ATTEMPTED SUICIDE: AN INVESTIGATION.

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PROVISION for the observation of cases of mental disturbance occurring in the administrative and the user area of the Liverpool Corporation is made in one of the city institutions, Smithdown Road Hospital. In this large general hospital are located two special divisions, containing 180 beds, one for female and one for male patients, and to the wards of these divisions are receivable all cases of attempted suicide occurring in Liverpool.

It is probable that the great majority of such cases occurring in the area reach this hospital. Severe and urgent cases may be admitted to the nearest hospital, but a large proportion of these, if they survive, are transferred when able to be moved. No doubt a number of cases, especially those of mild degree or of persons of ample means, never reach hospital. These special divisions, however, do receive all types and degrees, and the total can be taken as representative of this problem in Liverpool. The area is an urban one, a great seaport, and the population includes many alien nationalities.

The great majority of the patients are committed to hospital on Orders for Temporary Detention (Section 20), completed by police or receiving officers, a small proportion on the certificates of outside doctors, in other hospitals or in practice. In these latter cases action as to detention is taken by the medical superintendent under Section 24 of the Lunacy Act, where he considers such action is necessary.

The concentration of all such cases from a limited but heavily populated area provides an excellent opportunity for the study of attempted suicide. The material and social conditions are known or easily investigated, and relatives, friends, relieving officers, police and probation officers are usually available to provide information.

It was therefore decided to make an investigation into the condition, history and circumstances of the patients who had been admitted to this hospital on account of having attempted suicide, the object being to discover the factors which had led to such action. Such an inquiry obviously entails a great deal of work in the detailed investigation of each patient, the

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interviewing of relatives, friends and other informants. It was decided to limit the number to 100 cases, taking 50 consecutive admissions of each sex. Information would be required as to each patient's social and economic state, the personal history (including health and occupational history), family history, the circumstances leading up to the attempt, the ascertainment of stresses, the mental and physical state, the method and severity of the attempt, the history of any previous attempts, the attitude of the patient on initial recovery, the treatment, result and disposal of the patient. No effort is made to consider the legal aspects of the problem, nor its psychological mechanisms; nor could any reliable estimate of the incidence of attempted suicide be made.

In such a small number of cases certain factual details would have little significance, and it was known that the hospital records contained some information regarding all such admissions over a number of years. It was possible to obtain in each case the age of the patient, the date of the attempt, the method employed, and the disposal of the patient. It was therefore decided to obtain these data in respect of all cases of attempted suicide admitted to the hospital during the four years 1932 to 1935.

The interest and value of this information would be enhanced by comparison with similar data regarding actual suicide in the Liverpool area. Dr. G. Cecil Mort, Barrister-at-Law, H.M. Coroner for the City of Liverpool, kindly consented to supply this information concerning the suicides dealt with at the Liverpool City Coroner's Court during the four years 1932 to 1935. I am indebted to him and his clerical assistants for this time-consuming task, so generously and voluntarily undertaken.

As will be seen in Table I, the total number of cases of attempted suicide admitted to the hospital during the four years was 656, and the total number of suicides dealt with at the Liverpool City Coroner's Court during the same period was 399.

The numbers of attempted suicides given here cannot be taken as the total incidence for Liverpool, nor do they show the numerical relation of

Table I.

Year.	Number of cases of attempted suicide admitted to Smithdown Road Hospital.		Number of suicides dealt with at the Liverpool City Coroner's Court.	
	Males.	Females.	Males.	Females.
1932	99	75	81	25
1933	85	68	78	34
1934	96	73	66	32
1935	78	82	64	19
Totals	358	298	289	110

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attempted to actual suicide, because the area served by the hospital differs, to some extent, from that of the City Coroner's Court. But the social conditions are closely approximate. It will be noted that in attempted suicide the ratio of female to male cases is 5 to 6, whereas in suicide it is less than 2 to 5. (*N.B.*—This ratio for attempted suicide is probably as near as can be ascertained in comparing the two sexes.) The Registrar-General's Review for England and Wales (1) shows for suicide a fairly constant similar relation of the sexes for many years, there being more than twice as many males as females, although the totals had risen from 3,740 in 1924 to 4,550 in 1934.

Age-Incidence.

Table II.

	Age.												
	< 15.	15–19.	20–24.	25–29.	30–34.	35–39.	40–44.	45–49.	50–54.	55–59.	60–64.	65–69.	70+.
Attempted suicide:													
Females . .	2	27	52	35	31	25	31	24	22	18	13	9	9
Males . .	0	11	32	47	43	31	34	41	35	24	27	16	17
Suicide:													
Females . .	1	3	5	8	9	11	10	15	11	17	11	5	4
Males . .	1	7	19	13	15	19	25	31	35	42	33	25	24

In women the incidence of attempted suicide is at its highest in the quinquennium 20–24, namely 52 cases, followed by 35 cases for the ages 25–29. After 45 there is a steady decline, with no special increase for the climacteric period.

In men there is a more even distribution at the various age-periods, the maximum occurring during the decennium 25–34, as was also observed by East (2) in 1,000 male cases. The decline in incidence begins after 49.

The figures for each sex show a close similarity to those found by Lendrum (4) in analysing 1,000 cases of attempted suicide between 1927 and 1930.

In the Liverpool figures for suicide the number of female cases is small, but shows a steady rise to middle life, and with the males we find a similar distribution, both sexes showing a maximum at the 55–59 period.

In the figures for suicide in England and Wales in 1933 and 1934 (1) the maximum incidence in males in both years is at the 55–64 decennium, and in females at 45–54. And whereas from the ages of 20–44 the proportion of males to females is less than 2 to 1, at 55–64 in each year it is more than 3 to 1.

There is no doubt that, as was observed by Morselli (3), the tendency to

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suicide occurs at an earlier age in women than in men. This observation applies also to attempted suicide, which furthermore appears to be more prevalent at earlier ages than is the case with suicide.

The frequency of attempted suicide in females under the age of thirty is probably due to the frequency of amatory disturbance in unmarried girls and the disappointments and quarrels of early married life. When we compare these figures with the small incidence of actual suicide during the same period, doubt is cast on the authenticity of these attempts.

