

MALARIAL THERAPY IN GENERAL PARALYSIS.

Thesis for the Degree of M.D.,
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Presented by

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MALARIAL THERAPY IN GENERAL PARALYSIS

INTRODUCTION.

In the course of this thesis it is intended to study carefully the after-history of patients treated by malarial inoculation for General Paralysis since the introduction of this method of treatment into this country at Whittingham County Mental Hospital in July, 1922.

Since 1924 I have had the opportunity of coming into direct contact with almost all the cases recorded; and, further, a large proportion of the cases have received treatment at my own hands.

From the findings of this investigation it is desired to show the actual clinical results some years after treatment. It is believed that a fairer and clearer view of this mode of therapy will in this way be arrived at and the real value of malarial induction in General Paralysis assessed. It has been agreed for some time now that Wagner-Jauregg's method of treatment does prove beneficial, but much of the work reported has been handicapped by too close a review, too near a vision. The problem under consideration is complicated by the admitted fact that spontaneous remissions of the principal symptoms are known to occur so that some improvement may be expected under practically all forms of treatment. Nothing less than the statistics of a large number of patients in observations extending over periods of time that are measured by years rather than months will justify anything more than tentative conclusions.

After more than eight years such factors as the expectation of life, the ability of discharged patients to earn
a/

a living, the percentages year by year of deaths, of patients discharged home, and of patients remaining in hospital can come under consideration. The facts as shown may diminish the optimism of some. They will also, it is hoped, continue the hopeful outlook of treatment of General Paralysis by induced malaria, and in addition assess at something of its proper value this mode of therapy.

A great deal of the interest naturally centres round the patients sent home, and for the purpose of this study enquiry forms were sent out to ascertain, where possible, the patient's own views on his present condition, and, in addition, get into touch with those who had been discharged some considerable time previously. The discharged patients had become scattered all over Lancashire, but even so it was thought that the best method was to make a personal visit in every case where possible, examine physically and mentally, receive the reports of their relatives and friends as to their behaviour, peculiar or otherwise, and occasionally, perhaps, induce the patient to allow specimens of cerebrospinal fluid to be taken for the purpose of laboratory investigation. It was anticipated that some of the patients would have disappeared after being sent home, and the tracing of many patients proved a difficulty which was not in every case surmounted. Visits were made to all the large towns of Lancashire, and also journeys had to be undertaken to Westmorland and Yorkshire.

The patients still in hospital were easily available at any time for observation, and a full clinical examination has been made including the present state of cerebrospinal fluid.

Of the patients who died, many died in hospital without being discharged. In the case of patients sent home it has been thought impracticable to distinguish whether the General Paralysis was the primary cause of death or not. For the purpose of this thesis every death will be looked upon as being due to the General Paralysis and conclusions arrived at will thus tend to underestimate rather than overestimate the results of treatment/

treatment.

In all the cases discussed the diagnosis has been the result of physical and mental examination together with laboratory tests of cerebrospinal fluid, these including the Lange colloidal gold test, the Gamboge test, Wassermann reaction, cell count, Pandy and Ross-Jones tests. The number of cases under review is 230.

In arriving at conclusions in this paper the following points are deemed of importance:- the length of time prior to treatment after the onset of the disease; the number of inoculations given; the age of the patient; whether married or single; the laboratory findings before and after treatment; and the mental symptoms also before and after treatment.



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HISTORICAL OUTLINE.

The description of General Paralysis of the Insane first appears in medical literature in 1798 and was written by John Haslam who was from 1785 to 1816 apothecary to Bethlem Royal Asylum. Although not called General Paralysis, the mental and physical symptoms and pathological findings⁽¹⁾ supply us with an unquestionable diagnosis. In 1822, in France, Bayle presented a thesis to the Medical Faculty of Paris. In this thesis he described a mental disorder characterised by a recognisable set of mental and paralytical symptoms and with a definite pathology of its own. To this disease he gave the name of "Chronic Arachnitis," and his conception of this disorder of the brain, including the three stages into which he divided it, is still accepted in its essentials today. Further advances into the nature of General Paralysis were made in England by Mickle, Savage, Mott; and the syphilitic nature of this disease of the brain was generally accepted at the beginning of the present century. In 1913 a great and further advance was made by Noguchi in discovering the living Spirochaeta Pallida in the brain, thus establishing General Paralysis as parenchymatous syphilis of the brain. With this fact established it was thought that the treatment which was effective in somatic syphilis would be equally useful in General Paralysis. Thus we find mercurial preparations, arsenical drugs such as salvarsan and its many derivatives, being used to combat the disease. This method of attack, however, proved ineffective. Reports of the alleged beneficial effects of febrile diseases on various psychoses have been current since the days of Hippocrates. Several methods of producing fever in patients suffering from General Paralysis had already been tried, such as the production of artificial suppuration, injections of tuberculin into the body, when Wagner-Jauregg introduced the malarial method/

method in 1917. By this method patients were infected with the parasite of malarial fever and allowed to undergo a series of rigors with the accompanying high rise of temperature. The first experiments were made at the Clinic of Psychiatry at Vienna. Nine patients with paresis were inoculated with malaria. At that time 6 showed a remission as a result of treatment⁽²⁾. From that date this method has been widely adopted all over the world and it is now possible to review the findings of numerous writers on the subject with special reference to the value of malarial treatment, not in its immediate benefits, but in its ability to produce remissions in General Paralysis extending over a number of years.

In April 1926 Grant and Silverston,⁽³⁾ in treating 58 patients at this Hospital with induced malaria, found:-

1. Complete remissions occur in all clinical types of General Paralysis.
2. In cases which do not go on to complete remission life is prolonged and marked mental and physical improvement may result.
3. Among male general paralytics of the class admitted to Mental Hospitals in this country we may reasonably expect a complete remission rate of from 20 per cent to 30 per cent.

In October, 1926, the value of malaria therapy in Dementia Paralytica was estimated by the London County Council Mental Hospitals⁽⁴⁾. In order to furnish comparable evidence as to the frequency of remissions in untreated cases, figures were obtained from four of the London County Council Hospitals dealing with cases admitted during the three years from August 1, 1920, to July, 1923, diagnosed clinically as being General Paralytics and showing positive Wassermann reactions in the cerebrospinal fluid.

Number admitted.....	227	
" discharged as improved.....	6	(2.6%)
" died.....	141	(62.1%)

The results obtained with malarial treatment.

The shortest period during which any patient had been watched was six months since the termination of the malaria, but the majority of the cases had been watched for a much longer period. The term "discharged" included all patients who had become sufficiently well to be sent to their homes.

Number treated.....	191	
" discharged.....	64	(33%)
" died.....	40	(21%)

By 1926 a considerable number of cases had been treated with malaria in various countries, and Driver, Gammell and Karnah⁽⁵⁾ completed a summary of the results in the 2,336 cases of General Paralysis treated with malaria which had been recorded in the literature to April 1, 1926.

The condition of 27.5 per cent of these patients was greatly improved, of 26.5 per cent moderately improved, and of 46 per cent unimproved or the patients were dead.

Askgaard⁽⁶⁾ reported on the hospital treatment of 37 women and 160 men suffering from General Paralysis and inoculated with malaria between October, 1922, and March, 1926.

Of the 37 women 6 were much improved, being rendered fit for work; 8 were improved, being partially fit for work; 3 were improved, but were still in hospital; 9 were unaffected by this treatment; and 11 were dead, 2 of the deaths occurring in connection with this treatment.

Of the 160 men, 25 showed complete remission; 38 were improved and fit for work; 11 were improved, but were still in hospital; 6 were improved, but were still nursed at home; 50 were unaffected by this treatment; and 30 were dead, 8 of these deaths occurring in connection with this treatment.

With regard to the patients in the first category, viz., the 25 who showed no recurrence of symptoms, it was noteworthy that the disease had existed in most of them for less than a year.

The author also compared the fate of the subjects of General Paralysis before and after the institution of malarial treatment in his hospital. During 1917, 55 per cent were dead after one year, 75 per cent after two years, 85 per cent after three years. In those patients treated, only 6 per cent were dead after one year, 15 per cent after two years, and 33 per cent after three years.

He concluded that malaria therapy was beneficial, and that it was the more valuable now that recent research has greatly facilitated the early diagnosis of this disease.

In 1927 Ferraro and Fong⁽⁷⁾ reported on 120 patients successfully inoculated with malaria. Very good remissions were obtained in 21, partial remissions in 29, slight improvement in 6, and no improvement in 34. Twenty patients died, 6 of these from acute malaria. The highest percentage of unimproved cases was in the demented type, and the greatest number of very good remissions was in the expansive paranoic type.

In July of the same year O'Leary⁽⁸⁾ wrote on a series of 57 cases of General Paralysis inoculated with malaria between June, 1924, and February, 1926, and found that 28 (49 per cent) were still in remission as measured by the economic status of the patients. He considered that the method of treatment was not without risk, as instanced by a mortality of 5 per cent, - only those cases in which malaria was a factor being considered. Clinical results were more pronounced when the fever treatment was instituted early in the course of the General Paralysis, but striking results were noticed in cases in which the clinical signs of General Paralysis were present four years before the inoculation. The longer the period of observation the greater the number of cases in which the condition of the spinal fluid and blood completely reverted to normal. He found, however, serological changes were not always paralleled by clinical improvement. O'Leary's conception of what constituted complete remission in General Paralysis was not based on serological reversals or the disappearance of the objective signs of the disease, but was estimated on the patients' /

patients' economic status as a result of the treatment.

(9)
 Bunker and Kirby, in 1928, described their experience during four and a half years of treatment of General Paralysis by malaria comprising observations on cases of 156 unselected males in all stages of the disease with definite mental symptoms necessitating commitment to a mental hospital. Of these, 50 per cent gave a definitely favourable response, even though in a third of them residual signs of cerebral tissue destruction precluded dull clinical recovery. Discussing the permanence of the remission of mental symptoms obtained in those responding favourably to treatment, the authors called attention to the fact that not only did complete remission occur in about one third of the cases, but that in 14 out of 16 cases the remission had been retained unaltered for at least three and a half to four and a half years.

With reference to the type most likely to respond to treatment, it was found that remission was good in 14 per cent of the simple demented type, whereas in the manic and hyperactive type, 75 per cent were definitely improved. In just over one-fifth of the cases the Wassermann reaction in the spinal fluid became completely negative after treatment with malaria alone.

(10)
 Further results in this year were given by Levin. Of 100 cases of General Paralysis of the Insane treated with malaria, complete remission resulted in 26; in 10 there were partial remissions; in 14 there was improvement; in 21 there was no improvement; and 29 terminated fatally. A total of 50 per cent were thus benefited by the treatment. The duration of the complete remissions extended from four months to thirty-one months. The grandiose or expansive type of general paralytic offered the best prognosis, 84 per cent of this variety showing definite improvement subsequent to the malarial injections. The prognosis in the demented and agitated types was much more dubious, the improvement rates being 45 per cent and 33 per cent respectively. He considered that the duration of the psychosis prior to treatment bore a strict relation/

relation to the improvement rate. The best results were obtained where the mental symptoms were of less than four months' duration. 68 per cent of this group were benefited as compared with 35 per cent of those whose disease had lasted a year or more. In addition he found that there was no distinct correlation between the clinical and serological observations subsequent to malarial treatment.

Coming to the year 1929, we find writers giving their views with a longer experience of the treatment to aid them in assessing results. J. Brander ⁽¹¹⁾ gave the results of treatment since 1923 in 102 patients. Of these, 35 had recovered, or were very much improved; 16 had improved; 26 remained unimproved; and the remainder had died. He found that some patients who were apparently in a very advanced stage recovered to a remarkable degree, while some seemingly early cases went steadily downwards. He considered, however, that duration of symptoms prior to treatment varied directly with the prognosis. Among the discharged cases, 80 per cent of those which it had been possible to follow up showed a decreased strength of Wassermann reaction in the cerebrospinal fluid, 10 per cent an increased strength, and 10 per cent no change. Again, 50 per cent showed a decreased strength of the reaction in the blood, and 45 per cent no change.

⁽¹²⁾
G. de M. Rudolph at the same time stated that he had seen cases previously treated with malaria become apparently normal clinically but retain well-marked serological reactions. He had also knowledge of patients who had remained typical paralytics but with a normal cerebrospinal fluid. His experience of malaria concerned 191 cases, some of which received arsenic in addition to malaria. Of the total, 31.4 per cent had been discharged. The highest discharge rate he had found was among patients under forty, those with less than a seven months' history, and those in good physical health.

⁽¹³⁾
Worster Drought, also in 1929, gave an account of treatment by malaria infection followed by a course of novarsenobillon. He dealt only with cases that had been treated in 1923/

1923 and 1924. Of the 35 patients treated in the period mentioned, 20 per cent were still at work and useful members of society; 50 per cent might be said to have improved in the sense that they remained more or less the same; 20 per cent had been admitted to mental hospitals or had died; and 10 per cent could not be traced. His experience showed that though the Wassermann reaction became negative this was not necessarily a criterion of the patient's improvement.

(14)

An account of the survey made by E. F. Meagher appeared at this time, of cases treated by malaria in the mental hospitals of England and those cases of General Paralysis not so treated. Of 97 mental hospitals 56 had not so far practised the malaria treatment of General Paralysis. Taking the years 1923 and 1924, his figures showed that of the patients treated with malaria during those years 56.4 per cent were still alive, whereas of the untreated cases only 13.4 per cent had remained alive. The inference, whatever test was applied, was that the treated had done better than the untreated. Of 438 cases treated to the end of 1924, 134 had been discharged and 108 of this number remained discharged. He had made personal visits to the discharged patients and he had found that 77 were able to follow their usual avocations; 10 were mentally fairly well, but fit for only little work; 10 were degenerating, and 11 could not be traced. He was impressed in many cases by the attention to dress and appearance which these discharged patients showed, by their good memory, and the fact that the grandiose manner had disappeared. He was convinced that the malarial treatment was of value in extending life, in improving the physical and mental health, and in allowing some 20 per cent of patients to resume a normal existence.

With regard to the laboratory findings after treatment with malaria, Malamud and Wilson ⁽¹⁵⁾ found that the changes in the cerebrospinal fluid - Wassermann reaction, cell count, albumin, globulin, and colloidal gold test - were not related to the clinical picture. They noticed that there was a tendency in/

in all these to improvement but this was exhibited in all cases, amongst those which showed clinical improvement as well as those which showed further progress of the disease. Besides that, it manifested itself some time after treatment. For both these reasons, therefore, they concluded that laboratory tests could not be regarded as reliable indicators of the probable prognosis.

Careful examinations of patients after treatment were made by Guillun and Parer ⁽¹⁶⁾. They observed that in cases where they observed an unquestionable improvement in the mental state the physical symptoms of the paresis were modified relatively little. The Argyll Robertson pupils persisted, often also the dysarthria.

Coming to the year 1930, further reports become available. O'Leary and Brunstung ⁽¹⁷⁾ reported that of 213 patients treated between June, 1924, and June, 1926, 179 were available for study. 100 of these patients at the time they were inoculated with plasmodium vivax showed the early signs of General Paresis, although in a few the disease had progressed far enough to require institutional care. The majority had been under treatment for parenchymatous neuro-syphilis for several years, long enough for the observation that the advance in the clinical signs and the absence of serological response indicated the development of Paresis. In all the cases there were varying degrees of personality changes, loss of memory, tremors and objective neurological changes. None, however, was of the advanced or vegetating type of Paresis. Of the 100, the condition of 38 was still in complete remission; 31 had been improved; 17 did not derive any benefit, or had been made worse; and 14 had died. Of the 14 who had died, 5 died directly as a result of the malaria. The authors maintained that in the estimation of clinical remissions they based their deductions solely on the economic status of the patient after malarial treatment. If not able to support himself or his family the patient was/

was not graded in remission.

In 60 of the 100 cases examinations of the cerebro-spinal fluid were made and were as follows:-

	<u>1926</u>	<u>1927</u>	<u>1928</u>
Reversed to negative.....	21%	57%	73%
Improvement.....	24%	33%	11%
No change.....	55%	10%	11%

Ostenfeld,⁽¹⁸⁾ in Denmark, found that in 100 patients treated only by malaria with an observation time of up to seven years about one half were influenced to a greater or lesser degree, 10 per cent with considerable benefit.

Also writing in 1930, Gerstmann⁽¹⁹⁾ reported on 340 cases since 1919 treated with malaria. Of 294 cases of which the observations had been completed 112 had had a remission, the patients had regained their full working power and were free from demonstrable psychological defects. Ninety, most of them advanced cases, had had a more or less complete remission with a certain amount of psychological defect. In 58 of these the improvement had gone so far that the formerly demented patients had become orderly in their manner and were able to go about without attracting attention. The remaining 32 were far advanced cases of long-standing duration. In these the dementia diminished, speech improved, convulsive attacks were less frequent, and some of them were able to return to their homes. In 3 cases the remission had already lasted five years, in 17 between two and three years. No case with an initial complete remission had had a relapse. Of those in whom the original remission had been incomplete, more than half had remained stationary; about a quarter of them had relapsed; a few had died; and some with relapses had improved again with a repetition of the treatment.

C. E. Hinsie⁽²⁰⁾ reported on a series of cases of General Paralysis who were treated from 1923 to 1926. Out of 197 cases the following brief summary of their condition in 1930/

1930 was given.

Some of the patients received malarial treatment alone, others received only tryparsamide treatment, and the third group received combined malaria and tryparsamide treatment. In 1930, 22 per cent of the 197 patients were in a state of clinical remission; almost 18 per cent were improved; almost 20 per cent unimproved; and 40 per cent were dead. In other words, 60 per cent of the patients were living. Clinical remissions were present in 19 per cent of male patients treated with malaria, 30 per cent of female patients treated with malaria. The remission rate of those patients treated by combined malaria and tryparsamide was lower, around 15 per cent. This might be explained, in part at least, because tryparsamide was commonly given after malaria had proved ineffective. Furthermore, tryparsamide seemed to enjoy a higher remission rate than did malaria. This coincided with the figures gathered from the literature by Bunker who reported that of 542 tryparsamide treated cases, full remission was recorded in 35 per cent of the cases, whereas in 2,460 malaria treated cases, full remission was recorded in 27 per cent of the cases.

There seemed to be no definite correlation between the laboratory findings and the clinical outcome.

The patient in an excellent remission might have highly positive laboratory findings, whereas the findings might be negative in an advanced demented patient.

In the Vienna Psychiatric Clinic, Dattner⁽²¹⁾ selected 129 cases for careful study. These patients received the malaria treatment during the period 1922 to 1924, so that six to eight years had since elapsed. His investigations revealed that 67, or more than 50 per cent, were still living. Of these 67, 53 were perfectly well. He concluded that the original fears that malarial therapy only delays the progress of the disease, and that it would break out with greater force, had proved to be unfounded. He also considered that malarial therapy was most effective in combination with arsphenamine in the form of after-treatment.

INTRODUCTION TO CASES.

The following pages are devoted to a short clinical account of the patients under review. It is now time to stress the fact that the treatment of General Paralysis in this Hospital was not undertaken only in those cases whose physical and mental state seemed to favour a good prognosis. An endeavour has been made to keep Malaria ever present in the Hospital in at least one patient, and inoculation from one patient to another by injection of blood direct has kept strains of malaria running for long periods of time. The result of this policy has been that, except for a period of about ten months in 1928 and eight months in 1929 when Tryparsamide was given alone, almost every case of General Paralysis admitted received the opportunity of improvement by Malaria. The exceptions to this were those cases of the disease who died within a few weeks of admission. As a consequence, a number of cases were treated in whom the ravages of syphilis, general and nervous, gave little chance to any mode of therapy, however successful. At the same time, some of the most dramatic recoveries were seen from amongst this group of apparently hopeless patients.

To give a separate account of over 200 cases has added to the size of this thesis, but this is justified on the following grounds:- that in each case the same care has been taken to bring out the essential facts; that the results and conclusions arrived at are based entirely on the work and observations of those cases. To choose representative cases for description would give little satisfaction and therefore the facts about each patient treated are presented for survey.

With regard to the laboratory findings, the early cases were not under my care and I cannot claim to have done these tests, although, throughout, all the tests on the cerebro-spinal/

cerebrospinal fluid were carried out in our own laboratory. In the later cases I have, however, been directly responsible for the cerebrospinal fluid examinations. It will be noticed from the records that from amongst the patients discharged cerebrospinal fluid was taken from 14 of them. This part of the examination was carried out in the patients' own homes and apparently gave rise to no ill-effects of a severe nature. After 14 patients had their fluid withdrawn it was decided to stop asking permission for this to be done, as the result of a very severe collapse which occurred in one patient, not on account of cerebrospinal fluid withdrawn but merely from the effect of the needle being inserted.

The visiting of patients in their own homes, the tracing of most of them after a period of five to nine years away from the Hospital occupied a good deal of time and entailed travelling over a very wide area, the following nineteen towns being visited:- Liverpool, Manchester, Doncaster, Preston, Burnley, Nelson, Royton, Darwen, Windermere, Crawshawbooth, Accrington, Padiham, Blackburn, Blackpool, Morecambe, Bolton, Chorley, Salford, and Farnworth.

Mention ought to be made of the fact that many patients, in addition to their malarial treatment, received specific therapy, chiefly novarsenobillon and tryparsamide.

Of the 230 cases treated 6 have been unable to be traced.

The Wassermann Reaction of both blood and cerebrospinal fluid has been done throughout at Manchester University. The number of rigors allowed in each patient after injection with malaria has been six. This in a number of patients was increased to seven, eight, nine, ten or eleven rigors. Again a certain number received less than six rigors on account of failing health.

Case No. 1.

W.P. Male.

Date of admission: October 27, 1921. Age 40. Married.

Estimated onset of disease: September, 1920.

Date of inoculation: July 21, 1922.

Mental state before treatment: State of dementia, noisy, restless, incoherent, at times aggressive and destructive, wet and dirty in habits, delusions of grandeur at times present. He would state he could kick a football eight miles.

Mental state after treatment: He showed no improvement, remained lost and confused, and became gradually more demented. His physical health was maintained fairly good until September, 1927.

Death: December 3, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	47	++	+	5555554432	222210
June 14/'27.	+	+	17	1-10 +	1-10 +	5555432100	222210

Case No. 2.

A.M. Male.

Date of admission: April 4, 1922. Age 41. Married.

Estimated onset of disease: March, 1922.

Date of inoculation: August 11, 1922.

Mental state before treatment: Demented, habits degraded, wet and dirty, memory impaired, lost and confused, fleeting grandiose delusions present.

Mental state after treatment: He made no improvement. He remained in fair physical health until March, 1928.

Death: April 5, 1928.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+++	+	44	+	+	5555554200	222210
July 12/'27.	F+	F+	2.3	++	D	1111000000	210000

Case No. 3.

T.G.S. Male.

Date of admission: April 13, 1922. Age 32. Single.

Estimated onset of disease: March, 1922.

Date of inoculation: August 11, 1922.

Mental state before treatment: Restless, excited and talkative; incoherent, grandiose delusions present.

Mental state after treatment: No improvement. His health deteriorated.

Death took place during pyrexia, September 3, 1922.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	66	+		5555553200	222220
Aug. 10/'22.	++	+	107	+		5555555430	222210

Case No. 4.

C.J.P. Male.

Date of admission: April 13, 1922. Age 49. Married.

Estimated onset of disease: March, 1922.

Date of inoculation: September 6, 1922.

Mental state before treatment: Dull, stupid, and demented, at times depressed, delusions of grandeur at other times, saying his sister was a princess. Prior to inoculation, bedridden.

Mental state after treatment: No improvement. Physical improvement nil. He remained bedridden.

Death: January 26, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test	Pandy Test	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	50		+	5555553200	222220
Sept. 6/'22.	++		50	+		5555553200	222220

Case No. 5.

E.M. Male.

Date of admission: July 11, 1922. Age 37. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: September 8, 1922.

Mental state before treatment: Grandiose and deluded.

Mental state after treatment: Family say he began to "go strange" in the early part of 1930. He was eventually admitted to Rainhill Mental Hospital, March 4, 1931.

Died September 16, 1931, in Rainhill Mental Hospital.

Discharged: July 28, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
Aug. 7/'22.	++		196			5555554100	222110

Case No. 6.

G.C. Male.

Date of admission: July 17, 1922. Age 57. Married.

Estimated onset of disease: January, 1922.

Dates of inoculation: November 14, 1922, August 7, 1925.

Mental state before treatment: Elated, unduly happy, and pleased. Delusions of grandeur. Later, noisy, talkative and incoherent.

Mental state after treatment: No improvement. Delusions persisted. Health and habits remained fair.

Death: March 2, 1927.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++		64	+	+	5555543210	222110
Oct. 22/'23.	+	F+	13	+	1-4 +	5555432000	222210

Case No. 7.

W.S. Male.

Date of admission: August 4, 1922. Age 31. Married.

Estimated onset of disease: July, 1922.

Dates of inoculation: November 4, 1922, February 6, 1923.

Mental state before treatment: Maniacal type. Noisy, excited, restless, troublesome, destructive. Grandiose ideas are also present.

Mental state after treatment: At home two years after discharge, then relapsed and sent to Prestwick Mental Hospital.

Died in Prestwick Mental Hospital, March 12, 1929.

Discharged: July 25, 1923.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++		80	+	+	5555543210	222220

Case No. 8.

M.K. Male.

Date of admission: October 18, 1921. Age 34. Single.

Estimated onset of disease: History insufficient.

Dates of inoculation: July 21, 1922, March 9, 1923.

Mental state before treatment: Confusional type. Confused and lost in mind, no idea of time or place, conversation incoherent.

Mental state after treatment: Examined June, 1931. He is demented, his conversation is foolish and incoherent and he has no idea of time or place. His memory is greatly impaired.

Bodily health after treatment: Fair.

Nervous System: Pupils unequal. Right larger than left, and both slightly irregular. Do not contract to light. Contract to accommodation.

- Face - - no tremors.
- Tongue - - slight tremor.
- Speech - - thick and slurring.
- Arms - - reflexes present (++)
- Abdomen - - reflexes present.
- Knee jerks - present (+)
- Babinsky - indifferent response.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wasserman Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	69	++	+	555554421	222110
Mar. 13/'28.	Neg.	F+	1.3	++	1-2 +D	1123221000	1 010000
June 15/'31.	Neg.	Neg.	1	+		Neg.	Neg.

Case No. 9.

J.A.K. Male.

Date of admission: June 1, 1922. Age 30. Single.

Estimated onset of disease: January, 1922.

Dates of inoculation: July 21, 1922, September 6, 1922.

Mental state before treatment: Melancholic type. He is depressed and distressed in mind on account of delusions of persecution. Memory is impaired and he is disorientated in time.

Mental state after treatment: Examined October, 1931. Talks well. No depression evident. Memory for past and recent events good. Orientated in time and place. No delusions. Has worked casually as painter since discharge and is now able to work but cannot find work owing to trade depression.

Bodily health after treatment: Fair.

Nervous system: Pupils equal, regular. React to light and to accommodation.

- Tongue - no tremor.
- Speech - normal.
- Face - no tremor.
- Arms - reflexes cannot be elicited.
- Abdomen - reflexes present.
- Knee jerks - absent right and left side.
- Babinsky - slight extensor response.

Discharged: Aug. 29, 1923.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	61	+	+	5555554300	222210

Case No. 10.

E.M.E. Female.

Date of admission: June 19, 1922. Age 20. Single.

Estimated onset of disease: October, 1921.

Date of inoculation: January 7, 1923.

Mental state before treatment: Stupid, demented, restless, noisy and destructive.

Mental state after treatment: No appreciable mental change. She was bedridden some time prior to inoculation and remained so until death.

Death: March 22, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+++		279		+	5555555543	222220
Nov. 8/'23.	F+	+	9	+	1-8 +	5555420000	222100

Case No. 11.

B.C. Female.

Date of admission: June 10, 1921. Age 46. Widow.

Estimated onset of disease: June, 1920.

Date of inoculation: January 7, 1923.

Mental state before treatment: Dull, stupid, on occasion apt to be violent; lost and confused in mind.

Mental state after treatment: Unchanged after treatment. Patient had been bedridden prior to inoculation.

Death: February 8, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
Dec. 6/'21.	++		324	+	+	5555553000	122200

Case No. 12.

W.H. Male.

Date of admission: November 21, 1922. Age 41. Widower.

Estimated onset of disease: October, 1922.

Date of inoculation: January 23, 1923.

Mental state before treatment: Excited, restless, lost and confused; disorientated in time and place.

Mental state after treatment: No change.

Death: February 17, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
Nov. 21/'22.	++		714	+	+	5555543200	122200

Case No. 13.

J.A. Male.

Date of admission: October 11, 1922. Age 35. Single.

Estimated onset of disease: First attack prior to admission.

