Notes on a group of cases illustrating the co-existence of Scarlet Fever and Measles in the same individual.

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On the co-existence of Scarlet Fever and Measles in the same individual.

Three years ago while in charge of wards for Scarlet Fever in Belvidere Hospital, Glasgow, I had an opportunity of observing a small epidemic of Measles among children already suffering from Scarlet Fever, and although I am aware that the co-existence of the two diseases is not very uncommon, yet this group of cases seemed to me at the time to present several points of interest which may justify my making it the subject of this thesis. The manner in which the infection was introduced into the ward was interesting, both from a clinical point of view, and also as showing how in spite of all care cross-infection may take place. I considered that the infection was introduced by the child whose case comes first in the annexed table detailed below, and as will be seen from the notes taken from the ward journal she was suffering from well marked Scarlet Fever on admission. The total number of cases which occurred was nine, and I propose to give notes of four of these in detail, and then make a Commentary upon the more interesting points which they present. Though the number of cases was too small to draw conclusions from with certainty, yet they agreed so much in certain features as to suggest a modification of the one disease by the other in certain particulars.

NAME *Agnes Sorbit* OCCUPATION

ADDRESS AGE *3 years.* CASE BOOK No. PAGE DISEASE { *Scarlet Fever & Measles.*

DAY OF MONTH	*Sept. 1891.* 5	6	7	8	9	10	11	12
DAY OF DISEASE	5th	6th	7th	8th	9th	10th	11th	12th
TIME	M E	M E	M E	M E	M E	M E	M E	M E

	5	6	7	8	9	10	11	12
PULSE M								
PULSE E					160	160	180	
RESP. M								
RESP. E					48	70	90	
MOTIONS							4	6
Oz. per 24 hours								
URINE Sp. C.								
URINE Reaction								
Abnorm-alities.	haz. alb.	haz.	haz.	haz.	haz.	alb. [illegible]	alb. alb.	alb.

REMARKS.

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Case I.

A. J., aged 3 years was admitted on 5th Sept, 1891. Her illness began on the 1st inst. with sickness, vomiting, headache and sore throat. A rash appeared on the second day. She has had no other infectious disease. Temp. on admission 104° F.

Notes on admission. Patient presents a brilliant red scarlet rash. The cervical glands are slightly enlarged. Tongue coated with white fur. Soft palate and pharynx deeply congested: right tonsil slightly ulcerated. First sound of the heart soft and indistinct over the mitral area, but no definite murmur present. Lungs clear. Urine gives slight haze of albumen on boiling.

The patient progressed favourably till 9th Sept. when the temp. rose to 104·5°. She had been very restless and had coughed a great deal all night. Fine crepitant râles were heard over the left lung, especially in the sub-axillary region. Heart sounds pure.

Face slightly cyanosed. Had passed no urine during the night.

Evening Visit. Has been very restless all day. No urine having been passed, six ounces were withdrawn by catheter. Urine markedly albuminous.

Sept. 10th. The nurse informs me that she had noticed the child sneezing and coughing during the last few days, and that she had learned from the parents that a sister at home has just developed measles.

On examining the lungs it is found that there is fine crepitant râle heard over the left base, especially at the inferior angle of the scapula. The breath sounds are blowing in character, and the percussion note over the base posteriorly is wanting in resonance.

Evening. Pulse very rapid, rather feeble and occasionally irregular. Urine contains a good deal of albumen, and is scanty.

Case I continued.

Sept. 11th. Slept fairly well. Condition of lungs much the same as yesterday: right lung still clear. Is passing urine in sufficient quantity.
Evening. Breathing very rapid and shallow. Finger nails of dusky hue: face cyanosed. No rash present.
Sept. 12th.
Had a quiet night, but was with difficulty induced to take nourishment. Breathing still rapid and laboured. She has diarrhoea: yesterday had four loose motions. To-day the percussion note over the lower lobe of the left lung is distinctly dull, and R.M. is tubular. There is fine crepitation audible at the base of the right lung.
Child gradually sank and died at 11 p.m.

This case was admitted, as shown above on the 5th Sept.; on the 8th Sept. her temperature, which had been falling, began to rise again and symptoms of broncho-pneumonia soon appeared: on the 21st September the first undoubted case of measles appeared in the ward in the person of the child whose case is given below.

Case II.

A. McC. F. aged 4 years, admitted to hospital suffering from Scarlet Fever on 4th Sept. She became ill four days ago with sore throat, sickness and vomiting. Rash came out on the third day. No history of any other infectious disease. Temp. on admission 100.8° F.

