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Part I.—Original Articles.

Abstract of a paper on the Necessity for Isolating the Phthisical Insane.

By ERIC FRANCE, M.B., B.S., Second Assistant Medical Officer, London County Asylum, Claybury.

Followed by a discussion by Sir WILLIAM BROADBENT, Bart., Sir J. CRICHTON-BROWNE, Prof. CLIFFORD ALLBUTT, and others, at the General Meeting of the Medico-Psychological Association, London, 9th November, 1899.

I HAVE no intention of tracing the history of tuberculosis in asylums through the official obscurity of the past fifty years. This point has already received careful investigation at the hands of Dr. Crookshank in the admirable essay he has recently published; (1) nor are we here concerned with any comparison between the mortality from tubercle among asylum inmates and the mortality from tubercle among the general population, inasmuch as deductions drawn therefrom are liable, among other errors, to those fallacies which occur when two communities whose environment and susceptibility differ are compared as regards the mortality of any particular disease.

What we are concerned with, I take it, is the position which tubercular mortality holds in asylums at the present time, and the means to be adopted to remedy this state of things. I have therefore to lay before you very briefly some of the salient

points with regard to the incidence of tubercular disease among the insane and its prevalence compared with other diseases; to urge the necessity for some means being taken to reduce that prevalence; and finally, to suggest some scheme by which such an end might be attained.

The tables and charts herewith presented show the mortality from tubercle as compared with some of the most fatal diseases in asylums. The figures are compiled from the blue-books of the Commissioners in Lunacy, and from the annual reports of the Asylums Committee of the London County Council, referring to the years 1895–6–7–8 inclusive.

It may be remarked that 1895 was the first year in which the returns of causes of death, as shown in the blue-books, were sufficiently comprehensive to warrant comparison with subsequent years. The charts are drawn absolutely to scale.

It is gravely to be feared that the figures I have quoted are very far from accurately representing the number of patients actually suffering from phthisis in the asylums of England and Wales.

As it is impossible, from a statistical point of view, to return more than one cause of death for each patient, it is easy to understand that evidence of active tubercle may be found in many patients who are shown as dying from some other disease.

In Claybury Asylum and at Colney Hatch and Cane Hill, where the post-mortem records have been kindly examined for me, a marked disparity exists between the statistical returns and the number of cases in which active tubercle was found at death, as is shown in the following table:

1898.	Certified deaths from tubercle.		Active tubercle found P.M.
Claybury	28	...	49
Colney Hatch	26	...	41
Cane Hill	13	...	22
	67		112*

* These figures do not include 10 doubtful cases.

It will thus be seen that at these three asylums the number of patients dying with active tubercle, as compared with those certified as dying from this cause, practically stand in the proportion of 2 to 1.

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TABLES AND CHARTS

Elucidating the paper by Dr. Eric France.

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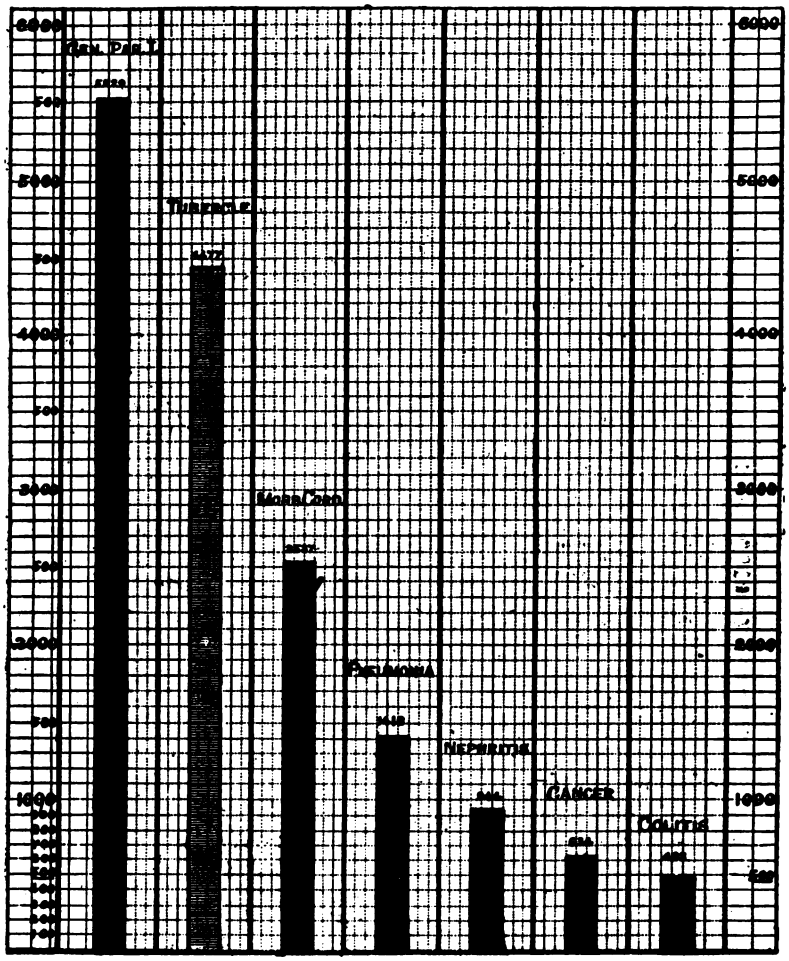
All Asylums.—England and Wales.

Table I.—*Showing Average Daily Residents, Total Deaths (all causes), and Deaths from seven of the most fatal diseases in 1895-6-7-8.*

Year.	Average daily residents.	Total deaths, all causes.	General paralysis.	Tubercle.	Morbus cordis.	Pneumonia and broncho-pneumonia.	Nephritis.	Cancer.	Colitis, Enteritis, Dysentery.
1895	71,648	7,182	1,437	1,135	598	504	232	144	126
1896	74,784	6,783	1,385	1,029	569	432	206	174	128
1897	77,217	7,298	1,385	1,140	658	448	244	156	126
1898	79,983	7,578	1,322	1,173	712	534	262	160	113
Totals	—	28,841	5,529	4,477	2,537	1,418	944	634	493
Averages (4 years) . .	75,903	7,210	1,382	1,119	634	354	236	158	123

CHART I.



ALL ASYLUMS.—ENGLAND AND WALES.

Showing total mortality in seven of the most fatal diseases from 1895 to 1898 inclusive.

