doubtless due to the effect of old-age pensions. Now we have to inquire what are the causes which have led to this increase of registered lunacy throughout the country and in London in particular.

CAUSES OF INCREASED REGISTRATION AND CONSEQUENT ACCUMULATION IN ASYLUMS.

A special investigation made by the Royal Commission on the Feeble-minded in England and Wales disclosed the fact that 0.46 per cent. of the total population were mental defectives and were not at present registered; they are therefore almost as numerous as the registered insane. It has been calculated that if the same percentage holds good for the population of London with its 4,522,961 inhabitants there would be 20,805 unregistered mental defectives. It is quite possible that while registered insanity has increased markedly during the last twenty years, with the provision of increased accommodation, unregistered insanity has diminished; in fact, it is well known that the village idiots and the lower grade imbeciles—who were at large all over the country—have accumulated by detention in asylums and now help to swell the registered insane. Two very numerous classes of individuals who should be registered and placed under some control on account of their anti-social conduct are, firstly, the chronic incurable inebriate, dangerous to himself and society and responsible for a considerable portion of the crimes of violence, consequently a perpetual expense and danger to the community; secondly, the imbecile of feeble will-power, slender sagacity, and lack of moral sense. These latter, indeed, form a large proportion of the chronic inebriates who are on the black list. Again, the feeble-minded swell the ranks of criminals and especially are they found among those who are unemployed because unemployable; many imbecile women, not having sufficient intelligence or desire to earn an honest living, lead immoral lives and have numerous illegitimate children. Moreover, the great army of prostitutes in London and our large cities is partly recruited from feeble-minded women. Although feeble-minded persons may be met with in all grades of society, they are especially and for obvious reasons to be found

among the denizens of the one-roomed tenements of our great cities. Unlike the more intense forms of mental deficiency, these defectives are fertile and procreate freely; seeing that "like tends to beget like" it will be a good thing for the race when those who are judged to be unfit for social privileges are registered and segregated in early life. But great care is necessary not to establish any class prejudice; nor must a judgment of fitness and unfitness be determined without careful consideration of each case. I shall, however, have reason to refer to this matter more fully later; suffice it to say that *the increase of registered insanity may be partly explained by a diminution of unregistered insanity; as asylum accommodation has increased, large numbers of this class of patient suffering with incurable mental defect have been admitted and detained for life in asylums; thus helping materially to accumulation, which, as I have already stated, the Commissioners have referred to as an important cause of the increase of registered insanity.*

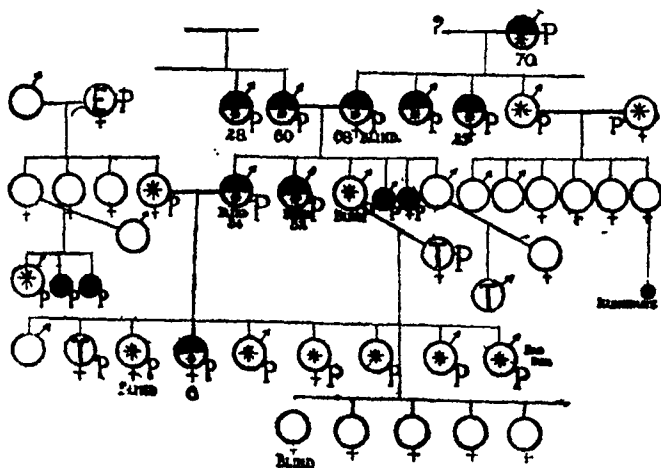


FIGURE 5.

This is a pedigree showing pauperism, insanity, and blindness in four generations (Lidbetter). *Half-black circles, Insanity. P*, Pauperism. E, Epilepsy. T, Tuberculosis. Figures denote age at time of attack of insanity.*

OTHER CAUSES OF INCREASED REGISTRATION.

Another important cause of the increase is that collective responsibility has replaced family responsibility; and the humane treatment and improved housing of the insane under the control of the people's representatives, with all the legal penalties attached

to any cruelty, have removed the objections the public formerly had to put away an insane relative or friend. Seeing that keeping a lunatic out of an asylum is liable to get both practitioner and friends into trouble with the authorities, it follows that in England certification is the indispensable preliminary to treatment. 'Certification means incarceration in an asylum. Consequently everything has been tending towards increase of registration and asylum treatment of the insane. Moreover, it has been asserted that certification by the infirmary doctors is encouraged by the payment of a fee for each case; and the numbers transferred from the infirmaries to the asylums under certificate would diminish if the doctors received a fixed salary for this work. Certainly this system of payment does not tend to diminish registered insanity. Nor does the government payment of 4/- to the Guardians for each patient registered; in fact, while not denying that many senile cases are among the most troublesome to deal with and only fit for asylum treatment, yet the facts seem to indicate that a number of aged persons suffering with senile decay, who formerly were unregistered and kept in the infirmary are now certified and sent to asylums. Thus in the Report of the Asylums Committee of the London County Council, 1910, p. 110, it is stated that as many as 4,762 or 23 per cent. of the inmates of the London County Asylums were suffering from dementia, senile and secondary; this indicates clearly that a number of these aged persons who were formerly treated in the infirmaries have helped to swell the registered insane.

OTHER CAUSES OF THE INCREASE OF REGISTERED INSANE BY ACCUMULATION.

Another cause of accumulation has been the steady diminution of discharge of patients as recovered. With the increased housing accommodation the recovery rate has been diminished; this statement is almost paradoxical, but it is the fact that eight years ago, when London accommodation was much more deficient than it is now, it was calculated that 28 per cent. of the recoveries had relapsed within five years and 12 per cent. within one year. In an admirable report of the Clerk of the London County Asylums in 1910, it is stated that out of the large mass of registered lunacy, only 2'39 per cent., according to the medical superintendents, have a favourable prospect of recovery, 5'42 per cent. are doubtful, and as much as 92'19 per cent. are unfavourable.

DECLINING DEATH RATE OF REGISTERED LUNATICS AND ACCUMULATION.

An important cause of the accumulation of the registered insane is that the pauper insane have a prospect of longer life in asylums than they would outside, where they are liable to suffer from the effects of poverty and its consequent insufficiency of food, light, air, warmth and fatal intercurrent or zymotic disease. Again, the death rate in asylums has diminished considerably with the fall in

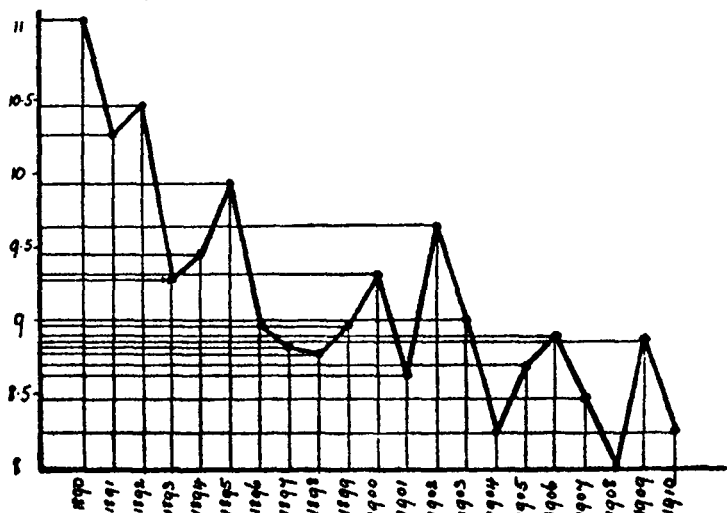


FIGURE 6. Showing percentages of deaths on average daily number of insane on register.