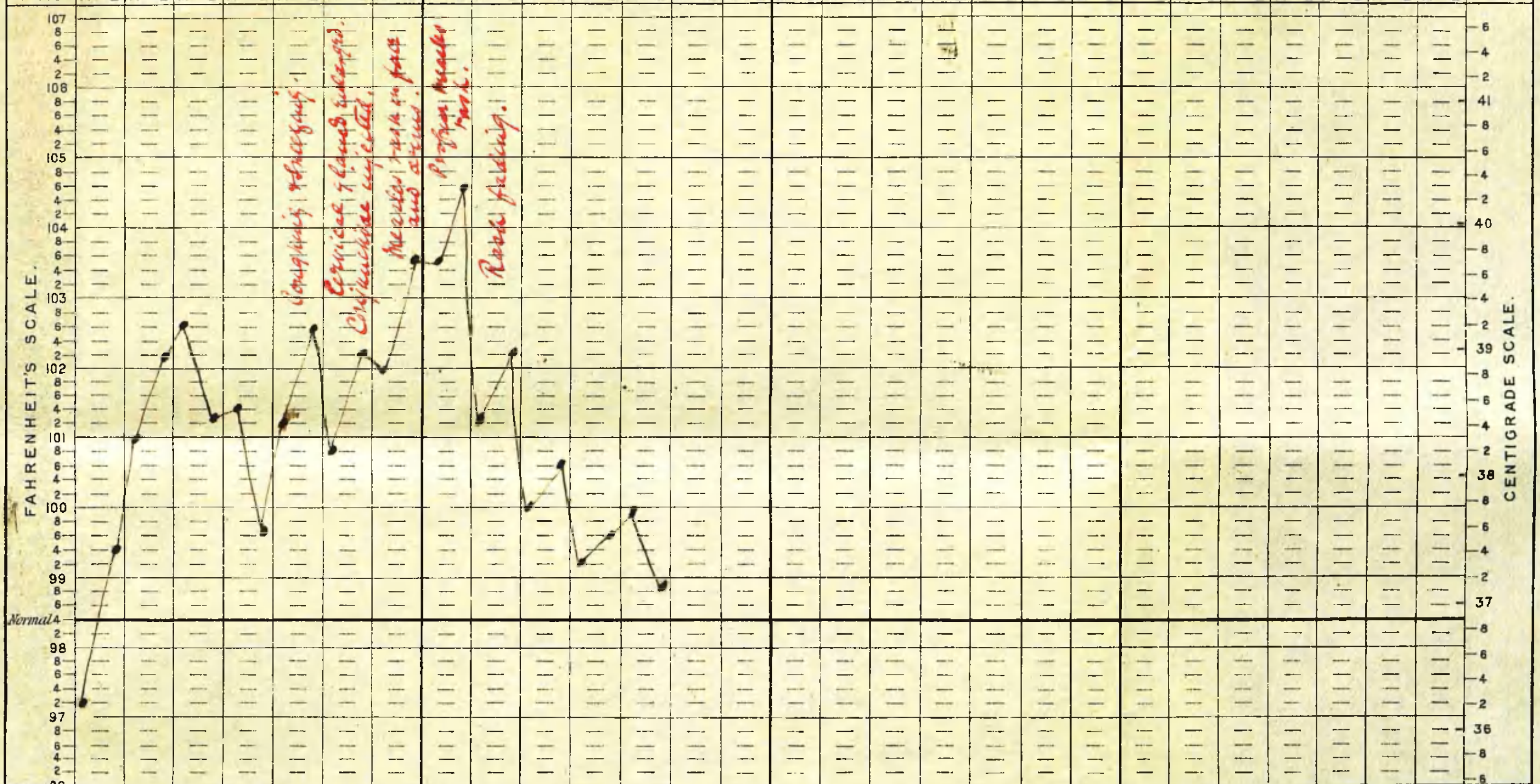
Note on admission. Well marked Scarlet rash. Glands of neck not enlarged. Tongue clean. Fauces congested. Tonsils enlarged. Heart sounds pure. Urine clear.
Sept. 9th. Desquamating on fingers.
Sept. 16th. Temp. has been elevated to-day. Nothing detected on examining the heart and lungs to account for this. No discharge from ears.

NAME *Agnes McFarlane* OCCUPATION

ADDRESS AGE *4 years.* CASE BOOK No PAGE

DISEASE { *Scarlet Fever.* / *& Measles.* }

DAY OF MONTH	*Sep. 1891.* 15	16	17	18	19	20	21	22	23	24	25	26
DAY OF DISEASE	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th
TIME	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E



PULSE M / E													
RESP. M / E													
MOTIONS													
Oz. per 24 hours													
URINE Sp. C.													
URINE Reaction													
Abnorm-alities.	–	–	–	–	–	–	alb. trace	alb trace	alb. trace	alb. trace	alb trace	alb trace	clear.

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Case II continued.

Sept. 17th.
Temperature still elevated. She does not complain of anything. On examining the chest nothing abnormal can be detected. Heart sounds pure. Urine free from albumen.

Sept. 19th. Temp. over 101° this morning.
No discharge from ears; no albuminuria.
Has been coughing and sneezing.

Sept. 20th. Throat congested and palate ŏdematous. Tonsils enlarged, and presenting patches of exudation on their surface. Glands at angles of lower jaw enlarged. Eyelids slightly swollen; conjunctivae a little injected.

Sept. 21st. Temp. 103·6° this evening. There is a red papular rash present on the face and arms which appears to be a measles rash in the early stage. Chest clear. Trace of albumen in the urine.

Sept. 22nd. This morning there is a distinct measles rash present on the face, scalp and body generally. Eyes are suffused and injected; she has a frequent harsh cough.

Sept. 23rd. Doing well. Cough less troublesome. Rash fading. Temp. has fallen to 101°.

Sept. 26th. Albumen disappeared from urine.

Oct. 2nd. Doing fairly well. Left ear discharging.

Oct. 8th Right ear discharging.

Oct. 13th. Is convalescent. Allowed up.

Case III.