Dates of inoculation: January 23, 1923, December 14, 1923,
January 7, 1924.

Mental state before treatment: Grandiose type. Elated and excited.

Mental state after treatment: Gradual dementia. No progress.

Death: July 23, 1925.

Number of inoculations: 3.

C.S.F. examinations.

	Ross Jones Test	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+		24			5555543100	222110
Mar. 11/'25.	+	+	5			5555432110	222100

Case No. 14.

T.G. Male.

Date of admission: October 27, 1922. Age 38. Married.

Estimated onset of disease: Two weeks.

Date of inoculation: March 31, 1923.

Mental state before treatment: Grandiose type. Is unduly happy and elated; is deluded that he is the biggest lord in the world and that 200 million pounds are due to him; also that he has become the champion singer of the world.

Mental state after treatment: He became depressed and agitated and behaved like a case of resistive melancholia. Hypochondriacal delusions were present.

Death: April 3, 1929.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	++		106	+		5554431000	222110
Aug. 14/'28.	Neg.	Neg.	0	Neg.	Neg.	0001000000	000000

Case No. 15.

M.H.R. Female.

Date of admission: March 12, 1923. Age 48. Married.

Estimated onset of disease: January, 1923.

Date of inoculation: March 21, 1923.

Mental state before treatment: Suffering from grandiose delusions, e.g., that she has untold wealth.

Mental state after treatment: No change.
She was free from malaria from April 20, but developed bronchitis.

Death: May 7, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	23	+	+	5555553200	222220

Case No. 16.

R.B. Male.

Date of admission: June 26, 1922. Age 43. Married.

Estimated onset of disease: December, 1921.

Date of inoculation : April 19, 1923.

Mental state before treatment: Grandiose type. Harbours numerous delusions of wealth and high social connections; believes he is a grandson of Oliver Cromwell. At times he is noisy and excited.

Mental state after treatment: Died March 23, 1929.

Discharged: March 1, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	34	+		5555555530	222220
Nov. 5/'23.	F+	+	11	+	1-45 +	5555543200	222110

Case No. 17.

J.H. Male.

Date of admission: June 2, 1922. Age 52. Married.

Estimated onset of disease: May, 1922.

Dates of inoculation: May 20, 1923, August 6, 1925.

Mental state before treatment: Depressed, melancholic, suicidal; attempted to cut his throat prior to admission. Disorientated, lost, and confused.

Mental state after treatment: No improvement.

Reinoculated August 6, 1925. No change resulted. Patient became dull and demented. He remained in fair health until his death.

Death: November 8, 1926.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	++	+	39	+	+	5555544320	222210
Mar. 22/'26.	+	+	1.3	+	1-10 +	<u>Pink</u> 5554321000	221000

Case No. 18.

A.P. Male.

Date of admission: October 18, 1922. Age 43. Married.

Estimated onset of disease: First attack prior to admission.

Dates of inoculation: June 5, 1923, December 14, 1923.

Mental state before treatment: Noisy, deluded, and grandiose.

Mental state after treatment: No improvement resulted.

Death: October 12, 1924.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood.		
On admission	++		R.B.C.	+	+	5555433100	222220
July 18/'24.	+	+	98	+	Neg.	<u>Pink.</u> 5554321000	221000

Case No. 19.

J.B. Male.

Date of admission: October 27, 1922 Age 53. Married.

Estimated onset of disease: September, 1922.

Date of inoculation: June 5, 1923.

Mental state before treatment: Confusional type. Lost, confused, dull and apathetic; disorientated in time and place.

Mental state after treatment: Died March 18, 1925, in Rainhill Mental Hospital.

Discharged: December 8, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	36	+	+	5555543100	222110
Nov. 1/'23.	F+	+	7	+	1-3 +	5555432100	221000

Case No. 20.

H.E. Male.

Date of admission: December 29, 1922 Age 42. Married.

Estimated onset of disease: November, 1922.

Dates of inoculation: June 19, 1923, September 9, 1924.

Mental state before treatment: Emotionally unstable, restless and confused; had grandiose delusions, e.g., he was a nephew of King George, etc.

Mental state after treatment: He became worse and gradually became demented.
Reinoculated September 9, 1924. No change.

Death: June 17, 1928.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	11	+		5555543000	222210
June 27/'27.	F+	F+	0.6	Neg.	1-2 Doubt- ful.	0002100000	100000

Case No. 21.

J.K.P. Male.

Date of admission: September 1, 1922. Age 51. Married.

Estimated onset of disease: August, 1922.

Date of inoculation: July 20, 1923.

Mental state before treatment: Emotionally unstable, defective memory, disorientated, listless, dull and mentally reduced.

Mental state after treatment. For a short time showed slight improvement, but gradually worsened. Delusions of grandeur present.
Fair health until death. He became confined to bed through general debility.

Death: January 12, 1925.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	++	+	71			555555432	222220
Oct. 26/'23.	++	++	14.6	+	1-15 +	5555543200	222220

Case No. 22.

J.J.G. Male.

Date of admission: January 23, 1923. Age 38. Married.

Estimated onset of disease: November, 1922.

Dates of inoculation: July 31, 1923, August 21, 1924.

Mental state before treatment: Grandiose delusions, states he has millions of pounds, deluded that he has fasted completely for sixteen weeks. Conduct - noisy and restless. Conversation - garrulous and nonsensical.

Mental state after treatment: Delusions persisted. State of dementia progressed.

Death: April 11, 1928.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	++	++	26	+		5555554320	222220
Mar. 13/'28.	Neg.	+	1	+	Doubtful.	5543210000	121000

Case No. 23.

T.A.P. Male.

Date of admission: November 8, 1921. Age 45. Married.Estimated onset of disease: September, 1921.Date of inoculation: August 5, 1923.Mental state before treatment: State of exaltation with delusions of grandeur, deluded he would live 1,000 years. He makes motor cars 400 feet long. Behaviour - childish and simple.Mental state after treatment: No change. He died a short time after treatment.Death: August 26, 1923.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++		+		555555542	222210
July 30/'23.	+	+	49.6	+		5555543200	222210

Case No. 24.

M.M. Female.

Date of admission: March 14, 1921. Age 34. Married.Estimated onset of disease: October, 1920.Date of inoculation: August 6, 1923.Mental state before treatment: Lost, confused, disorientated, incoherent. Behaviour - simple and childish.Mental state after treatment: No improvement. Patient continued confused and was frequently emotional. Her conduct was noisy and restless.Death: December 28, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	14	+	++	5555544220	222210
Apr. 1/'24.	+	++	10.6	Weakly +		5555422100	222210

Case No. 25.

B.W.M. Male.

Date of admission: May 24, 1923. Age 41. Married.Estimated onset of disease: March, 1923.Date of inoculation: August 13, 1923.Mental state before treatment: Grandiose type. Delusions of great wealth present. Disorientation present. Defective memory of the past.Mental state after treatment: Died September 24, 1925. He was very well for a few months after discharge, but relapsed and was sent to Rainhill Mental Hospital, September 24, 1924.Discharged: December 15, 1923.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	20	+	+	5555543300	222220
Oct. 23/'23.	+	+	9	Neg.		Pink. 5555432000	222210

Case No. 26.

C.S. Male.

Date of admission: August 10, 1923. Age 38. Married.Estimated onset of disease: June, 1923.Dates of inoculation: August 22, 1923, April 27, 1925.Mental state before treatment: Grandiose delusions of wealth and rank and great personal bravery. V.C. won frequently.Mental state after treatment: No improvement. Frequently excited and noisy. No insight.Death: June 23, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	56	+		5555432000	221000
July 13/'27.	F+	F+	2	Neg.	Neg.	0011000000	100000

Case No. 27.J.P. Male.Date of admission: February 9, 1923. Age 44. Married.Estimated onset of disease: 1922.Date of inoculation: August 22, 1923.Mental state before treatment: Confused and disorientated;
lacking in insight.Mental state after treatment: No improvement. Fleeting delusions
present. Conversation nonsensical and rambling.Death: January 1, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	178	+	+	555554320	222220
Dec. 11/'24.	+	+	25	+	1-45 +	5555432100	222100

Case No. 28.J.W. Male.Date of admission: August 8, 1923. Age 46. Widower.Estimated onset of disease: 1923.Date of inoculation: August 27, 1923.Mental state before treatment: Noisy and maniacal.
Behaviour - impulsive, frequently shouting out incoherently.Mental state after treatment: No improvement. He died shortly
after treatment.Death: September 19, 1923.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	43	+		5555543200	222100

Case No. 29.

G.G. Male.

Date of admission: September 5, 1923. Age 42. Single.

Estimated onset of disease: 1923.

Dates of inoculation: September 13, 1923, October 24, 1923.

Mental state before treatment: Rambling, incoherent and confused; disorientated. No insight.

Mental state after treatment: He remained dull and stupid. Defective memory, lost and confused.

Death: December 29, 1925.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	32	+		5555432000	222210
Feb. 14/'25.	+	+	10			554321000	210000

Case No. 30.

F.S. Male.

Date of admission: June 13, 1923. Age 45. Married.

Estimated onset of disease: March, 1923.

Date of inoculation: September 24, 1923.

Mental state before treatment: Lost, confused; conversation incoherent; disorientated.

Mental state after treatment: No improvement. Dull, stupid. Progressive dementia.

Death: October 9, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood.		
On admission	+	+	37	+	Doubtful.	5555543200	222220
Oct. 9/'26.	+	+	24	+++		5555554321	222220

Case No. 31.

R.D. Male.

Date of admission: September 1, 1923. Age 56. Widower.Estimated onset of disease: Several weeks.Date of inoculation: October 8, 1923.Mental state before treatment: Grandiose type. Patient cheerful and hilarious. He is under the impressions that he owns several millions of money, numerous racehorses, V.C. and D.S.O., etc. Restless and noisy at times.Mental state after treatment: Died December, 1927. Mental condition for three years after discharge until his death had been fairly good.Discharged: August 25, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	80	+	+	5555543200	222220
Aug. 5/'24.	+	+	23.3	+	1-5 +	5555554200	222210

Case No. 32.

A.M. Male.

Date of admission: September 21, 1923. Age 52. Married.Estimated onset of disease: September, 1921.Date of inoculation: November 3, 1923.Mental state before treatment: Taboparetic and confusional type. Lost and confused; memory impaired; unduly talkative; has no insight into his position or affairs.Mental state after treatment: Died May, 1925.Discharged: May 5, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	26	+	1-20 +	5555432000	222220
Jan. 8/'24.	++	++	13.3	+	1-15 +	5554431000	222220

Case No. 33.

F.M. Male.

Date of admission: November 10, 1923. Age 47. Married.Estimated onset of disease: August, 1922.Date of inoculation: November 19, 1923.Mental state before treatment: Lost, confused, incoherent.
Conduct - restless and noisy.Mental state after treatment: No progress. Progressive
mental deterioration.Death: September 14, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	48	+	1-45 +	5555542100	222220
Mar. 3/'24.	+	+	9.3	+	1-45 +	5543210000	222100

Case No. 34.

J.B. Male.

Date of admission: November 9, 1923. Age 43. Married.Estimated onset of disease: September, 1923.Date of inoculation: November 19, 1923.Mental state before treatment: Noisy and excited at times; at other
times dull, stupid and apathetic.Mental state after treatment: Patient remained rambling and in-
coherent and periodically excited.Death: September 7, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	147	+	1-15 +	5555421000	222110
Mar. 6/'26.	Neg.	Neg.	1.6	Neg.		0011000000	100000

Case No. 35.

B.K. Male.

Date of admission: September 5, 1923. Age 44. Married.

Estimated onset of disease: 1923.

Date of inoculation: November 29, 1923.

Mental state before treatment: Patient facile and easily pleased. Disorientation and confusion present.

Mental state after treatment: Periodically excited. Fleeting delusions of persecution.

Death: January 2, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	23	+	+	5555432000	222210

Case No. 36.

R.A.M. Female.

Date of admission: April 16, 1923. Age 59. Married.

Estimated onset of disease: 1923.

Date of inoculation: December 3, 1923.

Mental state before treatment: Confused, incoherent, delusions of identity present.

Mental state after treatment: No improvement. Delusions persisted. Hallucinations commenced.

Death: April 14, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	49	+	+	5555433200	222210
Jan. 18/'24.	+	++	12	+	1-5 +	5555542100	222220

Case No. 37.

E.G. Male.

Date of admission: January 26, 1923. Age 34. Married.

Estimated onset of disease: A few months.

Dates of inoculation: March 5, 1923, January 6, 1924.

Mental state before treatment: Grandiose type. He has many expansive delusions, e.g., he is the Petrol King of Burnley. Memory impaired; disorientation present; is emotional and unstable.

Mental state after treatment: Now in Prestwich Mental Hospital. He is much improved in his mental condition and is rational in conduct and coherent in speech. He no longer evinces his delusions of grandeur, and his memory and orientation are good. Works in the wards.

Bodily health after treatment: Fair.

Nervous system: Pupils react sluggishly to light. Knee jerks are exaggerated.

Transferred to Prestwich Mental Hospital March 24, 1925.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	62	+		5555532200	122220
Oct. 22/'23.	F+	F+	4.6	Inconclusive	1-15 +	P.P. 554320000	221000

Case No. 38.

J.B.R. Male.

Date of admission: March 28, 1923. Age 41. Married.

Estimated onset of disease: 3 months.

Dates of inoculation: April 8, 1923, May 7, 1923.

Mental state before treatment: Grandiose type. Patient is in an elated and exalted condition with grandiose delusions. Auditory hallucinations are present.

Mental state after treatment: Examined June, 1931. (Relieved). He is simple, shows no great initiative and is only suitable for trivial tasks about the wards. At times he is excited and apt to be violent; otherwise he is orientated and shows good memory for the past.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. Do not contract to light. Contract to accommodation.

- Face - - no tremors.
- Tongue - - slight tremor.
- Speech - - normal.
- Arms - - reflexes dull.
- Abdomen - - reflexes present.
- Knee jerks - - absent.
- Babinsky - - indifferent response.

Number of inoculations: 2.

Case No. 38 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	53	+	+	5555543200	222210
Aug. 23/'28.	F+	F+	2.3	Neg.	Neg.	1122100000	$\frac{1}{100000}$
June 15/'31.	Neg.	Neg.	1.6	Neg.		Neg.	Neg.

Case No. 39.

J.H. Male.

Date of admission: January 5, 1922. Age 32. Single.

Estimated onset of disease: 2 months.

Dates of inoculation: July 3, 1923, August 21, 1924, July 8, 1927, July 23, 1927.

Mental state before treatment: Grandiose type. Delusions of great scientific attainments and that he is possessed of untold wealth.

Mental state after treatment: Examined May, 1931. There is dementia present. He is simple, childish, and lacking in insight: He is suggestible and entertains any foolish scheme put to him as being quite correct, e.g., that he is head physician and head chauffeur of the Hospital. His memory for the past is impaired.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. Both react sluggishly to light. Both react to accommodation.

- Tongue - - No tremors.
- Speech - - No thickness in speech.
- Arms - - Reflexes present (+)
- Abdomen - - Reflexes present (+)
- Knee jerks - Right ++ Left ++
- Babinsky - Extensor Right and Left.
- Gait - - Normal.

Number of inoculations: 4.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	44			5555321000	121110
June 17/'27.	F+	+	2.3	++	$\frac{1-5}{+}$	0112220000	$\frac{11}{000000}$

Case No. 40.

A.G. Female.

Date of admission: April 13, 1921. Age 44. Single.

Estimated onset of disease: History insufficient.

Dates of inoculation: July 3, 1923, December 3, 1923.

Mental state before treatment: Melancholic type. Miserable, depressed, disinterested.

Mental state after treatment: Examined June, 1931. She is demented, stupid in her talk and habits, is unable to give any account of herself, her memory is impaired, and she is lost and confused. She states she is 96 years old.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal. Right larger than left. Do not contract to light. Contract to accommodation.

Tongue - - slight tremors.

Face - - no tremors.

Speech - - slurring.

Arms - - reflexes present (+)

Abdomen - - reflexes present.

Knee jerks - right present (+)
left diminished reaction.

Babinsky - flexor response right & left.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	33	+	+	5555543000	222210
July 20/'27.	+	+	1		1-25 +	<u>Pink.</u> 5555421000	2 110000
June 29/'31.	Neg.	F+	3			0012000000	11 000000

Case No. 41.

J.B. Male.

Date of admission: June 7, 1923. Age 41. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: July 16, 1923.

Mental state before treatment: Maniacal type. Excited, will attack other patients, noisy and extremely talkative. Delusions of grandeur; says he has millions of pounds. Memory impaired.

Mental state after treatment: Examined June, 1931. He is dull, simple, reduced mentally, and unstable in his conduct. He has grandiose delusions; states he has millions of pounds and can travel all over the world if he wishes. He has no insight.

Bodily health after treatment: Fair.

Case No. 41 (contd).

Nervous system: Pupils unequal; right larger than left. React very sluggishly to light. React sluggishly to accommodation.

Tongue - - slight tremor.
 Face - - no tremor.
 Speech - - slurring present.
 Arms - - reflexes present but dull.
 Abdomen - - reflexes present.
 Knee jerks - present but dull.
 Babinsky - response flexor right & left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	169	+	+	5555543200	222220
Aug. 23/'28.	+	+	9	Neg.	1-2 Doubtful.	5543220000	221000
June 15/'31.	F+	F+	1.3	Neg.		0011000000	$\frac{1}{000000}$

Case No. 42.

G.McA. Male.

Date of admission: April 21, 1923. Age 39. Married.

Estimated onset of disease: January, 1921.

Dates of inoculation: October 4, 1923, May 7, 1926.

Mental state before treatment: Grandiose type. He harbours numerous ideas of grandeur regarding his physical strength. Conversation rambling and incoherent at times. Has little idea of time and place.

Mental state after treatment: Since readmission he has been a patient in this Hospital. Present mental state (June, 1931) improved. He is fairly clear mentally; his memory for recent events is good; he is orientated in time and place, and can give a good account of himself. He has no delusions or hallucinations. He works well and is well behaved. He is without any great ambition or initiative and is content to remain a patient here.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal, irregular. Do not contract to light. Contract to accommodation.

Face - - no tremors.
 Tongue - - tremor present.
 Speech - - normal.
 Arms - - reflexes almost absent.
 Abdomen - - reflexes present.
 Knee jerks - dull.
 Babinsky - flexor.

Discharged: August 2, 1924.

Readmitted: April 8, 1926.

Number of inoculations: 2.

Case No. 42 (contd).C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	68	+		555555430	22220
June 9/'31.	Neg.	F+	4	Weakly +		0001100000	$\frac{1}{000000}$

Case No. 43.F.A.K.K. Male.Date of admission: September 6, 1923. Age 35. Married.Estimated onset of disease: August 19, 1922.Dates of inoculation: October 5, 1923, May 26, 1927.Mental state before treatment: Grandiose type. Delusions of wealth and full of impossible grandiose schemes. He is reduced mentally and his memory is markedly impaired.Mental state after treatment: Examined June, 1931. He is dull, stupid and demented; can give no account of himself and shows confusion and disorientation. His habits are faulty and he is idle and inattentive.Bodily health after treatment: Fair.Nervous system: Pupils equal but both irregular. Do not contract to light. Reaction to accommodation sluggish.

Face - - no tremor.
 Tongue - - no tremor.
 Speech - - indistinct.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - absent.
 Babinsky - response extensor right & left.

Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	36	+		5555543200	22220
Aug. 23/'28.	F+	F+	1.3	Neg.		1122210000	110000
June 15/'31.	Neg.	Neg.	2.3	Neg.		0011000000	Neg.

Case No. 44.

J.W.B. Male.

Date of admission: December 2, 1921. Age 50 Married.

Estimated onset of disease: 6 years' duration.

Date of inoculation: June 5, 1923.

Mental state before treatment: Grandiose type. Deluded he owns 20 million pounds, that the Crystal Palace is his home. Conduct erratic and debased.

Mental state after treatment: Examined August, 1931. Doing fairly well. Conversational ability good. Memory for distant events indifferent. Memory for recent events good. Grandiose delusions absent. No hallucinations. Not working at present. Worked for 3 years for Guardians. Not done anything since as there is no work to be had. Is garrulous, but on the whole fairly rational. Is now in command of a Church Mission.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal but regular. Contract to light and to accommodation. There is slight paresis of right upper eyelid.

- Tongue - - no tremor.
- Speech - - slurring.
- Face - - no tremor.
- Arms - - reflexes absent.
- Knee jerks - absent.
- Babinsky - flexor right, extensor left.

Discharged: August 6, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood.		
On admission	+++	+	61	+	+	5555553301	122200
Aug. 1/'24.	+	+	6	Neg.	1-5 +	5555432100	222000

Case No. 45.

A.G. Male.

Date of admission: April 23, 1923. Age 30. Single.

Estimated onset of disease: 6 weeks.

Date of inoculation: July 20, 1923.

Mental state before treatment: Grandiose type. Exalted ideas present of his abilities in music and of his physical well-being, e.g., that he is the champion runner and boxer of the world.

Mental state after treatment: Examined October, 1931. Has no delusions. Memory for recent and remote events good. Conduct at home normal. Conversation rational and agreeable. Had been working as weaver until May, 1931, when bad trade conditions threw him out of work.

Case No. 45 (contd).

Bodily health after treatment: Good.

Nervous system: Pupils slightly unequal, right larger than left. Regular, but very sluggish reaction to light. React to accommodation.

Tongue - - slight tremor.
 Speech - - normal.
 Face - - somewhat dull in expression.
 Arms - - reflexes not elicited.
 Abdomen - - reflexes present.
 Knee jerks - sluggish.
 Babinsky - flexor response.

Discharged: December 12, 1923:

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	18	+	+	5555554320	222220
Oct. 23/'23.	+	+	11.3	+		5555422000	222220

Case No. 46.

T.C. Male.

Date of admission: May 3, 1923. Age 54. Married.

Estimated onset of disease: April, 1923.

Date of inoculation: September 8, 1923.

Mental state before treatment: Confusional type. Is apathetic, mentally confused and bewildered. Is unstable and emotional at times. Memory grossly impaired.

Mental state after treatment: Examined June, 1931.

Mental state good. Rational, converse well. Memory good. Orientated. No delusions apparent. Working for last three years at 30 shillings per week. Had operation for double hernia August, 1927.

Bodily health after treatment: Good.

Nervous system: Pupils unequal; left larger than right. Do not react to light. React to accommodation.

Tongue - - no tremor.
 Speech - - slight thickness.
 Face - - no tremor.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - present.
 Babinsky - flexor.

Discharged: December 6, 1923.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	15	+	Doubtful.	5555432100	222220
Oct. 23/'23.	+	+	24	+		5555432000	222220

Case No. 47

J.H. Male.Date of admission: May 31, 1923. Age 57. Widower.Estimated onset of disease: No history.Date of inoculation: September 21, 1923.Mental state before treatment: Confusional type. Lost and confused in mind, no idea of time and place. Partial dementia present.Mental state after treatment: After discharge unable to be traced.Discharged: August 15, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	35	+		5555432000	222210
Aug. 1/'24.	+	+	5	Neg.		5554321000	210000

Case No. 48.M.M. Male.Date of admission: December 6, 1922. Age 51. Married.Estimated onset of disease: Several weeks.Date of inoculation: October 26, 1923.Mental state before treatment: Maniacal type. Noisy, excited, over-talkative, incoherent in conversation, restless and difficult to manage.Mental state after treatment: Examined June, 1931.

Has not worked since leaving Hospital. Relations say he is harmless and will never be fit for work again. He does not sleep well. He is easily upset and becomes excited if slight provocation is given. He is lacking in insight and states he was sane when he went to hospital. He is evidently slightly reduced mentally, but does not look a high mental type. He is inclined to be of aggressive manner. Has never in his life been able to write. Memory indifferent.

Bodily health after treatment: Fair.

Nervous system: Pupils equal; right slightly irregular. Do not contract to light. Contract to accommodation.

Tongue - - no tremor.
 Speech - - slight slurring.
 Face - - no tremor.
 Arms - - reflexes present.
 Abdomen - - reflexes not elicited.
 Knee jerks - present.
 Babinsky - - doubtful reaction.

Discharged: August 2, 1925.Number of inoculations: 1.

Case No. 48 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	+	43	+	1-5 +	5555543000	222220
Jan. 6/'24.	+	++	9	Unsatis- factory.		5555321000	222220

Case No. 49.

J.B.C. Male.

Date of admission: February 22, 1923. Age 44. Married.

Estimated onset of disease: August, 1920.

Date of inoculation: December 14, 1923.

Mental state before treatment: Confusional type. He is paramnesic, dull and apathetic. Deluded that he is going to give birth to a child.

Mental state after treatment: Examined June, 1931. He is slightly dull in his responses to questions. Complains of feeling dizzy at times. He has 80 per cent pension. Is not working although feels able for light work. Begins to be distressed on prolonged conversation, has tears in his eyes and is apparently emotional. He is absent-minded at times.

Bodily health after treatment: Fair.

Nervous system: Pupils equal but right irregular. Both contract sluggishly to light. Both react to accommodation.

Tongue - - no tremor.
Speech - - slurring.
Face - - no tremor.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - right, slight response;
left, no response.
Babinsky - - extensor response.

Discharged: December 30, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	103	+		5555433000	222220
Dec. 2/'24.	F+	+	5.3	+		0011000000	110000
June 29/'31.	Neg.	Neg.	2.6	Neg.		0001100000	$\frac{1}{000000}$

Case No. 50.W.R. Male.Date of admission: August 3, 1922. Age 42. Single.Estimated onset of disease: 1920.Date of inoculation: January 18, 1924.Mental state before treatment: Restless, noisy and troublesome, constantly getting out of bed and wandering aimlessly about the ward; constantly chattering to himself; defective memory.Mental state after treatment: Six days after inoculation patient developed seizures which continued over a period of six days. Patient died February 3, 1924.Death: February 3, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	63	+	1-45 +	5555432100	222220

Case No. 51.W.E.W. Male.Date of admission: January 21, 1924. Age 40. Married.Estimated onset of disease: 1919.Date of inoculation: February 6, 1924.Mental state before treatment: Dull, demented, unable to answer simple questions rationally; disorientated in time and place; confused.Mental state after treatment: Remained in a confused state; restless and resistive.Death: February 25, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	8.6			5555542100	222220

Case No. 52.

C.D. Male.

Date of admission: March 27, 1924. Age 47. Married.Estimated onset of disease: 1922.Dates of inoculation: April 11, 1924. May 25, 1924.Mental state before treatment: Grandiose type. Delusions of grandeur, e.g. possesses millions of money. Lost, confused, and disorientated.Mental state after treatment: Patient remained in a demented condition. He became bedridden. He frequently had minor seizures.Death: February 18, 1927.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	13	+		5554432100	222210
Feb. 17/'27	+	+	10.6	++		Pink 5555322100	2 T11000

Case No. 53.

T.L. Male.

Date of admission: March 27, 1924. Age 46. Single.Estimated onset of disease: No history.Date of inoculation: April 17, 1924.Mental state before treatment: Restless, noisy, garrulous; grandiose delusions, e.g. has millions of money; memory defective.Mental state after treatment: Discharged improved October 27, 1924. Re-admitted April 12, 1926 and died two days later. At home his mental and physical condition had not been very good.Death: April 14, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	40			5555431000	222220
Apr. 13/'26	+	+	2	+++		5555532100	222220

Case No. 54.

A.B. Male.

Date of admission: April 9, 1924. Age 40. Married.Estimated onset of disease: January 1924.Date of inoculation: May 2, 1924.Mental state before treatment: Extremely noisy, garrulous and incoherent; very dirty in his habits and destructive to clothing; defective memory.Mental state after treatment: There was no progress made, patient steadily going downhill. A rapid tubercular condition of lungs developed, causing his death one month after inoculation.Death: June 13, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	22	+		5554210000	222100
June 4/'24	+	+	4.3	+		5532100000	221000

Case No. 55.

J.O. Male.

Date of admission: May 2, 1924. Age 31. Single.Estimated onset of disease: March 1924.Date of inoculation: May 25, 1924.Mental state before treatment: Restless, troublesome; would not stay in bed; extremely dirty in his habits; delusions of grandeur present and also auditory hallucinations.Mental state after treatment: Delusions and hallucinations persisted after inoculation until his death.Death: July 9, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	195	+		5555542100	222210
July 9/'24	+	+	84			5555321000	222210

Case No. 56.

H.P. Male.

Date of admission: June 12, 1924. Age 54. Married.Estimated onset of disease: May 1, 1924.Date of inoculation: June 14, 1924.Mental state before treatment: Confusional type. Disorientated in time and place; paramnesia present; conversation rambling and nonsensical.Mental state after treatment: Died in Bracebridge Mental Hospital, March 22, 1927.Transferred: February 20, 1925 to Bracebridge Heath Mental Hospital.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
Nov. 4/'24	+	+	5	+	1-45 +	5554321000	222210

Case No. 57.