Total deaths from all causes during same period . . .	28,841
Average daily residents during same period	303,632

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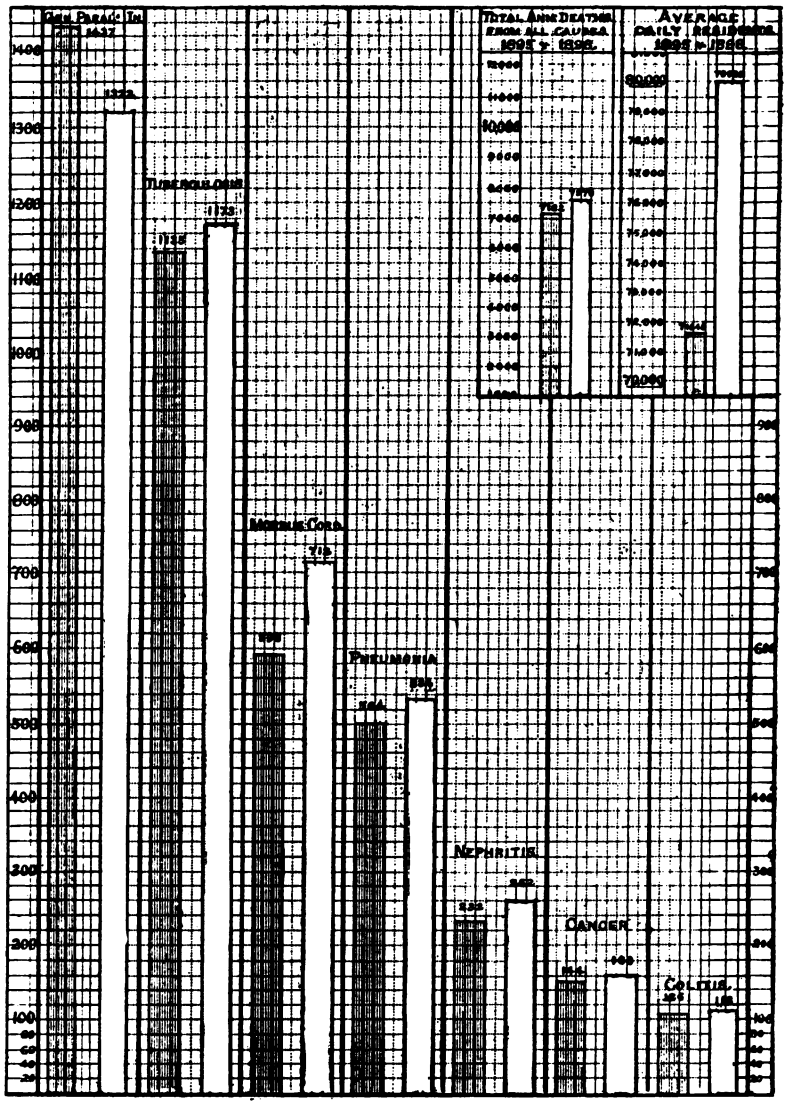
Chart Ia.



All Asylums.—England and Wales.

Showing comparative annual mortality in seven of the most fatal diseases, 1895 and 1898.

1895 = shaded. 1898 = white.

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All Asylums.—England and Wales.

TABLE IA.—*Showing Ratio per 1000 of* { *Total Mortality (all causes) to Average Daily Residents.* / *Mortality of Tubercle and Colitis to Average Daily Residents.*
" " *100 of* " " " *to Total Mortality (all causes).*

Year.	Average daily residents.	Total deaths, all causes.	Ratio per 1000 of total deaths to average residents.	Deaths from Tubercle.	Ratio per 1000 of deaths from Tubercle to average residents.	Percentage of deaths from Tubercle to total deaths.	Deaths from Colitis, Enteritis, Dysentery.	Ratio per 1000 of deaths from Colitis to average residents.	Percentage of deaths from Colitis to total deaths.
1895	71,648	7,182	100·2	1,135	15·8	15·80	126	1·7	1·75
1896	74,784	6,783	90·7	1,029	13·7	15·17	128	1·7	1·88
1897	77,217	7,298	94·5	1,140	14·7	15·61	126	1·6	1·72
1898	79,983	7,578	94·7	1,173	14·6	15·47	113	1·4	1·49
Average for the 4 years	75,908	7,210	94·9	1,119	14·7	15·52	123	1·6	1·71

LONDON COUNTY ASYLUM.

TABLE II.—*Showing Average Daily Residents, Total Deaths (all causes), and Deaths from six of the most fatal diseases in 1895-6-7-8.*

Year.	Asylums.	Average daily residents.	Total deaths, all causes.	General paralysis.	Tubercle.	Morbus cordis.	Pneumonia and broncho-pneumonia.	Cancer.	Colitis, Enteritis, Dysentery.
1895	Hanwell . . .	1,964	164	53	16	7	8	4	1
	Colney Hatch .	2,219	198	41	23	16	6	8	0
	Banstead . .	2,027	169	35	33	11	11	9	0
	Cane Hill . .	2,039	171	44	29	11	1	7	5
	Claybury . . .	2,342	350	128	29	27	24	5	15
	Totals . . .	10,591	1,052	301	130	72	50	33	21
1896	Hanwell . . .	1,988	162	41	17	3	10	6	7
	Colney Hatch .	2,412	216	41	16	7	11	3	0
	Banstead . . .	2,303	182	47	24	4	8	2	0
	Cane Hill . .	2,112	158	44	10	16	5	3	2
	Claybury . . .	2,494	298	92	30	29	22	10	14
	Totals . . .	11,309	1,016	265	97	59	56	24	23
1897	Hanwell . . .	2,052	147	44	17	7	3	7	3
	Colney Hatch .	2,580	240	36	33	18	11	9	5
	Banstead . . .	2,436	224	47	36	32	14	4	0
	Cane Hill . .	2,202	176	46	22	10	4	5	3
	Claybury . . .	2,494	249	80	19	31	22	7	3
	Totals . . .	11,764	1,036	253	127	98	44	32	14
1898	Hanwell . . .	2,415	246	59	25	14	11	9	6
	Colney Hatch .	2,554	207	36	26	11	6	5	1
	Banstead . . .	2,436	199	35	36	21	23	6	0
	Cane Hill . .	2,213	159	46	13	4	7	3	3
	Claybury . . .	2,488	267	51	28	23	25	6	18
	Totals . . .	12,106	1,078	227	128	73	72	29	28
Total, 4 years . . .			4,182	1,046	482	302	222	118	86