Monthly Incidence.

Table III.

	Month.											
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Attempted suicide :												
Females . .	20	14	23	27	16	42	34	24	29	20	24	25
Males . .	24	26	19	34	26	34	36	43	35	23	25	33
Suicide :												
Females . .	8	11	9	4	11	11	6	10	4	10	12	13
Males . .	14	26	23	29	29	27	31	23	23	23	19	22

The maximum monthly incidence of attempted suicide in males was in August (43) and in females in June (42). For the six months April to September in the four years there were 172 female and 208 male cases, whereas for the six months October to March there were 126 female and 150 male cases.

It is a generally accepted fact, shown by official statistics, that, in the Northern Hemisphere, suicide is more prevalent during the warmer months of the year. This would appear to be true also for attempted suicide.

In the figures for suicide given here, males show a preponderance during the spring and summer months, but the reverse is seen in the female cases. Here, however, the numbers are small.

Various theories have been propounded to explain the seasonal incidence of suicide, but none that has received general acceptance. The suggestion is here offered, that whereas in the colder months of the year the members of a community live in close contact, in the longer and warmer days they tend to scatter, and the patient may feel more acutely his difficulties and his isolation.

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Methods Employed.

Table IV.

Method.	Attempted suicide.				Suicide.			
	Males.		Females.		Males.		Females.	
	No.	%.	No.	%.	No.	%.	No.	%.
Coal-gas poisoning	123	34·3	110	36·9	135	46·7	76	69·1
Cut throat . .	75	20·9	20	6·7	30	10·4	2	1·8
Liquid and corrosive poisons	68	18·9	106	35·6	34	11·7	20	18·2
Sedative poisons .	6	1·7	13	4·4	4	1·4	1	·9
Immersion . .	26	7·3	25	8·4	14	4·8	2	1·8
Cut wrists, stabbing, etc.	10	2·8	4	1·3	1	·3	none	..
Strangulation, hanging	19	5·3	13	4·4	45	15·8	5	4·5
Jumping from heights or in front of vehicles	19	5·3	7	2·3	22	7·6	4	3·6
Gunshot . .	2	·6	none	..	4	1·4	none	..
Miscellaneous .	10	2·8	..	..	..	..	..	..

In the Coroner's statistics a number of cases of death from immersion were not included because there had been no evidence to show how they came to be in the water. No doubt a proportion of these were cases of suicide.

In suicide the sedative poisons used were morphine, nicotine and veronal; in attempted suicide, aspirin (11), dial (3), luminal (2), veronal, atropine and chlorodyne.

Taking both sexes together it will be seen that in these four years the commonest method of attempted suicide is by coal-gas poisoning

It will be noted, however, that while attempts in both sexes by coal gas are approximately equal, in cut throats men exceed women by nearly 3 to 1. In women, attempts by both corrosive and sedative poisons are twice as common as with men. Immersion is approximately equal in both sexes, but in the other methods men exceed women to some extent, although it is noted that here the numbers are small.

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The records show a fairly constant yearly incidence for each method. For instance, the number of gas-poisoning cases in men for each of the four years was 24, 30, 26, 30, and in women, 33, 36, 25, 29. For cut throats in men, 23, 15, 20, 17, and in women, 7, 5, 4, 4. And so on for the other methods.

Some relation of the method used to the age of the individual was also noted. Gassing occurs mostly in persons below the age of 35, attempts by liquid and corrosive poisons a little later, and cut throats in the latter half of life. The last method accounted for most of the attempts made by elderly men.

Attempts by immersion occurred principally during the warmer months of the year, but otherwise the method of election had no special seasonal incidence.

The varieties of corrosive poisons used were numerous, and a precise statement of their nature was often difficult to obtain. In male cases liniments of various kinds were the most frequent (12 cases), followed by lysol (7), oxalic acid (6), iodine (6), salts of lemon (4), sulphuric acid, carbolic acid, rat poison, ammonia (each 3), and various disinfectants, lotions, acids, etc.

The attempts were mostly by some single method, occasionally more than one was used. As a rule one of these attempts predominated, the other being tentative or slight, and here only the major attempt is cited.

It is interesting to compare here the prevalence of the various methods in these years with those found by Norwood East (5) among male cases in Brixton Prison during the years 1907 to 1910. In his series of 1,000 cases there were only 2% by coal-gas poisoning, but 32% by other poisons (including 9·3% by oxalic acid) and 19·3% by drowning. Cut throats in that series totalled approximately 27%. These facts show the change that has taken place in the choice of means of self-destruction, although it must be noted that the cases were a selected group in that they included only male suicidals concerning whom police action had been taken.

The reason for the disparity in the methods of the two sexes is not far to seek. It may reasonably be expected that an individual will use the means with which he or she is most familiar and which is near at hand. The razor is predominantly a male instrument; the woman in the home has charge of disinfectants, cleaning materials, and medicines as a rule. It may generally be said that the male will more readily use violent methods. There are other factors concerned with the mental state which have a bearing on this point and will be discussed later.

When we consider the methods that have been used in actual suicide, we find in the Liverpool figures considerable disparity in comparison with those used in attempted suicide. Here, however, coal-gas poisoning is by far the most common method, in females accounting for nearly 70% of all suicides. In other types of poisoning, and in cut throat, the incidence for suicide is only about half that of attempted suicide. Hanging and strangulation was more frequent in suicide than in attempted suicide.

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The figures for the country as a whole (1) show that coal-gas poisoning is the commonest method with both sexes, and a remarkable rise in its incidence during the past few years. In 1924 there were 585 deaths from this cause, and in 1925, 762, while in 1933 there were 1,732, and in 1934, 1,864. Similarly, suicides from other poisons rose from 413 and 466 in 1924 and 1925 to 816 and 749 in 1933 and 1934. There has been some increase in suicide by jumping from heights and in front of vehicles, but those by drowning, hanging, cutting and piercing instruments and gunshot show no material change.