This chart shows the steady fall in the death rate of the L.C.C. Asylums in the last 20 years, from 1890—1910 inclusive.

the death rate outside; also with increased accommodation and improved sanitation of asylums there has been a considerable fall in the death rate from dysentery, tuberculosis, pneumonia, septic and other microbial infective diseases. There is consequently, owing to this declining death rate and diminished discharge rate, a continuous process of silting up with chronic incurable cases of insanity. That this is so is shown by the fact that at the present time nearly one-half of the 20,000 odd inmates of the London County Asylums have been resident in asylums more than ten years. Again, at the end of 1910, no less than 4,238 patients known to have been insane for more than twenty years were in the London Asylums, and in the 1910 report it is stated that such long standing cases have been accumulating during the last four years at rates varying from 125 to 200 per annum.

TABLE I.

The following table, which is made up in four-year periods and is repeated (with the addition of the 1911 figures) from last year's memorandum, illustrates how the recovery and death-rates are continuously declining:—

Period.	Percentage on average number on registers.									
	Recoveries.			Deaths.			Combined Recoveries and Deaths.			
	M.	F.	T.	M.	F.	T.	M.	F.	T.	T.
Annual Average, 1890—1893	12.29	10.25	11.06	13.48	8.03	10.20	25.77	18.28	21.26	
„ 1894—1897	11.67	10.06	10.71	12.31	7.21	9.27	23.98	17.27	19.98	
„ 1898—1901	8.20	8.10	8.14	10.92	7.58	8.93	19.12	15.68	17.07	
„ 1902—1905	7.72	7.65	7.68	10.88	7.46	8.88	18.60	15.11	16.56	
„ 1906—1909	6.55	6.84	6.72	10.00	7.48	8.56	16.55	14.32	15.28	
Two years, 1910-1911	5.07	5.51	5.32	10.07	6.95	8.29	15.14	12.46	13.61	

HEREDITY AND INSANITY.

In a research by the card system which I have carried out respecting heredity and insanity, I have collected cards referring to 3118 patients who are related or have had relations in the London County Asylums and been discharged or have died. Of these

TABLE II.

Showing Proportion of Deaths and Recoveries amongst "Relative" Cases.

	Discharged.	Transferred.	Died.	Resident.	Total.
Males	260 = 19'0 per cent.	60 = 4'4 per cent.	400 = 29'2 per cent.	647 = 47'3 per cent.	1367
Females	365 = 20'8 per cent.	62 = 3'5 per cent.	399 = 22'7 per cent.	925 = 52'8 per cent.	1751
Total	625 = 20'0 per cent.	122 = 3'9 per cent.	799 = 25'6 per cent.	1572 = 50'4 per cent.	3118

20 per cent. have been discharged, 25'6 per cent. have died, and the remainder 54'4 per cent. still remain in the London County Asylums; and there is a continuous increase in the numbers of related persons resident in our asylums.

I think therefore I have given many and sufficient reasons why the increase of registered insanity does not necessarily mean either an increase of the causes of insanity nor indeed does it reflect a true index of the ratio of insane to sane individuals at the present time as compared with the past. Finally, and in support of this statement, I will refer to a valuable paper by Mr. Noel Humphry, I.S.O., read before the Royal Statistical Society. He affirms from his investigations that there is no proof of the existence of an actual increase in England and Wales, and he concludes on the evidence of several interesting tables drawn from the statistics in the Annual Report of the Lunacy Commissioners, the London Asylums Committee and the Metropolitan Asylums Board, and from the Census returns, that the increase is apparent rather than real for the same reasons that I have given regarding registered London lunacy.

RELATIONSHIP OF PAUPERISM AND REGISTERED LUNACY.

The chart (Fig. 4) given above exhibits the relationship of registered lunacy, pauperism, and population in the County of London; you cannot fail to be struck with the fact that the population has been stationary for twelve years and, naturally, the rapid increase of registered insanity, which is known insanity, causes grave apprehension, nay even alarm, to the layman, and especially the ratepayer; and not knowing the facts which I have

brought to your notice he readily swallows alarmists' statements made in the newspapers by medical men and laymen. Not only does he think of the increasing cost of housing and maintaining the lunatic population, but believing the increase to be very real he naturally asks what are the causes underlying this increase of insanity which goes on in spite of social reforms and he will ask himself, "Is not the eugenicist right in warning us of the dangers of promoting the propagation of the fertile unfit at the expense of the more prudent and consequently relatively less fertile fit?" There is undoubtedly a correlation between the incidence of registered insanity and pauperism. By pauperism I do not mean poverty; for a nation may be poor and the majority of its people may indeed have only a bare subsistence and yet the percentage of insanity may not be high. By pauperism I mean that condition of poverty brought about by the unequal distribution of wealth which is so manifest in our great cities. Here a process of selection takes place whereby those stocks and families with intelligence, energy, and sagacity, who in the past or present time have acquired wealth more or less at the expense of the mentally less favourably endowed form the top layer and more or less grade successively through the professional and middle classes to the smaller tradesmen, artisans, clerks and casual labourers, until finally we come to a sediment of unemployed because unemployable, weak in mind and feeble in body, whether due to inherent deficiency or acquired degeneracy.

REGISTERED INSANITY GREATER IN LONDON THAN IN ENGLAND AND WALES.

A comparison of pauper lunacy and total registered lunacy of England and Wales with London shows, as this chart from *London*

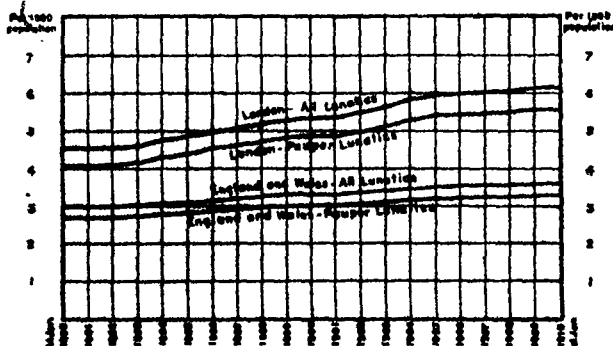


FIGURE 7.

