Sixth annual report of the Fife and Kinross District Board of Lunacy : September 1872.

Contributors

Fife and Kinross District Board of Lunacy.
Gillespie, D.
Coxe, James.
Mitchell, Arthur.
Tuke, John Batty.
Fraser, John.
Pagan, George H.
Brand, Robert.
Duncan, Margaret.
Bell, Allen.

Publication/Creation

Cupar-Fife : Printed in the Fifeshire Journal Office, 1872.

Persistent URL

License and attribution

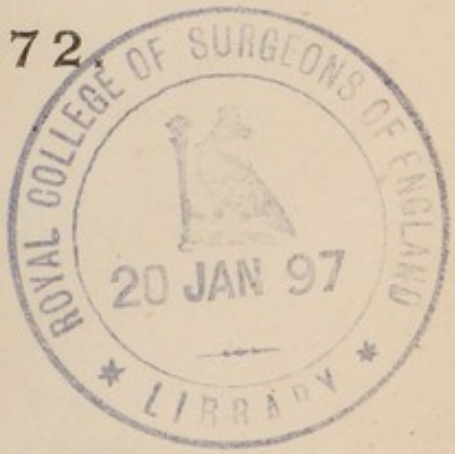
SIXTH

ANNUAL REPORT

OF THE

FIFE AND KINROSS DISTRICT BOARD OF LUNACY.

SEPTEMBER 1872.



CUPAR-FIFE:
PRINTED IN THE FIFESHIRE JOURNAL OFFICE.

1872.

DISTRICT BOARD OF LUNACY

FOR

FIFE AND KINROSS SHIRES,

1872-73.

MEMBERS.

DAVID GILLESPIE, Esq. of Mountquhanie, Chairman of the Board.
Dr Foulis of Cairnie Lodge.
Admiral Bethune of Balfour.
Provost Swan, Kirkcaldy.
John Balfour, Esq. of Balbirnie.
Major Bethune of Nydie.
Captain Maitland Dougall of Scotscraig.
The Earl of Glasgow.
Dr Cleghorn of Stravithie.
John Pitcairn, Esq. of Pitcullo.
J. T. Oswald, Esq. of Dunnikier.
Provost Reid, Dunfermline.
Provost Milton, St Andrews.
Hon. George Waldegrave-Leslie of Rothes.
Sir David Baxter, Bart. of Kilmaron.
Captain O. Dalgleish of Woodburne.
Provost Nicholson, Cupar.
T. R. B. L. Melville Cartwright, Esq. of Melville.
Andrew Beatson Bell, Esq., Sheriff-Substitute, Cupar.
Thomas Bruce, Esq. of Arnot.
T. H. Montgomery, Esq. of Hattonburn.

CLERK AND TREASURER.

G. H. Pagan, Writer, Cupar.

ASYLUM STAFF.

Medical Superintendent, - - -	Dr J. B. Tuke.
Medical Assistant, - - - -	Dr John Fraser.
Chaplain, - - - - - -	Mr James Peddie.
Matron, - - - - - -	Mrs Duncan.
Head Attendant, - - - - -	Alexander Stephen.
Farm Steward and Gardener, - -	Allan Bell.

REPORT

BY THE

FIFE AND KINROSS DISTRICT BOARD OF LUNACY.

The Fife and Kinross District Lunacy Board now present to the Ratepayers in the Counties and Burghs within the District their Sixth Annual Report.

As stated in last Report the Board's expenditure on Construction or Capital Account is practically closed. The sum expended under this head in the past year is £163 8s 6d, which includes maintenance of the fabric and fire insurance. The total expenditure for cost of site buildings and the like, now stands at £40,895 14s 10d. The amount borrowed to meet this outlay continues to be liquidated out of the Assessments annually imposed, which are to extend over thirty years. The debt is reduced to £28,488, 7s 2d.

The District Board refer with satisfaction to the entries by the Commissioners of Lunacy for Scotland in the Patients' Book kept at the Asylum. It has been regularly visited bi-monthly by a Committee of the District Board, and their Minutes uniformly report the Institution as in excellent order. The District Board have to record their continued approbation of Dr Tuke, the Medical Superintendent, and the staff who assist him. The results of the treatment of the cases in the Asylum during the year is given in the subjoined tables. The large per centage of recoveries is a very marked feature.

Certain of the suggestions of the Commissioners in Lunacy have

been adopted by the District Board. Others remain for after consideration. A Committee is acting with Committees of the Town Council of Cupar and the Local Authority of Kettle as to a supply of water for these places, which would also serve the District Asylum. Another Committee on the disposal of the sewage of the Asylum has submitted to the Board an engineer's report on the subject, and the matter has been remitted to the same Committee with powers to carry out a plan.

The reduced number of inmates in the Asylum has enabled the District Board to set aside a gallery for the reception of gentlemen patients, which is intended to be opened soon. The Medical Superintendent estimates that the rate of board fixed for this class of patients will be remunerative.

One criminal lunatic has been transferred to this Asylum from the General Prison at Perth, under a recent law, notwithstanding objections suggested by the Medical Superintendent; but the system of unlocked doors introduced by him is nevertheless continued, it is believed with beneficial effect.

D. GILLESPIE, *Chairman.*

FIFE AND KINROSS DISTRICT BOARD OF LUNACY,
September, 1872.

APPENDIX.

I.—ENTRIES BY THE COMMISSIONERS IN LUNACY FOR SCOTLAND IN THE PATIENTS' BOOK KEPT AT THE FIFE AND KINROSS DISTRICT LUNATIC ASYLUM INCE LAST REPORT.

(1.) By ARTHUR MITCHELL, Esq.

FIFE AND KINROSS DISTICT ASYLUM,
27*th March* 1872.

Since the last visit, on the 13th of September, there have been 33 admissions, 21 discharges, and 9 deaths. Six of the patients admitted were not paupers. Of the 21 discharged, 15 were cured. In every case of death a *post-mortem* examination was made, and no difficulty was experienced in obtaining the consent of relatives or guardians. It is suggested that the dead-house be divided by a partition, so that when the friends of patients who die in the Asylum come to remove their bodies, they should not see the arrangements for *post-mortem* examinations.

The total population at present consists of 112 males and 125 females. Of these, about 12 are private patients.

It is worthy of note that there are only 13 epileptics and 1 general paralytic in the house, and that in many of the epileptics the fits are neither frequen

Six women and two men were in bed, but the majority of these were labouring under trifling ailments, and none were in locked rooms.

Among the improvements which have taken place are: the further decoration of the day-rooms with pictures; the extension of this form of decoration to the dormitories and single sleeping-rooms; the marking of the cubic contents and superficial area of each apartment either on the door or some other suitable place; and the use of the work-room in the female airing-court for rough and noisy patients, who are employed there in teasing hair, or in some such simple work.

It would be of great utility, and would cost little, to erect a shed in the male airing-court like that just referred to. At present the men teasehair, &c., in the tailors' shop, which is too small a room for such a

purpose, but apart from this, the work of the tailor is interfered with by the presence and occupation of these patients.

Steps should at once be taken to provide a more suitable shoe-house on the male side. In very cold weather the shoes must often be in such a state as to make it uncomfortable for the patients to put them on ; but in addition to this, and the general untidiness of the arrangement, the keeping of the shoes in such a place must make them last for a shorter time than they would do if kept with more care.

Very great tranquillity prevailed in all parts of the Asylum during the visit. No patient was in seclusion or under any form of restraint. No special form of dress was in use, except in the case of three patients, who wore locked boots. There are 32 entries, however, in the register of restraint and seclusion, but 16 of these refer to one patient, who is at times very violent and destructive, and who is occasionally placed in seclusion for a few hours in order to secure her own safety and that of the attendants and other patients.

Thirty-four of the patients are on parole in the grounds, and 5 beyond the grounds.

In going through the house few of the doors were opened with a key, most of them being supplied with ordinary handles, and being left unlocked, though shut. Free communication with the airing-courts and with different parts of the house is thus possible. This greater freedom has led to no difficulty in the management, and has not increased the number of escapes ; but it is believed to have made the patients more contented, and to have lessened the destruction of property. The transference of W. G. T. from the lunatic wards of the Perth Prison to this Asylum has led to no change in its management, and he has the same amount of freedom as the other patients.

In the male convalescent wards, which are now in full operation, the patients enjoy a very unusual degree of freedom, a large proportion of them coming in and going out just as they choose. It is stated that the patients who are transferred to these wards improve both in mind and body. It would be a better arrangement, and would facilitate supervision, if, instead of the gardener, the head attendant were to occupy the house attached to this block, and it is suggested that the propriety of making this change should be taken into consideration.

It is understood that the District Board contemplates the leasing of the fields between the Asylum grounds and the railway. This step, which has often been recommended, will unquestionably be advantageous

to the Institution. It will afford an opportunity of utilising the sewage; will make it possible to keep cows for the supply of the Asylum with milk; and will furnish profitable out-door occupation to the patients. The extent of the land which it is proposed to acquire is about 37 acres, and it is doubtful whether it would not be better to buy than to lease it, as, at the end of the lease, there would be risk of a high rent being asked, both because the ground would then be much improved, and because it would be felt that the Asylum could not do without it.

Few changes have occurred among the attendants, and no accident is recorded.

One hundred and forty patients dined in the hall in a very orderly manner. The dinner was well cooked and neatly served, and consisted of pork, potatoes, greens, and turnips. Every patient had as much as he could eat.

All parts of the house were, as usual, found in excellent order, and the inmates were comfortably and neatly clothed.

The Registers and Books are in good order, and correctly kept. The Case-book and Pathological Register are fully written up, and show that much attention is bestowed on the medical, as well as on the general management of the Asylum.

(Signed) ARTHUR MITCHELL,
Commissioner in Lunacy.

(2.) By SIR JAMES COXE.

Fife and Kinross District Asylum,
August 26th 1872.

The following are the changes since the visit of the 27th March :—

	Private.		Pauper.		Total,
	M.	F.	M.	F.	
Admissions, . . .	4	3	11	21	39
Discharges, . . .	1	1	13	23	38
Deaths, ...	0	0	3	4	7

Of the patients discharged 17 had recovered, 8 were improved, and 1 was not improved. The unrecovered cases were removed mainly at the instance of Parochial Boards. The causes of death were phthisis in 3 cases, and paralysis, senile decay, pulmonary gangrene, and epilepsy in 1 case each. The patients had all been for sometime in the house, 1 hav-

ing been admitted in 1871, 3 in 1870, 1 in 1869, 1 in 1867, and 1 in 1866. *Post-mortem* examinations were made in every instance.

The present sanitary condition of the establishment is satisfactory, only 1 male and 1 female being confined to bed. Consumption continues to be a somewhat prominent cause of mortality; and it is suggested, with the view of testing how far it may be dependent on causes in operation within the Asylum, to increase the day clothing of the patients, especially of the males, who at this season do not, as a rule, wear either flannel jackets or drawers. The dietary is ample, andvaried; the wards are roomy, and well ventilated; and the bedding is clean and sufficient—it is thus only in the day-clothing that any cause of suspicion exists that the physical wants of the patients are not fully met.

It has been stated that *post-mortem* examinations were made in every case; and it has to be added that these examinations are made with great care, and the results recorded in such a manner as cannot fail to give them a high scientific value. The appliances for conducting these investigations are, however, insufficient, and are likely to become still more so by the appropriation of the room in which the necessary preparations are made, and the microscopical examinations conducted, as part of the accommodation required for the private patients, whom it is proposed to admit. Under these circumstances it is strongly recommended that a room adjoining, or in close proximity to the dead-house, should be erected, and fitted up with the necessary appliances for pathological investigations. It may be mentioned that the Directors of the Royal Asylum of Montrose are at present erecting a laboratory for the purposes indicated.

In various ways the Institution continues to give evidence of progressive improvement. In accordance with the recommendations made in last report, a new shoe-house for the men, and a shed for the teazing of hair, or for two or three looms, in the male airing-court are in process of erection; and another small house is being built close to the curling-pond, to serve either as accommodation for the curlers, or as a small hospital, should occasion arise for the isolation of two or three patients, on account of contagious disease.

Within doors steady progress is making in papering and painting, which is done in a pleasing decorative style, and in increasing the number of pictures, and other articles of decoration, especially in the sleeping rooms. In several of the water-closets the wooden flooring is about to be partially replaced by encaustic tiles—a change which will alike pro-

mote comfort and please the eye. In one respect, however, and that a very important one, namely, in the disposal of the sewage, no improvement has been effected. Instead of being profitably disposed of on the land, it is allowed to constitute a noxious swamp, which has been attracting the unfavourable notice of the Local Authority.

All portions of the house were found in excellent order. The system of increasing the liberty of the patients by restricting the use of locked doors continues to give satisfactory results, both in simplifying the management, and in beneficially influencing the feelings and dispositions of the patients, and is being gradually extended. It may, however, be well to caution against the risk of gaining increased liberty in some departments by increasing restrictions in others—a result which might ensue, if all with a tendency to escape, or prone to acts of violence, were collected together.

At present 31 males and 2 females have the liberty of the grounds on parôle.

No one was in seclusion, and only one entry of this character, for a period of a few hours, occurs in the Register since last inspection. On three occasions the Camisole was used for surgical reasons. Notwithstanding that out-of-door exercise had been prevented by the state of the weather, the patients of both sexes were free from excitement; except that among the females a tendency to vociferation was in one or two instances produced by the visit. Material improvement, however, has been effected in the refractory departments, both as regards tranquillity and the aspect of the accommodation. But in the latter direction more may beneficially be accomplished, especially in furnishing objects of interest and improving the furniture.

The present numbers are 113 males and 121 females, of whom 7 males and 6 females are epileptic, and 6 males and 1 female paralytic. The numbers raised by the night attendants are 11 males and 14 females, and the number of wet beds last night was 1 on the male and 3 on the female side. It is in contemplation to bring the patients requiring attention during the night more together, so as to have them more immediately under supervision. This practice has been adopted with very beneficial results in other Asylums, and its adoption is strongly recommended.

Sixty-seven males and 72 females are registered as industriously employed. Of the former, 45 work in the grounds, and 2 are shoemakers and 4 carpenters. About 10 or 12 acres are under spade cultivation as garden ground, and the supply of green vegetables and of the smaller

fruits is most abundant. The acquisition of additional land, so as to furnish means of keeping cows, is, it is understood, being kept in view. Almost the entire pork which is produced on the farm is consumed in the Asylum; so that the objection which is frequently made against turning this produce to home account—that the patients would reject it—has here, at all events, no reality.

The only other matter to which reference need at present be made is the growing practice of varnishing or painting the floors with the view of limiting the necessity of scrubbing and saturating them with water. The result can scarcely fail to prove beneficial to health.

The Registers are very carefully kept, and the manner in which the history of the patients is recorded in the Case-books is worthy of all praise.

(Signed) JAMES COXE,
Commissioner in Lunacy.

II.—REPORT by J. BATTY TUKE, M.D., F.R.C.P., Medical Superintendent of the FIFE and KINROSS DISTRICT ASYLUM, to the Members of the DISTRICT BOARD OF LUNACY for the COUNTIES of FIFE and KINROSS, for the Year ending 31st July 1872.

(Presented to the Board, 19th Sept. 1872.)

MY LORD, MR CHAIRMAN AND GENTLEMEN,—During the year ending 31st July 1872, 72 patients have been admitted into your Asylum at Springfield, of whom 18 males and 42 females were paupers chargeable to parishes in the district of Fife and Kinross, 1 female chargeable to a parish furth the district, and 6 males and 5 females were private patients. The largest number of inmates resident on any one day was 244, the least 226; the average number daily resident being 238.3. The discharges from all causes amounted to 85. This is the second year in which the number of discharges has exceeded that of the admissions, the population resident at the end of the year being 228, as against 238 on the 31st July 1871.

Admissions.—The number of paupers admitted has been somewhat in excess of last year; but the experience of six years indicates that the average of recent and relapsed cases which must be anticipated is about 65 per annum. Disturbances in our social economy, such as strikes, undue prosperity, or the reverse, may in certain years raise the average of insanity with that of many other forms of disease, as general tranquillity and normal prosperity of the community may reduce it; but taking one year with another, I believe you will find that the above-named number is pretty nearly accurate. As a rule, the character of the cases admitted was favourable and amenable to treatment. Of the two most formidable and incurable forms of mental disease, viz., general paralysis and epileptic insanity, only one case of the former has been submitted for treatment. If we compare this statement with the statistics of any English Asylum, the remarkable exemption which this district, along with some other rural districts of Scotland, possesses, cannot fail to be apparent In many English Asylums as many as 20 per cent., in some even 25 per cent. of the inmates, are epileptics or general paralytics; in your Asylum there are only twelve of the former class and one of the latter; and further, the nature of the epilepsy is in no case so severe, violent, or dangerous as is the rule on the other side of the border. An explanation of this curious anomaly has yet to be discovered. The suicidal tendency has been

peculiarly strongly marked amongst the recent cases, 9 males and 15 females, out of the 72 (33 per cent.) having either attempted or expressed a strong desire for self-destruction. One man had attempted suicide by cutting his throat, two women were admitted with the wind-pipe severely injured, one woman presented herself with the scalp extensively lacerated by self-inflicted wounds, and six others had made determined attempts by strangulation or drowning. Notwithstanding this very large proportion of suicidal patients, no accident has occurred; moreover, the constant and prolonged watching which such cases demand has succeeded not only in averting, but in permanently overcoming the tendency in a very large proportion.

Discharges.—67 patients have been discharged, 50 of whom were *recovered*, 15 *improved*, and 4 *not improved*. In order to show how your Asylum has fulfilled its object to the district, I have differentiated between the pauper and private cases. Of the former class, 16 males and 29 females have been sent out *recovered*, 3 males and 9 females *improved*. These figures give as a result an average of 88.8 per cent. of recoveries among the men, and 67.4 among the women; and if we add to these those discharged so far improved as to enable them to return to their homes, or to live with guardians approved of by the General Board of Lunacy, we arrive at the highly encouraging per centage of 100 among the men, 88 among the women, 92 over all. Of the private cases, 5 males and 1 female were discharged, recovered, or improved; the per centage of recoveries and improvements of both classes being 87.5, calculated on the admissions. This is the most satisfactory result which has rewarded our labours since the opening of the Institution. Of those discharged *improved*, 7 were accommodated in private dwellings on the boarding-out system. Only one of these cases was returned to the Asylum as unsuitable, and, as far as I can learn, the remainder have been sufficiently well provided for. This system should, if the cases are properly selected, prevent any over-crowding of the Asylum in future years, and in the meantime, should materially decrease the expenditure of parishes for their pauper lunatics. The clause in the last amended Lunacy Act, which renders the annual certificate granted by the Medical Superintendent the sole detaining instrument after the Sheriff's order has ceased and determined, throws a very serious responsibility on the shoulders of that officer. This clause compels him to certify each year that every individual patient who has been detained in the Asylum for more than three years requires further detention, either for his or her own good, or for the public safety. After mature consideration, I have come to the conclusion that there are

certain patients now in your Asylum who, although insane, have so far improved that they do not absolutely demand seclusion for either of the above-named reasons, and from whom it will be my duty to withhold the detaining certificate at the end of the present year. One patient was got rid of by this means at the end of 1871, all other measures having proved unavailing to procure removal.

Deaths.—7 males and 11 females died, giving a per centage of 7.5 on the average number daily resident, and of 5.7 on the number under treatment. 3 cases were moribund on admission. Although 10 of these deaths were due to diseases of the chest, their history shows that, with the exception of one case, they were not the result of insufficiency of clothing, as suggested by one of the visiting Commissioners. The case alluded to died of acute bronchitis, caused by the patient persistently stripping herself night and day, which nothing but constant mechanical restraint could have prevented. I now regret that this was not employed. The chest diseases in the other cases were either the natural termination of their nervous diseases or the result of constitutional taint. In every case where weakness of the lungs is suspected extra clothing is ordered. Antopsies were held in every instance, the results of which are, by your permission, published as an appendix for medical circulation.

Treatment.—The greatest advantages have been derived from the extension of the Asylum in the case of both acute and chronic cases. A very large number of the former class have been treated in those parts of the Asylum where liberty of action is no more controlled than in the wards of a general hospital. It is when recent cases begin to convalesce that the chief benefits of the open door system are observed. When such a patient is gradually regaining his powers of reasoning, when he is no longer, to use a homely but most significant expression, "out of his judgment," he finds himself in a hospital having none of the characteristics of a prison, he is treated as a reasonable being, is not locked up as an irresponsible agent, and, not being constantly subjected to the humiliation of being shut up under lock and key, he accepts the position of an ordinary invalid in an ordinary hospital, which he leaves with re-established health, and with no more disagreeable reminiscences than must necessarily attach to the memory of past sickness. I believe it to be quite practicable to treat 8 out of every 10 cases of insanity on this principle. You will see in table IX. that 9 of the cases discharged recovered, and 15 of those discharged improved, had been resident in the Asylum for upwards of two years. Eight of these were men who had had the fullest liberty of action in the convalescent house at the farm, and who during their residence there had so very materially improved as to demand

discharge. Several of the women had had similar confidence placed in them, with equally good results. In the Reports of Her Majesty's Commissioners in Lunacy we have been told of many instances of amelioration of the physical and psychical condition of chronic lunatics boarded out in private dwellings. Such cases bear a strong resemblance to those of whom I have just now been speaking, and the deduction to be drawn, at least by my mind, is, that the present prevailing principle of construction of lunatic asylums is erroneous, as it places all the inmates on one dead level. I believe it would be a vast advance, both from a humanitarian and economic point of view, were asylums to consist of a small central hospital, and a large number of detached cottages, scattered over a considerable extent of ground. Few lunatics require absolute seclusion, the large majority being quite amenable to discipline of the mildest nature. There is good reason for the belief that many of the violent maniacs and chronic dements which crowd our Asylums have been developed by a system of indiscriminate restraint, which in one man excites refractory opposition, and in another fosters inactivity of the brain. It is to be feared that this condition must ever be, to some extent, inseparable from all asylums, but it may be very much lessened in extent, degree and kind. Of course the open door system has its drawbacks, the chief of which is an increased number of escapes. A certain number of patients will break their parole, but if they are not dangerous to themselves or others, this is a matter of very little consequence, and is not unfrequently advantageous to the eloper, as he is then for a time thrown on his own resources. I am given to understand, however, that the escapes from your Asylum during the past year have but very slightly exceeded those of similar institutions; and you may rest assured that the anxiety they have caused is more than counterbalanced by the increased tranquillity which has resulted from the system which gives the opportunity. I may mention that the few who are detained in the locked wards are not submitted to any greater degree of restraint than they would have to undergo in any asylum where the doors are generally locked.

The medical treatment has been founded on most carefully conducted clinical examinations, and the history of each case and the course of treatment has been in every case duly recorded in the case books. No epidemic disease has shown itself. In consequence of the prevalence of small-pox during the winter and spring, every patient, attendant, and officer was vaccinated. The results of re-vaccination will be found amongst the medical tables. Both mechanical restraint and seclusion have been rarely employed. As to the former, I am convinced that restraint applied through the muscular

force of attendants is much more irritating and dangerous than mechanical restraint. It is too great a tax on the patience of any man or woman to be struggling for hours with a refractory patient, who, by word and deed, must eventually wear out the good nature of the best servant. In surgical cases its employment is an actual necessity. In regard to seculsion, I hold that a large majority of recent cases are best treated in bed in single rooms, and further, that chronic cases which are liable to violent outbursts of dangerous passion and obscene conduct and language are better secluded, than by being allowed to upset the tranquillity of a whole ward and outrage the sense of decency of respectable attendants and quiet patients. The necessity does not often arise, but when it does I have no hesitation in placing such a patient in a single room for a few hours.

The general behaviour of the attendants and servants has been satisfactory. In consequence of the lamented death of Dr W. F. Morrison (to whose good qualities you permitted me, along with yourselves, to bear testimony when the news of the event came officially before you) a vacancy occurred in the assistant-physicianship. To this post Dr John Fraser was appointed, and I believe your Board may congratulate itself on acquiring the services of a most energetic and able officer. To Mrs Duncan, the Matron, and the other officials, my thanks are due for their zeal and assiduity. The price of provisions, coals, and clothing having increased so much, endeavours have been made in various ways to reduce the expenditure of the Asylum. This has been all the more necessary from the falling off in the number of patients. It must be remembered that the success of the Institution, as a curative hospital, is in inverse ratio to its success as a commercial undertaking ; for the discharge of useful patients increases the expense of maintaining the useless, degraded, and violent, for whose care a large staff of servants is mainly required. The decrease of 10 patients during the past year represents the loss of £240 of income, which cannot be met by any material reduction in the number of servants. In order, however, to supplement this loss, a ward for private gentlemen patients is in course of being fitted up. Its occupants will be completely shut off from the pauper department, and it is hoped that this will be of benefit to the district, from which frequent demands for accommodation have been made for patients of a higher class.

In conclusion, I beg to thank you for the uniform support I have received from your Board, a support which has in no small measure influenced the satisfactory results of the year's work.

J. BATTY TUKE, M.D., F.R.C.P.,
Medical Superintendent.

CONSOLIDATED ABSTRACT OF HALF-YEARLY ACCOUNTS.

(No. I. CAPITAL.)

ACCOUNT OF CHARGE AND DISCHARGE

BETWEEN

THE DISTRICT BOARD OF LUNACY FOR THE SHIRES OF FIFE AND KINROSS

AND

GEORGE H. PAGAN, THEIR CLERK AND TREASURER,

For the Year from 1st *August* 1871 *to* 1st *August* 1872.

I.—CHARGE.

1. Assessment,	£3,000	0	0
2. Sums drawn from Bank Account with British Linen Company,	2,362	15	5
Amount of Charge,	£5,362	15	5

II.—DISCHARGE.

1. Balance from last Account,	£0	10	0
2. Expenses of Additions and Repairs,	125	13	9
3. Interest and part Repayment of Loans,	2,198	16	11
4. Insurance over Buildings, &c., against loss by fire,	20	0	1
5. Sums paid into Bank Account with British Linen Company,	2,999	19	6
6. Miscellaneous,	17	14	8
7. Arrear,	0	0	6
Amount of Discharge,	£5,362	15	5

ABSTRACT.

Amount of Charge,	£5,362	15	5
Amount of Discharge,	5,362	15	5

GEO. H. PAGAN, *Clk. and Treas.*

(No. II. CURRENT EXPENSES.)

ACCOUNT OF CHARGE AND DISCHARGE

BETWEEN

THE DISTRICT BOARD OF LUNACY FOR THE SHIRES OF FIFE AND KINROSS

AND

GEORGE H. PAGAN, THEIR CLERK AND TREASURER,

For the Year from 1st August 1871 to 1st August 1872.

I.—CHARGE.

1.	Arrears of Patients' Board from last Account,			£358	5 11
2.	Sums due for Patients for year from 15th October 1871 to 15th October 1872, viz. :—				
	Amount due for Patients' Board,	£5742 6 5			
	Less returned of Board,	4 16 9			
		£5737 9 8			
	Amount due for transferring Patients, &c,	55 1 2			
	Amount of Interest on past due Sums,	9 19 0			
				5,802	9 10
3.	Farm Produce,			117	14 9
4.	Sums drawn from Bank Account with British Linen Company,			6,186	5 9
	Amount of Charge,			£12,464	16 3

II.—DISCHARGE.