Suicidal attempts by cut throat and by corrosive poisons account for about 40% of the total in each sex. In suicide these methods are responsible for only 20%. The reason for this difference would appear to be mainly due to the fact that both these methods are uncertain and liable to miscalculation. Coal-gas poisoning, on the other hand, if the attempt is determined and no interference occurs, can easily be made certain.

Disposal of Patients.

Table V.

	Males.	Females.	Total.
To friends	183	193	376
To police	66	37	103
To mental hospitals	43 (12%)	27 (9%)	70 (10·7% approx.)
To other wards, hospitals or institutions	40	28	68
Died	26	13	39

Some clarification of the terms used here is necessary. When a patient is discharged from hospital it is necessary that he should have a home to go to, and relatives or friends who will accept some responsibility for his care. Discharge to friends does not necessarily mean that the patient has gained complete normality, but that the mental and/or physical state is such that retention in hospital is no longer considered essential. A certain proportion of cases are taken out of hospital against medical advice (provided no police action is contemplated), the friends assuming all responsibility.

Not infrequently it happens that the patient has no friends or relatives, or that these refuse to accept him. Such cases as a rule are transferred to an appropriate institution. Other cases, requiring further treatment for medical or surgical conditions, are transferred to general wards or other hospitals.

A large percentage of cases are committed to hospital by the police on the completion of temporary detention orders. In a proportion of these cases they express the intention of taking action when the patient is fit to

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leave hospital, and the patient is discharged to them. When a charge is brought, however, it is extremely rare that any sentence is imposed.

No attempt is made to classify the causes of death in the patients under observation. Many are suffering from chronic or advanced forms of physical illness, and it is often very difficult to assess to what extent, if any, the suicidal attempt has contributed to the patient's end.

It will be seen that nearly 11% of the total admissions are certified and transferred to mental hospitals. This is a significant figure, especially when it is realized that many who have been mentally disordered on admission quickly clear up, and others are discharged to friends against advice.

Analysis of the methods employed by patients later sent to mental hospitals shows certain features of interest.

Table VI.

Method.	Total.	To mental hospitals.	Percentage.
Coal-gas poisoning	233	10	4+
Liquid, corrosive and sedative poisons	193	8	4
Cut throat	95	23	24
Immersion	51	11	22
Hanging and strangulation	32	9	28
Jumping from heights, in front of vehicles	26	2	8
Cut wrists, stabs, etc.	14	6	43

The small number of poisoning cases that it was found necessary to send to mental hospital compares in striking fashion with the large percentage of what might be called the more violent methods. The numbers here are comparatively small, but the incidence of certified cases is consistently high with the exception of those who have attempted self-destruction by leaping from heights or by throwing themselves in front of vehicles. It may be that in this group there are many whose attempt has been more of the nature of a demonstration than a serious attempt at suicide.

The conclusion has been reached, however, that when methods used are such as would, in the event of failure, leave disfigurement or disablement, then the mental state must be viewed with suspicion.

Detailed Investigation of One Hundred Consecutive Cases of Attempted Suicide.

These cases were admitted to hospital during the period September to April, and the number of male and female patients reached totals of 50

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within about one week of each other, that is to say that the incidence of patients of both sexes was about equal, whereas as a rule males preponderate in the proportion of about 6 to 5. The rate of admission was approximately normal for the hospital; there was no unusual prevalence or otherwise of attempted suicide during the period under review.

On account of the small numbers, much of the information of a statistical nature given here can have little general value, but it is included for completeness, and in order to show in as much detail as possible the material under consideration.

Method of Admission.

The majority of cases were admitted to the hospital under Section 20 of the Lunacy Act, the Temporary Detention Order being completed by the appropriate relieving officer or a police-constable.

Of the female patients, 43 were admitted under Section 20 (27 by police and 16 by relieving officers) and 7 on doctors' certificates. Forty-one males were admitted under Section 20 (31 by police and 10 by relieving officers), and 9 on doctors' certificates.

Age-Incidence.

In the female group there were 19 cases between the ages of 15 and 24, 9 under 20 and 10 over. Of the males, however, there were only 5 cases in this age-group, the greatest incidence being in the quinquennium 30–34, viz., 10, followed by 8 between the ages 45–49. There were no female cases above the age of 70 and only one male.

These figures show some comparable relationship to the figures for the larger total previously considered. A notable point in this group is the large percentage of suicidal attempts in unmarried girls below the age of 25.

Marital Status.

	Married, with children.	Married, no children.	Widows, widowers.	Single.
Females	20	3	2	25
Males	19	6	6	19

Religion.

Sixty-three patients were said to be Protestant and 37 Roman Catholic. No comment is made on these figures, except to state that frequently religion appeared to be little more than a name, and creed merely a necessary label.

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Occupations.

Many of the patients had been unemployed prior to admission to hospital, and some had gone from one type of work to another. The information given here is of the usual or latest type of work. Twenty-five of the women patients had been engaged in household duties in their own homes; 8 were domestic servants; 4 had been living at home with no employment, maintained by their parents or guardians, and 1 had been an inmate of an institution for several years. There were 3 factory hands, 2 machinists, 2 shop assistants, and the remaining occupations were nurse, theatre attendant, shop-keeper, bag mender and waitress.

Of the males, 23 were labourers (including dock labourers) and 6 were seafarers. The remainder included clerks (2), machinists (2), dairymen (2), newsvendors (2), and one each of the following: merchant, dentist, school teacher, ship's scaler, tram-driver, coalman, foundryman, cabinet-maker, cinema manager, wood-turner, coachman, checker, glazier.

Employment and Means of Subsistence.

Of the females, 22 were housewives supported by their husbands, 10 were living with or were supported by parents, 10 were in employment and thus maintaining themselves; 7 were unemployed and subsisted on pension, unemployment or public assistance, and 1 was drawing National Health Insurance benefit.

Fifteen males were employed and living on their earnings, and 3 were living on capital or were supported by parents; 26 were unemployed and subsisting on unemployment or public assistance, pensions, etc., and 6 were drawing National Health Insurance benefit.

Economic Position.