Number of Pauper Lunatics and all Lunatics per 1000 Population on 1st January of each of the years 1890—1910, London and England and Wales compared.

Statistics indicates, a greater proportional increase in London, although the population for the last twelve years has been stationary; this may be due to the fact that the housing accommodation for London lunacy has nearly reached its completion; the task will devolve on Greater London in the future.

Another table taken from *London Statistics* shows that relatively to boroughs, cities and towns of England and Wales it will be

TABLE III.

The following table, also taken from volume 21 of *London Statistics*, compares statistics of the pauper lunatics of London on 1st January, 1910, with statistics of several large provincial towns:—

Town.	In county and borough asylums registered hospitals and licensed houses.	In metropolitan district asylums.	Number on 1st January, 1910.				Total.	Total.	Per 1,000 estimated population.
			Number.	In work-houses. Per. centage to total.	Residing with relatives and others.	Males.			
London (Administrative County)	19,563	6,844	250	9	165	11,966	14,856	26,822	5.5
Birmingham .	1,669	—	146	8.0	17	930	902	1,832	3.3
Bradford ...	566	—	201	25.9	10	400	377	777	2.6
Bristol ...	875	—	538	35.1	122	673	862	1,535	4.1
Cardiff ...	652	—	25	3.1	118	390	405	795	4.1
Croydon ...	439	—	34	7.2	1	193	281	474	2.9
Hull ...	589	—	37	5.7	28	297	357	654	2.4
Leeds ...	1,115	—	171	12.9	37	669	654	1,323	2.7
Leicester ...	678	—	58	7.6	28	356	408	764	3.1
Liverpool ...	2,817	—	356	11.2	19	1,410	1,782	3,192	4.2
Manchester ...	1,751	—	578	24.7	7	1,137	1,199	2,336	3.6
Newcastle ...	836	—	2	.2	13	488	363	851	3.0
Nottingham ..	808	—	206	18.4	103	519	598	1,117	4.2
Salford ...	668	—	254	27.5	3	501	424	925	3.8
Sheffield ...	1,018	—	253	18.9	65	650	686	1,336	2.8
West Ham ...	998	—	32	3.0	25	475	580	1,055	3.3

From this table it appears that the proportion of lunatics to population in London is unduly large.

observed that although London stands very high as regards numbers in asylums; it has relatively few in workhouses and in their own homes or residing with relatives and others. In London old age pensions, we have seen, have had no influence on asylum admissions, whereas it is known that they have led to numbers of aged persons being kept with relatives and friends outside of London and other large cities where the housing of such senile demented is not likely to be a nuisance to others as it would be in a great city.

There are, however, other reasons which help to make London lunacy higher *pro rata* of the population than that of other cities and boroughs. Mr. John Burns was reported recently to have stated that 70 per cent. of the vagrants of this country are at one time of the year in London. Probably a number of such vagrants are mental defectives or degenerates, and become stranded in the metropolis; moreover, this may happen to lunatics or potential lunatics who come to London looking for work. The pauper population contributes a much larger ratio of lunatics per 10,000 of the population to certified insanity than private cases. This may be partially due to the fact that the friends of private patients are usually desirous and generally able to elude registration altogether in many cases, or at least to postpone it, for shorter or longer periods.

I have thought it would be interesting to ascertain first how the various unions and parishes of London compare as regards the number of lunatics severally chargeable to them, and secondly to compare the same with the admissions from the same unions and parishes during the past two years, as this would give an indication of the extent of present and past lunacy in those unions and parishes. Some remarkable and unexpected results occurred which I have not yet had time to investigate fully in relation to the cause. It will be observed that Happy Hampstead has only a ratio of 3 per 1,000 chargeable to it; whereas London West Central—Bloomsbury, Westminster, and Strand—are the highest. I fully expected that with the disappearance of great blocks of slum property in those parishes, especially the Strand, this high ratio would be found to be due to the effects of accumulation owing to the pauperism of the past, but in the admission ratio per thousand during the two years 1910 and 1911 they easily head the list, especially the Strand. A most remarkable fact is the low admission rate of poor but industrious Bethnal Green. It cannot even be said that it is due to the small numbers of inhabitants relatively to other parishes and unions, for St. George's-in-the-East has a smaller population than the W.C. district. A reference to that great work of Charles Booth's, "Life and Labour of the People," is of interest in explaining the high rate of pauper lunacy. This would, however, take too long to dwell upon, and I am at present engaged in ascertaining the occupations of those who were admitted from West Central London. It is the centre of pleasure and of vice, of wealth and of degraded destitution. Woolwich is a good

TABLE IV.

STATEMENT showing the ratio per thousand of all pauper lunatics (including imbeciles) chargeable to unions and parishes in the County of London on the 1st January, 1912, to the population in April, 1911, as ascertained by the census.

Parish or Union.	Population, April, 1911.	Total pauper lunatics including imbeciles.	Ratio per 1,000 of population.	
Hampstead	85,510	253	3'0	
Lewisham	174,296	551	3'1	
Wandsworth	479,195	1,946	4'1	
Fulham	153,325	628	4'1	
Paddington	142,576	604	4'2	
Hammersmith	121,603	524	4'3	
Islington	327,423	1,572	4'8	
Woolwich	127,737	628	4'9	
Greenwich	185,688	962	5'2	
St. George's Union ...	117,968	628	5'3	
Camberwell	261,357	1,522	5'8	
Bethnal Green	128,282	754	5'9	
Hackney	273,270	1,635	6'0	
Kensington	172,402	1,033	6'0	
Mean ratio ...	—	—	6'07	
Lambeth	298,126	1,834	6'2	
Poplar	162,449	1,126	6'9	
Mile End Old Town ...	111,375	730	6'6	
St. George-in-the-East .	47,101	316	6'7	
St. Marylebone	118,221	795	6'7	
Chelsea	66,404	462	7'0	
Stepney	53,798	375	7'0	
Bermondsey	125,960	914	7'3	
Shoreditch	111,463	829	7'4	
St. Pancras	218,453	1,874	8'6	
Southwark	191,951	1,735	9'0	
Holborn	112,247	1,114	9'9	
Whitechapel	67,750	685	10'1	
West Central London of Booth County	Westminster	25,451	271	10'6
	Bloomsbury	25,065	265	10'6
	Strand ...	16,858	219	13'0
	County	—	542	—
Total ...	4,503,304	27,326	6'07	

TABLE V.

STATEMENT showing the numbers of lunatics (including imbeciles) admitted to the London County Asylums and the Metropolitan Asylums Board's imbecile asylums during the two years 1910 and 1911, chargeable to the various parishes and unions in the County, with the ratio per thousand to the population of the respective parishes at the census of 1911.

Position on list.