1.	Balance brought from last Account,		£5	13 8
2.	Materials and furnishings supplied to the Asylum,		671	6 3
3.	Current Repairs,		26	15 3
4.	Expenses connected with Farm and Garden,		214	9 5
5.	Public and Parochial Burdens,		86	18 5
6.	Officers' Salaries :—			
	Dr Tuke, Medical Superintendent,	£400 0 0		
	Assistant-Physician,	80 0 0		
	Chaplain,	70 0 0		
	Matron,	50 0 0		
	House Steward,	50 0 0		
			650	0 0
7.	Servants' Wages :— Male and Female Attendants, Engineer, Carpenter, Shoemaker, and Tailor,		691	5 9
8.	Stores and Provisions,		2,742	0 4
9.	Medicines and Surgical Instruments,		73	6 10
10.	Coals,		467	17 2
11.	Gas,		162	12 6
12.	Hires to Asylum, &c.,		14	14 6
13.	Printing and Advertising,		46	0 0
	Carry forward,		£5,853	0 1

	Brought forward, . . .				£5,853	0 1
14.	Advances for Petty Disbursements, ...				80	0 0
	Which and other amounts were expended as follows :—					
	(1.) Expenses transferring Patients, recoverable from their Parishes, . .	£11	0	3		
	(2.) Allowances charged for Attendants transferring Patients from their Parishes, carried to Amusement Account, ...	3	8	0		
	(3.) Expenses attending escapes of Patients,	10	14	2		
	(4.) Travelling Expenses, . . .	9	9	10		
	(5.) Graves and Hearses, . . .	4	15	0		
	(6.) Provisions, ...	12	3	3		
	(7.) Servants' Wages, . . .	10	9	7		
	(8.) Advances to discharged Patients, recoverable from Parishes, . .	0	15	0		
	(9.) Messengers to Cupar, . . .	0	5	10		
	(10.) Advances for Farm purposes, . .	0	18	8		
	(11.) Postage Stamps, . . .	7	15	0		
	(12.) Telegrams, ...	2	17	0		
	(13.) Medical Certificates recoverable from Parishes, ...	9	9	0		
	(14.) Sundries, ...	29	11	11		
		£113	12	6		
15.	Clerk and Treasurer's Salary, ...				125	0 0
16.	Sums paid in Bank Account with British Linen Company, .				6,208	14 2
17.	Miscellaneous, ...				126	8 6
18.	Interest on Bank Account, ...				9	3 3
19.	Arrears of Patients' Board, ...				85	0 4
	Amount of Discharge, . . .				£12,487	6 4

ABSTRACT.

Amount of Charge, ...	£12,464 16 3
Amount of Discharge, ...	12,487 6 4
Balance due to Clerk and Treasurer, . .	£22 10 1

GEO. H. PAGAN, *Clk. and Treas.*

III.—MEDICAL SUPERINTENDENT'S TABLES.

Table I.—Showing the General Results, from 1st August 1871 to 31st July 1872.

	Males.	Females.	Total.
Number of Patients in Asylum on 31st July 1871, .	118	120	238
Patients on Probation on 31st July 1871, . .	1	2	3
Admitted during year,			
Pauper Males, 18 Pauper Females, 43			
Private Males, 6 Private Females, 5	24	48	72
Total number under Treatment, .	143	170	313
Discharged,			
Pauper Males, 20 Pauper Females, 40			
Private Males, 6 Private Females, 1			
Total, 67.			
Of whom were recovered,			
Pauper Males, 16 Pauper Females, 29			
Private Males, 4 Private Females, 1			
Total, 50.			
Improved,			
Pauper Males, 3 Pauper Females, 9			
Private Males, 1 Private Females, 0			
Total, 13.			
Not Improved—			
Pauper Males, 1 Pauper Females, 2			
Private Males, 1 Private Females, 0			
Total, 4.			
Died,			
Pauper Males, 6 Pauper Females, 11			
Private Males, 1 Private Females, 0			
Total, 18.	33	52	85
Total number on 31st July 1872, .	110	118	228
Largest number resident on any one day, . .	117	127	244
Lowest, ,, ,, ,, . .	110	116	226
Average number resident during the year, . .	115.4	122.8	238.3
Percentage of Recoveries on Admissions, . .	80.3	62.5	69.4
,, of Pauper Recoveries, . . .	88.8	67.4	73.7
,, of Deaths on number under Treatment,	4.8	6.4	5.7
,, ,, on average daily number, .	6.0	8.9	7.5
,, of those recovered and improved on Admissions, ...	100	80.1	87.5

Table II.—Showing the Admissions, Discharges, and Deaths, from the Opening of the Asylum to 31st July 1872.

	Males.	Females.	Total.
Persons admitted since Opening of Asylum to 31st July 1872,	247	295	542
Re-admissions,	15	25	40
Total number admitted,	262	320	582
Discharged, (Males. 106 Females. 152 Total. 258)			
Of whom Recovered, (Males. 79 Females. 122)			
,, Relieved, (Males. 19 Females. 20)			
,, Not Improved, (Males. 8 Females. 10)			
Deaths, (Males. 46 Females. 50)			
	152	202	354
Remaining in Asylum on 31st July 1872,	110	118	228

Table III.—Showing the Admissions, Discharges, and Deaths, with the Mean Annual Mortality and Proportion of Recoveries per cent. of the Admissions for each year since the Opening of the Asylum.

YEAR	Admitted.			Discharged.									Died.			Remaining 31st Decr. of each year.			Average numbers resident.			Per Centage of Recoveries on Admissions.			Per Centage of Deaths on Average Numbers Resident.		
				Recovered.			Relieved.			Unimproved.																	
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
From the opening of the Asylum, 4th July 1866, to 31st December 1866,	91	90	181	1	4	5	—	—	—	—	1	1	2	—	2	88	85	173	70	68	138	1.09	4.4	2.76	2.85	—	1.44
Do. Do. 1867,	41	38	79	4	8	12	3	1	4	2	2	4	8	8	16	112	104	216	97	94	191	9.75	21.05	15.19	8.24	8.51	8.37
Do. Do: 1868,	30	42	72	11	16	27	7	2	9	3	1	4	7	9	16	114	118	232	110	106	216	36.66	38.09	37.50	6.36	8.49	7.54
Do. Do. 1869,	32	44	76	16	27	43	1	1	2	1	3	4	9	12	21	115	120	235	114	118	232	50.	61.36	56.57	7.89	10.16	9.05
Do. Do. 1870,	27	35	62	18	23	41	1	1	2	—	1	1	4	5	9	122	127	249	120	124	224	66.6	65.7	66.1	3.3	4.	3.6
Do. Do. 1871,	24	44	68	17	26	43	3	9	12	—	1	1	12	10	22	115	122	237	118	123	241	70.8	59.1	63.2	10.1	8.1	9.1
Totals and averages for 5½ years, . .	245	293	538	67	104	171	15	14	29	6	9	15	42	44	86	—	—	—	114.3	115.	225.8						

Table IV.—Showing the History of the Annual Admissions since the Opening of the Asylum, with the Discharges and Deaths, and the Numbers of each year remaining on the 31st December 1871.

Year.	Admitted.									Of each year's Admissions, Discharged, and Died in 1871.												Total Discharged and Died in each year's Admissions to 31st December 1871.												Remaining of each year's Admissions.—Dec. 31st 1870.		
	New Cases.		Relapsed Cases.		Congenital Cases.		Transfers from other Asylums		Total.	Recovered.			Relieved.			Unimproved.			Died.			Recovered.			Relieved.			Unimproved.			Died.					
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1866	7	14	—	—	—	—	85	75	181	1	1	2	1	4	5	—	—	—	3	3	6	5	13	18	9	5	14	3	2	5	17	17	34	58	52	110
1867	18	23	1	—	2	—	20	15	79	1	—	1	1	3	4	—	—	—	2	1	3	11	11	22	3	5	8	1	3	4	8	7	15	18	12	30
1868	23	33	1	2	2	4	4	3	72	1	1	2	—	—	—	—	—	—	—	2	2	17	23	40	2	1	3	—	2	2	7	8	15	4	8	12
1869	16	33	3	3	3	2	9	7	76	1	—	1	—	—	—	—	1	1	2	—	2	12	19	31	—	1	1	3	4	7	4	7	11	12	14	26
1870	18	24	3	6	1	—	5	5	62	3	11	14	—	1	1	—	—	—	3	—	3	13	27	40	—	1	1	—	—	—	4	1	5	10	6	16
1871	17	29	6	8	1	—	1	6	68	10	14	24	1	—	1	—	—	—	2	4	6	10	14	24	1	—	1	—	—	—	2	4	6	12	25	37
Total.	99	156	14	19	9	6	124	111	538	17	27	44	3	8	11	—	1	1	12	10	22	68	107	175	15	13	28	7	11	18	42	44	86	114	117	231

SUMMARY OF THE TOTAL ADMISSIONS, 1866-71:

	Males.	Females.	Both Sexes.
Percentage of Cases Recovered,	27.6	36.6	32.5
,, ,, Relieved,	6.1	4.8	5.2
,, ,, Not Improved,	2.8	3.8	3.3
,, ,, Died,	17.0	15.0	14.1
,, ,, Remaining in Asylum,	46.5	39.8	44.9

Table V.—Showing the Forms of Disease of those admitted, with Mental Symptoms.

Pathogenetic Class.	Forms of Disease.	Symptoms.										Total.		
		Mania.		Melancholia.		Dementia.		Delusional Insanity.		Idiocy.				
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Total.
Idiophrenic Insanity.	Idiopathic Insanity,	0	7	2	5	2	5	1	4	0	0	5	21	26
	Senile Insanity,	1	0	0	1	0	1	0	0	0	0	1	2	3
	Paralysis with Insanity,	0	0	0	0	3	0	1	0	0	0	4	0	4
	General Paresis,	0	0	0	0	0	0	1	0	0	0	1	0	1
	Traumatic Insanity,	1	0	0	0	0	0	0	0	0	0	1	0	1
	Congenital Idiocy,	0	0	0	0	0	0	0	0	2	1	2	1	3
Sympathetic Insanity.	Climacteric Insanity,	1	1	2	7	0	0	0	4	0	0	3	12	15
	Hysterical Insanity,	0	2	0	0	0	0	0	0	0	0	0	2	2
	Amenorrhœal Insanity,	0	0	0	0	0	1	0	0	0	0	0	1	1
	Insanity of Pregnancy,	0	1	0	0	0	0	0	0	0	0	0	1	1
Anœmic Insanity	—Insanity of Lactation,	0	0	0	3	0	0	0	1	0	0	0	4	4
Diathetic Insanity	—Insanity of Tuberculosis,	0	0	0	0	0	0	1	0	0	0	1	0	1
Toxic Insanity	—Insanity of Alcoholism,	5	2	0	1	0	0	1	0	0	0	6	3	9
Metastatic Insanity.	Metastatic Insanity, from healing of old issue,	0	1	0	0	0	0	0	0	0	0	0	1	1
	Total,	8	14	4	17	5	7	5	9	2	1	24	48	72

Table VI.—Showing the Duration of the Disease on Admission, Discharges, and Deaths during the year.

Class.	Duration of Disease on Admission, in Four Classes.											
	Admissions.			Discharges.						Deaths.		
				Recovered.			Removed, Relieved, or otherwise.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
First Class.—First attack, and within three months of admission,	7	12	19	5	10	15	—	—	—	—	2	2
Second Class.—First attack, above three months and within twelve months of admission,	6	9	15	5	5	10	2	1	3	1	2	3
Third Class.—Not first attack, and within twelve months of admission,	6	18	24	5	14	19	—	—	—	1	2	3
Fourth Class.—First attack or not, but of more than twelve months on admission,	3	5	8	5	1	6	3	8	11	5	5	10
Congenital,	2	1	3	—	—	—	1	1	2	—	—	—
Not ascertained,	—	3	3	—	—	—	—	1	1	—	—	—
Total,	24	48	72	20	30	50	6	11	17	7	11	18

Table VII.—Showing the Forms of Disease of those Discharged Recovered during the year, with the Mental Symptoms.

Form of Disease.	Symptoms.												Total.		
	Mania.			Melancholia.			Delusional Insanity.			Dementia.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Idiopathic Insanity, ...	1	4	5	3	3	6	—	2	2	2	1	3	6	10	16
Senile Insanity, ...	—	1	1	—	2	2	—	—	—	—	—	—	—	3	3
Insanity with Paralysis, . . .	—	—	—	1	—	1	—	—	—	2	—	2	3	—	3
Climacteric Insanity, ...	—	2	2	2	2	4	1	2	3	—	1	1	3	7	10
Hysterical Insanity, ...	—	2	2	—	—	—	—	—	—	—	—	—	—	2	2
Insanity of Pregnancy, . . .	—	1	1	—	—	—	—	—	—	—	—	—	—	1	1
Insanity of Lactation, . . .	—	1	1	—	1	1	—	—	—	—	—	—	—	2	2
Insanity of Tuberculosis, . . .	—	—	—	1	—	1	1	—	1	—	—	—	2	—	2
Insanity of Alcoholism, . . .	4	1	5	1	1	2	—	—	—	1	1	2	6	3	9
Metastatic Insanity, ...	—	1	1	—	1	1	—	—	—	—	—	—	—	2	2
Total, ...	5	13	18	8	10	18	2	4	6	5	3	8	20	30	50

Table VIII.—Showing the Ages of those Admitted, Discharged, and who have Died during the Year.

Ages.	Admissions.			Discharged.						Died.		
				Recovered.			Removed, Relieved, or otherwise.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
From 10 to 20,	1	1	2	0	1	1	1	0	1	0	0	0
,, 20 ,, 30,	5	11	16	5	4	9	0	0	0	2	0	2
,, 30 ,, 40,	4	10	14	4	7	11	3	4	7	2	1	3
,, 40 ,, 50,	4	12	16	2	7	9	1	1	2	1	2	3
,, 50 ,, 60,	5	6	11	5	6	11	0	2	2	1	1	2
,, 60 ,, 70,	1	5	6	2	3	5	0	2	2	1	3	4
,, 70 ,, 80,	3	1	4	2	2	4	1	1	2	0	1	1
,, 80 ,, 90,	0	0	0	0	0	0	0	0	0	0	2	2
Unknown,	1	2	3	0	0	0	0	1	1	0	1	1
Total, .	24	48	72	20	30	50	6	11	17	7	11	18

Table IX.—Showing the Period of Residence of those Discharged, and of those who have Died during the Year.

Period of Residence.	Recovered.			Relieved or Removed.			Died.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 Month, ...	0	3	3	1	0	1	0	2	2
,, 3 ,, ...	8	6	14	0	0	0	0	0	0
,, 6 ,, ...	4	13	17	1	1	2	1	0	1
,, 9 ,, ...	0	2	2	1	0	1	1	1	2
,, 12 ,, ...	2	1	3	0	0	0	0	0	0
,, 18 ,, ...	1	1	2	0	0	0	1	2	3
,, 24 ,, ...	0	0	0	0	0	0	0	0	0
,, 30 ,, ...	0	1	1	0	1	1	2	1	3
,, 36 ,, ...	0	0	0	1	1	2	1	0	1
,, 48 ,, ...	1	2	3	1	0	1	0	1	1
,, 60 ,, ...	1	0	1	0	3	3	0	0	0
,, 70 ,, ...	3	1	4	1	5	6	1	4	5
Total, . . .	20	30	50	6	11	17	7	11	18

Table X.—Showing the Causes of Death during the Year.

	Males.	Females.	Total.
I. Diseases of the Brain and Spinal Cord—			
General Paresis of the Insane, . . .	1	0	1
Local Cerebral Softening, ...	0	1	1
Chronic Myelitis (Paraplegia) and Caries of Vertebræ, ...	0	1	1
Locomotor Ataxia, ...	1	0	1
II. Diseases of Respiratory System—			
Phthisis Pulmonalis, ...	1	2	3
Phthisis Pulmonalis and Acute Miliary Tuberculosis, ...	1	1	2
Phthisis Pulmonalis and Intercurrent Pneumonia, ...	1	0	1
Acute Miliary Tuberculosis, . . .	0	1	1
Acute Pneumonia and Abscess of Lung, .	1	0	1
Gangrene of Lung, ...	1	0	1
Acute Purulent Bronchitis, . . .	0	1	1
III. Diseases of Abdomen—			
Pelvic Cellulitis and Acute Purulent Peritonitis, ...	0	1	1
IV. Senile Decay, ...	0	3	3
Total, ...	7	11	18

Table XI.—Showing Condition as to Marriage of those Admitted, Discharged, and who have Died during the Year.

Condition in reference to Marriage.	Admissions.			Discharges.						Deaths.		
				Recovered.			Removed, Relieved, or otherwise.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Single, . .	10	19	29	8	17	25	4	8	12	4	2	6
Married, . .	12	21	33	10	12	22	1	2	3	2	6	8
Widowed, . .	2	8	10	0	2	2	0	1	1	1	3	4
Unknown, . .	0	0	0	1	0	1	1	0	1	0	0	0
Total, . .	24	48	72	19	31	50	6	11	17	7	11	18

Results of the Re-Vaccination of the Officers, Servants. and Patients of the Fife and Kinross Asylum, March 1872.

	Males.	Females.	Total.
Total number Re-Vaccinated, . . .	128	120	248
Of whom were			
Successful, ...	103	104	207
Unsuccessful, ...	25	16	41
Of the successful, the following			
had marks of Infant Vaccination, . .	94	82	176
,, one mark ,, ,, . .	47	44	91
,, two marks ,, ,, . .	39	31	70
,, three ,, ,, ,, . .	8	4	12
,, four ,, ,, ,, . .	0	3	3
,, good* ,, ,, ,, . .	48	57	105
,, no ,, ,, ,, . .	9	22	31
,, had Small-pox, ...	19	6	25
Of the Unsuccessful, the following			
had marks of Infant Vaccination, . .	23	14	37
,, one mark ,, ,, . .	13	7	20
,, two marks ,, ,, . .	9	5	14
,, three ,, ,, ,, . .	1	2	3
,, good* ,, ,, ,, . .	9	5	14
,, no ,, ,, ,, . .	2	2	4
,, had Small-pox, ...	3	1	4

NOTES.

* The term good, as used here, means distinct cicatrices having alveolar depressions.

One case had a small abscess caused by irritation; excepting this, all ran the normal course.

The constitutional symptoms were as frequent and as evident among the insane as among the sane.

It is interesting to note that in the case of a girl (not insane, and whose case was well authenticated) aged 14, who had been vaccinated directly from the heifer in infancy, re-vaccination failed, though five separate attempts were made.

IV.—TABLES BY THE MATRON, HOUSE-STEWARD, AND OTHER OFFICERS.

Income and Expenditure in connection with Tailor's Shop from 1st August 1871 to 31st July 1872.

	£	s.	d.
By New Articles made,	17	5	8
,, Repairs done,	20	15	9
	£38	1	5
To Tailor's Wages,	32	11	8
Leaving a Balance of	£5	9	9

ROBERT BRAND, *House-Steward.*

Expenditure in connection with Shoemaker's Shop, from 1st August 1871 to 31st July 1872.

Description of Articles.	Sum Expended.		
	£	s.	d.
To Leather, &c., on hand 1st August 1871,	23	11	0
,, Leather received since above date,	42	12	7
,, Miscellaneous Articles,	6	12	0
,, Shoemaker's Wages, ,,	32	0	0
	£104	15	7

ABSTRACT.

Income,	£142	8	11
Expenditure,	104	15	7
Balance,	£37	13	4

Return of Work done in Shoemaker's Shop, from 1st August 1871 to 31st July 1872.

Description.	Number of Pairs.	Rate.	Amount.		
			£	s.	d.
By Men's Boots made,	14 pairs @	17s	11	18	0
,, ,, Shoes,	17 ,,	13s	11	1	0
,, ,, Slippers (shoe bottoms),	25 ,,	8s and 8s 6d	10	1	6
,, Women's Shoes,	11 ,,	8s 6d and 9s	4	17	0
,, ,, Slippers, (shoe bottoms)	48 ,,	7s 6d	18	0	0
,, Men's Boots, Repaired,	124 ,,		12	1	10
,, ,, Shoes, ,,	102 ,,		10	14	9
,, ,, Slippers, ,,	130 ,,		14	8	7
,, Women's Shoes, ,,	35 ,,		2	18	6
,, ,, Slippers, ,,	72 ,,		6	1	8
,, ,, Boots made (3 pairs canvas)	6 ,,		2	15	6
,, Extra Work, and Jobbing,			16	10	7
,, Leather, &c., on hand,			21	0	0
			£142	8	11

ROBERT BRAND, *House-Steward*

Expenditure in connection with Joiner's Shop, from 1st August 1871 to 31st July 1872.

	£	S.	D.
To Wood, Glass, &c., on hand on 1st August 1871,	42	16	0
,, Wood received since above date,	37	0	3
,, Tools and Furnishings,	14	12	4
,, Glass, Paint, Oils, &c.,	16	19	9
,, Joiner's Wages, (including £2 2s for Assistant),	41	12	0
	£153	0	4

ABSTRACT.

Income,	£211	9	10
Expenditure,	153	0	4
Balance,	£58	9	6

Return of Work done by Joiners, from 1st August 1871 to 31st July 1872.

	£	S.	D.
By New Articles made,	85	7	6
,, Jobbing Work done,	62	1	3
,, Glazing,	13	14	7
,, Painting and Varnishing,	7	11	6
,, Wood, Glass, &c., on hand,	42	15	0
	£211	9	10

Value of Jobbing Work done by Engineer, from 1st August 1871 to 31st July 1872, . . . £30 4 0

ROBERT BRAND, *House-Steward.*

Expenditure in connection with Farm and Garden, from 12th July 1871 to 31st July 1872.

	£	S.	D.
To Seeds, Plants, &c.,	56	8	5
,, Tools, &c.,	11	7	8
,, Farm Fittings and Repairs by Joiner,	10	2	1
,, Smith Work by Blacksmith,	5	2	9
,, Miscellaneous Items, including monies expended by Gardener,	5	0	11
,, George Kay, for Wheat Straw,	24	18	6¾
,, James Bayne, for Do..	2	13	4
,, John Morton, for Do.,	12	4	0
,, Wm. Law, for Hay,	3	18	5
,, —— Forsyth, for Potatoes,	12	10	0
,, —— Smith, for Do.,	7	12	6
,, Prentice Brothers, for Manure,	12	5	0
,, James Durie, for Smith Work,	3	6	8
,, John Cairns, for Lime,	4	8	0
,, John Lyall & Co., Hires of Thrashing Machine,	1	12	0
,, M'Laren Kitching for attendance on Horse,	1	4	4
,, Gardeners' Wages,	63	6	6
	£238	1	1¾

Income from Farm and Garden, from 12th July 1871 to 31st July 1872.

	£	S.	D.
By Potatoes supplied to House,	192	3	4
,, Vegetables ,, ,,	147	8	2
,, Eggs ,, ,,	1	6	11½
,, Fowls, ,, ,,	3	5	0
,, Pork ,, ,,	77	18	3½
,, Cash for Pork sold, ,,	2	1	9
,, Do. for Pigs ,, ,,	79	1	0
,, Do. for Barley, ,,	11	1	0
,, Do. for Oats, ,,	13	10	0
,, Do. for Wheat, ,,	25	0	9
,, Do. for Turnips, ,,	1	0	0
,, Carting Coals from Station—475 loads @ 1s,	23	15	0
,, Carting Goods from Station and Cupar,	2	2	0
,, Carting Wood from Glenfarg and Rankeillour,	3	0	0
,, Hires of Horse with Hearse.	1	0	0
,, Garden Baskets, made by Patients—30 @ 1s,	1	10	0
	£585	3	3

ABSTRACT.

Income,	£585	3	3
Expenditure,	238	1	1¾
Balance,	£347	2	1¼

ALLAN BELL, *Farm Bailiff.*

Articles made from 1st August 1871 to July 31st 1872.

No.	Description of Articles.	Price.	Amount.
36	Aprons (Black),	at 2d each,	£0 6 0
328	Aprons (Checked),	,, 2d ,,	2 14 8
6	Binders—Hemmed and Marked,	,, 2d ,,	0 1 0
12	Blankets (Pairs) Do. Do.,	,, 2d ,,	0 2 0
129	Bedgowns,	,, 6d ,,	3 4 6
6	Bedcovers,	,, 2d ,,	0 1 0
80	Bonnets Trimmed,	,, 2d ,,	0 13 4
18	Sun Bonnets,	,, 6d ,,	0 9 0
96	Caps,	,, 4d ,,	1 12 0
25	Carpets (Pieced) Binding,	,, 2d ,,	0 4 2
6	Cushions and Covers,	,, 6d ,,	0 3 0
98	Dresses,	at 1s 6d ,,	7 7 0
147	Shirts,	,, 1s 0d ,,	7 7 0
6	Night Do.,	,, 1s 0d ,,	0 6 0
70	Stockings (Pairs),	at 6d ,,	1 15 0
90	Footed Do. Do.,	,, 3d ,,	1 2 6
104	Socks Do.,	,, 4d ,,	1 14 8
100	Do. Footed,	,, 3d ,,	1 5 0
4	Flower Mats,	,, 6d ,,	0 2 0
52	Chemises (Cotton),	,, 6d ,,	1 6 0
108	Do. (Flannel),	,, 4d ,,	1 16 0
254	Petticoats (Plaiding,	,, 6d ,,	6 7 0
50	Do. Upper,	,, 6d ,,	1 5 0
36	Table-Cloths,	,, 3d ,,	0 9 0
12	Window Curtains,	,, 3d ,,	0 3 0
6	Jackets,	,, 6d ,,	0 3 0
24	Wristlets,	,, 2d ,,	0 12 0
36	Scarfs,	,, 6d ,,	0 18 0
12	Woollen Neckerchiefs,	,, 3d ,,	0 3 0
78	Towels,	,, 1d ,,	0 6 6
6	Night-Shirts,	,, 8d ,,	0 4 0
			£44 2 4

MARGARET DUNCAN, *Matron.*

Articles repaired from 1st August 1871 to 31st July 1872.

No.	Description of Articles.	Price.	Amount.
297	Aprons,	at 1d each,	£1 4 9
560	Bolster Cases,	,, 1d ,,	2 6 8
620	Pillow Cases,	,, 1d ,,	2 11 8
12	Binders,	,, 1d ,,	0 1 0
18	Blankets,	,, 1d ,,	0 1 6
38	Bedcovers,	,, 1d ,,	0 3 2
502	Chemises,	,, 1d ,,	2 1 10
140	Flannel Do.,	,, 1d ,,	0 11 8
90	Caps,	,, 1d ,,	0 7 6
60	Bonnets,	,, 1d ,,	0 5 0
40	Hats,	,, 1d ,,	0 3 4
324	Dresses,	,, 1½d ,,	2 0 6
318	Night-Gowns,	,, 1d ,,	1 6 6
409	Shirts,	,, 1d ,,	1 14 1
106	Straw-Bags,	,, 1d ,,	0 8 10
12	Paillasse and Mattress Covers,	,, 1d ,,	0 1 0
24	Blinds,	,, 1d ,,	0 2 0
100	Sundries,	,, ½d ,,	0 4 2
4	Carpets,	,, 6d ,,	0 2 0
24	Tray Napkins (Darning),	,, 1d ,,	0 2 0
20	Table Do., (Do.,)	,, 1d ,,	0 1 8
14	Table-Cloths	,, 1d ,,	0 1 2
100	Stays,	,, 2d ,,	0 16 8
890	Stockings,	,, 1d ,,	3 14 2
3715	Socks,	,, 1d ,,	15 9 6
20	Towels (Darning),	,, 1d ,,	0 1 8
1583	Shirts (Striped),	,, 1d ,,	6 11 11
42	Dress (Do.,)	,, 1d ,,	0 3 6
247	Flannel (Do.,)	,, 1d ,,	1 0 7
769	Trousers (Pairs),	,, 1½d ,,	4 15 3½
490	Drawers (Do.,)	,, 1½d ,,	3 1 3
248	Coats and Jackets,	,, 1½d ,,	1 11 0
185	Vests,	,, 1d ,,	0 15 5
446	Petticoats,	,, 1d ,,	1 17 2
			£56 0 1½

MARGARET DUNCAN, *Matron.*

Abstract showing Amounts paid for Provisions, &c., supplied to the Asylum for the year ending 30th September 1872.