Financial insecurity or difficulty is commonly considered of primary importance in determining the mental attitude of those who commit suicide or attempt to do so. The assessment of any individual's economic position can only be made by a consideration of numerous factors, such as income, size of family, essential expenditure, social status, standard of living, habits, and so on. In this series, every case was investigated as to income and its apportionment, the history and environment of the patient, his or her ability in the management of domestic affairs, the existence of debts and the urgency of repayment.

The main object in this connection was to discover, not whether the patient was living in poverty or comfort, but whether or not the financial position was

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one of stress to the individual. In analysing this question it was decided that the cases could be placed in three groups, viz., those who enjoyed adequate financial means (i.e., adequate to their needs and custom), those who lived in poverty, but without distress, and those who were under definite economic stress. In this last group are cases which were above the poverty line, but who by reason of abnormal expenditure, bad management, borrowing, gambling (especially in wives unknown to their husbands), were suffering definite anxiety on financial grounds.

Of the females, 16 had adequate means, 26 were living in poverty but without distress, and 8 were labouring under economic stress.

Of the males, the respective totals were 12, 28 and 10.

It can be said that 18% of this series of cases were subjected to economic stress.

Personal and Occupational History.

In each case as much information as possible was obtained as to the patient's early life, environment, education, occupation and personal experiences. In some cases a great deal was elicited, often of a reliable nature; in others the information was either scanty or unreliable, or both. In these circumstances, particulars of this type could only be of value in a general way, i.e., in helping one to form an idea of individual personalities and environmental circumstances.

Health History.

Here the information was, as a rule, more readily obtained, and it was often possible to verify the statements made. In the female group, 28 gave a good health history, having suffered from no illnesses other than minor complaints, and having had no prolonged period of invalidism. One had previously been an inmate of a mental hospital; 8 had persistently suffered from "nerves", i.e., psychological disorder of some kind and degree; 6 had had persistent physical ill-health, 2 were post-encephalitics, 1 an epileptic, another a chlorodyne addict, and 3 gave a history of psychological disorder in the past.

In the male group 18 gave a featureless history; 3 had previously been in mental hospitals; 7 had been suffering from psychological disorder, while 8 gave a history of similar trouble in the past; 1 was an epileptic, and 13 complained of persistent physical ill-health. These last included a variety of conditions, such as carcinoma of the liver, progressive loss of sight, valvular disease of the heart, duodenal and gastric ulcer, tabes dorsalis, dementia paralytica, chronic bronchitis, chronic eczema, pulmonary tuberculosis, gastritis.

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Family History.

Little reliance could be placed on the information received in this connection either from patients, relatives or friends. Two of the women were of illegitimate birth, and 6 were known to have an unfavourable family history as compared with 7 of the male cases.

Methods of Attempt.

The frequency of the methods used shows a close approximation to Table IV.

	Females.	Males.		Females.	Males.
Coal-gas	13	17	Cut wrists, stabs	2	3
Corrosive poisons	18	11	Immersion	5	2
Sedative poisons	3	*nil*	Hanging, strangulation	3	3
Cut throat	5	14	Jumping from heights	1	*nil*

Previous Attempts.

Two women and 10 men in this series of cases had made previous attempts at suicide.

Severity of Attempts.

This is difficult to assess in view of the fact that often the most determined suicidal attempt is discovered at the critical moment, so that the attempt is either frustrated or limited. The important question from the psychological-prognostic point of view is whether the attempt is a determined one. This is often a difficult matter to elucidate, especially on account of the varying mental states and on account of the mental attitude of the patient who finds that his effort has failed. Nevertheless it is a question about which the doctor has to come to a decision.

In this series it was decided that in 16 females and 14 males the attempt had been slight, with no underlying determination to terminate life. The remainder were determined and real attempts at suicide. The results in the female cases were severe in 15 cases, moderate in 10 and slight in 9. Of the males there were 14 severe cases, 7 moderate and 15 slight.

Physical State on Admission.

Here one is not concerned with the effects, mostly temporary, of the efforts at self-injury, but with the general state of bodily health at the time of the attempt of those who have attempted suicide. The findings given here are the results of routine physical examination or of known disorders. It should be mentioned that a Wassermann test of the blood is made in all patients admitted to the special divisions of the hospital.

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Thirty-one of the female patients appeared to be in normal physical health, and 8 others, although showing no signs of organic disorder, were of notably poor nutrition. One patient was pregnant though unmarried, and another, a young married woman, had had a Cæsarean section with a live healthy baby one week prior to her attempt. One had syphilis with a positive Wassermann reaction, 2 were post-encephalitics, 1 was a long-standing case of epilepsy, and another had severe and regular attacks of migraine. The remaining 4 patients suffered from carcinoma of the peritoneum, chronic nephritis (both died in hospital), mitral stenosis, severe anæmia of secondary type.

Of the males, 39 were in good general health on admission and there was 1 epileptic. Of the remaining 10, 3 were suffering from neuro-syphilis (general paralysis of the insane, tabo-paresis, tabes dorsalis), and the rest were in poor health, 3 being extremely debilitated. Diagnoses were made of carcinoma of the liver, gastric and duodenal ulcers, mitral stenosis and incompetence, influenza.

Mental States on Admission.

Lacking absolute standards, the assessment of mental states must be a matter depending on the judgment of the individual examiner. The information here given was the result of examination on admission to the hospital, or at the earliest time after the masking effects, if any, of the suicidal attempt had passed away. In a number of cases the abnormal mental symptoms quickly cleared up, but it can be assumed generally, that the mental state on admission was the mental state at the time of the attempt.

Of the female patients, 12 showed no evidence of any mental abnormality elicitable by examination. They showed no clouding of consciousness, deterioration of intellectual functions, emotional disturbance or abnormal ideas. Twelve were psychotic; 11 were depressed, but not to extreme degree and still retained insight. The remaining 15 were neither insane nor mentally normal, and can be described as being chronically unstable persons of poor stamina, 1 being a post-encephalitic and 1 an epileptic.

Two of the males showed no departure from normality; 20 were psychotic. Five showed only depression, 1 was under the influence of alcohol, and 22 were of the persistently unstable type with poor resistance to stress.