W.W.H. Male.

Date of admission: June 17, 1924. Age 41. Single.Estimated onset of disease: 1921.Date of inoculation: June 20, 1924.Mental state before treatment: Restless, troublesome; crawls about the floor on his hands and knees.Mental state after treatment: Four days after inoculation patient died.Death: June 24, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	35	+	1-15 +	5555542100	222100

Case No. 58.

J.L. Male.

Date of admission: June 13, 1924. Age 52. Married.Estimated onset of disease: 1921.Date of inoculation: June 25, 1924.Mental state before treatment: Grandiose type, e.g. has great athletic powers; is disorientated and shows great impairment of memory.Mental state after treatment: Patient remained in a demented state. At intervals, cerebral seizures occurred. On one of these occasions, patient died.Death: April 22, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	19	+	1-15 +	5555543100	222210
Mar. 22/'26	+	+	4.6	+		5555543200	222220

Case No. 59.

J.O. Female.

Date of admission: April 25, 1924. Age 53. Widow.Estimated onset of disease: 1922.Dates of inoculation: September 10, 1924. February 24, 1926.Mental state before treatment: Grandiose delusions of wealth; restless, troublesome, wandering about aimlessly.Mental state after treatment: No progress. Dull, stupid and demented. Remained simple and childish.Death: September 28, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	9.6	+	+	5555543210	222210
Dec. 2/'24	+	+	2	+	+	5555210000	222210

Case No. 60.

S.C. Male.

Date of admission: August 28, 1924. Age 33. Married.Estimated onset of disease: November 1922.Date of inoculation: October 3, 1924.Mental state before treatment: Confusional type. Lost and confused in mind; disorientated; impairment of memory.Mental state after treatment: He became dull, grossly demented, unable to talk, bedridden.Death: November 3, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	57	+	1-3 +	5555432100	222210
Nov. 3/'25	Neg.	Neg.	6.6	Neg.		0012221000	110000

Case No. 61.

H.B. Male.

Date of admission: September 10, 1924. Age 43. Married.Estimated onset of disease: Insufficient history.Dates of inoculation: October 13, 1924. November 18, 1924.Mental state before treatment: Maniacal type. Very restless and excited; talks continuously and irrelevantly; delusions of persecution present.Mental state after treatment: Died December 1929. For three years enjoyed fair bodily and mental health; then developed seizures at periodic intervals until his death in 1929.Discharged: March 28, 1925.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	54	+	+	555554210	122220
Mar. 22/'25	+	+	3.6	+	1-15 +	5555421000	122110

Case No. 62.

J.S. Male.

Date of admission: August 26, 1924. Age 43. Married.Estimated onset of disease: December 1923.Date of inoculation: November 26, 1924.Mental state before treatment: Confusional type. Lost, confused and impaired memory; hallucinations of sight present.Mental state after treatment: He died a few days after malarial treatment had finished, in epileptiform seizures.Death: December 30, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	137	+	1-15 +	5555532210	222220
Dec. 5/'24	+	+	11.6	+		5554322100	222210

Case No. 63.

R.B. Male.

Date of admission: October 16, 1924. Age 37. Married.Estimated onset of disease: Several years previously.Date of inoculation: December 13, 1924.Mental state before treatment: Demented type. Dull, stupid; disorientated; noisy and troublesome.Mental state after treatment: Hyper-pyrexia developed during course of malaria and patient died.Death: December 27, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	18	Doubtful.		5555542100	222210

Case No. 64.

G.W. Female.

Date of admission: December 4, 1923. Age 49. Married.Estimated onset of disease: December, 1922.Date of inoculation: March 24, 1924.Mental state before treatment: Confusional type. Very confused, rambles in talk, has no idea of her surroundings; she is unable to do anything for herself.Mental state after treatment: examined June, 1931. She is completely demented, lies in bed without interest, is resistive and troublesome; rarely speaks. Habits are wet and dirty.Bodily health after treatment: Poor. She is bedridden.Nervous system: She is so resistive as to make examination impossible.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	118			5555432100	222210
Dec. 16/'24.	Neg.	F +	5	Neg.		Pink 553332210	100000

Case No. 65.

L.S. Female.

Date of admission: August 7, 1922. Age 53. Single.Estimated onset of disease: History insufficient.Date of inoculation: April 15, 1924.Mental state before treatment: Confusional type. She is mentally lost, has no idea of time or place and is unable to converse rationally; hears imaginary voices and shouts replies.Mental state after treatment: Examined June, 1931. She is in a state of partial dementia. She rambles and talks in a childish fashion; her memory is impaired; she is fretful and querulous and has no insight into her condition.Bodily health after treatment: Poor. She is bedridden.Nervous system: Pupils unequal; left larger than right. Do not contract to light. Contract to accommodation.

Case No. 65 (contd).

Tongue - - no tremor.
 Face - - no tremor.
 Speech - - normal.
 Arms - - reflexes present (+)
 Abdomen - - reflexes absent.
 Knee jerks - present, but dull.
 Babinsky - - flexor.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	49	+	+	0122210000	111000
June 23/'31.	Neg.	Neg.	2	Doubt- ful.		1111000000	000000

Case No. 66.

M.H.H. Female.

Date of admission: June 17, 1919. Age 53. Widow.

Estimated onset of disease: 1 month.

Dates of inoculation: September 1, 1924, October 3, 1924,
December 15, 1925.

Mental state before treatment: Confused type. Confused in mind, rambling and incoherent in conversation, simple and childish in her ways; at times has periods of excitement.

Mental state after treatment: Examined June, 1931. She is very noisy, shouts, talks excitedly and incoherently, and has no sense or insight whatever.

Bodily health after treatment: Poor. She is bedridden.

Nervous system: Pupils unequal. Right larger than left. Do not contract to light.
 Knee jerks - absent.
 Babinsky - no response.
 Further examination impossible owing to excited and resistive condition.

Number of inoculations: 3.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	F+	+	8.3	Doubt- ful.		5553210000	221000
June 25/'31.	Neg.	Neg.	2	Neg.		0110000000	$\frac{1}{000000}$

Case No. 67.

J.B. Male.

Date of admission: February 7, 1924. Age 40. Married.Estimated onset of disease: December, 1923.Date of inoculation: February 15, 1924.Mental state before treatment: Grandiose type. Delusions of physical prowess present. Disorientated; lost and confused. Memory impaired.Mental state after treatment: Examined August, 1931. He is dull and apathetic mentally. Memory for distant events poor. He is untidy and slovenly in appearance. Worked for a time after discharge, but states that work is now bad to get. He does not seem bright enough to hold a job in keen competition.Bodily health after treatment: Fair.Nervous system: Pupils equal, regular, but do not contract to light. Contract to accommodation.

Tongue - - no tremor.
 Face - - no tremor.
 Speech - - slight slurring.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - both absent.
 Babinsky - - slight extensor response.

Discharged: December 30, 1924.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	105			5555542210	222110
Nov. 26/'24.	F+	+	4.3	+		Pink 5554321000	221000

Case No. 68.

W.H. Male.

Date of admission: June 10, 1924. Age 46. Widower.Estimated onset of disease: 3 months ago.Date of inoculation: June 25, 1924.Mental state before treatment: Melancholic type. Depressed, solitary, miserable, emotional. Suicidal tendencies present. Confusion of mind present.Mental state after treatment: Examined August, 1931. Talks rationally, is orientated, memory very good. Has been working at intervals since discharge and earning £2 per week. He is now unemployed on account of slack times. States he does not get depressed. No delusions apparent. Occasionally has pains in the head.

Case No. 68 (contd).

Bodily health after treatment: Good.

Nervous system: Pupils unequal, right larger than left.
Both irregular. Neither contracts to light.
React to accommodation.

Tongue - - no tremor.
Face - - no tremor.
Speech - - normal.
Arms - - reflexes unable to elicit.
Abdomen - - reflexes absent.
Knee jerks - absent.
Babinsky - indifferent response

Discharged: October 28, 1924.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	15	+	1-25 +	5555542100	222210
Oct. 20/'24.	+	+	7	+	1-25 +	5555442110	222210
Aug. 23/'31.	Neg.	Neg.	0.3	+++		0011000000	Neg.

Case No. 69.

D.S. Male.

Date of admission: October 6, 1924. Age 42. Single.

Estimated onset of disease: Insufficient history.

Date of inoculation: October 31, 1924.

Mental state before treatment: Maniacal type. Excited and garrulous, rambling in his conversation, noisy and shouts at the other patients. Delusions of persecution present.

Mental state after treatment: After discharge unable to be traced. He had been a vagrant type prior to admission.

Discharged: April 3, 1925, to Prescott Union. Discharged from Prescott, May 5, 1925, since when no trace.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge. Reaction.
				C.S.F.	Blood		
Apr. 2/'25.	+	+	2	+	Doubt- ful.	5555422100	222000

Case No. 70.

A.M. Male.

Date of admission: October 27, 1924. Age 47. Married.

Estimated onset of disease: March, 1924.

Date of inoculation: November 18, 1924.

Mental state before treatment: Melancholic type. Unduly depressed and distressed in mind. States that God has taken his soul away from him and that he is damned, and that no one could be worse than he has been. Emotional and unstable.

Mental state after treatment: Examined August, 1931. Talks rationally, is orientated, memory good for recent and distant events. No delusions. Is not depressed. Worked for two years as labourer after leaving Whittingham, but does not work now. Cannot now get a job. Is slightly simple in his outlook.

Bodily health after treatment: Apparently good, but he complains of general weakness, and discomfort in his head. Blames this on an injection in his arm by a doctor in Bolton.

Nervous system: Pupils equal, small, regular. Reaction to light very sluggish. React well to accommodation.

Tongue - - slight tremor.
Face - - no tremor.
Speech - - normal.
Arms - - reflexes very sluggish.
Abdomen - - reflexes not elicited.
Knee jerks - dull and sluggish.
Babinsky - extensor response right
and left.

Discharged: March 24, 1925.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	295			5555542110	222220
Mar. 22/'25.	+	+	5.3	Doubt- ful.	Doubt- ful.	5554221000	222100

Case No. 71.

J.W.J. Male.

Date of admission: November 29, 1924. Age 53. Married.

Estimated onset of disease: Several weeks - October, 1924.

Dates of inoculation: December 12, 1924, March 3, 1925.

Mental state before treatment: Grandiose type. Delusions of great wealth present. At times restless; wanders about aimlessly; memory defective for recent events.

Mental state after treatment: Examined August, 1931. Talks well. Memory for recent events at times faulty. No delusions noticeable. No hallucinations. Sleeps well, but light sleeper. Wife says that he is easily excited and gets noisy for little reason; states he is unreliable in his moods. Is highly suggestible.

Case No. 71 (contd).Bodily health after treatment: Good.Nervous system: Pupils unequal; right larger than left. Both irregular. Right sluggish contraction to light. Left no contraction. Both contract to accommodation.

Tongue - - tremor present.
 Face - - no tremor.
 Speech - - normal.
 Arms - - reflexes absent.
 Knee jerks - absent.
 Babinsky - flexor right and left.

Discharged: June 25, 1925.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	35	Neg.		5553210000	222000
June 22/'25.	+	+	8.6	Neg.	Neg.	5554321000	221000

Case No. 72.R.B. Male.Date of admission: January 23, 1925. Age 59. Widower.Estimated onset of disease: September, 1924.Date of inoculation: February 3, 1925.Mental state before treatment: Confusional type, with, in addition, grandiose delusions developing shortly after admission.Mental state after treatment: He remained disorientated for time, and reduced mentally; continued to have grandiose delusions. Died following a cerebral seizure.Death: February 12, 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	51	++	1-20 +	5555543100	222210
June 17/'27.	+	+	11	+++		5555543210	222100

Case No. 73.

G.W.H.L. Male.

Date of admission: February 10, 1925. Age 39. Married.Estimated onset of disease: August, 1923.Date of inoculation: February 18, 1925.Mental state before treatment: Confusional type. Lost, disoriented, and impairment of memory.Mental state after treatment: No improvement occurred. He died following cerebral seizures.Death: May 10, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	16	Doubtful.	1-3 +	5555432100	222100

Case No. 74.

A.B. Male.

Date of admission: February 23, 1925. Age 45. Single.Estimated onset of disease: Several weeks.Date of inoculation: March 21, 1925.Mental state before treatment: Maniacal type.
Continually talks in a rapid manner; grandiose ideas about his abilities; is emotional and weeps or laughs on slight provocation.Mental state after treatment: Died December 30, 1926.Discharged: August 2, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	++	206	+	+	5555543210	222220
June 22/'25.	+	+	6	+	1-5 +	5554321000	221000

Case No. 75.

W.G. Male.

Date of admission: February 27, 1925. Age 48. Married.Estimated onset of disease: October, 1924.Date of inoculation: April 7, 1925.Mental state before treatment: Confusional type.
Disorientated in time and place; unable to give a rational account of himself.Mental state after treatment: Remained unchanged; dull, confused, dirty in habits, disorientated, and became bedridden.Death: December 24, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	129	+	1+40	5555532100	222100
June 17/'27.	+	+	16	++	1-3 +	1113220000	211000

Case No. 76.

N.J. Male.

Date of admission: October 23, 1924. Age 46. Married.Estimated onset of disease: August, 1924.Date of inoculation: April 27, 1925.Mental state before treatment: Confusional type. Lost in mind and dull. He was inclined to be emotional and regularly burst into tears.Mental state after treatment: No improvement recorded.Death: May 24, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	F+	F+	0.3	+		4543210000	222000

Case No. 77.

T.B. Male.

Date of admission: April 16, 1925. Age 48. Married.Estimated onset of disease: Insufficient history.Date of inoculation: May 15, 1925.Mental state before treatment: Dull, lost, confused, disorientated; delusions of persecution present.Mental state after treatment: Patient developed pneumonia at the end of malarial treatment and died.Death: June 11, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	91	+		5555431000	222220

Case No. 78.

J.H.H. Male.

Date of admission: April 22, 1925. Age 34. Married.Estimated onset of disease: February, 1925.Date of inoculation: May 29, 1925.Mental state before treatment: Grandiose type. Delusions of flying capabilities; in addition, partly demented.Mental state after treatment: Patient became restless, troublesome and resistive, and difficult to manage.Death: August 12, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	48	+	Doubtful.	5555543210	222110

Case No. 79.H.A.O. Male.Date of admission: June 10, 1925. Age 46. Married.Estimated onset of disease: May 1, 1925.Date of inoculation: June 16, 1925.Mental state before treatment: Grandiose type. He is euphoric and has delusions of his abilities in politics, in boxing and running, etc. Is emotional and weeps without adequate cause. Memory is impaired.Mental state after treatment: Died June 3, 1931.
Had been able to work, and mental condition good for 5½ years after his discharge.Discharged: October 28, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	62	+	+	5555543210	222100
Oct. 20/'25.	Neg.	+	3.6	+	1-40 +	<u>Pink</u> 5555210000	221100

Case No. 80.R.L. Male.Date of admission: May 22, 1925. Age 47, Married.Estimated onset of disease: June, 1923.Date of inoculation: July 3, 1925.Mental state before treatment: Confusional type, with partial dementia.Mental state after treatment: He died during the course of his malarial treatment.Death: July 24, 1925.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	10	Neg.	Neg.	5555432100	222210
July 24/'25.	+	+	11			5554321000	222110

Case No. 81.

T.C. Male.

Date of admission: May 21, 1925. Age 42. Married.Estimated onset of disease: May, 1923.Date of inoculation: July 21, 1925.Mental state before treatment: Melancholic type. Depressed, lachrymose, dull and confused.Mental state after treatment: Following treatment he developed marked hallucinations. His depression cleared up and he was able to do some light work in the Hospital.Death: October 5, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	23	+	1 ₊ 4	5555543200	222210
May 25/'27.	F+	+	6.3	++	Neg.	1143210000	110000

Case No. 82.

A.E.E. Male.

Date of admission: August 6, 1925. Age 54. Married.Estimated onset of disease: 6 months ago.Date of inoculation: August 25, 1925.Mental state before treatment: Grandiose type. Unduly elated, garrulous, and full of exaggerated ideas of his own personal value, and impossible expansive schemes present.Mental state after treatment: Admitted Winwick Mental Hospital, October 11, 1926.
Died Winwick Mental Hospital, October 26, 1930.Discharged: March 29, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	40	+	1 ₊ 10	5555543200	222210
Mar. 15/'26.	+	+	6.6	+	1 ₊ 5	5555432100	222100

Case No. 83.J.J.J. Male.Date of admission: August 13, 1925. Age 36. Married.Estimated onset of disease: August, 1923.

Dates of inoculation: 1st. September 16, 1925; Successful.
 2nd. February 3, 1926; Parasites present for a few days. No rigors.
 3rd. May 31, 1927. Unsuccessful.
 4th. July 8, 1927. Unsuccessful.
 5th. September 12, 1927. New strain - five rigors resulting.

Mental state before treatment: Maniacal type. Excited, impulsive, and rushing about; lost, confused, and lacking in insight.Mental state after treatment: Remained lost, confused, and lacking in insight. Habits became depraved.Death: March 13, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	24	+	1-15	5554321000	221000
Mar. 23/'26.	+	+	2	+++		Pink. 5543210000	110000

Case No. 84.D.J. Male.Date of admission: August 24, 1925. Age 47. Single.Estimated onset of disease: July, 1924.Date of inoculation: September 17, 1925.Mental state before treatment: Confusional type. Dull, lost, confused, disorientated, restless and defective memory.Mental state after treatment: No improvement. He became grossly demented, frequently very noisy and troublesome.Death: November 2, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	51	+		5555443200	222220
Mar. 6/'26.	+	+	55			5555554321	222210

Case No. 85.

E.B. Male.

Date of admission: August 5, 1925. Age 40. Single.Estimated onset of disease: No history, except previous admission to Prestwich Mental Hospital, date unknown.Date of inoculation: October 6, 1925.Mental state before treatment: Grandiose type.
Delusions of great wealth and great physical ability present.Mental state after treatment: No improvement occurred.
Confused and disorientated. Progressed into dementia.Death: October 2, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	66	+	1-15 +	5555543210	222100
Mar. 15/'26.	+	+	32.6	+	1-15 +	5555543210	222210

Case No. 86.

C.H. Female.

Date of admission: July 4, 1925. Age 55. Married.Estimated onset of disease: History insufficient.Date of inoculation: December 3, 1925.Mental state before treatment: Demented type. Dull, stupid, simple and childish, and reduced mentally.Mental state after treatment: No improvement to record. She remained dull, simple, and reduced mentally.Death: October 21, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood.		
On admission	+	+	12			5555432100	222100
Aug. 20/'28.	Neg.	F+	0.6	+		1123110000	110000

Case No. 87.

H.B. Female.

Date of admission: October 26, 1925. Age 38. Married.Estimated onset of disease: October, 1924.Dates of inoculation: December 3, 1925, January 8, 1926,
May 8, 1926.Mental state before treatment: Demented type. Talk incoherent, complete lack of insight and orientation, laughs and smiles in a foolish manner.Mental state after treatment: No improvement. Condition remained unchanged.Death: July 8, 1927.Number of inoculations: 3.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	88	+		5555543210	222200
Dec. 9/'26.	+	+	4.6	+++	1-45 +	Pink. 5555432100	221100

Case No. 88

E.P. Male.

Date of admission: October 2, 1925. Age 42. Married.Estimated onset of disease: April 24, 1925.Date of inoculation: November 2, 1925.Mental state before treatment: Confusional type. Noisy, garrulous and rambling in speech; disorientated in time and place, foolish and childish in behaviour. Memory for recent events defective.Mental state after treatment: Since readmission he has been a patient in this Hospital. Examined June, 1931. He is demented, talks incoherently, is disorientated in time and place. His conduct is restless and he is frequently noisy. Habits are wet and dirty.Bodily health after treatment: Poor. He is confined to bed.

Nervous system: Pupils small, irregular. Do not contract to light. Contract to accommodation.

Tongue - - tremor.
Face - - no tremor.
Speech - - indistinct.
Arms - - reflexes present.
Abdomen - - reflexes not elicited.
Knee jerks - - dull.
Babinsky - - indifferent response.

Discharged: May 1, 1926.Readmitted: June 23, 1930.Died: August 7, 1931.Number of inoculations: 1.

Case No. 88 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	98	+	1-45 +	5555543210	222210 2
June 18/'31.	F+	+	2	+		5542100000	2I1000

Case No. 89.

H.F. Male.

Date of admission: May 27, 1925. Age 44. Single.

Estimated onset of disease: May, 1923.

Dates of inoculation: May 30, 1925, September 12, 1927.

Mental state before treatment: Grandiose type. He is euphoric and deluded, possesses great wealth; memory defective; dis-orientation present.

Mental state after treatment: Examined May, 1931. He is simple, childish, slightly reduced mentally, and has no great insight. He is not, however, deluded, shows good memory for the past, is orientated in time and place, and is well behaved and agreeable; works well and is allowed on parole in the grounds.

Bodily health after treatment: Fair.

Nervous system: Pupils equal, slightly irregular in shape. Do not contract to light. Contract to accommodation.

Tongue - - tremor present.
 Speech - - thick and slurring.
 Face - - tremors present.
 Abdomen - - reflexes exaggerated.
 Arms - - reflexes present.
 Knee jerks - absent both sides.
 Babinsky - flexor response, right and left.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	46	+	1-5 +	5555543210	222220
June 9, 1931.			1.3	+		Neg.	Neg.

Case No. 90.

D.B. Male.

Date of admission: July 13, 1925. Age 54. Widower.Estimated onset of disease: March, 1925.Date of inoculation: August 7, 1925.Mental state before treatment: Confusional type. Dull, confused, memory impaired for past events, disorientation in time and place present. At times fails to appreciate simple questions.Mental state after treatment: Slight improvement, but remains simple and reduced. Is able to work in the wards.Bodily health after treatment: Fair.Nervous system: Pupils unequal. No reaction to light or to accommodation.Tongue - - no tremor.
Speech - - normal.
Knee jerks - present.Transferred: October 4, 1928, to Burnley Union.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	67	+	Weakly +	5555543210	222210
Aug. 15/'28.	F+	F+	0	Neg.		1112100000	1 010000

Case No. 91.

A.M. Female.

Date of admission: February 16, 1925. Age 37. Married.Estimated onset of disease: History insufficient.Date of inoculation: October 23, 1925.Mental state before treatment: Melancholic type. Dull, stupid and depressed, disinterested in her surroundings, inattentive in her habits.Mental state after treatment: Examined June, 1931. She is demented. She is sullen, resistive, stupid in her behaviour, and lies in bed taking no apparent interest in her surroundings, and requiring every attention. Habits are wet and dirty.Bodily health after treatment: Poor. She is bedridden.

Case No. 91 (contd).

Nervous system: Pupils unequal; left larger than right.
Both irregular. Do not contract to light.
Contract to accommodation.

Face - - no tremors.
Tongue - - resists examination.
Speech - - refuses to speak.
Arms - - reflexes faintly present.
Abdomen - reflexes absent.
Knee jerks - absent.
Babinsky - response indifferent.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	34	+	1-20 +	5555543210	222220
June 23/'31.	+	+	1.3	+		0112100000	<u>21</u> 100000

Case No. 92.

L.W. Female.

Date of admission: September 15, 1924. Age 41. Married.

Estimated onset of disease: September, 1923.

Date of inoculation: October 25, 1925.

Mental state before treatment: Maniacal type. Noisy, excited,
and is constantly shouting in answer to auditory hallucinations.

Mental state after treatment: Examined June, 1931. Relieved. She
is very simple, childish, and reduced mentally; her memory for
the past is greatly impaired. She is disorientated in time.
She is able to do light work, but requires care and supervision.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left irregular. Do not
contract to light. Contract to accommodation.

Tongue - - slight tremors.
Face - - slight tremor.
Speech - - slurring at times.
Arms - - reflexes cannot be elicited.
Abdomen - - reflexes present.
Knee jerks - absent.
Babinsky - flexor response right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	21	+		5555542100	222210
June 23/'31.	F+	+	1	++		<u>Pink.</u> 55 552100000	<u>2</u> 110000

Case No. 93.

A.McC. Female.

Date of admission: September 19, 1925. Age 41. Married.Estimated onset of disease: Confined into Mental Hospitals previous to present attack.Date of inoculation: November 9, 1925.Mental state before treatment: Persecutory type. Suspicious, apprehensive, and deluded that electricity and magnetism are being placed on her head, that her food has been poisoned. Her conversation is disjointed and disconnected.Mental state after treatment: She has been a patient in Lancaster Mental Hospital since February, 1930. She is now showing delusions of persecution and is dirty and untidy in habits, (November, 1931).Discharged: June 5, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	86	+		5554321000	110000
Nov. 3/'31.	Neg.	Neg.	16	Neg.	Neg.	Neg.	

Case No. 94.

P.S. Male.

Date of admission: September 17, 1925. Age 41. Married.Estimated onset of disease: September, 1924.Dates of inoculation: November 23, 1925, February 2, 1928.Mental state before treatment: Demented type. Dull, reduced mentally, simple and childish in his ways. No memory for recent events; at times very restless and noisy.Mental state after treatment: Examined June, 1931. He is now demented, is in a dull, stupid condition, and agrees with any suggestion made to him.Bodily health after treatment: Fair.Nervous system: Pupils unequal; right larger than left. Do not contract to light. Contract to accommodation.

Tongue - tremors present.
 Face - tongue-sucking habit present.
 Arms - reflexes present.
 Abdomen - reflexes diminished.
 Knee jerks - present (+)
 Babinsky - flexor response right and left.

Number of inoculations: 2.

Case No. 94 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	24	+	1-45 +	5555554210	222210
June 9/'31.	Neg.	F+	2.6	Neg.		0001000000	1 000000

Case No. 95.

E.D.P. Female.

Date of admission: September 7, 1925. Age 41. Married.

Estimated onset of disease: May 1923.

Date of inoculation: November 30, 1925.

Mental state before treatment: (Tabo-Paretic type). Confusional type. She is unable to tell her name, age, or the day of the week. At times is excited, troublesome; is unstable mentally and at times emotional.

Mental state after treatment: Examined June 1931. She is completely demented: lies inert in bed and requires every attention; she is wet and dirty.

Bodily health after treatment: Poor. She is bedridden.

Nervous system: Pupils unequal; right larger than left. Contract sluggishly to light and to accommodation. Face - she sucks her tongue continually. She is contracted. Arms and legs and other reflexes impossible to ascertain.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	13	+		5555443210	222220
June 23/'31	F+	+	0.3	Neg.		1123100000	110000

Case No. 96.E.A. Male.Date of admission: October 22, 1925. Age 43. Married.Estimated onset of disease: March 1925.Date of inoculation: December 15, 1925.Mental state before treatment: Melancholic type; depressed and worried over his position and affairs; memory impaired and general intelligence faulty.Mental state after treatment: Admitted Rainhill Mental Hospital March 19, 1927. Has not worked for the last 8 years. At present (October 1931) is still in Rainhill, who report that he is slowly deteriorating both mentally and physically.Discharged: March 29, 1926.Re-admitted: May 8, 1926.Discharged: February 21, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	20	+	Doubtful.	5555432100	222210
Jan. 17/'27	+	+	3.6	Doubtful.	Doubtful.	Pink 5554210000	111000

Case No. 97.E.W. Male.Date of admission: December 23, 1924. Age 50. Widower.Estimated onset of disease: History insufficient.Date of inoculation: January 1, 1925.Mental state before treatment: Confusional type; wanders about aimlessly; is noisy and restless; conversation rambling; disorientation present; memory for the past grossly impaired.Mental state after treatment: Examined October 1931; Memory good; speaks well; answers rationally to questions; no delusions; at work ever since discharge as dock labourer; relations say he is perhaps too quiet.Bodily health after treatment: Fair.

Case No. 97 (contd).

Nervous system: Pupils small; contracted. Do not react to light. React to accommodation.

- Tongue - - no tremor.
- Speech - - somewhat slurring.
- Face - - no tremor.
- Arms - - reflexes present.
- Abdomen - - reflexes present.
- Knee jerks - absent.
- Babinsky - - extensor response right and left.

Discharged: October 29, 1925.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	16	+	1-45 +	5555432100	222100
Oct. 20/'25	+	+	5	+	1-45 +	Pink 5555422000	222110

Case No. 98.

T.G. Male.

Date of admission: December 15, 1924. Age 37. Married.

Estimated onset of disease: Several weeks.

Date of inoculation: January 20, 1925.

Mental state before treatment: Maniacal type; restless, noisy, destructive and faulty in habits; disorientated in time and place; has no insight; emotional and unstable; fleeting delusions of grandeur present.