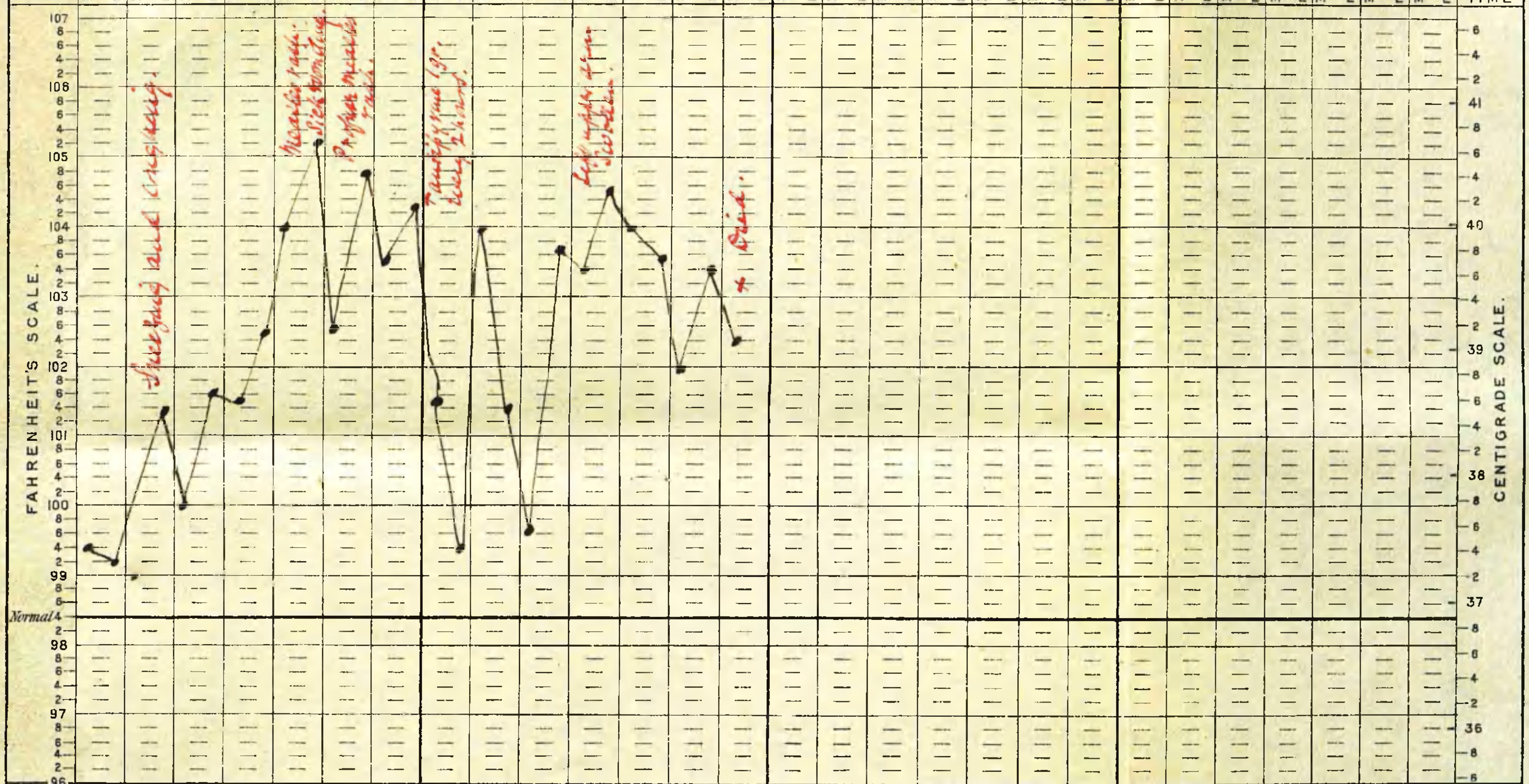
J. W. aged 3 years admitted to hospital on 4th Sept. 1891 suffering from Scarlet Fever.
Became ill two days ago with sore throat, sickness, and vomiting.

NAME *James Whaw.* OCCUPATION DISEASE { *Scarlet Fever* / *Measles.*

ADDRESS AGE *3 years.* CASE BOOK Nº PAGE

DAY OF MONTH	*Sept. 1891* 19	20	21	22	23	24	25	26	27	28	29	30	*Oct.* 1	2
DAY OF DISEASE	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PULSE E						130	180	120	132	144	150			
RESP. E						70	80	60	60	72	50	70		72
MOTIONS														
Oz. per 24 hours														
URINE Sp. C.														
URINE Reaction														
Abnorm-alities.							alb	alb.	alb.	alb.	alb.	alb.	alb.	alb.

TIME: M E (morning / evening)



REMARKS.

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Case III continued.