Beef,	£437	6	5
Mutton,	32	13	11
Lamb,	4	8	10
Preserved Mutton and Beef,	110	0	0
Pork,	97	6	6½
Bread,	519	5	1¼
Biscuits,	1	14	0
Oatmeal,	246	18	10
Flour,	2	18	3¼
Barley,	22	13	10¼
Rice,	26	16	6½
Peas,	16	4	3¾
Salt Butter,	168	7	1½
Milk,	360	3	6
Cheese—Gouda,	40	6	2
,, —Kanter,	62	6	6¾
Eggs,	10	17	9¾
Tea,	121	15	11½
Sugar,	91	5	4¾
Salt,	3	14	4
Mustard,	5	12	4
Pepper,	1	5	10
Soap—Brown,	82	3	8¼
,, —Soft,	0	4	11¾
Soda,	6	13	9½
Starch,	2	18	10
Currants,	1	7	8
Small Beer,	53	13	1½
Table Beer,	45	8	7¾
Pale Ale,	39	12	2¼
Arrowroot,	0	5	3
Sago,	0	16	2¾
Salt Fish,	27	10	11¾
Fresh Fish,	28	14	10
Tobacco,	42	12	9½
Snuff,	12	3	5½
Porter,	5	4	4¼
Treacle,	9	5	0½
Marmalade,	14	18	0
Whisky,	20	17	0
Wine,	13	7	0
	£2791	19	6

From Returns by

ROBERT BRAND, *House-Steward*, and

ALEXANDER STEPHEN, *Head Attendant.*

POST-MORTEM EXAMINATIONS PERFORMED AT THE FIFE AND KINROSS DISTRICT ASYLUM DURING THE YEAR ENDING JULY 1872, *BY J. BATTY TUKE, M D., F.R.C.P., AND JOHN FRASER, M.B., C.M.*

CASE I.—ALEXANDER A., Æt. 26. Ob. Oct. 16th 1871. Insanity of Tuberculosis. Acute Miliary Tuberculosis.

Summary of History.—On admission July 1869, patient had the appearance of a tubercular subject. No cough, but father said he had spat blood once or twice. He was very taciturn, suspicious, discontented, mildly melancholic, and had various delusions, such as his food being poisoned, his father and mother not being his parents, &c. He continued on in much the same way until March 9th 1871, when he had a severe attack of hœmoptysis. Examination of lungs at this time revealed no signs of tubercular deposit, but in Sept. 1871, though there was no dulness, the breathing was harsh and amphoric at both apices. On Oct. 2d he was seized with high fever of an asthenic type, characterised by a temperature of 101° morning and 103° evening, by a pulse of 102 to 120 small and soft, great thirst, a brown coated tongue, complete anorexia, a dry skin, and by great prostration. The great peculiarities were fits of great dyspnœa and an absence of perspiration. Physical examination of lungs revealed no dulness, only a catarrh of the bronchi in addition to the cavities formerly existing ; auscultation gave subcrepitant râles and gurgling over both apices. The symptoms continued for 13 days when he died. The diagnosis lay between typhoid fever and acute miliary tuberculosis, the latter was adhered to after the 7th or 8th day.

POST MORTEM REPORT.

Externally.—Body much emaciated, skin of a deep sallow tint, but conjunctivæ comparatively white ; circular ulcer on right upper arm, two inches in diameter, deep, and covered with dried black blood. Two deep ulcers, one-half an inch, the other one-fourth of an inch, large, on buttocks.

Head. –Calvarium normal, membranes healthy, excepting that portion which stretches from the pons to the tuber cinereum, which felt gritty or sandy to the touch, but no miliary tubercles could be found on examination under microscope. The vessels in this portion of membrane were quite healthy.

Brain.—Appeared healthy everywhere, and was of good consistence. Fresh specimen of the gray matter of the orbital convolutions shewed under microscope, a lesion on or in the coats of the vessels, consisting of very small, bright, refracting points, very like the spores of a fungus in the sheath of a hair, only very much smaller. These points were bright at one focus and dark and opaque at another ; more numerous and better seen in the angle of a bifurcation ; and better marked in the extremely small vessels than in the larger ones. Many of the nerve cells were filled with the same refracting points ; the cells were large and numerous. In the grey matter of this region, were numerous rounded bodies, having two concentric rings. Four specimens of white matter superjacent to the grey were examined, and although several vessels were seen, only two presented this appearance, and that to a very much less degree. Neither spirit nor liq. potassæ seemed to have any action on these bodies, although the vessels were rendered very transparent by the latter agent. On examination of

the corpus striatum, which had been in spirit for 72 hours, large plates of cholesterine were found, and a few minute stellate crystals of phosphate of lime. The above mentioned lesion was not observed in the few vessels seen in this part, but some of the vessels were of a saffron-pink colour and very molecular.

Thorax.—Heart, small and healthy.

Lungs.—Right, was attached posteriorly by old adhesions ; with this exception, surface of pleura healthy. Upper lobe had two cavities about the size of walnuts and several smaller ones, the larger cavities were empty, and their walls were composed of a membrane about one-twelfth of an inch thick, the microscopic structure of which seemed to be molecular ; two or three of the smaller cavities contained a yellow creamy fluid, evidently softened caseous material, and this under microscope, was seen to be composed of three kinds of corpuscles—(1) small irregular molecular bodies ; (2) larger corpuscles having a definite cell wall with a granular nucleus, and a clear space between the wall and nucleus ; and (3), large compound granular cells. In the walls of the vomicæ, which contained the yellow fluid, were portions of unsoftened caseous material, but the most of these smaller cavities were empty and similarly lined to the larger ones. The lung tissue separating these cavities was apparently healthy, no caseous consolidation.

The Middle and Lower Lobes were studded with whitish points about the size of mustard seeds. The middle lobe was sparsely studded and the lung tissue healthy, but the lower lobe was thickly crowded, and the tissue semi-carnified, red, and somewhat brittle ; portions of it floated in water. One of these spots, under microscope, showed corpuscles very granular, and varying in size and shape. Their anatomical origin, whether from the mucous membrane of the smaller bronchi, or from fibrous tissue of alveoli, or from sheaths of vessels, could not be determined, though many preparations were made. None of these white spots could be found in any part of the mucous membrane of the bronchi, though traced as far as possible.

Left Lung.—Upper portion of upper lobe was riddled with small cavities, which were empty and lined by a membrane, with one exception. The lower portion of this lobe contained miliary tubercles, but not to any great extent. The lower lobe was semi-carnified and thickly studded with these granules.

Abdomen.—Peritoneum healthy.

Alimentary Canal.—At the splenic flexure of colon, the gut became suddenly contracted, the contracted portion was about one-third of the size of that above the stricture. This narrowing extended to the anus. The peritoneal coat at the commencement of this contraction was healthy, nothing like a cicatrix to be seen. Mucous membrane also healthy, and contained nothing to account for the narrowing. In the meshes of the omentum, in the neighbourhood of this coutraction, was found a piece of coke, with sharpish edges and angles.

Liver, large, pale in colour, and soft in structure ; a scraping of its substance under the microscope showed abundance of oil globules and molecular matter. The addition of liq. potassæ dissolved the latter, but had no effect on the former.

Spleen was enlarged, very red and pulpy, weighed 12¾ ozs.

Kidneys, healthy.

Conclusions, October 30th 1871.—Brain—Nature of the lesion in small vessels of grey matter is probably fatty degeneration of sheaths around the vessels, same may be said of the degeneration in nerve cells. Bodies with concentric rings are probably amyloid. Lungs—The apices have been the seat of chronic catarrhal pneumonia, the exudation of which has undergone cheesy metamorphosis, softening, and the concomitant destruction of lung-tissue, the result of which has been these cavities. The lining membrane of the cavities shows that they must have been of old standing, very few being of recent occurrence, as only two or three of them contained softened caseous material, and but two spots of unsoftened cheesy material were to be found. The bases were the seat of miliary tuberculosis, the tubercles being in the second or opaque, or white stage. Cause, or nature of the semi-carnification not determined upon, probably congestion or lobular inflammation. Cause of contraction of colon not determined. Liver, fatty.

CASE II.—ELIZABETH A. Obt. Nov. 17th 1871, 43 Years. Insanity of Lactation. Pelvic Cellulitis, Pelvic Abcess, Peritonitis.

Summary of History.—This patient had been an inmate twice, and on these occasions presented all the physical and mental conditions characteristic of Insanity of Lactation. She was confined eight weeks previous to admission, and has been suckling her child ever since. The husband said she caught cold after washing about a month after confinement, attended by rigors, and a return to her former mental alienation. On admission she was in moderate bodily condition, but a hœmic bruit was to be heard over pulmonary artery. Mentally, she was slightly depressed, inattentive to anything going on around, would not answer when spoken to ; mental activity seemed at a stand-still. Three days after admission she required an aperient, which was given her, but complaining by gesture of pain, a warm water enema was administered. While this was being given, she fainted and broke out into a cold perspiration. There was at the same time a slight hemorrhage from vagina. Examination was attempted, but not persevered in, owing to agony of patient. Immediately afterwards she complained of great pain in abdomen. Her case ran during the next four days the usual course of acute purulent peritonitis. The diagnosis as to its course was the probable bursting of an abcess into the cavity of peritoneum.

POST MORTEM REPORT.

Body.—Fairly nourished, left mamma larger than right, skin of abdomen was marked with the usual white lines ; the result of pregnacy. Abdomen swollen, but not tense.

Head.—Calvarium, a little thick ; membranes, pale ; subarachnoid effusion to a moderate extent ; five to six ozs. of serum collected.

Brain.—Apparently healthy, of good consistence, and of rather a pale colour. Vessels at base, and the smaller ramifications into the interior of the brain, were wholly atheromatous. Capillaries of pia-mater were, under microscope, discovered to be very fatty. Fresh specimen of grey matter under microscope shewed its vessels in the same condition as described in previous case, only the refracting point were more yellow. Oil globules were diffused throughout the gray matter. Considerable amount of amyloid bodies were also seen. The nerve cells were highly granular, but uncoloured.

Thorax.—Pleurœ, healthy. Lungs at apices had a good many small puckers, from what appeared to be old cicatrices. No cheesy matter was to be found, but in left lung there was a cretaceous mass about the size of a pea. The bases were of a dark purple colour, and semi-carnified.

Heart.—Slightly enlarged. All the valves healthy. Left ventricle (walls of) hypertrophied—the hypertrophy was concentric. The cavity of ventricle being small.

Abdomen, on being opened, discharged a quantity of fœtid gas, small intestines were much distended, and their peritoneal coat congested. They were adherent to each other by yellow lymph. Just above pubis was a considerable quantity of thick, drab coloured, fœtid fluid, filling what seemed to be a circumscribed space between the bladder and the agglutinated bowels. The lymph was greater in quantity, and the congestion of the peritoneum deeper around the fluid. The small intestine being removed, the large gut was found fastened down to the posterior wall of the abdomen by lymph. This portion of the intestinal canal was not distended ; appendices epiploicæ were emphysematous. The *Rectum* was considerably thickened, twice the normal size, but not increased in calibre. On its anterior and upper aspect was an empty abscess cavity, the anterior wall of which was composed of the peritoneal and muscular coats of the rectum, the former was thin and of cream-yellow colour, the latter in almost a diffluent state. On cutting up the rectum in its long axis, the cellular coat was found greatly hypertrophied and cystic, the cysts contained fluid similar to that before described. This state of matters existed all round the bowel and almost throughout its whole length. The mucous membrane was pale, and coated with thick mucus ; no opening could be found. No distension of this part. The *Uterus* was enlarged. Peritoneal cover-

ing congested. It contained about two drachms of grumous blood, otherwise the interior was healthy. *Kidneys;* a small abscess, the size of a nut in the left.

WEIGHTS OF ORGANS.

Brain, . .	42½	Right Kidney, . .	6½ oz.
Liver, . .	4 lb. 10 oz.	Left Kidney, . .	7 oz.
Spleen, . .	6 oz.		

CASE III.—ANN M. Æt. 81. Obt. 1st Dec. 1871. Senile Insanity.

Summary of History.—This case was a transfer, and nothing was known of her history except that she had been insane for 17 years previous to admission. On admission, she was an old woman, enfeebled by age, but having no physical derangement, except atheromatous arteries. Mentally, she was demented (silly), incessantly talking about phrenology, "grand heads," &c., very incoherent, and at times very irascible. She continued the same for years, and died gradually without any evident physical disease. Having no friends, nothing could be elicited as to the cause and origin of the false membrane on cerebrum found after death.

POST MORTEM REPORT.

Body.—Senile in emaciation and appearance. Thighs, rigidly flexed on trunk, and legs on thighs.

Head.—Calvarium thick, diploe thick and open in texture (saw almost sinking through it), outer and inner tables very thin. Dura mater thick, inner surface presented congested patches. Between layers of arachnoid was a thick gelatinised membrane, firm to the touch, tough in structure, and adherent both above and below, but easily stripped off. Its thickness varied from one-eighth of an inch to fully one-half inch, the thickest part covering the anterior surface of right frontal lobe, and it was almost equally thick at outer surface of left sphenoidal lobe; in cutting through it at these points, it was alveolar in structure; it covered the whole of the upper surface of the right hemisphere, being very thin posteriorly. On the left side it was thickest at the lateral region, very thin at vertex, but moderately thick at middle fossa of base. Subarachnoid effusion great, about one-half pint. Convolutions generally small and flattened, especially on right side, but markedly so at right frontal lobe. No milkiness of arachnoid. 1st and 2d pairs of nerves atrophied. On microscopic examinations of fresh specimens of grey matter of convolutions, amyloid bodies (some with concentric rings) were discovered in abundance, also clear masses, somewhat crystalline in appearance, not unlike ill formed crystals of triple phosphate were seen; (nature of these undetermined). One or two of these were coloured yellow unequally. Few nerve cells could be found, and they were small. One or two of the vessels of the grey matter had the lesion previously described in the two former cases, but only to a very slight degree. Some of the vessels were opaque and abnormally straight. Grey matter from cerebellum also presented numerous amyloid bodies; no cells could be seen, but their place seemed to be supplied by triangular masses of granular matter. The nuclear layer appeared to be normal, but the nerve fibres were abnormally large. The vessels of pia-mater had a thick muscular coat, with very little of the granular matter outside.

Thorax.—Heart, aorta atheromatous and dilated. Valves thickened, left ventricle concentrically hypertrophied.

Lungs.—Old adhesions over both lungs. Right had at apex a small cretaceous deposit, surrounding tissue indurated, bronchi filled with thick purulent matter. Left completely adherent at base, bronchi in same condition, ossified masses of a round elongated shape found in left lung, origin undetermined. Both lungs generally œdematous.

Abdomen.—Alimentary canal healthy as far as the splenic flexure of colon, where the gut became contracted to less than half the diameter of that above the obstructed portion. Cause of contraction undetermined. Sigmoid flexure also contracted, and was very peculiar in appearance, inasmuch as from it sprang numerous little swellings resembling bulbs. There was no regularity in their distribution

only they were confined to between the longitudinal muscular bands. On examination they were found to be little *cul-de-sacs* filled with fœcal matter. The coats of these sacs consisted of the mucous membrane and the peritoneal coat only. This part of gut was filled with dense fœcal matter. *Liver*—a deep sulcus divided the right lobe into exact halves. Substance dark and friable. Gall-bladder distended with bile, and contained 50 gall stones. *Spleen*, soft and pultaceous. *Kidneys*, healthy, contained two or three cysts. *Uterus*, normal.

WEIGHTS OF ORGANS.

Brain,	36¾ oz.	Liver,	52¼ oz.
Heart,	10 oz.	Right Kidney,	2½ oz.
Right Lung,	13¼ oz.	Left Kidney,	2¾ oz.
Left Lung,	10 oz.	Spleen,	3 oz.

CASE IV.—ROBERT C. Æt. 56. Obt. Dec. 6th, 1871. Climacteric Melancholia. Phthisis Pulmonalis.

Summary of History.—This was a transferred case, so history is incomplete. It appeared to be a case of climacteric melancholia with all the usual delusions. The first symptoms of insanity appeared at the age of 50, and are said to have been preceded by a paralytic attack. His delusions were of a melancholy, suspicious, undefined, and religious nature. On account of these he frequently refused food, and his bodily condition consequently suffered. He soon became phthisical, having the physical signs well marked, but the reflex phenomena, as cough, and expectoration absent. He sank rapidly under an attack of intercurrent pneumonia.

POST MORTEM REPORT.

Head.—Calvarium, normal; moderate subarachnoid effusion. In many parts the arachnoid was of a glistening whiteness.

Brain.—Apparently normal. Examination of a fresh specimen of grey matter showed few distinct nerve cells under × 400, but there were masses of what appeared to be yellow granular matter seemingly replacing the nerve cells. These masses were about the size of the cells, were triangular in form, and the nerve tubes could be traced ending in them. Similar granular matter was observable in the interior of the few cells seen, but not entirely filling them. This granular degeneration appeared to originate in the nucleus. Among the molecular material of the grey matter numerous bodies were observed of about the size of a blood corpuscle, of various shapes, round, oval, and reniform, having no contents, being perfectly clear and somewhat refracting (amyloid bodies?). They had no concentric rings. The nerve tubes were in some parts moniliform. The small vessels have the same granular material as described above, attached externally, most abundant in the angles of a bifurcation.

Thorax.—*Heart*, normal, except slight atheroma of aorta and fibrous thickening of cuspid valves. Both sides filled with black coagulated blood.

Lungs.—Old adhesions of lungs to parietes generally, very dense posteriorly. Right lung was the seat of chronic catarrhal pneumonia, which had undergone cheesy metamorphosis and subsequent softening and excavation. The upper and middle lobes were filled with cavities varying in size from that of a pea to that of a large walnut, and having puriform contents. The walls of these cavities were jagged, and had adherent to them unsoftened cheesy material. Around these cavities was the usual cheesy material filling up the air cells, but beyond this again the lung was in a state of grey hepatization. The extent of this hepatization was about 1 inch to 1½ inches around the seat of the cheesy change, thus involving what remained of the upper and middle lobes. On section the hepatized part was dense greyish, and somewhat translucent. It sank in water. The lowest lobe was slightly congested and oedematous. No miliary tubercles. Left Lung was densely adherent posteriorly, and in detaching it, a rupture was caused, from which came about 6 ozs. of purulent fluid. On section a large anfractuous cavity was seen, from which the above fluid had escaped. Its inner surface was very uneven, the walls were coated with unsoftened yellow cheesy material. Besides this one there were also many smaller cavities, but all confined

to upper lobe. Many specks of cheesy material about the size of a pea were found besides that immediately between the cavities, and surrounding the latter was red hepatized lung. Portions cut from this place sank in water. The exact anatomical locality of these white spots, whether in the interior of a bronchus or having the bronchus in its centre, could not be made out. Lower lobe was congested and œdematous. It contained air, serum, and blood.

Abdomen.—The small intestine to the extent of three or four feet (at about the ileum) was of light chocolate colour ; on opening this part nothing abnormal was found except the stain. The descending colon was about 1½ the diameter of the transverse. The contraction commenced at the splenic flexure, and on opening the bowel at this part no cause could be found for the constriction. *Liver*, normal ; no amyloid stain with iodine ; *Spleen*, small, capsule, wrinkled ; *Kidneys*, small, healthy ; *Pancreas*, large.

WEIGHTS OF ORGANS.

Brain, . .	45¾ oz.	Liver, . .	40½ oz.
Heart, . .	10½ oz.	Right Kidney, .	6 oz.
Right Lung, .	35¾ oz.	Left Kidney, .	6½ oz.
Left Lung, . .	34½ oz.	Spleen, . .	13 oz.

CASE V.—MARY R. Æt. 57. Obt. 26, Dec. 1871. Insanity with Paralysis. Caries of Vertebræ ; Atrophy of Cord.

Summary of History.—For details of this case regarding the Aphasia, see "Journal of Mental Science" for April 1872. For about two months previous to death, symptoms showed themselves which left open the alternative diagnoses of caries of the upper dorsal vertebræ and erosion of the same by aneurism of the arch—a constant cough, a dilatation of the right pupil, occasional flushing of the face, pain on pressure over upper dorsal spines, an area of dulness at upper sternal region along with a systolic aortic murmur supported the latter diagnosis. The contra indications were the absence of any pulsation at site of dulness and of peripheral phenomena, the two radials and carotids being of equal strength and volume. The tone of the second sound was natural. Paraplegia came on gradually, and became complete before death.

POST MORTEM REPORT.

Body, much emaciated ; ecchymotic spots on legs ; bed sores over crests of ilia.

Head.—Calvarium, very dense and thick. Brain appeared to be slightly shrunken, but the amount of serum which escaped (1½ ounces) was not sufficient to indicate any great general atrophy.

On stripping off the dura matter on the left side, some slight adhesions were found between the layers of the arachnoid. These were easily detatched, and exposed an excavation of the brain substance at the postero-infero-external part of the left frontal lobe. Its outline was irregular, its cavity filled with serum, and narrow white bands sprang from its sides. The serum was opalescent, but otherwise normal, and it was held in by the visceral arachnoid. On emptying the cavity, its dimensions were found to be as follows :—In its long axis, from before backwards, parallel to the fissure of Sylvius, two and a quarter inches obliquely, vertically one and three-sixteenths of an inch, in its deepest part it was three-quarters of an inch, but generally only half an inch. This lesion had destroyed posteriorly the inferior fourth of the ascending parietal convolution, leaving a small posterior portion of the knuckle in which this gyrus ends, the inferior third of the ascending frontal, the inferior margin of the second frontal, and the *posterior half of the third frontal convolution* (Turner's inferior frontal), (Broca's). At the inferior margin there was a narrow ridge of slight eminence, which might have been the remains of the inferior border of the third. With these exceptions, the destruction of the posterior half of this convolution was complete, both as regards its grey and white matter. Its inferior boundary was the superior marginal convolution. The bottom seemed to be an anatomical limitation, as it was smooth, rounded, and presented no evidence of morbid action.

Incision proved it to be the extra-ventricular nucleus of the corpus striatum. The edges of this lesion implicating the convolutions were ragged, which was suggestive of erosion, but there was no indication, by induration, softening, or thickening of the membranes, of inflammatory action.

Microscopical examination of the grey matter taken from the orbital lobule, and from the various superior gyri, showed few nerve cells, and these few had undergone almost complete fatty or fuscous degeneration. The nerve fibres were found moniliform, and were so distinctly defined as to suggest that they were thickened. The vessels had, attached to their external coat, a finely granular material of a yellow colour and slightly refracting. This was in greater quantities at their bifurcations. On one large vessel was found great proliferation of nuclei.

Amyloid bodies were seen in large quantities in the deeper layers of the convolutions, but not very markedly present in the outer. In the former situation they were seen with a double contour, and in some cases with a granular centre. In size they varied from that of one to two blood corpuscles.

Spinal Column was the seat of tubercular caries, which had destroyed the whole of the body of the fourth dorsal vertebra, and affected the third and fifth. The form of the body of the fifth was much changed, it was shortened on the left side and curved on itself anteriorly; the curves of the whole spine were much changed the cervical portion curved too much to the right and posteriorly; the same condition existed as regards the dorsal portion below the disease, the lower dorsal and lumbar regions projected forwards very much. There was an abcess about the size of a walnut on the right side under the pleura, adjoining the bodies of third and fourth dorsal vertebræ. It contained seemingly healthy pus.

Spinal Cord was almost diffluent opposite the diseased bones. The atrophied and softened portion was to the extent of half an inch. Above and below the membranes were congested and thickened. The spinal nerves below the lesion were atrophied and of a dark red colour.

Thorax.—Heart, aortic valves very thin. Aorta considerably dilated.

Lungs had adhesions between pleuræ; the smaller bronchi were filled with thick purulent matter, œdematous at bases.

Abdomen.—Stomach, large; mucous membrane pale, with patches of venous congestion; *Intestines*, healthy; *Liver*, dark, more friable than normal; *Spleen* and *Kidneys*, healthy.

Thyroid Gland was much enlarged, equally so on both sides. On right side at inferior part it was hard, almost cartilaginous.

WEIGHTS OF ORGANS.

Thyroid Gland,	3½ oz.	Liver,	37¾ oz.
Heart,	9 oz.	Spleen,	5½ oz.
Right Lung,	24 oz.	Right Kidney,	3½ oz.
Left Luug,	16 oz.	Left Kidney,	4 oz.

CASE VI.—ROBERT S. Æt. 61. Obt. January 14th, 1872.
Climacteric Insanity. Acute Pneumonia. Pulmonary Abcess. Thrombosis.

Summary of History.—This was a well marked case of climacteric melancholia. Seven weeks before death patient became the subject of pneumonia in the lowest lobe of right lung, and to a small extent in left lung. Instead of running the usual course to resolution, the dullness remained as complete at the end of three weeks as at first, but the auscultatory phenomena had disappeared, as also had the normal respiratory sounds. It was impossible to differentiate between hydrothorax and abscess of lung, owing to immobility of patient, and the constitutional symptoms were almost entirely absent. Five days before death the left leg became œdematous, the œdema extended exactly to crest of ilium: No cause for this could on physical examination be discovered. Died suddenly with syncopal symptoms.

POST MORTEM REPORT.

Body, much emaciated; face, of yellowish hue; left leg, twice the size of right; œdematous; course of superficial veins of left thigh marked by dusky red lines under skin.

Head.—Calvarium, normal, excepting a depression on inner surface of vertex, which caused bone to be very translucent.

Membranes, healthy, a few adhesions posteriorly.

Brain.—Substance generally softer than normal, otherwise apparently healthy. Vessels at base, healthy. Microscopic examination revealed slight fatty degeneration of some of the nerve cells, bright refracting particles being seen in the space between wall and nucleus, also around nucleus. No distinct amyloid bodies could be found, though five preparations were made. Vessels had the usual appearance in previous cases described very marked in the larger vessels.

Thorax. Lungs.—Left lung was adherent over whole surface anteriorly—adhesions old. In upper lobe, almost at apex, was an indurated mass, irregular in shape, and about the size of a good big hazel nut. The induration was evidently due to cirrhosis of the lung, as it cut clean, was dense in structure, and under microscope shewed a fibrous structure. In the centre of the cirrhozed portion were specks of yellow cheesy material in different degrees of softening, some being almost tough, others diffluent. The diffluent material under microscope shewed the usual irregular shaped corpuscles with granular contents, granular matter in abundance, molecules displaying very prettily, the brunonian movements and curling yellow fibrous tissue. Another cirrhozed lump of similar size was found lower down. Portions of this lump were very emphysematous. The whole of the lower lobe was in a state of red hepatization, but the redness had somewhat of a brown tinge. It sank in water. A scraping under microscope exhibited the usual granular exudation—corpuscles varying in size, from twice to four times that of a blood corpuscle, and containing bright refracting particles of fat (commencement of fatty degeneration).

Right Lung was adherent everywhere, adhesions old and tough. Upper lobe, emphysematous, and containing two or three cirrhozed lumps as in left lung, only smaller. Middle lobe apparently healthy, inseparately adherent to the other two. Lower lobe was the seat of a large abscess containing about 15 ozs. of greenish laudable pus. The external wall of this abscess was formed by the densely adherent visceral and costal pleuræ—the proof of this being that a section of this wall shewed three layers, the two outer being the thickened state—coloured pleurae; the middle being a white dense substance, organized lymph. The extent of this wall and also of the abscess is to be gathered from the extent of this adhesion. It was as follows:—From a little external to the nipple round to vertebral column; inferiorly where the costal pleura ends in that of the diaphragm, and superiorly the line of adhesion was almost at right angles to the vertical axis of body, commencing anteriorly at level of fifth rib, and terminating posteriorly at about the head of seventh rib. The inner wall was composed of white dense fibrous tissue, smooth, with shallow depresions,—the same depressions existed on the external wall, but they were much deeper, even penetrating to the intercostal muscles. This lobe was almost half its normal size, its tissue was compressed and devoid of air. A small abcess, size of a walnut, existed in its substance.