Mental state after treatment: Examined August 1931; he is able to carry on a rational conversation; memory for distant and recent events is good; is well orientated; not confused; no delusions or hallucinations; no headaches; sleeps well and feels in good health; works as a painter and has been painting at heights of 40-50 feet this last week and never had any difficulty; except for a few weeks' idleness now and again has been in constant employment since discharge; earns £3.12.0d. per week; he becomes worried somewhat easily.

Bodily health after treatment: Good.

Nervous system: Pupils equal; regular. React to light and to accommodation.

- Tongue - - slight tremor.
- Face - - no tremor.
- Speech - - slurring at times.
- Arms - - reflexes present.
- Knee jerks - present.
- Babinsky - indifferent response.

Discharged: April 28, 1925.

Case No. 98 (contd).

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	213	+	1-15	5555532100	222210
April 22/'25	+	+	13	+	1-8	5555432100	222210
Aug. 20/'31	Neg.	Neg.	0.6	Neg.		0011000000	Neg.

Case No. 99.

G.H.A. Male.

Date of admission: August 6, 1925. Age 32. Married.

Estimated onset of disease: July 1925.

Date of inoculation: August 29, 1925.

Mental state before treatment: Grandiose type; is full of delusions of grandeur; states he is a millionaire; is confused in mind; disorientated in time and place; restless, emotional, weeping or laughing on slight provocation; at times becomes excited.

Mental state after treatment: Examined June 1931; memory good; orientation good; no delusions; he complains of noises in the head and difficulty in sleeping; up till April 1931 had been working on road repairs for Corporation and earned £2. 5. Od. per week.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. Both react very sluggishly to light. React to accommodation. Left eye external squint, present as a boy.

Tongue - - tremor.
 Face - - no tremor.
 Speech - - fair.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - sluggish.
 Babinsky - indifferent response.

Discharged: July 3, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	24	+	1-10		
Mar. 15/'26	+	+	1.6	+	1-15	5555543210	222100
June 29/'31	Neg.	Neg.	1.6	+		5554321000	221000
						0011000000	$\frac{1}{000000}$

Case No. 100.

C.C.H. Male.

Date of admission: October 6, 1925. Age 44. Married.

Estimated onset of disease: May 1924.

Dates of inoculation: October 23, 1925. January 1, 1926.

Mental state before treatment: Grandiose type; deluded that he has cured several hundreds of people of syphilis; his statements are unreliable and contradictory, and he is easily suggestible; memory is poor and he suffers from confusion of ideas.

Mental state after treatment: Examined August 1931; is well spoken; rational, but complains of lacking strength; has not worked except for 8 weeks since discharge; he has good insight and can discuss his affairs at length and with discretion; complains of headaches and neurasthenia at times; ?pensionitis; he is easily excited.

Bodily health after treatment: Good.

Nervous system: Pupils equal; left irregular slightly. Both contract to light and to accommodation.

Tongue - - slight tremor.
Speech - - normal.
Arms - - not able to elicit reflexes.
Abdomen - - reflexes not present.
Knee jerks - both absent.
Babinsky - flexor right and left.

Discharged: March 31, 1926.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	50	+	1-45 +	5555543210	222220
Mar. 16/'26	+	+	3.6	+	1-45 +	5555543210	222210

Case No. 101.

M.E.W. Female.

Date of admission: March 3, 1925. Age 41. Widow.

Estimated onset of disease: January 1925.

Date of inoculation: November 9, 1925.

Mental state before treatment: Confusional type; confused, noisy, impulsive and bad tempered; she rambles incoherently from one subject to another; weeps for no apparent reason.

Case No. 101 (contd).

Mental state after treatment: Examined October 1931; she shows fair memory for recent and past events; she is not deluded; sleeps well and has not required any medical attention since leaving Hospital; she is of a simple type, but that would be her normal grade without illness; she does housework.

Bodily health after treatment: Quite good.

Nervous system: Pupils unequal; left larger than right; both regular. No reaction to light. React to accommodation. There is a left-sided drooping of upper eyelid.

- Tongue - - no tremor.
- Speech - - normal.
- Face - - somewhat expressionless.
- Arms - - reflexes present.
- Knee jerks - present.
- Babinsky - not elicited.

Discharged: October 30, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	51			5555543210	222210
Oct. 14/'26	Neg.	Neg.	0.6	+		1111210000	211000

Case No. 102.

W.L. Male.

Date of admission: December 15, 1925. Age 54. Married.

Estimated onset of disease: May 1925.

Date of inoculation: January 14, 1926.

Mental state before treatment: Grandiose type; deluded that he is a remarkably fine singer, possessed of untold wealth, and also has physical strength to a remarkable degree.

Mental state after treatment: No improvement to record; grandiose delusions persisted with, at times, delusions of persecution.

Death: September 21, 1928.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	164	+		5555543210	222210
Jan. 6/'27	F+	+	4.3	Weakly +		0012321000	210000

Case No. 103.P.G. Male.Date of admission: November 30, 1925. Age 61. Married.Estimated onset of disease: Several months.Date of inoculation: February 13, 1926.Mental state before treatment: Melancholic type. Depressed, miserable, and weeps when explaining his circumstances. At times restless, noisy and stupid in manner. Changing delusions present.Mental state after treatment: Died at home, May, 1927.Discharged: April 29, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	56	+		5555432100	222220
Apr. 26/'26.	+	+	14.6	+++		5555432100	222210

Case No. 104.D.Y. Male.Date of admission: January 12, 1926. Age 37. Married.Estimated onset of disease: July, 1925.Date of inoculation: February 22, 1926.Mental state before treatment: Confusional type, with partial dementia. Confused and lost in mind, grossly impaired memory, disorientated in time and place. His conversation was incoherent.Mental state after treatment: No improvement recorded. Progressive dementia. Patient died from pneumonia.Death: July 6, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	93	+	+	5555544222	122220
July 2/'26.	E+	E+	10	++ $\frac{1}{2}$		0000000000	000000

Case No. 105.

S.B.E. Male.

Date of admission: February 11, 1926. Age 44. Married.

Estimated onset of disease: January, 1926.

Date of inoculation: March 10, 1926.

Mental state before treatment: Confusional type. Noisy and voluble in conversation. Hallucinations of hearing present, stating that the King talks to him. Disorientated, and defective memory.

Mental state after treatment: Died during treatment.

Death: April 10, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	37	+	1 ₊ 15	5555543210	222110

Case No. 106.

O.A. Male.

Date of admission: January 12, 1926. Age 53. Married.

Estimated onset of disease: Two to three years.

Date of inoculation: April 3, 1926.

Mental state before treatment: Confusional type, with hallucinations of hearing; defective memory.

Mental state after treatment: Died during treatment.

Death: April 18, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	41	+	+	5555521000	222220
Mar. 6/'26.	+	+	34.3	++		5555543210	222210

Case No. 107.

W.T. Male.

Date of admission: February 5, 1926. Age 56. Married.

Estimated onset of disease: August, 1925.

Date of inoculation: April 8, 1926.

Mental state before treatment: Confusional type. Dull, tendency to depression, completely confused with regard to his position and affairs.

Mental state after treatment: Died during treatment, cerebral seizures developing.

Death: May 4, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	60	+		5555542210	222220
May 3/'26.	++	++	533 Polymorph. Mononuclear. Lymphocytes.	+++		Pink 5555554321	122220

Case No. 108.

M.B. Female.

Date of admission: March 22/'26. Age 36. Married.

Estimated onset of disease: ? February, 1926.

Date of inoculation: April 26, 1926.

Mental state before treatment: Melancholic type. Depressed, emotional, delusions of unworthiness. In addition, confusion of mind present.

Mental state after treatment: After treatment patient became very noisy, restless, and excited almost continuously. Delusions of persecution remained. Died during cerebral seizures.

Death: April 25, 1928.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	31	+++	+	5555432100	222210
Aug. 1/'27.	F+	+	3.6	Weakly +		2222210000	10000

Case No. 109.

J.W. Male.

Date of admission: March 3, 1926. Age 49. Married.

Estimated onset of disease: February, 1926.

Date of inoculation: May 7, 1926.

Mental state before treatment: Grandiose type. He is voluble and plausible in general conversation, is deluded he has discovered the secret of perpetual motion, that he is a celebrated singer and skilful dancer, etc. Memory impaired and dis-orientation present.

Mental state after treatment: Died November 18, 1930, after 1 year and 3 months in Mental Hospital. Had worked for three years as engine driver after discharge from this Hospital.

Discharged: September 30, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	36	+	+	5555432100	222100
Sept. 3/'26.	+	+	33	+++		0012211000	121000

Case No. 110.

A.W.B. Male.

Date of admission: June 17, 1926. Age 51. Married.

Estimated onset of disease: December, 1925.

Date of inoculation: July 29, 1926.

Mental state before treatment: Grandiose type. Delusions of great wealth present. Hallucinations of hearing present.

Mental state after treatment: Following treatment improvement was marked. Patient was rational and had good insight. Delusions no longer present. Patient discharged recovered November 22, 1926. Readmitted November 15, 1927. Lost, confused, incoherent, faulty in habits. Died November 28, 1927.

Discharged: November 22, 1926.

Readmitted: November 15, 1927.

Death: November 28, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	129	+++		5555543210	222210
Nov.16/'27.	++	++	266	+++	+	5555554321	222220

Case No. 111.

J.A.W. Male.

Date of admission: May 6, 1926. Age 44. Married.

Estimated onset of disease: Unknown.

Date of inoculation: September 14, 1926.

Mental state before treatment: Confusional type. Instability and emotion. Unduly happy and contented; at other times depressed.

Mental state after treatment: No improvement.

Death: February 20, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	4.3	++	1-5 +	5555543210	222220
Feb. 20/'27.	+	+	7			5555542110	222210

Case No. 112.

M.T., Male.

Date of admission: March 19, 1926. Age 31. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: September 17, 1926.

Mental state before treatment: Confusional type, with auditory hallucinations. Apathetic, dull, indifferent, disorientated in time and place.

Mental state after treatment: Restless, noisy, and increasing dementia. Died shortly after treatment.

Death: December 3, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	18			5555432100	222000

Case No. 113.

F.S.W. Male.

Date of admission: September 1, 1926. Age 39. Married.

Estimated onset of disease: January, 1925.

Date of inoculation: September 17, 1926.

Mental state before treatment: Grandiose type. He is full of impossible schemes for raising money and building churches. Memory is faulty and he has no insight. He readily responds to suggestions of a grandiose nature.

Mental state after treatment: Simple, reduced mentally, dull and stupid, lacking in insight and initiative. Habits are untidy and he requires constant care and attention.

Death: March 12, 1931.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	3.6	+	+	5555543210	222200
Apr. 16/'28.	F+	+	2.3			5555321000	122100

Case No. 114.

L.B. Female.

Date of admission: August 19, 1926. Age 54. Widow.

Estimated onset of disease: History insufficient.

Date of inoculation: September 18, 1926.

Mental state before treatment: Grandiose type. She has numerous delusions of grandeur, that she is the first woman to swim the Channel, that she has millions of pounds, etc.

Mental state after treatment: Died January 19, 1931.

Discharged: March 10, 1928.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	12.6	+++	1-45 +	5555543210	222100
Apr. 11/'27.	F+	+	2.3	+		Pink 5554321000	222100

Case No. 115.

E.A.N. Female.

Date of admission: August 21, 1924. Age 46. Married.

Estimated onset of disease: 2 years.

Date of inoculation: February 13, 1926.

Mental state before treatment: Demented type. Very confused, completely disorientated. She is unable to give any information, and replies to questions in an incoherent manner. Habits are untidy.

Mental state after treatment: Examined June, 1931. She is demented. She is dull, talks incoherently, can give no account of herself. Her habits are destructive and she is noisy and troublesome at intervals.

Bodily health after treatment: Fair.

Nervous system: Pupils equal, regular, but do not contract to light. Contract to accommodation.

Face - - no tremor.
Tongue - - slight tremor.
Speech - - very thick and slurring.
Arms - - reflexes present (+)
Abdomen - reflexes absent.
Knee jerks - poor response.
Babinsky - extensor response -
right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	24	+	+	5555542210	222220
June 25/'31.	Neg.	F+	2	Neg.		1121000000	

Case No. 116.

F.A.M.S. Female.

Date of admission: October 19, 1925. Age 28. Married.

Estimated onset of disease: July, 1925.

Date of inoculation: April 9, 1926.

Mental state before treatment: Maniacal type. Noisy, restless, excited, impulsive and springs out of bed suddenly, is destructive, tearing the bedclothes. At times is resistive.

Mental state after treatment: Examined June, 1931. She is rambling and nonsensical in her conversation, makes foolish statements about her past and about the Hospital, and generally displays a lack of balance or stability in her behaviour.

Bodily health after treatment: Fair.

Case No. 116 (contd).

Nervous system: Pupils unequal; right larger than left. Both slightly irregular. Do not contract to light or to accommodation.

Face - - slight tremor present.
 Tongue - - tremor present.
 Speech - - normal.
 Arms - - reflexes present (+)
 Abdomen - reflexes not elicited.
 Knee jerks- absent.
 Babinsky - response flexor right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	41	+		5555321000	221000

Case No. 117.

A.K. Female.

Date of admission: November 10, 1924. Age 41. Married.

Estimated onset of disease: July, 1923.

Date of inoculation: April 11, 1926.

Mental state before treatment: Demented type. She is completely disorientated, talks incoherently; shows some delusions of grandeur, stating she is a ten million dollar prince.

Mental state after treatment: Examined June, 1931. She is demented, rambles incoherently in conversation and agrees to any suggestions made to her. She is deluded that she is a millionaire. She is resistive and impulsive at times.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal. Left larger than right. Contract sluggishly to light and to accommodation.

Face - - no tremors.
 Tongue - - no tremors.
 Speech - - normal.
 Arms - - reflexes absent.
 Knee jerks- absent on left side,
 faint response on right.
 Babinsky reflex - flexor right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	18	+		5555432100	222100
June 24/'31.	Neg.	F+	R.B.C.	+		1111000000	Neg.

Case No. 118.

A.C. Male.

Date of admission: March 22, 1923. Age 36. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: April 22, 1926.

Mental state before treatment: Grandiose type. Delusions of grandeur present, stating he is the best singer in Great Britain, and earns £30 to £50 a day. He is garrulous. Conversation is rambling.

Mental state after treatment: Examined June, 1931. He is in a state of partial dementia. He is lost and confused, disorientated in time, and shows impairment of memory for recent events. At times he displays moods of excitement and at others apathy and depression.

Bodily health after treatment: Fair.

Nervous system: Pupils slightly unequal and irregular. Do not react to light. React to accommodation.

Face - - no tremor.
Tongue - - no tremor.
Speech - - normal.
Arms - - reflexes not elicited.
Abdomen - - reflexes present.
Knee jerks - absent.
Babinsky - extensor response right
and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	1.6	+++	+	1122100000	110000
June 15/'31.	Neg.	Neg.	0.6	weakly +		Neg.	Neg.

Case No. 119.

E.A.P. Female.

Date of admission: July 27, 1925. Age 49. Widow.

Estimated onset of disease: Some considerable number of months.

Date of inoculation: May 4, 1926.

Mental state before treatment: Maniacal type. Excited, noisy, shouts incoherently, has grandiose ideas, and is deluded she is related to the Queen.

Mental state after treatment: Examined June, 1931. Relieved. She is simple, childish, facile, suggestible, over-talkative, but on the whole agreeable and well behaved. She works fairly well.

Bodily health after treatment: Fair.

Case No. 119 (contd).

Nervous system: Pupils unequal; left larger than right. Large, circular, but do not contract to light. Contract to accommodation.

Face - - no tremor.
Tongue - - no tremor.
Speech - - normal.
Arms - - reflexes - faint response.
Abdomen - - reflexes present (+).
Knee jerks - absent.
Babinsky - response flexor right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	5.6	++	+	5554321000	211000
June 23/'31.	Neg.	F+	0.3	+		1111000000	$\frac{1}{000000}$

Case No. 120.

E.P. Male.

Date of admission: March 18, 1926. Age 41. Married.

Estimated onset of disease: September, 1924.

Date of inoculation: May 28, 1926.

Mental state before treatment: Demented type. Dull, lethargic, unable to give information on simple affairs. Memory grossly impaired. Habits dirty.

Mental state after treatment: Examined May, 1931. He is demented. He is dull, stupid, has no memory for the past, is disorientated in time and place, is lacking in insight. He is idle and untidy in his habits.

Bodily health after treatment: Fair.

Nervous system: Pupils small, contracted, right larger than left. Do not contract to light. Contract to accommodation.

Tongue - - tremor faint.
Speech - - thick.
Arms - - reflexes cannot be elicited.
Abdomen - - reflexes all present.
Knee jerks - absent.
Babinsky - - extensor response right and left.
Gait - - - slow and shuffling.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	20	+	++	5555543210	222210
June 9/'31.	Neg.	F+	5	Neg.		0001000000	$\frac{1}{000000}$

Case No. 121.

H.W.S. Male.

Date of admission: September 1, 1926. Age 23. Single.

Estimated onset of disease: Several months.

Date of inoculation: September 21, 1926.

Mental state before treatment: Grandiose type. Euphoric and elated: deluded that Princess Mary is his mother, and that he owns millions of pounds in money. His intelligence is limited.

Mental state after treatment: Examined May, 1931. He is simple and childish and is reduced mentally. He is unable to perform simple arithmetical calculations. His general knowledge is poor. He is not, however, deluded. His memory for the past is good, and he is orientated in time and place. He works well and is on parole in the grounds.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal. Left larger than right. Irregular in shape. Do not contract to light. Contract to accommodation.

Tongue - - tremors present.

Face - - slight tremors.

Speech - - thick and slurring.

Arms - - reflex response indifferant.

Abdomen - - reflexes slightly present.

Knee jerks - absent.

Babinsky - - flexor response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	34	+++		5555543210	222220
June 9/'31	Neg.	F+	9.3	Weakly +		Neg.	Neg.

Case No. 122.

F.A.D. Male.

Date of admission: February 10, 1926. Age 34. Married.

Estimated onset of disease: December, 1925.

Date of inoculation: March 10, 1926.

Mental state before treatment: Grandiose type. Elated and unduly pleased with his position and affairs. Deluded that he has unusual ability at mathematics, Latin, Greek, Spanish and German. He has no insight.

Mental state after treatment: Examined August, 1931. He appears in fair mental health. Wife states that he is at times absent-minded and somewhat unstable and gets easily excited. At work continuously since leaving Hospital, as taxi driver, 12 to 14 hours a day. Earns £3 per week.

Bodily health after treatment: Good.

Case No. 122 (contd).

Nervous system: Pupils slightly unequal. Right larger than left. Both slightly irregular. No contraction to light. Contract to accommodation.

Tongue - tremor.
Face - no tremor.
Speech - normal.
Arms - reflexes dull response.
Abdomen - reflexes present.
Knee jerks - absent.
Babinsky - indifferent response.

Discharged: June 28, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	160	+	+	5555543210	222220

Case No. 123.

J.D. Male.

Date of admission: December 31, 1923. Age 35. Married.

Treated with Tryparsamide.

Discharged: August 30, 1924.

Readmitted: July 14, 1925. Age 37.

Estimated onset of disease: September, 1923.

Date of inoculation: May 28, 1926.

Mental state before treatment: Hypomaniacal type.

He runs about naked, at times is violent, and will shout when restrained. He is completely disorientated in time and place and his memory is grossly impaired.

Mental state after treatment: Examined June, 1931. Sister states he is excited two or three times a week, but behaves quite normally both inside the house and in his conduct outside. Under the doctor for five months for neurasthenia. Patient complains of being dizzy at times and of some general weakness. He has not worked for twelve months. Prior to that has done labouring for varying intervals at about £2 per week. Memory is poor for past events. Orientation good. No delusions apparent. He is quiet and lacking in any great initiative.

Bodily health after treatment: Indifferent. Somewhat thin, but no obvious defects.

Nervous system: Pupils equal, regular. Do not react to light. React to accommodation.

Tongue - - no tremor.
Face - - somewhat lacking in expression.
Speech - - slight slurring.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - present.
Babinsky - - response extensor right and left.

Discharged: November 27, 1926.

Number of inoculations: 1.

Case No. 123 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	7	F+		5555432100	222210
Nov. 17/'26.	+	+	8	+++	Doubtful.	5555432100 Pink	222210
June 30/'31.	F+	F+	2.3	+++		0122000000	22 110000

Case No. 124.

C.H.M. Male.

Date of admission: May 13, 1926. Age 41. Married.Estimated onset of disease: Several months.Date of inoculation: June 18, 1926.Mental state before treatment: Confusional type. Confused, disorientated, and lacking in insight. General intelligence slightly impaired.Mental state after treatment: Examined October, 1931. Talks rationally. Memory very good. No delusions apparent. Working for last four years as engineer and has had only one week off work in that time. Earns £3 per week. Mental condition is very good.Bodily health after treatment: Good.Nervous system: Pupils equal; left irregular. No contraction to light. React to accommodation.

Tongue - - tremor.
 Face - - no tremor.
 Speech - - normal.
 Arms - - reflexes present.
 Knee jerks - absent.
 Babinsky - no response.

Discharged: November 27, 1926.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	36	+	Neg.	5555543210	222220
Nov. 17/'26.	F+	+	11	Doubtful.	Neg.	5532221000 Pink	110000

Case No. 125.

W.C. Male.

Date of admission: May 13, 1926. Age 45. Married.

Estimated onset of disease: December, 1925.

Dates of inoculation: July 13, 1926, December 9, 1927.

Mental state before treatment: Grandiose type. Deluded that Lord Derby is his brother and that the Prince of Wales is his son. Frequently restless, noisy and voluble. He is very susceptible to suggestions.

Mental state after treatment: Examined September, 1931. Converses rationally. Memory for distant events is good. Orientated normally. Memory for recent events apparently good. No delusions. Working as painter and in constant work since discharge. Earns £2.5.0 per week. Wife states that at times he is very quarrelsome and unstable and flies into unreasonable rages and shows lack of judgment in personal relations.

Bodily health after treatment: Good.

Nervous system: Pupils equal, regular. React sluggishly to light. React to accommodation.

Tongue - - tremor present.
Face - - no tremor.
Speech - - normal.
Arms - - reflexes dull.
Abdomen - - reflexes present.
Knee jerks - present.
Babinsky - right indifferent,
left flexor.

Discharged: May 27, 1927.

Readmitted: July 29, 1927.

Discharged: May 25, 1928.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	43	+		5555432100	222210
Jan. 18/'27.	F+	+	7.3	Doubtful.	Neg.	1122000000	$\frac{1}{100000}$

Case No. 126.

J.F.H. Female.

Date of admission: June 22, 1926. Age 41. Married.

Estimated onset of disease: Several months.

Date of inoculation: July 13, 1926.

Mental state before treatment: Grandiose type. Deluded that she is the best singer, dancer and actress in the world, and that she spends £360 daily on horse racing. She is garrulous and has no insight.

Case No. 126 (contd).

Mental state after treatment: Examined July, 1931. Talks rationally. Memory good. Well orientated. Happy and cheerful. Husband states that she is easily upset and excited with slight provocation, but that otherwise he has never found her better. No delusions.

Bodily health after treatment: Good.

Nervous system: Pupils equal, regular, but react sluggishly to light. Both react to accommodation.

Tongue - - tremulous.
Face - - no tremor.
Speech - - normal.
Arms - - reflexes present.
Knee jerks - reaction sluggish.
Babinsky - right indifferent,
left - extensor response.

Discharged: November 23, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	47	+++		5555544321	221000
Oct. 19/'26.	F+	F+	7	++	1-15 +	Pink. 5554321000	221100

Case No. 127.

D.C. Male.

Date of admission: June 10, 1926. Age 50. Married.

Estimated onset of disease: Several months.

Date of inoculation: August 14, 1926.

Mental state before treatment: Demented type. Dull, stuporose, lethargic and disinterested. Unable to give any account of himself.

Mental state after treatment: Examined June, 1931. Memory for past events is impaired. Working for last four months. General labourer in Corporation, £2.16.7 per week. Complains once a fortnight of pains in the head. Seems simple, but is rational in conversation and is orientated in time and place.

Bodily health after treatment: Fair.

Nervous system: Pupils equal but both irregular. Do not react to light. React to accommodation.

Tongue - - no tremor.
Face - - no tremor, but too placid and lacking in expression.
Speech - - slurring.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - right present, left absent.
Babinsky - indifferent response.
Gait - - weakness present at times.

Discharged: May 9, 1928.

Case No. 127 (contd).

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	141	+++		5555543210	222220
June 29/'31.	F+	F+	2.6	+		0011000000	<u>11</u> 000000

Case No. 128.

S.H.F. Male.

Date of admission: July 20, 1926. Age 37. Single.

Estimated onset of disease: History unknown.

Date of inoculation: August 27, 1926.

Mental state before treatment: Grandiose type. Unduly talkative, but quite incoherent in conversation. Elated and deluded he is a millionaire and the strongest man that ever existed. Childish and foolish in habits.

Mental state after treatment: Examined August, 1931. Is well mentally. Converses rationally. Memory good. No hallucinations. None of the delusions while at Whittingham present. Travelled as salesman for nine months. In March, 1930, started as sub-manager and is now organising manager for company with twenty men under him.

Bodily health after treatment: Good.

Nervous system: Pupils equal, regular. React sluggishly to light. React to accommodation.

Tongue - - no tremor.
Face - - no tremor.
Speech - - slurring at times.
Arms - - reflexes dull.
Abdomen - - reflexes present.
Knee jerks - present.
Babinsky - indifferent reaction.

Discharged: November 27, 1926.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	9	+	1 ⁺ ₊ 3	5555543210	221000
Nov. 17/'26.	F+	+	13	Neg.	Neg.	5522210000	111000
Aug. 23/'31.	Neg.	Neg.	0.6	Neg.		0011000000	Neg.

Case No. 129.

F.S. Male.

Date of admission: August 31, 1926. Age 37. Married.

Estimated onset of disease: May, 1926. (Previous confinement to a mental hospital in this case).

Date of inoculation: October 11, 1926.

Mental state before treatment: Melancholic type. Depressed, miserable and weeping without cause; general conversation rambling and incoherent; disorientation and impaired memory present.

Mental state after treatment: Examined September, 1931. He is doing well, talks reasonably, memory for distant events slightly hazy, but for recent events good. No disorientation. No delusions present. Works as printer, since discharge, earns £3.10.0 per week, and keeps his position without difficulty. Two children since discharge, - 3 years and 1 year 7 months old.

Bodily health after treatment: Good.

Nervous system: Pupils equal, regular. Left reacts well to light. Right sluggish. Both react to accommodation.

Tongue - - slight tremor.
Speech - - normal.
Face - - no tremor.
Arms - - reflexes present.
Abdomen - - unable to elicit reflexes.
Knee jerks - reflexes present.
Babinsky - flexor right,
left indifferent response.

Discharged: August 30, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	31	Unsatisfactory.	1-5 +	5555543210	222220
Mar. 16/'27.	+	+	7.3	++ $\frac{1}{2}$	1-20 +	Pink 55554321000	222210

Case No. 130.

G.S. Male.

Date of admission: September 2, 1926. Age 37. Married.

Estimated onset of disease: January, 1926.

Date of inoculation: October 11, 1926.

Mental state before treatment: Grandiose type. Deluded he is an extremely wealthy man; disorientated; memory for recent events impaired; lacking in insight; foolish in behaviour.

Mental state after treatment: Discharged to Gateshead-on-Tyne and therefore not interviewed. He replied by letter that he was in good health and regular employment, earning £2 per week.

Case No. 130 (contd).

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	113	+	1-5 +	5555554321	222220
Mar. 16/'27.	+	+	8.3	+	1-25 +	Pink 5555432100	222210

Case No. 131.

H.M. Male.

Date of admission: September 24, 1926. Age 32. Single.

Estimated onset of disease: Previously confined into mental institution.

Date of inoculation: October 31, 1926.

Mental state before treatment: Demented type. Dull, stupid, apathetic; general intelligence impaired, unable to appreciate the proper meaning of his actions.

Mental state after treatment: At present (December, 1931) residing in London. He is reported to be in good physical and mental health and is employed.

Discharged: April 25, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	49	+++		5555442210	222210
Mar. 16/'27.	+	+	8	+++	1-45 +	5555543210	222220

Case No. 132.

H.McK. Male.

Date of admission: September 3, 1926. Age 51. Married.

Estimated onset of disease: March, 1925.

Date of inoculation: October 31, 1926.

Mental state before treatment: Grandiose type. He is deluded that he is the best workman in the world and that he has been given the position of King of England. His memory is greatly impaired and he is grossly disorientated in time and place.