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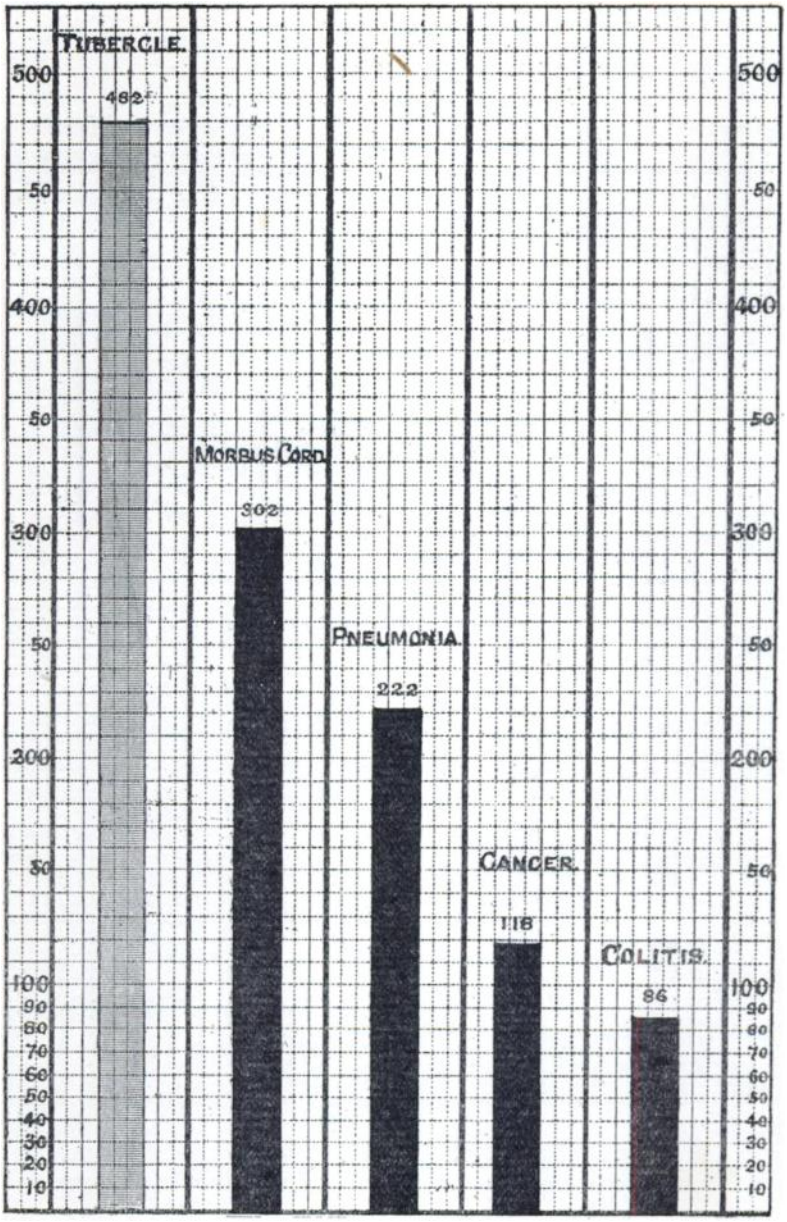
Chart II.



London County Asylums.

Showing total mortality in five of the most fatal diseases from 1895 to 1898 inclusive.

Total deaths from all causes during same period . . . 4,182

Average daily residents during same period 11,442

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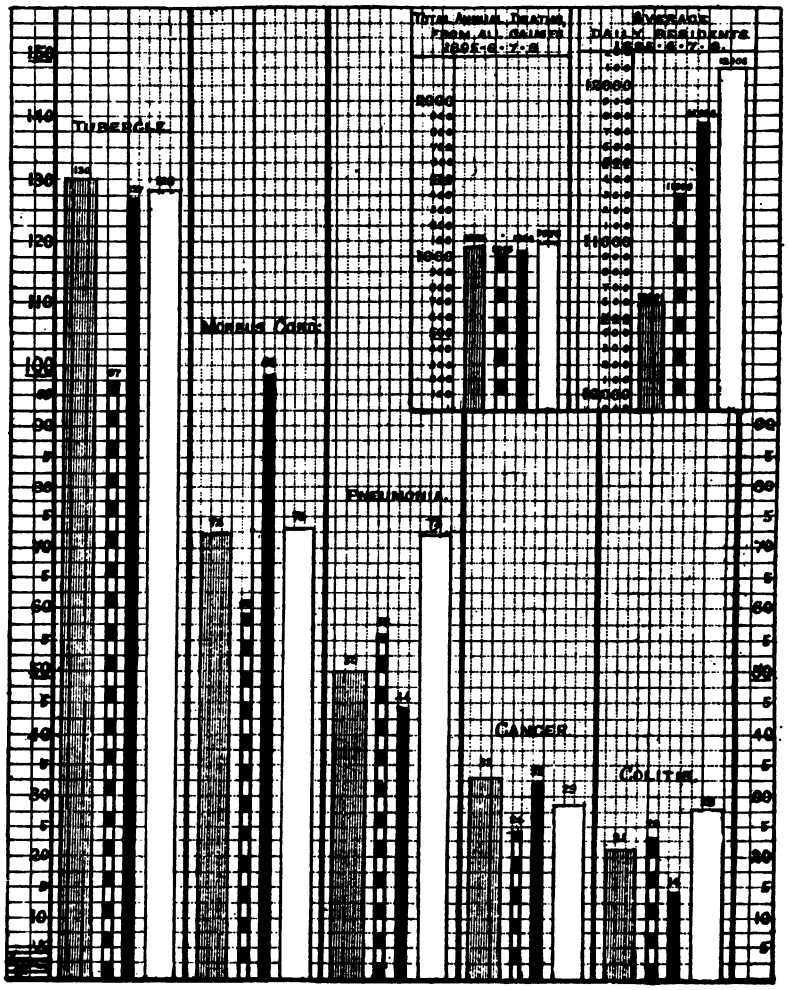
Chart IIa.



London County Asylums.

Showing comparative annual mortality in five of the most fatal diseases, 1895-6-7-8.

1895 = shaded. 1896 = black and white. 1897 = black. 1898 = white.

LONDON COUNTY ASYLUM.

TABLE IIA.—*Showing Ratio per 1000 of* { *Total Mortality (all causes) to Average Daily Residents.* / *Mortality of Tubercle and Colitis to Average Daily Residents.*
" " *100 of* " " " *to Total Mortality (all causes).*

Year.	Average daily residents.	Total deaths, all causes.	Ratio per 1000 of total deaths to average residents.	Deaths from Tubercle.	Rate per 1000 of deaths from Tubercle to average residents.	Percentage of deaths from Tubercle to total deaths.	Deaths from Colitis, Enteritis, Dysentery.	Ratio per 1000 of deaths from Colitis to average residents.	Percentage of deaths from Colitis to total deaths.
1895	10,591	1,052	99·3	130	12·2	12·35	21	1·8	1·99
1896	11,309	1,016	89·0	97	8·5	9·55	23	2·03	2·26
1897	11,764	1,036	88·0	127	10·8	12·25	14	1·1	1·35
1898	12,106	1,078	89·0	128	10·6	11·87	28	2·3	2·59
Average for the 4 years	11,442	1,045	91·3	120	10·5	11·52	21	1·8	2·05

If it may justly be supposed that a similar proportion exists in the other asylums of England and Wales, it is apparent that the figures representing the incidence of tubercle in these institutions must be doubled before they can be regarded as actually representing the case. This fact alone would more than justify a vigorous attempt to reduce this heavy mortality, but there are other reasons which should stimulate us to take some decided action in this matter. Public interest has recently been aroused in a gratifying degree to the importance of action being taken against the tubercle bacillus. I need only refer to the establishment of the National Association for the Prevention of Tuberculosis, and to the excellent work it is doing; and to the untiring efforts of the Medical Officer of Health for Manchester—Dr. James Niven,(2) and the Medical Officer of Health for Sheffield—Dr. John Robertson,(3) both of whom have strongly urged the compulsory notification of phthisis. Dr. Niven's last annual report, and the special report on tuberculosis published this year by Dr. Robertson, both contain much valuable information, and will repay careful study. In each report the obvious fact is strongly emphasised that notification is essential to any coherent scientific attack upon this disease as it exists among the general population. But we, as Medical Officers of asylums, are in this more fortunate position. We have no need to wait for such a thing before we can hope to cope successfully with tuberculosis.