Heart.—Right side greatly distended with black fluid blood, the auricle especially so,—(this almost suggests that the immediate cause of death was paralysis of the heart from over-distension). Walls very flabby and thin. Valves on right side healthy, but mitral valve only admitted two fingers, the cusps being thickened, of cartilaginous hardness, with their cordæ matted. Cavity of left ventricle, large; small calcareous deposit on anterior aortic valve.

Abdomen.—Intestines, normal, excepting the smallness of the calibre of the descending colon, about one-third or one-fourth of the normal size; *Liver*, paler than normal; *Spleen*, unusually healthy; *Kidneys*, healthy.

The common iliac vein of left side contained a greyish white clot distending it, and extending into the external and internal iliacs. The clot measured 2½ inches, but it had a large branch attached to it, which had extended into the internal vein. The external iliac was filled with a soft black coagulum, and only into its proximal extremity did the above grey clot extend. The walls of the vein seemed everywhere healthy, no thickening and no roughness of inner surface. The femoral vein contained a mixture of colourized and decolourized coagulum, and its walls were

decidedly thickened. The first mentioned clot had softened in its interior, and contained about half a drachm of puriloid fluid, which under microscope was found to consist of purely molecular material, with fatty granules, no cell structure to be seen. There was no disease to be found contiguous to these clots.

WEIGHTS OF ORGANS.

Brain,	51½ oz.	Liver,	46 oz.
Heart,	12 oz.	Spleen,	6½ oz.
Right Lung,	34 oz.	Right Kidney,	4½ oz.
Left Lung,	34½ oz.	Left Kidney,	5 oz.

CASE VII.—MARY M. or R. Æt. 60. Obt. 16th Jany. 1872.

Senile Insanity. Acute purulent Bronchitis, &c.

Summary of History.—This was a case of senile mania, characterised by great restlessness, talkativeness, and a constant tendency to wander. She was the subject of heart disease, mitral incompetence, and being attacked with acute bronchitis, she died in the course of eight or nine days.

POST MORTEM REPORT.

Body, much emaciated, lower extremities œdematous.

Head.—Calvarium, thick in diploe. Dura mater generally adherent to calvarium. Membranes, otherwise healthy. Subarachnoid effusion 1½ oz.

Brain, apparently healthy, but generally small. Right ascending frontal convolution for the lower half quite straight.

Microscopic examination of a fresh specimen taken from a convolution at vertex showed the following appearances :—1st. As regards nerve cells, very few were of the normal pyramidal shape, all being nearly perfectly round ; the cell walls were very indistinct, the nuclei and nucleoli distinct ; in the large proportion of these cells a granular refracting deposit existed always in the neighbourhood of, if not in apposition with, the nucleus. This deposit had all the appearance of fine fatty particles ; in certain of these cells the nucleus seemed as if it had been the first part implicated in the degeneration, for it was invisible, and its place the seat of these aggregated fatty particles. No poles could be discovered attached to these cells. The cells occurred in considerable numbers, and in one place they were strung together like a row of beads ; (this, however, might have been the result of accidental pressure.) The contents of the cells consisted of a clear homogeneous material, of such amount as to cause distension of cell walls, which accounted for their shape and aggregation. In some places aggregations of fine fatty particles were noticed, identical with those within the cell wall, leaving little doubt but that these collections were cells totally degenerated. The minute vessels contained a homogeneous transparent yellow material. They had the usual yellow bright particles outside, but not so numerous as generally found.

Thorax.—Pleuræ healthy. No adhesions.

Lungs.—The mucous membrane of the bronchi of both lungs was swollen three times its normal thickness, red, and on its surface was thick yellow purulent matter. This state of affairs was most marked in the smaller bronchi, where the tubes seemed completely filled with pus. The lung tissue seemed compressed, and contained little air, the lower lobes were of a deep red colour, and the quantity of blood in them abnormally large ; at the apices were two or three collections (very small) of purulent-looking material, around which the lung tissue was hard, fibrous, and deeply pigmented ; there was also a small cretaceous concretion about the size of a pea, around which the lung was indurated. Both lungs were deeply pigmented.

Heart.—The walls of the right ventricle were thin and flabby. Walls of left ventricle greatly hypertrophied, but apparently healthy in structure ; walls one inch thick, cavity small, mitral valve thickened and small. Subpericardial œdema existed to a great amount.

Abdomen—Intestine.—Towards lower part loaded with freculent matter ; about

middle of small a portion of about twelve inches was about one-third the calibre of the rest.

Liver was dark red, approaching to purple; contained a large quantity of blood; the veins seemed abnormally large; substance very friable. Gall bladder contained large quantity of small, black, irregular shaped gall stones, resembling black currants.

Kidneys healthy, but small.

Uterus small; the seat of an inflammatory induration. Canal of cervix obliterated.

WEIGHTS OF ORGANS.

Brain,	49 oz.	Liver,	31 oz.
Heart,	8 oz.	Spleen,	2¾ oz.
Right Lung,	9¾ oz.	Right Kidney,	2¾ oz.
Left Lung,	12½ oz.	Left Kidney,	2¾ oz.

CASE VIII.—JANET G. OR B. Æt 39. Obt. Feb. 20th, 1872.
Idiopathic Mania. Acute Miliary Tuberculosis.

Summary of History.—This was a case of idiopathic mania of a very violent nature, which in its later stages was influenced by the menstrual periods. After a few days' general malaise, she was seized with high fever of the same character as in Case No. I. Temperature, 103° to 104°, with a frequent evening fall; pulse, 120 to 140, small, soft, and irregular in force; great prostration, thirst, and sleepiness. Slight cough, but no expectoration. Respirations quick, and at times difficult, varied from 40 to 52 per minute. No dullness over lungs, but coarse crepitation and sibilant squeaks were to be heard all over the thorax. Cyanosis came on gradually three days before death. Urine was of high sp. gr., and chlorides were absent. The diagnosis lay between acute bronchitis and acute miliary tuberculosis, with its concomitant catarrh of bronchi. The character of the fever rather favoured the latter, which was adopted. She died in five days, in a semi-comatose state.

POST MORTEM REPORT.

Body in average condition; hypostasis well marked. Lips a beautiful transparent pink (were purple before death); gums and mucous membrane of mouth totally exsanguine; face pale; no trace of ante-mortem lividity.

Head.—Calvarium thin, but dense; diploe absent in lateral regions. *Dura mater* abnormally adherent to skull. A few adhesions posteriorly between *arachnoid* layers. Vessels of membranes extra full, and hypostasis very great.

Brain small in size, but apparently normal in consistence and appearance. On section puncta cruenta were large and numerous. The gray matter was thin, especially in the posterior lobes, where the layers were very distinct, the middle white one being seemingly abnormally thick and white. Hypostasis also well marked in vessels of choroid plexus, and lining membrane of lateral ventricles.

Microscopic Examination (about eight days after death, the brain having been kept in equal quantities of spirit and water) of the grey matter taken from orbital convolutions, showed—

1. *Nerve-Cells* in good quantity, chiefly triangular in form (tripolar) with a distinct outline or cell wall, projecting from which were three poles, traceable only for a short distance. The contents were granular, the granules being of two degrees of smallness; those of the first may be called molecular, but those of the second seemed fatty particles, fatty because they were bright, clear, and well defined, and when light was modified (darkened) they were refracting. They were situated mostly just inside the cell-wall, and were confined to two sides of the cell. In some, these particles were scattered irregularly throughout the cell, but in none did they surround the nucleus. The nucleus varied in situation; in some central, in others at periphery. It was a clear round body, very bright at one focus, but black at another. It seemed unaltered, and in one or two cells it shone out from amidst the fatty particles.

2. *Nerve fibres* seemed normal. In one or two there was a dilatation here and there *(post mortem)*.

3. *Vessels* had the usual clear yellowish granular matter on their exterior. It was irregularly distributed, but most constant and abundant at the bifurcations.

Grey matter from Vertex showed cells in large numbers, but small in size, especially in comparison to their poles, which seemed thickened. They were pyramidal in form. Their contents were homogeneous, for the inside of the cell was uniformly clear and bright, and the nucleus was absent. This state is probably the further stage of the degeneration described above—atrophy consequent upon the absorption of the so-called fatty particles.

A portion *from right vertex* showed no nerve cells, but abundant moniliform fibres, and numerous clear bodies about two or three times the size of blood corpuscles, having a double contour ; amyloid bodies (corpora amylacea.)

Grey matter of cerebellum extra pinkish, especially in its interior.

Grey matter of corpus striatum also had cells filled with bright particles. Nothing but large granules and a few fibres seen in grey matter of extra *ventricular nucleus.*

Thorax—Lungs filled the pleural cavities, being distended with air, resembling, to a slight extent, the balloon lungs of the drowned. A few old fibrous bands attached the left lung to posterior wall, otherwise both pleuræ of left side were healthy. The pleuræ of right side were everywhere closely agglutinated ; the agglutinating material was dense, and not of recent origin. The right mediastinal pleura was thickly studded with miliary tubercles. They were confined to this portion, none being contained in the adhesions.

Right Lung was of a deep red colour, darker at base than at apex. On drawing the tip of finger down it, hard nodules about the size of a millet seed were felt to be situated in large quantities just beneath the pleura. On section, the substance was found to be in a semi-carnified condition, except the lower part of the upper lobe, which was hepatized. The former floated, but the latter sank in water. Its colour was deep red, but innumerable white spots studded it, these varying in size from a pin's head to that of a pea ; they were in greater numbers and of larger size at the apex ; at the extreme apex some of these white spots had become confluent, and there were three or four cavities about the size of peas filled with a thick white fluid. The walls of these cavities were composed of a thin fibrous membrane, smooth on its inner surface, but some had a white curdy material lining the inside. The lowest lobe was of a deeper redness, and the substance not much carnified—it did not cut so cleanly. The white nodules were smaller and clearer.

The exact anatomical seat and origin of these tubercles were attempted to be ascertained ; whether they were situated in the interior of the minuter bronchi, in the walls of the bronchi or on their external tissue ; whether they were contained in the alveoli or whether they were inter-alveolar, or again, whether their origin was similar to those in tubercular meningitis, viz.—the sheaths of the arteries.

On tracing a bronchus as far as was possible by manipulation and the naked eye, no tubercles could be found on its mucous membranes. Some, however, were attached to its external coat, but the majority were at the distance of one-fourth to one-half an inch, and joined to the bronchus by a pedicle. These pedunculated tubercles were of a rounded form, suggestive of their being contained in the alveoli or situated immediately around. A section of boiled lung seen by reflected light (× 100) showed, 1st. round white masses, apparently solid, surrounded by red material, composed of dilated capillaries filled with blood ; 2nd. white masses similarly surrounded, but having a cavity in their interior, the boundaries of these cavities were irregular, in some instances in the form of cusps, which nearly bridged the cavity ; both the boundaries and the cusps were composed of a tissue, which, from its appearance and its curliness, was apparently yellow elastic tissue. A careful slicing of this preparation displayed cavities in the interior of the white masses first described. A thin section seen by transmitted light at × 300 only confirmed the above observations. In some instances part of the white matter was in the interior of the cavity, but this may have been due to pressure.

The conclusion from the above observations is that miliary tubercles have their seat immediately outside the alveoli.

Left Lung was redder than right, slightly more spongy, and contained fewer and smaller tubercles ; these as in right were thicker at the apex than elsewhere ; small cavities as in right apex.

Mucous membrane of trachea, bronchi, and broncheoli was diffusely red, but not soft nor much thickened. The tubes were filled with a frothy non-purulent secretion. No tubercles on membrane any where. On tracing a bronchus to its termination towards the periphery of the lung, and when within half an inch of the pleura, there was found a solid semi-transparent material, seemingly coagulated fibrine, filling the tube, which on being pulled, it came easily out, displaying a cast of the broncheolus and its minute ramifications. Under microscope, it was found to be composed of large round granular cells, the same undergoing fibrillation and fine transparent fibrous tissue.

Bronchial Glands presented a nut-meg appearance, the colours being black and yellowish white, the black due to pigment, the yellowish white to caseous material ;—one, situated inferiorily to right bronchus, was softened on its exterior. The tissues of the bronchus adjacent to this gland were eaten away, so that a small hole about the size of a threepenny bit had been formed. The tissues surrounding this hole were red and thinned. This gland was encysted by a thick membrane on its inferior aspect, evidently the result of irritation. Immediately inside this membrane was soft caseous material.

The Caseous Material under microscope (× 350) was found to consist principally of fine molecular matter, with a few irregular corpuscles with granular contents, and fatty particles which varied in size, some adhering together so as to present the form of a fatty cast.

Heart.—Pericardium adherent over entire surface by a fine delicate tissue of about one-eighth to one-fourth of an inch in length. The inner surface of the pericardium was normal (excepting the presence of this tissue), but the outer surface of the epicardium was covered with flattened tubercles, white on section and varying in size, the largest being that of a hemp seed. There was one mass, evidently agglomerated tubercles, about the size of a sixpence, which had begun to soften and that next to the epicardium. Valves and orifices normal and healthy.

Abdomen—Peritoneum.—The lesser omentum was the seat of tubercles similar to those found on epicardium, only smaller. They were confined to it. The whole of the pelvic peritoneum and a part of that immediately adjacent, were the seat of small flattened masses of old lymph, which had undergone causeous metamorphosis. These were most numerous over the vescical peritoneum. The peritoneum had a peculiar slate colour, was thickened, and its vessels varicosed (chronic peritonitis). The serous coat of small intestine in a certain part of its extent was similarly affected. Large vesicles filled with a clear yellow fluid were found attached to brim of pelvis and intestine. The membrane forming them was very delicate. Their base was in some cases broad, in others pedunculated. The theory of their formation seems to be the development of a fine membrane by a chronic inflammatory process under which the peritoneal secretion exuded, and being held in, produced the bladders. They were only formed where the inflammation had existed.

Stomach was large and dilated, and one-third full of undigested food. Mucous membrane pale, soft, and bloodless, covered with a glairy secretion. The posterior surface had a large delicate stellate pigmentation of a dark bluish colour.

Intestines, normal, excepting the peritonitis mentioned above, and smallness of calibre of the descending colon.

Liver was enlarged, pale, soft, felt doughy and pitted on pressure ; anterior edge rounder than normal. Section, not very clean, oil globules found on knife. A scraping under microscope showed large oil globules (isolated), hepatic cells engorged with these globules, which varied in size from that of a granule to twenty times that of a blood corpuscle. The cells were larger than normal, and their nuclei not to be seen. Cell wall, however, was distinctly defined and irregular in outline.

The periphery of the hepatic lobules were seen in a section, looked at by reflected light, to be paler than central portion, the latter contained blood, whereas the former was bloodless. By transmitted light, the paleness was found due to abundant oil globules, in fact, they composed the peripheral portion of the lobule ; the central part was not so transparent, its structure was compact, of a red colour, and evidently made up of a mixture of hepatic cells and small oil globules.

Spleen was slightly larger than normal, its capsule whitish and wrinkled. Substance of a brownish red colour, soft (pultaceous), and contained a good quantity of grumous fluid.

Uterus, apparently healthy, substance rather pale, lining membrane, normal. Its size was normal, from fundus of cavity to two-and-a-half inches. *Vagina* was of a diffuse red colour, vessels numerous and dilated, and mucous membrane raw and covered with an abundant purulent secretion. *Ovaries* full of cicatrices, in right was a large Graafian vesicle filled with a thick grumous material ; with this exception they were apparently healthy.

WEIGHTS OF ORGANS.

Brain, . . .	43¼ oz.	Liver, . . .	58¼ oz.
Heart, . . .	8½ oz.	Spleen, . . .	4 oz.
Right Lung, . .	33½ oz.	Right Kidney, . .	4 oz.
Left Lung, . .	31½ oz.	Left Kidney, . .	4¾ oz.

CASE IX.—ELIZABETH F. OR R. 79 Years. Died 2d March 1872,

Summary of History.—A transferred case. Died gradually of senile decay at the age of 79.

POST MORTEM REPORT.

Body, small, senile, and much emaciated. Nose, deformed ; apex shrivelled in.

Head, small ; *Calvarium*, thick, tables a mere shell ; *Diploe*, very thick and soft. *Membranes*—Dura mater adherent to calvarium, thickened and whitely opaque. Longitudinal sinus dilated, and its cerebral surface fringed with fibrous tissue (inflammatory) ; veins opening into diploe very large. Groove of left middle meningeal artery very deep, and in one part there was a bony process which almost converted it into a tube. Arachnoid white in patches. Arteries atheromatous, especially the middle cerebral. Serum, about 4 oz.

Brain, pale and small ; on section, the extra ventricular nucleus of the right hemisphere was in the posterior two-thirds of its extent of a dark red colour, and at its posterior extremity, the seat of small capillary hemorrhages. The redness was found due to a dilated and aneurismal condition of the vessels. The vessels were filled with a clear homogeneous red material.

Microscopic Examination of Grey Mater discovered the same degeneration of the nerve cells as described in previous report, only it existed to a greater extent. As before observed this degeneration commenced at the periphery. Nerve fibres were thickened, and vessels had the same material adhering outside.

Thorax—Lungs had old adhesions, very dense at bases. Substance generally healthy, except at both apices, where there were two puckered cicatrices of about one and a half inches in length, composed of dense fibrous tissue a quarter of an inch in thickness ; there were also two small cavities filled with softened cheesy material. Bronchi had thickened mucous membrane, which was red and soft. Tubes were filled with white purulent matter somewhat flaky.

Heart.—Pericardial cavity contained one oz. serum ; organ, small ; walls, thin, especially those of right ventricle. Valves healthy, excepting small patches of atheroma at base of mitral and aortic valves. Aorta filled with a long coagulum, white at proximal extremity, but black at distal.

Abdomen—Peritoneum, healthy, except a few old adhesions at upper surface of liver.

Stomach was small, seemed contracted to the same size as that of the colon, being only four inches at cardiac dilatation, and two at pyloric. Walls were thick.

Intestine, small, healthy, but large, was sacculated in the first two-thirds of its course, and very much contracted the remaining third. Rectum very small, the size of small finger.

Liver of a deep red colour, contained large quantity of dark venous blood, substance very brittle.

Kidneys healthy, a few small cysts.

Spleen small, capsule pulpy, substance pulpy.

Uterus healthy, ovaries atrophied.

WEIGHTS OF ORGANS.

Brain, . . .	41¾ oz.	Liver, . . .	27¾ oz.
Cerebellum, . .	5⅝ oz.	Spleen, . . .	3⅝ oz.
Heart, . . .	5⅝ oz.	Right Kidney, . .	3¼ oz.
Right Lung, .	14⅛ oz.	Left Kidney, . .	3¼ oz.
Left Lung, . .	13⅝ oz.		

CASE X.—FINLAY H. Æt 29. Died 29th March 1872.
Insanity with Paralysis. Locomotor Ataxy.

Summary of History.—This was a typical case of locomotor ataxy, in which the mental symptoms, generally concomitant with this disease, such as loss of memory, despondency, and suicidal tendency were so great as to require his detention. The history of the ataxic symptoms were as follows:—Two years after fracturing his left leg twice in immediate succession, he began to suffer from paroxysms of neuralgic pains in legs, and experienced an awkwardness in walking and a sensation of numbness in his feet. A transitory fit of amaurosis occurred about this time, and he was troubled with vertigo. His insanity commenced suddenly, and was somewhat maniacal at first; he, however, soon became melancholic, and at times he would persistently refuse to eat. In the course of two years the ataxic disease became fully developed, having the phenomena of inco-ordination, the absence of paralysis, an impairment of cutaneous sensibility (except that to temperature), paroxysms of neuralgic pains with injection of conjunctivæ, irregular pupils, incontinence of urine, difficulty of defœcation, loss of sexual power, &c., all well marked. Owing to refusal of food, obliging him to be fed by the pump he soon became thin and the disease progressed rapidly, so that for some months before his death he lost the use of his legs, and the anæsthesia was complete with the exception mentioned above. He died gradually of exhaustion, on account of emesis occurring constantly after being fed by pump.

POST MORTEM REPORT.

Body very much emaciated, especially the legs; purple patches of venous congestion (ante-mortem) on front of both legs. Tibia of left leg thickened at about its centre, evidently caused by union of fracture.

Head—Calvarium normal. *Membranes* healthy, excepting a few small white opaque attachments between layers of arachnoid at either side of longitudinal fissure. Serum about 3 oz., normal. On separating the pons varolii from the cerebrum, the nervous tissue around the aqueduct Sylvius was abnormally soft and of a dirty grey colour, similar in appearance to flour paste.

Brain seemed normal in general configuration, proportions, colour, and consistence. Microscopic examination (× 350) of grey matter, from orbital lobule shewed abundant nerve cells, but all of them having bright granular particles in their interior. In some, these formed the whole contents, in others only a few existed, and then their situation was either at the periphery or at the origin of the nerve poles. The particles rarely obscured the nucleus, and were always less frequent around it. Nuclei of neuroglia very distinct, as also were their nucleoli. Vessels had the granular matter, before described attached to walls. Three specimens of grey matter from the inferior portion of posterior lobes shewed only one nerve cell, and that completely disorganised; but abundance of colloid bodies, smaller than usual (round bodies with no nucleus, but often with a double

contour). Nerve fibres moniliform. Two preparations from the same locus gave similar results.

From vertex, five examinations showed round bodies sparsely scattered throughout the field. Their cell wall was exceedingly faint, their contour perfectly round, size varied from two to six blood corpuscles, contents quite clear, and nucleus and nucleolus quite distinct.

In specimens taken from upper part of anterior lobes, the nerve cells were not so numerous as on under surface, but they were of a peculiarly large size, and very irregular in shape. These had the same granular degeneration. The cause of their largeness might have been the presence of the degeneration itself, or from it having caused an increase of their normal contents, either serving to swell the cell.

Spinal Cord.—Cavity of arachnoid contained fully two oz. of serum. Dura mater normal. Visceral arachnoid was thickened at the posterior part from a little above the middle of the dorsal region. In this thickened portion there were three tracts of enlarged vessels – one central, opposite the posterior medium fissure, and other two in line of exit of the posterior nerves. The posterior fissure was dilated and contained serum, and appeared like a long linear vesicle.

Posterior Nerves were atrophied, and of a pink semi-translucent appearance. The pink colour was due to enlarged and numerous capillaries. Anterior nerves contrasted, being of white glistening colour and of large size.

Section showed a dilated central canal and a degeneration of the posterior columns. The degeneration included that portion of the cord on each side of the posterior median fissure, and extending to the origin of the posterior nerves. It was wedge shape, the base posteriorly, and the apex anteriorly, where the posterior roots enter the cornua. The substance of the cord at this site was semi-diffluent and of dirty grey, semi-translucent appearance. A portion under microscope shewed abundance of colloid bodies and compound granular cells.

Thorax.—No adhesions. *Lungs* had a few puckered cicatrices at apices, and at anterior part there were small cretaceous deposits. The consistence of lungs was peculiar, inasmuch as they pitted on the least pressure. On section, the substance appeared like that of a collapsed lung, no air, no blood, little serum, and was of a tough doughy consistence.

Heart small, empty, structure rather pale, substance soft, valves and cavities normal.

Abdomen—Stomach of normal size, contained nothing but mucous ; coats rather thick, mucous membrane thick and of a dirty slate colour. Rugæ very thick and large on posterior wall.

Alimentary Canal was dilated in some parts, and contracted in others. Transverse and descending colon loaded with scyballæ. *Rectum* very much contracted.

Liver was of a deep purple colour throughout, of normal size, and contained a large quantity of dark coloured blood. Veins congested.

Spleen small, substance somewhat firm.

Kidneys healthy.

Bladder contained purulent urine, cavity contracted ; walls greatly hypertrophied, one-half inch in thickness, due to increase of muscular coat ; mucous membrane rugose and congested.

CASE XI.—ELIZABETH W. Æt. 62. Obt. May 1872.
Chronic Alcoholic Mania. Phthisis (Chronic Catarrhal).

Summary of History.—A case of alcoholic insanity of a chronic character. She had repeated attacks. She was very restless, constantly wandering about, talking incessantly, and at times became very excited. During the last six months of her life she had a cough and expectorated a purulent mucus, which was found to contain yellow elastic tissue. Physical examination gave the usual signs of phthisis pulmonalis in third stage in the right lung. A month before death she became feverish, and no cause could be discovered, the temperature was 102° to 103° ; pulse 100 to 120 ; cough slightly increased, and so was the expectoration. There were no fits of dyspnœa, and the prostration was not great. Physical examination

gave no fresh signs. Slight general anasarca came on, but the urine was healthy. This was a puzzling case, as the fever was not hectic, nor one of the continued kind, nor was there any discoverable lesion of which it could be symptomatic. Its characterwas not the same as that which accompanied acute miliary tuberculosis in the two former cases. Post mortem examination shows it must have been the fever accompanying secondary tuberculosis, but of a milder and slower character. Right hemiplegia came on gradually before death. Although talkativeness and moaning of patient prevented proper examination of heart, embolus from aortic disease was suspected.

POST MORTEM REPORT.

Body moderately well nourished, lower extremities œdematous.

Head—Calvarium thick and dense, outer table thick and hard, *diploe* very thick posteriorly, *Dura mater* adherent, *arachnoid* healthy, *serum* about two oz.

Brain.—External configuration appearance and consistence normal. Arteries apparently healthy, not atheromatous. No distinct embolus could be found in either of the middle cerebrals or their branches. These arteries contained inspissated blood of a granular consistence.

Microscopic examination of the grey mater taken from orbital convolutions revealed the fatty degeneration of nerve cells before described, but in this case several of the cells seemed smaller than normal, and around those were bright clear refracting particles. Ammonical solution of carmine tinted the cells and the degeneration alike, but it brought into view cells having a very faint outline, with finely molecular contents and a large nucleus. Their most frequent form was oval, and the size varied from one-third to two-thirds of a nerve cell. Nerve cells were very abundant in this portion of grey matter.

Grey matter from under surface of *posterior lobe* showed no nerve cells, but abundance of white clear bodies about the size of white blood corpuscles, varying in shape, some round, others angular, without nucleus and without double contour. Besides these were triangular bodies also clear and devoid of nucleus, and about two-thirds the size of a nerve cell. They suggested the idea of their being empty nerve cells.

Grey matter from under surface of *temporo-sphenoidal* lobe contained nerve cells in abundance, but all undergoing peripheral degeneration.

A specimen from *vertex* showed the same white thinned cells as in posterior lobe. The fibres were markedly moniliform.

The minute vessels everywhere contained the granular refracting particles before described.

Thorax—Heart pericardial sac contained two oz. serum; epicardium healthy, organ large, weighed twelve and a-half oz. without clots; cavities contained large clots, dark coloured, none decolourized; right side healthy, tricuspid admitted six fingers, mitral valve dilated, admitting tips of five fingers easily, on inner surface of the two cusps was a rough deposit of what appeared to be tough yellow fibrin, thickest at origin of cordæ tendiniæ. The same on aortic valves, but here it was in masses, which took their origin from either the corpora aurantii or the point between the two semilunar valves. At these localities they were rounded and almost pedunculated, and very rugose. The endocordium was otherwise healthy, no roughness, no sign of endocarditis.

Lungs adherent on both sides, but agglutinated on the right anteriorly, so much so that lung tissue gave way and discovered a cavity immediately adjoining.