Case No. 132 (contd).

Mental state after treatment: Examined June, 1931.

Working as French polisher part time on account of trade depression. While on full time, wage was £3.14.0 per week; on part time about £2. Wife thinks that three days' work is enough at present. Quiet, well-behaved, stable conduct and has no peculiar behaviour. Memory for the past indifferently good. Orientation good. He looks well, sleeps well, eats well, and is able to get about in a normal manner.

Bodily health after treatment: Very good.

Nervous system: Pupils unequal; right larger than left. Reaction to light very sluggish. Both respond to accommodation. No squint, no nystagmus. Vision - weak on prolonged strain.

Tongue - - slight tremor.
Face - - no tremor.
Speech - - slight slurring.
Arms - - reflexes present.
Abdomen - - reflexes faintly present.
Knee jerks - present.
Babinsky - response indifferent.

Discharged: April 2, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gambaoge Reaction
				C.S.F.	Blood		
On admission	+	+	76	+	Neg.	5555543210	222210
Mar.16/'27.	+	+	7.3	Doubtful.	1-5 +	<u>Pink</u> 5555432100	222110
June 29/'31.	F+	+	2	Doubtful.		0022100000	<u>22</u> 111000

Case No. 133.

P.L. Male.

Date of admission: September 25, 1926. Age 30. Married.

Estimated onset of disease: March, 1926.

Date of inoculation: November 21, 1926.

Mental state before treatment: Maniacal type. Violent, noisy and excited, sings and shouts and attacks those about. Memory for the past impaired and disorientation present.

Mental state after treatment: Examined June, 1931. Memory is good. Normally orientated. He is slightly confused at times and complains of being tired in the evenings after his day's work. Is employed as labourer and earns £2.18.0 per week. Wife states that he is frequently irritable for no apparent reason and at times is strange and depressed. Since his discharge has had two children by his wife.

Bodily health after treatment: Thin, but no obvious defects.

Case No. 133 (contd).

Nervous system: Pupils small, contracted, unequal. Left larger than right. Do not contract to light. Contract to accommodation.

Tongue - - no tremor.
 Face - - no tremor.
 Speech - - normal.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - present.
 Babinsky - extensor response.

Discharged: September 3, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	52	Unsatisfactory.		555555430	222220
Mar. 16/'27	+	+	19.3	Neg.	Neg.	5555543210	222210
June 29/'31	E+	+	4	Neg.		Pink 5543200000	22 1110000

Case No. 134.

E.K. Female.

Date of admission: September 29, 1924. Age 58. Widow.

Estimated onset of disease: Insufficient history.

Date of inoculation: January 4, 1927.

Mental state before treatment: Melancholic type; depressed; emotional; frequently weeps; simple minded and childish.

Mental state after treatment: Died about three weeks after treatment finished.

Death: February 14, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	24	+++	1-45 +	5555554321	222220
Feb. 9/'27	+	+	10.3	++		0001121000	122210

Case No. 135.J.E. Male.Date of admission: August 6, 1926. Age-41. Married.Estimated onset of disease: December 1925.Dates of inoculation: January 4, 1927. January 24, 1928.Mental state before treatment: Melancholic type; depressed; apathetic and disinterested; habits wet and dirty.Mental state after treatment: He remained solitary and dull, but at times noisy and restless; disorientated and lacking in insight.Death: August 29, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	166	+++	1-45 +	5555432100	122210
Aug. 13 ¹ /28	V.F.+	Neg.	1.6	+		1122210000	$\frac{1}{000000}$

Case No. 136.G.A.L. Male.Date of admission: February 18, 1927. Age 41. Married.Estimated onset of disease: December 1926.Date of inoculation: February 28, 1927.Mental state before treatment: Grandiose type; elated and euphoric; delusions of grandeur present.Mental state after treatment: He did not improve; was noisy, excited, destructive, and faulty in his habits; hallucinations of hearing developed.Death: September 28, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	43	+++	1-15 +	5555543210	222210

Case No. 137.G.H. Male.Date of admission: March 25, 1927. Age 53. Single.Estimated onset of disease: December 1926.Date of inoculation: March 31, 1927.Mental state before treatment: Confusional type; childish and simple, and lacking in insight; habits faulty.Mental state after treatment: Showed slight improvement; habits improved; later delusions of grandeur developed; said he was King of the World; died of bronchial pneumonia.Death: March 10, 1929.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	9	+++	Neg.	5554421000	222210
Aug. 18/'28	+	+	11.6	Probably Positive		5555421000	222110

Case No. 138.W.A. Male.Date of admission: October 28, 1926. Age 56. Married.Estimated onset of disease: History insufficient.Date of inoculation: April 14, 1927.Mental state before treatment: Confusional type, with auditory hallucinations; fleeting grandiose delusions present.Mental state after treatment: No improvement; delusions of grandeur became very marked; frequently restless and confused.Death: October 10, 1929.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	Blood-stained	+++	+	Pink 5555432100	2 I22220
Mar. 13/'28	F+	+	69.3	++		Pink 5554321000	2 I22000

Case No. 139.

A.S. Male.

Date of admission: June 10, 1927. Age 41. Married.

Estimated onset of disease: May 1926.

Date of inoculation: June 14, 1927.

Mental state before treatment: Confusional type; he is unable to realise his position and has no idea of time or place; he is rambling and confused in his talk; he is simple, vague and retarded.

Mental state after treatment: He remained confused and lost in mind at times; memory defective; unstable and easily excited.

Death: January 17, 1931.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	175	+++	++	5555554321	222220
Aug. 16/'28	+	+	5-6	+++		5555321000	122100

Case No. 140.

J.T.L. Male.

Date of admission: May 25, 1927. Age 57. Married.

Estimated onset of disease: November 1926.

Dates of inoculation: June 27, 1927. January 16, 1928.

Mental state before treatment: Grandiose type; deluded he was captain of the Mauretania, cousin of Lord Derby, etc.; confused and lost in mind.

Mental state after treatment: No improvement after first inoculation; died after second course of treatment, following cerebral seizures.

Death: February 14, 1928.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	85.6	+++	1.45 +	5555432100	222210
Feb. 7/'28	+	+	20	+++		5555543210	222220

Case No. 141.J.C. Male.Date of admission: April 9, 1927. Age 42. Married.Estimated onset of disease: Several years.Dates of inoculation: July 8, 1927. October 28, 1927.Mental state before treatment: Confusional type: hallucinations of heaving present; dull; disorientated.Mental state after treatment: No improvement; following second inoculation, dementia gradually advanced until death.Death: January 24, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	17	++	++	5555554321	222220

Case No. 142.T.G. Male.Date of admission: November 15, 1926. Age 48. Single.Estimated onset of disease: September 1925.Date of inoculation: July 23, 1927.Mental state before treatment: Grandiose type; delusions of wealth and physical prowess; disorientation and confusion present.Mental state after treatment: Delusions persisted; hallucinations of hearing developed, and gradual dementia came on.Death: January 7, 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	37.3	+++	+	5555542100	222210

Case No. 143.

W.W. Male.

Date of admission: April 9, 1927. Age 46. Widower.

Estimated onset of disease: January 1927.

Date of inoculation: July 28, 1927.

Mental state before treatment: Melancholic type; dull, depressed and confused.

Mental state after treatment: Died during treatment.

Death: September 17, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	26	++	++	5555554321	222220

Case No. 144.

W.H. Male.

Date of admission: July 8, 1927. Age 49. Married.

Estimated onset of disease: Several months.

Date of inoculation: August 6, 1927.

Mental state before treatment: Grandiose type; delusions of wealth and physical abilities, stating he is the champion swimmer of the world.

Mental state after treatment: He died shortly after treatment, making no mental or physical improvement.

Death: October 4, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	73	+++	1-15 +	55555543210	222100

Case No. 145.

W.B. Male.

Date of admission: July 13, 1927. Age 48. Married.Estimated onset of disease: No history.Date of inoculation: September 12, 1927.Mental state before treatment: Confusional type; dull, lost, confused, and disorientated.Mental state after treatment: No improvement after treatment.Death: February 28, 1929.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	63	+	Neg.	5555543210	222210

Case No. 146.

J.Q. Male.

Date of admission: September 20, 1927. Age 40. Married.Estimated onset of disease: January 1927.Dates of inoculation: September 27, 1927. January 31, 1928.Mental state before treatment: Confusional type, with some grandiose delusions present; no insight, dull and disinterested; memory defective.Mental state after treatment: Delusions of grandeur persisted; also confusion and dulness; dementia gradually increased.Death: January 30, 1929.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	110	+++		5555432100	222220
Aug. 20/'28	+	+	76	+		5555542100	222220

Case No. 147.T.C. Male.Date of admission: September 30, 1927. Age 48. Married.Estimated onset of disease: August 5, 1927.Date of inoculation: October 19, 1927.Mental state before treatment: Confusional type; completely disorientated; memory for recent events defective; habits faulty.Mental state after treatment: Died during treatment.Death: October 30, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	73.3	++	1-20 ++	5555543210	222220

Case No. 148.T.A.C. Male.Date of admission: September 30, 1927. Age 56. Widower.Estimated onset of disease: March 1927.Date of inoculation: October 19, 1927.Mental state before treatment: Confusional type; conversation irrational; disorientated in time and place; memory defective; habits faulty.Mental state after treatment: Died about a week after treatment.Death: November 9, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	99.6	+++	1-5 +	5555543210	2 2 122210

Case No. 149.E.M. Male.Date of admission: February 13, 1926. Age 38. Married.Estimated onset of disease: 2 years.Dates of inoculation: October 29, 1927, December 28, 1927.Mental state before treatment: Depressed type, with partial dementia. Dull, miserable, listless, disorientated in time and place. Habits faulty.Mental state after treatment: Noisy and destructive, restless and emotional. Increasing dementia.Death: February 29, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	23.6	+	1-2 Doubtful.	5555432100	222100.
July 13/'27.	+	+	6.6	+		5555432100	222100

Case No. 150.G.W.C. Male.Date of admission: October 1, 1927. Age 49. Married.Estimated onset of disease: January, 1926.Date of inoculation: December 2, 1927.Mental state before treatment: Demented type. Dull, incoherent, stupid, habits very faulty.Mental state after treatment: Died a week after treatment.Death: December 31, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	65	++ $\frac{1}{2}$	1-15 +	Pink 5554221000	122210

Case No. 151.W.C. Male.Date of admission: October 3, 1927. Age 67. Married.Estimated onset of disease: April, 1923.Date of inoculation: December 21, 1927.Mental state before treatment: Maniacal type. Noisy, violent and destructive. Some delusions of persecution present.Mental state after treatment: He improved sufficiently to be allowed parole. Behaved fairly well, but was simple, childish, and lacking in stability.Death: November 10, 1929.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	117	++ $\frac{1}{2}$	++	5555543210	222220
Aug. 20/'28.	+	+	5	+		Pink 5555421000	222110

Case No. 152.T.P. Male.Date of admission: December 31, 1926. Age 47. Married.Estimated onset of disease: October, 1925.Date of inoculation: January 23, 1927.Mental state before treatment: Demented type. Rambles incoherently in his talk, is listless and apathetic and has little interest in his surroundings.Mental state after treatment: Examined June, 1931. He is now in a demented condition. He is simple, childish, and requires care and attention. He is idle, disinterested and inattentive.Bodily health after treatment: Indifferent.Nervous system: Pupils slightly unequal, both slightly irregular. Do not contract to light. Contract to accommodation.

Tongue - - tremors present.
 Face - - slight tremors present.
 Speech - - thick.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - present (+)
 Babinsky - Flexor response right and left.

Number of inoculations: 1.

Case No. 152 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	104	++		5555543210	222220

Case No. 153.

D.B. Male.

Date of admission: April 7, 1927. Age 44. Married.

Estimated onset of disease: Two years ago.

Date of inoculation: May 1, 1927.

Mental state before treatment: Grandiose type. Deluded he is a champion runner and expert tennis, football, badminton and hockey player. Memory defective and disorientation present.

Mental state after treatment: Examined May, 1931. He is simple, demented, has grandiose delusions about his abilities, and states he can run two miles in 37 seconds. His conversation is rambling and difficult to follow. He works in the wards and is well behaved.

Bodily health after treatment: Fair.

Nervous system: Pupils equal, small and contracted. Do not contract to light. Contract to accommodation.

Tongue - - tremors present.
 Face - - no tremors.
 Speech - - fair.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - right (+) left (+).
 Babinsky - right doubtful, left extensor response.
 Gait - - normal.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	40	+++		5555543210	222220
June 10/'31.	F+	+	4.6	Neg.		0011210000	$\frac{1}{100000}$

Case No. 154.

G.H. Male.

Date of admission: April 6, 1927. Age 57. Married.Estimated onset of disease: November, 1926.Date of inoculation: May 31, 1927.Mental state before treatment: Grandiose type. Full of delusions of great wealth. He has numerous expansive and impossible schemes which he states he is going to carry out.Mental state after treatment: Examined May, 1931. He is showing mental impairment, is disorientated in time, and suffers from defective memory. He has grandiose delusions and believes he has millions of pounds. Illusions of identity are present. He is harmless, however, and is allowed on parole in the grounds.Bodily health after treatment: Fair.Nervous system: Pupils unequal; right larger than left. Circular, but do not contract to light. Contract to accommodation.

Tongue - - tremor forward and backward.
 Arms - - reflexes cannot be elicited.
 Abdomen - - reflexes cannot be elicited.
 Knee jerks - right (++) , left (+).
 Babinsky - extensor right and left.

Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	48	++	1-15 +	5555542100	222100
June 10/'31.	Neg.	Neg.	0.3	Neg.		Neg.	Neg.

Case No. 155.

M.J.B. Female.

Date of admission: July 4, 1927. Age 45. Married.Estimated onset of disease: October, 1926.Date of inoculation: July 9, 1927.Mental state before treatment: Grandiose type. Has delusions of great wealth and power. Is reduced mentally, simple and childish, laughs foolishly and talks in a silly and nonsensical way. She is also disorientated in time and place.Mental state after treatment: Examined June, 1931. She is completely demented, unable to reply to questions, lies apathetic and without interest in bed. Her habits are wet and dirty.Bodily health after treatment: Poor. She is bedridden.

Case No. 155 (contd).

Nervous system: She is completely resistive to any form of examination.
Pupils unequal; right larger than left.
No reaction to light.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	17	+++	+	5555432100	222210
June 25/'31.	Neg.	F+		++		1132100000	$\frac{1}{100000}$

Case No. 156.

J.S. Male.

Date of admission: April 21, 1927. Age 45. Married.

Estimated onset of disease: April, 1927.

Date of inoculation: July 22, 1927.

Mental state before treatment: Confusional type. Lost and confused; no idea of time and place; memory impaired. Hallucinations of hearing and sight present.

Mental state after treatment: Examined May, 1931. He is demented, is unable to give any proper account of himself, is disorientated in time, and suffers from marked impairment of memory.

Bodily health after treatment: Poor.

Nervous system: Pupils unequal and irregular. Left larger than right. Do not react to light. React to accommodation.

Face - - tremors present.
Tongue - - tremors backward and forward.
Speech - - thick and slurred.
Arms - - reflexes present (+).
Abdomen - - reflexes present (+).
Knee jerks - present (++)
Babinsky - indifferent responses.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	18.6	+	+	555553210	222220
June 10/'31.	V.F.+	+	2	++		0012100000	100000

Case No. 157.

J.M. Male.

Date of admission: September 5, 1927. Age 59. Married.

Estimated onset of disease: March, 1927.

Date of inoculation: September 14, 1927.

Mental state before treatment: Confusional type. He has no idea of time and place; memory grossly impaired; unstable and emotional. Suggestibility present. Hallucinations of sight present.

Mental state after treatment: Examined May, 1931. He is partially demented, dull, indifferent, disorientated in time and place; no memory for the past. Delusions of grandeur present and believes he is so wealthy that his money cannot be counted.

Bodily health after treatment: Indifferent. Slight oedema of feet present.

Nervous system: Pupils unequal; left larger than right. Do not contract to light. Contract to accommodation.

Tongue - - slight tremors present.
Face - - no tremors.
Speech - - thick.
Arms - - reflexes present (+).
Abdomen - - reflexes present (+).
Knee jerks - present (+).
Babinsky - extensor response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	92	++	++	5555432100	222100
June 10/'31.	F+	F+	15	+		0001000000	$\frac{1}{000000}$

Case No. 158.

M.G. Female.

Date of admission: August 5, 1927. Age 39. Married.

Estimated onset of disease: May, 1927.

Date of inoculation: October 31, 1927.

Mental state before treatment: Maniacal type. Excited, noisy, violent and restless; talks wildly and incoherently.

Mental state after treatment: Examined June, 1931. She is quite demented, shouts and is unable to answer questions. She is noisy, troublesome and difficult to manage. Her habits are wet and dirty.

Bodily health after treatment: Fair.

Case No. 158 (contd).

Nervous system: Pupils equal. React very sluggishly to light.
Further examination impossible owing to her resistive state.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	22	+		5554321000	221000
June 25/'31.	Neg.	V.F.+	2.6			<u>11</u> 0022000000	<u>1</u> 000000

Case No. 159.

J.McV. Male.

Date of admission: November 1, 1927. Age 25. Single.

Estimated onset of disease: No history.

Date of inoculation: November 16, 1927.

Mental state before treatment: Grandiose type. Delusions of grandeur present. States he had a million pounds from Sir Thomas Lipton with which he bought twelve greyhounds. He is lost and confused.

Mental state after treatment: Examined June, 1931. He is now in a demented condition. He talks and mutters to himself and cannot give any account of himself.

Bodily health after treatment: Indifferent.

Nervous system: Pupils unequal; left larger than right. Both irregular. Do not contract to light. React to accommodation.

Tongue - - tremors present.
Face - - slight tremors present.
Speech - - thick and slurring.
Arms - - reflexes absent.
Abdomen - - reflexes - poor response.
Knee jerks - absent.
Babinsky - flexor response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	15.6	++ $\frac{1}{2}$		5543210000	<u>1</u> 220000
June 10/'31.	Neg.	Neg.	0.6	Neg.		Neg.	Neg.

Case No. 160.

M.J.B. Female.

Date of admission: April 12, 1926. Age 39. Married.

Estimated onset of disease: Several weeks.

Date of inoculation: November 29, 1927.

Mental state before treatment: Maniacal type. Very noisy and excited and frequently shouts and sings. She is deluded that she is an angel and is now in Paradise Hall.

Mental state after treatment: Examined June, 1931. Relieved. She is simple, reduced in outlook and intelligence, has little insight, but is able to do tasks of a trivial nature requiring no great initiative. Her memory for recent events is fair and she is quite orientated in time and place.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; right larger than left. Do not contract to light. Contract to accommodation.

Face - - no tremor.
Tongue - - slight tremor.
Speech - - normal.
Arms - - reflexes absent.
Abdomen - - reflexes present.
Knee jerks - left absent, right faint response.
Babinsky - flexor response right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	6.6	++		5555543210	222210
June 23/'31.	F+	+	2.3	+++		5542100000	210000

Case No. 161.

F.D.B. Male.

Date of admission: January 18, 1927. Age 53. Widower.

Estimated onset of disease: December, 1926.

Date of inoculation: February 9, 1927.

Mental state before treatment: Grandiose type. Full of expansive schemes of an impossible nature. His replies to questions are at times irrelevant.

Mental state after treatment: Examined September, 1931. He is apparently well mentally. Can discuss his affairs intelligently. Has worked for only a month. He is able for light work, but trade depression prevents his getting work. No delusions. No hallucinations. History of irritability absent before his illness. He is to be married in a fortnight's time.

Bodily health after treatment: Fair.

Case No. 161 (contd).

Nervous system: Pupils slightly unequal but regular. React to light and to accommodation.

Tongue - - no tremor.
Face - - no tremor.
Speech - - normal.
Arms - - reflexes present.
Knee jerks - present.
Babinsky - flexor.

Discharged: September 27, 1927.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	11	++	1-3 +	5555432100	222220

Case No. 162

A.S. Male.

Date of admission: March 8, 1927. Age 61. Married.

Estimated onset of disease: February, 1927.

Date of inoculation: March 18, 1927.

Mental state before treatment: Grandiose type. Deluded that the police have several millions of money belonging to him. Hallucinations of hearing present; states he can hear the wireless telling him he is a millionaire.

Mental state after treatment: Examined October, 1931. Memory for the past is not very good. Orientated in time and place. No delusions. No hallucinations. Is, however, simple and childish. Does a few errands and helps around the house. He was probably of poor intellect before his illness, (a hawker), and is approaching his normal standard. Home condition now very poor.

Bodily health after treatment: Fair.

Nervous system: Pupils equal. Both slightly irregular. React sluggishly to light. React to accommodation.

Tongue - - no tremor.
Speech - - normal.
Face - - dull and expressionless.
Arms - - reflexes not elicited.
Abdomen - - reflexes present.
Knee jerks - absent.
Babinsky - indifferent response.

Discharged: July 30, 1928.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	31.6	+++		5554321000	222110

Case No. 163.I.H. Female.Date of admission: February 12, 1927. Age 48. Married.Estimated onset of disease: History insufficient.Date of inoculation: April 4, 1927.Mental state before treatment: Maniacal type. Excited, shouts and sings the whole day and is disorientated in time and place. Has no insight.Mental state after treatment: Examined September, 1931. Memory for distant events good. Conversation reasonable. Orientation normal. No delusions. Complains of insomnia and neuritis. Does housework.Bodily health after treatment: Good.Nervous system: Pupils slightly unequal; right larger than left. Both slightly irregular. Contraction to light and to accommodation present.

Tongue - - coarse tremor.
 Face - - no tremor.
 Speech - - normal.
 Arms - - reflexes present.
 Knee jerks - present.
 Babinsky - response indifferent.

Discharged: June 27, 1927.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	33	+++	1-15 +	5555543210	222210

Case No. 164.W.J.S. Male.Date of admission: June 22, 1927. Age 53. Married.Estimated onset of disease: 2 to 3 months.Date of inoculation: June 25, 1927.Mental state before treatment: Maniacal type. Noisy, excited and restless. Conversation rambling and voluble. Fleeting delusions present.Mental state after treatment: After discharge unable to be traced.Discharged: March 30, 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	15.6	+++	1-45 +	1123210000	100000

Case No. 165.

L.S. Male.

Date of admission: August 6, 1927. Age 42. Married.

Estimated onset of disease: 1 month.

Date of inoculation: August 19, 1927.

Mental state before treatment: Grandiose type. Is full of grandiose delusions, stating he has a million pounds, is King of Egypt, etc. He is somewhat excited and restless.

Mental state after treatment: Examined October, 1931. He is not greatly improved. Memory for recent and past events greatly impaired. Disorientated in time, confused in mind, conversation rambling. Delusions of grandeur when suggested to him. There is partial dementia present. He is unstable.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. Both irregular. No contraction to light. Tongue - - no tremor. Sucks his tongue. Speech - - thick. Face - - no tremor. Arms - - reflexes present. Abdomen - - reflexes present. Knee jerks - reflexes present. Babinsky - flexor response.

Discharged: December 28, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	49	+	1-40 +	5555432100	222100
Aug. 16/'28.	+	+		Weakly positive		1123321000	221 111000

Case No. 166.

F.W.H. Male.

Date of admission: August 20, 1927. Age 53. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: September 8, 1927.

Mental state before treatment: Melancholic type. Dull, depressed, apathetic, miserable in appearance. Attempted suicide prior to admission.

Mental state after treatment: Examined October, 1931. Memory fair, well orientated, no delusions, is quiet and amenable and gives no trouble at home. Only able to lead an invalid's life on account of right-sided paresis. Does not work.

Bodily health after treatment: Poor.

Case No. 167 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	46.3	+++	1-30 +	5555543210	222220

Case No. 168.

M.E.B. Female.

Date of admission: September 7, 1927. Age 30. Married.Estimated onset of disease: History insufficient. Previous confinement in mental hospital.Date of inoculation: October 19, 1927.Mental state before treatment: Maniacal type; she is garrulous, talking continuously and showing marked flight of ideas; she is restless and interfering, and at times aggressive; she is very emotional and cries frequently without cause; her conversation is mostly nonsensical.Mental state after treatment: Examined August 1931; she is quiet, talks sensibly, and can give a good account of herself; she is rational; has no delusions or hallucinations; relations say that she has been very well ever since discharge; earns £1 per week as housemaid.Bodily health after treatment: Good.Nervous system: Pupils unequal; left slightly irregular; no contraction to light; contract to accommodation.

Tongue - - slight tremor.
 Speech - - normal.
 Face - - no tremor.
 Arms - - reflexes present.
 Knee jerks - absent.
 Babinsky - flexor.

Discharged: April 23, 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	47.6	++	Neg.	5555543210	222220

Case No. 169.

E.A. Female.

Date of admission: August 24, 1927. Age 40. Married.

Estimated onset of disease: January 1927.

Date of inoculation: November 15, 1927.

Mental state before treatment: Melancholic type; depressed, agitated, miserable, lost and confused in mind, and cannot give much account of herself.

Mental state after treatment: Examined June 1931; tried job as waitress, but had to give this up because the numerous orders made her confused; has 15/- per week in dole; 7/- for lodgings, 7/4d. left for food; talks rationally; memory good; no delusions apparent; she is emotional; is apparently bearing up fairly well under a number of trials, such as husband leaving her; her friends say that she becomes too quiet; after talking for a while, she cries on account of her troubles.

Bodily health after treatment: Good, but at present she is under doctor for noises in the head.

Nervous system: Pupils unequal; left larger than right. Both contract to light and to accommodation.

Tongue - - slight tremor.
Face - - no tremor
Speech - - normal.
Arms - - reflexes present.
Knee jerks - present.

Discharged: March 15, 1929.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	29	+++	1-45 ++	5555543210	222210
June 30/'31	Neg.	Neg.	6	Doubtful.		0121000000	$\frac{1}{100000}$

Case No. 170.

R.F. Male.

Date of admission: February 2, 1928. Age 37. Married.

Estimated onset of disease: May 1927.

Dates of inoculation: February 4, 1928. February 28, 1928.

Mental state before treatment: Confusional type; dull, lost, confused; disorientated in time and place; no insight into his condition; his conduct is unstable and erratic.

Mental state after treatment: Examined June 1931; he is in a demented condition; talks incoherently; is confused and agrees to any suggestion made to him; he is destructive and untidy in his habits.

Case No. 170 (contd.).

Bodily health after treatment: Poor; he is thin and emaciated.

Nervous system: Pupils unequal; left larger than right.
Both irregular in shape. Do not contract to light. React to accommodation.

Tongue - - tremulous.
Face - - no tremors.
Speech - - not greatly abnormal.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - absent.
Babinsky - response flexor right and left.

Death: June 16, 1931.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	16	+++	++	5555543210	222220
June 11/'31	+	+	4	+++		5555210000	222100

Case No. 171.

F.S. Male.

Date of admission: February 2, 1928. Age 46. Widower.

Estimated onset of disease: February 1927.

Dates of inoculation: February 7, 1928. February 28, 1928.

Mental state before treatment: Confusional type; dull, stupid; disorientated; disinterested.

Mental state after treatment: Gradual deterioration until his death three months after treatment.

Death: June 6, 1928.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	175	+++	++	5555543210	222220

Case No. 172.

A.D. Male.

Date of admission: February 7, 1928. Age 38. Married.Estimated onset of disease: August 1927.Date of inoculation: February 17, 1928.Mental state before treatment: Grandiose type; deluded he is a multimillionaire, that he owns Blackpool; habits destructive.Mental state after treatment: Died four days after completion of treatment.Death: March 13. 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	165	+++	++	5555543210	222210

Case No. 173.

L.S. Male.

Date of admission: November 23, 1927. Age 54. Married.Estimated onset of disease: six weeks.Dates of inoculation: March 6, 1928. May 20, 1928.Mental state before treatment: Maniacal type; grandiose delusions; deluded he can cure any illness by putting his hands on the sick; restless; destructive, and at times excited.Mental state after treatment: Died a fortnight after completion of treatment.Death: June 23, 1928.Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	187	+++	1-15 +	5555543210	222220

Case No. 174.R. McA.G. Male.Date of admission: April 17, 1928. Age 52. Married.Estimated onset of disease: March 1928.Date of inoculation: April 25, 1928.Mental state before treatment: Grandiose type; marked delusions of his physical abilities; deluded that he has won the World's golf championship ten times; rambling and confused in speech; at times excited.Mental state after treatment: Died during treatment.Death: May 24, 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	25.6	+++		5555542110	222220

Case No. 175.C.W.G. Male.Date of admission: April 27, 1928. Age 56. Widower.Estimated onset of disease: February 1927.Date of inoculation: May 21, 1928.Mental state before treatment: Demented type; dull; stupid; quiet; no insight.Mental state after treatment: Died one week after completion of treatment.Death: June 12, 1928.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	41	+++		5555543210	222220

Case No. 176.