The time has now come when some definite effort must be made to reduce this excessive mortality from tuberculosis among the insane. I am glad to be able to state that the Asylums Committee of the London County Council has this matter under consideration.

The question remains, what is to be done? Two years ago I urged upon this Association that if the prevention of the spread of phthisis could be summed up in one word, that word was *Isolation*.(4) This opinion has the powerful support of Sir James Crichton-Browne, who, in a speech at the Poor Law Conference, said, "Our greatly increased, and now exact knowledge of the nature of tubercular disease, and of its mode of propagation, makes it, in my opinion, obligatory upon those having control of public institutions into which tuberculous patients are received to arrange for their complete separation from the other inmates."

No thoughtful person will now deny the necessity for isolating the phthisical; and if the importance of isolation be granted, the crucial point of diagnosis at once presents itself. An early diagnosis affords the best opportunity of placing the patient in such environment and under such treatment as is most suitable for his recovery, and when isolated in the early stages of the disease he has not begun to disseminate the bacillus to the detriment of others.

Whatever means be adopted for definitely diagnosing active tubercle in suspected patients, whether it be by a careful study of their body-weight and temperature, or by a microscopical demonstration of the tubercle bacillus in the sputum, or by the inoculation method advocated by Sheridan Delépine,(5) it cannot be too strongly urged that an early and accurate diagnosis must be made if isolation is to be of real service either to the patient or to the community.

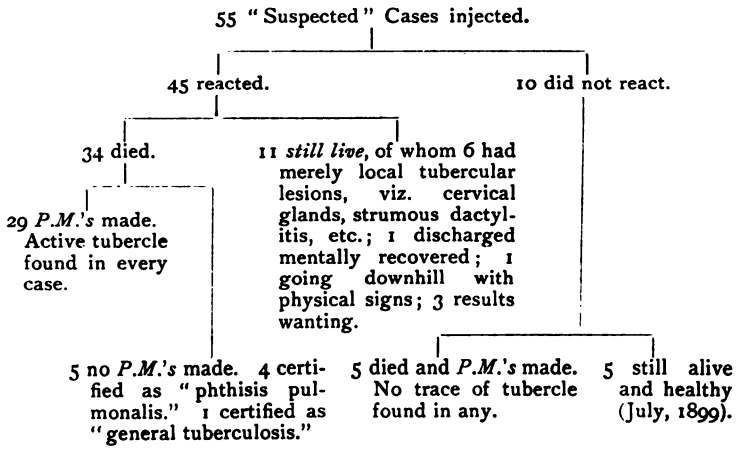
We are well aware how little ordinary diagnostic rules and methods apply to insane persons, and how frequent and great is the difficulty in diagnosing phthisis in them. For these reasons, as well as the importance of an early diagnosis, for about eighteen months at the Northumberland County Asylum (where the death-rate from phthisis was very high—about 40 per cent. of the total deaths) I relied almost entirely on the diagnostic power of single minute subcutaneous injections of Koch's original tuberculin. This method was adopted because, in the majority of insane patients, physical signs in the chest were found to be untrustworthy, misleading, and often paradoxical in the early stages; and because the valuable method of microscopical demonstration of the bacilli in the sputa was seldom possible.

At that asylum I injected seventy-five cases with tuberculin, and am satisfied, not only with the accuracy of its diagnostic power, but also with its entire harmlessness, both in the tubercular and in the non-tubercular. Every patient was carefully weighed at the beginning of each month, and every one who had lost more than 5 lbs. in the month, or in whom gradual loss of weight over a longer period had occurred, was examined and the cause of the loss of weight minutely inquired into. If this could not be readily accounted for by some obvious mental or physical cause, such as refusal of food, the patient's name was placed upon the "suspected list." The same thing

was done in the case of any patient giving at any other time the faintest cause for suspicion of the presence of tubercle.

All those on the "suspected" list were then injected with tuberculin in the following way:—The patient was put to bed and the temperature was taken. The next day, with rigid antiseptic precautions, 1 c.c. of a ·001 solution (made by diluting 1 c.c. of Koch's original tuberculin, issued under a guarantee of Dr. Libbertz, who acts under the direct supervision of Prof. Koch, with a ·5 per cent. solution of carbolic acid) was injected subcutaneously, and the temperature taken every three hours. If the temperature rose 2° or more within the next twelve hours tubercle was diagnosed.

With regard to the seventy-five cases injected, twenty were non-suspects, or control experiments; in none of these was a reaction obtained. The remaining fifty-five were suspected of having tubercle, and gave the following results:



Grave fears have been expressed that even single minute injections of tuberculin might possibly re-awaken dormant tubercle, or lead to its dissemination through the tissues. I have been quite unable to discover any grounds for such fears. Koch states that out of more than one thousand persons in whom tuberculin was used diagnostically there was not the least indication of dissemination of the disease.(6) "These facts," says he, "should suffice to make us, once for all, abandon the absurd idea of the possible stimulation of the tubercle bacilli, and should encourage us to apply tuberculin to

the diagnosis of tuberculosis in the human subject." Since my first paper was published on this subject tuberculin has been tried, and its value as a diagnostic agent extolled by Dr. G. A. Heron ([7]) and Dr. McCall Anderson ([8]) in this country; by Dr. James T. Whittaker,([9]) Dr. Franklin T. White,([10]) and Dr. Irving H. Neff ([11]) in America; by Drs. C. F. Martin and G. D. Robins, of the Royal Victoria Hospital, Montreal; ([12]) by Prof. Brieger, in a speech before the recent International Tuberculosis Congress at Berlin,([13]) and by Prof. Clifford Allbutt, who, in his address on the prevention and remedial treatment of tuberculosis at the annual meeting of the British Medical Association last August,([14]) referring to the diagnosis of early tuberculosis and its attendant difficulties, says, "Tuberculin seems to be almost a certain test of the presence of tuberculosis in its early stages. . . . In England I think most of us have been reluctant to arouse the reaction, but Dr. Turban follows other German observers and Prof. Osler in assuring us that he has never seen any harm ensue from it, although he always keeps the patient in bed until the reaction has wholly subsided. The old tuberculin is preferred for this purpose. Of all our means of detecting early tuberculosis this may prove the most valuable."

It is to be clearly understood, however, that I advocate this method of diagnosis only in those cases where the presence of active tubercle cannot be definitely diagnosed by other means, and that a monthly record of the true body-weight of asylum patients is of the greatest importance, as I stated in detail in my original paper in 1897.([4])

Referring finally to the question as to how isolation may best be provided for the phthisical insane, it would be beyond the scope of this paper to do more than offer one or two suggestions, omitting structural, administrative, and financial details, which must, of course, be left in the hands of those who adopt this means of prophylaxis. I recently contributed a paper to the *Archives of Neurology*, from the Pathological Laboratory of the London County Asylums,([15]) referring particularly to these asylums, and may be permitted to repeat it in part. "Two schemes at once suggested themselves: one is the erection of a central isolation hospital for phthisical patients, common to all London county asylums; the other is the building of cheap temporary bungalows at each of these

asylums. Each scheme has its advantages. The selection of a site, specially adapted by reason of its elevation and its soil, is certainly in favour of a central hospital; while the difficulty and expense of the transference of patients appears to be the chief argument against it. It is now held by eminent authorities that the successful treatment of phthisical patients depends more upon how they are treated than where, more upon perfect hygienic surroundings than upon climate and soil.[16] The idea, therefore, of a bungalow built upon the estate of each asylum appears to me to be a very attractive one."