Classification of the types of mental disorder, often in the early stages and sometimes of a transient nature, where the period of observation is comparatively short, is a difficult task. The groupings shown below give, however, a general idea of the various types.

Seven of the female psychotics were melancholic, 1 an acute mania, 2 schizophrenic, 1 a senile dement and 1 a paraphrenia.

Five males were melancholic and 1 acutely maniacal. There were 3

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dementias of senile type, 1 of dementia paralytica and 1 of tabo-paresis. Three were schizophrenics, 1 a delirium tremens and 2 were confusional states, one of these being associated with epilepsy. Three other patients had persecutory delusions and hallucinations of uncertain clinical type.

Results and Disposal.

Four of the female patients died, and 4 were still mentally disordered at the end of their period in hospital. Twenty-two appeared to be mentally normal, and 20 showed no gross mental abnormalities, but were considered to be unstable. Of the 46 who survived, 4 were certified and transferred to the county mental hospital for more permanent detention. Seven were discharged to the police, 32 to their relatives or friends, 3 to other wards and institutions.

Three of the male patients died and 15 were still mentally disordered. Nine appeared to be mentally normal and 23 were quiescent but unstable. On discharge, 9 were certified and transferred to mental hospital, 4 were transferred to other wards or institutions, 17 were discharged to the police and 17 to relatives or friends.

The 7 cases transferred to other wards or institutions were patients who required convalescent treatment or treatment of the physical state when the mental state warranted discharge from supervision, or when no relatives or friends were available.

In a certain number of cases patients were discharged to friends against advice when they would still have benefited by hospital treatment, but their condition was not sufficiently serious to insist on retention.

In some cases the police intimated that they wished to take charge of the patient when the latter had recovered sufficiently to answer a charge.

Causes of the Attempts.

Every case is an individual problem with characteristics peculiar to that individual. In each case there is a train of events leading up to the attempt. In some cases investigation shows this plainly, in others it is obscure. There is, however, always a final circumstance which determines the event. These determining causes are the causes commonly given in explaining suicide, such as mental or physical disorder or domestic and economic troubles, unemployment and the like. The common practice of ascribing the cause of suicide to some particular stress is no doubt satisfying to those concerned in giving a feeling of completeness and conclusion to the matter. But such explanations as unemployment, business worries or domestic difficulties can surely be no satisfactory reason why isolated members of the community should endeavour to terminate their lives. On the other hand, a real and

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complete understanding of the causes for such action would necessitate so prolonged and detailed a study of the individual as is impossible in practice. This might be carried out in a very small number of cases, but would not necessarily have a general bearing on the problem, unless it could be definitely established that there is a common factor in the mental development of such individuals.

In the present series of cases the effort was made to discover not only the reasons why the patient decided to attempt self-destruction, but also the circumstances which had led up to such a reaction. From the history given by patients, from observations made by relatives and friends and from other sources, it was noted that a very large proportion of cases had shown characteristics of personality varying in definite degree from the normal. It became increasingly evident that these factors, although playing no part in the individual's conscious determination of his behaviour, yet were of the greatest importance in influencing the quality of his reactions. Many patients had made suicidal attempts for reasons which to the average individual would be inadequate, and which could be understood only when considered in relation to the personality and history of the patient. In other words, it was realized that in addition to the determining causes there were what I propose to call *conditioning* causes. These causes include characteristics of personality showing definite deviation from the normal (or average), and physical states which were the primary cause of changes in the mental attitude. No effort has been made to investigate their origins, but merely to record the personal characteristics which have coloured the individual lives.

It might be contended, and with reason, that in investigating a consecutive series of cases admitted to hospital on account of attempted suicide, one may be dealing not solely with cases who have attempted self-destruction, but also with a proportion whose motive was essentially different, viz., to produce a similar effect in order to gain personal ends. That is to say, there may be cases whose actions are essentially hysterical, or comparable to the self-infliction of disabling wounds. A decision on this point, especially after the event, is always a difficult one, and it must be remembered that the great majority of patients are notified to the police, relieving officers or doctors by close relatives, whose natural tendency, were it not for fear and anxiety for the patient, would be to conceal the occurrence.

In Table VII is given a list of the causes which have precipitated the attempts. In some cases more than one have been operative in the same individual, as, for instance, domestic stress, alcohol, ill-health, unemployment and economic stress.

It will be seen that the commonest cause is mental disorder. It is not suggested that other factors have played no part, for indeed the psychosis must have been the result of faulty reaction to internal or external stresses. But here the immediate cause of the action was the abnormal state of the

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PRECIPITATING CAUSES OF SUICIDAL ATTEMPTS.

Table VII.

Cause.	Females.	Males.
Mental disorder	12	20
Domestic stress	18	12
Business or economic stress	8	12
Physical ill-health	8	5
Alcohol	5	8
Unemployment	none	6
Amatory disturbances	9	none
Old age and loneliness	1	1
Impending police charge, or fear of	1	2
Pregnancy, or fear of	2	..
Bravado	..	1

patient's mind, whatever the cause of that abnormality may have been. It was notable that in almost every case some previous abnormality had been noted. In the males, 8 of these patients had been of abnormally shut-in personality, 3 had histories of erratic and unstable behaviour, 3 had suffered from serious physical ill-health, and there was 1 case of general paralysis of the insane and 1 of tabo-paresis. One was in a condition of delirium tremens and 1 of post-epileptic mania. Of the female patients, 7 had previously shown abnormalities of personality or temperament.

The term "domestic stress" is somewhat vague, but is meant to include such circumstances as deaths in the family, quarrels and disharmony on various accounts, such as religion, inconstancy, maintenance, etc. It is not surprising that the numbers under this heading should be comparatively large when the emotional relationships of family life have so many aspects. As might be expected, the effects were more frequent in women, because to women life as a rule is focused domestically. Of the 18 female cases the majority had previously shown signs of unusual personality or unstable temperament, but in 7 cases the individuals appeared to have been average personalities and their action the result only of domestic stress. Four of these patients had made severe and very determined attempts following cruelty, neglect or unfaithfulness on the part of their husbands. In the male patients domestic stress was the cause of attempts only in association with other stresses, or in individuals with histories of inferior psychological stamina or make-up.