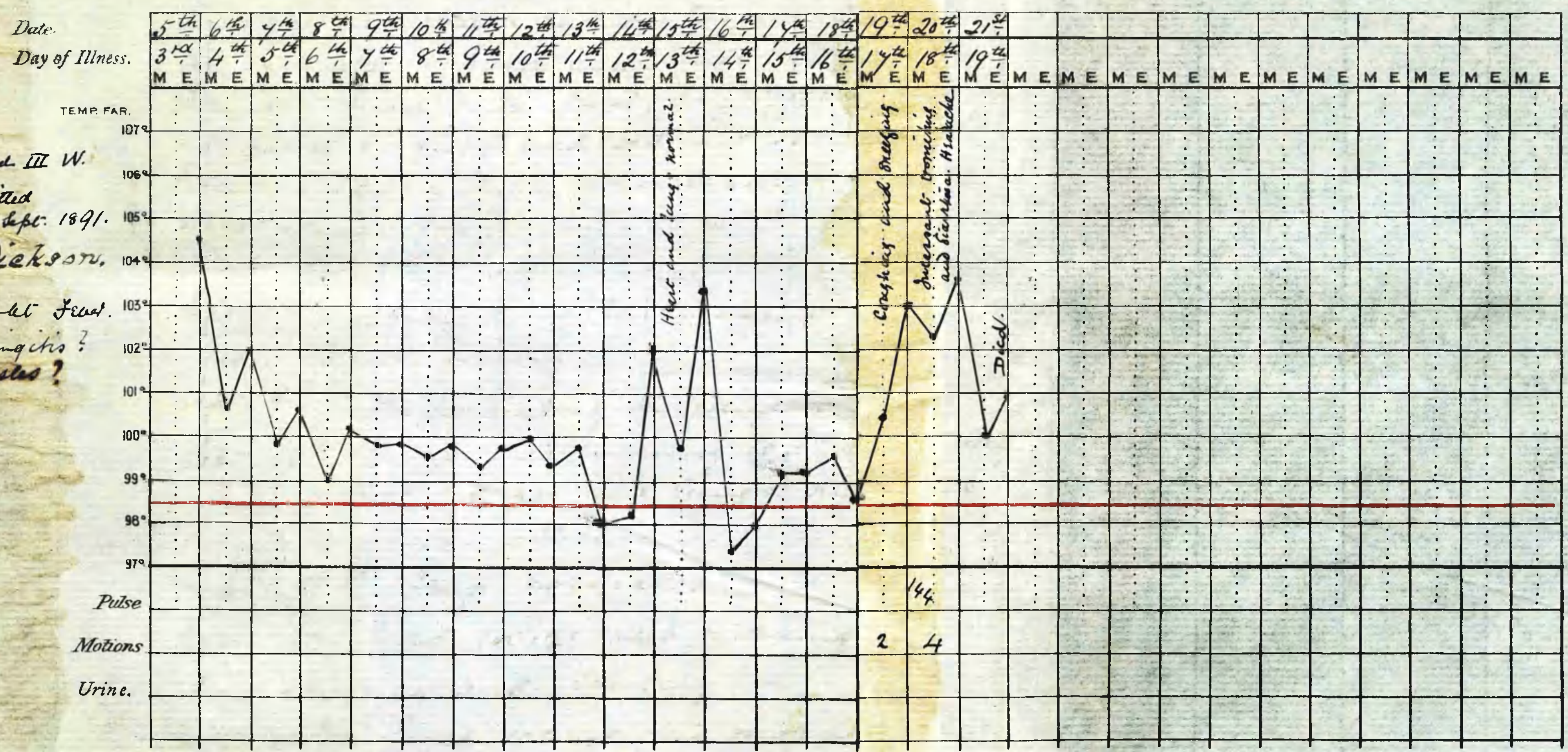
Rash came out on the second day. Has had Scarlet fever.
Temp. on admission 101·2° F.

Note on admission. There is a fading Scarlet rash present. Glands of left side of neck slightly Enlarged. Tongue clean. Some patches of Exudation on tonsils. Heart sounds pure. A few Scattered moist râles heard over both lungs. Urine free from albumen.
Sept. 21st. Has been coughing and sneezing. Temp. 101·6° in the Evening.
Sept. 23rd. This morning his temperature is 103·2°. Eyes very much Suffused and somewhat injected. Glands of neck considerably Swollen. He has a short hoarse cough. There is an indefinite rash appearing on the cheeks and sides of the neck. Chest clear.
Sept. 24th. To-day there is a very profuse measly rash present all over the body. He has a harsh laryngeal cough. Lungs normal. Temp. 103°.
Evening. Has been restless during the day and has vomited several times. Voice is hoarser and he has considerable Dyspnœa. P/R = 130/70. Nothing abnormal detected on Examining the Lungs.
Sept. 25th. Has been very restless during the night. Breathing very rapid and somewhat laboured. P/R = 180/80. Urine distinctly albuminous. No tube casts found on microscopic Examination.

Case III continued.

Sept. 26th. Moist rales at left base posteriorly. Rash fading: very livid on the back. Urine shows albumin.
At noon Temp. 105.8°: pulse small and weak: to have antifebrin 8r i hourly for three hours: 1 m Tr. Digitalis every two hours.
6 p.m. Temp. 99.2°: P/R = 120/60: less restless. Has passed no urine all day: warm water enema given: 3viii urine passed after enema.
Condition continued much the same during next two days.
Sept. 29th. Was very restless during the night, but to-day breathing is less rapid and he seems a little stronger. P/R = 150/50. Want of resonance on percussion noted over base of left lung. Lower part of left upper arm and upper part of fore-arm swollen and tense. Skin over back of upper arm is of a dark red colour: no fluctuation can be detected. Movements of elbow joint free, but cause pain. Lower part of humerus seems to be thickened.
Evening. Very restless: breathing laboured: temp. 104°.
Sept. 30th very restless. Sick and vomiting at intervals during the day. Whole upper arm much swollen and tense: skin dark red, glossy and shining.
Oct. 1st. Had a good night: Sick and vomiting during the forenoon. Pulse very weak: could not be counted. Face and finger tips dusky in hue.
Incised arm down to bone over lower part of back of humerus: no pus found.
Died at 2.30 p.m.

Ward III W.
Admitted
5th Sept. 1891.
... Dickson.
Scarlet Fever.
Meningitis ?
Measles ?



Case IV.

J. D. aged 4 years, admitted to hospital on 5th Sept. 1891 suffering from Scarlet Fever. Illness began three days ago with sickness, vomiting and sore throat. Rash appeared on the second day. She has had no other infectious disease.

Temp. on admission 103·8° F.

Note on admission. Very profuse scarlet rash present: livid and patchy on arms.
Glands of neck much enlarged, especially on the right side: hard, and tender on pressure.
Tongue coated with thick, dry yellow fur.
Soft palate congested and oedematous. Both tonsils enlarged and considerably ulcerated.
Heart sounds pure.
Urine free from albumen.