"In conclusion I should like to suggest that a temporary bungalow should be erected as an experiment on the Claybury estate. I am given to understand that such a building could be obtained, which would meet all requirements and accommodate twenty-five patients of each sex, that is 2 per cent. of those in the main building, for a comparatively small sum."

(1) *Journ. Ment. Sci.*, October, 1899.—(2) City of Manchester M.O.H.'s Annual Report for 1898.—(3) City of Sheffield, Special Report by M.O.H. on the Prevalence of Tuberculosis, 1899.—(4) *Journ. Ment. Sci.*, October, 1897.—(5) *Brit. Med. Journ.*, September 23rd, 1893.—(6) *Deut. med. Woch.*, April, 1897.—(7) *Brit. Med. Journ.*, 1898, vol. ii, p. 77.—(8) Ibid., 1898, vol. ii, p. 495.—(9) *Trans. Assoc. American Physicians*, 1897.—(10) *Boston Med. and Surg. Journ.*, 1897.—(11) *American Journ. Insanity*, January, 1899.—(12) *Brit. Med. Journ.*, 1898, vol. i, p. 357.—(13) Ibid., 1899, vol. i, p. 1348.—(14) Ibid., 1899, vol. ii, p. 1153.—(15) "The Prevention of Phthisis in the Insane," *Archives of Neurology*, from the Pathological Laboratory of the London County Asylums, 1899.—(16) *Vide* paper by Dr. A. Ransome on the "Open-air Treatment of Consumption," *Brit. Med. Journ.*, 1898, vol. ii, p. 69.

Discussion.

Sir William Broadbent.—I have come here with great pleasure to endorse what I understood were the conclusions arrived at by many officers in asylums, namely, that it is the duty of those who are concerned in the management of asylums to make provision for the isolation of phthisical patients. I have heard with very great interest the paper, and have seen confirmed, as had generally been understood, that the mortality from tubercular disease in asylums is, one might almost say, enormous. Anyhow, it is so large as to demand very special attention; and unless we are to look upon our insane patients as people whom it is desirable to get rid of, we must do our best to keep alive those who are committed to our charge, although asylum subjects. They are a melancholy spectacle,

yet they are human beings, and it is our duty to do everything that can be done for their welfare, and even for the prolongation of lives which are not altogether the happiest.

One of the points of interest which one would have liked to hear illustrated more completely was the comparison between the mortality from phthisis and tubercular disease generally, inside asylums and outside. It is understood of course that that comparison could only be accepted up to a certain point; that there are many considerations applying to inmates of asylums which do not apply to those who are living an active life outside. It would, however, have been a matter of great interest to know exactly what the proportion was. Taking the absolute prevalence of consumption, one questions what it is due to. Of course I know less of the actual life in an asylum than perhaps anyone here, but one can see that there must be conditions which are extremely favourable to the dissemination of tubercle. For a considerable portion of the twenty-four hours the inmates of asylums are under cover. The necessity for warmth—the warmth which is necessary for these enfeebled organisations—must frequently interfere with efficient ventilation. You cannot teach an insane patient the precautions which are necessary to prevent contamination of surrounding objects by the sputum, and, as Prof. Clifford Allbutt pointed out in the address already alluded to, it is not simply the mass of expectoration which can be collected which has to be dealt with; it is the spray which is disseminated in the act of coughing which is often richest in these tubercular germs. Whether these conditions alone, the necessary confinement indoors, the necessary association in large dormitories, the difficulties of preventing the expectoration from contaminating surrounding objects, explain the great prevalence of tuberculosis in asylums, or how far they are accountable for it, I am not prepared to say. There is of course the other side, namely, the fact that insane people are weakly organisations, and probably more predisposed from the fact of their disease as well as from the necessary limitations to their outdoor exercise. We have, therefore, in asylums exceptional conditions which favour the dissemination of tuberculosis, and this would imply that special precautions should be taken to prevent such dissemination. For this end I can imagine nothing better than the plan which has been proposed this evening,—that all patients in

whom there is a reasonable suspicion of tuberculosis should be tested by tuberculin. From all that I have heard regarding this test, it is absolutely safe. There is no fear of any harm being done to the patient, and reaction of it is undoubtedly the most trustworthy evidence we can possibly have of the existence of tubercle. Then it seems also that every large asylum, surrounded as it is by extensive grounds, has facilities for isolation and for treatment, and it has been a satisfaction to me to hear so excellent a scheme propounded, and so far as my judgment goes it is entirely deserving of support.

Sir JAMES CRICHTON-BROWNE.—Your discussion this afternoon, founded upon the excellent paper of Dr. France, to which I am sure we have all listened with the utmost attention, has reference to the necessity for isolating phthisical patients amongst the insane in lunatic asylums; and I take it therefore that that necessity is already recognised, and that it is the method by which isolation may be economically and effectively carried out that is henceforth most likely to engage your attention. Now it seems to me that since the publication of the statistics, marshalled and set forth in Dr. Crookshank's very able and lucid paper on pulmonary phthisis, to which the medal of the Medico-Psychological Association was awarded, reinforced and confirmed as they are by the tables and the figures submitted to us to-day, it becomes an imperative necessity to provide for the isolation of phthisical cases in asylums. Dr. Crookshank has shown that the official mortality from phthisis in our asylums—and I can discover no flaw or fallacy in his figures or his conclusions (and it is to be remembered that the official mortality falls considerably short of the real mortality),—he has shown that it is ten times that of the phthisis mortality in the general population, and is four and a half times that of the phthisis mortality in men from thirty-five to forty-five years of age,—that is to say, in the particular age group in which the mortality from phthisis is highest in the general population. Dr. Crookshank has also shown that whilst the mortality from phthisis in England and Wales has fallen during the last thirty years by 30 per cent., there has been no reduction in the mortality from phthisis in asylums, at least during the last twenty years.

Making all possible allowance for errors in these statistics, sift and rearrange them as you will, it is incontestably established, I

think, that phthisis pulmonalis is prevalent and is the cause of death in our public asylums in this country to an unnecessary extent; that it is to a very considerable degree generated and propagated in them. Well, gentlemen, I have long held that opinion. Dr. Crookshank says that in 1892 I recommended the erection of detached blocks to be used as hospitals for consumption in connection with our public asylums, but long before that I had advocated isolation. I hope I shall not be regarded as egotistical if I quote a sentence or two from a paper of mine that appeared in *Brain* in 1883, that is exactly one year after Koch had discovered the special bacillus in tubercular disease, and had shown that it could be isolated and cultivated, and that the disease could be reproduced in its inoculation.