Business or economic stress appeared but rarely to be a primary cause of attempts, but influenced the action of 8 male cases of abnormally shut-in type, and in 3 of these may have precipitated mental disorder.

Where physical ill-health is given as a cause of the attempt it is meant that the patient's attitude to his physical condition has influenced his or her action.

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Two cases only were influenced by pain. One man suffering from general paralysis of the insane was becoming blind and this disability was the determining cause of his action, associated with the fact that he was mentally disordered. A girl, suffering from epilepsy, made her attempt because she realized her prognosis and felt herself a burden on her family.

Alcohol appeared to be only a contributory factor in 11 of the 13 cases. One of the remaining 2 was a case of delirium tremens.

Unemployment similarly was in no instance a primary cause, but had influenced 3 men who were of shut-in type, 2 who were feeble-minded and 1 an epileptic.

Love affairs which were not progressing satisfactorily were responsible for the attempts in 8 single females ranging between the ages of 17 and 23 and one aged 36. The last was a person of poor mental and moral type, and her action, which was slight, was carried out under the influence of alcohol. Three of the others had a history of temperamental instability, but in the remaining 5 no other factor could be elicited. One was four months pregnant and had quarrelled with her lover, and another feared pregnancy. The attempts in these two cases were both severe and determined ; in the others they were slight.

A man of 74 had lived alone for twenty years in one room, with no friends and no outside interests. A woman of 68 had lived a similar life for twelve years. With decreasing vitality and nothing to live for, self-destruction seemed to them a logical solution of their problems.

Fear of impending charge by the police was a precipitating cause of attempts in 3 cases. One was a girl of 17 who lived with her family in constant disharmony. She was in daily domestic service, had stolen from her employer, and her attempt, which was slight (by drinking iodine), was probably made as a temporary solution of a difficult position. A man of 47, who had for years been of solitary asocial type, was depressed following his wife's death four months previously. He made a false declaration to the Public Assistance Committee and, fearing a prosecution, made a determined attempt to gas himself. A 34-year-old man, of poor intellect, had been living alone for several years, following a quarrel with his family. He had been accused of accosting a woman in the street and feared a police charge. He made a slight attempt to cut his throat with a safety razor blade and had possibly also drunk a small amount of liniment. On admission to hospital there was no definite evidence of mental disorder, but he deteriorated rapidly, becoming melancholic and actively suicidal, and it was necessary for him to be certified and transferred to a mental hospital.

A young man, enthusiastic in political activities, prominent in his local circle, fond of the limelight, was dismissed from his work. He felt he could not face his friends, feared to be laughed at, and made an attempt with some effect of dramatization.

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Conditioning Causes.

Table VIII.

Cause.	Females.	Males.
Solitary, " shut-in " personality	6	19
Erratic, irresponsible personality	8	13
Moral degeneracy	none	4
Feeblemindedness or border-line feeblemindedness	1	5
Emotional instability	11	4
Venereal disease (neuro-syphilis)	none	3
Post-encephalitis	2	none
Epilepsy	1	1
Severe physical ill-health (other)	1	3
Chlorodyne addiction	1	none
Climacteric disturbance	2	..

In a number of cases it was stated that the patient had for years been quiet and unsociable, had few friends or interests, tended to brood and worry and took things much to heart. The prevalence of this type of personality in males was striking. There were 19 cases, and only those were included in this group in which these characteristics were very evident from the history, and were noted by relatives, friends and other informants. In 8 of these cases the attempt was made when the mental state was one of psychosis, and in the majority of these patients it was evident that the mental disorder was a reaction to domestic, economic or physical stress.

Other patients were known to have been impulsive, erratic, unreliable and generally unstable, as was characterized by such facts as quarrelsomeness, cruelty and failure to maintain their dependents, disorderly behaviour in public, alcoholism, consistent failure to hold jobs, previous attempts at suicide and so on.

Four of the male cases had histories of such debauched, immoral and vicious lives that they are here classed as moral degenerates. Especially in these cases it was difficult to obtain a reliable history.

Others, mostly female cases, had shown evidence of emotional instability beyond the normal, and the majority of these had previously been diagnosed and treated as psychoneurotics.

It will be noted that conditioning factors were less frequent in female than in male cases. This is of interest, for in 11 women patients the attempt was the result of domestic stress (7) and love affairs (5), with no evidence of any predisposing factors or abnormal psychological make-up. In the males, however, there was only one case in which domestic trouble was the only ascertainable cause.

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Neuro-syphilis was present in 3 male cases, viz., dementia paralytica, tabo-paresis and tabes dorsalis. The first, a ship's steward, began to have failing sight nine years before. This was progressive, till five years later he had to retire from work. From that time he began to deteriorate mentally and physically, and at the time of admission he was almost completely blind, showed typical physical and biochemical signs of general paralysis of the insane, and was mentally confused, noisy, incoherent and hallucinated. He made a superficial attempt to cut his throat with a carving knife. The second case was clearly one of tabes dorsalis with slowly progressing dementia; he was dull, retarded, depressed, moody and solitary. He also made a feeble attempt to cut his throat with a safety razor blade. The third case, with definite physical signs and a tabetic gold curve, had shown rapid development. He was acutely demented—confused, restless, muttering, agitated and apparently hallucinated. His attempt by hanging was severe, and he was later certified, as was the first case, and sent to mental hospital.

The 2 cases of post-encephalitis epidemica were single girls, æt. 24 and 25. The first showed well-marked Parkinsonianism, had been an inmate of an institution for the past three years, and made her attempt there, by strangulation, during what was apparently a period of mental confusion. She returned to her institution. The second had had an acute attack, definitely diagnosed, during her school years. From that time character changes had been noticeable and persistent, there were frequent domestic quarrels, and after one of them the patient made a slight attempt to cut her throat with a razor blade. She was able to return to her home.

Epilepsy was the basic cause of two attempts, one by a young woman of 27 in a confused state after a seizure, the other by a youth of 23. The latter had been worried by failure to get employment on account of his disability, and made an attempt by hanging, in a state of acute maniacal excitement. Both were later able to return to their homes.