Sept. 8th. Doing well. Enlargement of glands less. Temp. falling.

Sept. 9th. Desquamating on fingers.

Sept. 15th. Temp. this evening 103°: yesterday evening 102°. Heart and lungs normal: urine free from albumen.

Sept. 16th. Temp. normal.

Sept. 19th. Temp. 100·2° this morning. Has been coughing and sneezing.

Sept. 20th. Temp. 102·4° this morning. She has vomited everything she has taken since yesterday evening: occasionally she vomits independently of taking food. Complains of severe frontal headache. Pulse small and very rapid (144). Pupils Equal in size: somewhat dilated.
Tongue coated with white fur: bowels of moved twice during the night: motions fluid.

Evening. She has vomited everything given by the mouth during the day: is being

Case IV continued.

fed by enemata. Has had diarrhoea: four motions since morning visit: stools fluid, yellowish white in colour. Complains of abdominal pain: is very weak: features pinched and sunken.

Sept. 21st. Condition unchanged: vomiting unchecked by treatment: pinched and sunk looking.

Died at 6·15 p.m.

Case V.

M. M. aged 4 years admitted to hospital on 10th Sept. 1891 suffering from Scarlet Fever. Became ill four days ago with sore throat, sickness and vomiting. Rash seen on second day. Has had measles.

Temp. on admission 100·80.

Note on admission. Well marked scarlet rash present. Tongue coated with thick white fur, except at tip which is very red. Throat congested: tonsils slightly enlarged. No glandular enlargement. Heart normal. Lungs normal.

Urine free from albumen.

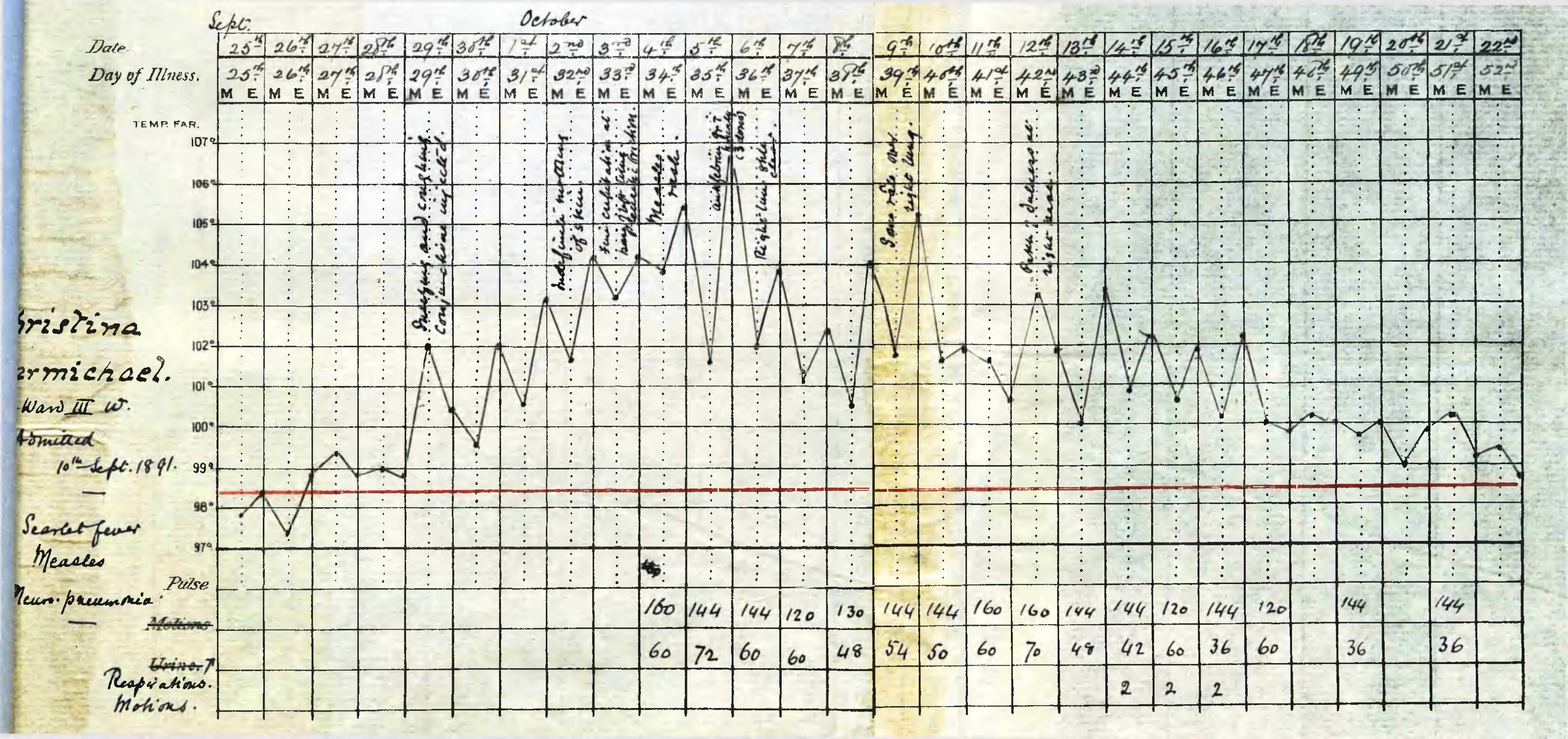
Sept. 14th. Desquamating.