Direct admissions	Total lunatics 1st Jan., 1912.	Parish or Union	Population April, 1911.	Direct admissions, 1910 and 1911. County M.A.B.			Ratio per 1,000 of population. County	
				Asy.	Asy.	Total.	Asy.	Total.
1	12	Bethnal Green	128,282	103	22	125	'80	'97
2	2	Lewisham	174,296	181	19	200	1'04	1'15
3	1	Hampstead	85,510	86	17	103	1'01	1'20
4	10	St. George's Union, W.	117,968	125	28	153	1'06	1'29
5	5	Paddington	142,576	175	18	193	1'23	1'35
6	9	Greenwich	185,688	240	22	262	1'29	1'41
7	19	St. Marylebone	118,221	163	13	176	1'38	1'49
8	4	Fulham	153,325	221	12	233	1'44	1'52
9	8	Woolwich	127,737	171	25	196	1'34	1'53
10	18	St. George-in-the-East	47,101	52	20	72	1'10	1'53
11	7	Islington	327,423	388	116	504	1'18	1'54
12	3	Wandsworth	479,195	635	108	743	1'32	1'55
13	23	Shoreditch	111,463	155	23	178	1'39	1'60
14	6	Hammersmith	121,603	177	25	202	1'46	1'66
15	26	Holborn	112,247	160	26	186	1'42	1'66
16	14	Kensington	172,402	257	33	290	1'49	1'68
17	11	Camberwell	261,357	345	98	443	1'32	1'69
Mean ratio ...			—	—	—	—	1'40	1'73
18	22	Bermondsey	125,960	168	52	220	1'33	1'75
19	20	Chelsea	66,404	100	16	116	1'51	1'75
20	17	Mile End Old Town...	111,375	158	51	209	1'42	1'88
21	13	Hackney	273,270	450	77	527	1'65	1'93
22	21	Stepney	53,798	73	31	104	1'36	1'93
23	15	Lambeth	298,126	423	166	589	1'42	1'98
24	25	Southwark	191,951	327	94	421	1'70	2'19
25	27	Whitechapel	67,750	114	36	150	1'68	2'21
26	16	Poplar	162,449	248	124	372	1'53	2'29
27	24	St. Pancras	218,453	382	166	548	1'75	2'51
28	28	Westminster	25,451	63	2	65	2'48	2'55
29	29	Bloomsbury	25,065	75	28	103	2'99	4'11
30	30	Strand	16,858	73	14	87	4'33	5'16
Totals ...			4,503,304	6,288	1,482	7,770	1'40	1'73

example of a parish in which a large proportion of the population consists of poor but respectable artisans in continuous employment; both its chargeable pauper lunacy and its admission rate stand low as compared with Poplar, Lambeth, and St. Pancras.

CAUSES OF INSANITY.

A person is registered as insane when he is of unsound mind and incapable of taking care of himself or dangerous to himself and others. Now unsoundness of mind may own many causes in varied combinations; practically speaking, they may be divided into inborn tendencies or predispositions and acquired causes the result of environment—in other words, Nature and Nurture: what an individual was born with and what has happened to him since birth. Registered insanity includes not only disordered functions of mind—psychoses and dementia (loss of mind), but all those cases of imperfect development or arrest of development, *viz.*, imbecility and idiocy, due to (1) an inborn, *germinal*, *gametic* and therefore hereditary failure of the higher structures of the organ of mind to develop; (2) acquired, which includes also all those cases due to arrest of growth of the brain from such causes as maternal injuries or disease affecting the developing embryo, therefore *congenital*; also those cases of arrest of development of the brain due to injury of the child from prolonged or difficult labour, as well as cases of arrest of mental development from injury or disease of the brain in early life. From a racial and eugenic point of view the first-named are by far the most important because the defect is germinal and therefore transmissible to the offspring. The lowest grade imbeciles and idiots are often sterile, whereas the higher grade imbeciles as a rule are prolific. Now the crux of segregation of feeble-minded imbeciles, who are not at present registered, is the determination of their fitness for social privileges, and it has to be borne in mind that one important reason why such persons should be segregated is to prevent racial degeneration and racial suicide. It is obvious therefore that the first thing necessary in deciding whether an individual should be allowed social privileges is to determine whether his feeble-mindedness is due to a *germinal defect* or not, and if it is, what is the probability of its being transmitted to offspring. If the clinical evidence is in favour of germinal weak-mindedness and therefore heritable, it is necessary to find out whence came the germinal deficiency. What we want to know is, Did the patient come from good stocks or bad stocks? In a large

family one child may be feeble-minded and all the rest sound, perhaps some may possess brilliant mental characters. We may not be able to ascertain any reason for this child being defective. By the laws of heredity, especially Galton's law of ancestral inheritance, a feeble-minded or insane individual coming from sound stocks of civic worth, is much more likely to breed mentally sound children than a feeble-minded or insane individual of a bad stock in which are found a large number of members exhibiting various forms of degeneracy, *e.g.*, insanity, feeble-mindedness, alcoholism, epilepsy, criminality, pauperism, in fact a general low standard, mental and physical, in stem and branches of the family tree. Vide Figs. 8 and 5.

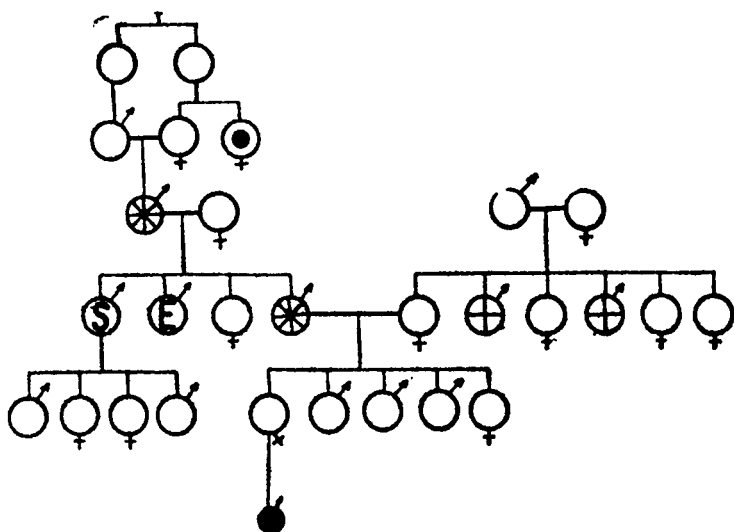


FIGURE 8.

A pedigree illustrating the marriage of first cousins. A genius was the result; he married a healthy woman, and their family consisted of an eldest son, a suicide; a second son, an epileptic; a daughter, healthy, unmarried; and a son, a genius. This man was a genius, but had an extremely well-balanced mind; all his five children are healthy in spite of collateral inheritance on both sides.

Circles with black centre, Physically unsound. Circles in quadrants, Alcoholism. Circles in octants, Genius.