Right Lung on section presented two large cavities, one involving almost the upper and middle lobes, the other the upper and posterior part of lower lobe. These cavities seemed the result of the junction of many smaller ones as it was sinuous and its walls anfractuous. The pulmonary tissue around some cavities was filled with caseous material, around others, it was normal, a homogeneous, tough non-vascular membrane (diptheritic according to Niemeyer) formed the boundary-wall of these latter cavities. Several smaller cavities existed containing diffluent or semi-diffluent caseous matter Scattered throughout the lower lobe were nodules of cheesy matter though denser than usual, of about the size of

split peas, some being smaller. These indicate this to have been a case of secondary tuberculosis, a deposit of tubercules supervening upon chronic catarrhal pneumonia, which had undergone cheesy metamorphosis and subsequent softening. The tubercles appeared to be in the second stage—enlargement from cheesy metamorphosis.

Left Lung contained throughout its whole substance small masses similar to those in base of right lung. Besides these, lobular deposits of cheesy matter and several softened masses about the size of hazel nuts.

Abdomen—Peritoneal Cavity contained the escaped contents of the stomach at its upper and left portion in that part bounded by the gastro-splenic omentum. The peritoneum of this part was softened, some portions diffluent, especially of those regions which the position of the body caused the fluid to rest.

Stomach had three large holes in its coats at its cardiac dilatation. The edges of these holes were soft and ragged, formed only by the peritoneal coat, the mucous and muscular coats were evidently dissolved away for some distance around these holes. The tissues at and about this region were very soft and fragile. The stomach was empty (this is seemingly a case of gelatinous softening, a dissolving of the coats of the stomach by the action of gastric juice. Nowhere were there any other signs of morbid action, no inflammatory thickening, &c.)

Liver was normal.

Kidneys, healthy.

Spleen, the substance in a pultaceous state.

Uterus contained a mucous polypus growing from posterior lip and protruding through the os.

WEIGHTS OF ORGANS.

Brain,	46½ oz.	Liver,	44 oz.
Medulla,	6⅛ oz.	Spleen,	4¼ oz.
Heart,	12½ oz.	Right Kidney,	4½ oz.
Right Lung,	47 oz.	Left Kidney,	5 oz.
Left Lung,	26 oz.		

CASE XII.—MARY I. OR H. Æt. 48. Obt. May 21st, 1872.
Climacteric Melancholia. Caries, Phthisis Pulmonalis.

Summary of History.—Another case of climacteric insanity, commencing with mania and ending in profund melancholia with the usual depressed emotions and perversions of ideation and actuation. Twelve months before death she stooped very much in walking, and in six months a chronic abscess formed in right lumbar region. This, after opening, constantly discharged pus. She soon became much emaciated, but physical examination was unsatisfactory, owing to the loud irrepressible groaning of patient whenever it was attempted. There was no cough, but purulent matter, which was found to contain yellow elastic tissue, ran from her mouth. The right leg became paralysed some weeks before death.

POST MORTEM REPORT.

Body, much emaciated, skin dry, covered with pityriasis tabescentium.

Head—Calvarium thick and dense, *dura mater* adherent, serum in arachnoid cavity five oz., *arachnoid* healthy, *arteries* healthy.

Brain.—External appearance and consistence normal.

Microscopic examination of grey mater taken from orbital lobule showed few nerve cells, and these were similarly degenerated to those of former reported cases. There were also rounded bodies seen with faint outline and no nucleus. These had all the appearance of amyloid bodies. Vessels the same as before. Grey matter of middle lobe did not possess nerve cells, none visible under 300 × ; abundant so called amyloid bodies and vessels thickly encrusted with granular matter were, however, to be seen.

Spinal Column.— On the right side and in the muscles of the lumbar region was the cavity of an abscess the walls of which were cheesy, fibrous, and thick. The muscular substance immediately around was of a peculiar dark colour. Another smaller one was found a little higher and to the right. No communication

could be found between these and diseased vertebræ. On opening spinal canal the dura mater, a little higher than the site of the abscess, was very much thickened, and thickly encrusted with caseous material. The periostium of the body and laminæ of the 10th dorsal vertebra were thickened and infiltrated with caseous material, the former was easily stripped off, and shewed a carious state of the body. There was no evidence of the disease in abdominal cavity.

Substance of the spinal cord was found to be soft on section, especially so opposite the diseased vertebræ.

Thorax—Heart.—Pericardial sac contained four oz. of clear serum. Sub-pericardial œdema existed to a considerable extent, especially on the right side. Substance flabby and rather pale. Valves full sized. Interior normal.

Lungs everywhere adherent, densely agglutinated in some parts, mucous membrane of bronchi thickened, congested and covered with purulent mucus.

Left Lung on section was found to contain a cavity, including the middle and lower parts of the upper lobe, and situated more anteriorly than posteriorly. This cavity was very anfractuous, having many sinuosities and cul-de-sacs, evidently due to the coalescence of many smaller ones. It contained about six or eight oz. of purulent fluid, its walls were covered with softened caseous material, and its boundaries on posterior side consisted of lung tissue infiltrated with unsoftened cheesy mater; but on anterior side a wall formed of a homogeneous, clean cutting, non-fibous membrane (the diptheritic membrane of Niemeyer). The apex of this lung was peculiarly free of caseous matter, there being only a small deposit here and there. A cavity about the size of a small orange was also found in upper part of lower lobe, similar in every respect to larger one. Several smaller ones were in the neighbourhood. The lung tissue hereabouts being completely infiltrated.

Right Lung was in a semi-carnified state, and contained a large quantity of fluid blood, indicating a previous state of congestion. A few small masses of caseous matter were scattered here and there, but no cavities.

Abdomen.—Peritoneal cavity normal, no evidence of caseous vertebræ.

Stomach very small, and seemed to be contracted in the centre, the two dilatations, the cardiac and pyloric, being thus made very distinct. The walls were thick, probably owing to its smallness, the mucous membrane pale and covered with thick glairy mucus.

Intestinal Canal loaded for about two-thirds of its length with feculent matter. Calibre of canal very much increased, so much so as to suggest a previous state of atony or paralysis.

Liver was normal.

Spleen, very soft, pultaceous.

Kidneys were normal.

Uterus had several cicatrices at os, and beside these were small conical growths of white dense fibrous tissue, and at the apices of some of which were small vesicles or cysts. In the walls was a small fibrous tumour shewing well the circular arrangement of the tissue of these growths.

WEIGHTS OF ORGANS.

Brain, . . .	45 oz.	Liver, . . .	28¼ oz.
Cerebellum, &c., .	6½ oz.	Spleen, . . .	2½ oz.
Heart, . . .	10 oz.	Right Kidney, .	3¾ oz.
Right Lung, .	28 oz.	Left Kidney, . .	3½ oz.
Left Lung, . .	26 oz.		

CASE XIII.—JANET M. OR M. Æt. 74. Died 20th June 1872.

Summary of History.—This was a transferred case, admitted when Asylum wa opened. No history. Insanity commenced at the age of 68 and had all the chart acteristics of the senile form. For the last three or four years, she was almos fatuous, could only jabber and swear. She gradually sank without any ascertainable organic disease, examination being impossible owing to jabbering of patient.

POST MORTEM REPORT.

Body, greatly emaciated, of a senile appearance, having a peculiar anterior projection of inferior costal margin on each side.

Head.—Scalp thin, calvarium thin, outer table very thin, frontal sinuses extended upwards to frontal prominences, depressions for pacchionian bodies large, rendering the bone very thin and translucent at these points. Membranes—dura mater thick with thin subarachnoid sanguineous effusions; arachnoid adherent posteriorly at edges of longtitudinal fissure, parietal arachnoid strips off easily and seems in a softened condition. Visceral arachnoid whitish, especially in course of its vessels. Large subarachnoid effusion of colourless serum, so great as to separate the convolutions widely, the sulci being broader than the convolutions.

Brain, on the whole small, convolutions half their normal size, consistence very soft, cortical substance very thin. Cerebellum also small. Arteries at the base whitish with patches of deeper whiteness (atheroma). Canal patent. Aqueduct of sylvius dilated and surrounded by brain substance, which was soft, and of a gruel greyish colour. On section, lateral ventricles were filled with serum, and dilated to a considerable extent, especially posteriorly. White substance atrophied generally.

Microscope Examination of Grey Mater, from orbital convolution, showed abundant bodies, round and oval, varying in size from two to four white blood corpuscles, having a distinct cell-wall, clear homogeneous transparent, colourless contents and a small nucleus with no visible nucleus. Nature of these undetermined. In almost all of these bodies were particles of a bright yellow refracting character, evidently fatty, almost always surrounding the nucleus. No distinct polar cells could be seen although four preparations were made, but masses of yellow granular refracting matter of a triangular form were abundant (degenerated nerve cells). There were also smaller masses of the same material, about the size or rather smaller than the nuclei of the neuroglia. Vessels on the whole very healthy, a few had yellow granular matter on their exterior.

From under surface of posterior lobe the same were seen, but the nerve tubes seemed increased in size and were moniliform.

From vertex, showed no nerve cells, the same bodies seen as elsewhere. Nowhere could multipolar cells be found.

Cerebellum—Microscopic structure apparently healthy. Vessels in corpus dentatum dilated.

Spinal Cord.—Spinal canal contained several ounces of serum in arachnoid cavity, cord considerably shrunken, veins around cord enlarged, especially those at lumbar enlargement, substance soft.

Thorax, peculiarly arched, inclined to be barrel-shaped, rather compressed laterally, cartilages not ossified, but soft.

Heart.—Serum in pericardium one-half oz., membranes healthy, except white spots at left apex, and one at inferior border of arch of aorta. Subpericardial fat confined to course of anterior coronary artery and upper border of right ventricle, displaying the shape and site of right ventricle. Right side filled with decolourized clots. Mitral valve atheromatous, and at the bases of the cusps were cartilaginous plates. Aorta dilated, walls thickened, atheroma seen in all its stages—(1) white spots, (2) cartilaginous plates, (3) osseous gritty particles. Semilunar valves had at their origin from aorta, thick and projecting calcareous nodules.

Lungs.—Pleuræ, old adhesions at the posterior part of the left lung, but fewer on the right side.

Left Lung.—Anteriorly, lung substance healthy, posteriorly hypostasis well marked, substance felt unequally solidified (as if the deposit was lobular.) On section the anterior part of lung was healthy, but semi-collapsed. Posterior part of apex showed two cavities filled with soft grey puruloid matter. Lung substance surrounding these cavities was almost solid, and of a dark red colour, with lobular deposits of cheesy matter here and there. The same appearances in inferior part of lower lobe, only that the posterior angle and mediastinal edge was completely filled with unsoftened cheesy matter. The anterior mediastinal angle of this lobe was quite healthy. Here and there throughout the lung were calcareous concretions. Bronchi thickened, mucous membrane also thickened and red, covered with a thick purulent mucus.

Right Lung, same anteriorly as the left, healthy, but collapsed. At apex were

several small cavities, surrounded by semi-carnified lung substance. Posterior part of lower lobe œdematous, containing here and there softened cheesy mater. On squeezing lung substance, a large amount of frothy serum mixed with blood exuded. Middle lobe collapsed, but contained nodular masses of caseous material. Bronchial glands loaded with black pigment.

Abdomen.—Stomach, at upper and posterior part of cardiac end was a hole about the size of a shilling, having very thin, soft, and easily lacerated edges, the surrounding tissue was for a considerable area quite thin, like tissue-paper, evidently composed only of the peritonealcoat which was in a thinned condition (post-mortem digestion). This opening had allowed the contents of the stomach to escape into the cavity of the peritoneum, where they probably had been only for a short time, as there was no result from their presence. Mucous membrane of stomach thin and soft at cardiacs end, but thick, and in rugæ at pyloric extremity. Veins black and arborescent.

Intestinal canal was normal, except the colon, which was small in calibre, and the rectum which was even more so.

Spleen small, capsule wrinkled, and substance pultaceous, almost diffluent.

Pancreas.—At splenic end of pancreatic duct were a number of concretions, some about the size of pease, others that of marbles. The large ones were hollow. A large one was found at the middle of the duct, also hollow, and on each side its cavity was continuous with the canal of the duct. This seemed to indicate that they were formed by a calcareous or cartilagenous degeneration of the coats of the duct.

Liver small, capsule easily stripped off, substance very friable, of a dark reddish brown colour, easily drawn away from the fibrous structures of the organ.

Kidneys, right, slight whitening of capsule, which can be easily stripped off. Left contained a few cysts.

Genital Organs.—Veins of broad ligaments greatly dilated. Uterine sinuses very large. Mucous membrane of uterus of a dark red colour, and on section emitted venous blood.

Bladder enlarged.

WEIGHTS OF ORGANS.

Encephalos,	30¾ oz.	Liver,	30 oz.
Cerebrum,	26 oz.	Spleen,	1½ oz.
Cerebellum, &c.,	4¾ oz.	Right Kidney,	3½ oz.
Heart,	7¼ oz.	Left Lung,	3¼ oz.
Left Lung,	25¾ oz.		
Right Lung,	21¾ oz.		

CASE XIV.—WALTER B. Æt. 38. Obt. 21st June 1872.

Traumatic Insanity. Yellow Cerebral Softening. Gangrene of the Lungs.

Summary of History.—The cause of insanity in this case is said to be a fall on the head. He had various delusions of an extravagant character, such as the belief that he had discovered perpetual motion, that he could build a bridge to span the Atlantic, &c. Discontentment and a suicidal tendency were the other features of his case. At times he would refuse food and had to be fed by the pump. He always complained of the food having a disagreeable smell. (After death yellow softening of the grey matter was found above and around the olfactory bulbs.) For more than three months before death he had all his food by the pump. He soon became thin, and a fortnight previous to his demise his breath became very fœtid, and he expectorated a dark fluid having a gangrenous odour. Physical examination supported the diagnosis, viz.—gangrene of lungs.

POST MORTEM REPORT.

Body, slightly emaciated, skin dry and very furfuraceous (pityriasis tabescentium).

Head.—Scalp thick, slight extravasation of blood over left parietal bone near sagittal suture. *Calvarium* normal. *Membranes*—Dura mater slightly thickened on each side of falx cerebri. Slight whitening of arachnoid at anterior part.

Brain, full sized, of normal consistence and form. At posterior part of second frontal convolution on the right side was a small excavation rounded in form, situated beneath the two membranes, which were unaffected. Its depth was about one-eight of an inch, the bottom was of a dirty yellow colour. There was a small one, large enough to hold a split pea at posterior part of first convolution, and one three times that size, one inch in front of the above. At the anterior and inner prominence of the anterior lobe, the grey mater was irregularly eroded, and of the same yellow appearance. A similar erosion about the size of a florin was found at the junction of the fissures of Sylvius and Rolando. Several smaller ones existed in the orbital convolutions of both hemispheres, more aggregated below and around the olfactory bulbs. A rather deep excavation, caused by the same degeneration, was found in the island of Reil of the left side. There were none in the middle or posterior lobes.

On section, the brain substance was everywhere healthy. The above degenerations were seen to extend only as far as the white matter.

Microscopic examination of grey matter from the orbital convolutions, from those of vertex, of middle and posterior lobes showed few nerve cells, the majority of which had granular contents, an abundance of nuclei of neuroglia and bodies which answered to the description of the so-called amyloid bodies. The minute vessels had the granular deposit before described.

Spinal Cord apparently healthy, anterior rachidian veins were enlarged and full.

Thorax.—Cellular tissue in anterior mediastinal space was emphysematous.

Heart, 6 oz. of clear yellow serum in pericardial cavity, but the membranes apparently healthy. Cavities filled with decolourized clots. Tricuspid opening admitted tips of six fingers easily. Substance very flabby.

Lungs.—Left pleural cavity contained one-half pint of dark bloody serum, slight adhesions posteriorly.

Left Lung, near the apex, was an old cicatrix one-and-a-half inches long, immediately below was a large concretion of soft calcareous matter the size of a walnut. Upper lobe was of a dark red colour, and contained an abnormal quantity of blood. At the posterior and middle part of lower lobe was a large cavity filled with greenish debris, having a gangrenous odour. In its walls was softened caseous matter. The pleura was destroyed immediately outside this cavity, and for a considerable area around, was of a peculiarly dirty-white colour. The contingent pleura-costalis was also ulcerated and whitened, underneath the whitened part was pus. The lung tissue surrounding the gangrenous part was in a carnified condition.

Right pleural cavity contained a pint and a-half of greenish-brown fluid. The two pleuræ had a thin coating of recent lymph.

Right Lung.—The mediastinal pleura of the upper lobe was of a whitish-green colour. This lobe was about twice its normal size, and of a greenish-black colour. On section, the tissue was wholly gangrenous, blackish-green, broken down, almost diffluent, and having a gangrenous odour. Lower lobes collapsed, contingent pleura costalis in same condition on the left side.

Abdomen—Alimentary Canal.—Œsophagus was in a softened condition, the mucous membrame stripping off easily, the vessels of muscular coat dilated.

Stomach large, mucous membrane white, and covered with tough mucoid matter.

Intestinal Canal healthy, excepting a diminution of calibre of the transverse and descendin g colour without any apparent organic change or cause. The calibre was a fourth of the natural.

Liver pale, texture friable.

Spleen soft, but healthy.

Kidneys and *Pancreas*, healthy.

WEIGHTS OF ORGANS.

Encephalos,	51¾ oz.	Left Lung,	35 oz.
Cerebrum,	45¾ oz.	Liver,	52 oz.
Cerebellum, &c.,	6 oz.	Spleen,	4¾ oz.
Heart,	8 oz.	Left Kidney,	5 oz.
Right Lung,	37 oz.	Right Kidney,	4¾ oz.

CASE XV.—ROBERT T. Æt. 24. Obt. 3d July, 1872.
Insanity of Masturbation. Phthisis Pulmonalis.

Summary of History.—This was a typical case of insanity of masturbation. Patient confessed to have practised self-abuse for many years previous to admission, and to such an extent that it brought him into an extreme hypochondriacal and melancholic condition. He believed he was unfit for work, that his work did not give satisfaction, that he ought to commit suicide, &c. His state of mind was one of great wretchedness, causing him to wander into the woods, and shun even the sight of his fellow-creatures. He was always quiet, reserved, and unsociable. His voice and manner were cringing. His bodily condition was poor and anæmic. He continued his evil habits after admission, and soon became phthisical—the disease running a rapid course.

POST MORTEM REPORT.

Body, poorly nourished, muscles small, fat almost nil, skin very exsanguine.

Head.—Scalp, calvarium and dura mater normal. Two arachnoids attached at spots below parietal eminences, the membrane here being white and thickened. Slight subarachnoid effusion. Vessels of pia mater dilated.

Brain, consistence, size, and shape were normal. On section every part appeared normal.

Microscopic examination of the grey mater taken from the convolutions of the four regions before mentioned showed abundant nerve cells, but all had granular contents, and many had a yellow fuscous appearance. As before the granular deposit was thickest, and in some confined to the periphery. A preparation from the posterior lobe showed decided increase of nuclei of neuroglia. The same granular deposit outside minute vessels was seen. The presence of amyloid bodies was doubtful—a preparation from the middle lobe showed abundance of homogeneous structureless bodies, the nature of which could not be determined upon.

Thorax.—Cellular tissue in anterior mediastinal space was emphysematous.

Heart.—Pericardial sac considerably dilated with clear yellow serum—quantity more than twelve ozs. Membranes whitish. Right side filled with black clots, otherwise healthy.

Left Lung.—Pleuræ healthy. Apex filled with nodular unsoftened cheesy masses. Lower lobe was hepatized, of a dark reddish brown colour, and containing masses similar to those in apex.

Right Lung.—The two pleuræ closely agglutinated by recent lymph: On section the lung substance was found riddled with cavities, a very large one situated posteriorly. All were irregular and anfractuous. The pulmonary tissue surrounding them was in a densely cirrhozed condition. Cheesy material in all its stages were found everywhere throughout the lung.

Abdomen.—Stomach very anæmic. Colon and rectum about one-third their normal calibre.

Liver had almost a nutmeg appearance; black spots, evidently due to congestion of intra-lobular veins, surrounded by a ring of pale hepatic substance.

Spleen enlarged, unusually firm.

Kidneys pale, but healthy.

Organs of Generation.—Penis small, testes very small, spermatic veins in a varicosed condition, scrotum very pendulous. Epidydimus of right testicle enlarged.

WEIGHTS OF ORGANS.

Encephalos,	48¾ oz.	Left Lung,	29¼ oz.
Cerebrum,	42½ oz.	Liver,	51 oz.
Cerebellum, &c.,	6¼ oz.	Spleen,	8¼ oz.
Heart,	8 oz.	Right Kidney,	4¼ oz.
Right Lung,	42¾ oz.	Left Kidney,	4 oz.

TABLE SHOWING THE NAKED-EYE APPEARANCES OBSERVED IN THE BRAINS OF SEVENTY PERSONS WHO HAVE DIED IN THE FIFE AND KINROSS DISTRICT ASYLUM.

NATURE OF LESION.	Idiophrenic Insanity.						Sympathetic Insanity.				Anæmic Insanity.				Toxic Insanity	Terminative Stage. *		Congenital Idiocy.	Total cases.
	Idiopathic Insanity.	General Paresis of the Insane.	Paralysis with Insanity.	Traumatic Insanity.	Senile Insanity.	Epileptic Insanity.	Insanity of Masturbation.	Climacteric Insanity.	Insanity of Pregnancy.	Puerperal Insanity.	Lipæmpositos.	Post Febrile Insanity.	Insanity of Lactation.	Insanity of Tuberculosis.	Insanity of Alcoholism.	Dementia.	Chronic Mania.		
No. & Sex.	2 M. 5 F.	4 M. 1 F.	2 M. 5 F.	2 M.	2 M. 12 F.	6 M. 1 F.	1 M.	4 M. 5 F.	1 F.	1 F.	1 M.	1 M.	2 F.	1 M.	1 M. 2 F.	4 M. 4 F.	1 F.	3 M. 1 F.	70
Calvarium—Abnormally thickened,	2	2	1	1	8	2	..	4	..	..	..	..	..	..	1	4	..	2	27
,, ,, thin,	2 2 2	..	..	..	3	1	..	..	..	..	..	..	1	..	1	4	..	1	13
,, ,, dense,	..	1	..	1	..	2	..	..	..	..	..	..	..	..	1	2	..	..	9
,, ,, loose in texture,	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	3
,, perforated by Pacchionian bodies,	..	2	..	..	2	..	..	1	..	..	..	1	..	..	..	..	..	..	6
,, Diploe atrophied,	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, absorption of inner table of, softening of Diploe acicular spiculæ therefrom,	2 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2 2
MEMBRANES, *Dura Mater*, thickened,	2 2 2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	2 2	..	..	8
,, firmly adherent to Calvarium.		..	4	1	5	3	..	4	..	..	..	..	..	..	1	..	..	2 2	13
,, calcareous deposits on lower surface of,	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
,, congested,	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	3
,, sanguineous effusion on,	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
,, ,, ,, under,	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2
,, suppuration of,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Arachnoid, thickened and opacity of,	4	5	1	1	10	1	..	4	..	..	..	..	..	1	2	6	1	3	39
,, adherent,	3	1	..	..	1	4	..	1	..	..	..	..	..	..	..	4	..	1	5
,, Sanguineous effusion into sac of,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
,, ,, ,, under,	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	1	..	..	4
,, serous effusion into sac of,	1	..	4	..	4	2	..	4	..	..	..	..	..	..	1	1	..	1	18
,, sub-arachnoid effusion,	..	4	1	..	8	1	..	4	..	..	1	1	2	..	..	4	1	2	29
,, granulations, on,	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
,, false membrane in,	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Pia Mater, injection of,	1	1	..	..	..	4	..	1	..	..	..	..	..	..	..	1	..	..	8
Membranes matted together over right hemisphere only,	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
BLOOD VESSELS, arteries atheromatous,	..	..	2	..	10	..	..	2	..	..	..	..	..	..	..	2	..	..	16
embolus in left middle cerebral artery,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
BRAIN SUBSTANCE, general atrophy of,	..	2	..	..	9	..	..	1	..	..	..	..	..	..	1	2	..	..	15
atrophy of right hemisphere only,	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
generally soft,	..	2	3	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	6
œdema of,	..	1	2	..	..	4	..	1	..	..	..	..	..	..	..	..	1	..	5
generally congested,	..	1	1	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	7
mottled appearance on section, (naked eye)	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Grey Matter—Flattening of convolutions,	1	..	..	..	1	1	..	..	..	..	..	..	..	..	1	..	..	1	4
Dark colour of,	..	2	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	1	7
Paleness of,	1	..	..	..	1	1	1	1	..	1	1	..	1	..	..	1	..	..	9
Thinness of,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Inflammation (acute) of,	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3
Apoplectic cyst destroying Brocas convolution,	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Granulations on surface of convolutions,	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Local atrophies,	1	3	2	..	2	..	..	1	..	..	..	1	..	..	..	..	1	..	10
White Matter—Tumour in,	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Softening of,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Old clot in centrum ovale,	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Old apoplectic cyst in white matter,	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Sanguineous Effusion at Base of brain,	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, in temporal and occipital fossæ,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ischæmia of right hemisphere & cerebellum,	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Cerebellum— Atrophy of one lobe of,	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Softening of,	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Clot in left lobe of,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Optic Thalami and Corpora Striata—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
Local red softening in right corp. striatam,	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Small capillary hæmorrhages in right C.S.,	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	4
Ventricles— Softening of floor of,	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Granulations on floor of,	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	6
Effusion into,	4	2	4	1	4	..	1	1	1	1	1	..	..	..	1	6	1	..	23
Chroid plexus cystic,	4	..	..	..	1	3	1	..	..	..	..	..	..	..	..	2	1	..	12
Granulations on floor of 4th Ventricle,	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Pons Varolii—Granulations on free surface of,	..	2 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2 2
Small clots in,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Corpora Quadrigemina—Softening of,	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Fissure of Rolando—Bridging of left,	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1

* These 9 cases were without history, and of very long standing.

General Results of the Microscopic Examination of 80 Brains of Persons who had been the Subjects of Chronic Insanity.

I. Grey matter of the convolutions of the cerebrum.

(*a*) The most common and manifest lesion observed has been fatty degeneration and atrophy of the cells: the degeneration most commonly commencing at the periphery and gradually extending inwards; it occasionally, however, has been noted commencing at or around the nucleus, which is not generally implicated. The cell is represented by a mass of debris retaining in some measure its normal contour, but with the angles blunted. In extreme cases (such as senile mania) the cells are mere masses of fatty globules which became diffused throughout the tissues. The connective tissue (neuroglia) is much increased, and a thinned indurated condition of the grey matter exists. All forms of degeneration are better marked on the upper surface of the cerebrum than on the lower; in fact, in the inferior convolutions pathological lesions are rarely met with.

(*b*) Granulations of two sorts are met with on the surface of the convolutions and floors of the lateral and fourth ventricles; 1. consisting of changed epithelium, 2. of bullœ of organized lymph pushing up the epithelium.

(*c*) Limited spaces of grey degeneration, characterized by proliferation of the nuclei of the neuroglia and fibrillation of morbid plasm.

(*d*) Colloid and amyloid bodies varying in size from $\frac{1}{1000}$ to $\frac{1}{7000}$ of an inch. In some rare instances they show concentric rings. They are not acted on by iodine. They are believed to be produced by morbid action of the nuclei of the neuroglia. Not unfrequently very small colloid bodies, brightly colourable by carmine are found on the surface, bound down by the pia mater.

(*e*) Nerve fibre has been found thickened.

(*f*) Proliferation of nuclei of neuroglia without grey degeneration.

(*g*) In very advanced and long standing cases the grey mater in no manner presents its normal histological appearance. It is completely disorganized and confused; it soon becomes brittle when acted on by chronic acid or alcohol, which is not the case with normal brain tissue.

II. White mater.

(*a*) One of the most important lesions of this substance is what has been called miliary sclerosis. (For a full account of this lesion see "Edinburgh Medical Journal," September, 1868.)

(*b*) Colloid and amyloid bodies are often met with.

(*c*) Thickened fibres.

III. Blood vessels.

(*a*) A yellowish deposit, the granules of which vary in size according to the size of the vessel, are almost invariably met with lying between the muscular coats and the hyaline membrane.