Sept. 24th. Sneezing and coughing frequently. Evening temp. 102°. Has been sick and complains of abdominal pain. Palpation of abdomen causes pain. Bowels moved yesterday. Urine free from albumen.

Sept. 29th. Temp. skin elevated. Eyelids tumid: Conjunctivae injected: rough red papular rash seen in evening on the legs.

Sept. 30th. Profuse measles rash had now appeared. Lungs normal.

Oct. 1st. Coughing a good deal. Respirations



Sept.
October
Date
25th 26th 27th 28th 29th 30th 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 17th 18th 19th 20th 21st 22nd
Day of Illness.
25th 26th 27th 28th 29th 30th 31st 32nd 33rd 34th 35th 36th 37th 38th 39th 40th 41st 42nd 43rd 44th 45th 46th 47th 48th 49th 50th 51st 52nd
M E
TEMP. FAR.
107°
106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
Measles rash
Pulse
160 144 144 120 130 144 144 160 160 144 144 120 144 120 144 144
Motions
60 72 60 60 48 54 50 60 70 48 42 60 36 60 36 36
Urine.
Respirations.
Motions.
2 2 2
Ward III W.
Admitted
10th Sept. 1891.
Scarlet fever
Measles
Pneumonia

Case V continued.

quick, but not laboured. Nothing abnormal discovered on physical Examination of the Chest.

Oct. 2nd. P/R = 120/36. Breathing quiet. Slight moist râle audible over centre of right lung posteriorly. Percussion note clear.

Oct. 5th. Temp. normal.

Oct. 12th. Purulent discharge from right Ear.

Nov. 4th. Dismissed well.

Case VI.

This case was one complicated with broncho-pneumonia of a very severe type. The temperature chart attached, with notes, shows that the symptoms of pneumonia appeared before the rash.

The question which naturally arises with regard to the first of these cases is, was it a case of measles or not? As no rash appeared, and no post-mortem examination was permitted by the relatives, this question cannot be answered with absolute certainty, but I consider it to have been a case of ~~Suppressed~~ measles in which the rash was suppressed, or delayed, death resulting from the rapid development of the lung Symptoms. The diagnosis of the initial disease as Scarlet fever was made ~~by the~~ by the doctor who saw the child before she was admitted to hospital, and was confirmed by several of the medical officers of the hospital, so that on this point there cannot be much doubt. The fact that a Sister of the child developed measles at home a few days before the lung Symptoms appeared in this case was verified by reference to the medical attendant. The rapid development of the lung mischief, the early cyanosis and cardiac failure, the implication of the other lung, and the gravity of the Symptoms out of proportion to the physical Signs pointed to broncho-pneumonia. Now out of over 300 cases of Scarlet-fever which I had an opportunity of personally observing while in Belvidere Hospital, I cannot recollect a single case complicated with broncho-pneumonia; one or two cases of lobar pneumonia arising in connection with acute nephritis did occur, but the Symptoms in these cases did not resemble those in the one in question. On the other hand broncho-pneumonia occurs in a very large percentage of cases of measles. The Course of Events in case VI also supports the conclusion that this case was one of

measles in which the rash was suppressed or delayed. In case VI, symptoms of broncho-pneumonia made their appearance before the rash came out.

Some assistance is also afforded by a consideration of the interval which intervened between the occurrence of this doubtful case and that of the first undoubted case of measles in the Ward. In the ~~first~~ doubtful case the symptoms attributed to the onset of measles appeared on the 8th Sept.: in case II the rash of measles was noted on the 21st September, giving an incubation period of ten days on the supposition that the infection was derived from no. I.

v. Moore
ir and
ard Fevers"
page 137.

Moore in his work on "The Eruptive and Continued Fevers" mentions two cases of Children contracting measles while Convalescing from Scarlet Fever. In these instances the symptoms of measles appeared in Eleven days after exposure to infection. In the case under consideration the first case of undoubted measles occurred ten days after exposure to infection, and the second case twelve days after exposure, reckoning from the date when case no. I developed catarrhal symptoms.

With reference to case no IV, it is doubtful if it can be included along with the others as one of measles. The leading symptoms were diarrhoea, incessant vomiting and frontal headache ~~with~~ associated with rapid rise of temperature. These symptoms appeared at the same time as cases II and III developed undoubted measles, and the case might be regarded as one of measles in which the poison attacked the intestines, the child dying from exhaustion due to the constant vomiting and diarrhoea. A postpuerperal diarrhoea is not uncommon in the

Early stages of measles, and is sometimes a dangerous complication. The impossibility of obtaining a post-mortem examination unfortunately left the nature of these cases to conjecture. The sudden onset of the symptoms, the high temperature, and the occurrence of diarrhoea are against it having been one of tubercular meningitis.

Marvaud "Maladies du Soldat" p. 291 mentions gastro-abdominal symptoms as having characterized an epidemic of measles at Lodève in 1869, and as having in one case been the cause of death.

As regards the general features of the cases the following points struck me at the time and may be briefly referred to.

(a). The type of the disease was very severe, and complications occurred in most of the cases. Out of nine cases, four were fatal.

(b) All the children in the ward - except, I think, one - who had not previously had measles became infected.

(c) In nearly all the cases it was noticed that with the appearance of the symptoms of measles certain symptoms more characteristic of scarlet fever were, so to speak, re-called into activity: enlargement of the cervical glands and sore throat accompanying the catarrhal symptoms.

(d) Albuminuria was very frequent, and although this may have been merely "febrile" albuminuria, yet my impression was that it occurred more frequently than in ordinary cases of measles.

(e) In all the cases which recovered otitis media complicated convalescence.