W.A. Male.

Date of admission: January 24, 1923. Age 33. Married.

Estimated onset of disease: January 17, 1923. History of injury.

Dates of inoculation: January 6, 1928, February 18, 1928.

Mental state before treatment: Confusional type. Lost, confused, disorientated, no insight, at times excited.

Mental state after treatment: Examined May 30, 1931. He is demented. He is dull, stupid, unable to give any account of himself and does not speak or associate with the other patients.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; right larger than left. Both small and irregular in shape. Fixed, and do not contract to light or to accommodation.

Tongue - - tremors.
Face - - no tremors.
Arms - - reflexes present (+).
Abdomen - - reflexes present.
Knee jerks - present (+).
Babinsky - flexor response.

Number of inoculations: 2.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	160	+	+	5555432100	122210
June 11/'31.	V.F.+	F+	1.6	Neg.		0000000000	000000

Case No. 177.

W.B. Male.

Date of admission: November 2, 1927. Age 50. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: January 16, 1928.

Mental state before treatment: Grandiose type. Deluded that he is a Field-Marshal, etc. He is facile, easily pleased, at times emotional. Memory for recent events is defective.

Mental state after treatment: Examined June, 1931. He is demented. He is lost, confused, fatuous, and requires constant care and supervision. He is fit for only trivial and light tasks requiring no great initiative.

Bodily health after treatment: Indifferent.

Case No. 177 (contd).

Nervous system: Pupils equal but do not contract to light.
Contract to accommodation.

Face - - no tremors.
Tongue - - slight tremors.
Speech - - normal.
Arms - - reflexes not elicited.
Abdomen - - reflexes present but dull.
Knee jerks - absent.
Babinsky - response flexor right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission June 15/'31	+ F+	+ +	4.3	+++ Neg.		5555321000 1112100000	222100 100000

Case No. 178.

F.L. Female.

Date of admission: February 10, 1928. Age 39. Widow.

Estimated onset of disease: 2 years.

Date of inoculation: March 6, 1928.

Mental state before treatment: Confusional type; she is lost and -
confused in mind; has no idea of time or place; she resists
treatment and refuses food.

Mental state after treatment: Examined June 1931; she is dull;
stupid; demented; refuses to answer any questions at times, or
replies stupidly and incoherently.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal: left larger than right; ir-
regular in shape. Do not contract to light.
Contract to accommodation.

Tongue - - tremor present.
Face - - no tremor.
Speech - - normal.
Arms - - reflexes not elicited.
Abdomen - - reflexes absent.
Knee jerks - absent.
Babinsky - flexor response right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission June 23/'31	+ F+	+ +	21 1	+++ Doubt- ful.	++	5555543210 1 1122000000	222210 21 100000

Case No. 179.W.B. Male.Date of admission: April 17, 1928. Age 45. Married.Estimated onset of disease: Few months' duration.Date of inoculation: June 6, 1928.Mental state before treatment: Grandiose type; exalted in manner, and unnaturally pleased with his condition and affairs; "Owns £200,000 and a Rolls-Royce car."Mental state after treatment: Examined September 1931; he appears in good mental condition; is bright, cheerful, and talks in a rational and easy manner; has no delusions of grandeur apparent; he is working at present on road work and earns £2.11.0d. per week; his wife states he is well physically and mentally.Bodily health after treatment: Good.Nervous system: Pupils equal; regular. React sluggishly to light; react normally to accommodation.

Tongue - - slight tremor.
 Speech - - normal.
 Face - - no tremor.
 Arms - - reflexes very sluggish.
 Abdomen - - reflexes absent.
 Knee jerks - present.
 Babinsky - flexor response.

Discharged: April 28, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	100.6	+++	1-45	5555543210	222220
Mar. 25/'30	F+	+	14	+	+	1123100000	110000

Case No. 180.R.G. Male.Date of admission: March 9, 1929. Age 56. Widower.Estimated onset of disease: February 1929.Date of inoculation: March 14, 1929.Mental state before treatment: Grandiose type; states he owns the Bank of England, etc.; lost, confused, lacking in insight.Mental state after treatment: Died one week after inoculation following seizures before rigors had commenced.Death: March 21, 1929.Number of inoculations: 1.

Case No. 180 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	42	+++		5555554321	222220
Mar. 18/'29	+	+	50	+++		5555554321	222220

Case No. 181.

E.L. Female.

Date of admission: March 22, 1929. Age 34. Married.

Estimated onset of disease: History insufficient.

Date of inoculation: March 26, 1929.

Mental state before treatment: Maniacal type; talks wildly; gets out of control; is excited and destructive in habits.

Mental state after treatment: Died a few days after completion of treatment.

Death: April 27, 1929.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	4.3	+		5555554321	222210

Case No. 182.

R.P. Female.

Date of admission: April 11, 1929. Age 39. Single.

Estimated onset of disease: November 1928.

Date of inoculation: April 18, 1929.

Mental state before treatment: Confusional type; dull, stupid, destructive and dirty in habits; no insight.

Mental state after treatment: Died about four weeks after completion of treatment.

Death: May 27, 1929.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	++	++	27	+		5555543210	222220

Case No. 183.H.D. Male.Date of admission: May 2, 1929. Age 50. Single.Estimated onset of disease: December 1928.Date of inoculation: May 10, 1929.Mental state before treatment: Confusional type; he is lost and confused; disorientated in time and place; memory for the past impaired.Mental state after treatment: Remained dull and confused, and reduced mentally; was rambling and irrelevant in his talk.Death: December 17, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	4.3	+		5555543210	222110

Case No. 184.F.T. Male.Date of admission: August 11, 1928. Age 41. Single.Estimated onset of disease: April 1928.Date of inoculation: March 30, 1929.Mental state before treatment: Demented type; he is dull; has difficulty in answering questions; is retarded in thought; unaware of his position and surroundings; memory for recent events defective.Mental state after treatment: He remained dull, stupid and demented; wandered aimlessly about; muttered to himself, and was unable to give any account of himself.Death: March 22, 1931.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	47	+++		Pink 55555432100	2 122110
Sept. 18/'29	+	+	4.6	Weakly Positive	1-3 +	0001100000	000000

Case No. 185.A.S. Male.Date of admission: April, 13, 1929. Age 54. Single.

Case No. 185 (contd).Estimated onset of disease: Some months.Date of inoculation: April 23, 1929.Mental state before treatment: Grandiose type; states he made £40,000 playing football for Glasgow Rangers F.C.; also won the V.C. etc.; habits restless and untidy.Mental state after treatment: Delusions of grandeur persisted; stated he was Lord Nelson, etc.; was unable to appreciate his position; gradual dementia came on.Death: January 26, 1931.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	13.6	+	1-25 +	5555543210 Pink	222220
Sept. 24/'29	F+	+	2.3	+++	+++	5555432100	122100

Case No. 186.M.J.K. Male.Date of admission: February 25, 1929. Age 55. Married.Estimated onset of disease: June 1928.Date of inoculation: March 14, 1929.Mental state before treatment: Demented type; dull, lost and confused in mind; laughs foolishly; rambling and incoherent in his talk; has no insight.Mental state after treatment: Examined May 1931; he is in a reduced mental state; is dull; stupid in his ways; confused and lost in mind, and is uncaring about his position and affairs; he is irritable and quarrelsome.Bodily health after treatment: Indifferent; oedema of feet present.Nervous system: Pupils unequal; right larger than left. Do not react to light. React to accommodation.

Tongue - - tremor backward and forward.
 Face - - no tremor.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - present.
 Babinsky - indifferent response.

Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	46.6	++	1-15 +	5555543210	222220
June 22/'31	F+	F+		Insufficient.		1122100000	1 100000

Case No. 187.

F.G. Male.

Date of admission: August 24, 1928. Age 47. Married.Estimated onset of disease: December, 1927.Dates of inoculation: March 24, 1929, December 8, 1930.

Mental state before treatment: Confusional type, with partial dementia. No idea of time and place and has difficulty in answering simple questions. Conversation is rambling and foolish. Conduct is restless.

Mental state after treatment: Examined May, 1931. There is a degree of mental impairment present. He is childish and simple in his ways and lacking in acute sense of judgment and insight. He is, however, well behaved, willing and obliging; memory is good; he has no delusions and leads a useful life inside the Hospital.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. React very sluggishly to light. React to accommodation.

Face - - tremors present.
Tongue - - tremors.
Speech - - slow and thick.
Arms - - reflexes faintly present.
Abdomen - - reflexes sluggish.
Knee jerks - present (++)
Babinsky - extensor right and left.

Number of inoculations: 2.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	4	+++		5555554210	222220
June 11/'31.	Neg.	F+	2.6	+++		1222000000	100000

Case No. 188.

C.H.G. Male.

Date of admission: May 24, 1928. Age 45. Married.Estimated onset of disease: October, 1927.Date of inoculation: April 9, 1929.

Mental state before treatment: Hypo-maniacal type. He is elated, cheerful, and unduly pleased with himself. Grandiose ideas present. Deluded that electricity can come out of his head and give perpetual motion to a cricket ball thrown by him.

Case No. 188 (contd).

Mental state after treatment: Examined June, 1931.

He is now in a demented condition. Talks to himself, is confused and incoherent and is unable to give any reasonable account of himself.

Bodily health after treatment: Fair.

Nervous system: Pupils equal and regular. Do not contract to light. Contract to accommodation.

Tongue - - tremulous.
Face - - no tremors.
Speech - - thick and slurring.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - present (+).
Babinsky - flexor response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	123	+++		Pos 5555542210	122210
June 11/'31.	V.F.+	V.F.+	6	Neg.		Neg.	Neg.

Case No. 189.

G.C. Male.

Date of admission: April 3, 1929. Age 42. Married.

Estimated onset of disease: April, 1927.

Date of inoculation: April 9, 1929.

Mental state before treatment: Grandiose type. Is very suggestible. Will agree that he can swim the Atlantic and that he is Emperor of Germany.

Mental state after treatment: Examined May, 1931. He is partly demented, dull, indifferent, lethargic and slow in his thoughts. Memory for recent events grossly impaired. He is very suggestible and agrees to any fantastic scheme suggested to him.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. React very sluggishly to light. React to accommodation.

Tongue - - tremors present.
Face - - no tremors.
Speech - - slow.
Arms - - reflexes sluggish.
Abdomen - - reflexes present.
Knee jerks - present (+).
Babinsky - extensor right and left.

Number of inoculations: 1.

Case No. 189 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	91.3	+	1-45 +	5555543210	222210
June 11/'31.	Neg.	F+	8.3	Doubtful.		0122100000	100000

Case No. 190.

M.G. Female.

Date of admission: February 8, 1929. Age 58. Widow.

Estimated onset of disease: October, 1927.

Date of inoculation: May 25, 1929.

Mental state before treatment: Confusional type. She is lost and confused, disorientated in time and place, has impaired memory for recent events. At times she is emotional and lachrymose for no apparent reason.

Mental state after treatment: Examined June, 1931. She is partly demented, simple, foolish, rambling in conversation, has delusions of grandeur and states she is the richest woman in the world. Her memory is impaired and she is disorientated in time and place.

Bodily health after treatment: Poor. She is confined to bed.

Nervous system: Pupils unequal; left larger than right. Do not contract to light. React to accommodation.

Face - - no tremor.
Tongue - - no tremor.
Speech - - normal.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - absent.
Babinsky - indifferent response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	14	+++	1-45 +	Pink 5555432100	222210
July 16/'29.	+	+	8	+		Pink 5553210000	2 210000

Case No. 191.

A.J.S. Male.

Date of admission: February 23, 1929. Age 41. Married.

Estimated onset of disease: Insufficient history.

Date of inoculation: May 7, 1929.

Mental state before treatment: Grandiose type. Says he is the King of England and Ireland, possesses millions in gold. Is lost and confused in mind.

Mental state after treatment: Examined May, 1931. There is mental deterioration present. Has no great insight and is childish and simple in his outlook. His habits are untidy. At present he shows no grandiose delusions. Memory impaired.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. Do not contract to light. React to accommodation.

Face - - no tremors.
Tongue - - tremors present.
Speech - - very thick and slurring.
Arms - - reflexes present (+).
Abdomen - - reflexes present.
Knee jerks - present (+).
Babinsky - extensor response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	F+	+	4	++	1-15 +	Pink 5554321000	211000
June 16/'31.	F+	+	2	+++		0112100000	<u>1</u> 100000

Case No. 192.

M.J.N. Female.

Date of admission: March 6, 1929. Age 42. Married.

Estimated onset of disease: Six weeks' duration.

Date of inoculation: April 12, 1929.

Mental state before treatment: Grandiose type. Deluded she can earn £1,000 a week by washing. Numerous absurd schemes of an expansive nature present. Conversation rambling and incoherent.

Mental state after treatment: Examined October, 1931. No delusions. Good memory for past and recent events. Orientated for time and place. She is, however, simple and somewhat reduced. Is able to look after all the housework, if not so well as before her illness. Has a healthy family. Youngest five years old.

Case No. 192 (contd).Bodily health after treatment: Not of strong or robust health.Nervous system: Pupils unequal; left larger than right. No reaction to light. React to accommodation.

Tongue - - no tremor.
 Speech - - very slurring.
 Face - - no tremor; slightly lacking in expression.
 Arms - - reflexes present.
 Knee jerks - present.
 Babinsky - no response.

Discharged: October 28, 1929.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	15.6	+++		5555554210	222220

Case No. 193.T.H. Male.Date of admission: March 25, 1929. Age 53. Married.Estimated onset of disease: History insufficient.Date of inoculation: April 24, 1929.Mental state before treatment: Confusional type. Lost and confused in mind; disorientated in time; and has no appreciation of his affairs. He also has auditory hallucinations and carries on conversations with his wife and receives replies which are, however, imaginary.Mental state after treatment: Examined August, 1931. Memory good for recent events and distant events. Is somewhat garrulous but his conversation is coherent and quite sensible. He shows insight and understanding into his condition and affairs. Has worked only two weeks since discharge and could work now, but there is no work to be had. Takes an interest in politics. No delusions or hallucinations. Complains of severe burning sensation in his feet.Bodily health after treatment: Good.Nervous system: Pupils unequal; left larger than right. No contraction to light. Contract to accommodation. Both regular.

Tongue - - slight tremor.
 Speech - - normal.
 Face - - no tremor.
 Arms - - right, reflexes present; left, reflexes absent.
 Abdomen - - reflexes present.
 Knee jerks - present.
 Babinsky - no definite response.

Discharged: April 28, 1930.Number of inoculations: 1.

Case No. 193 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	58	+++	1-45 +	5555432100	222100
Mar. 25/'30.	Neg.	F+	20	+		1112100000	110000

Case No. 194.

C.H. Male.Date of admission: April 15, 1929. Age 58. Married.Estimated onset of disease: July, 1928.Date of inoculation: April 27, 1929.

Mental state before treatment: Confusional type. Quite lost and confused in mind; disorientated in time and place; memory for recent events is impaired. He rambles and shows flight of ideas in conversation.

Mental state after treatment: Examined August, 1931. He is rational, talks well, is orientated, memory clear, no delusions, and shows no confusion of thought or idea. He is on pension and has not worked since 1919.

Bodily health after treatment: Good. He gets about quite well.

Nervous system: Pupils equal; left slightly irregular. Both contract sluggishly to light. Contract to accommodation.

Tongue - - tremor.
Speech - - slurring at times.
Face - - no tremor.
Arms - - reflexes present.
Abdomen - - reflexes not elicited.
Knee jerks - present.
Babinsky - extensor right and left.

Discharged: May 26, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	25	+	1-15 +	5555432100	222210
Apr. 29/'30.	+	+	5	+		5555432100	222100
Aug. 20/'31.	+	+	3	Neg.		<u>Pink</u> 5554210000	<u>2</u> 211000

Case No. 195.C.R. Female.Date of admission: April 24, 1929. Age 50. Widow.Estimated onset of disease: June, 1928.Date of inoculation: May 25, 1929.Mental state before treatment: Confusional type. Lost and confused, and gives a very poor account of herself. Memory is markedly impaired and she is disorientated in time and place.Mental state after treatment: Examined October, 1931. Memory is quite fair. Is garrulous and talks in a happy and inconsequential manner, but not to show any great abnormality. She is simple. There are no delusions present. She has a pension and keeps house alone.Bodily health after treatment: Fair.Nervous system: Pupils unequal; right larger than left. Right irregular in shape. Both react sluggishly to light. React to accommodation.Tongue - - no tremor.
Speech - - slurring.
Face - - no tremor.
Other reflexes not examined.Discharged: March 29, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	44	+	Neg.	5555543210	222220

Case No. 196.F.H. Male.Date of admission: May 22, 1929. Age 32. Married.Estimated onset of disease: May 6, 1929.Date of inoculation: May 31, 1929.Mental state before treatment: Maniacal type. Elated, noisy and talkative; exaggerated feelings of well being. He never ceases talking and is restless and at times excited.Mental state after treatment: Patient was known to be alive and well, able to work, wage £1.18.0 per week, but had recently removed to unknown address in September, 1931.Discharged: January 27, 1930.Number of inoculations: 1.

Case No. 196 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	187	+		5555543210	222210
Sept. 25/'29	+	+	11	+++	1-15 +	5555543210	122210

Case No. 197.

M.S. Female.Date of admission: March 19, 1930. Age 50. Married.Estimated onset of disease: September, 1929.Date of inoculation: March 24, 1930.

Mental state before treatment: Melancholic type. Unduly emotional and weeps for no apparent reason. Suicidal tendencies prior to admission. She is quite lost and confused in mind; disorientated and suffering from marked impairment of memory.

Mental state after treatment: She failed to show any appreciable improvement prior to death.

Death: November 1, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	46.6	+++	1-45 +	5555543210	

Case No. 198.

F.M.C. Female.Date of admission: April 1, 1930. Age 59. Married.Estimated onset of disease: Two years.Date of inoculation: April 7, 1930.

Mental state before treatment: Depressed type, with partial dementia. Dull, depressed, and miserable.

Mental state after treatment: No improvement.

Death: May 28, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
				C.S.F.	Blood		
On admission	+	+	17.3	+++	1-15 +	5555432100	222100

Case No. 199.

E.McC. Female.

Date of admission: May 2, 1930. Age 45. Married.

Estimated onset of disease: Six weeks.

Date of inoculation: May 9, 1930.

Mental state before treatment: Grandiose type. Deluded she has millions of pounds, owns four motor cars, etc. She is lacking in insight, memory is impaired, and she is disorientated.

Mental state after treatment: She became depressed, fretful, resistive, and disinterested in her surroundings.

Death: December 2, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	24.3	++	1-3 +	5555432100	222100

Case No. 200.

M.E.B. Female.

Date of admission: May 2, 1930. Age 47. Married.

Estimated onset of disease: May, 1929.

Date of inoculation: May 9, 1930.

Mental state before treatment: Grandiose type, with partial dementia. Lost, confused, disorientated, at times troublesome. Auditory hallucinations present.

Mental state after treatment: Died during treatment.

Death: May 25, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	6	+++	1-45 +	5555554321	222220

Case No. 201.

B.S. Female.

Date of admission: June 2, 1930. Age 32. Married.

Estimated onset of disease: May, 1930.

Date of inoculation: July 2, 1930.

Mental state before treatment: Maniacal type. Noisy, excited, and violent.

Mental state after treatment: Died during treatment.

Death: July 21, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction.	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	21.6	+++		5555432100	222210

Case No. 202.

F.K. Male.

Date of admission: June 24, 1929. Age 43. Single.

Estimated onset of disease: May, 1929.

Date of inoculation: June 30, 1930.

Mental state before treatment: Melancholic type. Dull, miserable, depressed and emotional, often weeping without apparent cause. He is deluded that electricity is put into his body.

Mental state after treatment: Examined June, 1931. Partial dementia present. He is dull, indifferent, apathetic, and without interest in his surroundings. He rarely speaks unless spoken to and can give little account of himself.

Bodily health after treatment: Poor. He is confined to bed.

Nervous system: Pupils small, contracted. Left irregular. Do not contract to light. Contract to accommodation.

Face - - no tremors.
 Tongue - - tremors present.
 Speech - - normal.
 Arms - - reflexes present (++)
 Abdomen - - reflexes absent.
 Knee jerks - present (+).
 Babinsky - response extensor right and left.

Death: June 18, 1931.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	41.3	+++		Pink 5555432100	122210
June 16/'31.	Neg.	F+	2.6	Doubtful.		0011000000	<u>11</u> 000000

Case No. 203.T.H.S. Male.Date of admission: May 3, 1930. Age 61. Single.Estimated onset of disease: History insufficient.Date of inoculation: August 19, 1930.Mental state before treatment: Demented type. Dull, apathetic, listless. Mental processes retarded. At times restless, agitated and depressed.Mental state after treatment: Died two days after completion of treatment.Death: September 20, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	21.6	++		5555543210	222220

Case No. 204.E.T. Male.Date of admission: June 30, 1930. Age 45. Married.Estimated onset of disease: January, 1930.Date of inoculation: September 22, 1930.Mental state before treatment: Confusional type. He is dull, stupid, lost and confused, disorientated in time and place. Impairment of memory for recent events. He is moody and without interest or initiative.Mental state after treatment: Died during treatment.Death: October 9, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	30.6	+++		5555543210	222220

Case No. 205.

T.W. Male.

Date of admission: January 30, 1930. Age 42. Married.

Estimated onset of disease: Several weeks.

Date of inoculation: February 21, 1930.

Mental state before treatment: Confusional type. Somewhat lost in mind, does not always appreciate simple questions put to him; memory for recent events is impaired. Is disorientated in time.

Mental state after treatment: Examined June, 1931. He is simple, harbours delusions of persecution, has no insight and is unstable and emotional.

Bodily health after treatment: Fair.

Nervous system: Pupils equal; right irregular. Do not contract to light. Contract to accommodation.

Tongue - - tremor present.

Face - - no tremor.

Speech - - normal.

Arms - - no reflexes elicited.

Abdomen - - reflexes present ().

Knee jerks - absent.

Babinsky - response flexor right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	11	+	1-45 +	5555543210	222220
June 18/'31.	F+	+	1	+++		55 542200000	210000

Case No. 206.

F.G.G. Male.

Date of admission: January 2, 1930. Age 33. Married.

Estimated onset of disease: October, 1929.

Date of inoculation: February 21, 1930.

Mental state before treatment: Hypo-maniacal type. Elated, garrulous, over-cheerful and optimistic, and in conversation was vague and confused. His behaviour was lacking in proportion and stability.

Mental state after treatment: Examined May, 1931. He is doing well, is working, reliable, trustworthy, and is rational and coherent in his conversation. At times he is apt to be emotional and unstable, but these are of slight nature. He is on parole outside the grounds.

Bodily health after treatment: Good.

Nervous system: Pupils unequal; left larger than right. Both react to light and to accommodation.

Tongue - - tremor slight. Face - no tremor.

Arms - - reflexes present (+).

Abdomen - - reflexes present (+). Knee jerks - present (+)

Babinsky - extensor response right and left.

Gait - - spastic.

Case No. 206 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	12.6	+++	1-8 +	5555543210	222220
June 18/'31.	F+	+	2.3	++		1122100000	100000

Case No. 207.

M.G. Female.

Date of admission: March 1, 1930. Age 29. Married.

Estimated onset of disease: Several weeks.

Date of inoculation: March 4, 1930.

Mental state before treatment: Confusional type. Simple, childish, confused in mind, rambling in conversation, marked impairment of memory, and disorientation in time and place complete.

Mental state after treatment: Examined June, 1931.
She is quiet, well-behaved, shows good orientation; memory for the past is good and there are no delusions or hallucinations present. At long intervals she has cerebral seizures and displays confusion of mind for a short time afterwards.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; right larger than left. Slightly irregular in shape. Do not contract to light. Contract to accommodation.

Face - - no tremor.
Tongue- - tremors present.
Speech- - slurring.
Arms - - reflexes absent.
Abdomen - reflexes present (+).
Knee jerks absent.
Babinsky - indifferent response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	++	31	+++		555555434	222220

Case No. 208.

J.S. Male.

Date of admission: December 23, 1929. Age 38. Married.

Estimated onset of disease: November, 1929.

Date of inoculation: March 8, 1930.

Mental state before treatment: Melancholic type.
Dull, depressed, miserable, distressed in mind. States he is no good, that his health is impaired. Is full of delusions of unworthiness and inferiority. Talks of committing suicide.

Mental state after treatment: Examined May, 1931.
He is arrogant, domineering, shouts at times, and has periods of excitement over trivial matters, showing instability and lack of control. He has no insight. At times he works well, is clean and tidy in habits, and memory for the past is good.

Bodily health after treatment: Good.

Nervous system: Pupils unequal; left larger than right. Do not contract to light. React to accommodation.

- Tongue - - no tremor.
- Face - - no tremor.
- Speech - - thick, and slurring occasionally,
- Arms - - reflexes present (+).
- Abdomen - - reflexes present.
- Knee jerks - absent.
- Babinsky - responses indifferent.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	13	+++		Pink 5555432100	2 1 122100
June 16/'31.	Neg.	F+	1.6	+		0011000000	Neg.

Case No. 209.

M.A. Female.

Date of admission: January 25, 1930. Age 44. Married.

Estimated onset of disease: August, 1927.

Date of inoculation: March 17, 1930.

Mental state before treatment: Melancholic type. Depressed; cries for no apparent reason; has delusions of persecution, being deluded that she is about to be killed. Her memory is impaired and she is unable to tell the month of the year. Hallucinations of hearing are present.

Case No. 209 (contd).

Mental state after treatment: Examined June, 1931. She is simple, childish, and reduced mentally, and fit only for trivial and light tasks. She shows indifferent memory for recent events and only a poor appreciation of her position and surroundings.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; right larger than left. Both slightly irregular. Do not contract to light. Contract to accommodation.

Tongue - - no tremor.
 Face - - no tremor.
 Speech - - thick.
 Arms - - reflexes present (+).
 Abdomen - - reflexes present (+).
 Knee jerks - absent.
 Babinsky - response flexor right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	F+	+	0.6	++ $\frac{1}{2}$		5554321000	221000
June 25/'31.	Neg.	Neg.	1.3	++		0010000000	$\frac{1}{000000}$

Case No. 210.

R.H.S. Male.

Date of admission: January 3, 1929. Age 57. Married.

Estimated onset of disease: March, 1928.

Date of inoculation: April 19, 1930.

Mental state before treatment: Grandiose type. Delusions of grandeur of a fleeting nature; simple and childish; disorientated in time and place and completely lacking in insight.

Mental state after treatment: Examined June, 1931. He is in a state of partial dementia. He has numerous grandiose delusions, states he is King of England and of Heaven and earth. His conversation is rambling and disconnected.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal, irregular. Do not contract to light. Contract to accommodation.

Face - - no tremors.
 Tongue - - tremors present.
 Speech - - fair.
 Arms - - reflexes cannot be elicited.
 Abdomen - - reflexes present.
 Knee jerks - poor response.
 Babinsky - extensor response right and left.

Case No. 210 (contd).

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	R.B.C.	+	1-25 +	5555543210	22220
June 16/'31.	F+	+	R.B.C.	+		1112320000	$\frac{1}{210000}$

Case No. 211.

E.T. Female.

Date of admission: April 17, 1930. Age 47. Married.

Estimated onset of disease: Several weeks.

Date of inoculation: April 26, 1930.

Mental state before treatment: Melancholic type. Depressed, disinterested, emotional at times, faulty in habits, disorientation present for time and place.

Mental state after treatment: Examined June, 1931.
She is in a state of dementia. She is lost, confused, disorientated in time and place and suffers from impairment of memory for the past. Her appreciation of her surroundings is very limited.

Bodily health after treatment: Fair.

Nervous system: Pupils equal, regular. Do not react to light. React to accommodation.

Face - - tremor present.
Tongue - - tremor present.
Speech - - indistinct.
Arms - - reflexes diminished.
Abdomen - - reflexes present (+)
Knee jerks - present (++)
Babinsky - response indifferent.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	101	+++	1-40 +	5555543210	22220
June 25/'31.	F+	+	R.B.C.	+++		1142100000	$\frac{2}{110000}$

Case No. 212.

T.H.G. Male.

Date of admission: July 17, 1929. Age 31. Married.Estimated onset of disease: December, 1928.Date of inoculation: May 7, 1930.Mental state before treatment: Grandiose type. States that he has a gold mine, diamonds and pearls, and offers extravagant sums of money on condition he is made a doctor. Confused, and disorientated in time and place.Mental state after treatment: Examined May 1931; he is partly demented; reduced in intelligence and with no insight; he has grandiose delusions and believes he has millions of pounds, and is always promising presents of aeroplanes or Rolls-Royce motor cars.Bodily health after treatment: Fair.Nervous system: Pupils unequal slightly; right larger than left. Do not react to light. React to accommodation.