I said that in 100 general paralytic patients dying in the West Riding Asylum, consecutive cases, in all of which general paralysis was the certified cause of death, tubercular disease of the lungs was found in 25 cases; in 17 out of 80 men, and in 8 out of 20 women. In 6 of these cases only the remnants of past phthisical disease were noted, crustaceous nodules, cicatrices, etc.; but there was no room for doubt that in 19 cases the disease had arisen during the course of the general paralysis, and had been cut short by the natural termination of that malady, which it had perhaps in some degree hastened. In none of these had the disorganisation of the lungs spread to the extent which we are accustomed to find in patients who have died of phthisis. I go on to show the reasons that led me to believe that the phthisis in these cases was contracted in the asylum, and the special reasons why general paralytics suffer in this way, and also to explain that the mortality was larger in female lunatics in asylums than in males. I conclude with these words: "Until Koch's theory is disproved it would be prudent to act on the assumption that it is true, and to prevent the close association of persons actually suffering from phthisis with those who, from inherited tendency or deterioration of health, are especially liable to contract the disease. A large number of lunatic asylums have now detached hospitals for contagious diseases, which fortunately stand empty for a great part of the year, and it might be well to isolate in those buildings all cases of phthisis. The experiment could do no possible harm, and there is every prospect that it would be attended with benefit

to the victims of phthisis, and with safety to those who are in danger of its attacks."

From this extract you will gather that I then proposed the isolation of phthisical cases in asylums, but at that time my proposals fell upon deaf ears, and if I recollect rightly they were ridiculed in certain quarters. I made these proposals because I had been startled by the phthisis mortality in the West Riding Asylum when I became its medical director about thirty-four years ago; because I had seen there dropping around me from phthisical disease not only patients, but medical colleagues, nurses, and attendants, in whom I felt sure that the seeds of the disease had been sown during their sojourn in the asylum; because I had satisfied myself that asylum phthisis mortality could be materially reduced by attention to practical sanitation and hygiene, and because I entertained the sanguine expectation that asylum phthisis mortality might be still further reduced by measures calculated to prevent the dissemination of infective material.

Nowadays, as Dr. France has told us, we are all tolerably well agreed as to the merits of isolation, we are all agreed that a stringent obligation rests now upon asylum medical authorities to provide means for separating phthisical from the non-phthisical patients. But though we are theoretically agreed upon that point, much remains to be done before practical effect can be given to our agreement. Quite recently I saw a patient of mine in the last stage of phthisis in a large public asylum in this country, in a single room, the walls of which, the floor of which, besides the bed and the bedding, bore visible traces of dry phthisical expectoration. The single room occupied by that patient opened into a large ward in which patients were constantly passing to and fro, and they had access to the room if they desired to enter it, and it is not improbable they had whiffs of the tubercle bacilli as they passed the door. That sort of thing should not be, but it is still to a large extent unavoidable, for even where our asylum medical officers are deeply convinced, as I believe most now are, of the necessity for isolation, and eager to carry it out, there is still in many cases no possibility of doing so because of deficiency of accommodation for isolating and separating phthisical patients. But, gentlemen, I venture to predict that that sort of thing will not go on very long, for whenever it becomes generally

and popularly known that a certain proportion of lunatics in our asylums, deprived of their liberty, for the protection of the public or for treatment of affections of the brain and nervous system, while detained there are liable to be infected by a disastrous and often fatal, sometimes preventable disease, then I say that there will be an urgent public demand for isolation, and for preventive measures, above all for that primary preventive measure that is of paramount importance—the separation of the diseased from the whole.

I need scarcely remind you that in no class of phthisical cases is isolation more absolutely essential than in those in which phthisis is associated with insanity, for in those patients it is impossible to secure the observance of any minor precautions. It would be impossible to compel them to use special spittoons or handkerchiefs, or observe strict cleanliness, and there is nothing for it but their prompt removal from association with companions to whom they may become a source of danger of lung contamination. Expense must not stand in the way, and sure I am that whenever the Medico-Psychological Association has definitely made up its mind as to the system of isolation that ought to be pursued, then County Councils will at once generously and freely provide the requisite funds. The isolation of the phthisical insane is not by any means an easy or simple problem. There are great difficulties and obstacles in connection with it, but I feel sure that these will speedily disappear when once our asylum medical officers have taken the matter seriously in hand. In the meantime it does seem to me that those existing detached hospitals for infectious diseases which are attached to so many asylums ought to be as far as possible employed for isolation, so that phthisical patients may be promptly removed from the wards, where they are apt to be distributors of disease, and that where no such detached buildings are available special wards should be set apart for the phthisical patients. Very shortly, I have no doubt, sanatoria and special buildings will spring up in connection with our county asylums, provided singly by counties in the case of the large and populous counties, and perhaps in the case of small counties by several acting in conjunction. We shall have sanatoria in which isolation may be thoroughly secured, and in which the modern sanatorium or open-air treatment may be adequately carried out, combined

with that medical treatment of phthisis of which, I trust, we shall never lose sight.

During the course of last summer I ventured to urge upon my friend Dr. Hayes Newington, who is taking so active and so useful a part in connection with the building of the East Sussex Asylum, that he should there provide a sanatorium for phthisical patients on the plan of Dr. Burton Fanning's sanatorium at Mundesley—a simple wooden building with verandahs, shelters, and all necessary appliances for open-air treatment. In connection with some small asylums a chain of villas might be a suitable means of providing for such patients; but whatever style of building be adopted all apartments ought to have Parian cement walls and ceilings, so that they may be cleansed from time to time by hot formalin spray, discharged under pressure, the most powerful disinfectant known for use on the large scale. Where wooden buildings are adopted I would suggest that it should be stipulated that they are to be burnt down always at the end of ten years. I am a member of a small committee appointed to provide and manage a sanatorium for middle-class patients in the neighbourhood of London, to be provided by the munificent advance of £20,000 made by Mr. Lionel Phillips and Mr. Ruby. A site has been acquired in the neighbourhood of Ascot, and every effort is being made that the structure shall be as perfect as possible in every respect. The plans of that building and all particulars in connection will, I am sure, be at the service of any asylum medical officer who may be interested in the erection of a phthisical sanatorium. For the limitation—let us hope for the ultimate extinction of asylum-bred phthisis—isolation, that is to say, complete separation of tuberculous from non-tuberculous patients, is the primary and essential measure. But isolation is not everything. There are many other preventive measures that must receive close and constant attention. Even if we could at once weed out of our asylums to-day all tuberculous cases, there would still go on the constant introduction into them of new cases in that early or incipient stage of the disease in which diagnosis is so difficult. The seeds of tubercle abound around us, and while our first efforts should be directed to blow them away, to remove and isolate those persons in whose bodies they have germinated and taken root, and who have therefore become factories and storehouses for