NAME Pte Baker

OCCUPATION Pte Medical Staff Corps.

ADDRESS Station Hospital, Newbridge.

AGE 26.

CASE BOOK No

PAGE

DISEASE { Pneumonia & Jaundice.

DAY OF MONTH	11	12	13	14	15	16	17	18	19	20
DAY OF DISEASE	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
TIME	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E
PULSE M		96	84		96	96	84	72	52	
PULSE E							72		54	
RESP. M		24	24	20		28	30			
RESP. E										
MOTIONS		0	0	1	0	1	0	1		
URINE Oz. per 24 hours					60	50				
URINE Sp. C.				1030	1030	1032	1025	1028		
URINE Reaction				acid	acid	acid	acid	acid		
URINE Abnormalities				alb. 1/5	alb. 1/5	alb. trace	alb. trace	alb. trace.		

FAHRENHEIT'S SCALE. 107 106 105 104 103 102 101 100 99 Normal 98 97 96

CENTIGRADE SCALE. 41 40 39 38 37 36

REMARKS.

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A case of Pneumonia complicated with Jaundice.

—

Pte P. B., Medical Staff Corps, was admitted to hospital on 11th Dec. 1892 suffering from severe headache, pain in the back, and general malaise. The onset of the illness was very sudden. For a week past he has been engaged in nursing a bad case of pneumonia. Two days ago he felt a shivering, which was followed by a chill. On admission his temp. was 103°: R = 24: physical examination of the lungs revealed nothing abnormal.

Dec. 12th. Very weak and prostrate: dull, and apathetic and drowsy. Complains of severe frontal headache and has become very deaf. Has no cough: respirations 24 per minute. Slight crepitant rales audible at the base of the left lung. Pulse 96, intermittent, soft, and dicrotous. Tongue is covered with a thick white fur: breath foul: bowels constipated. Has vomited frequently since onset of illness. No rash present.

Dec. 13th. Still very dull and drowsy. Complains greatly of headache. Vomited twice this forenoon.
Tongue very foul.
Pulse intermits at every fourth beat.
Is still very deaf.

Dec. 14th. Condition unchanged. Complains of severe pain in the small of the back. Urine is distinctly albuminous, but not greatly (40 oz. in 24 hours).

Dec. 16th. Is worse to-day: much weaker and very restless. He has now a slight cough and his respirations are shallow

and more rapid (28).
Physical examination of the chest reveals fine crepitant râles at the left base posteriorly: R.M. is somewhat feeble over the same area.
This morning he was noticed to be distinctly jaundiced: Skin and conjunctivæ are quite yellow. He complains of pain in the Epigastrium. Gall bladder is much enlarged. Urine gives reaction for bile pigment with nitric acid, and also with Tr. Iodi.
Evening. Cough more frequent: typical "rusty" spit of pneumonia has made its appearance.
Dec. 17th Much better. Expectoration now brownish, muco-purulent, mixed with purplish blood. The base of the left lung is now distinctly dull to percussion, and R.M. is tubular in character.
Skin distinctly jaundiced: Gall bladder enlarged and tender.
Pulse soft and intermittent.
Evening. Pulse regular for the first time. Free desert of symptoms. Temp. has fallen to 100.8°.
Dec. 18th Improving. Tongue moist and fur clearing. Headache gone. Trace of albumen in urine.
Dec. 20th Gall bladder no longer enlarged: jaundice decreasing. Pulse 54: regular.
Dec. 24th. Convalescent: Symptoms of jaundice have disappeared.

The chief point of interest in this case was the occurrence of jaundice as a Complication, the jaundice evidently arising from Catarrh of the bile duct. The Early occurrence of severe Vomiting and the appearance of the tongue suggest that this was secondary to duodenal Catarrh. Fagge in his "Practice of Medicine" Vol. I (Ed. 1891) p. 993 mentions jaundice as a Complication of Pneumonia, and says that it may be due to a co-existing Catarrh of the bile ducts. Stengel and Copeland in their work on Pneumonia give Statistics as to the frequency of this Complication which show it is somewhat rare, but in discussing its causes do not favour the view that it is due to Catarrh of the bile ducts. The clinical course of the case shows that the co-existing jaundice originated as stated above, in this instance at all Events. The case also illustrates a point frequently observed in the clinical course of cases of Pneumonia, namely that the physical signs of the affection are frequently late in making their appearance, perhaps becoming most distinct when the Constitutional Symptoms are abating.

NAME J. T. Slowey OCCUPATION Gunner, Royal Horse Artillery.

ADDRESS Newbridge Barracks. AGE 23. CASE BOOK No. PAGE DISEASE Tubercular meningitis.

March 1893

DAY OF MONTH	21	22	23	24	25	26	27	28	29	30
DAY OF DISEASE	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th

FAHRENHEIT'S SCALE. CENTIGRADE SCALE.

Normal

† Died.

PULSE M								54	84	
PULSE E										144
RESP. M									30	
RESP. E										36
MOTIONS										
Oz per 24 hours										
URINE Sp. C.										
URINE Reaction										
URINE Abnorm-alities.						No alb.				

REMARKS.

This patient had been suffering from tubercular disease of the left sacro-iliac Syndesmosis for several months before symptoms of meningitis supervened.

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Note on a case of tubercular disease of the sacro-iliac synchondrosis terminating in tubercular meningitis accompanied by hemiplegia.