In 4 other cases physical trouble appeared to be the starting-point of the train of circumstances leading to attempted suicide. A married woman of 25 had for some years suffered from very severe anæmia aggravated by two confinements. Her physical state rendered her incapable of coping satisfactorily with her housekeeping. An unsympathetic husband failed to realize her physical disability and treated her with little consideration. There were frequent quarrels, the patient got into financial difficulties, and the husband threatened to leave her. To end it all she made a severe and determined attempt to gas herself. She was discovered in time, and on recovery still wished she had succeeded in her attempt. Prolonged treatment of the anæmia resulted in marked improvement of both her physical and psychological state, and a better understanding by her husband resulted in the patient being able to return home with good hope for future harmony. Physical disorder appeared to be the important causative factor in the development of mental disorder in

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3 men whose attempts were due to their abnormal mental states. Two of these were over 60 years of age, one suffering from carcinoma of the liver with secondary deposits in the lungs, the other from severe debility and marked loss of weight of uncertain cause. Both became depressed, agitated and confused, and one had somatic delusions. Both died. The third was in hospital for the investigation of pain in an old amputation of one foot. He developed persecutory ideas and hallucinations, but quickly recovered normal outlook after his attempt. These three men all attempted to cut their throats, the wound in each case being slight.

An elderly woman, the wife of a tradesman, had been taking chlorodyne for fifteen years. She admitted to drinking a bottle every day. The result was persistent financial difficulty, and the circumstances were such that the economic position would in a few months become hopeless. It was considered that the patient made her attempt, being unable to overcome her habit, as a reasoned solution of the problem and solely for the benefit of her family.

The psychological and physical changes associated with the climacteric appear to have had an influence in only 2 cases in this series. In one, this disturbance associated with domestic troubles seemed to have precipitated a condition of agitated melancholia. In the other, the patient was unable to sustain the stress of physical disorder.

Attitude of the Patient to the Attempt on Initial Recovery.

This was investigated in every case. Of the women, 6 denied any intention, 26 expressed regret or remorse, 4 thought that their action was justified, and 10 others still expressed the wish to die. Four could give no coherent reply.

Of the male patients, 22 expressed regret and realized that their action was a mistaken one, while 4 denied any intention. Eight still had no desire to live and wished they had succeeded, and 3 showed complete indifference. One was uncertain, and 12 were unable to give any coherent expression of opinion.

Observations.

An accurate estimate of the incidence of attempted suicide is at present unobtainable, there being no one authority to whom all cases must be notified and no method of discovering what proportion of cases is reported. The figures given here, however, show that unsuccessful attempts occur much more commonly than successful ones and the relative incidence of the two sexes, namely 6 males to 5 females, is probably correct, at least for this area. It has been noted that up to the age of 25 female cases are very numerous, being twice the total of males. This, no doubt, is due to the hazards of love affairs and of early married life, misfortunes in these circumstances bearing more hardly on the female.

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The reason why attempted suicide is relatively more frequent among females than is suicide is not obvious. Generally the view is held that suicidal attempts by women are commonly of the demonstrative, attention-seeking kind, without real intent to terminate life. There may be justification for this view, but this investigation has shown that women are little less determined in their intention than are men. Impulsiveness, lack of knowledge and preparation result in fewer fatal endings to their attempts.

The patients investigated in this series of cases have been for the most part manual workers, and with few exceptions have been of the small wage-earning class. Whether or not suicidal attempts are less frequent in other grades of social status and affluence is uncertain, because individuals with adequate means can secure private treatment and care, and may be able to conceal the fact of a suicidal attempt. It may be that in the better educated classes, with wider interests and greater compensations for disappointment, suicidal attempts are less common, and when they occur are more often successful.

In the detailed series just over half the males were unemployed, and although unemployment in this area is marked, the number here is far in excess of the average. This might suggest that unemployment is an important factor in attempted suicide, but individual investigation showed that only 6 of the male cases were directly influenced by this circumstance, and even in these cases it was not the sole factor. There is no doubt that prolonged unemployment has far-reaching influences on outlook, health, domestic relations, etc., but the opinion has been formed that the prevalence of unemployment among suicidals is a result of inferiority of personality rather than a cause of suicide. A similar view is expressed by MacEarlean (6) when commenting on the statement that "the rate is nearly twice as high among unemployed as among employed males".

It is noted, however, that in present times when a minimum economic security is guaranteed for all, the significance of unemployment has to some extent altered.

In the cases under review economic stress has been due, generally speaking, not to lack of adequate income for normal support, but rather to the difficult circumstances that have arisen as a consequence of unwise expenditure—borrowing, gambling and the like—and where necessary repayment was urgent or exposure threatened. In most of the female cases the influence of such a state of affairs on the emotional relationship between the patient and others was the main reason for the suicidal attempt.

Table V shows that nearly 11% of 656 admissions during 4 years were certified and transferred to mental hospitals. This percentage does not indicate the number who were mentally disordered at the time of their suicidal attempts. It has, however, some prognostic significance, although it must be noted that the duration of retention in observation wards is not equal in

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all cases. Acute cases, considered recoverable, are retained as long as possible, chronic cases who have become quiescent and no longer actively suicidal are often claimed by relatives, and vacancies in mental hospitals are not always available.

The detailed investigation shows that 32% were psychotic on admission, but only 13% (9 males and 4 females) were certified. This would suggest, if the corollary holds true, that probably 27% of the 4-year total were psychotic on admission. It might then be reasonably assumed that about a quarter of the cases of attempted suicide in this area are of unsound mind at the time of their attempts. Lendrum (Detroit) (7), investigating 1,000 cases of attempted suicide, states that 23% received some sort of psychiatric diagnosis but only 1·9% were committed to mental hospitals. Stearns (Massachusetts) (8) states that one-third of his series appeared to be frankly insane, while in this country Norwood East (9) found that 14·1% of 1,000 cases of attempted suicide were due to insanity. The last series, however, was a selected group in that they were males concerning whom police action had been taken. In the first and last of these series alcoholism was cited as one of the chief causes of attempts, but in the present investigation in all but 2 cases this factor was merely contributory.