their multiplication and preservation and distribution, we must not neglect to deal with those conditions of the human soil that are favourable to their reception, and those conditions of the environment that are conducive to their growth. We must not neglect to build up in every possible way the constitutional vigour of our patients generally—and asylum patients are almost invariably in a reduced state of health, and therefore peculiarly susceptible to tuberculous infection—and to surround them by conditions inimical to the life of the tubercle bacillus. Counsels of perfection are not of much avail when the mischief has been done, and when pecuniary considerations are against them; but I cannot refrain from expressing my opinion that our public lunatic asylums in this country are a great deal too big, and that it is deplorable to see them go on stretching out wing after wing, adding annex to annex, climbing up three and even four stories. There can be no doubt that there is danger in massing large numbers of the insane upon a limited area and in buildings that are piled up to a great height; and I think we owe it entirely to the constant vigilance and care of our asylum superintendents and medical officers if these dangers have not already resulted in serious evils. But our asylums are not only too big, but some of them are occasionally overcrowded, and it is certain that there is no more prolific cause of tubercular disease than overcrowding. Having regard to the habits of the insane and to their modes of life, it seems to me that unfortunately the allowance of cubic contents per head in asylum accommodation was originally fixed too low, and that in future an ampler allowance should be given. I think I could point to some asylums where, as regards day-space, the patients are too thick upon the ground. Then we have not only to consider overcrowding, but also that constant human saturation of asylum buildings which is going on. I think I could point to asylum dormitories in which every bed has been uninterruptedly occupied night after night for five, ten, twenty years,—even, in the case of one or two of the older asylums, for forty or fifty years. In this connection I think the recent researches of Dr. Mitchell Bruce as to the health of boys in training-ships preparing for the navy are deserving of very careful consideration. He found that the loss of life from tubercular disease amongst these boys is three times greater than in the general popula-

tion, and that the invaliding of these boys from the old long-inhabited wooden ships was just twice as great as that from the modern and new iron ships which are also used for training purposes.

As regards house accommodation, it appears to me that it should, like land, be left fallow from time to time; that in every asylum there ought to be a block or ward beyond its proper accommodation, to which the patients from all the other blocks and wards could be moved in succession, so that every block might remain tenantless for a month every year, and be thoroughly exposed to wind and weather. I think also that asylum dietaries require revision. I do not suggest that they are not sufficient, as has been found to be the case in some prison dietaries. I believe they are ample; the amount of waste that one sees about, the splendid condition of all asylum pigs, attest the fact; but I do question whether asylum dietaries are always sufficiently well balanced as regards their different constituents, and whether they all contain a sufficient amount of fatty elements. It is to be borne in mind that an immense change has taken place in the dietary of the population of this country generally since asylum dietaries were fixed, by the importation of fish, of foreign meat, foreign fruits, preserves, bananas, tomatoes, and all sorts of articles. These articles have found their way down to the very poorest classes of the community, and we must remember that the asylum population in our public asylums is not all drawn from these poorest classes. "Pauper" asylums they are still called, but I think that word should be abolished, for pauper asylums they are not in any true sense, for a very large proportion of the population is not drawn from the pauper class, but from the artisan and small trading and even professional classes. We must remember that patients drawn from these classes have been accustomed to varied and good food, and that it cannot be conducive to their mental tranquillity, therefore to their mental recovery, it cannot be preventive against phthisis, that they should be relegated to a monotonous fare. They should, I think, have a diet not merely wholesome and sufficient, but varied and highly nutritious, and served in such a manner as to tempt the appetite of sickly and nervous persons. Then the drying of clothes is a matter deserving of attention. A large proportion of the

clothes is dried in darkness. In my opinion there is no better disinfectant than sunlight. Then, again, I think that where round asylums the earth comes close up to the wall we ought to have asphalt to prevent that organic saturation of the soil which is constantly taking place. With regard to those special methods for the detection and arrest of phthisis amongst the insane in which Dr. France has been the pioneer, I think he was the first in this country to apply that harmless and very valuable tuberculin test for the detection of phthisis in lunatics in whom the disease is masked and very difficult to recognise in the early stage. I would suggest that whenever in the periodical monthly weighing of patients there are grounds for suspicion of the existence of tubercle, the tuberculin test should be employed. The whole question is one of the greatest interest and importance, and one that the Association will have to consider forthwith.

Prof. CLIFFORD ALLBUTT.—I am glad for the excuse to rise for a moment to add my testimony to the weighty and lucid paper on which this discussion has originated; and if Dr. Harry Campbell will allow me to say so I think it will add much to the well-being of us old men to know that the younger men are carrying on the torch not only of knowledge, but of enthusiasm for humanity in the way which has been shown to us by the reader of that paper. Everything that I could possibly have said has been said, and said in terms better than I could, so that I would most gladly listen rather than interfere. I do not know that there are any points in which my personal opinion is of very much importance. As regards the bungalow, I think that is a very, very much better suggestion for isolation than the proposal of central or relatively central hospitals. It is of very great importance that patients should be kept near their friends, and there is, I trust, now less and less of that consigning to distant asylums which used to take place on a large scale. I think if we were to begin removing patients again to central hospitals we should set the public against isolation, and also be, I think, very improperly intruding upon the sphere of domestic affections by taking them from their friends. Therefore I should certainly urge that wooden and, as Sir James Crichton-Browne has said, combustible buildings should be set up in asylums, and be established near them on sites which are likely to be among the healthiest to be had

in the county. Another point I would insist upon is that of early diagnosis. The reason why I spoke, though somewhat timidly, in favour of the general use of the tuberculin test in my address at Portsmouth was that at the Congress at Berlin every experienced medical man I met assured me that the use of this remedy is safe if employed with caution, the patient being kept in bed until every sign of the reaction is over. There seems to me to be strong testimony that it may thus be without any danger whatever. When we take people away from their friends and set them apart, and their liberty is necessarily curtailed, we must be exceedingly careful what we do with them, and you will agree with me that to try any means which are in a crudely experimental stage would be unpardonable. But I think the use of tuberculin now is so far established that it may be very safely used without the possibility of its being said that anything in a crudely experimental stage has been tried upon the patients. With regard to the physical signs of phthisis, we very frequently hear of people detecting the disease in the early stage by the stethoscope; this you never do. When pulmonary tuberculosis is manifested by physical signs you have got disease considerably advanced. If it goes a stage beyond this, and if the physical signs become obvious, remember the disease is passing into the incurable stage. I must say that I have been startled by the excellent diagrams we have seen, which put so very distinctly and clearly before us the relations of prevalence of the chief destructive diseases of asylums to each other. Although specially busy with lunacy and asylums for three or four years, I did not quite realise that the disastrous effects of phthisis in our asylums are so great as we see here. One thing more I should like to say, and that is that I think it ought to be officially known, that the continual tendency to increase the size of asylums has been done in defiance of the protests of the Lunacy Commission, which has urged to the utmost that no asylum should henceforth be built for more than 1000 patients. This opinion has been repeatedly communicated to the central government and also to local governments. The Commission had deliberately come to this conclusion, and I know that it has been a matter of regret that their wishes have been set at nought. I do not like the "tenantless ward" plan. We find that in all such cases of good resolution this system continues for

the first two or three years, but you know that the tenantless ward remains tenantless for a very short time only. The two instances in my mind did not survive more than four or five years. It would merely mean in the course of a few years that all the wards would be occupied.