(*b*) Fatty degeneration of the vessels of pia mater and of those supplying the whole encephalon.

(*c*) All stages of atheroma.

(*d*) Dilation of the perivascular canals, chiefly in cases of epileptic insanity and general paresis.

(*e*) Tortuosity of vessels, chiefly in cases of senile insanity, epilepsy and general paresis.

In no case has failure occurred in demonstrating marked departures from a healthy condition in cases of chronic insanity.

The researches have been conducted by means of sections made from specimens in chronic acid, and by examination of the recent brain.

POST-MORTEM EXAMINATIONS PERFORMED AT THE FIFE AND KINROSS DISTRICT ASYLUM DURING THE YEAR ENDING SEPTEMBER, 1873, *BY J. BATTY TUKE, M.D., F.R.C.P., AND JOHN FRASER, M.B., C.M.*

CASE XVI.—S. Æt. 63. Epileptic Insanity. Senile decay.

Summary of Case.—This was a transferred case. On admission she was so demented as to be unable to reply to any question. Fits violent at intervals of two days. Ultimately she became quite fatuous, and gradually died without any evident organic disease. No account of cause of epilepsy obtainable.

POST MORTEM EXAMINATION.

Body.—Emaciated; right lateral curvature of the spine at its lower part and a compensatory one above; feet œdematous.

Head.—Scalp very thin. Calvarium—tables thin, diploe thick and soft.

Brain.—*Membranes*—Dura mater adherent and thickened as a whole, but fenestrated at certain points, probably due to absorption caused by enlarged Pacchionian bodies. Arachnoid and pia mater look healthy over the two hemispheres, except portions which are very white and opaque.

Brain, as a whole, appeared healthy. Normal in size and consistence. On section the grey matter was thin. The centrum ovale presented a greater amount of puncta cruenta than normal. Ventricles normal. Choroid plexus was very red, and presented one large vein running through it. Serum in ventricles opaque and reddish.

Microscopic Examination of Grey Matter *from Orbital Convolutions.*

Showed a considerable number of round and oval cells about the size of four to eight white blood corpuscles, having no poles, but a distinct and uninterrupted cell-wall; contents clear, homogeneous and colourless. Nucleus distinct, granular with a faint nucleolus and situated generally laterally. The majority of these bodies contained yellow, fatty-looking refracting particles, almost always surrounding the nucleus. Six preparations of the grey matter from these convolutions showed these cells more or less abundant, in none were nerve-poles to be seen springing from them. Nature of these, undetermined.

Triangular masses of fine fatty granules were abundant throughout the field.

Minute blood-vessels had the same granular deposit on the exterior and at their bifurcations as before described. Some of them were filled with clear, homogeneous, yellow granular material.

From Temporo-Sphenoidal Convolutions.

Same cells, as before described, were seen. Preparations from this region showed a moniliform condition of the nerve-tubes, the double contour of the tubes being remarkably distinct. Numerous bodies of irregular shapes and varying in size having a double contour—suggestive of their being the transverse sections of nerve-tubes. None had more than one concentric ring. The same triangular masses and a similar condition of vessels seen.

From Posterior Lobe.

Showed very few of the cells before described; other microscopic appearances the same.

From Vertex.

In addition to what has been before described, there were seen two large masses composed of bodies about the size of or a little larger than a white blood corpuscles

having no distinct outline or form—the contents of these bodies being finely molecular. No nucleus to be seen; their appearance was clearer and brighter than the surrounding granular matter. These two masses were joined together by a band composed of these bodies, none of which were to be seen isolated.

From First Frontal Convolutions.

Cells similar to those first described were in this region found filled with fatty particles, and the bodies last described were few and isolated throughout the field.

From Locus Niger.

Nerve-tubes abundant and moniliform. Masses of dark brownish-red particles were abundant.

Cerebellum.—Apparently healthy, both externally and on section. Microscopic examination of the grey matter revealed the presence of the cells first described, only here, they were very much larger.

Medulla Oblongata.—Extending from the corpora olivaria to the origin of the second cervical nerves, was a pigmentary degeneration of the membranes, giving them a grey appearance. This degeneration was greatest on the anterior surface of the medulla, gradually diminishing at the sides, and was absent on the posterior aspect. On section, the structure seemed normal, but substance rather soft.

Spinal Cord.—Shrunken and diminished in size, and soft in consistence.

Thorax. Heart.—There was slight subpericardial œdema. Right side of heart distended with dark fluid blood. No clots to be seen. Left ventricle contracted; its walls thickened. Small patches of atheroma in the second stage were found in aorta and at bases of the semilunar and mitral valves. At the descending portion of the aorta an extensive cartilaginous plate was detected extending half-way round that vessel.

Lungs.—Right lung healthy; no adhesions of pleura. Left—pleura healthy; no adhesions; lung-structure healthy, except bronchial tubes, which are thickened as to the cartilages and mucous membrane, and the canal filled with muco-pus.

Abdomen.—Stomach small, somewhat thickened; mucous membrane thickened and thrown into large rugæ.

Liver small, otherwise healthy.

Spleen also very small, but healthy in structure.

Intestinal Canal.—The colon at the splenic flexure is contracted to half the normal calibre. Rectum dilated, exceedingly so at the first portion.

Generative Organs.—Uterus small and soft to the feel at the fungus; os very much contracted.

Weight of Organs.

	Ounces.		Ounces.
Encephalon, - -	45	Heart, - - -	6
Cerebrum, - -	39¼	Liver, - - -	28
Cerebellum, Pons, &c., -	5¾	Spleen, - - -	2
Right Lung, - -	12	Left Kidney, - -	3¼
Left Lung, - -	12½	Right Ridney, - -	3¼

CASE XVII.—T. Æt. 68. Senile Melancholia. Intercurrent Mania. Exhaustion and Pulmonary Apoplexy.

Summary of History and Case.—Nothing is known as to the causation of insanity in this case. Her first attack was at the age of 54, and the mental phenomena consisted of melancholic and religious delusions, coupled with a suicidal tendency. She was first admitted into this Asylum at the age of 67, and, after six months' residence, she was so far improved as to warrant her discharge. But she was re-admitted in a state of acute mania in about 8 months afterwards. Her state of terror and apprehension of evil that was to befall her was pitiful to witness; night and day she swayed to and fro, constantly reiterating, at the top of her voice, "What is to become of me?" until she was quite exhausted. Nepenthe, cannabis indica, bromide of potassium, and chloral were all tried successively, with only temporary abatement of the symptoms. Three weeks after admission she had a severe syncopal attack. No cause for this could, for the time, be found. It is interesting to note that after she revived from this attack all insane symptoms were in abey-

ance ; she spoke quietly and rationally, and only remembered her former mental state as a dream. In less than two days, however, the mental excitement returned with increased vehemence, and in 5 days she gradually sank.

POST MORTEM EXAMINATION.

Body.—Much emaciated ; feet œdematous.

Head.—Scalp thin ; calvarium of moderate thickness ; tables thin ; diploe thick.

Brain.—Membranes—Dura Mater adherent along line of longitudinal sinus. Slight serous sub-arachnoid effusion. White milky spots were observed on visceral arachnoid, causing adhesions between the layers of arachnoid. Arteries of pia mater injected. Compensatory fluid about 3 oz.

Brain, as a whole, seemed natural as regards configuration and consistence.

Abdomen.—General condition—Tympanitic especially at upper part.

Alimentary Canal.—On opening into this cavity, the stomach was seen to reach 2 inches below umbilicus and was in a distended condition. Small intestine small, about half its normal calibre ; cœcum dilated, as also descending colon, until it reached the first fold of the sigmoid flexure, where the canal assumed a calibre about the size of a little finger, after which it suddenly dilated, and then had a calibre of 2½ to 3 inches in diameter ; at rectum, the diameter was still further increased by 1 inch.

Liver.—Dark-coloured, loaded with venous blood ; structure healthy.

Spleen.—Capsule wrinkled, substance pulpy.

Kidneys.—Left—Cortical substance, dark-coloured ; capsule easily stripped off. Hilum large.

Right.—Same appearances as above.

Thorax. Heart—Pericardium contained about 1½ oz. of bloody serum. Heart, as a whole, small ; left ventricle densely contracted. Right ventricle healthy ; endocardium stained of a dark purplish-red colour. Tricuspid valves thickened at their edges ; chordæ tendineæ matted together. Same phenomena, noticed in mitral valve. Pulmonary artery somewhat dilated. Aortic valves competent. Slight atheroma at the entrance of the two coronary arteries. Aorta slightly dilated.

Lungs.—Old pleuritic adhesions were found at the apices of both lungs ; lung structure healthy, except bronchi, which were thickened, containing a thick purulent secretion. At the posterior part of lower lobe of right lung was a clot about the size of a hen's egg—the remains of some slight pulmonary hœmorrhage.

Microscopic Examination.—In a specimen of *pia mater* taken from near Vertex, the muscular *coats of the vessels* were seen to be undergoing *degeneration ;* and there was also considerable aggregations of the *deposit* frequently noticed in former cases. In a specimen of the superficial layers of gray matter of *left ascending frontal convolution* at Vertex, the same deposit was seen in very large quantities on the vessels below the hyaline membrane, and more particularly at the bifurcations. This aggregation at bifurcations is no doubt due to the hyaline membrane not being so intimately connected with the vessel at such spots, as it forms a somewhat loose sac in these positions. The *pyramidal cells* were represented by a *granular débris.* The *nuclei* of the diseased cells were, in most instances, found to be *intact*, but in those where the destruction was only partial, the granular matter was seen surrounding the nucleus, suggestive of the conclusion that the degeneration began in their neighbourhood. In this region (Vertex) no healthy nerve cells could be found in the external layers. Several specimens were examined, and in all, especially in the inner layers, large bodies were found presenting a distinct double contour. These were determined to be broken up (artificially) nerve fibres, ampullated by pressure—the proof being that more than one was found at the termination of such a nerve fibre, and in direct connection. Several specimens of the 4 inner and middle layers *did not exhibit any of the above mentioned appearances.* In a specimen from the outer layers of the first occipital convolution (superior), the fuscous fatty degeneration was particularly well marked ; colour a rusty brown. Certain parts of the preparation showed tracts of bodies in every respect resembling the colloid bodies observed in prepared speci-

mens. These bodies had indistinct outlines, and were of a milky appearance; their average size was that of a blood corpuscle. In the inner layers of same section the nerve tissue was much more distinct, and the colloid bodies much more sparsely scattered. In the outer layer of the orbital lobule, the cells were much less affected than elsewhere; a few were intact; and but few colloid bodies were seen. In the inner layers only a slight deposit on the vessels was seen.

Weight of Organs.

	Ounces.		Ounces.
Encephalon, - -	41	Liver, - - -	32
Right Lung, - -	16	Spleen, - - -	3
Left ,, - -	14	Right Kidney, - -	3
Heart, - - -	7	Left ,, - -	3½

CASE XVIII.—M. Æt 49. Epileptic Insanity. Fibroid Phthisis.

Summary of History and Case.—This patient was one of a large family, all of whom were subject to epilepsy. He was a transfer case, and had been six years insane when admitted to this Asylum in 1866. The fits had very marked sensorial phenomena, the coma coming on quickly after a few slight convulsions, being very deep, and lasting for sometimes over an hour, or an hour and a half. He had, at irregular periods, attacks of acute mania of a violent, dangerous, and destructive character. Bromide of potassium had no effect in this case.

For some months before he died he had an occasional cough, with extremely fœtid expectoration. Percussion revealed no marked dullness, but on auscultation small gurgling râles were heard at the left apex anteriorly and posteriorly. This went on without much change, except that dullness became marked at the left apex posteriorly, until within a week of his death when a peculiar difficulty of respiration set in. It consisted of loud snoring and great efforts of the thoracic walls and diaphragm, but yet with little expansion of the thoracic cavity. On percussion a loud drum like sound was elicited. He was unconscious for two days before death.

POST MORTEM EXAMINATION.

General Condition of Body.—Body moderately nourished.

Head.—Scalp normal; calvarium thick and dense.

Brain.—*Membranes*—Dura mater adherent, and meningeal vessels engorged. Adhesions between two layers of arachnoid along the margin of longitudinal sinus. Arteries at base of brain filled, and vessels of pia mater injected. Vessels at base contain coloured and decolorised clots, and were milky-coloured. Blood-vessels, on Pons Varolii and Medulla Oblongata, markedly injected. Nothing abnormal about Medulla externally, except condition of vessels noted above.

Brain, as a whole, large; normal as regards general configuration; consistence firm. Gray matter generally pale (of convolutions); of Medulla and Pons, it was pink and congested.

Microscopic Examination.—Membranes—Vessels of pia mater deeply injected. No morbid appearance of any of their constituents.

Grey matter of convolutions.—In many sections which were made a white streak was distinctly visible running in the plane of the layers and accurately separating their thickness into halves. In the layers of the ascending frontal convolution of either side, the three following morbid appearances presented themselves:—1st, Granular fuscous degeneration of the cells; 2d, colloid degeneration; and 3d, deposits on the vessels. 1st. Fuscous degeneration of cells. The destruction of these organs was very complete at this place. They were frequently represented by a mass of *débris*, the only portion remaining intact being the nucleus. The external layers of the grey matter of the deepest part of a sulcus of the parietal lobe near apex were examined; cells undergoing degeneration were very plainly seen, the yellow globules being somewhat less on the outside, and increasing in size as they neared the nucleus. In some cases the nucleus had disappeared, but this was rare. Cells of the third left frontal convolution were atrophied, and much affected by fatty degeneration. Cells of corpora striata the

same. Cells of cerebellum quite healthy. The cells of the occipital lobe were only partially affected, many being quite healthy, and none being more than half granular. Colloid degeneration, was found in the convolutions of the parietal lobe at the apex and occurred in tracts. The bodies varied in size from one half to two and a half times the size of a blood corpuscle; their outlines were pretty fairly defined, and within each a faintly defined ring was observable, within which was the appearance of a nucleolus; the colour was faintly milky. They were not acted on by iodine. Deposits on vessels. In the outer layers the often-mentioned granular deposit was found, as usual, in greatest quantity at bifurcations. The convolutions of the apex were mostly affected. The organs of the inner layers, those within the white streak, were but slightly affected compared with those above them, where the nerve structures were much better defined. In one specimen, in a space from which a capillary had been removed, a considerable deposit of granular matter was seen. No diseased cells were found in the inner layers, and the vessels were but very slightly affected.

White Matter.—The only thing worthy of note is that in a pretty large vessel evulsed from white matter of centre of left centrum ovale, the yellow deposit was peculiarly strongly marked, more so than in any other instance which has come under notice. It consisted of aggregated masses, the component parts of which varied in size from a ½ to 2 times the size of a blood corpuscle. They were held down to the vessel by the hyaline membrane.

Thorax-Lungs.—On opening thoracic cavity, lungs were seen in that state of inflation, known as balloon lungs, and of a pale colour. They overlapped each other to the extent of two inches—left lung being anterior. Heart entirely hid.

Right Lung.—Very voluminous. Posteriorly, lung is engorged, and of a dark purplish red colour. On section substance contained a large amount of bloody serum, causing it to sink in water. Anteriorly, the lung presents a pale aspect, and the appearance as if it were fully inflated—the most minute alveoli being expanded to their fullest amount, and the cell-like arrangement of the alveoli being beautifully seen through the stretched pleura. At the apex is a dense cicatrix, about one inch. in length, which, on section, was found to consist of dense fibrous tissue and small calcareous nodules. Bronchi dilated; mucous membrane thickened; its vessels congested, and covered with a thick fetid purulent matter.

Left Lung.—Densely adherent, posteriorly; so closely to the costal pleura as to cause laceration of lung substance on removal. Same phenomena seen anteriorly and posteriorly as met with in right lung. The posterior part of upper lobe was of a dense fibrous feel, and contained several small anfractuous cavities varying in size. Walls of a dark blood-red colour presenting the appearance of an unhealthy ulcer. Little or no caseous material to be seen, but a few concretions of a calcareous, or even osseous, nature. The cirrhosed portions sank in water. Bronchi same as on right side, but of a deeper red colour.

Heart.—Large; veins (coronary) congested. Endocardium of right auricle, stained of a deep purple colour, and mottled; cavity containing a large decolourised clot. Substance of heart soft and flabby. Tricuspid orifice admits 6 fingers; mitral admits 5. Left side of heart contained no clots, but a small quantity of liquid grumous blood. Mitral valves healthy; also aortic sigmoid valves. Aorta filled with black, almost non-coagulated, blood.

Trachea large and dilated; mucous membrane injected.

Æsophagus narrow and slightly constricted, but no organic disease of its walls detectable.

Abdomen.—Veins of mesentery engorged with dark venous blood.

Stomach.—Of moderate size. On posterior wall, vessels of mucous membrane engorged.

Alimentary Canal.—Normal, except a somewhat contracted condition of descending colon, and commencement of sigmoid flexure, and a dilatation of rectum.

Liver.—Appeared healthy.

Spleen.—Of average size; capsule wrinkled; substance soft and pultaceous.

Kidneys.—Seemed healthy.

	Ounces.		Ounces.
Encephalon, - -	58	Liver, - - -	51½
Right Lung, - -	28	Spleen, - - -	4¾
Left ,, - -	22	Right Kidney, - -	4¼
Heart, - - -	11¼	Left ,, - -	5

CASE XIX.—H. Æt 32. Congenital Epileptic Insanity, &c. Phthisis Pulmonalis. Acute Secondary Miliary Tuberculosis.

Reprinted from Article, by Dr Tuke, in Journal of Anatomy and Physiology.

POST MORTEM EXAMINATION.

General Condition.—Body much emaciated; decomposition had begun.

Head.—Scalp thin; calvarium *thin unequally, very dense, and of ivory hardness* in certain places; diploe present only on left side of frontal bone and in one limited spot in right. Outline shows contour at line of section. The thickness of left side of frontal bone above supra-orbital notch was 5 millimetres, and at corresponding part of right side 3 millimetres. Other parts of the circumference were also unequal. *The skull* was large, the dome high, ridged at the summit, to the right of which the parietal bone was round and full, to the left it was flattened. The circumference was 21$\frac{3}{16}$ in.; the lateral measurement from nasal eminence to occipital protuberance on right side being 10$\frac{9}{16}$ in.; on left, 10$\frac{5}{8}$ in. The antero posterior measurement from same points over vertex was 13$\frac{5}{8}$ in.; the transverse from one meatus auditorius to the other, over vertex, was also exactly 13$\frac{5}{8}$ in.; the measurement on the right side being 6$\frac{3}{8}$ in., and on left 6$\frac{1}{2}$ in. The depth of dome from foramen magnum was 5$\frac{1}{16}$ in.; the antero-posterior diameter 7 in.; and the transverse 5$\frac{15}{16}$ in. The capacity was 112$\frac{1}{2}$ cubic inches.

The *sutures* are very faintly marked, ossification being very far advanced, especially in the sagittal.

The *facial portion* presented the following abnormalities:—The external inferior angle of the right orbit is on a lower level than on the left side, and the right infra-orbital foramen is correspondingly lower, as is also the inferior border of the right nasal aperture; in short, the right side of the face is on a lower level, as a whole, than the left. The molars on the right upper jaw were only two in number (the wisdom tooth being undeveloped); in lower jaw the same condition existed.

External base showed a very thinned state of the bones immediately posterior to the posterior condyloid foramina; on the left side this spot was a mere shell. The *left condyloid articular surface* was divided into two facets. The ridges on the occipital bone were well marked.

Internal surface. The *superior longitudinal* sinus took a sharp turn to the left, about an inch above the point of the lambdoidal suture.

The sutures were indistinguishable. On the inner table of frontal bone, on either side of longitudinal sinus, were numerous small, dense, *bony elevations*, to which the dura mater was adherent, especially on the right side.

The *internal base* presented the most marked abnormalities; between the anterior fossæ a *sharp ridge* run upwards and forwards for more than two inches, and where it ended the shallow and irregular superior longitudinal sulcus began. Both the anterior and middle fossæ were very rugose. The *area of the right middle fossa* was somewhat greater than that of the left. The body of the sphenoid bone was out of the middle line to the left. The *petious portion of the left temporal bone* differed in shape materially from the right; *the groove of the lateral sinus* of the left side had apparently expanded with a *considerable antrum*, and changing the size and form of the *foramen lacerum posterius*. This *sulcus* bifurated from the superior longitudinal markedly *to the left of the mesial line*, the *posterior fossæ being thus rendered of different areas*—the left being about half that of the right. The twist to the left of the superior longitudinal sinus caused the cerebral fossæ of the occipital bone to be unequal. The groove of the left lateral sinus was well marked. The right was very faintly indicated. *On the basilar process was a rugged elevation three-eighths of an inch long, and one-eighth of an inch high.*

Membranes.—At vertex, on left side, all the membranes were adherent to each other. The vessels of the pia mater, especially the veins, were deeply injected. Lateral sinuses gorged with dark blood. *A bony plate*, 8 milim. by 5, was found on the first left frontal convolution, about its middle, between dura mater and arachnoid, and attached to both. At the corresponding part on right side, smaller particles of bone were found.

Brain.—General characters; of large size, *heavy* (60 *oz.*), firm consistence, tough and resilient. No impression was made on it by a column of water 5 feet in height. The right hemisphere weighed 6¾ oz. heavier than the left, the relative weights being 30¼ oz. and 23½ oz. The occipital lobe of left side was perceptibly larger than that of left. The right ascending frontal convolution was very tortuous, and the fissure of Rolando joined the great longitudinal fissure further back than usual. The *fissure of rolando*, on the left side, did not reach the fissure, being *bridged* across just at the vertex by a knuckle which joined the ascending frontal and ascending parietal convolutions. The third left frontal convolution was much more definitely mapped out than the right; on which side a knuckle from the second frontal interposed between the portion bordering the fisure of Sylvius and that running down to the island of Reil.

The specific gravity of both cerebral hemispheres, as proved *en masse*, was exactly 1036; that of the cerebellum was slightly greater, but it did not sink completely in a solution of common salt of 1036 sp. gr. Separate portions of grey and white matter, taken from various places and both sides, were tested, and found to be both of the same sp. gr., viz., 1036.

On section there was a *marked difference* between the grey matters of the two hemispheres as to colour and thickness. The left hemisphere had the grey matter of all its convolutions *markedly darker* than the opposite side; the colours were on the left dark grey, on the right light pink grey on the outer layers, the inner ones being of a darkish brown—a white band separating them. The line of demarcation was obvious to the naked eye. The grey matter of the left side, as tested by Dr Majors' tubes, varied *from* 5½ *millimetres* in the frontal lobe to 4 millimetres in the occipital. On the right side it was much thicker, and much more even over the whole hemisphere. Many careful right angled sections were made. In the frontal and anterior convolutions of the parietal lobe the thickness was 7 millimetres; in the posterior convolutions of the parietal (more especially the annectant convolutions) and the occipital lobe, the thickness was 7.5 millimetres.

On viewing the *superior surface of the cerebellum* the left side was found to be one-third less in bulk than the right. The folia of the left side were narrower than those of the right. The notch or vallum was filled by an abnormal lobule springing from the inferior surface. On inspection of inferior surface the left hemisphere was found, although much smaller than the right, more normal in its arrangement, for its lobules were fairly defined. The vallecula was but very slightly marked. The notch was represented by a slight depression. There was no appendix vermiformis. Proceeding from above downwards on the right side the lamellæ, immediately below the longitudinal fissure, were normal for two-thirds of their extent. The biventral lobe could be traced; also the amygdala, although its appearance was quite abnormal, inasmuch as it was composed of several convoluted lamellæ; its shape was round, and it was unduly elevated. The slender and posterior-inferior lobes were represented by a confused mass of lobules of convoluted laminœ, extending right across the vallecula, and attached to the opposite side by the membranes.

Spinal Cord.—Vessels deeply injected. A small amount of serous effusion. A marked difference existed in the calibre of the vertebral arteries, the right being about twice the size of the left. No difference could be detected between the size of the two sides of the spinal cord, nor between that of the sensory ganglia of the different sides. No difference was observed in the size of the corpora striata optic thalumi, or in any other part of the cerebrum. The Pons Varolii was symmetrical.

Microscopic Examination.—Cerebellum. In a specimen taken from the grey matter of the deformed portion of the right hemisphere, several well marked cells of Purkinge were seen. Vessels normal. On the left side the nerve fibres were

peculiarly distinct and large, many of them were in diameter half the size of a blood corpuscle. Cells of Purkinge and molecules were seen ; the former large but not very distinct. In examining a punctum vasculosum, the vessel forming it was carefully extracted, and the epithelial layer was seen to be thickened, and the muscular fibres well pronounced. A considerable deposit of hœmatin was found on the outside of the vessel. In a specimen prepared in chromic acid, the structures appeared nearly normal, except that the granules of the granular layer were not so closely packed as usual. In the white matter spaces of molecular matter were seen, which had taken the place of fibre. This specimen was taken from the deformed left postero-inferior lobule. On the right side no abnormality was noticed.

Right Frontal Lobe.—In a recent specimen taken from the first frontal convolution, the nerve cells were found in greater abundance than elsewhere. A very fine molecular deposit was observed on the vessels and the nuclei of neuroglia, and of the vessels were proliferated and enlarged. The external granular layer was productive of great numbers of irregularly round bodies of the size of a blood corpuscle. Microscopic section of the same convolution confirmed the above. The outer layers of cells were small, rounded, irregularly distributed, and numerous; those of the two inner layers were well marked, normal in size, and regular in arrangement ; the poles long and well defined. The fibres, although thickened, were properly distributed. In some places they were rather widely separated. The external layer was thickened.

The same may be said of the third frontal convolutions of either side, the only difference being that there was more definite evidence of the increase of connective tissue in the left ; in it 4, 5, or 6 nerve fibres could be seen pushed together into fasciculi, between which connective tissue and nuclei of neuroglia existed in large quantities. In the white matter few fibres could be traced, although several clearing agents were employed, *e.g.*, turpentine, glycerine, and oil of cloves. The molecular matter was increased and arranged in a fibroid manner. Taken altogether the constituents of these lobes were more nearly approaching the normal condition than the other parts of the brain.

Right Parietal Lobe.—Various recent specimens taken from the right ascending parietal convolution near vertex showed the nerve cells to be scarce and but faintly defined. A chromic acid preparation showed the large cells of the deepest layer of gray matter well, with the poles traceable for long distances. There was a brownish molecular discolouration at their bases, but not more than is often observed in health. The smaller cells were irregular in shape and distribution, and without nuclei. In both parietal lobes the increase of neuroglia was well marked ; the nuclei were much proliferated in plasma and on vessels ; in the left frontal lobe the same conditions existed, and, in addition, a very fine molecular deposit was seen on the walls of the vessels.

Right Occipital Lobe.—In several specimens taken from this region, and examined in a recent state and by section after being steeped in chromic acid, there was seen a very evident increase of molecular matter between the nerve elements ; with this were associated fine fibrillar structures. The fibres were much enlarged, the diameter being, in some instances, two-thirds of that of a blood corpuscle, and were moniliform. Both these conditions might have been to some extent due to pressure ; but the experience gained from many brains, examined under exactly similar circumstances, leads to the conclusion that it was not altogether so. On the capillary vessels a small amount of very fine colourless molecular matter was sparsely scattered. The grey matter was examined in successive slices from without inwards ; very few cells were found, and they were in no way actively diseased ; they were atrophied to a great extent, were small in size, irregularly shaped, and ill defined. In some chromic acid sections a fine layer of yellow molecular matter was found between the pia mater and the brain substance, presenting chiefly the appearance of hœmatin. In the same sections the fibrils became fainter as they proceeded inwards ; when more than half an inch from the grey matter the fibres disappeared, and the field of the microscope was filled with fine molecular matter arranged in a fibroid manner.