Mental deficiency, whether the defect be germinal or acquired, and due to disease or injury of the developing embryo or child, occurs in all classes of society from the highest to the lowest. But inasmuch as "like tends to beget like" and mental energy and sagacity are all important in the economic struggle for existence,

it follows that the tendency to germinal mental deficiency is most prevalent in the lowest grades of the social scale. Likewise, in respect to mental deficiency due to acquired disease or injury of the developing embryo, the same causes occur in all grades of society; thus as regards congenital syphilis, which is responsible for so much physical and mental deficiency, the lower we sink in the social scale in our investigations, the more are its terrible effects apparent; this is not wholly due to a greater incidence of acquired syphilis in the poor, but to the fact that the disease is more efficiently diagnosed and treated in the better classes. I believe that syphilis is much more prevalent among idle rich men than among the industrious poor. The lower we descend in the social scale, the more however do we find the effects of syphilis among females; and general paralysis of the insane, the essential cause of which is syphilis, becomes more and more common among females; indeed, general paralysis may be regarded as an index of the incidence of acquired syphilis in the population and probably also to some degree a measure of opportunity and efficiency of treatment. Again, the influence of drink, tuberculosis, imperfect nutrition of the mother, upon the developing embryo must play a part in embryonic development of the child. Still the brain in its development is marvellously protected and can call upon all the other tissues of the body to deprive themselves of nutrition, in order that it may grow and develop those innate characters so essential for the preservation of the individual and the species. In fact the brain and the reproductive organs are the master tissues and all others are subservient; thus they are specially protected against malnutrition and from permanent effects of poisonous conditions of the blood unless acted upon for long periods of time.

If insanity is on the increase we should ascertain what are the causes and how they can be prevented. The eugenist would say that it is mainly a question of inheritance and the problem we have to deal with is one of positive and negative eugenics, viz., to promote an increased birth rate of the mentally fit and cut off the lines of inheritance of the mentally unfit. Now an increase of registered insanity would certainly in time tend to diminish the ratio of insane to sane members of the population, because if they are segregated for longer or shorter periods of time, they are in varying degrees prevented from breeding their like.

Facts seem to show that Nature itself is always trying to end or mend a degenerate stock by a signal tendency to the occurrence

of anticipation in successive generations. I have shown this by a study of relatives in the London County Asylums both statistically exhibited by the following figures, curves, and pedigrees.

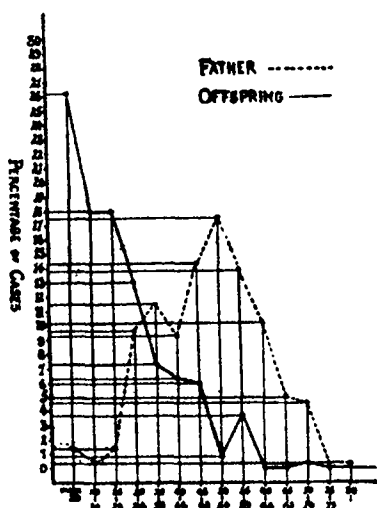


FIGURE 9.

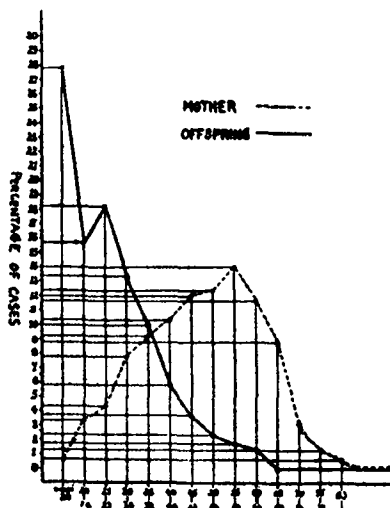


FIGURE 10.

The above figures showing the percentage of cases whose first attack occurred within the given age periods have been compiled from an investigation of the age at the time of first attack in 508 pairs of parent and offspring, from the records of 464 insane parents of 500 insane offspring. The curves clearly show the signal tendency to the occurrence of most of the insanity in the offspring of insane parents at a much earlier age than in the parent, the majority of them being affected before or during the period of adolescence; that is to say, antedating or anticipation is the rule. Nearly 50 per cent. of the insane offspring had their first attack at or before the age of 25, and nearly one-third of these were imbeciles.

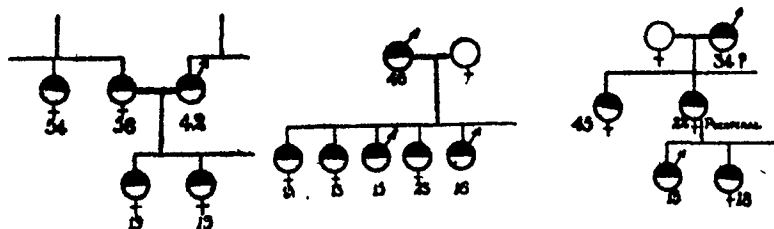


FIGURE 11.

Three pedigrees to illustrate "antedating"; the onset of insanity in the offspring is shown to occur at a much earlier age than in the parents. These pedigrees also illustrate extreme cases of hereditary transmission of the neuropathic taint; as a rule not more than one insane offspring of an insane parent occurs in four or five. The occurrence of insanity in all the children is probably due to the fact that there is a double insane inheritance in all these instances, although it is only shown in one completely, and one partially.

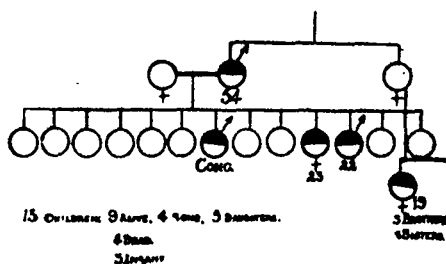


FIGURE 12.

A. B.—, an alien Jew, aged 54 years, was admitted to an asylum for the first time suffering with involutional melancholia; he has a sister who has not been in an asylum, but, as events turned out, bore the latent seeds of insanity. The man is married to a healthy woman who bore him a large family; the first five are quite healthy, then comes a congenital imbecile epileptic (cong.), then two healthy children, followed by a daughter who becomes insane at twenty-three, then a son insane at twenty-two, and lastly, two children who are up to the present free from any taint. The sister of A. B.— is married, and has a family of ten, seven girls and three boys; one of the females was admitted to the asylum at the age of nineteen, and since this pedigree was constructed a brother of hers has been admitted, aged twenty-four. Half-black circles are insane. This pedigree is instructive; it shows direct and collateral heredity; it also shows remarkably well the signal tendency to the occurrence of insanity at an early age in the children of an insane and potentially insane parent.