Dr. WEATHERLY.—It has been my privilege recently to spend a month in one of the largest sanatoria in the world, erected at a cost of nearly £100,000. In conversation with a leading man there I learned that he believed that phthisis in large institutions might be greatly prevented if we insisted on thorough ventilation by day and night. If we would only adopt the German style of windows in our asylums we should have much better ventilation. My experience is that this question of ventilation is much neglected in hospitals and asylums because, as a nation, we hate draughts, and the poorer classes especially object to fresh air indoors.

Dr. HAYES NEWINGTON.—Sir James Crichton-Browne's reference to my position as Chairman of the Building Committee of a County Council tempts me to offer a few remarks. I am sure that the discussion will bear very great fruit in regard to the action of county councils. He is perfectly right in saying that it is necessary that some scheme should be formulated by this Association. As he said, I have had a good deal to do with the designing of a large asylum in Sussex on some new principles, and I have found it quite enough to carry through even a few ideas of a medical nature, which some non-medical people might call fads. I find there is a considerable belief growing in the public mind regarding points which are already well established by us. But this matter is obviously not set on a sure footing as far as we are concerned, and one has had to be a little cautious in going to work. In our sick wards there will be some nice little isolation dormitories, and, of course, plenty of single rooms can be set apart. Our system is decentralisation as much as may be, and there will be plenty of room for variation in other directions. We have no less than 160 beds prepared for, but not to be provided at present, some of which might be set aside for this purpose. I must say that although my views have met with every consideration from my colleagues, my hands on this point would be infinitely strengthened by a proper schéme drawn up by this Association. One quite foresees the tre-

mendous difficulties in planning an asylum—to carry out ideas which are not consolidated as yet. We should have to make provision for the absolute wrecks; then there are others that we know will become wrecks; and then there are others that we know may and will go down unless looked after. Further, it is very difficult to balance the physical needs and the psychical needs in such cases. One would think it extremely hard to send into a receptacle, whether burnable or not, with a lot of cases that we know will die in a few months in a degraded state of mind and body, recent cases of melancholia showing threatenings of phthisis. All those little points have to be taken into consideration, and the difficulty I have had in thinking over this matter very seriously since Sir James Crichton-Browne gave me the most excellent advice last year, is how we are going to deal with the phthisical needs of the cases *pari passu* with the psychical. I take it that the proper attitude of this Association is to accept the facts mentioned as proving the necessity for special dealing with tubercular cases, and then to set to work at devising the best methods.

Dr. HEAD.—We are agreed on the necessity for isolation and for early diagnosis. Dr. France's method is tuberculin. That must be put upon its trial. At one of the large county asylums nine elevenths of the male cases and two thirds of the female cases that were found to have tubercle on the post-mortem table had not been diagnosed as tubercular till within a few days before death. Why does this arise? Firstly, because the medical officers have infinitely too many patients to deal with. One to 500 patients is absurd. Secondly, the diagnosis of these diseases in the insane requires very special clinical knowledge. We have no treatise on phthisis in the insane; why not? We have treatises on phthisis in children and in adults. It is said that the diagnosis of phthisis in the insane is infinitely difficult. Of course that is true; so would be the diagnosis if you applied the methods of the adult to the child. Tubercle takes quite a different course in the child compared with the adult. Therefore the signs are said to be paradoxical. The signs of phthisis in the insane are not paradoxical; they are as definite and as much a part of the clinical features of phthisis in the insane as are the otherwise paradoxical signs of tubercle in children. Asylum medical officers should have fewer patients to deal with, and we should have a treatise on

phthisis as it appears in the insane. Then we shall be able to adopt Dr. France's diagnostic plan, which is one which will require very careful carrying out.

Dr. JONES.—I agree with Dr. Head that auscultatory methods require a lot of time, study, and experience to justify conclusions in the sane; how much more difficult must this be among the insane who are unable to assist the diagnosis! With reference to early diagnosis, it seems to me that Dr. France has suggested a most valuable symptom in the change of body-weight, and a great many of us rely very considerably upon this symptom. I am sure that every superintendent throughout the country would like to have one medical officer to every 112 patients, but what would happen? The maintenance rate would go up, there would be an investigation as to the high expenses.

Dr. FRANCE.—In reply to Sir William Broadbent, who desired to have the ratio of deaths from phthisis outside asylums and the ratio inside, I may repeat that I came to the conclusion that such comparisons are apt to be fallacious, and that Dr. Crookshank has fully discussed the point. I understand Sir James Crichton-Browne to state, on the authority of Dr. Crookshank, that there has been no reduction in the death-rate in asylums during the last twenty years. Either Dr. Crookshank or myself must be wrong, because during the last four years I find that the ratio of deaths from tubercle in all asylums in England and Wales has fallen in relation to the average residents from 15·8 per thousand in 1895 to 14·6 in 1898,—not a big drop, but in the right direction. In London county asylums it has fallen during the same period from 12·2 to 10·6. Dr. Head said that medical officers in asylums have too many patients to deal with. This depends to a certain extent of course upon energy and ability. Dr. Head proceeds to say that physical signs in the early stages of phthisis in the insane are not paradoxical. On my first appointment to an asylum five years ago I had but recently qualified, and then believed that I could detect phthisis and other diseases in the chest of the insane with the same facility as in the sane. I soon found out my mistake. If Dr. Head will give time and attention to these problems, he will also come to the conclusion that in many cases the physical signs are paradoxical, as Sir William Broadbent has pointed out, and as those present evidently believe.

The PRESIDENT.—I am sure you will wish me to thank the gentlemen who have come here this afternoon for their very eloquent speeches. Our distinguished friend Sir James Crichton-Browne has said many things which must prove subjects for our consideration. I have pleasure in acknowledging how much obliged we are to him for the very able way in which he has dealt with the subject.

The Council of the Association have not been indifferent to this very serious question, and have prepared a resolution, which I am asked to bring before the meeting, viz.: "That it be referred to the Council of the Association to consider as to the appointment of a sub-committee for the investigation and collection of evidence, and for practical suggestions as to the isolation of phthisical patients in asylums."

The President having put the resolution to the meeting, it was unanimously accepted.

On the Mental State of Auguste Comte. By WILLIAM W. IRELAND.

IN the *Revue Philosophique de la France*, tome xlv, 1898, there are three articles filling eighty-seven pages on this subject, by Dr. G. Dumas. In order to appreciate their importance it may be well to give a short review of what was previously made known of the mental aberrations of that philosopher by his friend and biographer, M. Littré.(1)

Auguste Comte was born on the 19th January, 1798. His parents were Catholics, his mother especially was dominated by the beliefs of that church. Delicate in health, with a weak digestion, he was from the beginning fond of study. When no older than twenty-four, Auguste Comte had begun to plan that system of philosophy which embraced so wide a view of the sciences. On the 19th of February, 1825, when about twenty-seven years of age, he married Caroline Massin, who is described as a bookseller. M. Littré adds in a note the date of the trade licence of Mademoiselle Massin, October, 1822, and tells us that Comte became acquainted with her through M. Cerclet, a