In the left occipital lobe the microscopic appearances approached more nearly to those of health. The fibres were not displaced, and there was not the same evidence of increased connective tissue. The cells were in the same atrophied condition, and they did not occur in any greater number.

Spinal Cord.—Vessels deeply injected. A small amount of serous effusion. A marked difference existed in the calibre of the Vertebral Arteries, the right being about twice the size of the left. No difference could be detected between the size of the two sides of the spinal cord, nor between that of the sensory ganglia of the different sides.

No difference was observed in the size of the Corpora Striata, Optic Thalami, or in any other part of the cerebrum. The Pons Varolii was symmetrical.

Thorax.—Cellular tissue of anterior mediastinum emphysematous. Heart.—Pericardium contained one oz. of clear yellow serum. On the anterior surface of heart there was a triangular white patch, or "milk spot," just at the junction of the pulmonary artery and right ventricle, and another of similar size and shape, situated between the former place and to the right of the intraventricular groove. A large semi-decolourised clot was found in right auricle. Valves healthy.

Lungs.—A few slight adhesions were found along the anterior margin of upper lobe; posteriorly at apex very extensive and dense attachments had formed. On cutting into lung a vomica was found at the apex, about the size of a large walnut, filled with thickish yellow puriloid matter; communicating with this were several smaller cavities containing same matter. All these cavities were lined by a tough smooth membrane, half a millimetre in thickness. The lung was thickly studded with opaque white miliary tubercles, which were more densely aggregated in the neighbourhood of the vomicæ. Vomicæ also existed at inferior anterior angle of upper lobe. At the base posteriorly hypostasis was well marked. The mucous membrane was covered with muco-purulent matter, and was thickened.

Right Lung.—Extensive and firm adhesions existed at apex and posteriorly. Large vomica at apex, about size of a billiard ball, surrounded by dense fibrous tissue, in which were found a few cartilaginous nodules. On the anterior surface of upper lobe a great many cavities existed, varying in size from a pear to a hazle nut. Miliary tubercle was diffused throughout the lung, lessening in amount towards the base. In the lower lobe, on its posterior and inferior aspect, very little tubercle was seen; it floated in water. Bronchi is similar condition as those of left.

Abdomen.—Stomach of normal size; mucous membrane thrown into great longitudinal folds and stained; on the posterior wall a dark red colour (hypostasis). Slight constriction at first fold of sigmoid flexure. Walls of rectum somewhat thickened. Liver.—Capsule very firmly and extensively adherent to diaphragm; substance firm, section smooth and greasy, speckled, and unaffected by iodine. Under microscope the cells were seen to have undergone fatty degeneration; they were loaded with minute oil globules, which were especially collected around the nuclei. Spleen strongly adherent to diaphragmatic peritoneum. Substance soft, pultaceous, and of a very dark colour. Kidneys healthy.

Weights of Organs.

	Ounces.		Ounces.
Encephalon, - -	60	Right Lung, - -	58
Right Hemisphere, -	30¼	Liver, - - -	40¾
Left Hemisphere, - -	23½	Spleen, - - -	5
Pons, Medulla, & Cerebellum,	6¼	Left Kidney, - -	5½
Heart, - - -	8½	Right Ridney, - -	5¼
Left Lung, - -	58		

History.—The only account his mother gives of this man is, that at birth he was not an unusually large child, nor was her confinement difficult or tedious; that when he was 10 days old a drunken man stumbled against the child's head (which side she could not remember), and that immediately afterwards epileptic convolu-

sions set in and continued for 9 months, when they ceased. She states that the head began to grow very much after the fits commenced, and that the doctors stated to her that he had water on the brain. He never showed any evidence of intelligence as other children do, and the left side of the body was always smaller than the right.

There is no history of hereditary predisposition, except that a near relative died of hydrocephalus. Her son was placed in a poorhouse when 10 years old when he again became subject to fits, which continued until he died.

He was clinically examined on Sept. 28th, 1871, and the following is the report:

General Appearance.—Patient is a man of average stature. The whole of the left side of the body is considerably atrophied, whereas the right appears normal. The face is drawn to the left; the left side of the face seems on a lower level than that of the right, which is fuller. The mouth is drawn to the left. The left arm is hardly half the circumference of the right. The left forearm rests at right angles to the arm, and the hand to the forearm. The whole arm is kept applied to the trunk. No anchylosis exists in either joint, passive movements can be made though there is no power of voluntary movement. The left leg is atrophied to a half, the knee is kept in an inverted position, and the foot is both slightly extended and inverted. The knee-joint is capable of slight passive movement, but is not so as regards voluntary action. The ankle-joint is incapable of either. Progression is solely performed by the right leg, the left being lifted and carried after by the pelvic muscles.

The atrophy of the trunk is best seen in the thorax. The thorax is flat, its antero-posterior diameter being $6\frac{3}{8}$ inches; its left side is lower than the right. The circumference is $31\frac{1}{4}$ inches, the right half being $17\frac{1}{8}$ inches, the left $15\frac{1}{8}$.

The head has the following peculiarities and measurements. The forehead is low and slightly retreating. The right side is higher than the left, the vertex being formed by the right parietal bone. The occipital region is drawn towards the right shoulder. Circumference measures 22 inches, antero-posterior diameter $7\frac{7}{8}$ inches, transverse auricular diameter $6\frac{3}{8}$ inches, from ear to ear over vertex $12\frac{3}{4}$ inches, and from between supraciliary ridges to occipital protuberance $14\frac{1}{2}$ inches.

Nervous System.—The epileptic fits occur about once a week, and are of medium severity. The convulsions last about half a minute, the face being very much drawn to left shoulder. The coma is profound. The eyes do not act in a co-ordinate manner, the action of the left being impaired.

Mental Phenomena.—Expression of face imbecile; mouth always half open, saliva runs from it; smile and laugh childish. Articulation very imperfect and deficient. He can utter a few words in a childish manner. A marked feature in his case is constant singing, his great fondness for it, and the correctness of his tunes, which are limited in number. His affection is strong for his companions, but his temper is very bad and irritable. Ideation very limited, if any.

Course of Case.—In May, 1872, signs of Phthisis pulmonalis were discovered. This disease made rapid progress, and he died on Oct. 2d of the same year at the age of 37 years.

(*For further particulars of this case see Journal of Anatomy and Physiology, vol. vii.*)

CASE XX.—C. Æt 66 (?) Senile Melancholia. Acute Pneumonia.

Summary of History and Case.—The above patient was an old maiden lady about 66 years of age. On admission she was reported to have been insane only for a month. Her bodily condition was excessively poor; she was the subject of chronic bronchitis, and there was a history of apoplexy in her family. The mental phenomena consisted of religious and melancholic delusions, of great restlessness, and of a strong suicidal tendency. During the two first days of her residence in the Asylum she tried no less than four ways of committing suicide—the first was trying to set fire to herself by pushing her clothes through the guard; second, by filling her mouth so full as almost to prevent her breathing, and totally to prevent her

swallowing ; third, by dashing her head against the wall and bed-post ; fourth, she was often found secreting knives, scissors, and forks.

Great difficulty was experienced in keeping both body and bed clothes on this patient, as she tore them off as soon as they were put on. In about a fortnight after admission, without any observable symptoms, except a pain on the side, she was found to have pneumonia, and the day after this was discovered she had an attack of apoplexy, which carried her off in 12 hours.

POST-MORTEM EXAMINATION.

Body.—In a state of senile emaciation ; skin shrivelled and dry ; feet and leg œdematous.

Head.—Scalp adherent abnormally ; calvarium, outer table very thin, diploe soft, sinuses deeply marked. Arising from the inner table, on the left side of the frontal bone, within one inch of the longitudinal sinus, and one and a half inches from the coronal suture, was a small exostosis, about the size of a horse bean, having a broad base and a third of an inch in thickness.

On the right side between the epithelial layer (the parietal arachnoid) of the dura mater, was a thin coagulated hemorrhagic effusion, consisting of dark coagulated blood and serum. It was about the thickness of an inch laterally, and extended over the whole of the right hemisphere, as exposed by removal of calvarium. On the brain being taken out, this effusion was found to extend into the middle and posterior fossæ and slightly into the anterior one. On the right side the hemorrhages were small, resembling purpura hemorrhagica, and situated over the first frontal and parietal convolutions.

Pia mater deeply injected ; veins filled to engorgement. Compensatory serum 2½ oz. Arteries at base very atheromatous.

Brain.—Small, evidently atrophied ; convolutions small ; sulci wide, and filled with yellowish serum. A considerable local atrophy was found at the superior extremity of the right ascending parietal convolution. Its substance felt soft, especially at the parietal eminences ; but on section no disease was discovered, only large and dilated ventricles, the dilatation being greatest, posteriorly, beneath the eminences. There was some fluid in the ventricles, but a good deal escaped on section. The thickness of the cerebral substance, between external surface and ventricles, was much diminished. White substance œdematous ; grey, thin, and of a darker colour than usual.

Measurements of grey matter were as follows :--First, second, and third frontals 5 m m ; posterior part of third 5 m m ; left ascendings 5 m m; left annectants 6 m m.

The Specific Gravity of the grey and white matter is as follows :—From the frontal convolutions, grey 1035, white 1036 ; from the ascending, grey 1035, white 1034 ; from the occipital, 1035, 1034 ; grey matter of cerebellum, 1036.

Microscopic examination of the grey matter showed, as regards, first, nerve cells, none distinct ; no large tripolar cell could be demonstrated, though many preparations were made. Second, nerve fibres, a thickening and, in many instances, a moniliform condition. Third, vessels, the same granular deposit on their exterior. On the exterior of a large vessel taken from the centrum ovale, it having, through its toughness, dragged out on section, a very fine transparent homogeneous membrane was found. It was seen on both sides external to the nucleated coat. It apparently held within it a considerable quantity of very fine granular matter and blood particles ; the former was refracting. In some places there was an appearance of very fine fibrillation, which, however, was thought to be due to puckering of the membrane. At parts the granular matter was aggregated into masses. The nuclei were not proliferated. In a small branch this membrane was also seen, and in the outer curves it appeared much thicker and more fibrillated, probably the result of tension. In one part of the same vessel this membrane resembled almost exactly the vertical section of a granulation on the floor of the fourth ventricle.

Thorax—Heart.—Large (10¾ oz.) ; subpericardial fat great in amount. Valves

healthy ; walls of left ventricle very thick ; small patches of atheroma at bases of mitral valves.

Lungs—Left.—Was adherent at the apex ; adhesions old. Upper lobe healthy, slightly hyperœmic. Lower lobe was the seat of pneumonic patches which had reached the fourth stage, viz., purulent infiltration They embraced the anterior margin, and a good amount of lung substance at the posterior inferior angle. The remainder of this lobe was œdematous, filled with blood and serum, pressure causing them to flow out in great quantities, and in a frothy condition.

Right Lung.—Pleura had a thin coating of lymph, recent, yellow, and soft ; it was thicker at the apex.

Upper lobe small, evidently compressed by the two others, which were swollen and large. On section it was found void of air and of blood, and of a tough consistence.

Middle and lower lobes were pneumonic, various portions of them showing the different stages of the diseased process, the upper parts being very hyperœmic ; those below in a state of red hepatization, and in the inferior portions in a state of grey hepatization, or of purulent infiltration. The hyperœmic portion emitted a large quantity of frothy blood on pressure ; the red hepatized part presented a roughish granular surface ; whereas the grey was smooth in some parts, and quite soft, easily breaking down in other sites.

Abdomen—Alimentary Canal.—Stomach large ; mucous membrane pale and thick, contents glairy mucus, which was abundant and coagulated milk. Intestinal canal normal, except a diminution of calibre to about a third of the normal in the transverse and descending colon. The non-organic nature of this state was proved by the calibre easily dilating to the normal size on passing of water through the canal.

Liver, large, of a pale colour, soft consistence, pitting on pressure. On section it was comparatively bloodless. The gall-bladder contained a gall-stone, the size of a marble, brown, exterior rough ; examination showed it to be made up of minute oblong crystals, agglutinated by inspissated bile.

Spleen, comparatively healthy.

Kidneys healthy ; veins hyperœmic.

Uterus was the seat of numerous fibroid tumours, varying in size from that of an orange to that of a pea. On section they had a white, smooth, lustrous appearance. A small bit, teased out, displayed at × 700 innumerable small fibrillœ, represented by a fine dark line and elongated cells, with large and bright nuclei. The distinctive feature of tumours of this organ was plainly marked, viz., the circular arrangement of the fibres or bundles of fibres.

Weight of Organs.

	Ounces.		Ounces.
Brain, . . .	39¾	Left Lung, . .	16½
Heart, . . .	10¾	Liver, . . .	51¾
Right Lung, . .	50½		

CASE XXI.—H. Æt. 47. General Paralysis. Acute Pneumonia. Pigmentation of Cells of Sympathetic Ganglia.

Summary of History and Case.—This case is one typical of general paralysis, though the causation generally ascribed to this disease could not be borne out in this particular instance.

No alcoholism, no sexual excess ; a fall on his side is the only thing his friends attributed it to.

As is generally the case, this man was in the prime of life, and his muscular development good. The bodily phenomena were well marked—the tongue had its fibrillar tremor ; deglutition attended with difficulty ; grinding of the teeth ; speech typical of the disease ; pupils unequal ; gait slow, straddling, and at times attended with a limp ; hands constantly trembling ; and sensibility, as tested by the battery and the æsthesiometer, greatly impaired.

The chief mental features were, delusion of an exalted character, extravagant acts, kleptomania, abnormal feeling of well being and loss of memory as regards time.

An interesting experiment was performed in consideration of the theories of Dr Poincaré and Henry Bonnet regarding the primary seat of this disease being in the sympathetic ganglia. Nitrite of amyl was inhaled both by the Assistant-Physician and the patient. The inhalation of three drops by the former caused intense blushing and consequent pallor; but on the latter it had no effect whatever. On six and more drops being administered, a slight redness was perceptible on the left cheek only, and the subsequent pallor was not present.

The case ran its usual course, and ended with clonic spasms of the whole body, which lasted for a week before death. These spasms caused him to be constantly exposed, though he was clothed in flannel, and from this exposure arose the pneumonia of which he died.

REPORT OF POST-MORTEM EXAMINATION.

Body, that of a well made muscular man in the prime of life, and in good condition. Slight œdema of the feet.

Head.—Hair thin, and of a peculiar light brown, glistening whiteness. Scalp thick and hyperœmic, having three small extravasations of venous blood among its cellular tissue. Calvarium thick but soft, owing to increased amount of diploe.

Membranes.—Dura mater not adherent, its inner surface hyperœmic, but this hyperœmia was not diffuse, being in streaks and ridges, evidently corresponding to the sulci of the cerebrum. Sinuses full of fluid dark blood. Arachnoid very milky and opaque, especially on either side of the vessels. Pia mater very hyperœmic, the veins leading into the superior longitudinal sinus being engorged. Under microscope, the tissue of this membrane was thickened on both sides of the vessels. Subarachnoid effusion, 8 oz. The outer (tunic adventitia) and middle coats of the vessels of the pia mater were thickened.

Brain.—Generally hyperœmic, grey matter darker than normal. General configuration and consistence normal. A local atrophy existed at upper third of left ascending frontal convolution; it was three-quarters of an inch long. The corresponding convolution of the right side was similarly affected, but to a minor degree. Another atrophy existed on the left side, affecting the first annectant convolution, that part of it adjoining the longitudinal fissure.

The aperture of the infundibulum was large.

The right fissure of Rolando did not extend to longitudinal fissure, the first convolution of the right side being continuous with the annectant convolution.

The frontal convolutions were small and tortuous. On section, puncta cruenta were large and numerous, lateral ventricles contained a small quantity of serum, choroid plexuses hyperœmic and cystic, ependyma had granulations on it, but these were confined to the valleys between the corpora striata and optic thalami, in greater quantity, however, in right side.

Microscopic Examination of Grey Matter.—Numerous preparations taken from different parts, and at × 300 gave the following results:—

1. Nerve cells were healthy (apparently), in none was the deposit seen as in former cases. The grey molecular appearance was well marked in the multipolar ones.
2. Nerve fibres in some preparations normal, in others thickened and moniliform.
3. Nuclei of neuroglia increased in size, the nucleolus very bright and distinct.
4. Vessels presented three abnormalities—(*a*) thickness of walls; (*b*) irregularity of calibre, alternate constrictions and dilatations; and (*c*) kinking.
5. The only abnormal constituents seen were free oil globules.

The deposit on the exterior of the vessels, before described, was abundant and everywhere to be seen.

Cerebellum.—Intensely hyperœmic, this probably due to two causes, congestion and hypostasis. Microscopic examination revealed no further pathological appearances than are described above.

Spinal Cord.—Effusion into arachnoid cavity 1½ oz. Dura mater thickened, arachnoid in a gelatinous softish state; veins of pia mater injected, especially at terminal portion. Substance at middle and lower dorsal regions soft, section causing an oozing out; other parts of normal consistence. Nothing found in cervical region to explain the pain on pressure at that part.

Sympathetic Ganglia.—Those of neck only removed and examined. No middle cervical on left side; the lower one on this side was, however, very large and darker in color than the others. Nothing abnormal in the naked eye appearances of either ganglia or nerves.

Microscopic Examination.—A scraping from the superior left ganglia showed abundance of cells, fibres, and oil globules.

1. The cells varied in size and shape, generally about that of four or five white blood corpuscles and oval; their contents consisted (except in those to be mentioned below) of a fine grey molecular material. No nucleus visible.

In a great many cells about one in every four was a deep yellow granular slightly-refracting deposit. Its color varied from a pale yellow to a brownish red, as also the size of the granules, some being fine, others large. The site of this deposit was in the interior and at the periphery of the cell. When occupying the whole cell it was thickest at the periphery. It often had the appearance of a ring; it was then in small quantity, and situated just inside the cell wall.

2. Fibres were of the grey kind.

3. Oil globules evidently came from the fat attached externally to the ganglion, for a thick section of the whole ganglion showed adipose tissue attached to the outside, sending a short process inwards here and there around the ganglion.

Various reagents were tried in order to determine the nature of this deposit. Acetic acid, acting upon a thin section made by Valentin's knife, rendered the fibres transparent, displayed their nuclei, showed no nucleus in the nerve-cells, and was inert in affecting any change on the deposit. Liq. Potassæ and Liq. Ammon. Fort had much the same action, rendering the other constituents very clear, but not affecting the deposit. These reagents showed many of the cells to be distinctly bipolar.

Thorax.—There arose from the anterior surface of the sternum two thin muscles, having their origin between the first and fourth ribs. The fibres ran obliquely to the origin of either sterno mastoids, and there ended in a tendon, and from this tendon arose muscular fibres, which ran into the masses of the sterno-mastoid.

Lungs—Right.—Old dense adhesions here and there completely binding the lung down, especially posteriorly. A layer of recent lymph, somewhat fibrous and about an eighth of an inch thick, coated the posterior aspect of inferior lobe. Anterior part of lung substance healthy, a little emphysematous. Posterior part of upper lobe and almost the whole of the lower was the seat of pneumonia in the first stage, the substance being of a dark mahogany color, dense (sinking in water), and section presenting a rough granular surface. Bronchial glands deeply pigmented.

Left.—Densely adherent everywhere, so much so posteriorly as to require cutting out. Anterior part collapsed and tough, posterior, in the two first stages of pneumonia, upper lobe engorged with blood and serum, lower in a state of red hepatization.

Heart.—Slight effusion into pericardial sac. Organ large, increased in long axis rather than transversely. Milk spots on anterior surface of right ventricle, and two on its posterior aspect. Tricuspid aperture large, admitted the tips of six fingers easily. Bicuspid normal, but valves thickened, as were the cordæ tendiniæ. Semilunar valves also thickened, corpora aurantii greatly hypertrophied, each being the size of a split-pea, and in one there were two nodules that size. Walls very thick throughout.

Aorta and the larger arteries, the subclavian, carotids, mesenteries, and those of cœliac axis, were much thickened, due to hypertrophy of the outer and inner coats (fibroid degeneration). The inner surface of the aorta was peculiar, smooth as regards its epithelial lining, but this, thrown into smooth elevations and depressions, as if the vessel had expanded and then collapsed.

Abdomen—Alimentary Canal.—Stomach large, dilated and tympanitic. Intestinal canal was generally dilated and tympanitic, except portions of the colon, which were diminished in calibre. These underlay dilated portions, stomach, &c., and their smallness was evidently due to pressure, for thin calibre easily expanded to the equable pressure of water. The descending colon was exceedingly small, and at the beginning of the flexure was a constricted portion, the cause of which proved to be a band of mesentery being slightly stretched across the girt. Below this the bowel was much distended.

The two kidneys were joined inferiorly, forming what is called a horse-shoe kidney. They were joined by a band of renal substance 2⅛ inches broad and about ½ an inch thick. This band was a uniform mass, smooth anteriorly and posteriorly. The hilum of the right half was large, extending from near the upper end to the connecting band; it was not to be seen on the posterior aspect of the organ, but it extended far, almost half way across, on the anterior surface. This state of things existed on the left side but to a greater extent, the hilum extending below the level of band, reaching to within ½ an inch of the inferior and outer corner, and more than half way across the upper portion. At the inferior part, on this side, the substance was in lobular masses, having between them deep sulci. The ureters, after being formed by four to six branches from the various corners, descended in front of the band. There were five arteries of supply, two on each side entering each half laterally, and one running backwards from the right common iliac, and entering the connecting mass at its inferior border. The veins were only three, two coming the right side, and one from the left. The supra-renal capsules were normal, and in their usual sites.

Liver.—Healthy; the anterior margin had a deep notch, into which the gall-bladder fitted, and to whose edges it was adherent. About two dozen cholesterin stones were found in gall-bladder.

Spleen.—Capsule thickened and white, otherwise normal. Splenic corner of peritoneal cavity contained fibrous bands stretching from one part to another, evidently the result of a former chronic peritonitis.

Weights of Organs.

	Ounces.		Ounces.
Brain,	60	Liver,	54
Heart,	18½	Spleen,	6¾
Right Lung,	45½	Horse-shoe Kidney,	16
Left Lung,	26½		

CASE XXII.—B. Æt. 56. Idiopathic Delusional Insanity. Cancer of Rectum.

Summary of History and Case.—A transferred case. He had been ten years insane on admission. He was a very low character, and had been so all his life. His insanity consisted in the exhibition of all the traits of a man of very low morale. It is perhaps interesting to draw attention to the configuration of the skull and brain in connection with the character of the patient.

His disease was cancer of the rectum, and was slow and troublesome in its course.

POST-MORTEM EXAMINATION.

Body, greatly emaciated, feet œdematous, shoemaker's depression at lower part of mid-thoracic region. Glands of both inquinal regions enlarged, one in right side about size of a walnut.

Head.—Scalp very thin; calvarium thin but dense, having the following form: frontal angle more oblique than ordinary, usually termed retreating, vertex high, parietal portion very broad, the parietal eminences more distant from mesial line than usual, posterior and upper parts large and broad, anterior portion shallow and narrow.

Membranes.—Dura mater thick and white (exsanguine). Arachnoid cloudy and whitish at sides of the vessels. Microscopic examinations of vessels of pia mater showed nuclear coat thick and well marked; muscular stria very distinct; sub-arachnoid effusion considerable.

Brain.—Size small (42½ oz.), consistence normal, substance generally pale (exsanguine). Shape same as indicated in description of calvarium, small frontal lobes, surface of which was oblique, convolutions very small ; parietal lobes large and broad, the convolutions at this part also large, as were those of the temporo-sphenoidal lobes. Occipital lobes large, but convolutions small. Section showed no visible organic lesion, the grey matter was thin and pale. Ventricles normal.

Microscopic examination showed—1. The cells to be the seat of a yellow pigmentary degeneration, consisting of yellow bright refracting particles, in greater quantities at the peripheries, and having outside the degeneration a narrow clear space, and then a sharp line (cell wall). This was found more in the cells of the frontal lobes than elsewhere. Triangular masses of these particles were seen throughout the field.

2. Nerve-tubes ampullated.

3. Nuclei of neuroglia were greatly increased in quantity and in size, two or three times their normal diameter, and having a distinct bright refracting nucleolus situated laterally. This state of affairs was most marked in the frontal and parietal lobes.

4. Minute vessels of grey matter had the external deposit in great abundance. The larger vessels of the centrum ovale were covered with hæmatoisin masses.

Medulla Oblongata.—Anterior part very hard to the touch, especially the anterior pyramids and olivary bodies, not examined in the fresh state, as organ is hardening in its entirety in chromic acid.

Spinal Cord.—Anterior part abnormally firm. On the visceral arachnoid of the lower part were white patches of a material very like atheroma. On examination it was found to be composed of white fibrous tissue, arranged longitudinally and in circular bundles and yellow molecular matter among the meshes.

Sympathetic Ganglia.—The same pigmentary state of the cells was found to exist in the cervical ganglia in this case, as was described in former one, only not to such a great extent.

Thorax.—Cartilages of the two first ribs were ossified.

Left Lung.—Old fibrous bands joining the two pleura were found at apex, and between the diaphragmatic surfaces. Lung collapsed, only half filling the pleural cavity. Surface deeply pigmented, spots of pigment being as large as a fourpenny-piece, and in some places towards the apex these were confluent. It is worthy of notice that there was no pigment beneath the two layers of pleura which lined the sulcus separating the two lobes, and but little beneath that which covered the base. Nodular masses were felt at the apex, and on section these proved to be masses of cirrhozed lung black with pigment, and having in their centre a yellow speck of cheesy matter. The rest of lung on section proved to be almost bloodless, without air, tough, and beautifully pigmented.

Right Lung.—Pleura so generally and firmly adherent as to require the removal of pleura costalis to get out the lung. This lung was also deeply pigmented, and similar masses, as before described, were also found at the apex. Upper part collapsed ; lower swollen, semi-carnified, deep-red color, section causing a flow of red serum, which oozed out in great quantity on pressure.

Heart.—Blood fluid in large veins, also in cavities of right side, those of left empty. Organ small, pale, and flabby. Orifices large, tricuspid admitting tips of seven fingers. Left side normal, except a few patches of atheroma about aortic valves. Aorta normal.

Abdomen—Alimentary Canal.—Stomach of normal size, mucous membrane pale, otherwise normal. Upper part of small intestine hyperœmic, veins of mesentery, attached to this portion, full. Iliac portion much diminished in calibre, the size of small finger. Large intestine loaded with scybala. In the mesentery of large intestine, and in the omentum, there was a quantity of lymphatic-gland-looking bodies, about the size of small marbles. On microscopic examination they proved to be cancer-tumors, secondary deposit to the disease about to be described.

Rectum, was normal for about a third of its course down from the promontory of the sacrum. On the gut being cut across at this part and the finger inserted, a hard dense constriction was felt, not admitting the tip of the finger. This constriction was about three inches from the promontory. The contents of the pelvis were then removed, and a section made in the antero-posterior direction. This showed the lower two-thirds of the rectum to be a cavity about the size of a cocoa-nut, with dense white walls half-an-inch and more in thickness, and with a thick soft flocculent lining membrane having a dirty green color and a very fœtid odour. A scraping from these walls showed characteristic cancer-cells, large polygonal bodies with three to five nuclei. The arteries entering the pelvis were highly atheromatous, with cartilaginous rings.

Liver, contained about a dozen white nodular masses about the size of marbles. These contained cancer-cells. Substance otherwise healthy.

Spleen, healthy. On the surface of the left kidney was found a body about the size of a nut gall, having a white-purplish color (the color of the spleen), being encased in a fibrous capsule, and on section its substance exactly resembled that of the spleen. A scraping also contained the same microscopic constituents, as does a scraping of the splenic substance—abundant bright nuclei; clear, colorless, flexible fibres, and yellowish granular material.

Kidneys, healthy—left of a peculiar form; the upper corner square, as if it had been pressed inwards towards the hilum.