Gunner J. T. S., Royal Horse Artillery, aged 23, admitted to Station Hospital, Newbridge on 1st February 1893 complaining of pain in the left hip. His Medical History Sheet showed previous admissions for Bronchitis and "Sciatica". He is a pale, flabby man, but is fairly well nourished. He states that he has suffered from pain in the left hip running down to the knee since April 1892, when a horse tried to bite him and bruised his left hip. No signs of hip joint disease were found on careful examination, but there was found to be tenderness on pressure over the upper part of the sacrum, and some fulness was noticed over the centre of the left lumbar region, though no fluctuation could be detected.
Lungs apparently normal.
Several members of his family have died from phthisis.

Feb. 22nd. Is losing flesh: hectic flush on cheeks, specially noticeable in the evening.

Feb. 26th. Evening temp. has been slightly febrile for last three days. Is now suffering from night sweats.

March 6th. Has developed a slight cough. Night sweats continue. No change in local condition.

March 9th. Complains of pain in the neighborhood of the right nipple. R.M. at right apex feeble: inspiration jerky in character: occasional crepitant râles heard on auscultation.

March 17th. Tenderness is now distinctly

localized over left Sacro-iliac Synchondrosis, though fulness is noticed lower down in the centre of the gluteal region. No fluctuation detected.

March 21st. Complains of frontal headache. Is constipated. Tongue moist: red at edges: centre presents white fur. Has vomited once or twice during the day.

March 25th. Headache relieved: vomiting continues: is not frequent and usually occurs after taking food. Tongue still furred. Pupils equal in size and react normally to light: no squinting or Nystagmus present.

March 26th. Headache less severe. Vomited twice after food. Is very dull and drowsy. Some puffiness beneath the Eyes noticed. Pulse small and weak. Pupils normal. Urine free from albumen.

March 27th. Says he feels much better. Vomiting and headache gone. Does not look well, is drowsy and apathetic though he answers questions intelligently. Tongue furred: bowels still constipated.

March 28th. About 8 a.m. the orderly on duty noticed that this patients mouth was drawn to the left side and that he was unable to speak, though he appeared conscious and seemed to understand what was said to him. He could swallow, though slowly and with some difficulty. When seen by me there were occasional twitchings of the mouth. He could put out his tongue on being told to do so: it did not deviate to one side or the other: he could not speak, but made inarticulate attempts to do so. Right pupil dilated to twice the size of the left one, which was normal in size. Face pale: slight hectic malar flush. Respirations quiet and regular.

Right arm and right leg completely paralysed. Fingers flexed in the palm and rigid.
Heart sounds normal. Pulse 56, weak.
Temp. 96°.
Later in the day he tended to become comatose: respirations slow: pulse weak. Twitching of mouth continued. Pupils became Equal in size: both eyeballs deviate to left side and are directed upwards.
In the evening he partially recovered the use of his right arm. Passed urine into the bed.

March 29th. Quite unconscious: face flushed. both pupils dilated: hardly respond at all to light. Breathing heavy, but not stertorous. Pulse 84, very small and weak. Respirations 30. Has loss of power in both arms, but most markedly now in the left. Limbs rigid: fingers flexed. Passes water in bed. Takes nourishment freely.

March 30th. Still unconscious. The ~~right eye~~ conjunctival vessels of right eye are injected: there is slight muco-purulent discharge present. Lacks Cornealis well marked. Abdomen retracted.
Coarse moist râles heard over both lungs, most numerous over the right one. Percussion note over apex of ~~lung~~ right lung dull.

March 31st. Became deeply comatose. Respirations shallow and sighing. Died at 10 a.m.

Post-mortem notes.

The body is fairly well nourished.
Heart normal.
Right lung presents fresh adhesions all over: pleura covering lower lobe is thick and fleshy. Lung weighs 1 3/4 lbs.
The substance of the lung is studded with millet-seed-like tubercles throughout: these are very thickly set in the apex. Substance

of lung is congested, but portions cut off float in water.

Left lung weighs 1 lb. It presents no adhesions. The upper lobe is studded with miliary tubercles, but fewer are less numerous than in the right lung.

Liver weighs 3 lbs. and is normal in appearance.

Spleen weighs 4 ℥. Splenic substance normal in consistence: no tubercles present. A portion of the capsule is thickened. There is a small supernumerary Spleen, ½ inch in diameter, present.

Kidneys normal.

Intestines healthy.

Brain. Surface intensely congested. The fissure of Sylvius on the left side is filled with pus. The arteries of the pia mater show small grey tubercles adherent to them. Lateral ventricles are distended with clear fluid.

Substance of the brain appears healthy on section.

The left sacro-iliac synchondrosis is found to be disorganized: part of the crest of the ilium adjacent to it is bare and rough. There is an abscess cavity, the size of a large pigeon's egg, containing thick curdy pus present over the synchondrosis.

Note on above Case.

The local affection in this case (tubercular disease of the sacro-iliac synchondrosis) is not one of common occurrence, but the chief point of interest in the case was the onset of hemiplegia and aphasia in connection with tubercular meningitis. The marked one-sided paralysis

Holmes & Hulke "System of Surgery" Vol II. p. 397. State that from 1871-1880 only thirteen cases were treated in University College Hospital.

led to a diagnosis of tubercular abscess on the left side of the brain over the frontal convolutions. The paralysis at first one sided, latterly affected the left side of the body also.

Fagge in his "Practice of Medicine" Vol. I p. 643 (Ed. 1891) refers to paralysis as a rare symptom in the tubercular meningitis of children, but as sometimes occurring in adults. He mentions three cases of tubercular meningitis with hemiplegia as having been observed at Guy's Hospital within recent years. Two of these were cases of right hemiplegia with aphasia.