Tongue - - tremor slight.
 Face - - no tremors.
 Arms - - reflexes present (+)
 Abdomen - - reflexes present but dull.
 Knee jerks - present (+)
 Babinsky - indifferent response.

Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	50.3	+++		5555543210	222220
June 16/'31	+	+	1.3	++		0012100000	$\frac{1}{100000}$

Case No. 213.

G.W.E. Male.

Date of admission: April 9, 1930. Age 43. Married.Estimated onset of disease: No history.Date of inoculation: May 7, 1930.Mental State before treatment: Grandiose type; delusions of great wealth and ability; states he can build 120 shops furnished with gold and silver.Mental state after treatment: Examined May 1931; he is mentally alert; has no delusions and is rational and normal in his conversation and ideas; he has a slight tendency to hoard, but otherwise is a reliable worker and thoroughly trustworthy; he is on parole in the Hospital grounds.

Case No. 213 (contd).

Bodily health after treatment: Good.

Nervous system: Pupils unequal slightly; right larger than left. Both react to light and to accommodation.

Tongue - - tremors present.
 Face - - no tremors.
 Speech - - normal.
 Arms - - reflexes present (+)
 Abdomen - - reflexes indifferent.
 Knee jerks - present (+)
 Babinsky - flexor response right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	82.3	+++	1-45 +	5555543210	222220
June 22/'31	F+	F+	5.6	+++		2 1112100000	1 100000

Case No. 214.

J.A. Male.

Date of admission: August 26, 1929. Age 42. Married.

Estimated onset of disease: January 1929.

Date of inoculation: May 26, 1930.

Mental state before treatment: Demented type; dull; reduced mentally, and very simple and foolish in his ways.

Mental state after treatment: Examined June 1931; he is in a demented condition; his speech is so impaired that it is almost impossible to understand him, but his actions and behaviour are childish and simple; and he is untidy and wet and dirty in his habits.

Bodily health after treatment: Poor, and he is at present confined to bed.

Nervous system: Pupils equal but irregular. Do not contract to light. Contract to accommodation.

Face - - no tremors.
 Tongue - - tremor present.
 Speech - - very thick and slurring.
 Arms - - reflexes present (+)
 Abdomen - - reflexes present.
 Knee jerks - present (+)
 Babinsky - flexor response.

Number of inoculations: 1.

Case No. 214. (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	Neg.	F+	4	+		0011000000	100000
June 18/'31	Neg.	Neg.	1	Neg.		<u>1111</u> 0000000000	Neg.

Case No. 215.

T.H. Male.

Date of admission: December 13, 1929. Age 48. Single.

Estimated onset of disease: October 1929.

Date of inoculation: May 26, 1930.

Mental state before treatment: Confusional type, with some grandiose ideas; dull; reduced mentally; lacking in initiative; replies to questions with long, confused, rambling statements.

Mental state after treatment: Examined May 1931; he is simple and childish in manner, and has exalted ideas of his physical well being, and thinks he is better than an ordinary man; he is, however, well-behaved, clean, tidy, sociable, a reliable worker, and talks fairly rationally; he is on parole in the Hospital grounds.

Bodily health after treatment: Fair.

Nervous system: Pupils equal; regular. Do not contract to light. Contract to accommodation.

Tongue - - tremors present.
Face - - no tremors.
Speech - - clear.
Arms - - reflexes present (+)
Knee jerks - present (+)
Babinsky - flexor response.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	36.6	+++		5555543210	222210
June 18/'31	F+	+	3.3	+++		Pink 5522100000	2 1 110000

Case No. 216.

A.N.R. Male.

Date of admission: October 14, 1929. Age 30. Married.

Estimated onset of disease: June 1929.

Date of inoculation: June 11, 1930.

Mental state before treatment: Grandiose type; states he owns the Town Hall of Preston, most of the main streets of the town, and has a million pounds; he is moody, introspective, self-absorbed and disinterested.

Mental state after treatment: Examined June 1931: he is mentally much improved; works well; conducts himself in a reasonable manner, and is on parole in the grounds; he lacks great mental acumen and insight, and believes he is so good at cross-word puzzles that he could earn his living in this way.

Bodily health after treatment: Good.

Nervous system: Pupils equal: regular. Contract sluggishly to light. Contract to accommodation.
 Tongue - - no tremors.
 Face - - no tremors.
 Speech - - normal.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - absent.
 Babinsky - response indifferent.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	4.3	+++		5555543210	222220
June 17/'31	Neg.	F+	4	+++		1111000000	$\frac{1}{100000}$

Case No. 217.

W.B. Male.

Date of admission: June 4, 1930. Age 50. Married.

Estimated onset of disease: October 1929.

Date of inoculation: June 27, 1930.

Mental state before treatment: Depressed type; he is anxious and apprehensive as the result of delusions of persecution; conversation is garrulous and shows flight of ideas.

Mental state after treatment: Examined June 1931: he is showing no great mental improvement; he becomes irritable and excited at times as result of delusions of persecution; his insight is poor; memory and orientation are, however, fairly good.

Bodily health after treatment: Fair.

Case No. 217 (contd.)

Nervous system: Pupils equal; regular. React sluggishly to light. React to accommodation.

Tongue - - tremors present.
 Face - - no tremors.
 Speech - - normal.
 Arms - - reflexes absent.
 Abdomen - - reflexes present.
 Knee jerks - poor response.
 Babinsky - flexor response right and left.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	64.6	+++		5555432100	2 122210
June 17/'31	+	+	15.3	++		1122100000	1 100000

Case No 218.

T.L.B. Male.

Date of admission: May 7, 1930. Age 64. Married.

Estimated onset of disease: November 1929.

Date of inoculation: August 19, 1930.

Mental state before treatment: Melancholic type; he is depressed, miserable, and full of delusions of unworthiness; suicidal prior to admission.

Mental state after treatment: Examined June 1931; he is suffering from the delusion that he is Jesus Christ, and that he has been given to understand this by God; he also performs useless actions which, he maintains, are the result of God's influence; he is of quiet and apathetic tendencies.

Bodily health after treatment: Fair.

Nervous system: Pupils slightly unequal; right larger than left. Right oval in shape. React to light and to accommodation.

Tongue - - tremulous.
 Face - - no tremors.
 Speech - - normal.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - sluggish response.
 Babinsky - extensor response right and left.

Number of inoculations: 1.

Case No. 218 (contd).

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	12	+++		5555543210	222220
June 17/'31	F+	+	3.6	++		1112200000	2 110000

Case No. 219.

J.E. McN. Male.

Date of admission: August 2, 1930. Age 44. Married.

Estimated onset of disease: July 26, 1930.

Date of inoculation: September 3, 1930.

Mental state before treatment: Maniacal type; delusions of great physical prowess and ability present, but mainly his condition is one of mania; he is very restless, noisy, excited, and is emotionally unstable.

Mental state after treatment: Examined June 1931: he is suspicious, moody, reticent, and is unwilling to co-operate, but is now improving slightly and works a little in the wards; his memory is good for the past: orientation is normal: vague delusions of persecution, however, exist.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal; left larger than right. Reaction to light sluggish. React to accommodation.

Tongue - - tremors present.
Face - - no tremors.
Speech - - normal.
Arms - - reflexes present.
Abdomen - - reflexes present.
Knee jerks - present.
Babinsky - flexor.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	132	+++		5555554321	222220
June 17/'31	+	+	8	++		5554321000	221000

Case No. 220.J.J.T. Male.Date of admission: June 30, 1930. Age 41. Married.Estimated onset of disease: November, 1929.Date of inoculation: September 20, 1930.Mental state before treatment: Confusional type. Lost, confused, dull, stupid, listless and apathetic, without initiative. Memory impaired. Emotionally unstable.Mental state after treatment: Examined June, 1931.

He is suffering from persecutory delusions, believes he has been discharged and is now being kept here out of malice. He threatens to sue the doctor for damages and shows a complete lack of insight into his condition. He has auditory hallucinations, receiving "wireless messages" from friends outside. States he is an "Honourable."

Bodily health after treatment: Fair.Nervous system: Pupils unequal; left larger than right. Both contract to light and to accommodation.

Tongue - - slight tremor.
 Face - - no tremor.
 Speech - - thick and slurring.
 Arms - - reflexes absent.
 Abdomen - - reflexes present.
 Knee jerks - absent.
 Babinsky - response flexor.

Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	28	+++		5555543210	222220
June 17/'31.	F+	+	2.3	++		5554210000	$\frac{1}{210000}$

Case No. 221.M.M.F. Female.Date of admission: December 16, 1929. Age 44. Married.Estimated onset of disease: Six weeks' duration.Date of inoculation: March 4, 1930.Mental state before treatment: Maniacal type. She is noisy, maniacal at times, unduly talkative, and rambling in conversation. Auditory hallucinations present, imaginary noises upsetting her at night.Mental state after treatment: Examined September, 1931.

No mental abnormality apparent. Is quiet and well-behaved. No delusions. Complains of buzzing noise in her head at times, but places no wrong interpretation on this. Keeping house since leaving Hospital.

Case No. 221 (contd).

Bodily health after treatment: Fair.

Nervous system: Pupils equal, regular. React to light and to accommodation.

Tongue - - no tremor.
Speech - - normal.
Face - - no tremor.
Arms - - reflexes present.
Knee jerks - present.

Discharged: July 28, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	6	Neg.	1-45 +	1345320000	221000
Apr. 14/'30.	Neg.	+	R.B.C.	Neg.	1-45 +	1112221000	000000

Case No. 222.

E.A.H. Female.

Date of admission: January 21, 1930. Age 53. Married.

Estimated onset of disease: September, 1929.

Date of inoculation: March 22, 1930.

Mental state before treatment: Melancholic type. She is very depressed and emotional at times, weeping for no apparent reason. She is quite unable to give a rational account of herself. Lost and confused in mind, disorientated, and memory impaired.

Mental state after treatment: Examined August, 1931. Memory quite good. Conversational ability is average. No delusions and no melancholia or depression. She is, however, somewhat of a simple nature now. She is able to do her housework and looks after her home in a capable way.

Bodily health after treatment: Good.

Nervous system: Pupils equal, regular, but no reaction to light. React to accommodation.

Tongue - - slight tremor.
Face - - no tremor.
Speech - - slight thickness.
Arms - - reflexes present.
Knee jerks - absent.
Babinsky - no definite response.

Discharged: December 22, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	33.6	+		5555554321	222220

Case No. 223.

F.R. Male.

Date of admission: December 18, 1929. Age 27. Married.Estimated onset of disease: 5 weeks.Date of inoculation: March 25, 1930.Mental state before treatment: Grandiose type; he is exalted and irresponsible; deluded he has £1,000,000 and is going with the Prince of Wales on a tour of South Africa; he is highly suggestible.Mental state after treatment: Examined August 1931: talks agreeably; no complaints about his health; memory good; well orientated; no delusions; not working at present; started four months after his discharge as motor driver and compressor of automatic drill for 7 or 8 months; work not available now on account of slack times; had no accidents driving car.Bodily health after treatment: Good.Nervous system: Pupils equal; regular. React to light and to accommodation.

Tongue - - no tremor.
 Face - - no tremor.
 Speech - - normal.
 Arms - - reflexes present.
 Knee jerks - present.
 Babinsky - flexor right; doubtful left.

Discharged: May 26, 1930.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	37.3	+		5555543210	222220
Aug. 20/'31	+	+	8	+++		5554320000	221000

Case No. 224

W.C. Male.

Date of admission: February 28, 1930. Age 49. Married.Estimated onset of disease: Several weeks.Date of inoculation: April 7, 1930.Mental state before treatment: Maniacal type; very excited and restless, shouting and banging on the walls of his room; conversation is long and rambling.

Case No. 224 (contd).

Mental state after treatment: Examined June, 1931.

He is somewhat elated, is garrulous, over-talkative and unduly pleased with himself, and states he never felt better in all his life. No delusions apparent. Memory good. Orientation good. He is carrying out his job as butcher in his own shop. Family state he is irresponsible, gets excited easily, does foolish and unnecessary actions. He is apparently unduly suspicious that his family are wishing to do him fundamental harm. Family wish him back in Hospital.

Bodily health after treatment: Good.

Nervous system: Pupils unequal; left slightly larger than right. Both contract to light and to accommodation.

Tongue - - no tremor.
Face - - no tremor.
Speech - - slightly thick at times.
Arms - - reflexes present.
Abdomen - - reflexes not all present.
Knee jerks - left present; right absent.
Babinsky - extensor response.

Discharged: May 26, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	59	+		5555554321	222220
June 30/'31.	F+	+	16.6	+		0122000000	22 110000

Case No. 225.

P.R. Male.

Date of admission: December 12, 1929. Age 32. Single.

Estimated onset of disease: One month.

Date of inoculation: April 19, 1930.

Mental state before treatment: Maniacal type. He is in a state of continued excitement and delusion, talks in a garrulous manner, and has vague grandiose delusions. He also has auditory hallucinations.

Mental state after treatment: Examined June, 1931. History of complaining of headaches. Does not sleep too well. Not working; - 17 shillings per week dole and 8 shillings per week pension. Memory good. Orientation good. Poor mental type; has no insight and is lacking in average mental capacity - probably always poor grade. No particular confusion present. No delusions.

Bodily health after treatment: Fair.

Nervous system: Pupils equal, regular. Contract to light and to accommodation.

Tongue - - tremor present. Face - - no tremor.
Speech - - normal. Arms - reflexes not elicited
Abdomen - reflexes not elicited. Knee jerks - absent.
Babinsky - flexor response.

Discharged: September 27, 1930.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	34	++		5555543210	222220
June 29/'31	F+	F+	5.3	Weakly +		1122000000	$\frac{1}{100000}$

Case No. 226.

A.M.L. Female.

Date of admission: April 14, 1930. Age 46. Married.Estimated onset of disease: April 6, 1930.Date of inoculation: May 5, 1930.

Mental state before treatment: Grandiose type; deluded she is a Princess, and owns large sums of money; her conduct, however, is excited, noisy, troublesome, and at times resistive to treatment and attention; lost and confused in mind.

Mental state after treatment: Examined April 1931; mentally clear; has good insight; rational in conversation; disinclined, however, to occupy herself or show great activity.

Bodily health after treatment: Good.

Nervous system: Right pupil slightly larger than the left and slightly irregular.
Slight ataxic element in gait on right leg.

Discharged: April 27, 1931.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	96.6	+++		5555543210	222220
Apr. 27/'31	F+	+	2	Neg.		5543210000	$\frac{2}{210000}$

Case No. 227.

J.W.T. Male.

Date of admission: June 10, 1930. Age 42. Married.Estimated onset of disease: May 31, 1930.Date of inoculation: July 30, 1930.

Mental state before treatment: Grandiose type; states he can raise the dead; has untold millions of money which he has been told by God to distribute throughout the world; hallucinations of hearing being present.

Case No. 227 (contd).

Mental state after treatment: On discharge in May 1931, he was rational in his behaviour and conversation; was willing and agreeable; worked fairly well, and was anxious to restart life outside the Hospital; there was some slight psychic instability, and he was apt to be upset by minor troubles.

Bodily health after treatment: Fair.

Discharged: May 1931.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	101	+++		5554321000	² 122100

Case No. 228.

G.P. Male.

Date of admission: June 12, 1930. Age 48. Married.

Estimated onset of disease: ?June 1930.

Date of inoculation: July, 14, 1930.

Mental state before treatment: Early case of G.P.I. On admission, fairly rational; previous history - maniacal symptoms; physical examination confirmed diagnosis of G.P.I.

Mental state after treatment: Examined June 1931; casual working 3 or 4 days a week; average earnings £2. 3. Od. per week; is rational; converses well; no delusions; gets excited and troublesome at times; gets easily upset but soon all right; not so well as before his mental illness, but better than during it.

Bodily health after treatment: Good; no headaches or giddiness; sleep all right; lost no weight; no illness since discharge.

Nervous system: Pupils slightly unequal; left larger than right. No reaction to light. React to accommodation.

Tongue - - no tremor.
 Speech - - normal.
 Face - - no tremor.
 Arms - - reflexes present.
 Abdomen - - reflexes present.
 Knee jerks - present.
 Babinsky - could not be performed.

Discharged: September 27, 1930.

Number of inoculations: 1.

Case No. 228 (contd).C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	31	+++		5555543210	222210

Case No. 229.

P.T. Female.

Date of admission: June 27, 1930. Age 30. Married.Estimated onset of disease: History insufficient.Date of inoculation: August 5, 1930.Mental state after treatment: Maniacal type. Restless, noisy, violent when the attacks were upon her. Unable to give any account of herself.Mental state after treatment: After discharge unable to be traced.Discharged: January 27, 1931.Number of inoculations: 1.C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboge Reaction
				C.S.F.	Blood		
On admission	+	+	71.6	+++	1-20 +	2445442100	2 2 121100
Jan. 23/'31.	F+	+	5	++		Pink 5543210000	100000

Case No. 230.

H.C. Male.

Date of admission: February 4, 1930. Age 40. Married.Estimated onset of disease: May, 1929.Date of inoculation: September 20, 1930.Mental state before treatment: Melancholic type. Depressed, worried and upset, and attempted suicide previous to admission. He is apathetic and at times refuses food.

Case No. 230 (contd).

Mental state after treatment: Examined June, 1931. Improved. He is not depressed, is contented and agreeable. His memory for recent events is good; he is orientated in time and place, and has no delusions.

Bodily health after treatment: Fair.

Nervous system: Pupils unequal, irregular. Do not contract to light. Contract to accommodation.

Face - - no tremors.
Tongue - - tremors present.
Speech - - normal.
Arms - - reflexes absent.
Abdomen - - reflexes present.
Knee jerks - absent.
Babinsky - indifferent response.

Discharged: November, 1931. Improved or relieved.

Number of inoculations: 1.

C.S.F. examinations.

	Ross Jones Test.	Pandy Test.	Cell count	Wassermann Reaction.		Colloidal Gold Reaction	Colloidal Gamboje Reaction
				C.S.F.	Blood		
On admission	+	+	29	+		5555432100	2221 $\frac{1}{00}$
June 17/'31.	Neg.	+	2-3	+		1122 $\frac{1}{00}$ 00000	100000

RESULTS.

The prime object of this thesis, as stated in the introduction, has been to present the after-history of patients treated by induced malaria. This has been achieved in the clinical account given of each individual case. More, however, is necessary, and it is now intended to give the salient features which arise out of a consideration of these cases. The method adopted is that of studying the results of the cases treated in each year since 1922. Thus the patients inoculated in 1922 will be considered after a period of nine years, those treated in 1923 after eight years, and so on till the final cases treated up to September, 1930. Thus there will be at least one year elapsing after treatment in the final case considered in this thesis.

Cases treated in 1922.

Nine patients suffering from General Paralysis of the Insane were inoculated in 1922. Of this number seven are now dead; one still remains in hospital; and one, having been discharged, is living at home. These were the only patients treated in Britain by malarial inoculation in the year 1922 and at first glance the results do not lend themselves to a favourable impression. Considered in detail the following facts emerge. Three patients were discharged. One remained at home for two years, then relapsed mentally, was taken to another mental hospital where he died in March, 1929. The second remained at home in fair condition from 1923 till March, 1931. He also showed a return of mental symptoms, had to be removed to a mental hospital, where he died in September of this year. The third was visited at his own home where he was found in good mental and physical health and gave a history of being in work as a painter ever since discharge whenever work was available.

None/

None of the other six patients was ever fit mentally to be discharged, and only one is still alive in hospital. His mental state is one of dementia. The deaths took place at the following times:- September, 1922; January, 1923; March, 1927; December, 1927; April, 1928. The only encouraging point would seem to be that only two patients had died prior to 1927, a period of four to five years after treatment.

Cases treated in 1923.

During this year forty-one patients received treatment with malaria. Of this number only one was unable to be traced so that the fate of forty of the patients treated eight years ago is definitely known.

The results are as follows:-

28 patients are now dead.

7 patients are at present in hospital.

5 patients are at present discharged and living at home.

Patients now dead.

The first and most obvious point arising is that eight years after treatment 67 per cent of the patients are dead. It is not without interest to find out how long life had been prolonged, and the years in which the deaths occurred are now given:- 5 died in 1923; 7 died in 1924; 7 died in 1925; 3 died in 1926; 1 died in 1927; 3 died in 1928; and 2 died in 1929. Put in another way, we find that 5 patients died shortly after treatment; 12 had died one year after treatment; 19 two years after treatment; 22 three years after treatment; 23 four years after treatment; 26 five years after treatment; and 28 six years after treatment.

Of the 5 patients who died in 1923, 4 of them were deceased within one month from inoculation with malaria; so that one cannot but say that in these cases malaria directly hastened their end. It will now be apparent that eight years after treatment/

treatment by malarial inoculation only 33 per cent of the patients will be alive. It remains to see what has happened to them, and their course is now considered under two headings:-

- (1) Those in Hospital.
- (2) Patients alive at home.

(1) Patients in Hospital.

Seven cases are in Hospital. Of this number five are in a simple or demented condition and have shown no response mentally to treatment. Two, however, are relieved, are fit for light duties in the ward, and can take care of themselves. Neither, however, is likely to be ever suitable for anything but an asylum life. A good deal has been made by many writers on the subject of the fact that the patients treated and remaining in hospital are better than they would be without treatment, that they have not become bedridden and emaciated, faulty and dirty in habits. This, in my experience, is correct but it is my opinion that the value of malarial treatment must stand or fall by its ability to do more than merely arrest the further progress of mental and physical decay. How far does it produce a useful, productive and mentally stable member of society? That question is considered in the next group of patients.

(2) Patients alive at home.

Five patients treated eight years ago are still at home. Two of them are obviously mentally reduced. They do not work, are able to lead a harmless existence, are looked after at home, and are recognised by their relations to be unstable and easily upset. Throughout the investigations it was common to hear this story of irritability given as a symptom by the relations of people living at home. In these two patients the disease has been arrested and sufficient improvement brought about to enable them to lead a simple existence outside hospital. One of the patients had never been able to write at any time in his life, and/

and in assessing results it is unfair to expect a return to a high standard of mental ability where not even a moderately high standard had existed. The other three patients are in good mental health, one is working at thirty shillings per week and the other two have been employed for several years and are now unemployed on account of the bad industrial conditions of the present times. Three cases may thus be estimated as recovered and two as relieved.

Before giving the percentage of results for the year 1923 it is interesting to record the number of patients who were discharged from hospital. Twelve patients were discharged. Five of the twelve are still alive and at home, and have been described. Five of them are dead, three dying in 1925, one in 1927, and one in 1929. One was readmitted to Hospital and one was unable to be traced after leaving Hospital.

The following table gives the results as percentages:

Deaths.....	28	....	70 per cent.
Cases in Hospital.....	7	....	17 per cent.
Cases at home relieved....	2	....	5 per cent.
Cases at home recovered...	3	....	8 per cent.

Cases treated in 1924.

Twenty-one cases of General Paralysis received treatment by induced malaria in the year 1924. In 1931, seven years after, the results in brief are as follows:- 13 patients are dead; 3 are in hospital; 4 are at home; and 1 who was discharged cannot be traced.

Patients now dead.

Thirteen patients out of 20 treated, or 65 per cent, are dead seven years after treatment. Considering these deaths in the same manner as previously, we find that six died in 1924; one in 1925; two in 1926; two in 1927; one in 1928; and one in/

in 1929. Thus six died the same year as treatment was given; seven had died one year after treatment; nine two years after; eleven three years after; twelve four years after; and thirteen five years after inoculation.

Of the six patients dead in 1924, all died within six weeks of their inoculation with malaria, and again it would seem that this method of treatment had proved too severe a strain on a patient already weakened by the effects of syphilis throughout the body. Seven years after treatment 38 per cent of patients will be alive, a slight increase over the previous year, and again they will be considered as to whether they are in hospital or living at home.

Patients in Hospital.

The three patients in hospital may be briefly dismissed. They are all women, are demented, bedridden, and have made no progress of any kind. Apart from the fact that they are still alive there is nothing to be said in their favour.

Patients alive at home.

With one patient of the vagrant class and after discharge lost to view, only four come under this heading for the year 1924. One is dull, apathetic and untidy and does not seem bright enough to hold a job in keen competition. He has, however, been able to lead his life outside of hospital care and might be looked upon as relieved following upon his treatment by induced malaria. The other three are in good mental health and comported themselves well during the mental examination. One is said to be easily excited and irritable, but having a good home has not required to work since his discharge. A second worked as a labourer for two years after discharge but has been unemployed for four years on account of slack trade. The third has worked at intervals since discharge at a wage of £2 per week, but he also is now unemployed. Of the patients at/

at present at home, one may be regarded as relieved and the other three as recovered from their symptoms, able to earn their own livelihood, but all at present unemployed. Of the twenty-one cases treated seven years ago, none is at the time of his examination economically productive.

The total number discharged from hospital was seven. The history of five has been given above. The other two are dead, one dying in 1926, and the other dying in 1929, after enjoying three years of fair bodily and mental health at home. He then developed epileptiform seizures at periodic intervals until his death in 1929.

The results of the year given in percentages are as follows:-

Patients dead.....	13	.....	65 per cent.
Patients in Hospital.....	3	.....	15 per cent.
Patients at home relieved.....	1	.....	5 per cent.
Patients at home recovered.....	3	.....	15 per cent.

Cases treated in 1925.

In this year thirty patients suffering from General Paralysis were treated by induced malaria. Of this number, 17 are now dead, 8 are at present in hospital, and 5 are discharged and living at home. The same analysis of the results as in the earlier years is now given.

Patients now dead.

Six years after treatment 57 per cent of the patients have died. Five died in the same year, viz., 1925; four died in 1926; three in 1927; two in 1928; none in 1929; one in 1930; and two died in 1931. One year after treatment 9 of the patients were dead; 12 two years after; 14 three years after; 14 four years after; fifteen five years after; and 17 six years after. Again one finds that three of the deaths/

deaths in 1925 took place within one month from inoculation and again it must be recorded that malaria has in these cases hastened on an end which, however, so far as we know, was inevitable. 43 per cent of the patients are still alive, once more a slight increase over the previous years.

Patients in Hospital.

Eight patients are at present in hospital, seven are demented or markedly abnormal, while one is somewhat improved and leads a hospital life with contentment. Two only are bed-ridden, the remainder being in fair physical health six years after treatment.

Patients alive at home.

The condition of the five patients to be described under this heading is very good. All are in good mental and physical health, are free from the symptoms which marked their case prior to treatment, and have maintained that standard of improvement which was present before their discharge from hospital. One patient has worked for a period of only eight weeks since his discharge in 1926 and should be classified for our purpose as relieved. One patient, a woman, does housework in her own home. The other three have all been employed and keeping their own homes and families, and one, a painter, had been working, on the week in which he was examined, at heights of forty and fifty feet above the ground. Judged from a reasonably high standard these patients are doing well.

The total number of discharges from this year was eleven. Five, already considered, are still at home. Three are dead, one dying in 1926, one in 1930 after four years in another mental hospital, and the third dying in June, 1931. The third patient described had been able to work for five and a half years after his discharge. The remaining three patients have all been readmitted to mental hospitals.

The results six years after treatment are as follows:-

Patients/

Patients dead.....	17	....	57 per cent.
Patients in hospital.....	8	....	27 per cent.
Patients at home relieved.....	1	....	3 per cent.
Patients at home recovered.....	4	....	13 per cent.

Cases treated in 1926.

Thirty-two patients received treatment during this year. Thirteen of them are dead; seven are at present in hospital; eleven are at home; and one is unable to be traced after discharge.

Patients now dead.

Thirteen out of 32, or 42 per cent, of the cases treated five years ago are dead. Six died in 1926; three in 1927; two in 1928; and two in 1931. Thus six had died the same year as treatment was given; nine had died after one year; eleven after two years; and thirteen after five years. Taking special note of the deaths in 1926, one finds that three patients died within one month from inoculation with malaria, and again the inference seems to be that in these three death was hastened by the superimposed disease. 58 per cent of the patients treated are still alive and the condition of those in hospital is now described.

Patients in Hospital.

None of the patients in hospital is at all mentally bright. Two, perhaps, might be considered as relieved; the others are reduced mentally, deluded, or both. Again there falls to be noted the fact that the patients are all in fair state of physical health and are all up and about, and none of them is bedridden.

Patients at home.