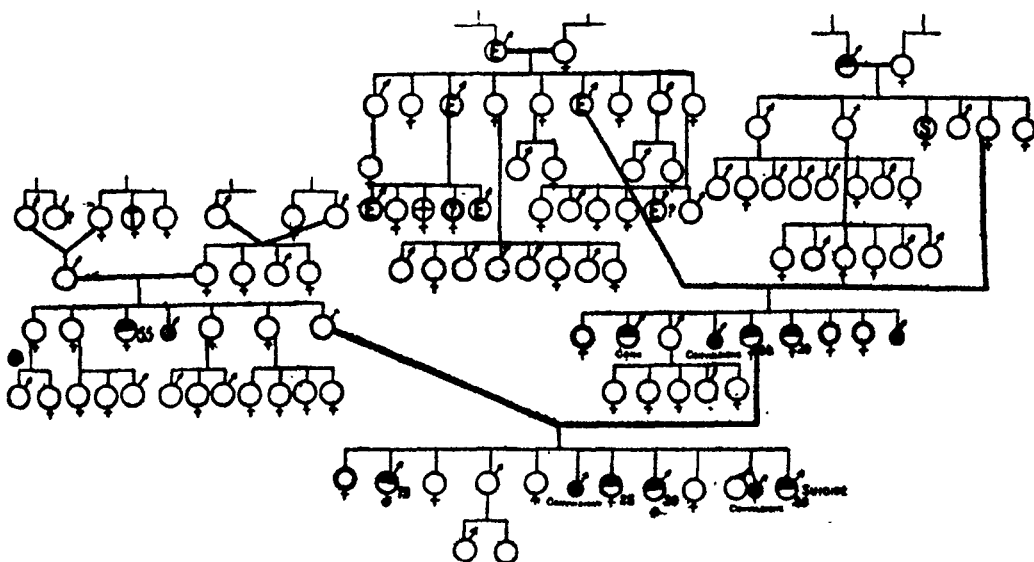


FIGURE 13.

This is a very comprehensive and interesting pedigree obtained for me by Dr. Wilson White, showing the result of marriage of a nearly sound stock in which the temperament was, generally speaking, of the sanguine type; there was only one member insane at fifty-five; she was unmarried;

her four sisters, who were all married, had some healthy grown-up children. The brother himself, perfectly sane and healthy, married a woman descended from stocks in one of which there were many members suffering with epilepsy (E); indeed, her father and her grandfather suffered with it. On the maternal side there was suicide (S) of an aunt and insanity of a grandfather; most of the members of this stock were of a melancholy, brooding temperament. The result of the mating of these two neuropathic stocks is shown. There were nine children, of which three, marked with deep black-rimmed circles, suffered from some form of neurosis, a male congenital imbecile, a healthy male who has five healthy children, a child who died in early life of convulsions, the patient's mother who became insane at the age of forty, a female who became insane at the age of twenty; two females also suffered with some form of neurosis; lastly, a male who died in early infancy. The next generation shows the result of mating this unsound stock with an almost healthy sound stock. There are not as many unsound members as in the last generation, and we observe that the four members that became insane at nineteen, twenty-five, thirty and twenty all had their first attack at a much earlier age than their mother; one of these committed suicide and two were found dead. This pedigree illustrates well the signal tendency to the occurrence of antedating. The sound members of the stock apparently inherited their temperament from the father's side, and the one member that is married has quite healthy children; this looks as if the unsound elements of this degenerate stock had been cleared out by segregation of the unsound germinal determinants, causing intensification of the disease and occurrence of the onset at an early age, thus preventing propagation.

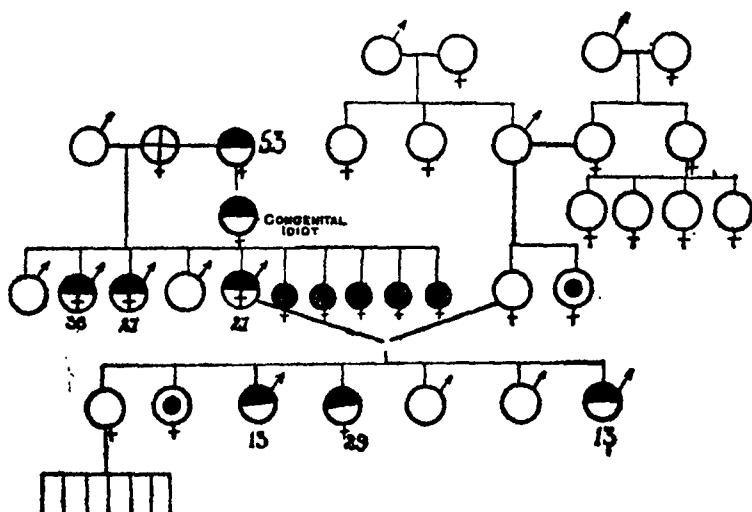


FIGURE 14.

A family of drunken and insane people. The figures with half-black circles are insane; the same with the cross indicates drink and insanity; the circles with only a cross indicate excessive drinking. The two stocks show a marked difference; one side the maternal is practically free from any taint; almost every member of the paternal stock is unsound. The degeneracy commenced with a drunken woman whose sister died,

aged 53 years, in Colney Hatch Asylum, where she had been twenty years; she had a congenital imbecile daughter in Leavesden. The result of mating a sound individual with a drunken woman with insane predisposition is shown in the members of the family born; a son healthy, then two alcoholic sons who were insane at the ages of thirty-six and twenty-seven, then a healthy son, then another alcoholic son, who also was insane at twenty-seven, finally, five daughters who died in early life, probably through the neglect of a drunken mother, indicated by small, shaded, circular figures. One member of this drunken and insane family married into a healthy sound stock. Seven children were the fruit of this marriage; of these, two sons and a daughter were normal, and three were insane, two of them having become insane at the age of thirteen. The clear circle with a black centre indicates bodily disease. I used to give this pedigree as an instance of drink causing insanity, but after the establishment of the card system of relatives I found the notes of the sister of the drunken grandmother; she was an inmate of Colney Hatch for twenty years. It sometimes happens that the one is taken and the other left, and it would have been a benefit to society if the drunken progenitor of this degenerate stock had been taken.

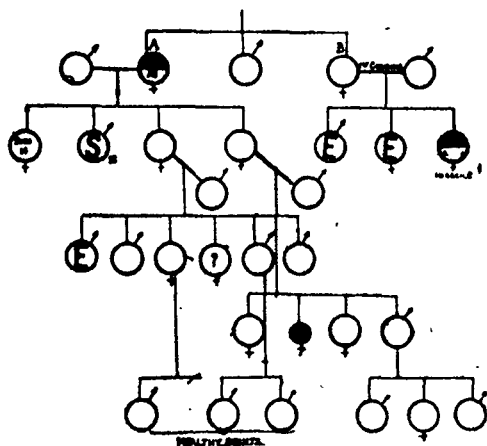


FIGURE 15.