It might seem, on consideration of the data of this investigation, that the adverse circumstances to which the patients had been subjected were exceptional. The results obtained in these cases, however, were very similar to those noted over a prolonged period. Generally, the stresses prompting the suicidal attempts were no more acute or severe than those to which the generality of people are required to adjust. The reason for the reaction by suicidal attempts in these cases lies in the personalities of the individuals, and furthermore, many of the difficulties with which these patients had to contend were the product of abnormality in themselves. The proportion of individuals who showed characteristics of personality deviating from the normal (especially among the males) was striking. In Table VIII there has been no attempt to classify on any scientific basis, but merely to note personal characteristics which have influenced behaviour, and which have been elicited by observation of the patient, and gathered from histories and the evidence of associates. Fairbank (10) has stated that the only outstanding common characteristic found in a study of personality traits in suicidals, and noted in about one-third of his cases, was the so-called "rigid" personality as described by Wendell Muncie (11). In this series the prevalence of the introverted, solitary and asocial type was notable. Such individuals tend, under certain circumstances, to arrive at an altered sense of values and to form unreasonable judgments. The attempts of the erratic, undisciplined type are easy to understand, and possibly one reason why so many are found among attempted suicidals is because they fail in their attempts at self-destruction.

A number of cases, mostly females, had shown evidence of emotional

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instability beyond the normal, and several had previously been treated as psychoneurotics. Gordon (12) expresses the view that psychoneurotics do not commit suicide, and this view is supported by Brend (13), who cites the extreme rarity of suicide amongst the large numbers of psychoneurotic patients treated in Ministry of Pensions Hospitals. Such has also been my experience, and it would appear that the evidence of this is so strong that in suicidal attempts by psychoneurotics, intention of self-destruction should be doubted or the diagnosis of psychoneurosis questioned.

Whether attempted suicide should be viewed and treated as a medico-psychological problem or from the legal aspect as a misdemeanour is still an open question (14, 15). This investigation has shown that the great majority are in need of treatment and come within the province of medicine. A small proportion, the amoral, self-seeking types, require disciplinary action. In this connection it is noted that the attitude of the police is sympathetic and open-minded. They willingly accept medical opinion; the decision as to legal procedure and the actions taken are based on the nature and possibilities of each individual case. This is as it should be.

The influence of hospital care presents several points of interest. In the psychotic cases efforts are directed to the mental disorder, the suicidal tendency being secondary to this. Other cases whose attempts have been precipitated by domestic, economic and other environmental stresses as a rule quickly discard their suicidal outlook. It would appear as if their action had released an unbearable pressure. Michael and Grimes (16) and Schneider (17) have commented on this rapid change of attitude after impulsive attempts, and the latter states, further, that the patient who waits patiently until he is discharged in order to make a fresh attempt appears to be extremely rare. Such has been our experience. A large proportion of suicidals would appear to have kept secret their fears, dwelt constantly on their difficulties, been unable, on account of increasing emotional bias, to maintain a true perspective, and made the suicidal attempt as an escape from what seems to them an intolerable situation.

In hospital, under conditions sheltered from ordinary life they can take a more objective view. They are enabled to discuss and disentangle their mental complexities, and there is an opportunity for readjustment with relatives and associates. Frank discussion of his attempt with the suicidal, so often avoided for reasons of delicacy or fear of harm, is clearly indicated. The subject is uppermost in the patient's mind, and avoidance of it will hinder the return of a wholly healthy outlook. Bond (14), commenting on this unwillingness to remind a patient of his suicidal attempt, states very truly that the return to "accessibility" is "one of the particularly favourable moments for vigorous psychotherapy".

In the demonstrative cases the act has served its purpose and the patient has satisfied his or her need.

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Many patients on discharge from hospital to their homes still require psychological treatment or supervision as out-patients. Although their internal tension may have been satisfactorily relieved or their present difficulties cleared away, not a few, by reason of inferior stamina and resistance, will continue to require help on resuming their ordinary lives. The psychological clinic, in the simplest form of its service, will provide them with necessary " moral support ". Such a clinic, however, will have its strongest appeal at present when divorced from mental ward or mental hospital.

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References.—(1) *The Registrar-General's Statistical Review of England and Wales*, 1933, 1934. —(2) East, W. Norwood, *Medical Aspects of Crime*, 1936, p. 154.—(3) Morselli, H., *Suicide*, 1881, p. 213.—(4) Lendrum, F. C., *Amer. Journ. Psychiat.*, 1933, xiii, pp. 479–500.—(5) East, W. Norwood, *Medical Aspects of Crime*, 1936, pp. 162–164.—(6) MacEarlean, D. A., *Irish Journ. Med. Sci.*, 1934, p. 244.—(7) Lendrum, F. C., *Amer. Journ. Psychiat.*, 1933, xiii, pp. 479–500.—(8) Stearns, A. W., *New England Journ. Med.*, 1931, cciv, p. 9.—(9) East, W. Norwood, *Medical Aspects of Crime*, 1936, p. 192.—(10) Fairbank, R. E., *Journ. Amer. Med. Assoc.*, 1932, xcviii, p. 1712.—(11) Muncie, Wendell, *Arch. Neurol. and Psychiat.*, 1931, xxvi, p. 359.—(12) Gordon, R. G., *Brit. Journ. Med. Psychol.*, 1929, ix, pp. 60–66.—(13) Brend, W. A., *Practitioner*, 1919, ciii, pp. 408–409.—(14) Bond, Sir Hubert, *Brit. Med. Journ.*, 1931, ii, pp. 234–239.—(15) East, W. Norwood, *ibid.*, 1931, ii, pp. 241–242.—(16) Michael, J. C., and Grimes, B. P., *Minnesota Med.*, 1935, xviii, p. 152.—(17) Schneider, K., *Deutsch. med. Wochenschr.*, 1933, lix, p. 1390.

https://doi.org/10.1192/bjp.83.342.71 Published online by Cambridge University Press