Eleven patients out of a total of 32 are still living at home five years after treatment. The condition of all of them/

them is remarkably good. All are definitely improved, and apart from certain signs of instability in a few of them, such as irritability and a tendency to excitement at times, all emerge from the mental examination with a high standard of marks. One patient, a woman, is engaged in housework and is spoken of highly by her family. One man is out of work, The other nine are all employed in a variety of ways, such as engineering, labouring, French polishing, painting, etc. All are apparently holding their jobs without difficulty and proving themselves useful members of society. Two patients call for special mention, one on account of the fact that he is engaged as a taxi-driver in Manchester, a position calling for quick and definite thinking, and entailing long hours of labour, twelve to fourteen hours per day. The other patient has not only held his job, but since discharge has been promoted to the position of organising manager in a small business with twenty men under his orders. The results of this year must be considered very good.

The total number of patients discharged was fifteen. Eleven have been described. One after discharge was unable to be traced, the other three are dead. One died in 1927, one in 1930, and one in 1931. Of these three one had worked as an engine driver for three years after leaving hospital.

The results five years after treatment are as follows:-

Patients dead.....	13	42 per cent.
Patients in hospital.....	7	23 per cent.
Patients at home relieved.....	0	0 per cent.
Patients at home recovered....	11	35 per cent.

Cases treated in 1927.

During the year 1927, thirty-six patients received treatment by induced malaria. 18 are now dead; 9 are in hospital; 8 are at present living at home; and 1 after discharge cannot be traced.

Patients now dead.

Eighteen of the patients died at the following times after treatment. Seven died in the same year; five died the following year; five the year after; and one in 1931, four years after malarial therapy had been given: or, to record these facts as has been done in other years, twelve died one year after treatment; seventeen two to three years after; and eighteen four years after their course of malarial fever. Three patients died within one month after inoculation with the malarial parasites and this fact must again be placed on record. Four years after treatment 50 per cent of the patients are still alive.

Patients in Hospital.

All the patients in hospital are either grossly demented or deluded and impaired mentally. Of the nine described, five are in poor or indifferent general health and four are in fair physical condition.

Patients at home.

One patient could not be found after discharge; the other eight are all leading their lives at home. Of this number, one shows partial dementia and his relations are contemplating sending him back to hospital. A second is an invalid on account of a right-sided paresis, but mentally he is in fair condition. The remaining six are all mentally improved and respond reasonably well to mental examination. Only two, however, are employed. One is on pension, and bad trade conditions are keeping the other three from employment. It is interesting to find that one of the male patients was preparing to marry for the second time.

The total number of patients discharged was nine, and their condition has been described above.

The results of this year are as follows:-

Patients now dead.....	18	....	51 per cent.
Patients in hospital.....	9	....	26 per cent.
Patients at home relieved.....	1	....	3 per cent.
Patients at home recovered.....	6	....	17 per cent.
Patients at home not improved...	1	....	3 per cent.

Cases treated in 1928.

Only ten patients received malarial treatment in this year. At the end of May this mode of therapy was discontinued, and tryparsamide injection substituted for the next ten months. Such a small number do not lend themselves to the presentation of the same useful discussion as in other years but they are described below in a similar manner.

Patients now dead.

Six patients who received treatment in this year are dead. Five died in 1928 and one in 1931. Four patients died within one month after inoculation with malaria. This danger to malarial therapy will be further enlarged on when the total results over a period of nine years are under survey.

Patients in hospital.

Three patients remain in hospital. All are demented. All are, however, in fair general health.

Patients at home.

One patient was discharged, and when visited in September, 1931, was maintaining the progress noted while in hospital. He is earning £2.11.0 per week as a labourer and his relations are satisfied that he is keeping well.

The results of this year are as follows:-

Patients dead.....	6	....	60 per cent.
Patients in hospital.....	3	....	30 per cent.
Patients at home relieved..	0	....	0 per cent.
Patients at home recovered.	1	....	10 per cent.

Cases treated in 1929.

Treatment by induced malaria was started again in March, 1929, and continued until May, 1929. During this time seventeen cases of General Paresis were inoculated and their history from that time two years ago is now given.

Patients dead.

Six patients treated in this year have since died; three in 1929; one in 1930; and two in 1931. Thus three patients died the same year as treatment was given, four had died one year after, and six had died two years after treatment. Two died within one month of inoculation.

Patients in Hospital.

Six patients are still in hospital. Five are in a poor mental state and will never improve. The sixth is better than on his admission, leads a quiet hospital life on parole in the grounds, but is definitely simple in his outlook. All six have maintained a fair standard of physical health and only one is confined to bed.

Patients at home.

Five patients were visited at their own homes and a consideration of these cases proves satisfactory. All were definitely improved in mind from their condition on admission to hospital, all were able to give a good account of themselves and showed no delusions or confusion of thought. Two women were performing housework, one male patient had been working, another was fit for work but was unable to find employment, and the last patient was in receipt of a pension. Looked at with a very critical mind, one patient might be found to be slightly garrulous, another unduly happy, another somewhat simple, but even/

even after searching for flaws in their mental make-up, these patients must be regarded as in satisfactory condition and are therefore placed as recoveries.

The results for this year are as follows:-

Patients dead.....	6	....	35 per cent.
Patients in hospital.....	6	....	35 per cent.
Patients at home relieved....	0	....	0 per cent.
Patients at home recovered...	5	....	30 per cent.

Cases treated in 1930.

In this year thirty-four patients received treatment. Considered one year after, the results are as follows:-

8 patients are dead; 16 remain in hospital; and 10 are discharged. Of those sent home, one cannot be traced.

Patients now dead.

One to two years after treatment eight patients are dead out of 34, or 24 per cent. Seven died in 1930 and one in 1931. Death occurred in four cases within one month of inoculation. In summing up the final results of malarial therapy this danger to the life of the patient will receive further attention, and its importance be better assessed in a consideration of the 230 cases described here.

Patients in hospital.

Considered briefly, of the sixteen patients remaining in hospital five are improved and lead a useful and well conducted life under a hospital régime. In their case treatment has been of benefit. Eleven in hospital are not improved, are deluded and in a state of mental impairment. The physical state of all sixteen is quite good and none is bedridden or emaciated.

Patients at home.

Ten fall to be considered under this heading. One has not been heard of since leaving hospital. Two are looked upon as being relieved after treatment.. Of these two, one is taking charge of his own butcher's shop, but his wife and family are wearied of his instability of conduct manifested in a number of ways. Seven are thought to be recovered, and of this number four are employed and the other three are employable. One patient had been working as motor driver and compressor of an automatic drill, and again the arduous nature of employment in some recovered General Paralytics is worthy of note.

The results of treatment in this year are of a satisfactory nature. Ten of the patients have been discharged, and of this number seven are regarded as recoveries and two as relieved.

Results in 1930.

Patients dead.....	8	24 per cent.
Patients in hospital.....	16	49 per cent.
Patients at home relieved.....	2	6 per cent.
Patients at home recovered.....	7	21 per cent.

Results of Eight Years of Malarial Treatment of

General Paralysis.

230 patients have been treated with induced malaria from July, 1922, till September, 1930. It is regretted that in the planning out of this thesis some repetition has occurred, but only by an analysis of each year's results could the object of the work be fulfilled, that of giving the after-history of the patients from one to nine years after treatment. In giving now a general survey it is as well to keep clearly in front the actual figures which were expressed as percentages in each year's results. These are as follows:-

1922

Patients now dead.....	7	....	78 per cent.
Patients in hospital.....	1	....	11 per cent.
Patients at home recovered....	1	....	11 per cent.

1923

Patients now dead.....	28	....	70 per cent.
Patients in hospital.....	7	....	17 per cent.
Patients at home relieved.....	2	....	5 per cent.
Patients at home recovered....	3	....	8 per cent.

1924

Patients now dead.....	13	....	65 per cent.
Patients in hospital.....	3	....	15 per cent.
Patients at home relieved.....	1	....	5 per cent.
Patients at home recovered....	3	....	15 per cent.

1925

Patients now dead.....	17	....	57 per cent.
Patients in hospital.....	8	....	27 per cent.
Patients at home relieved.....	1	....	3 per cent.
Patients at home recovered....	4	....	13 per cent.

1926

Patients now dead.....	13	....	42 per cent.
Patients in hospital.....	7	....	23 per cent.
Patients at home relieved.....	0	....	0 per cent.
Patients at home recovered....	11	....	35 per cent.

1927

Patients now dead.....	18	....	51 per cent.
Patients in hospital.....	9	....	26 per cent.
Patients at home relieved.....	1	....	3 per cent.
Patients at home recovered....	6	....	17 per cent.
Patients at home not improved.	1	....	3 per cent.

1928

Patients now dead.....	6	....	60 per cent.
Patients/			

Patients in hospital.....	3	30 per cent.
Patients at home relieved.....	0	0 per cent.
Patients at home recovered.....	1	10 per cent.

1929

Patients now dead.....	6	35 per cent.
Patients in hospital.....	6	35 per cent.
Patients at home relieved.....	0	0 per cent.
Patients at home recovered.....	5	30 per cent.

1930

Patients now dead.....	8	24 per cent.
Patients in hospital.....	16	49 per cent.
Patients at home relieved.....	2	6 per cent.
Patients at home recovered.....	7	21 per cent.

From a close study of 230 cases one broad fact is at once clear, that in malarial inoculation a remedy exists which allows of patients being sent home in a state of apparently complete remission. How far they have returned to normal mental health is a question which many will debate and my opinion in this matter may be expressed at this point. In visiting a large series of cases I was frequently surprised at the mental acumen and ability shown by a proportion of the cases. They showed a reasonable attitude to life, tackled their problems, and faced their responsibilities. Some were keeping well under serious handicaps, such as unemployment and financial insecurity; and in assessing the value of the treatment given, it must be recorded in its favour that in Lancashire, during the past five or six years, industrial depression has proved a severe test to any therapeutic measure directed against mental illness. A number of other patients who have been recorded as recoveries were frequently doing well at home, working and attending to their families, but with signs of some instability present. This was evidenced by a proneness to irritability in some, a slight emotional/

emotional tendency in others. Others showed a slight simplicity of outlook or complained of being more easily fatigued than used to be the case. It would be surprising, however, if this were not so when it is remembered that treatment will have been given at various times after the onset of the disease and a varying amount of damage to the brain neurones will be present before treatment becomes effective. But these signs of instability or fatigue are slight, and unless of an obvious nature were not thought sufficient to alter the classifying of these patients as recovered. Placed alongside the picture of the mental symptoms prior to treatment, these patients stood out as being in a satisfactory mental state. What it is wished to convey, and what should be conveyed, is that a proportion of the recovered cases shows to careful examination certain signs of mental impairment as a legacy from that dread malady, General Paralysis of the Insane.

The percentage of recoveries after treatment may now be discussed. Six to nine years after malarial therapy an average of 12 per cent of the patients will be recovered from their illness and living at home. As we are dealing with a group of cases in whom the average age at the onset of illness is about forty-four years, a high percentage rate may not be looked for. The fact, however, must be recorded that the expectation in treated General Paralytics of being alive and mentally well six to nine years after treatment is only 12 per cent. This is not a high figure and must diminish a too optimistic outlook.

The recovery rate one to five years after treatment is much better. The percentage varies slightly each year, and it is interesting to note that the highest rate is recorded in those patients treated five years ago of whom 35 per cent are still alive and mentally in good health. The average over the five years is 24 per cent and this figure is in close agreement with the findings of many other workers on this subject.

The total number discharged as improved each year, expressed as percentage is as follows:- 1922, 33 per cent; 1923,

30 per cent; 1924, 30 per cent; 1925, 36 per cent; 1926, 50 per cent; 1927, 25 per cent; 1928, 10 per cent; 1929, 30 per cent; 1930, 30 per cent. The average over the period of eight years is 31 per cent. Thus in treating cases of General Paralysis with malaria we may expect 31 per cent to recover and be discharged home improved. If we follow these patients up after discharge we find that six to nine years after, 12 per cent of the total cases treated are still in a state of complete remission or so-called recovery, while one to five years after treatment 24 per cent of the total cases treated are still able to be classified as recovered.

With regard to the question of a return to employment after discharge, it was found that a total of twenty-six patients are employed and sixteen are able to work or have been working and are now unemployed on account of bad industrial conditions in Lancashire. Expressed as a percentage of the total patients treated, 11 per cent are engaged in civil occupations, and 7 per cent are fit to work. Dividing the period under survey into two, one finds that of the patients treated six to nine years ago 6 per cent are at work and 5 per cent are able to work. Among those treated one to five years ago 16 per cent are at work and 8 per cent are able to work. The nature of employment engaged in has been commented on already, but attention may be directed once again to the patient who had worked as an engine driver for three years and to the two patients employed in driving cars in busy city streets. It is questionable whether occupations of this kind, so dangerous to the safety of other citizens if badly performed, should be undertaken by patients who have suffered from General Paralysis. The only reply that can be made is that no untoward accidents resulted over a period of several years. It is not suggested that ability to work is the best measure of recovery. Most remedies, however, have this as one of the ends in view and its importance should not be lost sight of in this instance.

Among/

Among the patients still at home are seven who are classified as relieved. These are patients in whom the signs of mental impairment, such as instability of conduct, lack of judgment, easy satisfaction with their condition, are present to a degree easily found on medical examination, but not so severe as to make them unfit to lead a quiet and sheltered life at home. These patients are unfit for work. One patient was dementing and would soon be back in hospital. That more patients were not found in a serious state of mental incapacity at home would seem to be due to the fact that they were evidently quickly sent back to hospital when a relapse occurred.

Patients still in Hospital.

In addition to the patients sent home improved, treatment has done something more. A large number of cases survive in hospital, and the condition of these patients now demands consideration. Examination shows that most of them are in a demented state or suffer from gross delusions. Out of a total of sixty in hospital, forty-nine can be described in this way. Eleven, however, show improvement after treatment and are able to lead quiet, useful lives inside the hospital, some being on parole and enjoying full privileges. The continued detention of these cases, however, is sufficient indication of the result of treatment from a mental point of view, and no useful end can be served by regarding them as anything else than patients who have failed to recover.

The physical condition of most of these patients in hospital is, however, quite good, and only a few are bedridden and emaciated, and even the bedridden cases seem to prolong their existence in a most surprising way. After a critical observation of a large number of General Paralytics, the conclusion is arrived at that malarial treatment in these cases has stayed the progress of the disease, and that the ultimate condition of the patients is dependent on the amount of destruction or damage which has occurred in the central nervous system/

system prior to the giving of treatment.

In the introduction to this thesis, one of the problems desired to be solved was that of the expectation of life of General Paralytics after treatment with malaria. This can conveniently be attended to at this point. The total number of patients alive out of 230 treated is 109. The fate of six patients is unknown. Over a period of nine years 47 per cent of all cases treated are still living. A much more useful method of assessing results is the percentage of patients living each year after treatment and this is shown in the following table:-

	<u>Patients still living</u>
One year after treatment	76 per cent.
Two years " "	70 per cent.
Three " "	40 per cent.
Four " "	49 per cent.
Five " "	58 per cent.
Six " "	43 per cent.
Seven " "	35 per cent.
Eight " "	30 per cent.
Nine " "	22 per cent.

The expectation of life in cases of General Paresis after treatment with malaria can be seen at a glance in this table. The discrepancy noticed from the third to the fifth year would disappear with a larger series of cases for review in those years and it is reasonable to strike an average for these years at 49 per cent. These figures undoubtedly compare more than favourably with the results got where no treatment is given and must justify malarial therapy as a distinct advance in the treatment of General Paralysis. The findings of Meagher were that in untreated cases of General Paralysis only 10 per cent are still living at the end of four years.

Patients now dead.

The total number of patients who have died after treatment during a period of eight years is 116 or 53 per cent. This fact can be better understood by a consideration of each year's results.

	<u>Patients dead.</u>
One year after treatment	24 per cent.
Two years " "	35 per cent.
Three " " "	60 per cent.
Four " " "	51 per cent.
Five " " "	42 per cent.
Six " " "	57 per cent.
Seven " " "	65 per cent.
Eight " " "	70 per cent.
Nine " " "	78 per cent.

There is an advance from 24 per cent dead one year after treatment to 78 per cent. dead nine years after treatment. The slight discrepancy from the third to the fifth year is explained in a manner similar to that when discussing the expectation of life. General Paralysis must still be regarded as a grave and serious malady, and with treatment by malaria the death rate is still one to call a halt to an over-eager optimism. Special reference was made in discussing the deaths in each year, to those who died within one month from inoculation with malaria, and in whom death is thought to have been hastened by the strain of the malarial rigors. The total number in this category is 29, out of 230 cases treated, or 13 per cent. This figure may seem higher than has been reported by other writers, but it is believed that if the same method of calculation were adopted 13 per cent would not be an uncommon finding. The conclusion must therefore be arrived at that malarial therapy of General Paralysis is a remedy not without danger, and its use should always be accompanied by strict observation of the patient for signs of hyper-pyrexia, failing circulation, anaemia, etc.

Careful/

Careful nursing and attention are also very essential.

Factors which influence results of treatment.

The age at which General Paralysis developed might have a bearing on the future course of the disease after treatment, but a study of the ages in this series brings out no very important points. The oldest patient to undergo the treatment was 64 years old and he is still living in the hospital. The average age of the patients at the time of admission into hospital is 44 years. The average age of the three classes described in this thesis, viz., those discharged, those in hospital, and those dead, is as follows:-

Patients now living at home - average age - 41 years.

Patients still in hospital - average age - 46 years.

Patients now dead - average age - 45 years.

It will be seen that the patients discharged and now living at home show a slightly lower average age at the time of admission to hospital.

Duration of symptoms prior to treatment.

It is an admitted fact that there is great difficulty in assessing the exact time of onset of General Paralysis. Patients may, for greater or shorter periods of time, show slight changes in mental outlook or exhibit eccentric manners of conduct which are not recognised as symptoms of disease. Again, patients may not come under the notice of a doctor until some time has elapsed and behaviour is grossly abnormal. For an estimation of the onset of General Paralysis one is therefore dependent on a history from the relatives or friends of the patient. This method is open to criticism, but with no other available, it is accepted here as giving some useful indication of the duration of the disease prior to treatment. Any error in the scheme adopted will not favour the patients who have improved under treatment more than those/

those who have failed to improve.

In all the 230 patients treated with malaria, a questionnaire was sent to the nearest relative and information asked for as to the date when symptoms of mental abnormality first appeared. In a small number the history was insufficient, and in three cases the duration of the disease was given as five or six years. Two of these three patients died after treatment and one still remains in hospital. Such a duration is, however, extreme, and these figures were omitted when making an average estimate. The average duration of symptoms prior to treatment for the three classes of patients described in this thesis works out as follows:-

Patients now living at home..... 7 months.
 Patients now living in hospital.....14 months.
 Patients now dead..... 12 months.

It is to be expected that any treatment which is of benefit will give better results the earlier it is begun and the finding over a series of 230 cases is that the patients who have recovered and gone home have a much shorter period of illness prior to treatment than those who have not improved or who have died. This is a strong argument in favour of early treatment of General Paralysis with malaria and suggests that the recovery or remission rate would be greater than 20 to 30 per cent if this early treatment were given to all cases. The means of ensuring this is outside the scope of this thesis, but the more general use of early treatment clinics for mental disease at once suggests itself.

The Cerebrospinal Fluid.

Examination of the cerebrospinal fluid is an important aid to diagnosis in General Paralysis of the Insane. The changes which occur and the tests applied are too well-known to require a detailed description here. They may, however, be briefly mentioned, with special reference to the tests carried out on the cases/

cases investigated in this hospital.

Cell count is increased. The Ross Jones and Pandy's tests show an increase of globulin, the Wassermann test of the cerebrospinal fluid is positive, and the Lange colloidal gold reaction gives a zone I curve. In addition to these tests the colloidal gamboge reaction has been carried out on the cerebrospinal fluid and an experience of three to four thousand examinations in this hospital shows it to be as reliable as the colloidal gold. The technique, which is not so well known, is as follows:-

Stock solution.

One gramme of commercial gamboge resin is powdered and dissolved in 10 c.cs. of absolute alcohol. After the lapse of 48 hours the supernatant fluid is decanted, and stored in the dark.

Gamboge emulsion.

When the test is to be performed 0.3 c.c. of the stock solution is added drop by drop to 20 c.cs. of twice, or better triply, distilled water, the flask being agitated in order to obtain a homogeneous emulsion.

Electrolyte.

This is obtained by preparing a 0.4 per cent solution of chemically pure sodium chloride.

Performance of the test.

Six small test tubes (3 inches x $\frac{1}{2}$ inch) are set up in a rack; in the first tube is placed 1.8 c.c. of the saline solution and in each of the remaining tubes 1 c.c. 0.2 c.c. of cerebrospinal fluid is next added to the first tube (bringing the volume in this tube up to 2 c.cs.), and after mixing, 1 c.c. is transferred to the second tube, the procedure being repeated for tubes 3, 4 and 5. The c.c. removed from the fifth tube is rejected, the sixth/

sixth tube thus serving as a control. In this manner a series of five dilutions is obtained, varying from 1 in 10 to 1 in 160. Finally, to each of the six tubes 1 c.c. of the gamboge emulsion is added. The test may be read after allowing the tubes to stand at room temperature for 12 to 24 hours.

In a negative reaction the contents of each tube remains unaltered, showing no trace of turbidity. In positive cases complete precipitation of the gamboge occurs in a given number of tubes; the fluid becomes clear and the gamboge is deposited at the bottom of the tubes. In a paretic curve the first three or four tubes are clear. In a syphilitic curve the second and third tubes are clear, and in a meningitic curve the fourth and fifth tubes are clear.

A detailed analysis of 230 cerebrospinal fluid examinations with changes recorded after treatment is a difficult task on account of the large numbers involved, but it is possible to give the general findings after careful consideration. The first point is that in nearly all cases examined within one to two months after treatment, the cerebrospinal fluid shows a decrease in the cell count, very often to a marked degree. This diminution in the cells present in the cerebrospinal fluid remains even when no other improvement in the laboratory examinations can be found at later times. This finding is not without significance, and suggests that the pathological condition of the brain and meninges producing the increased number of cells in the fluid has been arrested, even at such an early time after treatment. To begin with, this is the only change found from that of the typical cerebrospinal fluid of the general paralytic. As years go on, however, further changes appear. There is a gradual return of the cerebrospinal fluid to a normal condition after treatment with malaria. This statement is correct for the majority of cases, but a small number, even after five or six years, still yield to laboratory examination findings of general paralysis.

Discussing each test individually, one finds that the

Pandy and Ross Jones tests for increased globulin both gradually return to normal and so give a negative result. The cell count has already been remarked on. The Wassermann test of the cerebrospinal fluid proves more resistant to change than any of the other laboratory tests, and even after all other findings are negative, a positive Wassermann may still be recorded. The Wassermann, however, also shows a gradual return to negative, but several years elapse in most cases before this change appears. The colloidal gold test and the colloidal gamboge test show changes which are more or less similar. In a certain number of cases the change is to a zone II curve and if taken a year or so later this zone II curve may be found to have disappeared and a negative response may be found. Most of the other cases, after a year or more, give a curve which is only slightly changed from the normal or negative reaction. Thus it may be said that in examining a large number of cerebrospinal fluids after treatment with malaria, there is, over a period of several years, a gradual return to negative reactions in many of the fluids; that many more show a diminution in the pathological findings; and that only a small number still give all the reactions of general paralysis several years after treatment.

No attempt can be made to differentiate between the changes in the recovered cases and in those who have not improved mentally. It appears from the examinations made that there is no appreciably quicker improvement in the cerebrospinal fluid among those who fare well than among those who do not fare well.

The findings of the cerebrospinal fluid in the 14 who had fluid withdrawn at their own homes are as follows:-

		Ross Jones Test.	Pandy Test.	Cell Count	Wassermann Reaction.	Colloidal Gold Reaction.	Colloidal Gamboge Reaction.
G.A.	1	neg.	neg.	1.6	+	0011000000	100000
E.A.	2	neg.	neg.	6.0	Doubtful	0121000000	100000
W.C.	3	+	+	16.6	+	0122000000	200000
J.A.C.	4	neg.	neg.	2.6	neg.	0011000000	000000
D.C.	5	+	+	2.6	+	0011000000	000000
J.D.	6	+	+	2.3	+++	0122000000	100000
S.F.	7	neg.	neg.	0.6	neg.	0011000000	000000
J.S.	8	neg.	neg.	0.6	neg.	0011000000	000000
W.H.	9	neg.	neg.	0.3	+++	0011000000	000000
C.H.	10	+	+	3.0	neg.	5554210000	210000
P. L.	11	+	+	4.0	neg.	5543200000	221000
H.McK.	12	+	+	2.0	Doubtful	0022100000	221000
F.R.	13	+	+	8.0	+++	5554320000	221000
R.R.	14	+	+	5.3	Weakly +	1122000000	100000

There is, in most of these patients, this approach to a normal finding and some are completely negative. Throughout, it has been my experience to find that mental improvement in patients preceded marked improvement in the cerebrospinal fluid, but that an approach to a normal cerebrospinal fluid gradually makes its appearance. This progress to normality is found to an equal degree in the patients who still remain in hospital, and whose mental state shows no improvement. It thus appears that following treatment of General Paralysis with malaria, there is, in the majority of patients, a diminution of pathological changes as found by laboratory tests, and that over a period of several years there is a gradual return to a normal cerebrospinal fluid. This improvement in the cerebrospinal fluid is no index of the mental improvement in the patient. Patients who remain demented may, after the lapse of several years, give a negative finding in the cerebrospinal fluid.

To conclude, the cerebrospinal fluid improves in General Paralytics after treatment with malaria and may become normal.

This improvement usually takes several years to occur.

The improvement in the cerebrospinal fluid occurs in patients who have improved mentally and also in those who do not improve mentally.

Reinoculation.

32 patients were inoculated with malarial blood on two different occasions and each time had a course of rigors. Of these, one patient had four inoculations and two patients three inoculations.

The first point emerging from this is that re-inoculation can be carried out and a typical malarial fever develop which can again be easily controlled by 10 grs. of Quinine Sulphate three times per day for three days.

The second point of interest is how far reinoculation is beneficial. Of the thirty-two patients, 18 are now dead, 11 remain in hospital, 2 are at home recovered, and 1 is at home relieved. These figures do not suggest that great improvement has resulted and the conclusion is that reinoculation is of no special benefit in the treatment of General Paralysis with malaria.

Effect of Malarial Treatment on the Central Nervous System.

Examination of the central nervous system after treatment with malaria has been carried out on the patients still in hospital and also on those patients discharged and now living at home. The results are as follows:-

Patients still in hospital.

All the patients demonstrated pupillary changes. 60 per cent/

cent showed unequal pupils along with lack of contraction to light. The others had irregular pupils, or unequal pupils alone, or the Argyle Robertson pupil, or one or other combination of these abnormal pupillary changes.

After this the other changes in the nervous system were varied. Some might show nothing more, some might show slurring speech or tongue tremors, or absent knee jerks, or an extensor response to the plantar reflex, or tremor of the face. Patients might have one or several reflex changes. 36 per cent had slurring or indistinct speech, 36 per cent had absent knee jerks, and 24 per cent gave an extensor response to the plantar reflex.

Patients now at home.

87 per cent of the patients now living at home showed pupillary changes from the normal. In 4 per cent of patients no changes from the normal could be found on examination of the nervous system. The others all displayed varying combinations of reflex changes, although few had more than two or three abnormal reflex signs. The principal departures from the normal were as follows:-

Patients with slurring speech.....	38 per cent.
Patients with absent knee jerks.....	29 per cent.
Patients with extensor response to plantar reflex.....	27 per cent.

Tremor of the tongue and sucking of the tongue were present in a few cases.

It is thus quite clear that following treatment of General Paralysis with malaria there remain abnormal signs in the central nervous system.

CONCLUSIONS.

1. Of all patients suffering from general paralysis treated with malaria 31 per cent are sent home improved each year.
2. Six to nine years after treatment with malaria 12 per cent of the patients are recovered from their illness and living at home.
3. One to five years after treatment 24 per cent of the patients are recovered and living at home.
4. Malarial treatment improves the physical condition of patients suffering from general paralysis even when no mental improvement results.
5. Expectation of life.

76 per cent of patients are living one year after treatment.

50 per cent four years after treatment, and

22 per cent nine years after treatment.
6. Malarial treatment used on all cases of general paralysis admitted to hospital is not without danger, and 13 per cent of cases die within one month of inoculation.
7. The prognosis is best in those patients who have had symptoms of disease present for seven months or less prior to treatment.
8. The cerebrospinal fluid improves in General Paralysis after/

after treatment and may become normal. This improvement usually takes several years to manifest itself. The improvement in the cerebrospinal fluid occurs in patients who have improved mentally and equally in those who have not.

9. Reinoculation with malaria is of no special benefit in the treatment of general paralysis.
 10. Malarial treatment has little or no effect on the physical signs present in the nervous system in general paralysis.
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