This pedigree shows the result of marriage of first cousins, in both of whom there was a latent neuropathic taint. The family consisted of three individuals, two sisters A and B, and an elder brother, who was married but had no family. B married a first cousin, and although neither of them were insane nor epileptic, yet they had two children epileptic and one a congenital imbecile; this terminated the stock on that side. That there was latent insanity was shown by the result of the marriage and the fact that a sister became insane. A, however, married into a healthy virile stock; she became insane at thirty-eight. Although living many years after she never recovered; the exciting cause was the death of a son by suicide (S) at eighteen. There were two daughters who became mothers of families; the eldest son of one suffered with a masked epilepsy, but no other evidence of neuropathy was shown in this generation. The taint seems to have disappeared, inasmuch as there are healthy, grown-up members of the fourth generation.

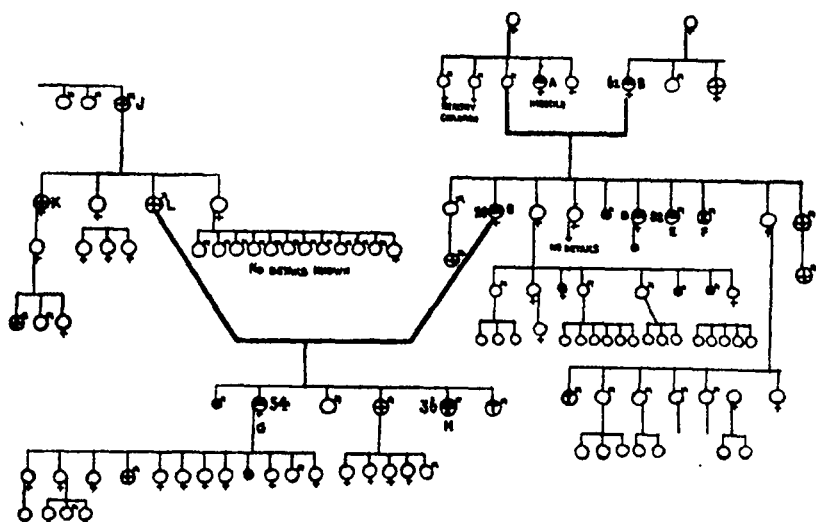


FIGURE 16.

Pedigree showing the apparent elimination of the unsound elements in a stock with dual insane inheritance.

- A. An imbecile but was never put away.
- B. Became insane at the age of 62. Melancholia. In Colney Hatch Asylum for nine months, but eventually died in Caterham Asylum.
- C. Became insane at the age of 24 (St. Luke's Asylum) after the birth of her first child which died in infancy. She was discharged after five months. Her next attack occurred at the age of 38 (when suckling her last child) when she was in Hanwell for twenty months with acute mania. At the age of 43 she was admitted to Colney Hatch and died there seventeen months later.
- D. Very peculiar and eccentric but was never put away. She married twice and by her first husband had one child which died in infancy from convulsions, by her second husband no children. She died between 40 and 50 years. Described by her relatives as insane.
- E. Became insane at the age of 52, acute mania, and died after three days' residence in Hanwell. Had been in feeble health for years and had suffered from lead colic on two occasions.
- F. Epileptic fits from infancy. Admitted to Hanwell Asylum at the age of 28. After seventeen years' residence was transferred to Glamorgan County Asylum.
- G. Became insane at the climacteric period. Admitted to Cane Hill, aged 54 years. Chronic mania. Teetotaler. Her children and grandchildren, with the exception of one son aged 26 who "drinks and bets" are not affected.
- H. Has had delirium tremens. Married an alcoholic now in Islington Infirmary. No children. First certified at the age of 36 and has been in and out of asylums ever since. Has been in Claybury Asylum five times, and other asylums besides. In features he is supposed to resemble his paternal grandfather, but in versatility and humour apparently resembles his maternal grandfather who was a famous clown.
- J—K—L are reported to be alcoholic, but in spite of this they all lived to good ages. J. died at the age of 78; K. is still living, over 70 years of age; and L. died at the age of 74. Longevity is a characteristic of this stock.

If it be true, then, that Nature is always tending to eliminate degenerate stocks, there must be causes at work both by unsuitable mating and environmental conditions which either tend to revive a latent neuropathic tendency of the stocks or to develop by the cumulative effects of an unfavourable environment the first stage of nervous degeneracy in previously healthy stocks. Morel held that irritable nervous weakness may serve as the starting-point of degeneracy of a stock; according to him it is the source of origin of the neuropathic taint, and I now take the opportunity of saying that the term neuropathic is the expressive word to denote a morbid inheritance in a stock which may manifest itself in different members in different forms. Some members of the stock may be

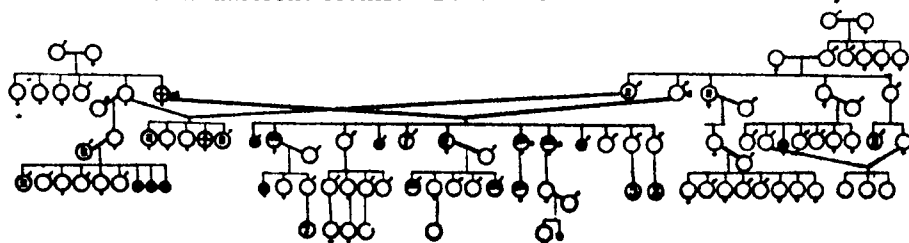


FIGURE 17.

This pedigree is of interest in showing the marriage of two brothers with two sisters. In the first instance the male suffered with heart affection, which was transmitted to the offspring. In the second case the female suffered from cirrhosis of the liver and paraplegia, and was probably alcoholic and syphilitic. The result was three insane and one epileptic offspring. From the first insane daughter the issue was apparently unaffected; but from the next daughter, who had masked epilepsy, of five children born, two were insane. The next two insane daughters each gave birth to an illegitimate child by the same father: one of these children became insane at adolescence, whereas the other has married and has an apparently healthy child. H denotes heart affection. *Half-black circles*, insanity.

eccentric, or of narrow-minded religious beliefs, or visionaries, or suspicious, brooding and melancholic, or unduly mean, selfish and avaricious, or of ungovernable temper and not therefore actually suffering with a disease, but temperamentally abnormal; others may suffer with such nervous diseases as epilepsy in its slight and graver forms, migraine, hysteria, hypochondriasis, neurasthenia, neuralgias, Graves's disease and diabetes. In others the neuropathic tendency may be revealed by alternating depression and optimism or by an inborn lack of moral sense and feeble will-power. The neuropathic inheritance may show itself in criminality and

suicide or the various forms of insanity. Both history and the study of biographies and pedigrees show that insanity and genius are often found in members of the same stock, and even some of the greatest men who have lived have suffered either with epilepsy or insanity. A neuropathic tendency may then suggest a germinal variation, a mutation or departure from the normal average "the honourable ordinary." What has brought it about? Occasionally the commingling of two germ-plasms may bring into association all the qualities necessary for a great genius, as in Goethe's case, told in his own words:—

" Von Vater hab ich die Statur,
Des Lebens ernstes Führen,
Vom Mutterchen die Frohnatur
Und Lust zu fabulieren."