Bladder, small, contracted, and walls thick. Filled with purulent urine. Prostate glands large, dense, and white.

Weight of Organs.

	Ounces.		Ounces.
Brain, . . .	42½	Heart, . . .	7¾
Cerebrum, . . .	37	Spleen, . . .	4¼
Cerebellum, &c., . .	5½	Kidney, right, . .	3½
Right Lung. . .	13¾	,, left, . .	3¼
Left ,, . .	11	Liver, . . .	50

CASE XXIII.—J. Æt. 29. Found drowned Dec. 18th, 1872. Idiopathic Mania and subsequent Melancholia.

Summary of History and Case.—The death of this patient by drowning constitutes a serious accident in the annals of our last year's history.

The cause of insanity was desertion by her lover. On admission she was acutely maniacal, the chief features of the mania being a great tendency to run away through any opening or over any obstacle. These traits, however, passed away, and she became so much better in the course of six or seven months that she was trusted to work in the laundry, and to be almost on parole. She continued working away for some six or eight weeks, when she was promised to be let out on leave. A day was fixed by her friends to come for her, but they failed to appear; and this so much distressed the patient that on the second evening afterwards she climbed over an eight feet railing and escaped. She was found drowned in a mill-lead six weeks after, and from the state of her body it was probable that she had thrown herself into the water on the evening of her escape.

POST-MORTEM EXAMINATION.

Body, greatly swollen; when found, all clothes were on; these were thick with mud, as also were her legs, thighs, hands, face, and hair. After being washed, face was found discolored, of a brownish red, greatly swollen, features gone, unrecognisable; hair changed in color, came out with the least traction. On cutting the clothes from the trunk, the skin, which was covered by them, was of its normal color. This whiteness was changed into a brown mixed here and there with green after exposure to the air for six hours. The mammary glands were lost in the general swelling. Hands contained mud, nothing more; the skin peeled off like a glove when

washed. The feet, which were encased in stockings and boots, were natural in appearance, white, &c.

Careful examination showed no solution of continuity of the skin, no broken bones, and nothing to indicate violence.

On section of skin of scalp an extravasation of dark venous blood was found at the posterior part; it extended over the parietal and occipital regions. The same was found in anterior wall of thorax.

Head.—Brown discoloration of anterior part of calvarium. Brain a green semi-diffluent mass.

Thorax.—Lungs swollen, in the state called "balloon lungs," filling the pleural cavities completely. They collapsed immediately a small incision was made in them. Substance changed in color, remains of old cheesy deposit at apices, otherwise normal. Mucous membrane of trachea and bronchial tubes discolored, of a dirty red color, and of a soft consistence. No water could be squeezed from bronchi.

Heart.—Blood fluid in veins and cavities of heart. Organ flabby, but structure and valves healthy.

Abdomen.—Contents of peritoneal cavity in a good state of preservation, probably owing to the fat in the walls of abdomen and in the omentum, which was very abundant.

Stomach contained about a pint of gruel-looking fluid of a brown color. (Patient had had a supper of coffee and bread on the evening of her escape). Careful examination of this showed nothing of a foreign nature, such as grass, mud, &c. It cannot be said to contain water (from the patient having swallowed after immersion), for the supper could account for all that was in it.

No further examination was made.

CASE XXIV.—R. Æt. 51. Idiopathic Melancholia. Acute Pneumonia. Crystals of Phosphate of Lime on Membranes and in Substance of Brain.

Summary of History and Case.—The subject of this case was a Free Church schoolmaster in a parish of this county. Two circumstances seem to have combined to cause his insanity. The first was the prospect of his losing his school through the passing of the Scotch Education Act, owing to his not being a certificated teacher. It is said that he watched the progress of this Act with absorbing interest, and as the prospect of its passing became more and more evident, he likewise became more and more melancholic. The second item in causation was his fear, whether morbid or real it is difficult to say, of his not having kept the books of the Presbytery, to which he was Clerk, correctly. On admission he was profoundly melancholic, and filled with undefined fear. His bodily condition was very poor, but no organic disease could be found, though he had the aspect of one who was the subject of malignant disease. He could hardly be made to eat, and he seemed to suffer from some form of dyspepsia, but of which he would give no account. His urine contained a large amount of triple phosphate. He was much improved, both mentally and as regards the dyspepsia, by the administration of dilute nitric acid, but at the end of two months he caught pneumonia and died.

POST-MORTEM EXAMINATION.

Body, in a state of great emaciation. Skin of a sallow tint, especially that of the face. Œdema of the hands and feet. Hypostasis well marked.

Head.—Scalp thin, small ecchymosis about size of a crown-piece over right parietal eminences; same existed on left side. Head large and of a good size. Calvarium dense and thick, the latter very great, measuring $\frac{6}{16}$ in the frontal bone, $\frac{4}{16}$ parietal, and $\frac{6}{16}$ occipital. Occipital bone bulged out to a moderate extent.

Membranes.—Dura mater hyperœmic, meningeal arteries thickened and adherent to dura mater. Arachnoid in some places very much thickened, very white and corrugated, resembling an ichthyosis. This was above the parietal fissure on either side of the longitudinal sulcus, and around the pacchionian bodies, which were unusually large and prominent. A number of thin, diffuse, small extravasa-

tions of venous blood were seen under the arachnoid. One about the size of a shilling was found in the sulcus between the left ascending frontal and the third frontal convolutions. Some over both parietal lobes. Pia mater excessively hyperœmic, the veins running into superior longitudinal sinus large and engorged.

Brain.—As a whole large, some of the sulci very broad. General configuration and consistence normal. Section showed the grey matter darker than usual, puncta cruenta numerous and large. Vessels under ependyma of lateral ventricles large and filled with purple blood. Otherwise normal.

Microscopic Examination.—At the vertex the pia mater was found much slackened and closely adherent to the grey matter, which could not be readily removed from it by manipulation and washing. This condition became less marked on the more dependant portions until it was lost at the base. The visceral surface was found covered with immense numbers of crystals of phosphate of lime, varying in size from $\frac{1}{200}$ to $\frac{1}{300}$ of an inch in length. These were oblong in form, a few were stellate. Under sixty diameters (× 60) (Hartnack) as many as one hundred and fifty crystals were counted at once in the field. They were closely adherent to the membrane, so much so that they were not disturbed by the pretty rough brushing the pia matter was subjected to in removing from it the adherent brain matter. Their distribution was regular in whatever number they occurred. They were noted in greatest numbers where there was much thickening, the crystals becoming fewer and fewer until they entirely disappeared at the base. A few were seen on the pia mater on the inferior surface of the cerebellum which was but slightly thickened. Scrapings from the enlarged pacchionian bodies and ichthyotic spots also contained the same crystals, which were likewise seen in small numbers and loosely attached to the inner surface of the dura mater.

On the inner surface of the pia mater, interspersed with the crystals, there were considerable numbers of nodules of hœmatoidin and some very fine granular matter. The muscular coats of the vessels were very well marked and the adventitia somewhat thickened.

Grey Matter.—Extensive deposits existed in all the vessels; where the individual particles were very small, they ran parallel to, and slightly divided from the vessel, and were held in position by a very fine hyaline membrane. On some of the larger vessels at their bifurcations, extensive deposits of bodies varying in size from $\frac{1}{300}$ to $\frac{1}{100}$ of an inch in their long axis and somewhat less in the short existed. They were perfectly colorless, homogeneous, slightly refracting, and always oval in form. They were not of a fatty nature. The crystals of phosphate of lime were found in the substance of the grey matter.

Nerve cells were remarkably clear and free from deposit or degeneration.

White Matter.—Large nodules of hœmatoidin were found on many vessels taken from puncta cruenta. No reagents appeared to have any action on these bodies. Spirit, liq. ammonia, acetic acid, ether, and chloroform were severally tried. Chloroform was applied for eighteen hours without effect.

Sympathetic Ganglia.—No left middle thyroid. Microscopic examination showed a degeneration the same as formerly described, only not to such an extent, fewer cells affected.

Thorax—Heart.—Considerable amount of yellow transparent serum in the pericardium. Coronary arteries and veins tortuous, the latter also varicose. Organ small; on anterior surface of right ventricle were three milk-spots about size of sixpence. Right side filled with decolorized clots. Mitral valve small, scarcely admitting the tips of two fingers. Walls of left ventricle very thick.

Lungs, Left.—Substance healthy, except at apex, where a cicatrix existed, composed of dense fibrous tissue (cirrhosis), and containing particles of calcareous matter. Inferior lobe œdematous, of a red color, and on pressure exuded frothy bloody serum.

Right.—At apex, a similar cicatrix as in right, only broader and not so thick. Upper part of upper lobe healthy, lower half in a state of red hepatization. Section showed substance in semi-carnified state, and caused an exudation of red fluid

which bathed the surface of the section. Anterior part of middle lobe healthy, posteriorly in a similar condition as above described. Lower lobe greatly swollen and of a dark purple color. Section showed the substance to be seat of pneumonia in its various stages. Upper part intensely hyperœmic but not consolidated. Middle part in a semi-carnified state; lowermost portions in a condition intermediate between the red and grey and red hepatization.

Abdomen.—Alimentary tract.—Stomach very much contracted, resembling transverse colon for which at first it was mistaken. Cardiac end formed a sort of cul-de-sac, resembling an aneurism, projecting laterally. Pyloric orifice very small, scarcely admitting tip of small finger. On section, the muscular coat was very thick, especially at the pyloric end. Mucous membrane was thrown into very high rugœ. Walls of cardiac dilatation very thin. Upper part of jejunum was contracted to about the size of a finger, and at about two feet from its extremity there was a portion of bowel six inches in length of a dark green color, and on section the wall proved to be very thin and easily lacerable. The contents seemed to be thick, grumous bile, resembling meconium. Descending colon contracted, but sigmoid flexure very much inflated. Veins of mesenteries engorged.

Liver.—Broad fibrous bands stretched from gall bladder to surface of small intestine. Gall bladder filled with thick bile. Peritoneal covering at anterior part thickened. Section showed substance of a peculiar dirty chocolate color. Veins thickened.

Spleen.—Peculiarly dense. Capsule but slightly thickened and less wrinkled than usual. Substance dense, trabeculæ and vessels white and prominent.

Kidneys, healthy, but hyperœmic, especially the medullary portion. Bladder full, contents clear (not tested), and mucous membrane healthy.

Weights of Organs.

	Ounces.		Ounces.
Encephalon,	57¼	Heart,	8¼
Cerebrum,	50	Liver,	32
Cerebellum, &c.,	7¼	Spleen,	4
Left Lung,	14½	Left Kidney,	5
Right Lung,	40¼	Right Kidney,	4¾

CASE XXV.—G. Æt. 38. Idiopathic Delusional Insanity. Death from swallowing a darning needle.

Summary of History and Case.—This is a most interesting case from a surgical point of view. Her insanity was of a chronic nature, there being a strong hereditary predisposition. The mental phenomena consisted of delusions of a fixed and varied character, and she had periodic fits of excitement.

The surgical interest of the case lies in the fact that in June 1872 the patient was found to have the habit of crunching such things as pins, needles, and pieces of glass. One evening shortly after this discovery was made she was seized with violent pains in the abdomen, which doubled her up to a frightful degree. The pains were transitory: at one moment she was free of them, and at another her agony was distressing to witness. Acting upon the idea that it was some sharp foreign body in the stomach, a good feed of cold porridge, being the only thing at hand was given; but the next morning a quantity of figs having been obtained, the patient was made to bolt them in as whole a state as possible. After this the pains ceased almost entirely: castor oil was administered in about 12 hours after the figs, but through the negligence of the attendants the faeces were not kept. There was, however, great pain at stool. Nothing except the occasional recurrence of sharp cutting pains occurred for about five months, when a small swelling was observed on the left side of the abdomen, one or two inches below the margin of the ribs. The swelling was about the size of a walnut, conical in form, the apex of which pointed anteriorly and felt as if it contained something hard and pointed. It was exquisitely painful to pressure, and the patient stated that it was the

place where she felt the sharp pains. Nothing was done except the enforcement of the horizontal position. An abscess was expected to form and point outwards, but the tumour remained the same size from day to day. She ate but sparingly, as a hearty meal gave her great pain. The dejections were normal; at times streaks of whiteness were observed. In about a month after the tumour was first observed it disappeared entirely. She then complained of pain in the left inquinal region, but the patient would not allow of a physical examination. She also complained of prolapsus uteri. She gradually sank in the course of three or four weeks, without anything new occurring to indicate the mischief within.

POST-MORTEM EXAMINATION.

Body, extremely emaciated; almost complete atrophy of muscles of extremities; feet and ankles œdematous; skin covered with pytiriasis tabescentium.

Head.—Scalp thin. On both sides the squamous portion of the temporal bones projected outwards and formed a prominent ridge at their junction with the frontal bone. Calvarium dense, tables thick, diploe almost wanting.

Membranes.—Dura mater very white; adhesions between two layers of arachnoid at posterior part of great longitudinal fissure; opacity of visceral arachnoid posteriorly. Hypostasis but feebly marked.

Brain, was of average size, of good consistence, substance very pale, especially the grey matter. Local atrophies existed at sites marked out in diagram. Convolutions small and narrow anteriorly. On section every part seemed normal. General exsanquine condition prevailed as before mentioned.

The pia mater surrounding that portion of the spinal cord which is continuous with the medulla oblongata was the seat of pigment which gave it a grey, almost iridescent appearance.

Thorax.—All the cartilages of the ribs ossified to such an extent as to require sawing.

Lungs, Left.—Quite free of adhesions, 8 oz. of clear yellow serum in pleural cavity, pleuræ apparently healthy. Lung-substance healthy, but pale anteriorly; posteriorly it was the seat of hypostatic pneumonia in first stage, section causing a flow of abundant bloody serum; bits of this portion of the lung sank in water.

Right.—Adhesions (old) all over entire surface. Substance in same state as that of left.

Heart.—Small, pale, or rather of a yellow color, and flabby. Cavities filled with decolorized clots. Orifices and valves normal. About an ounce of yellow serum in pericardial cavity.

Abdomen.—Examination externally could discover no remains of the tumours. (See Female Case Book, vol. i., pages 223 and 421). On opening the cavity, everything seemed normal. Liver was removed and found healthy, its peritonial capsule was thickened to whiteness on the anterior surface. Stomach was found contracted at its centre, the cardiac half being much dilated, the pyloric end much contracted, this part being hardly the size of the transverse colon. The walls were thin in the former, but thick and thrown into large rugœ in the latter. No organic change of the coats existed to account for the contraction.

Small intestines were normal, as also were the cœcum, the ascending and transverse portions of the color.

On attempting to remove the colon at its descending part, it was found densely adherent to the posterior wall of abdomen. Instead of removing it, its cavity was opened, and on its posterior wall was found a small perforating ulcer with black and thickened margin, and situated about two inches below the splenic flexure. On passing a probe through it, a cavity was discovered which extended beyond the whole length of the instrument in every direction. The gut was now opened down as far as rectum, and at the lower end of the sigmoid flexure was found a rusty darning needle four inches long. It lay half in the gut, the other half extended through a perforating ulcer into a large cavity or abscess which existed in the iliac fossæ.

The mucous membrane of the upper part of the descending colon was the seat of

innumerable small ulcers, with even round red margins, and their depth not extending beyond the mucous membrane. It seemed as if the mucous membrane had been cleanly punched out. At the lower part, at and above where the needle lay, the membrane was studded with numerous spots of infiltrated caseous material. A little rubbing caused the material to come away and leave an ulcer similar to those described above. The rectum was normal.

On making a section through the peritoneum, which was thickened, in a line parallel to the descending colon, a large diffuse abscess was found extending from an inch above the kidney down through crural canal to the anterior and inner two-thirds of the thigh, laterally it extended from the vertebræ to an inch and a half beyond the external edge of kidney. It occupied the whole of the left iliac fossæ, and had destroyed almost all the muscles on the anterior and inner portions of the thigh. The skin of the thigh was intact. The pus was of the scrofulous kind, and, considering the extent of the abscess, not large in quantity.

Pancreas, spleen, kidneys, and supra-renal capsules healthy. Thick fibrous walls of abscess was attached to posterior surface of left kidney. Slight procedentia of uterus. Peduncular fibrous tumour about size of marble was attached to fundus. Bladder healthy.

CASE XXVI.—M. Æt. 39. General Paralysis. Choking, Tracheotomy. Congestion of Lungs.

Summary of History and Case.—Hereditary predisposition caused in this case a feeble form of general paralysis, though the form of insanity in one of the parents was of quite a different type. On admission there appeared to be only dementia, with a general debility of body. He improved so much that in about six months he was discharged, but he was, however, re-admitted in about a year, presenting a few of the bodily features of that disease, but none of the mental.

The course of the case was very slow ; at times he was much demented, and at other times excited and talkative. He died after the tracheotomy, rendered necessary by the patient having stolen a lump of meat, which, on attempting to swallow it, stuck in larynx. He lived for 36 hours after the operation.

REPORT OF POST-MORTEM EXAMINATION.

Body, in a well-nourished condition--fat abundant. Rigor mortis present to a considerable extent. Lips and face very exsanquine. Hypostasis well marked.

Head.—Calvarium thick, dense and heavy, both diplöe and tables thicker than normal. Dura mater not adherent. Arachnoid generally milky and thickened, having a gelatinoid appearance. Veins engorged, especially those running into the superior longitudinal sinus. Subarachnoid effusion existed to a considerable extent, separating the convolutions, especially posteriorly. Amount of fluid collected 3 oz. Pia mater also deeply injected ; seen best on section, when the portion dipping between the convolutions was so red as almost to lead to the supposition of hemorrhage.

Brain, generally soft, but size and configuration normal. On section the grey matter was darker than normal, and the puncta cruenta more numerous and prominent. Lateral ventricles, distended with serum, contained about 1 oz. of fluid. Vessels of floor of ventricles dilated and filled with blood. Granulations on floor of ventricles, especially well marked along the course of tænia semicircularis, and on the optic thalami.

Spinal Cord, removed. Rachidian veins slightly engorged, especially at the cervical part. On section the white substance was soft and bulged out ; the grey matter was darker than usual.

Microscopic Examination.—(1) Nerve Cells—At vertex they were small, highly granular, but without pigment. On occipital lobe numerous large cells were found containing yellow pigment at their periphery. None could be found in the orbital convolutions, though some three or four preparations were made.

(2) Nerve fibres, seemed normal in all preparations.

(3) Nuclei of neuroglia were proliferated in every specimen examined, being scattered throughout the field in immense quantities, their size varying from $\frac{1}{3000}$ to $\frac{1}{1000}$ of an inch.

(4) Vessels—The smaller ramifications had the deposit heretofore described; the larger vessels from the puncta cruenta were covered with small masses of hæmatin. In some preparations the hyaline membrane was markedly separated from the external coat. These vessels were filled with blood, and a considerable number of corpuscles were outside the vessels.

(5) Colloid bodies were very abundant in the preparations of the orbital convolutions, and they were more or less to be found in every specimen.

Thorax:—An incision about half an inch long was found about two inches above manubrium sterni; it was in the central line, and extended posteriorly into the trachea. The tissues around and posterior to this incision were infiltrated with venous blood. The infiltration extended down into the anterior mediastinum where the tissues were in a state of emphysema.

Heart.—Pericardial sac containing 2½ oz. clear serum. Organ of average size, and substance normal. Right side greatly distended with black clots: Tricuspid orifice admitted the tips of seven fingers. Left side normal. Mitral admitting three fingers.

Respiratory System—Trachea and Bronchi.—Mucous membrane hyperœmic and thickened. There was an incision, with rugged edges, just below the right side of the thyroid cartilage. Bronchial tubes much inflamed, and of a brownish red color. A dirty thick sanguineous fluid filled the bronchi, the right rather more than the left.

Lungs, distended with air.

Right Lung.—Anterior part healthy. Posterior part hepatized, and presenting a granular appearance—in fact, in the first stage of pneumonia. At upper lobe the pneumonia was not so far advanced. On section copious sanguineous serum oozed out.

Left Lung, was emphysematous at the lower angle of the upper lobe. Posteriorly the same condition existed as was found in the right lung.

Abdomen—Stomach.—Small capillary hemorrhages were visible below the mucous membrane of its posterior wall.

Intestines, healthy.

Liver.—The substance of the organ was soft, but of normal color, gall-bladder containing numerous white many-sided gall-stones composed of cholestrine.

Spleen, healthy, but in the middle of the hilum was a small second spleen about the size of a marble. This was attached to the fat in the hilum by a broadish fibrous band.

Kidneys, healthy.

Weight of Organs.

	Ounces.		Ounces.
Brain, . . .	46½	Left Kidney, . .	4½
Heart, . . .	13	Left Lung, . .	34
Right Lung, . .	33	Liver, . . .	59
Right Kidney, . .	5	Spleen . . .	7

CASE XXVII.—H. Æt. 63. Senile Melancholia. Abscess of Uterus, Exhaustion.

Summary of History and Case.—This patient was admitted with a throat severely cut, and suffering from profound religious melancholia. The prevailing symptom was an undefined fear of impending evil. She constantly refused her food, and had to be fed. For a couple of months before her death she refused to swallow, and had to be fed by the pump. She gradually sank from asthenia without any evidence of organic disease, except some chronic bronchitis which she had had for years in conjunction with mitral incompetence. The abscess of the uterus

which was found after death presented no symptoms or even signs whilst the patient was in life.

POST-MORTEM EXAMINATION.

Body, very much emaciated.

Head.—Scalp very thin. Calvarium tables thin. Diplœ thick and soft.

Membranes.—Dura mater not adherent, but hyperœmic. Pia mater also hyperœmic. Adhesions between two layers of arachnoid at posterior part. Great sub-arachnoid effusion separating the convolutions widely, the sulci being very broad in some places, almost as much so as the convolutions themselves. Effusion between the arachnoid, about 11 oz.

Brain.—Weight 44 oz. Small size. Consistence normal. Arteries of base atheromatous, and the arachnoid membrane whitened. Centrum ovale thickly studded with puncta cruenta. Lateral ventricles contained about one oz. of serum. Choroid plexus in a granular condition.

Microscopic Examination.—(1) Nerve Cells—In grey matter from frontal convolutions nerve cells were small, and filled with yellow particles, the latter being thickest at, and in some confined to, the periphery. Their nucleoli were distinct, but the nuclei were observed by the presence of the pigment. The cells were numerous, and all of them seemed atrophied.

Masses of yellow pigment, with what seemed like a space around them, were abundant, and suggested the idea that they represented totally degenerated nerve cells, which had contracted.

(2) Nerve Fibres, very distinct, and the poles more easily traceable than usual.

(3) Nuclei of neuroglia not increased in number, and normal in appearance.

(4) Vessels.—The smaller vessels had on them the afore described deposit, thickest at their bifurcations.

Thorax.—Emphysema of tissues in anterior mediastinum.

Heart.—Pericardium closely adherent. Organ almost entirely covered with fat, especially on the right side; but not thickly. Substance of right side very pale, resembling fat. Tricuspid valve admitted eight fingers. Cavities empty.

Left Side.—Wall of auricle very thin. Left ventricle filled with a soft black clot. Substance very soft and flabby.

Aorta presented the first stage of atheroma in and about the valve.

Lungs.—Left lung, densely adherent to the pleura, was the seat of miliary tubercle in the second or fatty stage. Throughout the organ were small masses of caseous material, around which were grouped miliary tubercles in the second stage. At the apex were one or two small cavities containing purulent or puriform softened caseous matter. The lung tissue, surrounding these masses, was semi-carnified and hyperœmic.

Right Lung, also densely adherent to pleura, which also was studded with miliary tubercles. The appearance presented on section was similar to that in left lung; but the caseous deposit was more extensive.

Abdomen.—Membranous adhesions between the great omentum and the parietal layer of peritoneum.

Liver, somewhat soft and hyperœmic.

Alimentary Canal—Stomach.—Pyloric end much contracted for about five inches, resembling a piece of small intestine. Contents of stomach blackish. Mucous membrane very soft, and easily rubbed off.

Upper part of intestinal canal much congested, and the whole tract greatly distended with flatus. Lower part of sigmoid flexure of colon very much contracted.

Kidneys.—Left Kidney contained two or three cysts. There was tubercular degeneration at its upper corner, evidently the result of miliary tubercles which had coalesced, and then undergone fatty degeneration.

Right Kidney, healthy.

Uterus and Bladder.—In the pelvis was found a large tumour, about the size of the uterus in the third month of utero-gestation. On opening it, it was found to be

filled with a greyish, or yellowish, white puruloid matter, and on emptying it the lining membrane was seen to be the seat of caseous material. At its superior part was a thick mass of tissue resembling the fundus uteri, also infiltrated with caseous material. The walls of their abscess were about one-eighth of an inch thick. The bladder lay in front of it, empty and contracted. On digital examination the vagina was found to be a cul-de-sac, with thickened walls at the termination of the canal.

This condition has evidently been due to an abscess which had formed within the uterus, and which had come in course of time to obliterate the cervix.

Weights of Organs.

	Ounces.		Ounces.
Brain,	44	Liver,	28
Heart,	9½	Right Kidney,	3
Right Lung,	36½	Left Kidney,	3½
Left Lung,	23	Spleen,	2½

CASE XXVIII.—J. or B. Æt. 44. Idiopathic Mania. Acute Pneumonia.

Summary of History and Case.—Nothing of especial interest is attached to this case, except that it was one of acute and persistent mania, over which the alienist's usual pharamaceutical agents had no control. Ergot of rye was administered to the extent of three drachms, or half an ounce, three times a day, without the least beneficial result. Subcutaneous injections of morphia were tried in as large doses as warrantable, but they only produced narcotism, which, after passing away, was succeeded by the undiminished mania. She gradually became exhausted, and, pneumonia supervening, she died in a few days.

POST-MORTEM EXAMINATION.

Body, much emaciated. No rigor mortis.

Head.—Scalp thin. Calvarium. Squamous portion of left temporal bone very thin.

Membranes.—Dura mater slightly congested. The arachnoid presented a milky appearance all over. The pia mater was strongly adherent to the brain substance over the whole of the regions where the opacity was most marked, and could not be stripped off without injury to the subjacent brain tissue. Vessels very finely injected.

Brain.—On section the grey matter was found to be very dark in color; the puncta vasculosa large and numerous; and the vessels could be dragged out with the knife.

Cerebellum soft.

Microscopical Examination of the Brain—Grey Matter.—In the pia mater from vertex, the longitudinal fibres of some of the vessels were very distinct. Around them were deposits like hæmatin, only colourless. On the smaller vessels was the fine granular deposit before referred to. In certain parts a hyaline membrane could be seen when water was only used. In a vessel taken from a punctum vasculosum, the hyaline membrane was seen much thickened and widely separated from the vessel and containing hœmatin and fine granular deposits. The transverse fibres of this vessel were peculiarly well marked.

Nerve cells could be well seen. The greater part contained yellowish brown pigment. Nerve fibres in many instances thickened.

Thorax—Right Lung.—Inferior lobe deeply congested. Superior lobe slightly hyperœmic and œdematous.

Left Lung.—Slight old adhesions on posterior surface. Lower lobe swollen and dense. On section was found in second stage of pneumonia, the inferior part having passed into third stage or grey hepatization. Superior lobe intensely hyperœmic, exuding a large quantity of bloody serum on pressure.

Heart, small and firmly contracted, leaving no cavity whatever in the left ventricle.

Abdomen—Alimentary Tract.—Mesenteric veins large and engorged. Mitral orifice dilated.

Liver.—Enlarged and congested.
Spleen, healthy.
Kidneys, healthy. A few cysts in both.
Uterus, small and fibrous.

Weights of Organs.

	Ounces.		Ounces.
Brain,	44½	Cerebellum,	4½
Heart,	6	Right Lung,	18
Left Lung,	25½	Liver,	48½
Spleen,	3½	Right Kidney,	5
Left Kidney,	5½		