Which, freely translated, means that he derived his energy and physique from his father and his poetic imagination and joyful temperament from his mother.

Again, two germ-plasms which have been long subjected to poisoned conditions of the blood may undergo a pathological mutation affecting only the functions of that most complex and delicate of all organs—the brain. The poisons may be introduced into the body from without for long periods of time as in the case of chronic alcoholism. The poison may be engendered in the body as the result of the growth of parasitic organisms, *e.g.*, syphilis and tuberculosis; or it may be a result of disorder of the functions of one or more of the glands whose internal secretions are essential for vital activities; or glands like the liver and kidneys which are essential for ridding the body of waste products may fail in the performance of their functions. The blood stream no longer under such conditions maintains its normal relation to the organs of the body; a vicious circle tends to occur in which even the specially protected structures may suffer. The brain itself may immediately or quite early feel the influence of the change in the blood, and the unpleasant symptoms aroused may thus be a protective warning to the intelligent mind, and efforts will be made to avoid the danger if the sensibilities are not blunted by habit and tolerance.

Admit that irritable nervous weakness—neurasthenia—may be the starting-point of an unstable nervous condition in a stock which in successive generations may intensify under a continuance of an unfavourable environment; and admit, as we must, that this unstable nervous condition is a special outcome of modern

civilization and does not exist in a primitive people living a simple mode of existence; then as fast as Nature eliminates unsound elements by ending or mending degenerate stocks, social conditions tending to neurasthenia, or nervous weakness as the term implies, may be produced by a vast number of combinations owning a social cause related to unphysiological modes of existence causing bodily and mental stress. Among the most important are prolonged poisoning of the body including the specially protected structures, the brain and the germ cells, by indulgence in excess of alcohol, syphilis, tubercle, lead, and the drug habits; the nervous exhaustion caused by the poisons of infectious diseases, fever and bodily diseases and the anxiety and mental pain associated therewith. The nervous exhaustion resulting from sexual excesses of all kinds, and from the mental pains arising from the ungratified natural desires of the sexual passion, from the stress of city and town life with its feverish pursuit of gain and pleasure, from competition whether in examination, occupation or business, from the constantly increasing departure from physiological modes of life. The existence of more refined physical and mental enjoyments bringing with them desires and emotions previously hardly known or realised; marriage without parentage and restriction of the birth of offspring, starving the maternal instinct in which is rooted the highest altruistic feelings, developing the neurotic self-regarding temperament which so frequently precedes hysteria and insanity. Then prolonged emotional stress, *e.g.*, grief, especially the grief that "does not speak but whispers the o'er fraught heart to break"—and hatred which rankles in the breast; sudden emotional shocks, *e.g.*, disappointment in love, loss of a dear one, and, too often among the poor, death of the bread-winner and breaking up of the home, are the exciting causes of a mental breakdown. All these depressing conditions acting on the mind produce an injurious reaction in the body, causing sleeplessness, loss of appetite, and failure of the digestive and assimilative processes. Restoration of nerve potential and the nutrition of the whole body may thus become impaired, and a vicious circle produced which by continuous expansion tends to disturb more and more the biochemical equilibrium of the body functions leading to the generation of chemical poisons in the body or to failure of the excretory organs to eliminate poisons which should be cast out of the body. This auto-intoxication reacts upon the sensitive and exhausted brain, causing further mental depression (*melancholia*) or by paralysing highest control to uncontrollable agitation and

excitement (mania). It is obvious therefore that sociological conditions play an important part in the production of insanity; moreover, it shows that certain occupations or no occupation, may predispose to insanity. Nevertheless, nothing to my mind proves the influence of the inborn predisposition more conclusively than the fact that there are individuals born of stocks mentally and physically sound in whom no acquired conditions, *e.g.*, disease, drink, poisons, engendered within the body or taken from without, head injuries, emotional shock, distress, and even profound misery and destitution combined, can render insane. There are others, and these are in most cases derived from a neuropathic stock whose mental equilibrium may be disturbed by any one of these conditions or even without any apparent cause except the physiological conditions appertaining to the functions of the sexual glands at puberty and during adolescence, the puerperium, lactation, and the climacteric period in women. Between these two extremes are all gradations of mentality, from the congenital imbecile, the epileptic, and the insane adolescent dement at one end of the scale, to the potential sound mind and body, that no combination of acquired conditions can render permanently insane.

PRACTICAL PROBLEMS.

A great step forward has been made by the discovery of the micro-organism of syphilis; it is now widely recognised that this is the essential cause of the most terrible form of mental disease—general paralysis of the insane. It is possible that early and more efficient treatment by new remedies, together with a blood test, recently introduced, may have a pronounced effect in reducing the numbers of this form of insanity. In the preface to the third volume of the *Archives of Neurology* issued from the Pathological Laboratory of the London County Asylums in 1907, after calling attention to the importance of the study of the causes of insanity before we can hope to treat it, I made the following quotation from an American writer on Psychiatry:—

“Fortunate would be the community in which there was a fully equipped and well-organised psychiatric clinic under the control of a university and dedicated to the solution of such problems. The mere existence of such an institution would indicate that people were as much interested in endeavouring to increase the public sanity as they are in the results of exploration in the uttermost parts of the earth, or in the discovery of a new star.”

Shortly after this was published, Dr. Henry Maudsley, a man whose experience and philosophical works on Mind and its Pathology have long entitled him to the foremost place among British alienist-physicians, called upon me and made the offer to give the London County Council £30,000 if they would build a hospital for acute mental diseases with a pathological department for scientific research. There were many difficulties, and at last after four years have lapsed the site has been found and the plans have passed the Commissioners.

In Volume IV of the *Archives*, Dr. Maudsley wrote for me a paper entitled "A mental hospital, its aims and uses." Nothing that I could say can add to the arguments he uses nor so infallibly demonstrate the genuineness of the conviction of this great man, of the necessity of such a hospital as the fact that he was willing during his life to give a large part of his fortune for the purpose. I only hope and trust that he may live to see it, not only built, but in active operation.

The general public should recognise, as they have done in America, the great importance of the study of insanity in its earliest and most curable stage, and the necessity of focussing scientific inquiry and research on mental disease if the physician is no longer to remain satisfied that he cannot minister to a mind diseased. But he can best learn to minister to a mind diseased and to prevent insanity by a study of each case as a biological and sociological problem, in which a neuropathic inheritance combined with disordered functions of the body, due to poisons engendered within or introduced from without, conspire together in varied degrees to derange the mind.

F. W. MOTT.